


made in germany 



Product Catalogue

Fascinating Electrotechnics

6-7-8

Control Units
Fieldbus Interfaces
Terminal Blocks
Limit Switches
Pedal Switches
Enclosures
Customised Solutions



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Tradition and Progress

The company Schlegel Elektrotechnik stands for innovation, good design and quality "Made in Germany". From tradition the best has been taken over, however, development has never stopped though.

To actively shape the future, Schlegel has continuously developed new products for new applications. Thus in-house production includes not only control units, pilot lights and terminal blocks but also emergency stops, pedal switches, membrane and short-stroke pushbuttons, enclosures, limit switches, operator control panels and functional modules. Moreover, electronic solutions with integrated fieldbus technology are part of the product portfolio, just as customer-specific solutions for individual fields of application.

The products are all-over made in Germany, from development and toolmaking to final production. The company purchases the necessary raw materials on the world market. Schlegel goes global. Whether in the car wash, the fire engine, in laboratory techniques,

on ships, in trains or international airports - Schlegel control units are in demand all over the world.

In addition to sales branches in Austria and Singapore, Schlegel maintains industrial representatives in 88 countries. The export share is 45 percent but is likely to be closer to 70 percent, if it is considered that German customers also sell their equipment and machines on international markets.

Good Design

The Schlegel products have received more than 90 national and international design awards. Fact is that decades ago Schlegel has realised that technical functionality and operator convenience make the switch or pushbutton the "calling card" of a device. They

are the link between human and machine and are used wherever a command is triggered at the touch of a button. The shape thereby shall support the function.

Schlegel Leipzig

The company was founded in Leipzig on 10th March 1937 under the name Monopol. In 1951 it was renamed as DUX Elektrotechnische Fabrik.

Different combines were successively responsible for DUX. In 1980 the company merged into the VEB combine Robotron.

With effect from 30th June 1990 DUX Schaltgeräte GmbH was registered again as independent enterprise.

On 1st April 1993 the company was sold to Georg Schlegel GmbH & Co. KG, with the assistance of the Treuhand.

Since that day the two companies complement each other in the market, thus, rounding off their product portfolios.

In the initial years the company developed, produced and sold installation technology, starting with insulated indicator devices with drop indicator technology over doorbell buttons and panels to signal bells, door contacts and limit switches. Later on the company specialised in components for industrial circuit control systems. During the last years particular attention was paid to the production and development of control units, enclosures and limit switches.

as well as to the production of control panels for the building automation sector. Another focus is the creation of customer-specific solutions. Here the company responds more and more to individual requirements, creating the desired solution in close collaboration with the customer. Our advantage is being able to resort to many components out of the Schlegel modular construction systems in order to provide a cost-efficient solution to the customer.

Another important aspect is the design, on which we have been focussing more and more during the last years. A typical example are our control units of the DUX-Basic series.

In November 2005 DUX was certified according to DIN EN ISO 9001:2000.

In July 2013 DUX was renamed as Schlegel.



company building Schlegel Elektrotechnik GmbH, Leipzig

Subsidiary in Austria

The Schlegel Vertriebs Ges.mBH, as it is called today, was founded on 1st February 1980 as Schlegel-Sarel Vertriebsges.m.b.H.

Just as the two company names imply, this combination of firms was a very good basis for selling products like switch cabinets and the necessary components, such as terminal blocks and control units.

A quick growth of both companies affirmed this assumption, so that Schlegel-Sarel was converted into today's Schlegel Vertriebs Ges.mBH, being a 100% Schlegel subsidiary.

From the original location in Vienna-Mauer with a storage space of 10 m² and two employees Schlegel Austria quickly grew up to a sales office with 15 employees storing a large assortment of products in an area of 150 m². We supply our products from there to many reputable commercial and industrial enterprises. We also manufacture complete pushbutton panels, as well as customised terminal block assemblies and control stations.

Schlegel Österreich is responsible for sales and marketing in the following countries:

Bosnia-Herzegovina, Macedonia, Czechia, Hungary, Serbia, Slovenia, Croatia, Slovakia, Romania and Bulgaria.

In Czechia and Croatia we are represented by local companies with own stockkeeping.

The high quality, the outstanding design, but not least the proverbial Swabian reliability and price-worthiness of Schlegel products is being appreciated by a more and more increasing customer family.



company building of Schlegel Vertriebs Ges.mBH, Österreich



Control Units

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Series Overview - Actuators

made in germany



Panel cut-out: \varnothing 16.2 mm



OKTRON

Front dimensions:
25 x 25 mm

page
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OKTRON-R

Front dimensions:
 \varnothing 25 mm

page
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QUARTRON

Front dimensions:
25 x 25 mm

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Panel cut-out: \varnothing 22.3 mm



RONTRON-R-JUWEL

Front dimensions:
 \varnothing 28 mm

page
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RONTRON-Q-JUWEL

Front dimensions:
28 x 28 mm

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SHORTRON

Front dimensions:
 \varnothing 28 mm

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SHORTRON for base-plate mounting

Front dimensions:
 \varnothing 28 mm

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SHORTRON M12

Front dimensions:
 \varnothing 28 mm

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RX-JUWEL

Front dimensions:
 \varnothing 28 mm

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RONDEX

Front dimensions:
 \varnothing 28 mm

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RONDEX-M

Front dimensions:
 \varnothing 28 mm

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DUX-Basic

Front dimensions:
 \varnothing 30 mm

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QUARTEX-R

Front dimensions:
30 x 30 mm

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RVA stainless steel

Front dimensions:
 \varnothing 28 mm

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Panel cut-out: **Ø 30.5 mm**

Panel cut-out: **25x25 mm**

Panel cut-out: **27x27 mm**



KOMBITAST-R-JUWEL

Front dimension:
Ø 36 mm

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OKTRON-JUWEL

Front dimension:
25 x 25 mm

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QUARTRON-JUWEL

Front dimension:
27 x 27 mm

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Panel cut-out: **30x30 mm**



QUARTEX-R-JUWEL

Front dimension:
30 x 30 mm

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Vandalism-proof Actuators



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>> Control Units

Use & Application Fields

Schlegel control units include a variety of complete pushbutton and switch series for front-panel and base-plate mounting. The actuators are designed for exclusive applications as well as for use in harsh environments. They are housed in attractive, square, rectangular or round insulating bodies, allowing side-by-side assembly and thus full keyboard arrangements.

Due to the flexible contact configurations and ease of assembly, the units can be used in every field of application.

Mounting of Actuators

First, the required mounting holes have to be drilled, punched or lasered (refer to the relative drilling pattern on the starting page of each series). For round cut-outs, keep in mind to provide a recess for the locating lug.

The actuators are then inserted into the cut-outs and fixed with a mounting nut on the rear.

Because they are almost completely recessed in the panel, the square Jewel actuator housings require a spacer to be put on from behind before securing them with the mounting nut.

Lenses and nameplates have to be ordered separately unless otherwise stated. This provides high flexibility to the combination of lens colours and inscriptions once the control units are mounted in the panel (see illustration under "Mounting and Service Instructions").

Mounting of Contact Blocks

All Schlegel contact blocks have rounded corners and edges and thus allow a comfortable use without risk of injury.

For the 22 mm series with bayonet applies: With the M... type series, first insert the contact modules into a module holder, then snap the module holder onto the actuator neck by a rotary motion (bayonet coupling). For side-by-side arrangements with the D... type series, snap the module holder onto the actuator neck first by a rotary motion, then insert the contact modules into the module holder. The contact blocks ETR... (one-piece) do not need a module holder, so snap them directly onto the actuator. As to the actuators with 16mm bayonet, simply snap the contact blocks of the type series A, B, C and P onto the actuator neck (no module holder necessary). A slight twist enables to snap them off again.

The contact units of the type series CTP and CZ (suitable for PCB's) are first soldered onto the PCB, then put onto the actuator of the 16 mm series and fixed by a small locking bolt. This bolt can be moved with a screwdriver through a hole in the PCB.

Assembly Instructions for Base-plate Mounted Version

- snap the relative contact block onto the actuator neck
- Spacer sleeves ensure the correct distance between PCB and mounting plate.
- Screws must be secured against loosening.

Note for base-plate mounted type "FRVKZ" (with plunger extension): ATTENTION: must not be used for the illuminated version !

Note for base-plate mounted type "FRVKZL" (with plunger extension): ATTENTION: use only for the illuminated version !

Illumination

For the illumination of pushbuttons, selector or key switches and pilot lights either incandescent lamps, neon lamps or LED's can be used. The contact units are optionally available with BA9s, T5,5K or W2x4,6d sockets or integrated LEDs, depending on the particular type series.

Marking Options

With the importance of an efficient component marking in mind, the Schlegel control units have been designed to accept a clearly visible marking, easy to produce and comprising a variety of symbols and inscriptions. Hence, a multitude of standard nameplates are available, but also customer-specific imprints are possible.

The nameplates are inserted under the lenses and are thus protected from wearing and soiling. Still today this is the best system which was originally a development of Georg Schlegel. Other marking options offer the external markings using special nameplate holders. These nameplates can also be printed with standard symbols or according to users' requirements.

Front Bezel Colours (refer to the relative series)

Other front bezel colours can be supplied on request.

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Misprints and errors do not justify any claims.

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Illustrations can deviate.

Internationally protected design.

Please refer to www.schlegel.biz/web/de/manuals.php for detailed instructions for use and assembly.

Degree of Protection (acc. to IEC/EN 60529)

The SCHLEGEL actuators generally comply with IP65 (this refers to the component in front of the switchboard). Special versions, as e.g. for the food processing sector, are classified up to IP69K.

For extremely severe conditions, e.g. coarse dirt, chippings, flour, etc., there are membrane pushbuttons available or actuators with transparent silicone or PVC caps.

Materials

Only top-quality materials such as polyamide 6.6 / polyamide 12 (partially reinforced) and other proven engineering plastics are utilised. Tin-plated brass is mostly used for the terminals of the contact blocks. The contacts are of a silver-nickel alloy but can also be gold-plated on request (gold-plating 5 µm). A special surface makes them self-cleaning.

All products are RoHS compliant.

Technical Characteristics

As to the technical characteristics, approvals and operating and ambient conditions of the contact blocks, please refer to the catalogue information given on the starting pages of the relevant type series.



















The stroke / operating travel is shown in pictograms separately for each actuator and in switching diagrams for the relevant contact blocks. This information is included as well in the technical specifications.

The positive opening function of the NC contacts, which is necessary for emergency-stop applications is identified by a symbol (circle with horizontal arrow) next to the relative switching diagram.

Definition of the IP Codes

Standards & Code Digits	Numerals or Letters	Protection of equipments	Protection of persons
EN 60529		Protection against solid foreign objects (incl. dust)	Protection against hazardous parts
First digit	0	non-protected	non-protected
	1	≥ Ø 50 mm	with the back of a hand
	2	≥ Ø 12.5 mm	with a finger
	3	≥ Ø 2.5 mm	with a tool
	4	≥ Ø 1.0 mm	with a wire
	5	dust-protected	with a wire
	6	dust-tight	with a wire
		Protection against ingress of water with harmful effects	
Second digit	0	non-protected	
	1	vertically falling water drops	
	2	water drops (tilted up to 15°)	
	3	spraying water	
	4	splashing water	
	5	water jets	
	6	powerful water jets	
	7	temporary immersion in water	
	8	continuous immersion in water	
	9	high pressure and high temperature water jets	
ISO 20653:2013		Protection against solid foreign objects (incl. dust)	
Second digit	9K	high pressure and high temperature water jets	

Approvals

Symbol	Name / Organisation	Explanation
	CE Kennzeichen, Communautés Européennes	With the CE mark, the manufacturer confirms that the product meets the product-specific requirements of the applicable EC Directives.
	VDE Verband der Elektrotechnik Elektronik Informationstechnik e.V.	The VDE mark indicates conformity with the VDE Standards or European or internationally harmonised standards and confirms conformity with the safety requirements of the applicable directives.
	ENEC European Norms Electrical Certification	European approval mark (applies to switches for appliances acc. to EN 61058). Replaces the national European Directives of the participating countries. The figure after the ENEC marking refers to the relative national certification authority, e.g. 05=KEMA, 10=VDE.
	KEMA Keuring van Elektrotechnische Materialen te Arnhem	Certification mark of the Dutch approval authority
	Underwriters Laboratories	UL Listed mark, representative samples of the product have been tested by UL and are complying with the US safety requirements.
	Underwriters Laboratories	UL Listed mark, representative samples of the product have been tested by UL and are complying with the US and Canadian safety requirements.
	Underwriters Laboratories	UL Recognized mark, UL marking for approved components that are part of a larger product or system
	Underwriters Laboratories	UL Recognized mark, representative samples of the product have been tested by UL and are complying with the US and Canadian safety requirements.
	Canadian Standards Association	Approval mark of the Canadian certification authority, products bearing this mark have been certified by CSA and are complying with the applicable Canadian Standards.
	Canadian Standards Association	Approval mark of the Canadian certification authority, products bearing this mark have been certified by CSA and are complying with the applicable Canadian and US Standards.
	Demko	Danish approval mark which is registered and provided by UL International Demko A/S. The D mark demonstrates that the certified product complies with the applicable requirements.
	Nemko	Certification mark of the Norwegian approval authority
	Semko	Certification mark of the Swedish approval authority
	Fimko	Certification mark of the Finnish approval authority
	Det Norske Veritas	Certification mark of the Norwegian approval authority Products bearing this mark comply with the ship classification requirements
	Germanischer Lloyd	Certification mark of the German approval authority Products bearing this mark comply with the ship classification requirements
	UkrSEPRO	Certification mark of the Ukrainian approval authority
	Gost-R	Certification mark of the Russian approval authority

Approvals

Symbol	Name / Organisation	Explication
	China Compulsory Certificate	Certification mark of the Chinese approval authority CQC
	TÜV	German approval authority Approval authority for safety-related components such as emergency-off / emergency-stop components
	AS-International Association	Mark for certified AS-Interface components
	Lloyd's Register	Lloyd's Register of Shipping, UK approval authority for ship certification

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Mode of Operation of 3-position Selector and Key Switches

One-piece plunger:

The one-piece plunger of the 3-position selector and key switches is not pushed in the left position, in the centre position it is pushed half way whereas in the right switching position it is entirely pushed through.

Using a contact block with a NC contact (opens after a travel of approx. 1.5mm) and a NO contact (closes after a travel of approx. 4mm), the switching mode changes as follows:

1. left-hand = switching travel 0mm = NC closed, NO open
2. centre = switching travel ~3mm = NC and NO are open
3. right-hand = switching travel 6 mm = NC open, NO closed

This yields the advantage that it is not important in which „direction“ the contact elements are snapped on, the switching situation always results from the switching travel. This also means that cross coupling of the contact elements is allowed.

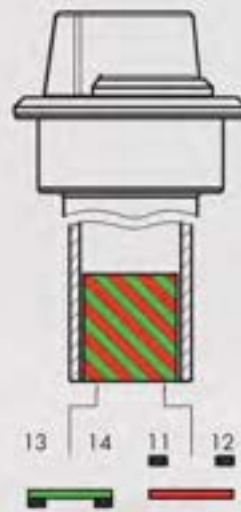
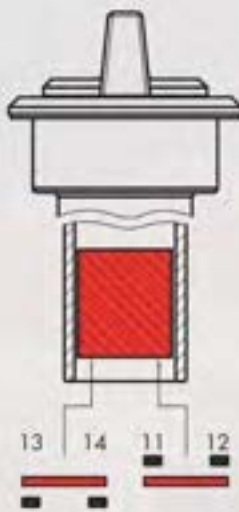
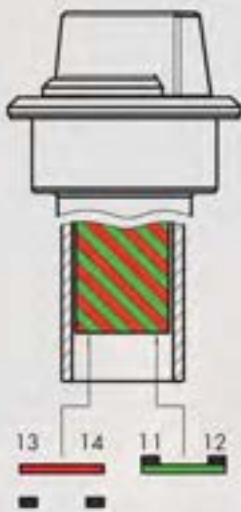


illustration of one-piece plunger

Abbild. 10

→ Kontakt
Kontakt-Block

Hand-Reset-Block

Die-Technologie

Einbauelement

Terminal-Block

Feld-Schalter

Leuch-Schalter

Type-Indikator

Two-piece plunger:

The actuator plunger consists of 2 separate half shells. In the left switching position the left plunger part and therefore the left contact element is operated, in the right switching position it is the right contact element. In the centre position none of the two contact elements is activated. Therefore, it should be noted that a cross-coupling of the contact elements is NOT allowed! In addition, the contact elements must be snapped on correctly, otherwise any actuation will lead to the opposite function.

In order to obtain the same switching situations as mentioned before, two NO contacts must be used:

1. left-hand = left plunger part operated = left NO contact closed, right NO contact open
2. centre = no plunger part operated = both NO contacts open
3. right-hand = right plunger part operated = left NO contact open, right NO contact closed.

The two-piece plunger is used in the selector heads and key actuators of the following series: Oktron, Oktron-R, Oktron-Juwel, Rontron-R-Juwel, Rontron-RJ-Edelstahl, Rontron-Q-Juwel and RXJuwel (RXJZSSA12E and RXJZWBL), Kombitast-R-Juwel (KRJZ...).

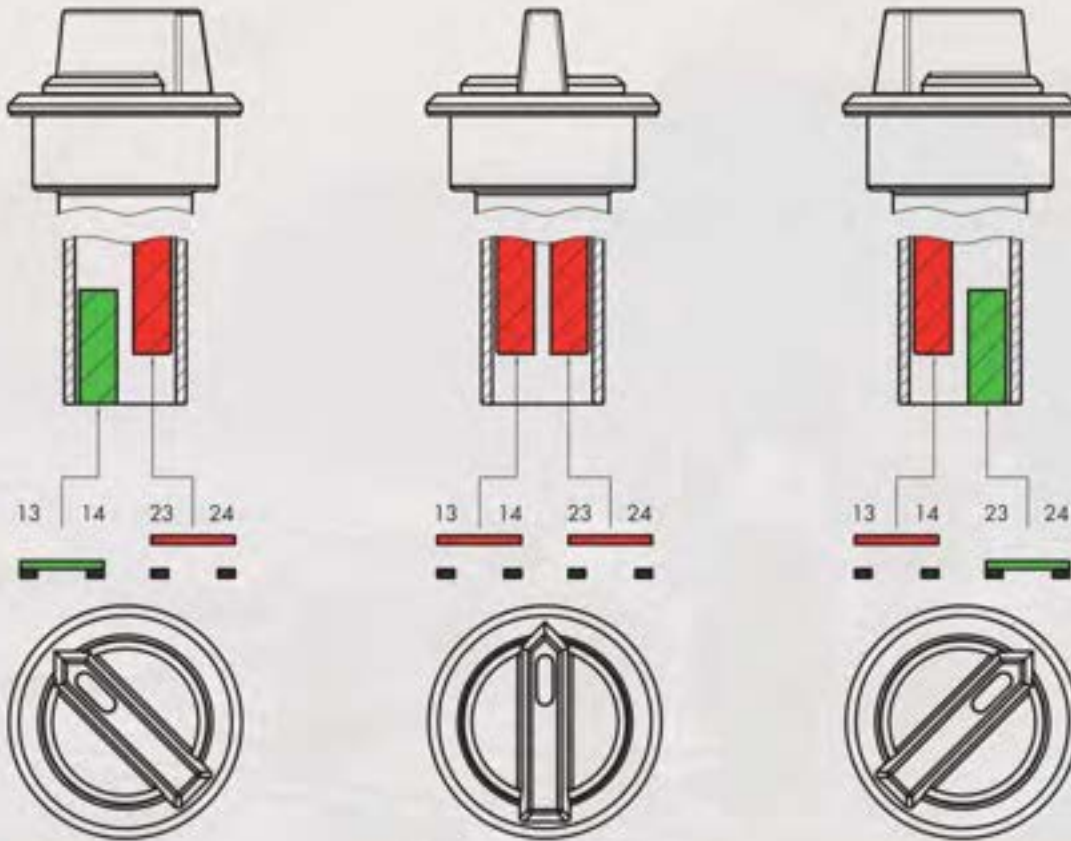


illustration of two-piece plunger



Front dimensions: 25 x 25 mm
Panel cut-out: Ø 16.2 mm
Front bezel height: 7.5 mm
Travel: 3 mm



OKTRON

Product configurator



Overview OKTRON series



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Housing Colours

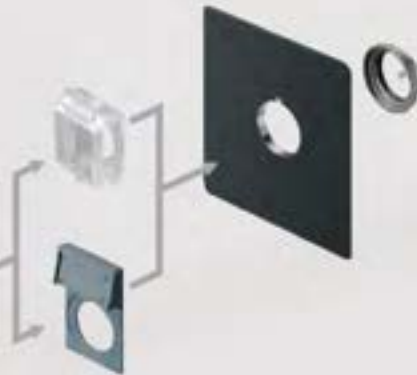


IP65 degree of protection

operating travel

illuminating option

labeling option



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Faston terminals
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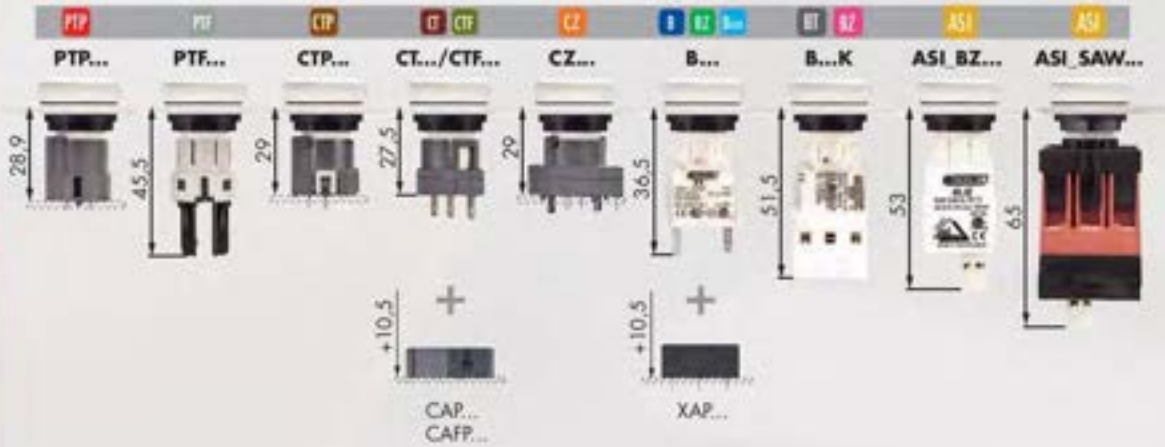
Terminal Blocks

Push Switches

Limit Switches

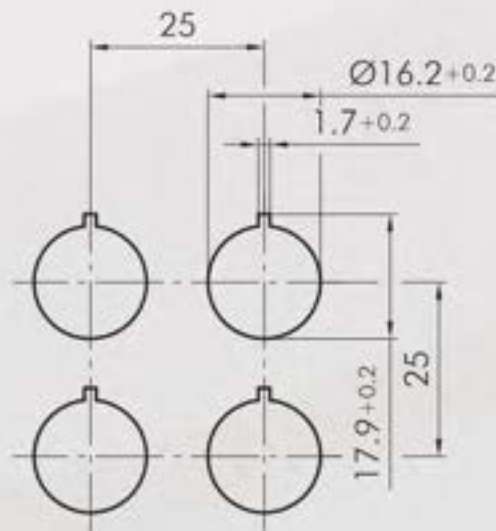
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Mounting Depth Dimensions

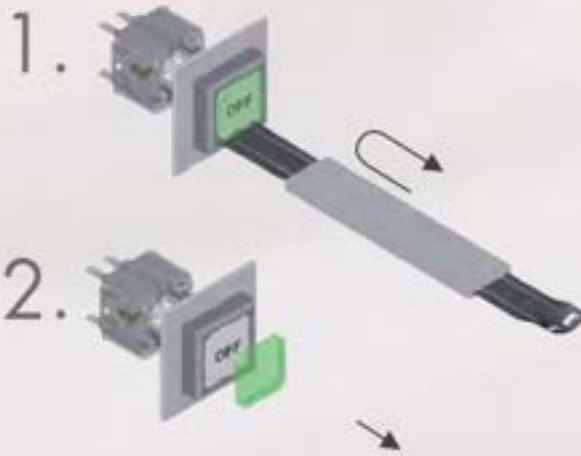


Cutout Dimensions

Min. mounting grid 25 x 38 mm when using external nameplate holders.



Mounting and Service Instructions



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Ø 16.2 mm


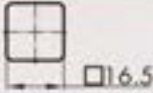

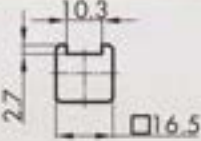

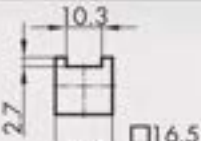

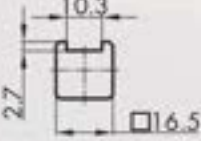
Pushbutton Heads

Lenses and nameplates to be ordered separately

- Accessories
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Illustration	Dimensions	Description	Type
	<p>Pushbutton Head</p> <p>suitable contact blocks</p> <p>BUS AS AZ B BF BZ BZ 4m C1 C1F C1P C2</p> <p>front bezel charcoal charcoal silver-coloured silver-coloured</p>	<p>OKT OKTM</p>	
	<p>Pushbutton Head</p> <p>The light is concentrated to the border of the lens.</p> <p>suitable contact blocks</p> <p>BUS AS AZ B BF BZ BZ 4m C1 C1F C1P C2</p> <p>front bezel charcoal charcoal silver-coloured silver-coloured</p>	<p>OKTLL OKTLLM</p>	
	<p>Pushbutton Head with high front bezel</p> <p>suitable contact blocks</p> <p>BUS AS AZ B BF BZ BZ 4m C1 C1F C1P C2</p> <p>front bezel charcoal charcoal</p>	<p>OKH</p>	
	<p>Flat Lens, transparent</p> <p>colour</p> <p>blue </p> <p>yellow </p> <p>green </p> <p>clear </p> <p>red </p> <p>opalwhite </p>	<p>TOKFBL TOKFGB TOKFGN TOKFKL TOKFRT TOKFWS</p>	
	<p>Flat Lens, non-transparent</p> <p>used in pushbuttons without inscription and illumination</p> <p>colour</p> <p>charcoal </p> <p>blue </p> <p>yellow </p> <p>green </p> <p>black </p> <p>red </p> <p>white </p>	<p>TOKFGDG TOKFGBL TOKFGGB TOKFGGN TOKFGSW TOKFGRT TOKFGWS</p>	
	<p>Nameplate with standard imprint</p> <p>please specify index number (see nameplates on pages 404)</p>	<p>BSOK...</p>	
	<p>Nameplate with special imprint</p> <p>according to customer's specification</p>	<p>BSOKB</p>	

Accessories for Actuators

Illustration	Dimensions	Description	Type
		Blank Nameplate	BSOKU
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSOKLL...
		Nameplate with special imprint according to customer's specification	BSOKLLB
		Blank Nameplate	BSOKLLU

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Emergency Stops

Illustration

Dimensions

Description

Type



Emergency-stop Head

Other mushroom colours on request

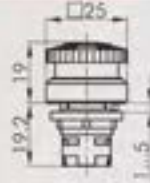
foolproof No
switching position indicator No
anti-lock collar No
release twist right or left

suitable contact blocks

AZ RZ RZ PTP PT

mushroom head red yellow
front bezel yellow

OKVGB



Emergency-stop Head with illuminating and labelling option

including blank nameplate (inscription on request)

foolproof No
switching position indicator No
anti-lock collar No
release twist right or left

suitable contact blocks

AZ RZ RZ

mushroom head red yellow
front bezel yellow

OKVLBGB



Emergency-stop Head

foolproof Yes
switching position indicator No
anti-lock collar No
release twist right or left
Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks

AZ RZ RZ PTP PT

mushroom head red yellow
front bezel yellow


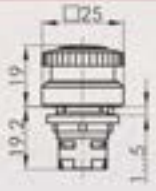

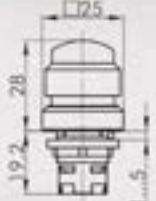
OKUVGB



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

Mushroom Heads

Illustration	Dimensions	Description	Type
 <p>IP65 3mm</p>		<p>Mushroom Head, momentary other mushroom colours on request switching position indicator No anti-lock collar No suitable contact blocks</p> <p>BUS AZ B BF BZ BT B-co CT CTF CTP C</p> <p>mushroom head red front bezel charcoal silver-coloured</p>	<p>OKS OKSM</p>
 <p>IP65 3mm</p>		<p>Pushbutton Head, latch-type red knob, momentary function on the left, latching/switching function on the right. Other mushroom colours on request switching position indicator No anti-lock collar No suitable contact blocks</p> <p>BUS AZ B BF BZ BT B-co CT CTF CTP C</p> <p>mushroom head red front bezel red silver-coloured</p>	<p>OKTV OKTVM</p>

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Levit Switches

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Ø 16.2 mm

**Knob Set for potentiometers
Selector Switches (momentary/maintained)**















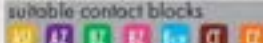




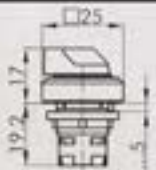









⊥ = Switching position
> = Spring return

- Actuators
- Control Units
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- Terminal Blocks
- Relay Switches
- Limit Switches
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Illustration	Dimensions	Description	Type														
		<p>Knob Set for potentiometers for potentiometers of 6 mm shaft dia. and thread M10x0.75. Delivery without potentiometer. Shaft length: approx. 32 mm</p> <table border="0"> <tr> <td>front bezel</td> <td>charcoal</td> <td></td> <td>OKR</td> </tr> <tr> <td></td> <td>silver-coloured</td> <td></td> <td>OKRM</td> </tr> </table>	front bezel	charcoal		OKR		silver-coloured		OKRM							
front bezel	charcoal		OKR														
	silver-coloured		OKRM														
		<p>Selector Head, maintained</p> <p>suitable contact blocks </p> <table border="0"> <tr> <td>front bezel</td> <td>charcoal</td> <td></td> <td rowspan="2"> OKWA OKWAM</td> </tr> <tr> <td></td> <td>silver-coloured</td> <td></td> </tr> </table> <p>suitable contact blocks </p> <table border="0"> <tr> <td>front bezel</td> <td>charcoal</td> <td></td> <td rowspan="2"> OKWB OKWBM</td> </tr> <tr> <td></td> <td>silver-coloured</td> <td></td> </tr> </table>	front bezel	charcoal		 OKWA OKWAM		silver-coloured		front bezel	charcoal		 OKWB OKWBM		silver-coloured		
front bezel	charcoal		 OKWA OKWAM														
	silver-coloured																
front bezel	charcoal		 OKWB OKWBM														
	silver-coloured																
		<p>Selector Head, momentary</p> <p>suitable contact blocks </p> <table border="0"> <tr> <td>front bezel</td> <td>charcoal</td> <td></td> <td rowspan="2"> OKSTA OKSTAM</td> </tr> <tr> <td></td> <td>silver-coloured</td> <td></td> </tr> </table> <p>suitable contact blocks </p> <table border="0"> <tr> <td>front bezel</td> <td>charcoal</td> <td></td> <td rowspan="2"> OKSTB OKSTBM</td> </tr> <tr> <td></td> <td>silver-coloured</td> <td></td> </tr> </table>	front bezel	charcoal		 OKSTA OKSTAM		silver-coloured		front bezel	charcoal		 OKSTB OKSTBM		silver-coloured		
front bezel	charcoal		 OKSTA OKSTAM														
	silver-coloured																
front bezel	charcoal		 OKSTB OKSTBM														
	silver-coloured																
		<p>Selector Head, left maintained, right momentary</p> <p>suitable contact blocks </p> <table border="0"> <tr> <td>front bezel</td> <td>charcoal</td> <td></td> <td rowspan="2"> OKWC OKWCM</td> </tr> <tr> <td></td> <td>silver-coloured</td> <td></td> </tr> </table>	front bezel	charcoal		 OKWC OKWCM		silver-coloured									
front bezel	charcoal		 OKWC OKWCM														
	silver-coloured																

**Selector Switches (momentary/maintained)
Toggle Heads**

I = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
		<p>Illuminated Selector Head, maintained Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. OKWAL_GN)</p> <p>suitable contact blocks </p> <p>front bezel charcoal  silver-coloured </p> <p>suitable contact blocks </p> <p>front bezel charcoal  silver-coloured </p> 	<p>OKWAL... OKWALM...</p> <p>OKWBL... OKWBLM...</p>
		<p>Illuminated Selector Head, momentary Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. OKSTAL_GN)</p> <p>suitable contact blocks </p> <p>front bezel charcoal  silver-coloured </p> <p>suitable contact blocks </p> <p>front bezel charcoal  silver-coloured </p> 	<p>OKSTAL... OKSTALM...</p> <p>OKSTBL... OKSTBLM...</p>
		<p>Illuminated Selector Head, left maintained, right momentary Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. OKWCL_GN)</p> <p>suitable contact blocks </p> <p>front bezel charcoal  silver-coloured </p> 	<p>OKWCL... OKWCLM...</p>
		<p>Toggle Head red toggle (other colours on request)</p> <p>suitable contact blocks </p> <p>front bezel charcoal  silver-coloured </p>	<p>OKK_RT OKKM_RT</p>

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration

Dimensions

Description

Type

IP65



Key Actuator, maintained

including two keys
other lock types on request

suitable contact blocks

AK AZ BZ BF Bcr CT CZ

front bezel charcoal silver-coloured



OKSSA12
OKSSMA12

suitable contact blocks

AK AZ BZ BF Bcr CT CZ

front bezel charcoal silver-coloured



OKSSA13
OKSSMA13

suitable contact blocks

AK AZ B BF BZ Bcr CT CTF CTP CZ

front bezel charcoal silver-coloured



OKSSA14
OKSSMA14

suitable contact blocks

AK AZ B BF BZ Bcr CT CTF CTP CZ

front bezel charcoal silver-coloured



OKSSA15
OKSSMA15

suitable contact blocks

AK AZ B BF BZ Bcr CT CTF CTP CZ

front bezel charcoal silver-coloured



OKSSA16
OKSSMA16

suitable contact blocks

AK AZ B BF BZ Bcr CT CTF CTP CZ

front bezel charcoal silver-coloured



OKSSA17
OKSSMA17

suitable contact blocks

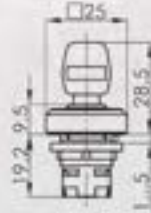
AK AZ B BF BZ Bcr CT CTF CTP CZ

front bezel charcoal silver-coloured



OKSSA18
OKSSMA18

IP45



Key Actuator, maintained

including 3 keys:
1st key: two-way operation
2nd key: operation to the left only
3rd key: operation to the right only

suitable contact blocks

AK AZ BZ BF Bcr CT CZ


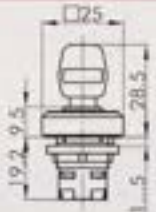





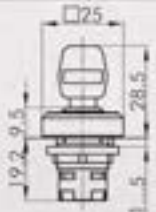





front bezel charcoal silver-coloured



OKSSA31
OKSSMA31

Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type
		Key Actuator, momentary including two keys, other lock types on request suitable contact blocks 	
		front bezel charcoal  OK5SA23 silver-coloured  OK5SMA23	
		Key Actuator, left maintained, right momentary suitable contact blocks 	
		front bezel charcoal  OK5SA25 silver-coloured  OK5SMA25	
		Standard Spare Keys standard spare key, specify key number for special locks	ESMIC482

Moulds

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Buzzers

Illustration	Dimensions	Description	Type
		Buzzer operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 75 db (10cm, 12V) operating temperature: -20°C ... 60°C front bezel: charcoal, silver-coloured	OKNSG+SG-24V OKNMSG+SG-24V
		Interval Buzzer operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 75 db (10cm, 12V) interval: 1 s operating temperature: -20°C ... 60°C front bezel: charcoal, silver-coloured	OKNSG+SGI-24V OKNMSG+SGI-24V
		Illuminated Buzzer operating voltage: 12 ... 24V AC/DC operating current: approx. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 75 db (10cm, 12V) operating temperature: -20°C ... 60°C front bezel: charcoal, silver-coloured	OKNSGL+SGLR-24V OKNMSG+SGLR-24V
		Illuminated Interval Buzzer operating voltage: 12 ... 24V AC/DC operating current: approx. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 75 db (10cm, 12V) interval: 1 s operating temperature: -20°C ... 60°C front bezel: charcoal, silver-coloured	OKNSGL+SGILR-24V OKNMSG+SGILR-24V
		Faston Clamp 2.8 x 0.8 mm with snap-in pin Cross section 0.75 - 1.50 mm ² , tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8	FH2,8
		Insulating Case for Faston clamp FH2,8, slip on from the front	IH2,8

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Accessories for Contact blocks

Illustration	Dimensions	Description	Type
		Double Faston for the connection of 2 Faston clamps FH2.8	FD2,8

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Ø 16.2 mm

Pilot Lights

Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
		Pilot Light with Faston Terminals 2.8x0.8 mm W2x4.6d socket front bezel: charcoal, silver-coloured	OKL4 OKL4M
		Pilot Light Head suitable lampholders: A15, B, BF, C1, C1F, C1P, C2 front bezel: charcoal, silver-coloured	OKN OKNM
		Convex Lens, transparent colour: blue, yellow, green, clear, red, white	KOKFBL KOKFGB KOKFGN KOKFKL KOKFRT KOKFWS
		Nameplate with standard imprint please specify index number (see nameplates on pages 404)	BSOK...
		Nameplate with special imprint according to customer's specification	BSOKB
		Blank Nameplate	BSOKU

Abw. 1/3

Control Lines
→ Actuators

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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Hexagonal Mounting Tool with torque limitation, for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL	516
		Mounting Tool Adapter with 1/4" connections for mounting tools 516 and 522	SRA
		External Nameplate Holder for outside marking of the actuators of the QUARTRON and OKTRON series, accepts self-adhesive nameplates colour charcoal  colour silver-coloured 	QXABT QXABT_M
		Self-adhesive Nameplate laser-printed Inscription according to customer's specification Dimensions: 22 x 11 mm	BZ16L
		Self-adhesive Nameplate blank Dimensions: 22 x 11 mm	BZ16U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 22 x 11 mm	BZ16B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 60 mm for mounting dia. 16 mm colour yellow 	NAS_16
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 60 mm for mounting dia. 16 mm colour yellow 	NAS_16_548
		Lead-sealable Protective Lid fits onto the pushbuttons of the OKTRON series	KDOK

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Accessories OKTRON

made in germany



Ø 16.2 mm

Accessories for Actuators

Illustration	Dimensions	Description	Type
		Universal Lens Remover	USK
		Square Dummy to close unused mounting apertures colour charcoal	Q16DG

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Front dimensions: \varnothing 25 mm
Panel cut-out: \varnothing 16.2 mm
Front bezel height: 7 mm
Travel: 3 mm



OKTRON-R

Product configurator



Overview OKTRON-R series



01 Pushbutton Heads	page 42	07 Key Actuators	page 48
02 Emergency Stop Buttons	page 44	08 Acoustic Buzzers	page 50
03 Mushroom Heads	page 45	09 Pilot Lights	page 52
04 Knob Set for Potentiometers	page 45		
05 Selector Heads	page 46		
06 Toggle Heads	page 47		
		Contact Blocks / Lampholders	page 408

Housing Colours

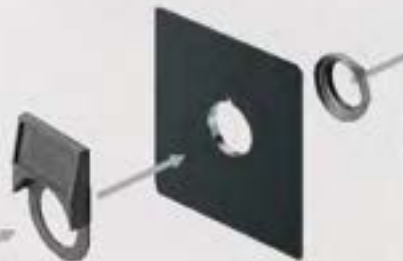


degree of protection

operating travel

illuminating option

labelling option



- 

CT...
Contact Blocks
Faston terminals
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- 

CZ...
Contact Blocks
PCB-mount terminals
page 482
- 

CIP...
Contact Blocks
PCB-mount terminals
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CTF...
Contact Blocks
Faston terminals
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PT...
Contact Blocks
PCB-mount terminals
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PT...
Contact Blocks
Faston terminals
page 500
- 

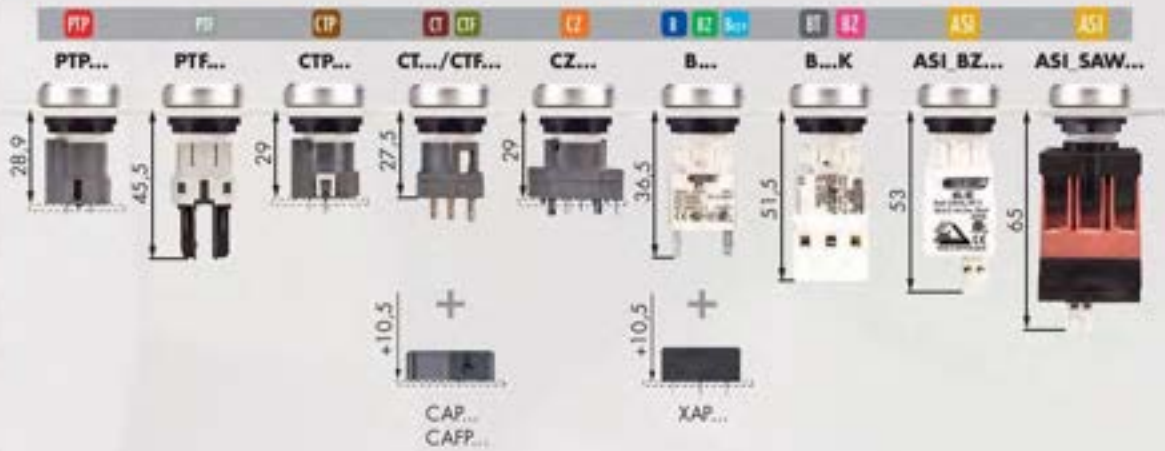
B...
Contact Blocks
Faston terminals
page 428
- 

BT...
B...
Contact Blocks
Screw connections
page 436
- 

AS...
Contact Blocks
for AS-Interface
page 534
- 

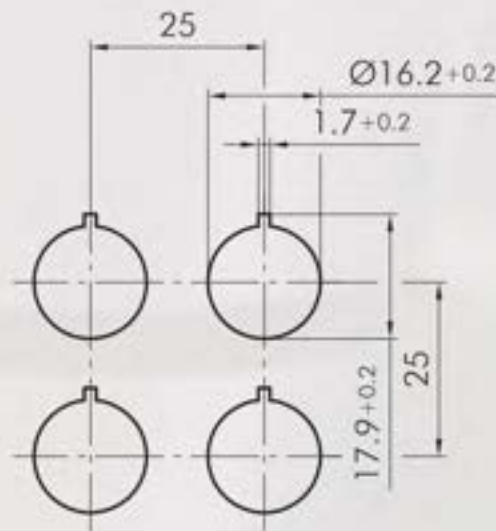
AS...
Contact Blocks
for AS-Interface
Safety @ Work
page 540

Mounting Depth Dimensions

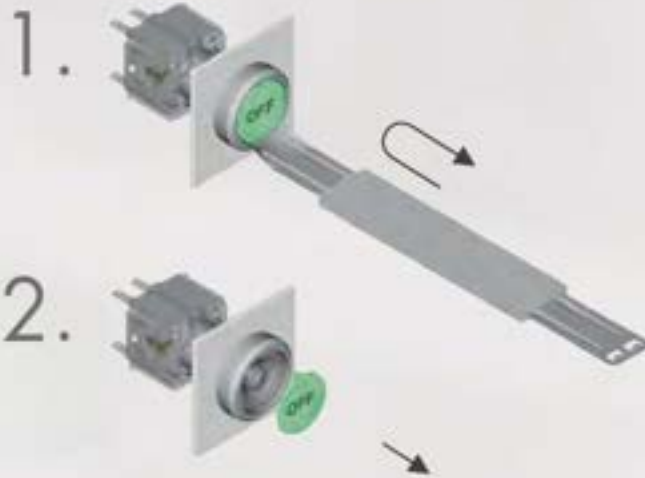


Cutout Dimensions

Min. mounting grid 25 x 38 mm when using external nameplate holders



Mounting and Service Instructions



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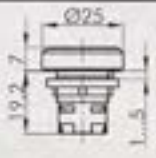

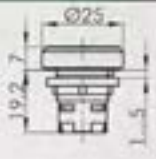

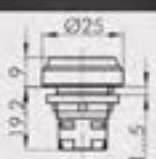

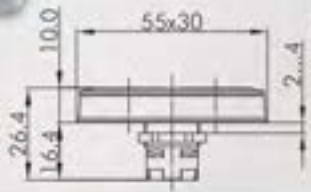

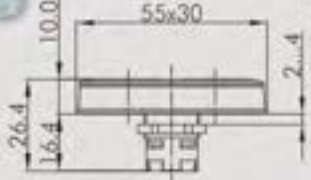
Ø 16.2 mm

Pushbutton Heads

Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
		Pushbutton Head suitable contact blocks: front bezel charcoal silver-coloured	RKT RKTM
		Flat Lens, transparent colour: blue, yellow, green, clear, red, opalwhite	T20FBL T20FGB T20FGN T20FKL T20FRT T20FWS
		Flat Lens, non-transparent used in pushbuttons without inscription and illumination colour: blue, yellow, green, black, red, white	T20FGBL T20FGGB T20FGGN T20FGSW T20FGRT T20FGWS
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSRX...
		Nameplate with special imprint according to customer's specification	BSRXB
		Blank Nameplate	BSRXU

Pushbutton Heads

Illustration	Dimensions	Description	Type
		Sealing Cap made of silicone rubber, down to -50°C	TK265
 		Pushbutton Head with ring illumination incl. lens. suitable contact blocks BUS AZ B BF BZ BZ Bus CT CTF CTP CZ push-cap silver-coloured front bezel silver-coloured push-cap black front bezel black	RKTMLR RKT5WLR
 		Pushbutton Head with ring illumination and laser printing incl. lens, standard imprints see nameplates on page 404 (please specify index no.), special inscription on request suitable contact blocks BUS AZ B BF BZ BZ Bus CT CTF CTP CZ push-cap silver-coloured front bezel silver-coloured	RKTMLRL...
 		Membrane Pushbutton Head incl. white non-transparent lens (inscription on request) suitable contact blocks BUS AZ B BF BZ BZ Bus CT CTF CTP CZ front bezel black	RKTME
 		Double Pushbutton with ring illumination for panel cut-out Ø 16 mm locating pin to be on the right in case of horizontal installation laser printing on request suitable contact blocks BZ BZ CT CZ front bezel silver-coloured	RRDTLR
 		Double Pushbutton Head with ring illumination for cutouts 16 mm dia. when mounted horizontally, the anti-rotation tab is on the right suitable contact blocks BZ BZ CT CZ push-cap red/green front bezel silver-coloured	RRDTLRW_0003

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Emergency Stops

Illustration

Dimensions

Description

Type

#65



Emergency-stop Head

foolproof Yes
 switching position indicator No
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5,
 EN ISO 13850



suitable contact blocks

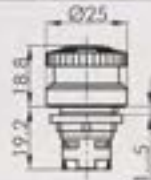


mushroom head red
 front bezel yellow



RKUVGB

#65



Emergency-stop Head

Other mushroom colours on request

foolproof No
 switching position indicator No
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5,
 EN ISO 13850



suitable contact blocks



mushroom head red
 front bezel yellow



RKVGB

#65



Emergency-stop Head

incl. blank nameplate (inscription on request)

foolproof No
 switching position indicator No
 anti-lock collar No
 release twist right or left

suitable contact blocks



mushroom head red
 front bezel yellow




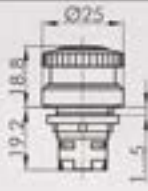




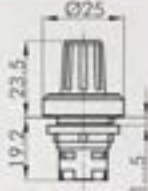


RKVLBGB



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

**Mushroom Heads
Knob Set for potentiometers**

Illustration	Dimensions	Description	Type
 <p>IP65 1 m ☀️</p>		<p>Mushroom Head, momentary Other mushroom colours on request switching position indicator No anti-lock collar No</p> <p>suitable contact blocks</p> <p>BUS A2 B BF BZ K2 K+ CT CT CP CZ</p> <p>mushroom head red  front bezel charcoal  silver-coloured </p>	<p>RKS RKSM</p>
 <p>IP65</p>		<p>Knob Set for potentiometers for potentiometers of 6 mm shaft dia. and thread M10x0.75. Delivery without potentiometer. Shaft length: approx. 32 mm</p> <p>front bezel charcoal  silver-coloured </p>	<p>RKR RKRM</p>

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Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

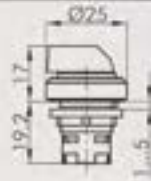
Illustration

Dimensions

Description

Type

IP65



Selector Head, maintained

suitable contact blocks

BUS A1 A2 B BF BZ B2 Bm C1 C2 C3 C4 C5

front bezel charcoal silver-coloured



RKWA
RKWAM

suitable contact blocks

A1 A2 BZ B2 Bm C1 C2

front bezel charcoal silver-coloured



RKWB
RKWBM

IP65



Selector Head, momentary

suitable contact blocks

BUS A1 A2 B BF BZ B2 Bm C1 C2 C3 C4 C5

front bezel charcoal silver-coloured



RKSTA
RKSTAM

suitable contact blocks

A1 A2 BZ B2 Bm C1 C2

front bezel charcoal silver-coloured



RKSTB
RKSTBM

IP65



Selector Head, left maintained, right momentary

suitable contact blocks

A1 A2 BZ B2 Bm C1 C2

front bezel charcoal silver-coloured



RKWC
RKWCM

IP65



Illuminated Selector Head, maintained

Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT [e.g. RKWAL_GN]

suitable contact blocks

BUS A1 A2 B BF BZ B2 Bm C1 C2 C3 C4 C5

front bezel charcoal silver-coloured



RKWAL...
RKWALM...

suitable contact blocks

A1 A2 BZ B2 Bm C1 C2

front bezel charcoal silver-coloured



RKWBL...
RKWBLM...

IP65



Illuminated Selector Head, momentary

Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT [e.g. RKSTAL_GN]

suitable contact blocks

BUS A1 A2 B BF BZ B2 Bm C1 C2 C3 C4 C5

front bezel charcoal silver-coloured



RKSTAL...
RKSTALM...

suitable contact blocks

A1 A2 BZ B2 Bm C1 C2


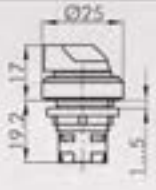




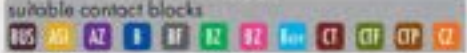










front bezel charcoal silver-coloured



RKSTBL...
RKSTBLM...

**Selector Switches (momentary/maintained)
Toggle Heads**

⊥ = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
		<p>Illuminated Selector Head, left maintained, right momentary Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RKWCL_GN) suitable contact blocks </p> <p>front bezel charcoal  silver-coloured </p>	<p>RKWCL... RKWCLM...</p>
		<p>Selector Head for desert application, maintained tested with coarse Arizona dust suitable contact blocks </p> <p>knob colour black  front bezel black </p> <p>suitable contact blocks </p> <p>knob colour black  front bezel black </p>	<p>RKWA_514 RKWB_514</p>
		<p>Toggle Head red toggle (other colours on request) suitable contact blocks </p> <p>front bezel charcoal  silver-coloured </p>	<p>RKK_RT RKKM_RT</p>

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration

Dimensions

Description

Type

W65



Key Actuator, maintained

including two keys
other lock types on request

suitable contact blocks

A1 A2 B1 B2 B3 B4 CT CZ

front bezel charcoal silver-coloured



RKSSA12
RKSSMA12

suitable contact blocks

A1 A2 B1 B2 B3 B4 CT CZ

front bezel charcoal silver-coloured



RKSSA13
RKSSMA13

suitable contact blocks

A1 A2 B1 B2 B3 B4 B5 CT CTF CTP CZ

front bezel charcoal silver-coloured



RKSSA14
RKSSMA14

suitable contact blocks

A1 A2 B1 B2 B3 B4 B5 CT CTF CTP CZ

front bezel charcoal silver-coloured



RKSSA15
RKSSMA15

suitable contact blocks

A1 A2 B1 B2 B3 B4 B5 CT CTF CTP CZ

front bezel charcoal silver-coloured



RKSSA16
RKSSMA16

suitable contact blocks

A1 A2 B1 B2 B3 B4 B5 CT CTF CTP CZ

front bezel charcoal silver-coloured



RKSSA17
RKSSMA17

suitable contact blocks

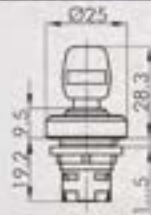
A1 A2 B1 B2 B3 B4 B5 CT CTF CTP CZ

front bezel charcoal silver-coloured



RKSSA18
RKSSMA18

WAS



Key Actuator, maintained

requires 3 keys:
1st key: two-way operation
2nd key: operation to the left only
3rd key: operation to the right only

suitable contact blocks

A1 A2 B1 B2 B3 CT CZ


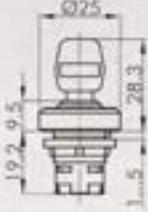










front bezel charcoal silver-coloured



RKSSA31
RKSSMA31

Key Switches (momentary/maintained)

- | = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type	
		Key Actuator, momentary including two keys other lock types on request suitable contact blocks		
		front bezel charcoal 		RK5SA23 RK5SMA23
		front bezel silver-coloured 		
		suitable contact blocks front bezel charcoal 		RK5SA28 RK5SMA28
		Key Actuator, left maintained, right momentary suitable contact blocks		
		front bezel charcoal 		RK5SA25 RK5SMA25
		Standard Spare Keys standard spare key, specify key number for special locks	ESMIC482	

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Buzzers

Illustration	Dimensions	Description	Type
		<p>Buzzer operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 90 dB [10cm, 24V] max. 80 dB [10cm, 12V] operating temperature: -20°C ... 60°C front bezel: charcoal silver-coloured</p>	<p>RKNSG+SG-24V RKNMSG+SG-24V</p>
		<p>Interval Buzzer operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 90 dB [10cm, 24V] max. 80 dB [10cm, 12V] interval: 1 s operating temperature: -20°C ... 60°C front bezel: charcoal silver-coloured</p>	<p>RKNSG+SGI-24V RKNMSG+SGI-24V</p>
		<p>Illuminated Buzzer operating voltage: 12 ... 24V AC/DC operating current: approx. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 90 dB [10cm, 24V] max. 80 dB [10cm, 12V] operating temperature: -20°C ... 60°C front bezel: charcoal silver-coloured</p>	<p>RKNSGL+SGLR-24V RKNMSGL+SGLR-24V</p>
		<p>Illuminated Interval Buzzer operating voltage: 12 ... 24V AC/DC operating current: approx. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 90 dB [10cm, 24V] max. 80 dB [10cm, 12V] interval: 1 s operating temperature: -20°C ... 60°C front bezel: charcoal silver-coloured</p>	<p>RKNSGL+SGILR-24V RKNMSGL+SGILR-24V</p>
		<p>Faston Clamp 2.8 x 0.8 mm with snap-in pin Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XA1 and the insulating case IH2.8</p>	<p>FH2,8</p>
		<p>Insulating Case for Faston clamp FH2,8, slip on from the front</p>	<p>IH2,8</p>

Accessories for Contact blocks

Illustration	Dimensions	Description	Type
		Double Faston for the connection of 2 Faston clamps FH2.8	FD2,8

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Pilot Lights

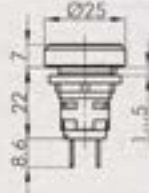
Lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

Type

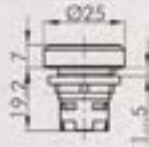


Pilot Light with Faston terminals 2.8x0.8 mm

W2x4.6d socket

front bezel	charcoal	
	silver-coloured	

RKL4
RKL4M



Pilot Light Head

suitable lampholders



front bezel	charcoal	
	silver-coloured	
	yellow	
	green	
	clear	
	red	
	opalwhite	
	yellow	

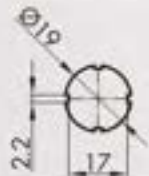
RKN
RKNM
KH20GB
KH20GN
KH20KL
KH20RT
KH20WS
T20FGB



Flat Lens, transparent

colour	blue	
	green	
	clear	
	red	
	opalwhite	

T20FBL
T20FGN
T20FKL
T20FRT
T20FWS



Nameplate with standard imprint

Please specify index number (see nameplates on pages 404)

BSRX...



Nameplate with special imprint

according to customer's specification




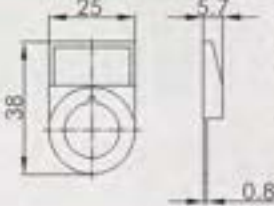










BSRXB



Blank Nameplate

BSRXU

Accessories for Actuators

Illustration	Dimensions	Description	Type
		Hexagonal Mounting Tool with torque limitation, for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL	516
		Mounting Tool Adapter with 1/4" connections for mounting tools 516 and 522	SRA
 		External Nameplate Holder for outside marking of the actuators of the OKTRON-R series, accepts self-adhesive nameplates colour charcoal 	RKABT
		Self-adhesive Nameplate laser-printed Inscription according to customer's specification Dimensions: 22 x 11 mm	BZ16L
		Self-adhesive Nameplate blank Dimensions: 22 x 11 mm	BZ16U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 22 x 11 mm	BZ16B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 60 mm for mounting dia. 16 mm colour yellow 	NAS_16
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 60 mm for mounting dia. 16 mm colour yellow 	NAS_16_548
		Universal Lens Remover	USK
		Round Dummy to close unused mounting apertures colour charcoal 	RX16

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Front dimensions: 25 x 25 mm
Panel cut-out: Ø 16.2 mm
Front bezel height: 12 mm
Travel: 6 mm



QUARTRON

Product configurator



Overview QUARTRON series



- 01 Pushbutton Heads page 60
- 02 Emergency Stop Buttons page 62
- 03 Mushroom Heads page 62
- 04 Knob Set for Rotary Switch / Potentiometer page 63
- 05 Selector Heads page 64
- 06 Toggle Heads page 64

- 07 Key Actuators page 65
- 08 Acoustic Buzzers page 67
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Housing Colours

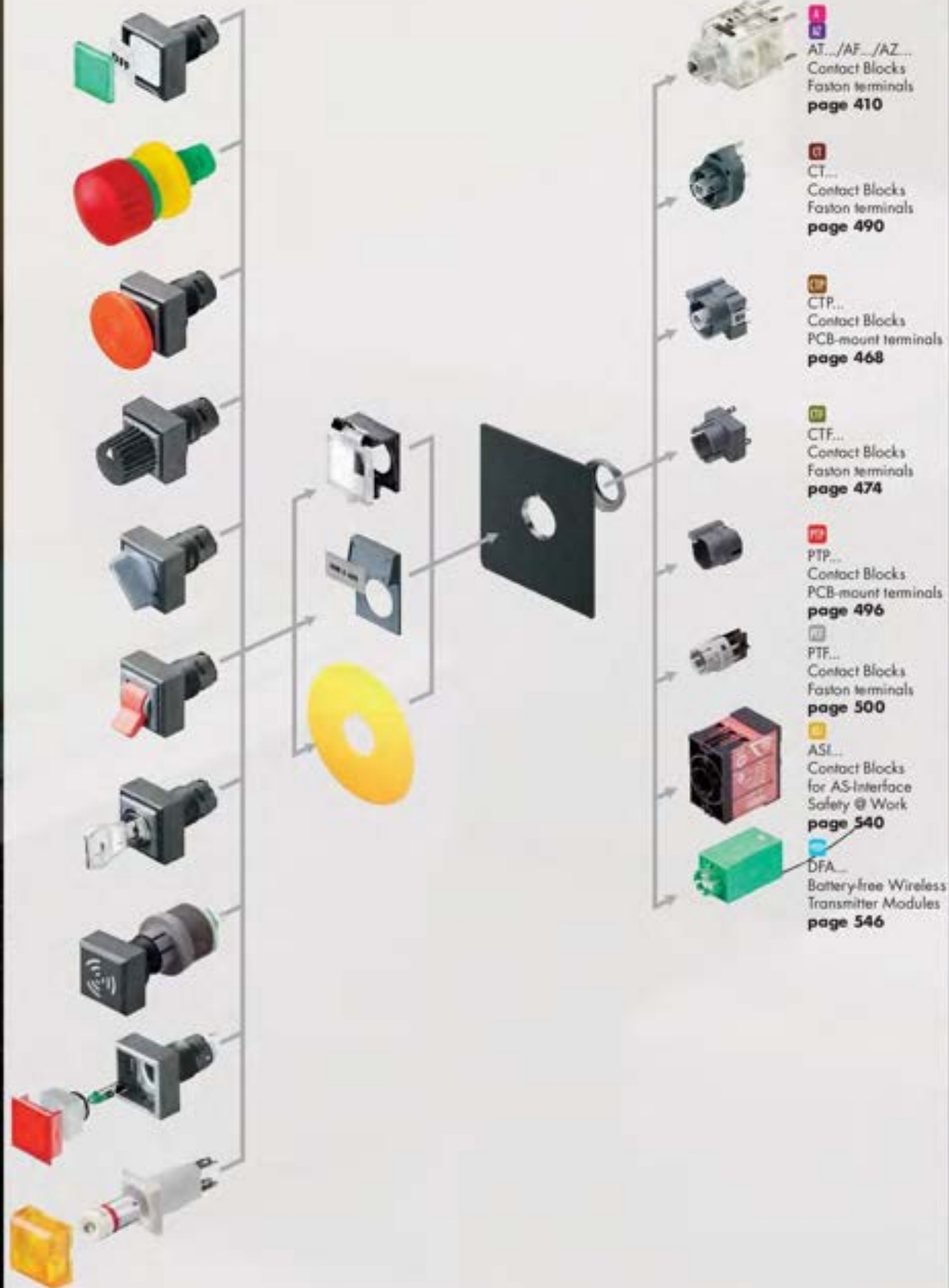


degree of protection

operating travel

illuminating option

labeling option



- AT.../AF.../AZ...**
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Faston terminals
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- CT...**
Contact Blocks
Faston terminals
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- CTP...**
Contact Blocks
PCB-mount terminals
page 468
- CTF...**
Contact Blocks
Faston terminals
page 474
- PTP...**
Contact Blocks
PCB-mount terminals
page 496
- PTF...**
Contact Blocks
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Battery-free Wireless
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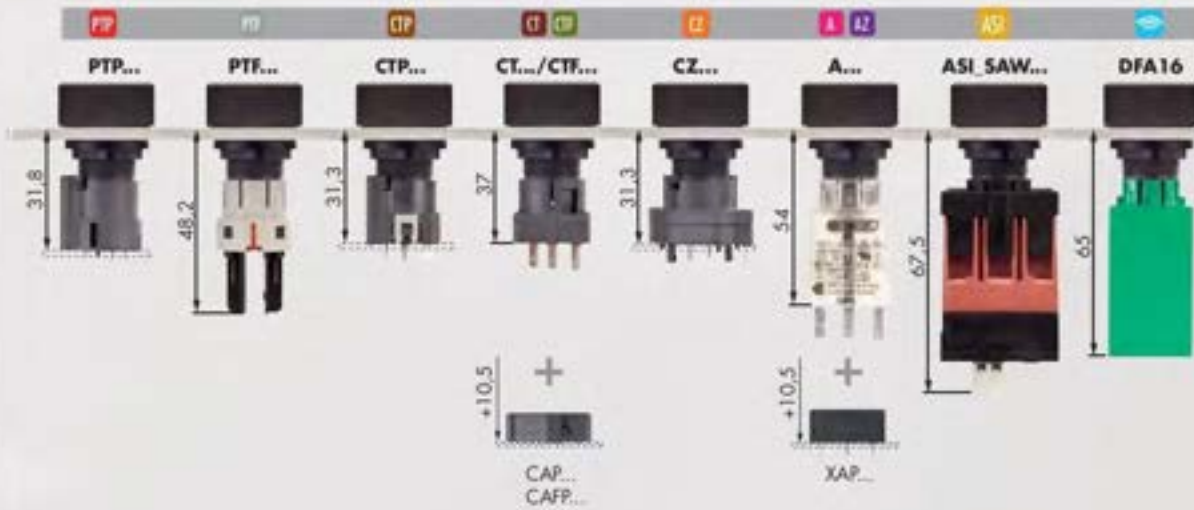
Terminal Blocks

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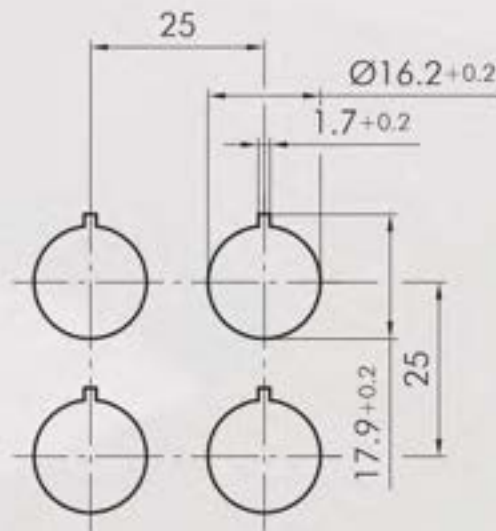
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Mounting Depth Dimensions

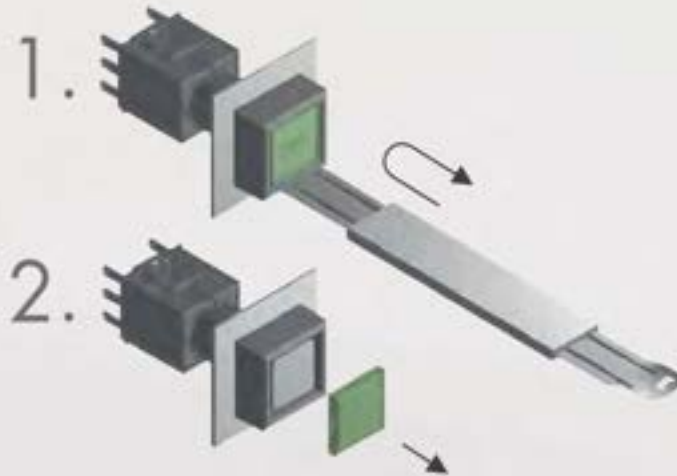


Cutout Dimensions

Min. mounting grid 25 x 38 mm when using external nameplate holders



Mounting and Service Instructions



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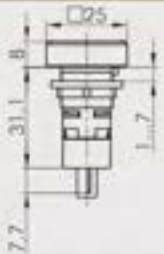
































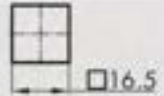
Ø 16.2 mm

Pushbutton Heads

*] 24 x 24 mm on request,
lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
		Pushbutton Head* suitable contact blocks BUS: A AZ CT CT1 CT2 front bezel: black	QXT
		Pushbutton Head* with transparent silicone cap suitable contact blocks BUS: A AZ CT CT1 CT2 front bezel: black, charcoal	QXP QXTDG
		Sealing Cap made of silicone rubber, down to -50°C	TK255
		Short-stroke Membrane Pushbutton Head - with transparent silicone cap, down to -50° C - with transparent, flat lens, add code letter to type number, e.g. QXDMRT (red-RT, green-GN, yellow-GB, blue-BL, clear-KL) - with illuminating option, blank nameplate included, Standard or special imprints on request. suitable contact blocks BUS: KM AZ B BF BZ BZ1 BZ2 CT CT1 CT2	QXDM... QXDMDG...
		Short-stroke Pushbutton 1 NO with 2 Faston terminals 2.8x0.8 mm, 250 V, 6(4) A, AC front bezel: black	QXDI
		Pushbutton 1 NC with 2 Faston terminals 2.8x0.8 mm, 250 V, 6(4) A, AC, (plug sockets for PCB's, type YAP...) front bezel: black	QXTO

Pushbutton Heads

Illustration	Dimensions	Description	Type
 <p>IP65 16A 16A</p>	 <p>Ø25 31.1 7.7 1.7</p>	<p>Short-stroke Pushbutton 1 NC with 2 Faston terminals 2.8x0.8 mm, 250 V, 6(4) A, AC</p> <p>  </p> <p>front bezel black </p>	QXDO
		<p>Concave Lens, transparent</p> <p>colour blue  T25DBL yellow  T25DGB green  T25DGN clear  T25DKL red  T25DRT opalwhite  T25DW5</p>	
		<p>Flat Lens, transparent</p> <p>colour blue  T25FBL yellow  T25FGB green  T25FGN clear  T25FKL red  T25FRT opalwhite  T25FWS</p>	
		<p>Flat Lens, non-transparent</p> <p>colour blue  T25FGBL yellow  T25FGGB green  T25FGGN colour black  T25FGSW red  T25FGRT white  T25FGWS</p>	
		<p>High Lens, transparent</p> <p>colour blue  T25HBL yellow  T25HGB green  T25HGN clear  T25HKL red  T25HRT</p>	
	 <p>Ø16.5</p>	<p>Nameplate with standard imprint Please specify index number (see nameplates on pages 404)</p>	B5QX...

Ø 16,2 mm

Emergency Stops
Mushroom Heads
 *) 24 x 24 mm auf Anfrage

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Illustration	Dimensions	Description	Type
		Nameplate with special imprint according to customer's specification	BSQXB
		Blank Nameplate	BSQXU



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366
 The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.



Mushroom Head, momentary*

other mushroom colours on request
 switching position indicator No
 anti-lock collar No


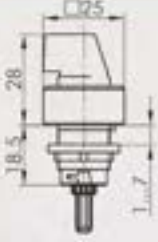



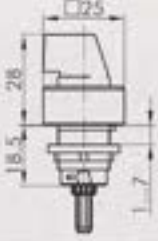



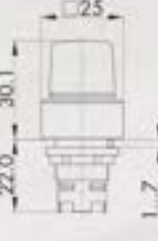


suitable contact blocks

front bezel	black		QXS
	charcoal		QXSDG

Knob Set for rotary switches

Knob Set for potentiometers

*| 24 x 24 mm on request

Illustration	Dimensions	Description	Type
		<p>Knob Set for rotary switches, without inscription* different versions on request</p> <p>front bezel black  charcoal </p>	<p>QXDAU QXDAUDG</p>
		<p>Knob Set for rotary switches, with inscription* different versions on request</p> <p>front bezel black  charcoal </p>	<p>QXDAB... QXDABDG...</p>
		<p>Knob Set for potentiometers* for potentiometers of 6 mm shaft dia. and thread M10x0.75. Delivery without potentiometer. Shaft length: approx. 50 mm ± 4 mm</p> <p>front bezel black  charcoal </p>	<p>QXR QXRDG</p>

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Selector Switches (momentary/maintained)

*] 24 x 24 mm on request

Toggle Heads

I = Switching position

> = Spring return

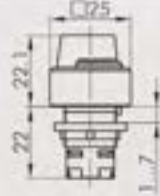
Illustration

Dimensions

Description

Type



IP65



Selector Head*, maintained

suitable contact blocks

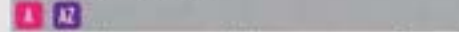



front bezel black 
 charcoal 



QXWA
QXWADG

suitable contact blocks

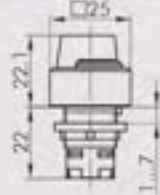


front bezel black 
 charcoal 



QXWB
QXWBDG



IP65



Selector Head*, momentary*

suitable contact blocks

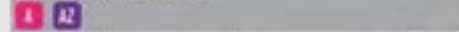




front bezel black 
 charcoal 



QXSTA
QXSTADG

suitable contact blocks



front bezel black 
 charcoal 



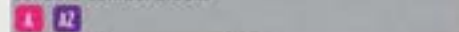
QXSTB
QXSTBDG



IP65



Selector Head*, left maintained, right momentary

suitable contact blocks

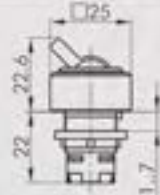


front bezel black 
 charcoal 



QXWC
QXWCDG

IP65




Toggle Head

other toggle colours on request

suitable contact blocks



front bezel black 
 charcoal 

QXX
QXXDG

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Key Switches (momentary/maintained)
*) 24 x 24 mm on request

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type		
		Key Actuator* including two keys other lock types on request suitable contact blocks A A2			
		front bezel	black		QX55A12E
			charcoal		QX55DGA12E
		front bezel	black		QX55A13E
			charcoal		QX55DGA13E
		front bezel	black		QX55A14E
			charcoal		QX55DGA14E
front bezel	black		QX55A15E		
	charcoal		QX55DGA15E		
front bezel	black		QX55A17E		
	charcoal		QX55DGA17E		
front bezel	black		QX55A18E		
	charcoal		QX55DGA18E		
		Key Actuator, momentary* suitable contact blocks A A2			
		front bezel	black		QX55A23E
			charcoal		QX55DGA23E
		front bezel	black		QX55A27E
	charcoal		QX55DGA27E		
		Key Actuator, left maintained, right momentary* suitable contact blocks A A2			
		front bezel	black		QX55A24E
			charcoal		QX55DGA24E
		front bezel	black		QX55A25E
	charcoal		QX55DGA25E		

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QUARTRON

made in germany

Ø 16.2 mm

Key Switches (momentary/maintained)

*| 24 x 24 mm on request

- I = Switching position
- > = Spring return
- = Key removable position

Illustration

Dimensions

Description

Type

#65



Key Actuator with protection cap, maintained*

including two keys,
other lock types on request

suitable contact blocks

A AZ

front bezel black



QX55KA12E

suitable contact blocks

A AZ

front bezel black



QX55KA13E

suitable contact blocks

A AZ CT CT OP CT

front bezel black



QX55KA14E

suitable contact blocks

A AZ CT CT OP CT

front bezel black



QX55KA15E

suitable contact blocks

A AZ CT CT OP CT

front bezel black



QX55KA17E

suitable contact blocks

A AZ CT CT OP CT

front bezel black



QX55KA18E

#65



Key Actuator with protection cap, momentary*

including two keys,
other lock types on request

suitable contact blocks

A AZ

front bezel black



QX55KA23E

suitable contact blocks

A AZ CT CT OP CT

front bezel black



QX55KA27E

#65



Key Actuator with protection cap, left maintained, right momentary*

including two keys,
other lock types on request

suitable contact blocks

A AZ

front bezel black



QX55KA24E

suitable contact blocks

A AZ

front bezel black



QX55KA25E



Spare Key (standard)

standard spare key, specify key number for special locks

E5E845

Buzzers

Illustration	Dimensions	Description	Type
		<p>Buzzer</p> <p>operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 80 db (10cm, 12V) operating temperature: -20°C ... 60°C front bezel: black</p>	QXNSG+SG-24V
		<p>Interval Buzzer</p> <p>operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 80 db (10cm, 12V) interval: 1 s operating temperature: -20°C ... 60°C front bezel: black</p>	QXNSG+SGI-24V
		<p>Illuminated Buzzer</p> <p>operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 80 db (10cm, 12V) operating temperature: -20°C ... 60°C front bezel: black</p>	QXNSGL+SGLR-24V
		<p>Illuminated Interval Buzzer</p> <p>operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 80 db (10cm, 12V) interval: 1 s operating temperature: -20°C ... 60°C front bezel: black</p>	QXNSGL+SGILR-24V
		<p>Faston Clamp 2.8 x 0.8 mm with snap-in pin</p> <p>Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8</p>	FH2,8
		<p>Insulating Case</p> <p>for Faston clamp FH2,8, slip on from the front</p>	IH2,8
		<p>Double Faston</p> <p>for the connection of 2 Faston clamps FH2.8</p>	FD2,8

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Ø 16.2 mm

Pilot Lights

*1 24 x 24 mm on request,
lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
		Pilot Light with Faston terminals 2.8x0.8 mm* front bezel black charcoal	QXLS QXLSDG
		Pilot Light Head* suitable lampholders front bezel black charcoal	QXN QXNDG
		Flat Lens, depolished colour blue yellow green red opalwhite	KF25BL KF25GB KF25GN KF25RT KF25WS
		Flat Lens, transparent colour blue yellow green clear red	KF25KSBL KF25K5GB KF25K5GN KF25K5KL KF25KSRT
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSQX...
		Blank Nameplate	BSQXU
		Nameplate with special imprint according to customer's specification	BSQXB
		Lampholder	L5

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Pilot Lights

Lenses and nameplates to be ordered separately

Seven-segment Displays

Illustration	Dimensions	Description	Type
		Panoramic Pilot Light with Faston terminals 6.3/2.8x0.8 mm BA9s socket max. 250V 2W	QXL9

Illustration	Description	Colour	Type
	Panoramic Lens	blue	KH25BL
		yellow	KH25GB
		green	KH25GN
		clear	KH25KL
		red	KH25RT
		opalwhite	KH25WS



Illustration	Dimensions	Description	Options	Type
		4-Digit 7-Segment Display with serial interface Operating temperature : -30 bis +70°C Operating voltage: 24V DC (18-28V) Current consumption: 70mA at 24V Inputs (Enable, Clock, Data): 24V PTC level Clock pulse rate: 0...10kHz Data telegram: 20 bit, serial Available character set: 0..9, A, I, II, U, -, blank Connection: via integrated 6-pole diode plug acc. to DIN 45322	Option: parallel control (8 bit) via additional module front bezel: black	LXLASCE-SPS

Illustration	Description	Type
	DIN Female Connector serves to connect the 7-segment displays in compliance with DIN 45322	MAK6

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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Hexagonal Mounting Tool with torque limitation, for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RXJUWEL	S16
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		Threaded Adapter Allows true-to-size mounting of actuators for 16 mm mounting dia. into 22.5 mm holes. Includes also a suitable sealing.	R16X1
 		External Nameplate Holder for outside marking of the actuators of the QUARTRON and OKTRON series, accepts self-adhesive nameplates colour charcoal 	QXABT
		Self-adhesive Nameplate laser-printed Inscription according to customer's specification Dimensions: 22 x 11 mm	BZ16L
		Self-adhesive Nameplate blank Dimensions: 22 x 11 mm	BZ16U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 22 x 11 mm	BZ168...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 60 mm for mounting dia. 16 mm colour yellow 	NAS_16
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 60 mm for mounting dia. 16 mm colour yellow 	NAS_16_548

Accessories

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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Lead-sealable Protective Lid fits onto the pushbuttons of the QUARTRON series	KDQ16
		Universal Lens Remover	USK
		Square Dummy to close unused mounting apertures colour black	Q16

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Front dimensions: \varnothing 28 mm
Panel cut-out: \varnothing 22.3 mm
Front bezel height: 2 mm
Travel: 3 mm



RONTRON-R-JUWEL

Product configurator



Overview RONTRON-R-JUWEL series





01 Pushbutton Heads	page 78	06 Acoustic Buzzers	page 91
02 Emergency-stop Buttons	page 81	07 Flush-mounted Jacks	page 93
03 Knob Sets for Potentiometers / Incremental Encoders	page 82	08 Pilot Lights	page 101
04 Selector Heads	page 83		
05 Key Actuators	page 87	Contact Blocks / Lampholders	page 408


Housing Colours



 degree of protection

 operating travel

 illuminating option

 labeling option



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PCB-mount terminals
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-  CTP...
Contact Blocks
PCB-mount terminals
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Faston terminals
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Contact Blocks
PCB-mount terminals
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Contact Blocks
Screw connections
page 436
-  ASL...
Contact Blocks
for AS-Interface
page 534
-  ASL...
Contact Blocks
for AS-Interface
Safety @ Work
page 540

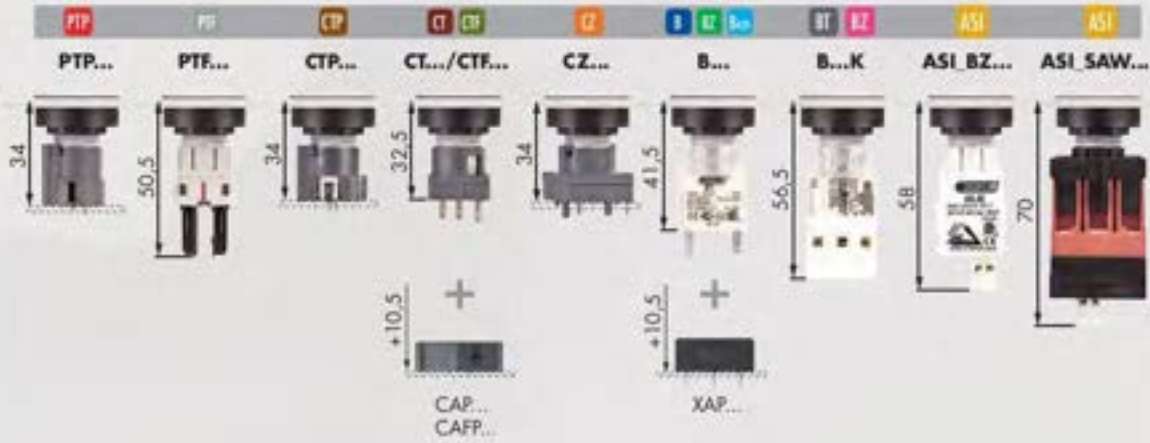
RONTRON-R-JUWEL

Ø 22.3 mm

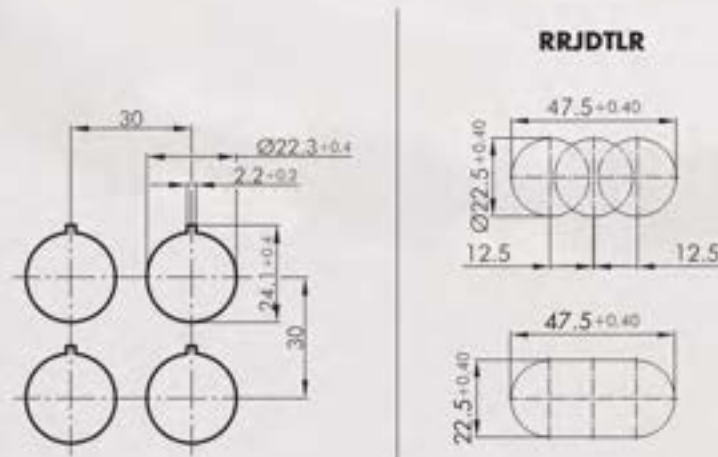
made in germany



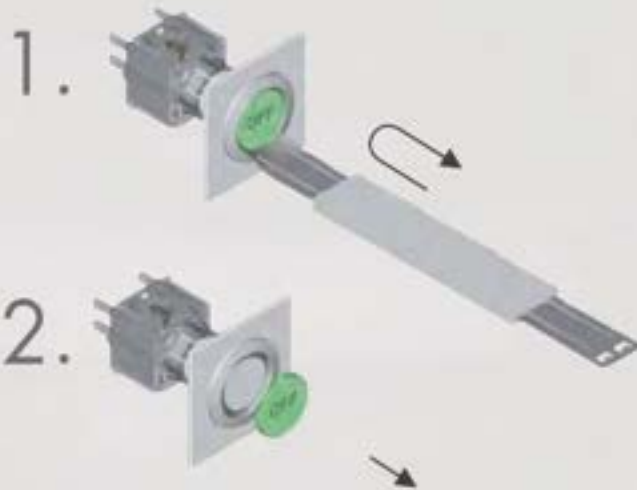
Mounting Depth Dimensions



Cutout Dimensions



Mounting and Service Instructions



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made in germany



Ø 22.3 mm

Pushbutton Heads

Lenses and nameplates to be ordered separately

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Illustration	Dimensions	Description	Type	
		Pushbutton Head suitable contact blocks front bezel silver-coloured	RRJT	
		Pushbutton Head, stainless steel suitable contact blocks front bezel stainless steel, polished	RRJVAT	
		Flat Lens, transparent colour		
		blue yellow green clear red opalwhite		T22RRBL T22RRGB T22RRGN T22RRKL T22RRRT T22RRWS
		Flat Lens, non-transparent colour		
		blue yellow green black red white silver-coloured		T22RRGBL T22RRGGB T22RRGGN T22RRGSW T22RRGRT T22RRGWS T22RRGM
		High Lens, transparent colour		
		blue yellow green clear red opalwhite		T22HRRBL T22HRRGB T22HRRGN T22HRRKL T22HRRRT T22HRRWS
		Blank Nameplate	BSRRU	
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSRR...	



Pushbutton Heads

Illustration	Dimensions	Description	Type
		Nameplate with special imprint according to customer's specification	BSRRB
		Pushbutton Head with ring illumination, silver-coloured incl. lens suitable contact blocks A1 A2 B BF BZ BZ BZ CT CT CP CZ front bezel silver-coloured	RRJTLR
		Pushbutton Head with ring illumination and laser printing, silver-coloured incl. lens, standard imprints see nameplates on pages 404 (please specify index number), special imprints on request suitable contact blocks A1 A2 B BF BZ BZ BZ CT CT CP CZ front bezel silver-coloured	RRJTLRL...
		Double Pushbutton Head with ring illumination silver-coloured laser printing on request suitable contact blocks BZ BZ CT CZ front bezel silver-coloured	RRJDTLR
		Double Pushbutton Head with ring illumination silver-coloured suitable contact blocks BZ BZ CT CZ push-cap red/green front bezel silver-coloured	RRJDTLR1W_0003
		Double Pushbutton Head with ring illumination and high, red lens, silver-coloured suitable contact blocks BZ BZ CT CZ push-cap red/green front bezel silver-coloured	RRJDTLRHGR
		Pushbutton Head with ring illumination and burl wood decor incl. push-cap suitable contact blocks A1 A2 B BF BZ BZ BZ CT CT CP CZ front bezel burl wood decor black	RRJTLRE01 RRJTLRSW

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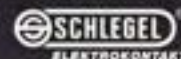
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RONTRON-R-JUWEL

made in germany



Ø 22.3 mm













Pushbutton Heads

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Illustration	Dimensions	Description	Type
		Pushbutton Head with ring illumination and carbon decor incl. push-cap suitable contact blocks AZ1 AZ2 B BF BZ BZ BZ CT CTF CTF CZ front bezel carbon decor	RRJTLRE02
		Pushbutton head with ring illumination, white coated incl. lens suitable contact blocks AZ1 AZ2 B BF BZ BZ BZ CT CTF CTF CZ front bezel white	RRJTLREWS
		Pushbutton Head with ring illumination stainless steel including lens, inscription on request suitable contact blocks AZ1 AZ2 B BF BZ BZ BZ CT CTF CTF CZ front bezel stainless steel, polished	RRJVATLR
		Pushbutton Head with ring illumination and laser printing, stainless steel incl. lens, standard imprint, see nameplates on page 404 (please specify index number), special inscription on request AZ1 AZ2 B BF BZ BZ BZ CT CTF CTF CZ front bezel stainless steel, polished	RRJVATLRL...
		Sealing Cap made of silicone rubber, down to -50°C	TK285



Membrane Pushbuttons Emergency Stops

Illustration	Dimensions	Description	Type										
 <p>IP66 IP69K Light Sun Triangle</p>	 <p>2.6 Ø28 24.3 1.5-5</p>	<p>Individual Membrane Pushbutton Head, black combining the advantages of a membrane keypad with the flexibility of conventional actuators, blank nameplate included. Standard (see pages 404) or special imprint on request.</p> <p>suitable contact blocks </p> <p>front ring black front bezel black</p>	<p>RRJFTSW</p>										
 <p>IP66 IP69K Light Sun Triangle</p>	 <p>2.70 Ø28 24.3 1.5-5</p>	<p>Individual Stainless Steel Membrane Pushbutton Head combining the advantages of a membrane keypad with the flexibility of conventional actuators, with blank nameplate. Standard inscription (see page 404) or special imprints on request.</p> <p></p> <p>suitable contact blocks </p> <p>front ring black front bezel stainless steel, polished front ring green front ring red</p>	<p>RRJVAFT RRJVAFTGN RRJVAFRT</p>										
 <p>IP66 IP67 IP69K</p>	 <p>Ø28 24.5 24.3 1.5-5</p>	<p>Emergency-stop Head</p> <table border="0"> <tr> <td>foolproof</td> <td>Yes</td> </tr> <tr> <td>switching position indicator</td> <td>Yes</td> </tr> <tr> <td>anti-lock collar</td> <td>No</td> </tr> <tr> <td>release</td> <td>twist right or left</td> </tr> <tr> <td>Standard</td> <td>EN 60947-5-1, EN 60947-5-5, EN ISO 13850</td> </tr> </table> <p></p> <p>suitable contact blocks </p> <p>mushroom head red front bezel yellow</p>	foolproof	Yes	switching position indicator	Yes	anti-lock collar	No	release	twist right or left	Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850	<p>RRJUV</p>
foolproof	Yes												
switching position indicator	Yes												
anti-lock collar	No												
release	twist right or left												
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850												
		<p>For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366 The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.</p>											

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RONTRON-R-JUWEL

made in germany



Ø 22.3 mm

Knob Set for potentiometers Incremental Encoder

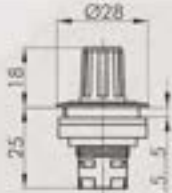
Illustration

Dimensions

Description

Type

#65



Knob Set for potentiometers, silver-coloured

for potentiometers of 6 mm shaft dia. and thread M10 x 0.75.

Delivery without potentiometer.

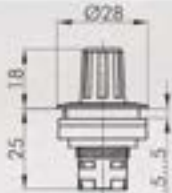
Shaft length: approx. 32 mm

front bezel silver-coloured



RRJR

#65



Knob Set for potentiometers, stainless steel

for potentiometers of 6 mm shaft dia. and thread M10 x 0.75.

Delivery without potentiometer.

Shaft length: approx. 32 mm

front bezel stainless steel, polished



RRJVAR

#65



Knob Set for incremental encoder, silver-coloured

with rotary knob, but without encoder. For encoders with 6 mm

shaft dia. and thread M7x0,75

Shaft length approx. 32mm

front bezel silver-coloured



RRJE

Abwille

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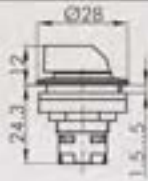














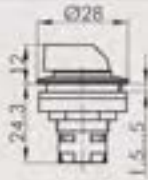









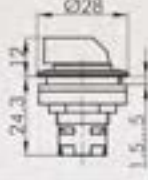



Relay Switches

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Selector Switches (momentary/maintained)

- I = Switching position
- > = Spring return

Illustration	Dimensions	Description	Type
		Selector Head, maintained, silver-coloured suitable contact blocks 	
		front bezel silver-coloured  RRJWA	
		Selector Head, momentary, silver-coloured suitable contact blocks 	
		front bezel silver-coloured  RRJSTA	
		Selector Head, left maintained, right momentary silver-coloured suitable contact blocks 	
		front bezel silver-coloured  RRJWC	
		Selector Head, maintained, stainless steel suitable contact blocks 	
		front bezel stainless steel, polished  RRJVAWA	
		Selector Head, momentary, stainless steel suitable contact blocks 	
		front bezel stainless steel, polished  RRJVASTA	
		Illuminated Selector Head, left maintained, right momentary stainless steel suitable contact blocks 	
		front bezel stainless steel, polished  RRJVAWC	

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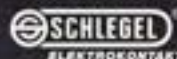
Limit Switches

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RONTRON-R-JUWEL

Ø 22.3 mm

made in germany



Selector Switches (momentary/maintained)

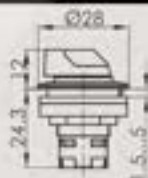
- I = Switching position
- > = Spring return

Illustration

Dimensions

Description

Type



Illuminated Selector Head, maintained, silver-coloured

Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RRJWAL_GN)

suitable contact blocks



front bezel silver-coloured



RRJWAL...

suitable contact blocks



front bezel silver-coloured



RRJWBL...



Illuminated Selector Head, momentary, silver-coloured

Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RRJSTAL_GN)

suitable contact blocks



front bezel silver-coloured



RRJSTAL...

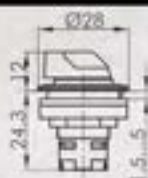
suitable contact blocks



front bezel silver-coloured



RRJSTBL...



Illuminated Selector Head, left maintained, right momentary silver-coloured

Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RRJWCL_GN)

suitable contact blocks



front bezel silver-coloured



RRJWCL...



Illuminated Selector Head, maintained, stainless steel

Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RRJVAWAL_GN)

suitable contact blocks



front bezel stainless steel, polished



RRJVAWAL...

suitable contact blocks



front bezel stainless steel, polished



RRJVAWBL...



Illuminated Selector Head, momentary, stainless steel

Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RRJVASTAL_GN)

suitable contact blocks



front bezel stainless steel, polished



RRJVASTAL...

suitable contact blocks



front bezel stainless steel, polished



RRJVASTBL...

Selector Switches (momentary/maintained)
made of stainless steel V4A [1.4404]

- | = Switching position
- > = Spring return

Illustration	Dimensions	Description	Type
		<p>Illuminated Selector Head, left maintained, right momentary stainless steel Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT [e.g. RRJVAWCL_GN] available contact blocks</p> <p> A1 A2 B1 B2 C1 C2 </p> <p>front bezel stainless steel, polished</p>	<p>RRJVAWCL...</p> 

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made in germany



Ø 22.3 mm

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Illustration	Dimensions	Description	Type
		Selector Head for desert application, maintained silver-coloured tested with coarse Arizona dust suitable contact blocks ASB AZ B BF BZ BZ BZ CT CTF CTF CZ front bezel silver-coloured	 RRJWA_514
		suitable contact blocks ASB AZ BZ BZ CT CT front bezel silver-coloured	 RRJWB_514
		Selector Head for desert application, momentary, silver-coloured tested with coarse Arizona dust suitable contact blocks ASB AZ BZ BZ CT CT front bezel silver-coloured	 RRJSTB_514



Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type		
		Key Actuator, maintained, silver-coloured including two keys other lock types on request suitable contact blocks front bezel silver-coloured	 RRJSSA12		
		suitable contact blocks front bezel silver-coloured	 RRJSSA13		
		suitable contact blocks front bezel silver-coloured	 RRJSSA14		
		suitable contact blocks front bezel silver-coloured	 RRJSSA15		
		suitable contact blocks front bezel silver-coloured	 RRJSSA16		
		suitable contact blocks front bezel silver-coloured	 RRJSSA17		
		suitable contact blocks front bezel silver-coloured	 RRJSSA18		
				Key Actuator, maintained, silver-coloured requires 3 keys: 1st key: two-way operation 2nd key: operation to the left only 3rd key: operation to the right only suitable contact blocks front bezel silver-coloured	 RRJSSA31
				Key Actuator, momentary, silver-coloured including two keys other lock types on request suitable contact blocks front bezel silver-coloured	 RRJSSA23
		suitable contact blocks front bezel silver-coloured	 RRJSSA28		

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RONTRON-R-JUWEL

made in germany



Ø 22.3 mm

Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

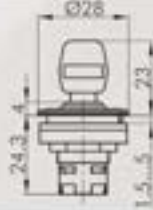
Illustration

Dimensions

Description

Type

IP65



Key Actuator, left maintained, right momentary silver-coloured

suitable contact blocks

A1 A2 B1 B2 C1 C2

front bezel

silver-coloured



RRJ55A25

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Key Switches (momentary/maintained)
made of stainless steel V4A (1.4404)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type
		Key Actuator, maintained, stainless steel suitable contact blocks AS A2 BZ BZ BZ BZ CT CQ front bezel stainless steel, polished	 RRJVASSA12
		suitable contact blocks AS A2 BZ BZ BZ BZ CT CQ front bezel stainless steel, polished	 RRJVASSA13
		suitable contact blocks AS A2 B BF BZ BZ BZ BZ CT CT CP CQ front bezel stainless steel, polished	 RRJVASSA14
		suitable contact blocks AS A2 B BF BZ BZ BZ BZ CT CT CP CQ front bezel stainless steel, polished	 RRJVASSA15
		suitable contact blocks AS A2 B BF BZ BZ BZ BZ CT CT CP CQ front bezel stainless steel, polished	 RRJVASSA16
		suitable contact blocks AS A2 B BF BZ BZ BZ BZ CT CT CP CQ front bezel stainless steel, polished	 RRJVASSA17
		suitable contact blocks AS A2 B BF BZ BZ BZ BZ CT CT CP CQ front bezel stainless steel, polished	 RRJVASSA18
Key Actuator, momentary, stainless steel including two keys other lock types on request suitable contact blocks AS A2 BZ BZ BZ BZ CT CQ front bezel stainless steel, polished	 RRJVASSA23		
		suitable contact blocks AS A2 B BF BZ BZ BZ BZ CT CT CP CQ front bezel stainless steel, polished	 RRJVASSA28

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RONTRON-R-JUWEL

made in germany



Ø 22.3 mm

Key Switches (momentary/maintained)
made of stainless steel V4A [1.4404]

- I = Switching position
- > = Spring return
- = Key removable position

Illustration

Dimensions

Description

Type

IP65



Key Actuator, left maintained, right momentary stainless steel

suitable contact blocks

A01 A2 B2 B3 C1 C2

front bezel

stainless steel, polished



RRJVASSA25



Standard Spare Keys

standard spare key, specify key number for special locks

ESMIC482

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Buzzers

Illustration	Dimensions	Description	Type
		Buzzer, silver-coloured operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 80 db (10cm, 12V) operating temperature: -20°C ... 60°C front bezel: silver-coloured	RRJNSG+5G-24V
		Buzzer, stainless steel operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 80 db (10cm, 12V) operating temperature: -20°C ... 60°C front bezel: stainless steel, polished	RRJVANSG+5G-24V
		Interval Buzzer, silver-coloured operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 80 db (10cm, 12V) interval: 1 s operating temperature: -20°C ... 60°C front bezel: silver-coloured	RRJNSG+SIGI-24V
		Interval Buzzer, stainless steel operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 85 db (10cm, 24V) max. 80 db (10cm, 12V) interval: 1 s operating temperature: -20°C ... 60°C front bezel: stainless steel, polished	RRJVANSG+SIGI-24V
		Illuminated Buzzer, silver-coloured operating voltage: 12 ... 24V AC/DC operating current: approx. 30mA signal frequency: 3.5 +/- 0.5 kHz volume: max. 85 db (10cm, 24V) max. 80 db (10cm, 12V) operating temperature: -20°C ... 60°C front bezel: silver-coloured	RRJNSGL+SGLR-24V

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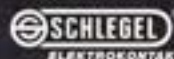
Limit Switches

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RONTRON-R-JUWEL

Ø 22.3 mm

made in germany



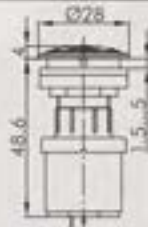
Buzzers

Illustration

Dimensions

Description

Type



Illuminated Buzzer, stainless steel

Operating voltage: 12 ... 24V AC/DC
 Operating current: approx. 30mA
 Signal frequency: 3.5 +/- 0.5 kHz
 Volume: max. 85 db (10cm, 24V)
 max. 80 db (10cm, 12V)

Operating temperature: 20°C ... 60°C
 front bezel stainless steel, polished

RRJVANSGL+
SGLR-24V

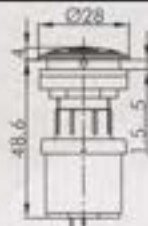


Illuminated Interval Buzzer, silver-coloured

operating voltage: 12 ... 24V AC/DC
 operating current: approx. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 85 db (10cm, 24V)
 max. 80 db (10cm, 12V)

interval: 1 s
 operating temperature: -20°C ... 60°C
 front bezel silver-coloured

RRJNSGL+SGILR-
24V



Illuminated Interval Buzzer, stainless steel

Operating voltage: 12 ... 24V AC/DC
 Operating current: approx. 30mA
 Signal frequency: 3.5 +/- 0.5 kHz
 Volume: max. 85 db (10cm, 24V)
 max. 80 db (10cm, 12V)

Interval: 1 s
 Operating temperature: 20°C ... 60°C
 front bezel stainless steel, polished

RRJVANSGL+
SGILR-24V



Faston Clamp 2.8 x 0.8 mm with snap-in pin

FH2,8

Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8



Insulating Case

IH2,8

for Faston clamp FH2,8, slip on from the front



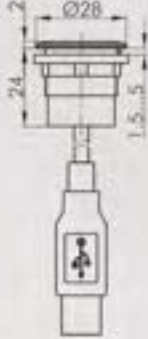


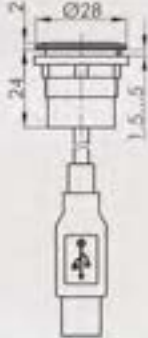


Double Faston

FD2,8

for the connection of 2 Faston clamps FH2.8

Panel Mount Jacks

Illustration	Dimensions	Description	Type
		<p>USB Jack, silver-coloured</p> <p>front: USB jack type A</p> <p>rear: USB2.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p> <p>Attention: Mounting position of USB jack does not conform to the USB2.0 specification.</p> <p>front bezel silver-coloured </p>	RRJ_USB
		<p>USB Jack, stainless steel</p> <p>front: USB jack type A</p> <p>rear: USB2.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p> <p>Attention: Mounting position of USB jack does not conform to the USB2.0 specification.</p> <p>front bezel stainless steel, polished </p>	RRJVA_USB
		<p>USB3.0 Jack, silver-coloured</p> <p>front: USB jack type A</p> <p>rear: USB3.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p> <p>front bezel silver-coloured </p>	RRJ_USB3
		<p>USB3.0 Jack, stainless steel</p> <p>front: USB jack type A</p> <p>rear: USB3.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p> <p>front bezel stainless steel, polished </p>	RRJVA_USB3

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Ø 22.3 mm

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Illustration

Dimensions

Description

Type



USB Jack, silver-coloured

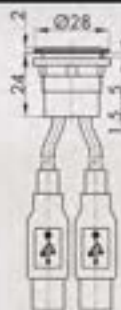
front:
USB jack type A

rear:
USB2.0 cable (length 100 cm) with jack housing, 5 poles
(spacing 2.54 mm)
for direct connection to a motherboard

other lengths on request
front bezel silver-coloured



RRJ_USB-100CM_673



Double USB Jack, silver-coloured

front:
2x USB jack type A

rear:
2x USB2.0 cable (length 60 cm) with plug type A

other lengths on request
front bezel silver-coloured



RRJ_2USB



Double USB Jack, stainless steel

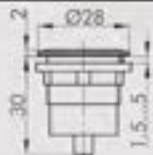
front:
2x USB jack type A

rear:
2x USB2.0 cable (length 60 cm) with plug type A

other lengths on request
front bezel stainless steel, polished



RRJVA_2USB



USB Jack, silver-coloured

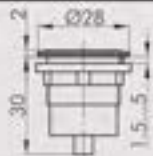
front:
USB jack type A

rear:
USB jack type A

front bezel silver-coloured



RRJ_USB_AA



USB Jack, stainless steel

front:
USB jack type A

rear:
USB jack type A

front bezel stainless steel, polished



RRJVA_USB_AA

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Illustration	Dimensions	Description	Type
		USB3.0 Jack, silver-coloured pinout 1:1 front: USB jack type A rear: USB jack type A front bezel silver-coloured	RRJ_USB3_AA
		USB3.0 Jack, stainless steel pinout 1:1 front: USB jack type A rear: USB jack type A front bezel stainless steel, polished	RRJVA_USB3_AA
		USB3.0 Jack, silver-coloured Pinout: twisted data line front: USB jack type A rear: USB jack type A front bezel silver-coloured	RRJ_USB3_AA_633
		USB3.0 Jack, stainless steel Pinout: twisted data line front: USB jack type A rear: USB jack type A front bezel stainless steel, polished	RRJVA_USB3_AA633
		USB Jack, silver-coloured front: USB jack type A rear: USB jack type B front bezel silver-coloured	RRJ_USB_AB
		USB Jack, stainless steel front: USB jack type A rear: USB jack type B front bezel stainless steel, polished	RRJVA_USB_AB

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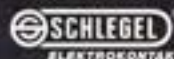
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RONTRON-R-JUWEL

Ø 22.3 mm

made in germany



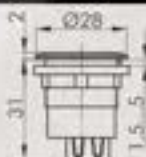
Panel Mount Jacks

Illustration

Dimensions

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USB Jack, silver-coloured

front:
USB jack type B

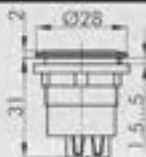
rear:
USB jack type A

front bezel

silver-coloured



RRJ_USB_BA



USB Jack, stainless steel

front:
USB jack type B

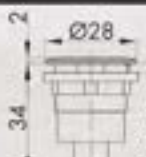
rear:
USB jack type A

front bezel

stainless steel, polished



RRJVA_USB_BA



USB Jack, silver-coloured

front:
USB jack type B

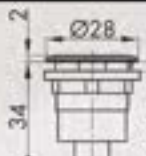
rear:
USB jack type B

front bezel

silver-coloured



RRJ_USB_BB



USB Jack, stainless steel

front:
USB jack type B

rear:
USB jack type B

front bezel

stainless steel, polished



RRJVA_USB_BB



USB Jack, silver-coloured

front:
USB jack type B

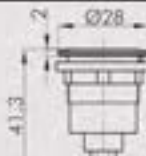
rear:
USB2.0 cable (length 50 cm) with plug type B

front bezel

silver-coloured



RRJ_USB_BB_50CM



FireWire Jack, silver-coloured

front:
FireWire jack

rear:
FireWire jack

front bezel

silver-coloured



RRJ_FW6_STB

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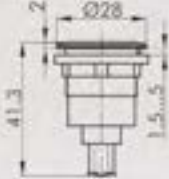


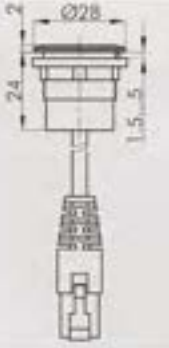



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Illustration	Dimensions	Description	Type
		FireWire Jack, stainless steel front: FireWire jack rear: FireWire jack front bezel stainless steel, polished 	RRJVA_FW6_STB
		RJ45 Jack, silver-coloured front: RJ45 jack with screen rear: 60 cm cable screened with RJ45 connector front bezel silver-coloured 	RRJ_RJ45
		RJ45 Jack, stainless steel front: RJ45 jack with screen rear: 60cm cable with screened RJ45 connector front bezel stainless steel, polished 	RRJVA_RJ45
		RJ45 Jack, silver-coloured front: RJ45 jack with screen rear: RJ45 jack with screen front bezel silver-coloured 	RRJ_RJ45_STB
		RJ45 Jack, stainless steel front: RJ45 jack with screen rear: RJ45 jack with screen front bezel stainless steel, polished 	RRJVA_RJ45_STB

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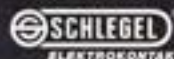
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RONTRON-R-JUWEL

Ø 22.3 mm

made in germany



Panel Mount Jacks

Illustration	Dimensions	Description	Type
		<p>PS2 Jack, silver-coloured front: PS2 jack</p> <p>rear: PS2 cable (length 200 cm) with PS2 plug</p> <p>other lengths on request</p> <p>front bezel silver-coloured </p>	RRJ_PS2_200CM
		<p>SVHS Jack, silver-coloured front: SVHS jack</p> <p>rear: SVHS cable (length 200 cm) with SVHS plug</p> <p>other lengths on request</p> <p>front bezel silver-coloured </p>	RRJ_SVHS_200CM
		<p>HDMI Jack, silver-coloured front: HDMI jack</p> <p>rear: HDMI jack</p> <p>front bezel silver-coloured </p>	RRJ_HDMI_STB
		<p>2.5 mm Jack Plug, silver-coloured front: 2.5 mm jack socket (TRS)</p> <p>rear: cable (length 200 cm) with 2.5 mm jack plug</p> <p>other lengths on request</p> <p>front bezel silver-coloured </p>	RRJ_K12,5_200CM
		<p>2.5 mm Jack Plug, stainless steel front: 2.5 mm jack socket (TRS)</p> <p>rear: cable length 200 cm) with 2.5 mm jack plug</p> <p>other lengths on request</p> <p>front bezel stainless steel, polished </p>	RRJVA_K12,5_200

Panel Mount Jacks

Illustration	Dimensions	Description	Type
		<p>3.5 mm Jack Plug, silver-coloured front: 3.5 mm jack socket (TRS)</p> <p>rear: cable (length 200 cm) with 3.5 mm jack plug</p> <p>other lengths on request front bezel silver-coloured </p>	RRJ_KL3,5_200CM
		<p>3.5 mm Jack Plug, stainless steel front: 3.5 mm jack socket (TRS)</p> <p>rear: cable length 200 cm) with 3.5 mm jack plug</p> <p>other lengths on request front bezel stainless steel, polished </p>	RRJVA_KL3,5_200
		<p>6.3 mm Jack Plug, silver-coloured front: 6.3 mm jack socket (TRS)</p> <p>rear: cable (length 200 cm) with 6.3 mm jack plug</p> <p>other lengths on request front bezel silver-coloured </p>	RRJ_KL6,3_200CM
		<p>6.3 mm Jack Plug, stainless steel front: 6.3 mm jack socket (TRS)</p> <p>rear: cable (length 200 cm) with 6.3 mm jack plug</p> <p>other lengths on request front bezel stainless steel, polished </p>	RRJVA_KL6,3_200

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RONTRON-R-JUWEL

Ø 22.3 mm

made in germany



Panel Mount Jacks

Illustration

Dimensions

Description

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For panel mount jacks,
please refer to page 552

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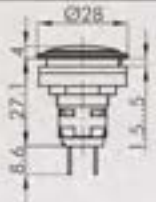


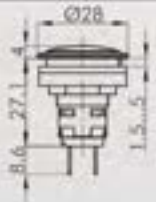


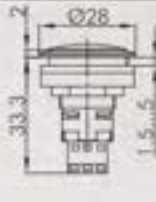



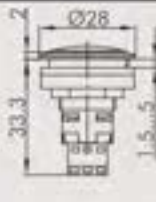


Push Switches

Limit Switches

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Pilot Lights

Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
 <p>IP65 ☀️ 🏠</p>		<p>Pilot Light with Faston Terminals 2.8x0.8 mm, silver-coloured W2x4.6d socket</p> <p>front bezel silver-coloured </p>	RRJL4
 <p>IP65 ☀️ 🏠</p>		<p>Pilot Light with Faston terminals 2.8x0.8 mm, stainless steel W2x4.6d socket</p> <p>front bezel stainless steel, polished </p>	RRJVAL4
 <p>IP65 ☀️ 🏠</p>		<p>Two-colour LED Pilot Light 24V, silver-coloured</p> <p>Operating temperature: -25°C ... 60°C Rated voltage: 24V DC Rated current: max. 10mA per LED Insulating voltage: 0.5kV Insulating resistance: ≥ 2MOhm Connection type: screw connection 3x1mm²</p> <p><u>Pin Assignment</u> Pin 1: red Pin 2: GND Pin 3: green</p> <p>other colours on request</p> <p>incl. lens and nameplate</p> <p>LED colour red/green  front bezel silver-coloured </p>	RRJL 24R G
 <p>IP65 ☀️ 🏠</p>		<p>Two-colour LED Pilot Light 230V, silver-coloured</p> <p>Operating temperature: -25°C ... 55°C Rated voltage: 230V AC / 50 ... 60Hz Rated current: max. 4mA per LED Insulating voltage: 2.5kV Insulating resistance: ≥ 2MOhm Connection: screw connection 3x1mm²</p> <p><u>Pin Assignment</u> Pin 1: red Pin 2: GND Pin 3: green</p> <p>other colours on request</p> <p>incl. lens and nameplate</p> <p>LED colour red/green  front bezel silver-coloured </p>	RRJL 230R G

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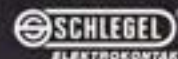
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RONTRON-R-JUWEL

made in germany



Ø 22.3 mm

Pilot Lights

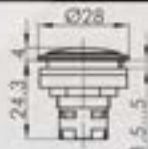
Lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

Type



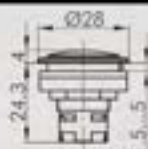
Pilot Light Head, silver-coloured

suitable lampholders



front bezel silver-coloured

RRJN



Pilot Light Head, stainless steel

suitable lampholders



front bezel stainless steel, polished

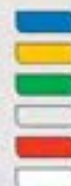
RRJVAN



Lens

colour

- blue
- yellow
- green
- clear
- red
- opalwhite



- K22RRBL
- K22RRGB
- K22RRGN
- K22RRKL
- K22RRRT
- K22RRWS



Blank Nameplate

BSRRU



Nameplate with standard imprint

Please specify index number (see nameplates on pages 404)

BSRR...



Nameplate with special imprint

according to customer's specification

BSRRB

Accessories for Actuators

Illustration	Dimensions	Description	Type															
		Hexagonal Mounting Tool with torque limitation, for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL	516															
		Mounting Tool with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-Q-JUWEL series	522															
		Mounting Tool Adapter with 1/4" connections for mounting tools 516 and 522	SRA															
 	Ø 30,5	LED Light Ring for status indication or additional illumination - for an additional light signal - rated voltage: 24V AC/DC - rated current: 25 ... 35 mA (DC) - 30.5 mm mounting aperture - Connection: for JST plug ZHR-3 delivery without actuator LED colour	<table border="0"> <tr> <td>blue</td> <td></td> <td>LR22K_24B</td> </tr> <tr> <td>white</td> <td></td> <td>LR22K_24W</td> </tr> <tr> <td>red</td> <td></td> <td>LR22K_24R</td> </tr> <tr> <td>green</td> <td></td> <td>LR22K_24G</td> </tr> <tr> <td>yellow</td> <td></td> <td>LR22K_24Y</td> </tr> </table>	blue		LR22K_24B	white		LR22K_24W	red		LR22K_24R	green		LR22K_24G	yellow		LR22K_24Y
blue		LR22K_24B																
white		LR22K_24W																
red		LR22K_24R																
green		LR22K_24G																
yellow		LR22K_24Y																
 	Ø 30,5	Two-colour Alternate LED-illuminated Ring for status indication - for two alternate light signals - rated voltage: 24V AC/DC - rated current: green 12mA (D) / red 17mA (DC) - 30.5 mm mounting aperture - Connection: for JST plug ZHR-3 delivery without actuator LED colour	<table border="0"> <tr> <td>red/green</td> <td></td> <td>LR22K_24R_G</td> </tr> </table>	red/green		LR22K_24R_G												
red/green		LR22K_24R_G																
		Connection Cable for LED light ring with open end, to connect the LED light rings to a voltage supply source, length approx. 80 cm, cross section 0.14 mm ²	VK_JST3_014															












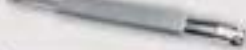




Ø 22.3 mm

Accessories for Actuators

- Accessories
- Control Units
- Actuators
- Panel Mount Sockets
- Bus Technology
- Enclosures
- Terminal Blocks
- Relay Switches
- Limit Switches
- Type Indicators

Illustration	Dimensions	Description	Type
 	<p>Ø 30,5</p>	<p>RGB LED Light Ring for status indication or illumination</p> <ul style="list-style-type: none"> - as an additional light signal - one-piece ring (360°) - rated voltage 24V AC (half-wave rectifier)/DC - up to 16.7 m colours are possible (colour mixing via PWM signal) 	<p>LED colour red/green/blue</p> <p>LR22K_24RGB</p>
		<p>Connection Cable for RGB-LED Light Ring</p> <p>with open end, to connect the RGB-LED light rings to a voltage supply source, length approx. 80 cm, cross section 0.14 mm²</p>	<p>VK_LRR22_RGB</p>
 		<p>External Nameplate Holder</p> <p>for outside marking of the actuators of the RONTRON-R-JUWEL and SHORTRON series, accepts self-adhesive nameplates, mountable from the front</p>	<p>colour transparent</p> <p>RRJABT</p>
		<p>Self-adhesive Nameplate laser-printed</p> <p>Inscription according to customer's specification Dimensions: 22 x 11 mm</p>	<p>BZ16L</p>
		<p>Self-adhesive Nameplate blank</p> <p>Dimensions: 22 x 11 mm</p>	<p>BZ16U</p>
		<p>Self-adhesive Nameplate with standard imprint</p> <p>Please specify index no. (see nameplates on page 404) Dimensions: 22 x 11 mm</p>	<p>BZ16S...</p>
		<p>Yellow Nameplate</p> <p>self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22 mm</p>	<p>colour yellow</p> <p>NAS_22</p>

Accessories for Actuators

Illustration	Dimensions	Description	Type
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm colour yellow	 NAS_22_548
		Lead-sealable Protective Lid from -30 °C to +70°C colour transparent	 KDP22RR
		Lead-sealable, robust Protective Lid Lifetime: >100,000 cycles colour transparent black	  KDPR22RR KDPR22RR_SW
		Protective Lid made of TPE from -50 °C to +100°C colour black	 AK22RR5W
		Robust Aluminium Protection Cap - captive lid, threadable - suitable for all jacks of the Rontron-R-Juwel series colour silver-coloured	 SDAL22RR
		Universal Lens Remover	USK
		Dummy, silver-coloured to close unused mounting apertures front bezel silver-coloured	 BVRRJ
		Dummy, stainless steel to close unused mounting apertures front bezel stainless steel, polished	 BVRRJVA

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Front dimensions: 28 x 28 mm
Panel cut-out: Ø 22.3 mm
Front bezel height: 2 mm
Travel: 3 mm





RONTRON-Q-JUWEL

Product configurator



RONTRON-Q-JUWEL

Ø 22.3 mm

made in germany



Overview RONTRON-Q-JUWEL series



- 01 Pushbutton Heads
- 02 Emergency Stop Buttons
- 03 Knob Set for Potentiometers
- 04 Selector Heads
- 05 Key Actuators
- 06 Acoustic Buzzers

- page 112
- page 113
- page 114
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- 07 Flush-mounted Jacks
- 08 Pilot Lights

- page 119
- page 121

Housing Colour



degree of protection

operating travel

illuminating option

labeling option





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CT...
Contact Blocks
Faston terminals
page 490
- CZ**
CZ...
Contact Blocks
PCB-mount terminals
page 482
- CTP**
CTP...
Contact Blocks
PCB-mount terminals
page 468
- CTF**
CTF...
Contact Blocks
Faston terminals
page 474
- PT**
PT...
Contact Blocks
PCB-mount terminals
page 496
- PT**
PT...
Contact Blocks
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page 500
- B**
BZ
B...
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Faston terminals
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- BZ**
B...
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page 534
- AS**
ASi...
Contact Blocks
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page 540

Mounting

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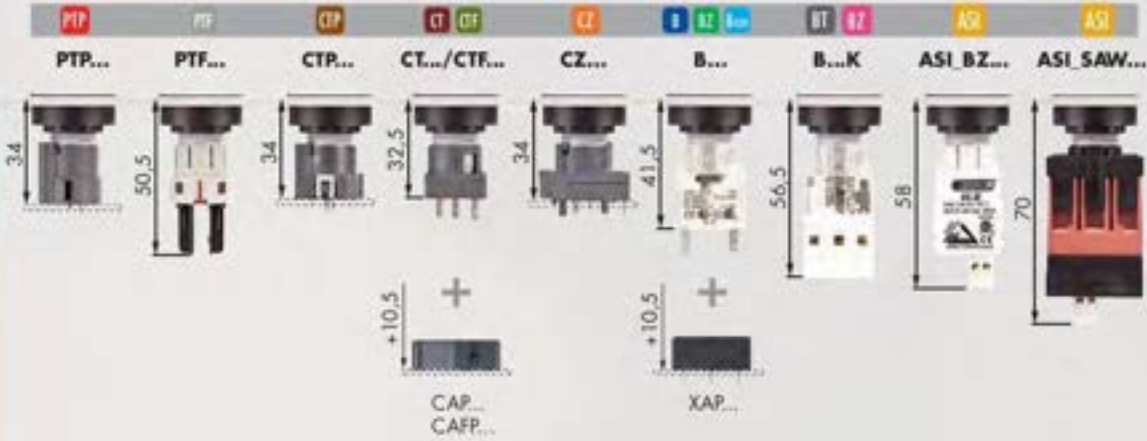
RONTRON-Q-JUWEL

made in germany

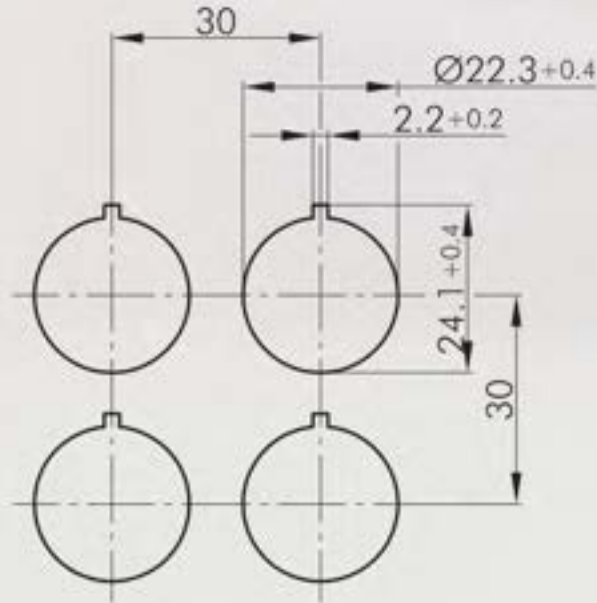


Ø 22.3 mm

Mounting Depth Dimensions



Cutout Dimensions



Asvelli

Control lines
→ Actuators

Panel Mount sockets

Die Technology

Enclosures

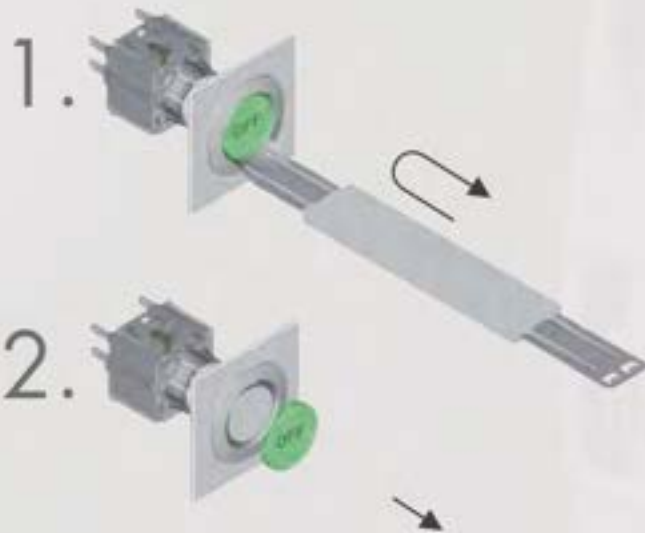
Terminal blocks

Relay Switches

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RONTRON-Q-JUWEL

made in germany



Ø 22.3 mm

Pushbutton Heads

Lenses and nameplates to be ordered separately

- Abwärts
- Current lines
- Aktuelles
- Panel Mount Units
- Die Technology
- Enclosures
- Terminal Blocks
- Push Switches
- Line Switches
- Typ Index

Illustration	Dimensions	Description	Type																					
		Pushbutton Head suitable contact blocks 																						
		front bezel	silver-coloured																					
			RQJT																					
		Flat Lens, transparent colour	<table border="0"> <tr><td>blue</td><td></td><td>T22RRBL</td></tr> <tr><td>yellow</td><td></td><td>T22RRGB</td></tr> <tr><td>green</td><td></td><td>T22RRGN</td></tr> <tr><td>clear</td><td></td><td>T22RRKL</td></tr> <tr><td>red</td><td></td><td>T22RRRT</td></tr> <tr><td>opalwhite</td><td></td><td>T22RRWS</td></tr> </table>	blue		T22RRBL	yellow		T22RRGB	green		T22RRGN	clear		T22RRKL	red		T22RRRT	opalwhite		T22RRWS			
blue		T22RRBL																						
yellow		T22RRGB																						
green		T22RRGN																						
clear		T22RRKL																						
red		T22RRRT																						
opalwhite		T22RRWS																						
		Flat Lens, non-transparent colour	<table border="0"> <tr><td>blue</td><td></td><td>T22RRGBL</td></tr> <tr><td>yellow</td><td></td><td>T22RRGGB</td></tr> <tr><td>green</td><td></td><td>T22RRGGN</td></tr> <tr><td>black</td><td></td><td>T22RRGSW</td></tr> <tr><td>red</td><td></td><td>T22RRGRT</td></tr> <tr><td>white</td><td></td><td>T22RRGWS</td></tr> <tr><td>silver-coloured</td><td></td><td>T22RRGM</td></tr> </table>	blue		T22RRGBL	yellow		T22RRGGB	green		T22RRGGN	black		T22RRGSW	red		T22RRGRT	white		T22RRGWS	silver-coloured		T22RRGM
blue		T22RRGBL																						
yellow		T22RRGGB																						
green		T22RRGGN																						
black		T22RRGSW																						
red		T22RRGRT																						
white		T22RRGWS																						
silver-coloured		T22RRGM																						
		High Lens, transparent colour	<table border="0"> <tr><td>blue</td><td></td><td>T22HRRBL</td></tr> <tr><td>yellow</td><td></td><td>T22HRRGB</td></tr> <tr><td>green</td><td></td><td>T22HRRGN</td></tr> <tr><td>clear</td><td></td><td>T22HRRKL</td></tr> <tr><td>red</td><td></td><td>T22HRRRT</td></tr> <tr><td>opalwhite</td><td></td><td>T22HRRWS</td></tr> </table>	blue		T22HRRBL	yellow		T22HRRGB	green		T22HRRGN	clear		T22HRRKL	red		T22HRRRT	opalwhite		T22HRRWS			
blue		T22HRRBL																						
yellow		T22HRRGB																						
green		T22HRRGN																						
clear		T22HRRKL																						
red		T22HRRRT																						
opalwhite		T22HRRWS																						
		Blank Nameplate	BSRRU																					
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSRR...																					
		Nameplate with special imprint according to customer's specification	BSRRB																					



Pushbutton Heads Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Pushbutton Head with ring illumination incl. lens, inscription on request</p> <p> <small>c us</small></p> <p>suitable contact blocks</p> <p>front bezel silver-coloured black</p>	<p>RQJTLR RQJTLR5W</p>
		<p>Pushbutton Head with ring illumination and laser printing with push-cap, standard imprint, see nameplates on page 404 (please specify index number), special inscription on request</p> <p>suitable contact blocks</p> <p>front bezel silver-coloured</p>	<p>RQJTLRL...</p>
		<p>Pushbutton Head with ring illumination, white coated incl. lens</p> <p>suitable contact blocks</p> <p>front bezel white</p>	<p>RQJTLREWS</p>
		<p>Pushbutton Head with ring illumination and burl wood decor lens</p> <p>suitable contact blocks</p> <p>front bezel burl wood decor</p>	<p>RQJTLRE01</p>
		<p>Pushbutton Head with ring illumination and carbon decor incl. push-cap</p> <p>suitable contact blocks</p> <p>front bezel carbon decor</p>	<p>RQJTLRE02</p>



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366. The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

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RONTRON-Q-JUWEL

made in germany


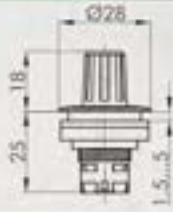





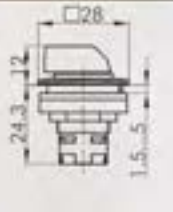











Ø 22.3 mm

Knob Set for potentiometers
Selector Switches (momentary/maintained)

⊥ = Switching position
 > = Spring return

- Abw. Itz
- Control lines
- Accessories
- Panel Mount tools
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Illustration	Dimensions	Description	Type
		Knob Set for potentiometers for potentiometers of 6 mm shaft dia. and thread M10 x 0.75. Delivery without potentiometer. Shaft length: approx. 32 mm front bezel silver-coloured	RQJR
		Selector Head, maintained suitable contact blocks front bezel silver-coloured	 RQJWA  RQJWB
		Selector Head, momentary suitable contact blocks front bezel silver-coloured	 RQJSTA  RQJSTB
		Selector Head, left maintained, right momentary suitable contact blocks front bezel silver-coloured	 RQJWC
		Illuminated Selector Head, maintained Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. RQJWAL_GN) suitable contact blocks front bezel silver-coloured	 RQJWAL...  RQJWBL...



Selector Switches (momentary/maintained)

- I = Switching position
- > = Spring return

Illustration	Dimensions	Description	Type
		<p>Illuminated Selector Head, momentary Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT [e.g. RQJSTAL_GN] suitable contact blocks</p> <p>AG AZ B BF BZ C C+ C- C+ C- C+ C-</p> <p>front bezel silver-coloured</p> <p>suitable contact blocks</p> <p>AG AZ BL BZ C+ C- C+ C-</p> <p>front bezel silver-coloured</p>	<p>RQJSTAL...</p> <p>RQJSTBL...</p>
		<p>Illuminated Selector Head, left maintained, right momentary Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT [e.g. RQJWCL_GN] suitable contact blocks</p> <p>AG AZ BL BZ C+ C- C+ C-</p> <p>front bezel silver-coloured</p>	<p>RQJWCL...</p>

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made in germany



Ø 22.3 mm

Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

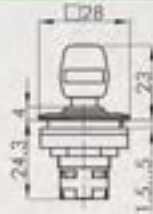
Illustration

Dimensions

Description

Type

#65



Key Actuator, maintained

including two keys
other lock types on request

suitable contact blocks

A2 AZ B2 B3 B4 CT C2

front bezel silver-coloured



RQJ55A12

suitable contact blocks

A2 AZ B2 B3 B4 CT C2

front bezel silver-coloured



RQJ55A13

suitable contact blocks

A2 AZ B BF B2 B3 B4 CT C1F C1P C2

front bezel silver-coloured



RQJ55A14

suitable contact blocks

A2 AZ B BF B2 B3 B4 CT C1F C1P C2

front bezel silver-coloured



RQJ55A15

suitable contact blocks

A2 AZ B BF B2 B3 B4 CT C1F C1P C2

front bezel silver-coloured



RQJ55A16

suitable contact blocks

A2 AZ B BF B2 B3 B4 CT C1F C1P C2

front bezel silver-coloured



RQJ55A17

suitable contact blocks

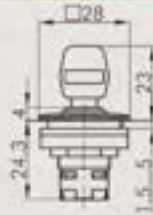
A2 AZ B BF B2 B3 B4 CT C1F C1P C2

front bezel silver-coloured



RQJ55A18

#65



Key Actuator, maintained

including 3 keys:
1st key: two-way operation
2nd key: operation to the left only
3rd key: operation to the right only

suitable contact blocks

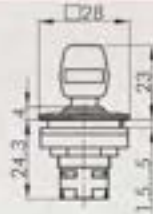
A2 AZ B2 B3 B4 CT C2

front bezel silver-coloured



RQJ55A31

#65



Key Actuator, momentary

including two keys
other lock types on request

suitable contact blocks

A2 AZ B2 B3 B4 CT C2

front bezel silver-coloured



RQJ55A23

suitable contact blocks

A2 AZ B BF B2 B3 B4 CT C1F C1P C2

front bezel silver-coloured



RQJ55A28

Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type
		<p>Key Actuator, left maintained, right momentary including two keys other lock types on request suitable contact blocks</p> <p>front bezel silver-coloured</p>  	RQJ55A25
		<p>Standard Spare Keys standard spare key, specify key number for special locks</p>	ESMIC482

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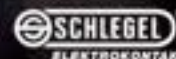
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RONTRON-Q-JUWEL

Ø 22.3 mm

made in germany



Buzzers

Illustration

Dimensions

Description

Type

IP65



Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: max. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 90 db (10cm, 24V)
 max. 85 db (10cm, 12V)
 operating temperature: -20°C ... 60°C
 front bezel: silver-coloured



RQJNSG+SG-24V

IP65



Interval Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: max. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 90 db (10cm, 24V)
 max. 85 db (10cm, 12V)
 interval: 1 s
 operating temperature: -20°C ... 60°C
 front bezel: silver-coloured



RQJNSG+SIGI-24V

IP65



Illuminated Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: approx. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 90 db (10cm, 24V)
 max. 85 db (10cm, 12V)
 operating temperature: -20°C ... 60°C
 front bezel: silver-coloured



RQJNSGL+SGLR-24V

IP65



Illuminated Interval Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: approx. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 90 db (10cm, 24V)
 max. 85 db (10cm, 12V)
 interval: 1 s
 operating temperature: -20°C ... 60°C
 front bezel: silver-coloured



RQJNSGL+SGLR-24V



Faston Clamp 2.8 x 0.8 mm with snap-in pin

FH2,8

Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8



Insulating Case

IH2,8

for Faston clamp FH2,8, slip on from the front


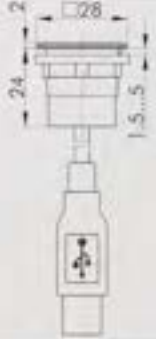


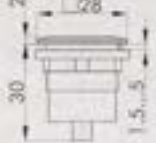


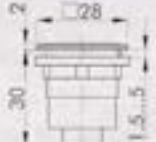


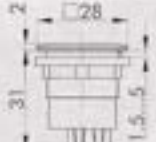





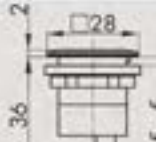



Double Faston

FD2,8

for the connection of 2 Faston clamps FH2.8

Panel Mount Jacks

Illustration	Dimensions	Description	Type
		<p>USB Jack front: USB jack type A</p> <p>rear: USB2.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p> <p>Attention: Mounting position of USB jack does not conform to the USB2.0 specification.</p>	front bezel silver-coloured  RQJ_USB
		<p>USB Jack front: USB jack type A</p> <p>rear: USB jack type A</p>	front bezel silver-coloured  RQJ_USB_AA
		<p>USB Jack front: USB jack type A</p> <p>rear: USB jack type B</p>	front bezel silver-coloured  RQJ_USB_AB
		<p>USB Jack front: USB jack type B</p> <p>rear: USB jack type A</p>	front bezel silver-coloured  RQJ_USB_BA
		<p>USB Jack front: USB jack type B</p> <p>rear: USB jack type B</p>	front bezel silver-coloured  RQJ_USB_BB
		<p>USB3.0 Jack front: USB jack type A</p> <p>rear: USB jack type A</p>	front bezel silver-coloured  RQJ_USB3_AA

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Ø 22.3 mm

made in germany



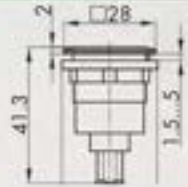
Panel Mount Jacks

Illustration

Dimensions

Description

Type



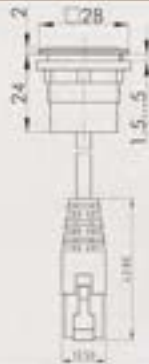
Fire Wire Jack

front:
Fire Wire jack
rear:
Fire Wire jack
front bezel

silver-coloured



RQJ_FW6_STB



RJ45 Jack

front:
RJ45 jack with screen
rear:
60cm cable screened with RJ45 connector
front bezel

silver-coloured



RQJ_RJ45



RJ45 Jack

front:
RJ45 jack with screen
rear:
RJ45 jack with screen
front bezel

silver-coloured



RQJ_RJ45_STB

For panel mount jacks,
please refer to page 552



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Pilot Lights

Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type		
		Pilot Light with Faston terminals 2.8x0.8 mm W2x4.6d socket front bezel silver-coloured	RQJL4		
		Pilot Light Head suitable lampholders front bezel silver-coloured	RQJN		
		Lens colour	blue yellow green clear red opalwhite		K22RRBL K22RRGB K22RRGN K22RRKL K22RRRT K22RRW5
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSRR...		
		Nameplate with special imprint according to customer's specification	BSRRB		
		Blank Nameplate	BSRRU		

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RONTRON-Q-JUWEL

made in germany



Ø 22.3 mm

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- Power Mount Tools
- Die Technology
- Endusers
- Terminal Blocks
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Illustration	Dimensions	Description	Type
		Hexagonal Mounting Tool with torque limitation, for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RXJUWEL	516
		Mounting Tool with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-Q-JUWEL series	522
		Mounting Tool Adapter with 1/4" connections for mounting tools 516 and 522	SRA
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22_548
		Lead-sealable Protective Lid from -30 °C to +70°C colour transparent	KDP22RR
		Lead-sealable, robust Protective Lid Lifetime: >100,000 cycles colour transparent black	KDPR22RR KDPR22RR_5W
		Universal Lens Remover	USK
		Dummy to close unused mounting apertures front bezel silver-coloured	BVRQJ



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Front dimensions: Ø 28 mm
Panel cut-out: Ø 22.3 mm
Front bezel height: 2 mm
Travel: 2.3 mm / 1.8 mm

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SHORTTRON

Product configurator




Overview - SHORTRON series





01 Pushbuttons	page 134	05 Key Switches	page 150
02 Capacitive Pushbuttons	page 143	06 Buzzers	page 152
03 Emergency-stop Buttons	page 144	07 Pilot Lights	page 153
04 Selector Switches	page 146		


Housing Colour (silver-coloured, black, polished stainless steel)



 degree of protection

 operating travel

 illuminating option

 labeling option

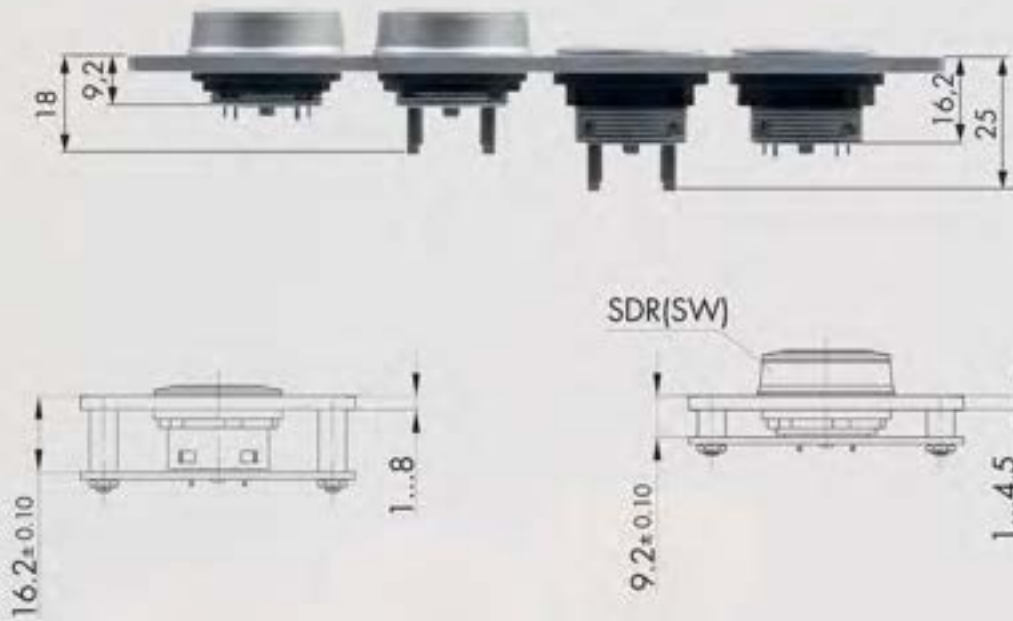


Mounting Faston Clamp 2.8x0.8mm

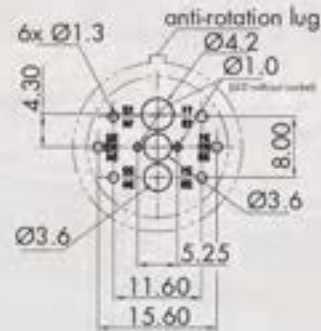
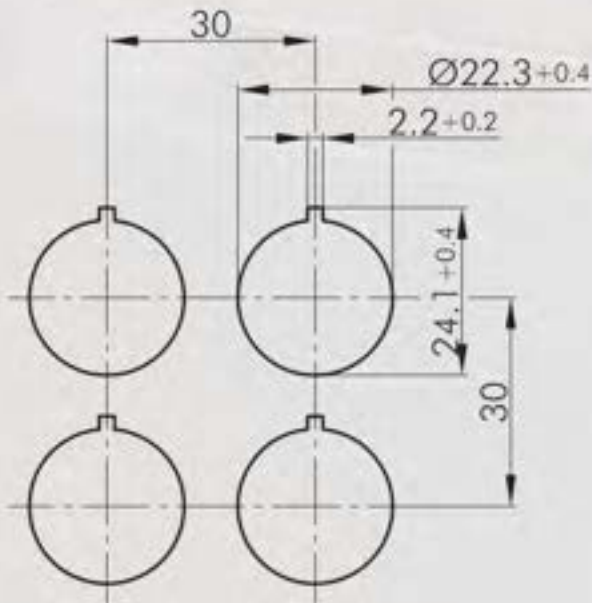


Ø 22.3 mm

Mounting Depth Dimensions



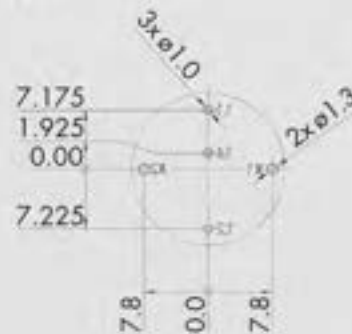
Cutout Dimensions



Component side view

Contact assignment: see wiring scheme of the relevant types

PCT...



General Data

Type Reference:	S(VA)(SW)(T)(TLR)(WA)(WB)(SSA...)(N)(STA)(STB)(L)(I)(II)(O)(OO)(OI)(P)(L)AU
Description:	Short-stroke Pushbutton with integrated contact block, flat/high version, with Faston or PCB-mount terminals
Approvals:	CCC, CE, ENEC10, VDE, CE
Nature of contact:	2NC / 1NC+1NO / 2 NO / 1NO / 1NC
Degree of protection:	IP65 / IP67 (T, TLR, N) IP65 (SSA, STA, STB, WA, WB)
Operation travel:	2.3 mm
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	1 m switching cycles (T, TLR) 30,000 (WA, WB, STA)
Electrical life (rated load):	1 m switching cycles (T, TLR) 30,000 (WA, WB, STA)
Contact resistance NO:	< 20 mOhm
Contact resistance NC:	< 20 mOhm
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10 ms
Bouncing time NC:	< 10 ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage Ui:	250 V	250 V
Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V
Rated operating current Ie:	1.5A / 3A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V~
Rated current Ie:	6(4) A

Technical Data - Lamp

Lamp socket:	with integrated white 3 mm LED
Max. lamp voltage:	30 V AC/DC
Max. lamp output:	14mA (at 24 V DC)
Definition:	X1...anode, X2...cathode

Additional Data

Mounting aperture:	22.3mm
Tightening torque (mounting nut):	1.5 ... 1.9 Nm
Mounting position:	any
Standards:	EN 60947-5-1, EN 61058

Electrical Features - 5µm gold-plating, type addition ...AU

Operational voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 100mA
Contact resistance (new state):	< 50 mOhm

Note

T...pushbutton, TLR...pushbutton with ring illumination, N...pilot light
T...key-operated switch
STA, STB...momentary selector switch
WA, WB...maintained selector switch

Standard version with Faston terminals 2.8x0.8mm
[P]=with PCB-mount terminals [Z]=base-plate-mounted version with PCB-mount terminals

DC13: > 100,000 switching cycles

versions with Faston terminals: use partially or fully insulated Faston clamps
illuminated versions (24 V LED): overvoltage category II (2.5kV), pollution degree 2
versions with three contacts: overvoltage category II (2.5kV), pollution degree 2

This data sheet is not applicable for the types S..C...* (tactile versions of the Shortron range)

Mounting depth of the base-plate versions	
Flat mounting:	16.2 mm
Mounting with spacer ring:	9.2 mm

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1-Link Switches

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Ø 22.3 mm

General Data

Type Reference: S(VA)(SW)C(T)(TR)(...)(I)(F)
 Description: Tactile Short-stroke Pushbutton with integrated contact block, Flat/high version, with Faston or PCB-mount terminals
 Approvals: CCC, CE, ENEC10, VDE, CE
 Nature of contact: 1 inverter
 Degree of protection: IP65 / IP67
 Operation travel: 2.3 mm
 Connection type: Faston terminals 2.8x0.8 mm / PCB-mount terminals
 Max. storage temperature: -40°C ... 80°C
 Max. operating temperature: -25°C ... 70°C
 Mechanical life: 1 m switching cycles
 Electrical life (rated load): 1m operations
 Contact resistance NO: < 50 mOhm (new state)
 Contact resistance NC: < 100 mOhm (new state)
 Bouncing time NO: < 10 ms
 Bouncing time NC: < 10 ms

Technical Data - Lamp

Lamp socket: with integrated white 3 mm LED
 Max. lamp voltage: 30 V AC/DC
 Max. lamp output: 14mA (at 24 V DC)
 Definition: X1...anode, X2...cathode

Additional Data

Mounting aperture: 22.3mm
 Tightening torque (mounting nut): 1.5 ... 1.9 Nm
 Mounting position: any
 Standards: EN 61058-1

Electrical Features

Rated voltage: 20mV ... 48V AC/DC
 Rated current: 0.01mA ... 100mA

Note

Standard version with PCB-mount terminals
 (F)= with Faston terminals 2.8x0.8mm (Z)=base-plate-mounted version with PCB-mount terminals

Mounting depth of the base-plate versions:
 Flat mounting: 16.2 mm
 Mounting with spacer ring: 9.2 mm

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC12	DC12
Rated insulation voltage Ui:	60V	60V
Rated operating voltage Ue:	48V	48V
Rated operating current Ie:	0.1A	0.1A
Continuous thermal current:	100mA	100mA

Remark

GB14048.5:2008 (IEC60947-5-1)

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General Data

Type Reference:	SVACFT(L)(X)(F)(P)
Description:	Single Membrane Pushbutton with integrated contact block, with Faston or PCB-mount terminals
Approvals:	CE, DGUV_Test
Nature of contact:	1 inverter
Degree of protection:	IP66 / IP67 / IP69K
Operation travel:	1.8 mm
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	1 m switching cycles (20°C)
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NO:	< 10 ms
Bouncing time NC:	< 10 ms

Technical Data - Lamp

Lamp socket:	with integrated white 3 mm LED
Max. lamp voltage:	30 V AC/DC
Max. lamp output:	14mA (at 24 V DC)
Definition:	X1...anode, X2...cathode

Additional Data

Mounting aperture:	22.3mm
Tightening torque (mounting nut):	1.5 ... 1.9 Nm
Mounting position:	any
Standards:	EN 61058-1

Electrical Features

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Note

SVACFT(L)(X)(F)(P)(Z) []...optional
 (L) = illuminating option
 (X) = fail ring colours: standard=black (W=white, R=red, Y=yellow,G=green, B=blue)
 (F) = with Faston terminals 2.8x0.8mm
 (P) = with PCB-mount terminals
 (Z) = base-plate mounted version with PCB-mount terminals

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Ø 22.3 mm

General Data

Type Reference:	FRVKAL(O)(OO)(OO)(O)(OO)(O)(P)_AU
Description:	Emergency Stop, aluminium version, foolproof
Approvals:	CE, TÜV_Süd, Zwangsöffnung, UR
Nature of contact:	1 NC / 2 NC / 3 NC / 1 NC+1 NO / 2 NC+1 NO / 1 NC+2 NO
Degree of protection:	IP65 / IP67
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi / AgNi, gold-plated 5µm
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	50,000
Electrical life (rated load):	50,000 at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 50 mOhm (new state)
Bouncing time NO:	< 10 ms
Bouncing time NC:	< 10 ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage Ui:	250 V	250 V
Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V
Rated operating current Ie:	1.5A / 3A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	

Additional Data

Mounting aperture:	22.3mm
Tightening torque (mounting nut):	1.3 ... 1.9 Nm
Release:	twist release, left or right
Mounting position:	any
Standards:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850
Pollution degree :	3

Reliability Data

Ld:	20% (NC)
B10d:	250,000

Note

with switching position indicator

Electrical Features - 5µm gold-plating (type addition ...AU)	
Switching voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA

For the version with Faston terminals use partially or fully insulated Faston clamps.
Version with 3 contacts: overvoltage category II (2.5 kV), pollution degree 2

Data acc. to ULS08

Ratings:	silver: B300, 24Vdc/3A gold: 24Vdc/100mA
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- Type Indicators

General Data

Type Reference: FRVK[P]([L])(O)(OO)(OOO)(O)(OO)(O)(Z)(LZ)(P)[.AU]
 Description: Emergency Stop, foolproof
 Approvals: CCC, CE, TÜV_Süd, Zwangsöffnung, UR
 Nature of contact: 1NC / 2NC / 3 NC / 1 NC+1NO / 2NC+1NO / 1NC+2NO
 Degree of protection: IP65 / IP67
 Connection type: Faston terminals 2.8x0.8 mm / PCB-mount terminals
 Contact material: AgNi / AgNi, gold-plated 5µm
 Max. storage temperature: -40°C ... 80°C
 Max. operating temperature: 25°C ... 70°C
 Mechanical life: 50,000
 Electrical life (rated load): 50,000 at rated load
 Contact resistance NO: < 50 mOhm (new state)
 Contact resistance NC: < 50 mOhm (new state)
 Bouncing time NO: < 10 ms
 Bouncing time NC: < 10 ms
 Positive opening contact: acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage Ui:	250 V	250 V
Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V
Rated operating current Ie:	1.5A / 3A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	

Technical Data - Lamp

Lamp socket: none, with integrated 3 mm LED
 Max. lamp voltage: 30 V AC/DC
 Max. lamp output: 4 mA at 24 V DC
 Definition: X1...anode, X2...cathode

Additional Data

Mounting aperture: 22.3mm
 Tightening torque (mounting nut): 1.3 ... 1.9 Nm
 Release: twist release, left or right
 Mounting position: any
 Standards: EN 60947-5-1, EN 60947-5-5, EN ISO 13850
 Ld: 20% (NC)
 B10d: 250.000
 Pollution degree: 3

Note

with switching position indicator

Electrical Features - 5µm gold-plating (type addition ...AU)
 Switching voltage: 20mV ... 42V AC/DC
 Switching current: 1mA ... 250mA

For the version with Faston terminals use partially or fully insulated Faston clamps.
 Illuminated version (24VLED): overvoltage category II (2.5kV), pollution degree 2
 Version with 3 contacts: overvoltage category II (2.5 kV), pollution degree 2

FRVKP... emergency stop for hygienic areas
 Approvals: CE, DGUV-Test
 Mechanical life: 20,000 [20°C]
 >6050 [-25°C]
 >6050 [+70°C]
 B10d/Ld: 150,000/20% (20°C)

FRVK...[Z] ...emergency stop for base-plate mounting
 FRVK...[LZ] ...emergency stop for base-plate mounting with height compensation to use the Shortron series
 Approvals: CE
 Snap-fit the corresponding contact block (PTS...) to the actuator neck.
 Spacer sleeves ensure the correct distance between PCB and mounting plate. Screws must be secured against loosening.

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Ø 22.3 mm

Pushbutton Heads

Lenses and nameplates to be ordered separately.
Type addition for gold-plated contacts _AU (e.g. STLOI_AU)

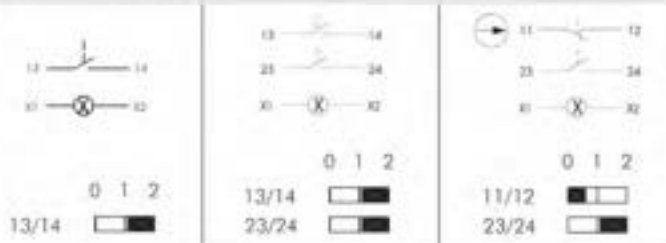
Illustration

Dimensions



Illuminated Pushbutton

incl. white LED
Faston terminals 2.8x0.8 mm



front bezel		1NO	2NO	INC + 1NO
silver-coloured		STU	STUI	STLOI
black		SSWTU	SSWTUI	SSWTLOI
stainless steel, polished		SVATU	SVATUI	SVATLOI



Pushbutton

























Faston terminals 2.8x0.8 mm



front bezel		1NO	2NO	INC + 1NO
silver-coloured		STI	STII	STOI
black		SSWTI	SSWTII	SSWTOI
stainless steel, polished		SVATI	SVATII	SVATOI

Pushbutton Heads

Lenses and nameplates to be ordered separately.

Illustration	Dimensions				
		Flat Lens, transparent			
		colour	blue		T22RRBL
			yellow		T22RRGB
			green		T22RRGN
			clear		T22RRKL
			red		T22RRRT
			opalwhite		T22RRWS
		High Lens, transparent			
		colour	blue		T22HRRBL
			yellow		T22HRRGB
			green		T22HRRGN
			clear		T22HRRKL
			red		T22HRRRT
			opalwhite		T22HRRWS
		Flat Lens, non-transparent			
		colour	blue		T22RRGBL
			yellow		T22RRGGB
			green		T22RRGGN
			black		T22RRGSW
			red		T22RRGRT
			white		T22RRGWS
		Blank Nameplate			BSRRU
		Nameplate with standard imprint			BSRR...
		Please specify index number (see nameplates on pages 404)			
		Nameplate with special imprint			BSRRB
		according to customer's specification			
		Sealing Cap			TK285
		made of silicone rubber, down to -50°C			

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Type India

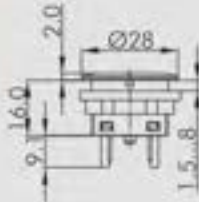
Ø 22.3 mm

Pushbutton Heads

Type addition for gold-plated version _AU (e. g. STLRWOI_AU)

Illustration

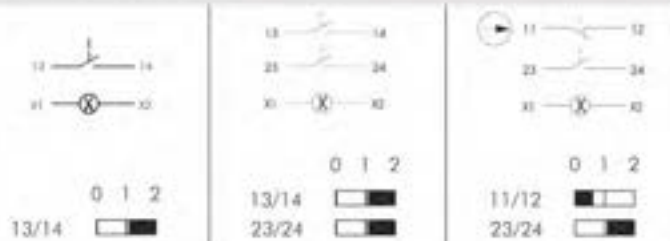
Dimensions



Pushbutton with ring illumination

incl. lens and white LED

Faston terminals 2.8x0.8 mm



front bezel	illuminated ring	1NO	2NO	1NC + 1NO
silver-coloured	white	STLRWI	STLRWII	STLRWOI
	red	STLRRi	STLRRII	STLRROI
	green	STLRGI	STLRGII	STLRGOI
	yellow	STLRYI	STLRYII	STLRYOI
	blue	STLRBI	STLRBII	STLRBOI
black	white	SSWTLRWI	SSWTLRWII	SSWTLRWOI
	red	SSWTLRRI	SSWTLRRII	SSWTLRROI
	green	SSWTLRGI	SSWTLRGII	SSWTLRGOI
	yellow	SSWTLRYI	SSWTLRYII	SSWTLRYOI
	blue	SSWTLRBI	SSWTLRBII	SSWTLRBOI
stainless steel, polished	white	SVATLRWI	SVATLRWII	SVATLRWOI
	red	SVATLRRi	SVATLRRII	SVATLRROI
	green	SVATLRGI	SVATLRGII	SVATLRGOI
	yellow	SVATLRYI	SVATLRYII	SVATLRYOI
	blue	SVATLRBI	SVATLRBII	SVATLRBOI

Pushbutton Heads

Type addition for gold-plated version _AU (e. g. STLRWOL..._AU)

Illustration

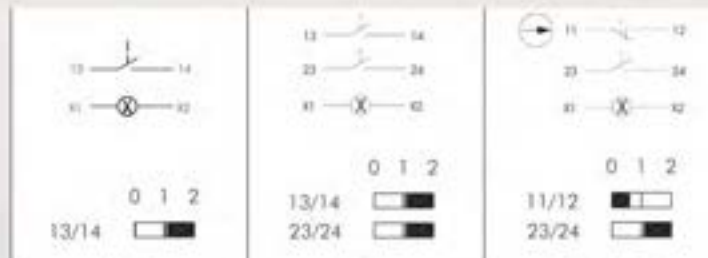
Dimensions



Pushbutton with ring illumination and inscription

Incl. lens and white LED,
standard imprints see nameplates on page 404 (please specify index no.),
special inscription on request

Faston terminals 2.8x0.8 mm



front bezel	illuminated ring	1NO	2NO	1NC + 1NO
silver-coloured	white	STLRWI...	STLRWII...	STLRWOI...
	red	STLRRI...	STLRRII...	STLRROI...
	green	STLRGI...	STLRGII...	STLRGOI...
	yellow	STLRYI...	STLRYII...	STLRYOI...
	blue	STLRBI...	STLRBII...	STLRBOI...
stainless steel, polished	white	SVATLRWI...	SVATLRWII...	SVATLRWOI...
	red	SVATLRRI...	SVATLRRII...	SVATLRROI...
	green	SVATLRGI...	SVATLRGII...	SVATLRGOI...
	yellow	SVATLRYI...	SVATLRYII...	SVATLRYOI...
	blue	SVATLRBI...	SVATLRBII...	SVATLRBOI...

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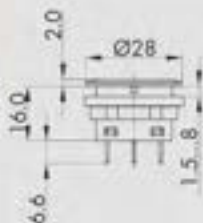
Type Index

Ø 22.3 mm

Pushbutton Heads

Illustration

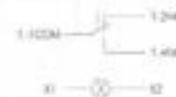
Dimensions



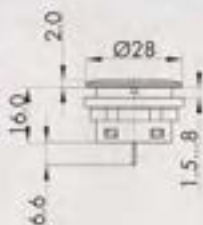
Tactile Pushbutton, illuminated

incl. white LED, gold-plated contacts

Faston terminals 2.8x0.8 mm



front bezel		1 inverter
silver-coloured		SCTLF
black		SSWCTLF
stainless steel, polished		SVACTLF



Tactile Pushbutton

gold-plated contacts

Faston terminals 2.8 mm



front bezel		1 inverter
silver-coloured		SCTF
black		SSWCTF
stainless steel, polished		SVACTF

Pushbutton Heads

Illustration

Dimensions



Domed Lens, transparent

colour			
blue			T22DRRBL
yellow			T22DRRGB
green			T22DRRGN
clear			T22DRRKL
red			T22DRRRT
opalwhite			T22DRRWS



Flat Lens, transparent

colour			
blue			T22RRBL
yellow			T22RRGB
green			T22RRGN
clear			T22RRKL
red			T22RRRT
opalwhite			T22RRWS



High Lens, transparent

colour			
blue			T22HRRBL
yellow			T22HRRGB
green			T22HRRGN
clear			T22HRRKL
red			T22HRRRT
opalwhite			T22HRRWS



Flat Lens, non-transparent

colour			
blue			T22RRGBL
yellow			T22RRGGB
green			T22RRGGN
black			T22RRGSW
red			T22RRGRT
white			T22RRGWS



Blank Nameplate

BSRRU



Nameplate with standard imprint

BSRR...

Please specify index number (see nameplates on pages 404)



Nameplate with special imprint according to customer's specification

BSRRB

IP67



Sealing Cap

made of silicone rubber, down to -50°C

TK285

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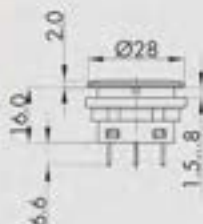
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Ø 22.3 mm

Pushbutton Heads

Illustration

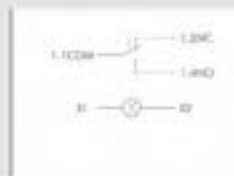
Dimensions



Tactile Pushbutton with ring illumination

incl. white LED, with gold-plated contacts

Faston terminals 2.8x0.8 mm



front bezel	illuminated ring	I inverter
silver-coloured	white	SCTLRWF
	red	SCTLRRF
	green	SCTLRGF
	yellow	SCTLR YF
	blue	SCTLRBF
black	white	SSWCTLRWF
	red	SSWCTLRRF
	green	SSWCTLRGF
	yellow	SSWCTLR YF
	blue	SSWCTLRBF
stainless steel, polished	white	SVACTLRWF
	red	SVACTLRRF
	green	SVACTLRGF
	yellow	SVACTLR YF
	blue	SVACTLRBF

Pushbutton Heads

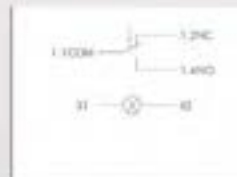
Illustration

Dimensions



Tactile Pushbutton with ring illumination and laser printing

incl. lens and white LED,
standard imprints see nameplates on page 404
(please specify index no.),
special inscription on request
Faston terminals 2.8x0.8 mm



front bezel	illuminated ring	I inverter
silver-coloured	white	SCTLRWF...
	red	SCTLRRF...
	green	SCTLRGF...
	yellow	SCTLRZF...
	blue	SCTLRBF...
stainless steel, polished	white	SVACTLRWF...
	red	SVACTLRRF...
	green	SVACTLRGF...
	yellow	SVACTLRZF...
	blue	SVACTLRBF...

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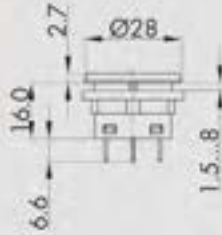
Type Index

Ø 22.3 mm

Membrane Pushbuttons

Illustration

Dimensions

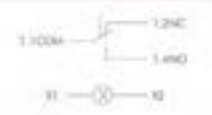


Illuminated Tactile Membrane Pushbutton made of stainless steel V4A

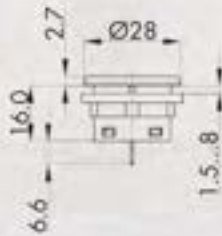
combining the advantages of a membrane keypad with the flexibility of conventional actuators, with blank nameplate. Standard inscription (see page 404) or special imprints on request

incl. white LED
with gold-plated contacts

Faston terminals 2.8x0.8 mm



front bezel	1 inverter
stainless steel, polished	SVACFTLF
black	SSWCFTLF



Tactile Membrane Pushbutton made of stainless steel V4A

combining the advantages of a membrane keypad with the flexibility of conventional actuators, with blank nameplate. Standard inscription (see page 404) or special imprints on request

with gold-plated contacts

Faston terminals 2.8x0.8 mm

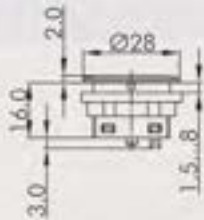


front bezel	1 inverter
stainless steel, polished	SVACFTF
black	SSWCFTF

Capacitive Pushbutton

Illustration

Dimensions



Capacitive Pushbutton

Operation display with four LEDs (Y, permanently lit) four LEDs light additionally on actuation

Technical Data

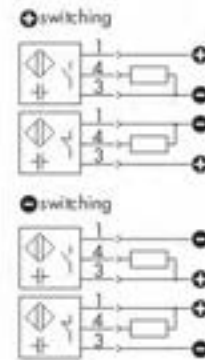
Max. Storage temperature: -40°C ... +85°C
 Max. Operating temperature: -10°C ... +60°C
 Max. Switching frequency [at U_e]: 10Hz
 Standby delay time: max. 50ms

Electrical Data

Utilisation category: DC13
 Operating voltage U_e: nom. 24V DC (12...30VDC)
 Max. static voltage drop: 1.5V
 Residual ripple: 10% [of U_e]
 Rated insulation voltage U_i: 75V DC
 Rated operating current I_e: 100mA
 No-load current, not actuated: max. 10mA [GB / GN]
 Short-circuit protection: yes
 Reverse polarity protection: no

Additional Data

Tightening torque [mounting nut]: 1.5...1.9Nm
 Mounting position: user-defined
 Standards: IEC 60947-5-2



front bezel	illuminated ring	1NO
silver-coloured	yellow/green	SK_GN_GB

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Ø 22.3 mm

Emergency Stops

Type addition for gold-plated version _AU (e.g. FRVKOO_AU)

Illustration

Dimensions

IP66
IP67



Emergency Stop

Faston terminals 2.8x0.8 mm

foolproof Yes
switching position indicator Yes
anti-lock collar No
release twist right or left
Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



front bezel		2NC	2NC + 1NO
yellow		FRVKOO	FRVKOOI

IP66
IP67



Illuminated Emergency Stop

Faston terminals 2.8x0.8 mm

foolproof Yes
switching position indicator Yes
anti-lock collar No
release twist right or left
Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



front bezel		2NC
yellow		FRVKLOO

IP66
IP67



Emergency Stop, made of aluminium for robust applications

Faston terminals 2.8x0.8 mm

foolproof Yes
switching position indicator Yes
anti-lock collar No
release twist right or left
Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



front bezel		2NC	2NC + 1NO
yellow		FRVKALOO	FRVKALOOI

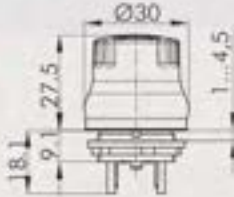
Emergency Stops

Type addition for gold-plated version _AU (e.g. FRVKPOO_AU)

Illustration

Dimensions

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Emergency Stop for hygienic applications

Hygiene-tested acc. to DIN EN 1672-2 / DIN EN ISO 14159 and GS-NV 3, GS-NV 6

Faston terminals 2.8x0.8 mm

foolproof	Yes
switching position indicator	No
anti-lock collar	No
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



front bezel		2NC	2NC + 1NO
yellow		FRVKPOO	FRVKPOOI

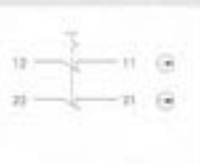
IP66
IP67



Emergency Stop with pull and twist release

Faston terminals 2.8x0.8 mm

foolproof	Yes
switching position indicator	Yes
anti-lock collar	No
release	pull/twist
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



front bezel		2NC
yellow		FRZVKOO

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Ø 22.3 mm

Selector Switches (momentary/maintained)

Type addition for gold-plated version _AU (e.g. SWAOI_AU)

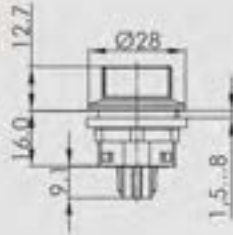
I = Switching position

▶ = Spring return

Illustration

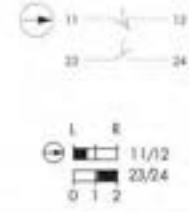
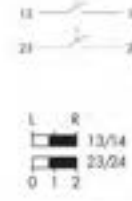
Dimensions

IP65



Selector Switch, maintained

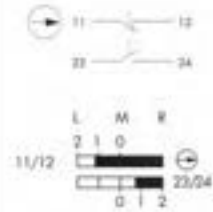
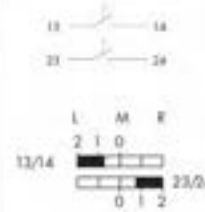
Faston terminals 2.8x0.8 mm



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SWAI	SWAII	SWAOI
black		SSWAI	SSWAI	SSWAOI
stainless steel, polished		SWAWAI	SWAWAI	SWAWAOI



front bezel



front bezel		2NO	1NC + 1NO
silver-coloured		SWBII	SWBOI
black		SSWBI	SSWBOI
stainless steel, polished		SWAWBII	SWAWBOI



Selector Switches (momentary/maintained)

Type addition for gold-plated version *_AU* (e.g. *SWAOI_AU*)

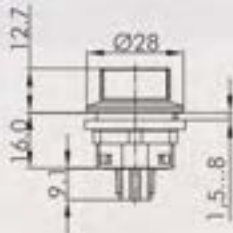
I = Switching position

> = Spring return

Illustration

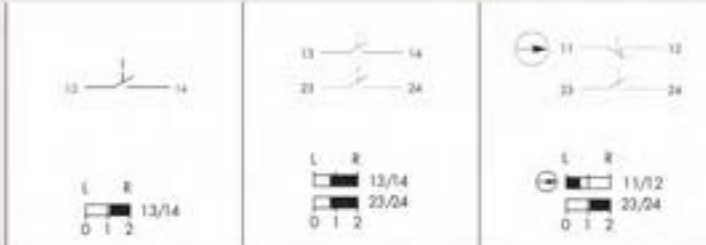
Dimensions

IP65



Selector Switch, momentary

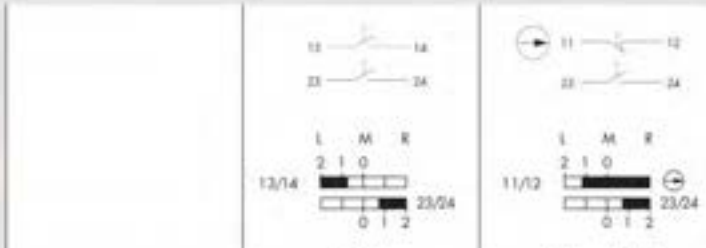
Faston terminals 2.8x0.8 mm



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSTAI	SSTAI	SSTAOI
black		SSWSTAI	SSWSTAI	SSWSTAOI
stainless steel, polished		SVASTAI	SVASTAI	SVASTAOI



front bezel



front bezel			2NO	1NC + 1NO
silver-coloured			SSTBII	SSTBOI
black			SSWSTBII	SSWSTBOI
stainless steel, polished			SVASTBII	SVASTBOI



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Ø 22.3 mm

Selector Switches (momentary/maintained)

Type addition for gold-plated version _AU (e.g. SWCOI_AU)

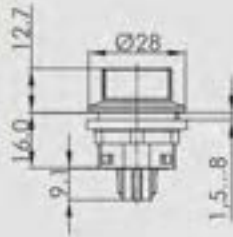
I = Switching position

▶ = Spring return

Illustration

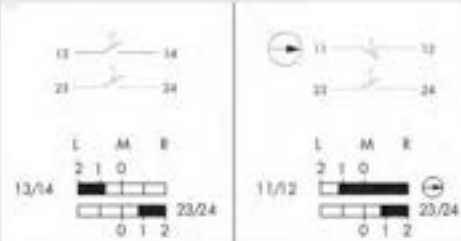
Dimensions

#65



Selector Switch, left maintained, right momentary

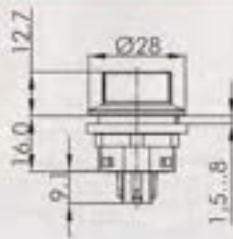
Faston terminals 2.8x0.8 mm



front bezel		2NO	INC + 1NO
silver-coloured		SWCII	SWCOI
black		SSWWCII	SSWWCOI
stainless steel, polished		SVAWCII	SVAWCOI

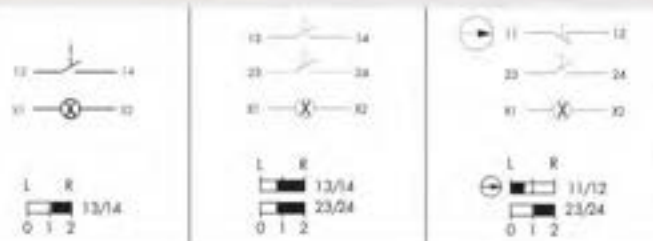


#65



Illuminated Selector Switch, maintained

Faston terminals 2.8x0.8 mm



front bezel		1NO	2NO	INC + 1NO
silver-coloured		SWALI	SWALII	SWALOI
black		SSWWALI	SSWWALII	SSWWALOI
stainless steel, polished		SVAWALI	SVAWALII	SVAWALOI



front bezel		2NO	INC + 1NO
silver-coloured		SWBLII	SWBLOI
black		SSWWBLII	SSWWBLOI
stainless steel, polished		SVAWBLII	SVAWBLOI

Selector Switches (momentary/maintained)

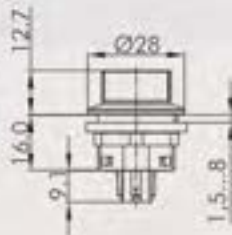
Type addition for gold-plated version **_AU** (e. g. SSSA14OIZ_AU)

- I = Switching position
- > = Spring return

Illustration

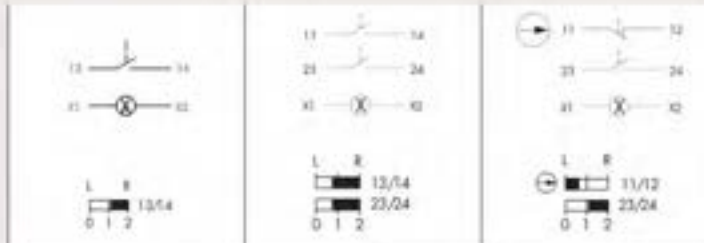
Dimensions

IP65

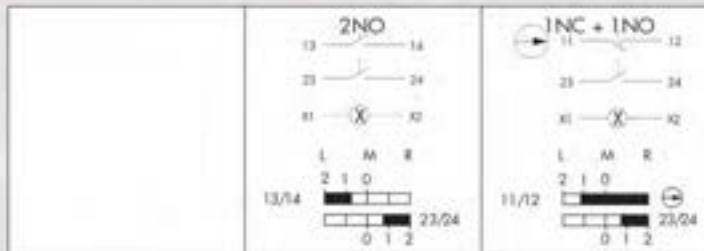


Illuminated Selector Switch, momentary

Faston terminals 2.8x0.8 mm



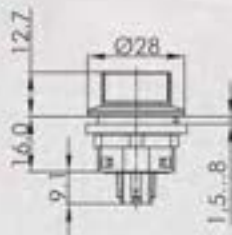
front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSTALI	SSTALII	SSTALOI
black		SSWSTALI	SSWSTALII	SSWSTALOI
stainless steel, polished		SVASTALI	SVASTALII	SVASTALOI



front bezel			2NO	1NC + 1NO
silver-coloured			SSTBLII	SSTBLOI
black			SSWSTBLII	SSWSTBLOI
stainless steel, polished			SVASTBLII	SVASTBLOI

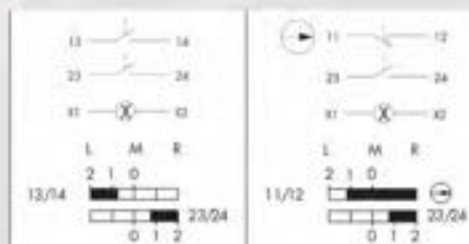


IP65



Illuminated Selector Switch, left maintained, right momentary

Faston terminals 2.8x0.8 mm



front bezel			2NO	1NC + 1NO
silver-coloured			SWCLII	SWCLOI
black			SSWWCLII	SSWWCLOI
stainless steel, polished			SWAWCLII	SWAWCLOI



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Ø 22.3 mm

Key Switches (momentary/maintained)

Type addition for gold-plated version _AU (e. g. SSSA12OI_AU)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration

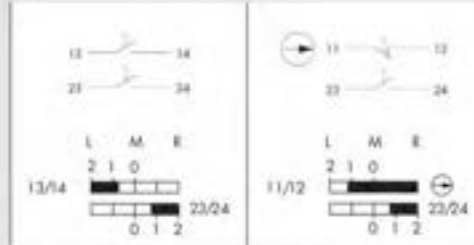
Dimensions

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Key-operated Switch, maintained

incl. two keys,
other lock types on request
Faston terminals 2.8x0.8 mm



front bezel		2NO	INC + 1NO
silver-coloured		SSSA12II	SSSA12OI
black		SSWSSA12II	SSWSSA12OI
stainless steel, polished		SVASSA12II	SVASSA12OI



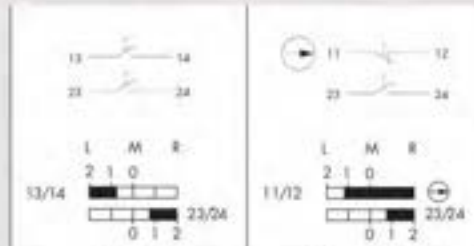
front bezel		2NO	INC + 1NO
silver-coloured		SSSA13II	SSSA13OI
black		SSWSSA13II	SSWSSA13OI
stainless steel, polished		SVASSA13II	SVASSA13OI

#65



Key-operated Switch, maintained (individually keyed)

incl. three keys
1st key: two-way operation
2nd key: operation only to the left
3rd key: operation only to the right
Faston terminals 2.8x0.8 mm



front bezel		2NO	INC + 1NO
silver-coloured		SSSA31II	SSSA31OI
black		SSWSSA31II	SSWSSA31OI
stainless steel, polished		SVASSA31II	SVASSA31OI



Key Switches (momentary/maintained)

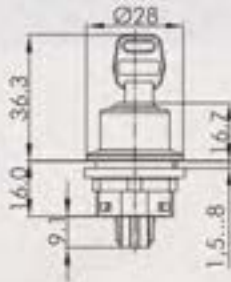
Type addition for gold-plated version *_AU* (e.g. SSSA14OI_AU)

- I = Switching position
- > = Spring return
- ⊖ = Key removable position

Illustration

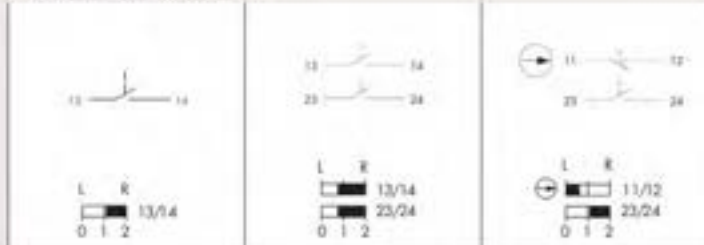
Dimensions

IP65



Key-operated Switch, maintained

incl. two keys,
other lock types on request
Faston terminals 2.8x0.8 mm



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA 14I	SSSA 14II	SSSA 14OI
black		SSWSSA 14I	SSWSSA 14II	SSWSSA 14OI
stainless steel, polished		SVASSA 14I	SVASSA 14II	SVASSA 14OI



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA 15I	SSSA 15II	SSSA 15OI
black		SSWSSA 15I	SSWSSA 15II	SSWSSA 15OI
stainless steel, polished		SVASSA 15I	SVASSA 15II	SVASSA 15OI



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA 16I	SSSA 16II	SSSA 16OI
black		SSWSSA 16I	SSWSSA 16II	SSWSSA 16OI
stainless steel, polished		SVASSA 16I	SVASSA 16II	SVASSA 16OI



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA 17I	SSSA 17II	SSSA 17OI
black		SSWSSA 17I	SSWSSA 17II	SSWSSA 17OI
stainless steel, polished		SVASSA 17I	SVASSA 17II	SVASSA 17OI



front bezel		1NO	2NO	1NC + 1NO
silver-coloured		SSSA 18I	SSSA 18II	SSSA 18OI
black		SSWSSA 18I	SSWSSA 18II	SSWSSA 18OI
stainless steel, polished		SVASSA 18I	SVASSA 18II	SVASSA 18OI



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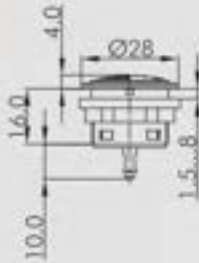
Ø 22.3 mm

Buzzers

Illustration

Dimensions

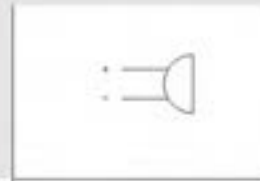
#65



Buzzer

operating voltage: 24V DC
 operating current: 10mA
 signal frequency: 4.1 +/- 0.5 kHz
 volume: max. 83 db (10cm)
 operating temperature: -20°C ... 70°C

Faston terminals 2.8x0.8 mm



front bezel		1 inverter
silver coloured		SNSG+SG-24V
black		SSWNSG+SG-24V
stainless steel, polish		SVANSG+SG-24V

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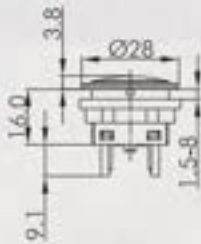


Pilot Lights

Lenses and nameplates to be ordered separately.

Illustration

Dimensions



Pilot Light

incl. white LED
Faston terminals 2.8 mm



front bezel		1 inverter
silver-coloured		SNL
black		SSWNL
stainless steel, polish		SVANL



Lens

colour

blue



K22RRBL

yellow



K22RRGB

green



K22RRGN

clear



K22RRKL

red



K22RRRT

opalwhite



K22RRW5



Blank Nameplate

BSRRU



Nameplate with standard imprint

BSRR...

Please specify index number (see nameplates on pages 404)



Nameplate with special imprint

BSRRB

according to customer's specification

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Accessories for Control Units

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Faston Clamp 2.8 x 0.8 mm with snap-in pin

FH2,8

Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8



Insulating Case

IH2,8

for Faston clamp FH2,8, slip on from the front

IP40



Lead-sealable Protective Lid

from -30 °C to +70°C

colour

transparent



KDP22RR

IP65
IP67



Lead-sealable, robust Protective Lid

Lifetime: >100,000 cycles

colour

transparent



black



KDPR22RR

KDPR22RR_SW

IP47



Protective Lid made of TPE

from -50 °C to +100°C

colour

black



AK22RR5W

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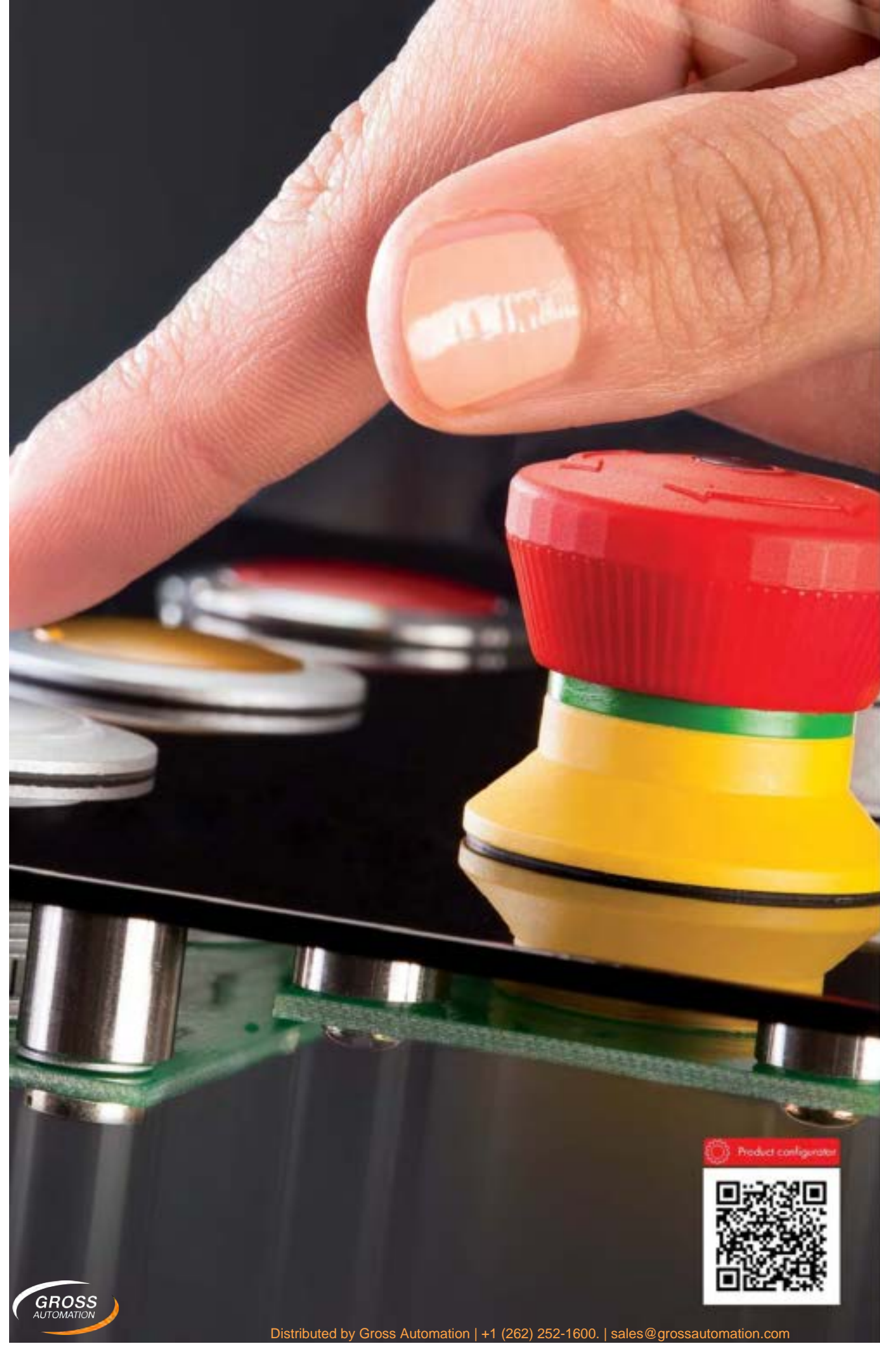
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Front dimensions: \varnothing 28 mm
Panel cut-out: \varnothing 22.3 mm
Front bezel height: 2 mm
Travel: 2.3 mm/1.8 mm



SHORTTRON base-plate mounting

Product configurator



Overview - SHORTRON series for base-plate mounting



01 Pushbutton Heads	page 161	Contact blocks / Lampholders	page 502
02 Emergency-stop Buttons	page 164		
03 Selector Heads	page 166		
04 Key Actuators	page 168		
05 Pilot Lights	page 171		

Housing Colours (silver-coloured, black, polished stainless steel)



degree of protection

operating travel

illuminating option

labelling option



base-plate mounting
mounting depth 16.2 mm

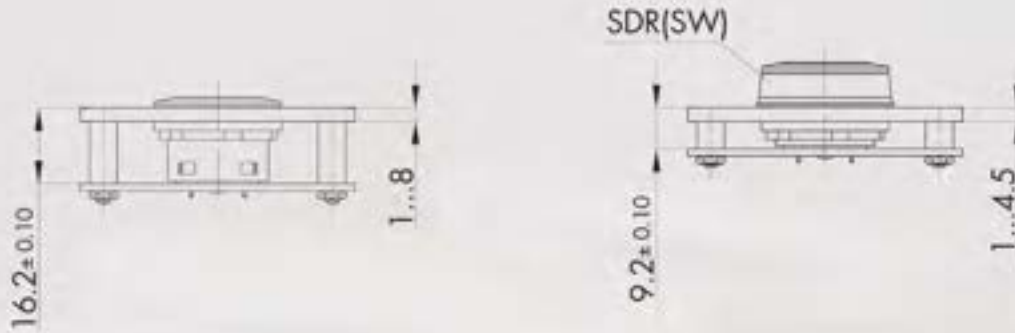


base-plate mounting using a spacer ring SDR/SDRSW
mounting depth 9.2 mm

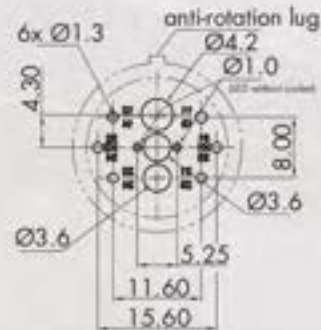
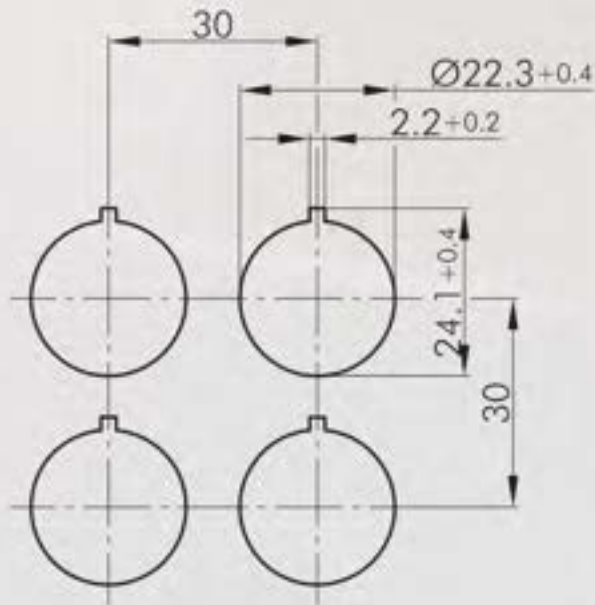


***)** spacer sleeves required (length see mounting depth dimensions)

Mounting Depth Dimensions



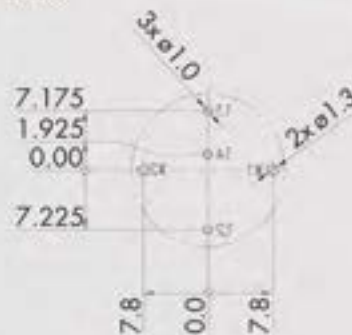
Cutout Dimensions






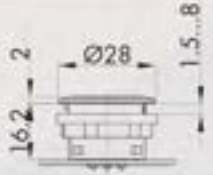

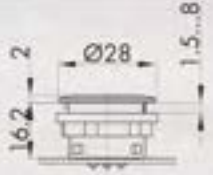





















Component side view

Contact assignment: see wiring scheme of the relevant types

PCT...



Pushbutton Heads

Illustration	Dimensions	Description	Type
		Pushbutton silver-coloured suitable contact blocks front bezel silver-coloured	ST
		Pushbutton black suitable contact blocks front bezel black	SSWT
		Pushbutton, stainless steel suitable contact blocks front bezel stainless steel, polished	SVAT
		Flat Lens, transparent colour	
		blue 	T22RRBL
		yellow 	T22RRGB
		green 	T22RRGN
		clear 	T22RRKL
		red 	T22RRRT
		opalwhite 	T22RRWS
		High Lens, transparent colour	
		blue 	T22HRRBL
		yellow 	T22HRRGB
		green 	T22HRRGN
		clear 	T22HRRKL
		red 	T22HRRRT
		opalwhite 	T22HRRWS
		Flat Lens, non-transparent colour	
		blue 	T22RRGBL
		yellow 	T22RRGGB
		green 	T22RRGGN
		black 	T22RRGSW
		red 	T22RRGRT
		white 	T22RRGWS

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RONTRON-R-JUWEL

made in germany



Ø 22.3 mm

Pushbutton Heads

Illustration

Dimensions

Description

Type



Blank Nameplate

BSRRU



Nameplate with standard imprint

BSRR...

Please specify index number (see nameplates on pages 404)



Nameplate with special imprint

BSRRB

according to customer's specification



Pushbutton Head with ring illumination, silver-coloured
incl. lens

suitable contact blocks



illuminated ring	white	
front bezel	silver-coloured	
illuminated ring	red	
illuminated ring	green	
illuminated ring	yellow	
illuminated ring	blue	

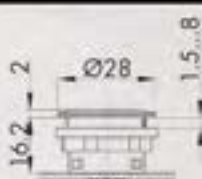
STLRW

STLRR

STLRG

STLRY

STLRB



Pushbutton Head with ring illumination, black
incl. lens

suitable contact blocks



illuminated ring	white	
front bezel	black	
illuminated ring	red	
illuminated ring	green	
illuminated ring	yellow	
illuminated ring	blue	

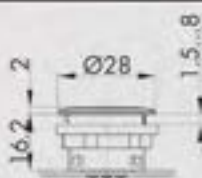
SSWTLRW

SSWTLRR

SSWTLRG

SSWTLRY

SSWTLRB



Pushbutton Head with ring illumination, stainless steel
incl. lens

suitable contact blocks



illuminated ring	white	
front bezel	stainless steel, polished	
illuminated ring	red	
illuminated ring	green	
illuminated ring	yellow	
illuminated ring	blue	

SVATLRW

SVATLRR

SVATLRG

SVATLRY

SVATLRB


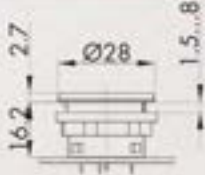

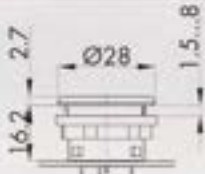


Sealing Cap

made of silicone rubber, down to -50°C

TK285

Membrane Pushbuttons

Illustration	Dimensions	Description	Type
 <p>IP66 IP67 IP69K</p>		<p>Individual Membrane Pushbutton, stainless steel combining the advantages of a membrane keypad with the flexibility of conventional actuators, with blank nameplate. Standard inscription (see page 404) or special imprints on request.</p> <p>only to be combined with PCT... contact blocks</p> <p>suitable contact blocks P</p> <p>front ring black front bezel stainless steel, polished</p>	SVACFT
 <p>IP66 IP67 IP69K</p>		<p>Individual Pushbutton Head Key, black combining the advantages of a membrane keypad with the flexibility of conventional actuators, with blank nameplate. Standard inscription (see page 404) or special imprints on request.</p> <p>only to be combined with PCT... contact blocks</p> <p>suitable contact blocks P</p> <p>front ring black front bezel black</p>	SSWCFT

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Ø 22.3 mm

Emergency Stops

Illustration

Dimensions

Description

Type

FRV



Emergency Stop for 9.2 mm mounting depth

foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks



mushroom head red
 front bezel yellow



FRVK

FRV



Emergency Stop for 16.2 mm mounting depth

ATTENTION: only suitable for illuminated contact unit!
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks



mushroom head red
 front bezel yellow



FRVKZ

FRV



Illuminated Emergency Stop for 9.2 mm mounting depth

foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks



mushroom head red
 front bezel yellow



FRVKL

FRV



Illuminated Emergency Stop for 16.2 mm mounting depth

ATTENTION: only suitable for illuminated contact unit!
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks



mushroom head red
 front bezel yellow



FRVKZL

Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Emergency Stop made of aluminium for robust applications for 9.2 mm mounting depth</p> <p>foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks </p> <p>mushroom head red  front bezel yellow </p>	FRVKAL
		<p>Emergency Stop, aluminium for robust applications for 16.2 mm mounting depth</p> <p>foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>suitable contact blocks </p> <p>mushroom head red  front bezel yellow </p>	FRVKZAL
		<p>Emergency Stop for hygienic applications for 9.2 mm mounting depth</p> <p>Hygienic test acc. to DIN EN 1672-2 / DIN EN ISO 14159 and GS-NV 3, GS-NV 6</p> <p>foolproof Yes switching position indicator No anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>suitable contact blocks </p> <p>mushroom head red  front bezel yellow </p>	FRVKP
		<p>Emergency Stop for hygienic applications for 16.2 mm mounting depth</p> <p>Hygienic test acc. to DIN EN 1672-2 / DIN EN ISO 14159 and GS-NV 3, GS-NV 6</p> <p>foolproof Yes switching position indicator No anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>suitable contact blocks </p> <p>mushroom head red  front bezel yellow </p>	FRVKZP

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Shortron base-plate mounting

made in germany



Ø 22.3 mm

Selector Switches (momentary/maintained)

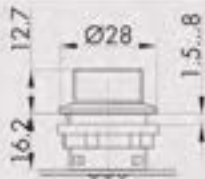
I = Switching position
> = Spring return

Illustration

Dimensions

Description

Type



Illuminated Selector Head, maintained, silver-coloured

suitable contact blocks

front bezel silver-coloured

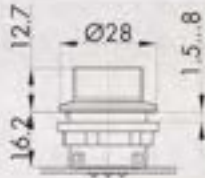
suitable contact blocks

front bezel silver-coloured



SWA

SWB



Illuminated Selector Switch, momentary, silver-coloured

suitable contact blocks

front bezel silver-coloured

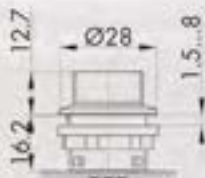
suitable contact blocks

front bezel silver-coloured



SSTA

SSTB



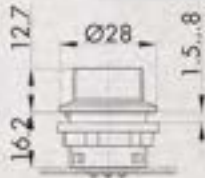
Illuminated Selector Head, left maintained, right momentary, silver-coloured

suitable contact blocks

front bezel silver-coloured



SWC



Illuminated Selector Head, maintained, black

suitable contact blocks

front bezel black

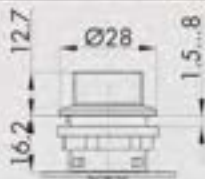
suitable contact blocks

front bezel black



SSWWA

SSWWB



Illuminated Selector Head, momentary, black

suitable contact blocks

front bezel black

suitable contact blocks

front bezel black




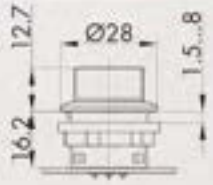


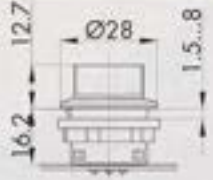



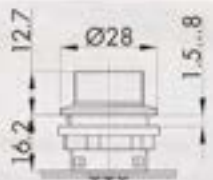



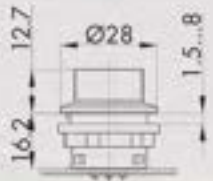

SSWSTA

SSWSTB



Selector Switches (momentary/maintained)

- I = Switching position
- > = Spring return

Illustration	Dimensions	Description	Type
		Illuminated Selector Head, left maintained, right momentary black suitable contact blocks front bezel black	 SSWWC
		Illuminated Selector Head, maintained, stainless steel suitable contact blocks front bezel stainless steel, polished suitable contact blocks front bezel stainless steel, polished	 SVAWA  SVAWB
		Illuminated Selector Head, momentary, stainless steel suitable contact blocks front bezel stainless steel, polished suitable contact blocks front bezel stainless steel, polished	 SVASTA  SVASTB
		Illuminated Selector Head, left maintained, right momentary stainless steel suitable contact blocks front bezel stainless steel, polished	 SVAWC

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Shortron base-plate mounting

made in germany



Ø 22.3 mm

Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

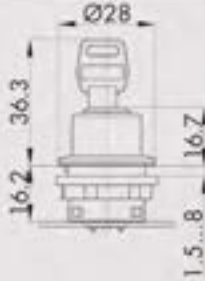
Illustration

Dimensions

Description

Type

IP65



Key Actuator, maintained, silver-coloured

including two keys
other lock types on request
suitable contact blocks

front bezel	silver-coloured			SSSA12
suitable contact blocks				
front bezel	silver-coloured			SSSA13
suitable contact blocks				
front bezel	silver-coloured			SSSA14
suitable contact blocks				
front bezel	silver-coloured			SSSA15
suitable contact blocks				
front bezel	silver-coloured			SSSA16
suitable contact blocks				
front bezel	silver-coloured			SSSA17
suitable contact blocks				
front bezel	silver-coloured			SSSA18

IP65




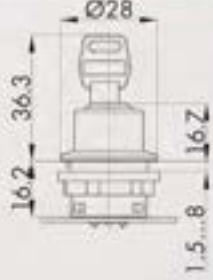














Key Actuator, maintained (individually keyed), silver-coloured




including three keys
1st key: two-way operation
2nd key: operation only to the left
3rd key: operation only to the right
suitable contact blocks

front bezel	silver-coloured			SSSA31
-------------	-----------------	--	--	---------------

Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type		
		Key Actuator, maintained, black including two keys other lock types on request suitable contact blocks			
		front bezel black			SSW55A12
		front bezel black			SSW55A13
		front bezel black			SSW55A14
		front bezel black			SSW55A15
		front bezel black			SSW55A16
		front bezel black			SSW55A17
		front bezel black			SSW55A18

		Key Actuator, maintained (individually keyed) black incl. three keys 1st key: two-way operation 2nd key: operation only to the left 3rd key: operation only to the right suitable contact blocks	
		front bezel black	

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Ø 22.3 mm

Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

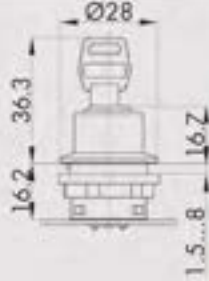
Illustration

Dimensions

Description

Type

#65

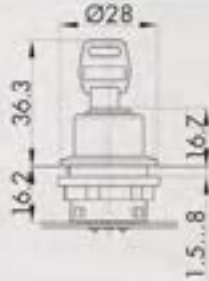


Key Actuator, maintained, stainless steel

including two keys
other lock types on request
suitable contact blocks

front bezel	stainless steel, polished		SVASSA12
suitable contact blocks			
front bezel	stainless steel, polished		SVASSA13
suitable contact blocks			
front bezel	stainless steel, polished		SVASSA14
suitable contact blocks			
front bezel	stainless steel, polished		SVASSA15
suitable contact blocks			
front bezel	stainless steel, polished		SVASSA16
suitable contact blocks			
front bezel	stainless steel, polished		SVASSA17
suitable contact blocks			
front bezel	stainless steel, polished		SVASSA18

#65



Key Actuator, maintained (individually keyed)

stainless steel

incl. three keys

- 1st key: two-way operation
- 2nd key: operation only to the left
- 3rd key: operation only to the right

suitable contact blocks

front bezel	stainless steel, polished		SVASSA31
-------------	---------------------------	--	-----------------




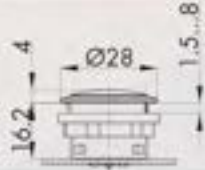

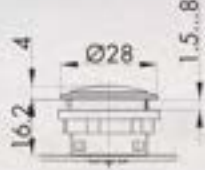














Standard Spare Keys

standard spare key, specify key number for special locks

ESMIC482

Pilot Lights

Illustration	Dimensions	Description	Type	
 <p>IP65 IP67</p>	 <p>4 Ø28 1.5...8 16.2</p>	Pilot-Light Head, silver-coloured suitable lamp elements front bezel silver-coloured	SN	
 <p>IP65 IP67</p>	 <p>4 Ø28 1.5...8 16.2</p>	Pilot Light Head, black suitable lamp elements front bezel black	SSWN	
 <p>IP65 IP67</p>	 <p>4 Ø28 1.5...8 16.2</p>	Pilot Light Head, stainless steel suitable lamp elements front bezel stainless steel, polished	SVAN	
		Lens colour		
		blue		K22RRBL
		yellow		K22RRGB
		green		K22RRGN
		clear		K22RRKL
		red		K22RRRT
		opalwhite		K22RRWS
	 <p>Ø18</p>	Blank Nameplate	BSRRU	
	 <p>Ø18</p>	Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSRR...	
	 <p>Ø18</p>	Nameplate with special imprint according to customer's specification	BSRRB	

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Shortron base-plate mounting

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Ø 22.3 mm

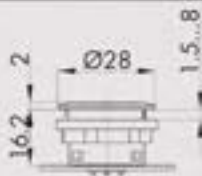
Pilot Lights

Illustration

Dimensions

Description

Type

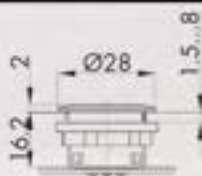


Pilot-Light Head with ring illumination, silver-coloured

suitable lamp elements

illuminated ring	white	
front bezel	silver-coloured	

SNLR

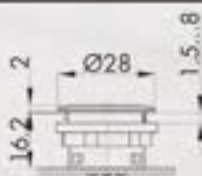


Pilot Light Head with ring illumination, black

suitable lamp elements

illuminated ring	white	
front bezel	black	

SSWNLR



Pilot Light Head with ring illumination, stainless steel

suitable lamp elements

illuminated ring	white	
front bezel	stainless steel, polished	

SVANLR

Accessories for Control Units

Illustration	Dimensions	Description	Type
		Spacer Ring suitable for the Shortron series for panel thickness from 0.5 to 2.5 mm colour silver-coloured black	SDR SDR5W
		Mounting Tool with torque limitation for the series QUARTEX-R/JUWEL, KOMBITAST-R/JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/Q-JUWEL series	S22
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External Nameplate Holder for outside marking of the actuators of the RONTRON-R/JUWEL and SHORTRON series, accepts self-adhesive nameplates, mountable from the front colour transparent	RRJABT
		Self-adhesive Nameplate laser-printed Inscription according to customer's specification Dimensions: 22 x 11 mm	BZ16L
		Self-adhesive Nameplate blank Dimensions: 22 x 11 mm	BZ16U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 22 x 11 mm	BZ16B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22_548
		Universal Lens Remover	USK

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Mini Switches

Type Inds



Front dimensions: Ø 28 mm
Panel cut-out: Ø 22.3 mm
Front bezel height: 2 mm
Travel: 2.3 mm

SHORTRON-M12



Product configurator



Ø 22.3 mm

General Data

Type Reference: S(T)(WA)(WB)(L)(SSA...)(I)(O)(OI)_M(O1)(O2)(O3)(O4)(O5)(O6)
 Description: assembled short-stroke pushbutton with M12 connector
 Approvals: CE
 Nature of contact: 1 inverter / 1 NO+LED / 1 NC+LED
 Degree of protection: IP65 / IP67 (in front and on the rear)
 Operation travel: 2.3 mm
 Connection type: M12 4poles with PUR cable; length 25cm/150cm; strands 4x0.34mm² (AWG22)
 Max. storage temperature: -40°C ... 80°C
 Max. operating temperature: 25°C ... 70°C
 Mechanical life: 1 m switching cycles (T, TI)
 30.000 (WA, WAL, WB, WBL, SSA)
 Electrical life (rated load): 1 m operations (T, TI), DC13: max. 100.000
 30.000 (WA, WAL, WB, WBL, SSA)
 Contact resistance NO: < 100/300 mOhm (25/150cm cable, AgNi contact block, new state)
 Contact resistance NC: < 100/300 mOhm (25/150cm cable, AgNi contact block, new state)
 Bouncing time NO: < 10 ms
 Bouncing time NC: < 10 ms
 Positive opening contact: acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage Ui:	250V	250V
Rated operating voltage Ue:	35 V	35 V
Rated operating current Ie:	4 A	2 A
Continuous thermal current:	4 A	

Technical Data - Lamp

Lamp socket: with integrated white 3 mm LED
 Max. lamp voltage: 30 V AC/DC
 Max. lamp output: 14mA (at 24 V DC)
 Definition: X1...anode, X2...cathode

Additional Data

Mounting aperture: 22.3mm
 Tightening torque (mounting nut): 1.5 ... 1.9 Nm
 Mounting position: any
 Standards: EN 60947-5-1, EN 61058
 Material group: I
 Overvoltage category: II
 Pollution degree: 2

Note

NC = normal close contact; NO = normal open contact
 T(I)...pushbutton (illuminated)
 SSA12...key-operated switch, 3 positions
 SSA15...key-operated switch, 2 positions
 WA(L)...maintained selector switch, 2 positions (illuminated)
 WB(L)...maintained selector switch, 3 positions (illuminated)

Actuators

- from the Shortron series
- front bezel silver-coloured
- sealed on the rear

Connecting cable

- PUR cable with M12 connector, straight, black
- length 25±3cm / 150±5cm
- integrated strain relief

Attention:

Load for the common inverter (COM-Fin1) must be a max. of 4A

Additional data acc. to IEC/EN 60947-5-1, valid for the types: S(T)(WA)(WB)(SSA...)(I)(O)(OI)_M(O1)(O2)

AC15 B300: 240V 1.5A / 120V 3A
 DC13 Q300: 250V 0.27A / 125 0.55A

Accessories

Control lines
→ Actuators

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Field Switches

Light Sensors

Type Filters

Type	Description	Cable length:	Pin assignment
STOI_M01	Pushbutton 1 inverter	25cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S
STOI_M02	Pushbutton 1 inverter	150cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S
STLI_M03	Illuminated pushbutton	25cm	Pin1-2: NO, Pin3: X2(LED-), Pin4:
X1(LED+24V) STLI_M04	Illuminated pushbutton	150cm	Pin1-2: NO, Pin3: X2(LED-), Pin4:
X1(LED+24V) STLO_M05	Illuminated pushbutton	25cm	Pin1-2: NC, Pin3: X2(LED-), Pin4:
X1(LED+24V) STLO_M06	Illuminated pushbutton	150cm	Pin1-2: NC, Pin3: X2(LED-), Pin4:
X1(LED+24V) SWAOI_M01	Selector switch 2 pos. 1 inverter	25cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S
SWAOI_M02	Selector switch 2 pos. 1 inverter	150cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S
SWBOI_M01	Selector switch 3 pos. 1 inverter	25cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S
SWBOI_M02	Selector switch 3 pos. 1 inverter	150cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S
SWALI_M03	Illuminated selector switch	25cm	Pin1-2: NO, Pin3: X2(LED-), Pin4:
X1(LED+24V) SWALI_M04	Illuminated selector switch	150cm	Pin1-2: NO, Pin3: X2(LED-), Pin4:
X1(LED+24V) SWALO_M05	Illuminated selector switch	25cm	Pin1-2: NC, Pin3: X2(LED-), Pin4:
X1(LED+24V) SWALO_M06	Illuminated selector switch	150cm	Pin1-2: NC, Pin3: X2(LED-), Pin4:
X1(LED+24V) SSSA15OI_M01	Key switch 2 pos. 1 inverter	25cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S
SSSA15OI_M02	Key switch 2 pos. 1 inverter	150cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S
SSSA12OI_M01	Key switch 3 pos. 1 inverter	25cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S
SSSA12OI_M02	Key switch 3 pos. 1 inverter	150cm	Pin1: COM, Pin2: NC, Pin3: n.c. Pin4: S

Data acc. to UL508

Ratings:

max. 30V AC/DC

Actuators

Control Units

→ Actuators

Mount/Waiver Units

Bus Technology

Enclosures

Terminal Blocks

Panel Switches

Limit Switches

Type Drives

SHORTRON-M12

Ø 22.3 mm

made in germany



Pushbutton Heads

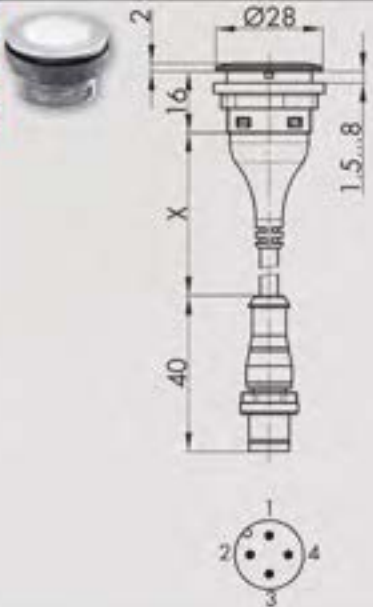
Lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

Type



Illuminated Pushbutton

0 1 2

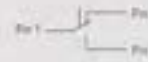
PIN 1/PIN 2



PIN 1/PIN 4



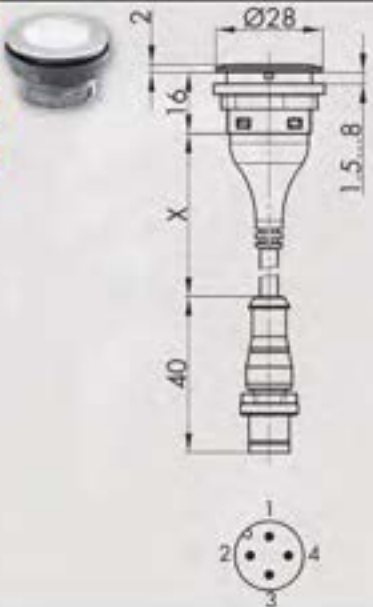
PIN 3 n.C.



front bezel silver-coloured
 cable length (X) 250±30 mm
 cable length (X) 1500 ±50 mm



STOI_M01
STOI_M02



Illuminated Pushbutton

incl. white LED

0 1 2

PIN 1/PIN 2



front bezel silver-coloured
 cable length (X) 250±30 mm
 cable length (X) 1500 ±50 mm



STUI_M03
STUI_M04

Pushbutton Heads

Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
<p>IP65 IP67 E-Stop Light Pushbutton</p> <p>Dimensions: 2, 1.6, Ø28, 1.5...8, X, 40</p> <p>Terminal Block: PIN 1, PIN 2, PIN 4(X), PIN 3 (X)</p>	<p>Illuminated Pushbutton</p> <p>PIN 1/PIN 2 </p> <p>front bezel silver-coloured</p> <p>cable length (X) 250±30 mm</p> <p>cable length (X) 1500 ±50 mm</p> <p>Types: STLO_M05 STLO_M06</p>		
	<p>Flat Lens, transparent</p> <p>colour</p>	<p>blue </p> <p>yellow </p> <p>green </p> <p>clear </p> <p>red </p> <p>opalwhite </p>	<p>T22RRBL</p> <p>T22RRGB</p> <p>T22RRGN</p> <p>T22RRKL</p> <p>T22RRRT</p> <p>T22RRWS</p>
	<p>High Lens, transparent</p> <p>colour</p>	<p>blue </p> <p>yellow </p> <p>green </p> <p>clear </p> <p>red </p> <p>opalwhite </p>	<p>T22HRRBL</p> <p>T22HRRGB</p> <p>T22HRRGN</p> <p>T22HRRKL</p> <p>T22HRRRT</p> <p>T22HRRWS</p>
	<p>Flat Lens, non-transparent</p> <p>colour</p>	<p>blue </p> <p>yellow </p> <p>green </p> <p>black </p> <p>red </p> <p>white </p>	<p>T22RRGBL</p> <p>T22RRGGB</p> <p>T22RRGGN</p> <p>T22RRGSW</p> <p>T22RRGRT</p> <p>T22RRGWS</p>

Actual I/O

Control Units

→ Actuators

Mounting Hubs

Bus Technology

Enclosures

Terminal Blocks

Push Switches

Limit Switches

Type Index

SHORTRON-M12

Ø 22.3 mm

made in germany

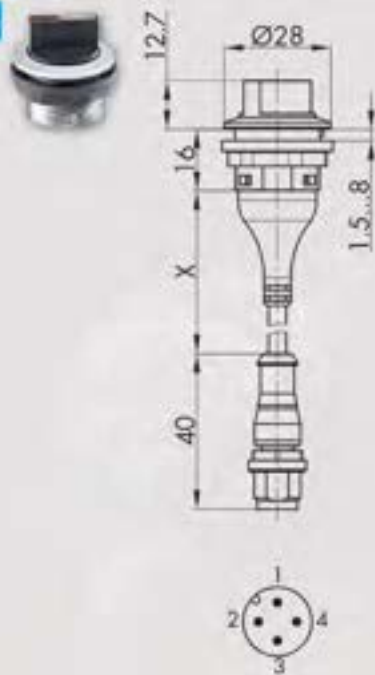


Accessories for Actuators Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
		Blank Nameplate	BSRRU
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSRR...
		Nameplate with special imprint according to customer's specification	BSRRB

W45



Selector Switch, maintained

PIN 1/PIN 2 PIN 1/PIN 4 PIN 3 n.c.	 	
front bezel cable length (X) cable length (X)	silver-coloured 250±30 mm 1500 ±50 mm	 SWAOI_M01 SWAOI_M02
PIN 1/PIN 2 PIN 1/PIN 4 PIN 3 n.c.	 	
front bezel cable length (X) cable length (X)	silver-coloured 250±30 mm 1500 ±50 mm	 SWBOI_M01 SWBOI_M02
PIN 1/PIN 2 PIN 1/PIN 4 PIN 3 n.c.	 	
front bezel cable length (X) cable length (X)	silver-coloured 250±30 mm 1500 ±50 mm	 SWBII_M07 SWBII_M08



Selector Switches (momentary/maintained)

About Us

Control Units
→ Actuators

Panel Mount Jacks

Bus Technology



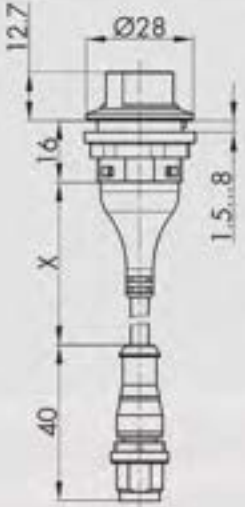




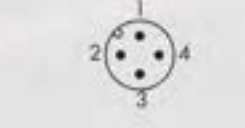
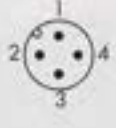
Enclosures

Terminal Blocks

Push Switches

Limit Switches

Type Index

Illustration	Dimensions	Description	Type
  	<p>Selector Switch, maintained incl. white LED</p> <p>PIN 1/PIN 2 </p> <p>front bezel silver-coloured cable length (X) 250±30 mm cable length (X) 1500 ±50 mm</p>	  <p>SWALU_M03 SWALU_M04</p>	
			  

SHORTRON-M12

Ø 22.3 mm

made in germany



Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration

Dimensions

Description

Type

#65



Key-operated Switch, maintained
including two keys
other lock types on request

PIN 1/PIN 2

PIN 1/PIN 4

PIN 3 n.c.

front bezel

cable length (X)

cable length (X)



S55A150I_M01
S55A150I_M02

PIN 1/PIN 2

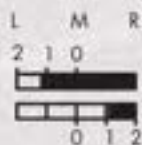
PIN 1/PIN 4

PIN 3 n.c.

front bezel

cable length (X)

cable length (X)



S55A120I_M01
S55A120I_M02

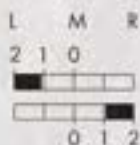
PIN 1/PIN 2

PIN 1/PIN 4

PIN 3 n.c.











front bezel

cable length (X)



S55A12II_M07
S55A12II_M08

Accessories for Actuators

Illustration	Dimensions	Description	Type
		Mounting Tool with torque limitation for the series QUARTEX-R-(JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-Q-JUWEL series	S22
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
	25.0 42 Ø30 2.7	External Nameplate Holder for outside marking of the actuators of the RONTRON-R-JUWEL and SHORTRON series, accepts self-adhesive nameplates, mountable from the front colour transparent	RRJABT
		Self-adhesive Nameplate laser-printed Inscription according to customer's specification Dimensions: 22 x 11 mm	BZ16L
		Self-adhesive Nameplate blank Dimensions: 22 x 11 mm	BZ16U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 22 x 11 mm	BZ16B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22_548
		Universal Lens Remover	USK
		Sealing Cap made of silicone rubber, down to -50°C	TK285

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Thief Alarm Jacks

Bus Technology

Embosses

Terminal Blocks

Push Switches

Limit Switches

Type Index



Front dimensions: \varnothing 28 mm
Panel cut-out: \varnothing 22.3 mm
Front bezel height: 2.6 mm
Travel: 3 mm



RX-JUWEL

Product configurator



Overview RX-Juwel series



01 Pushbutton Heads	page 190	07 Pilot Lights	page 195
02 Emergency Stop Buttons	page 191	Contact Blocks / Lampholders	page 408
03 Knob Set for Potentiometers	page 192		
04 Selector Heads	page 192		
05 Key Actuators	page 193		
06 Acoustic Buzzers	page 193		

Housing Colour

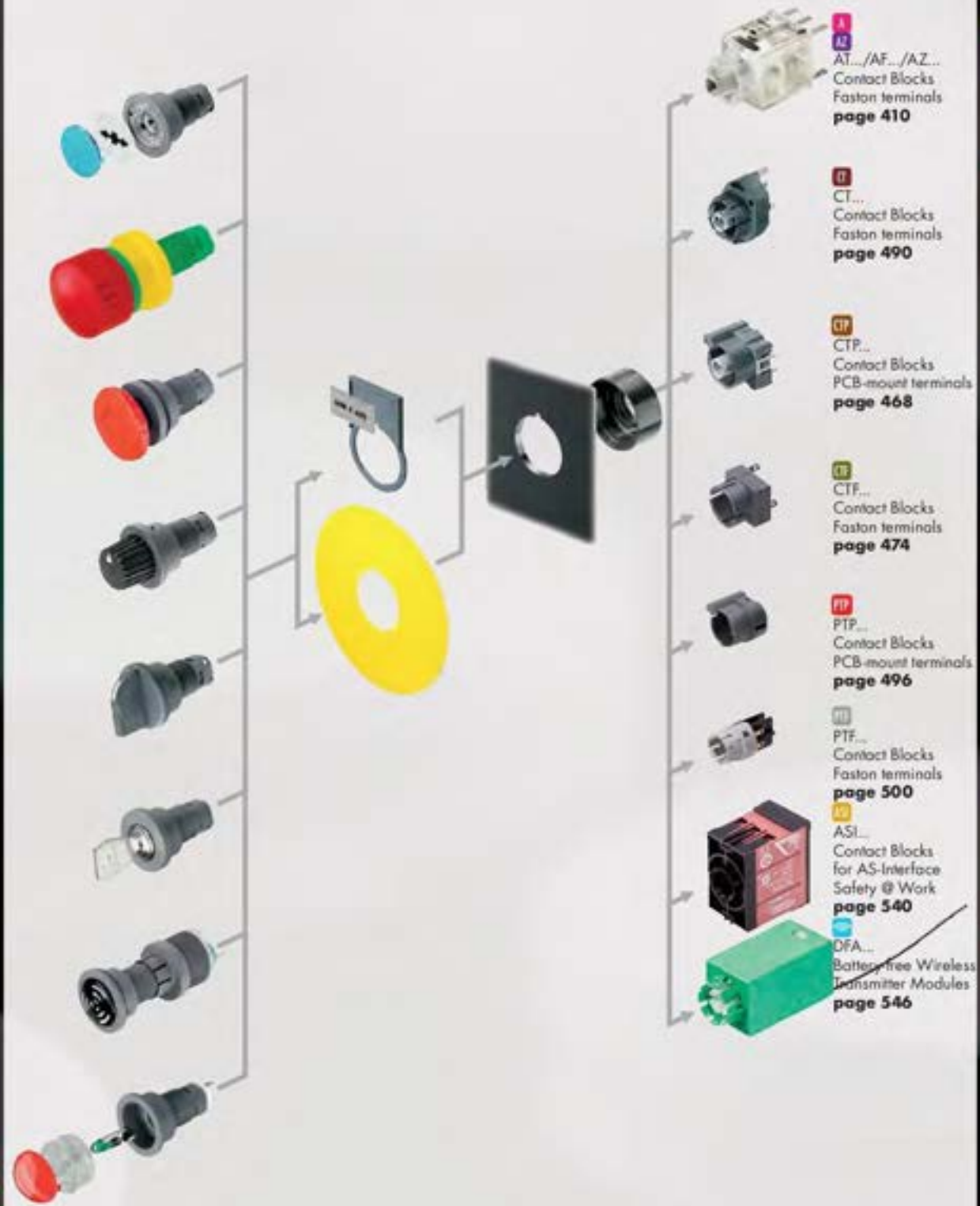


degree of protection

operating travel

illuminating option

labeling option



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Control Units
→ Actuators

Panel Mount Units

Bus Technology

Enclosures

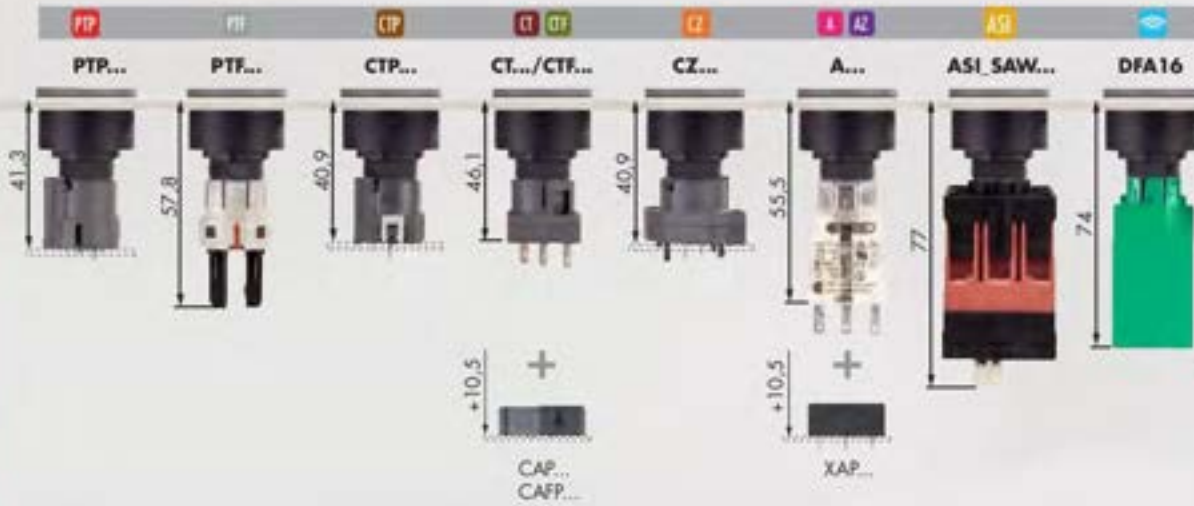
Terminal Blocks

Pedal Switches

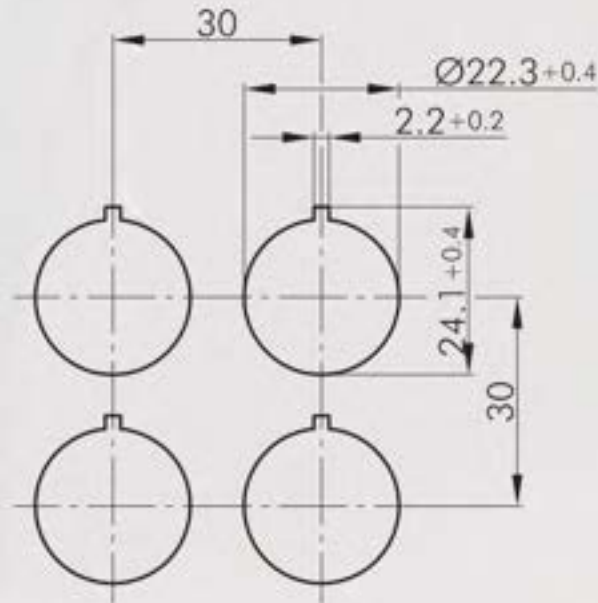
Limit Switches

Type Index

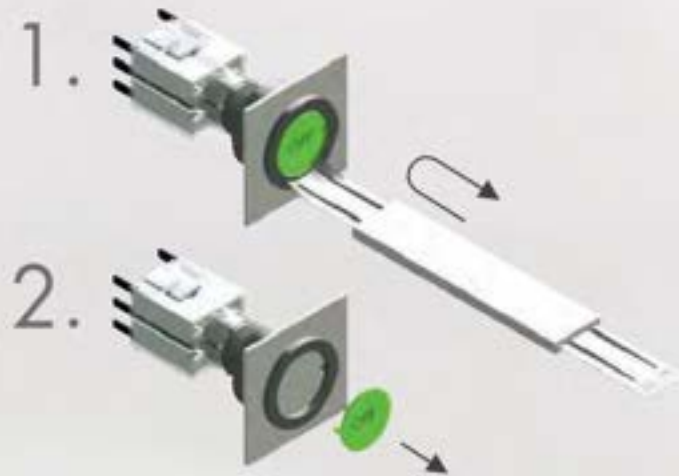
Mounting Depth Dimensions



Cutout Dimensions



Mounting and Service Instructions



About Us

Control Units
→ Actuators

Panel Mount Jacks

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Terminal Blocks

Panel Switches

Panel Switches

Type Index

Ø 22.3 mm

Pushbutton Heads

Lenses and nameplates to be ordered separately

- Actuators
- Control Lines
- Panel Mount Tools
- Bus Technology
- Endusers
- Terminal Blocks
- Field Switches
- Line Switches
- Type Index

Illustration	Dimensions	Description	Type																		
		Pushbutton Head suitable contact blocks front bezel charcoal	RXJT																		
		Transparent Lens colour	<table border="0"> <tr><td>blue</td><td></td><td>T20DBL</td></tr> <tr><td>yellow</td><td></td><td>T20DGB</td></tr> <tr><td>green</td><td></td><td>T20DGN</td></tr> <tr><td>clear</td><td></td><td>T20DKL</td></tr> <tr><td>red</td><td></td><td>T20DRT</td></tr> <tr><td>opalwhite</td><td></td><td>T20DWS</td></tr> </table>	blue		T20DBL	yellow		T20DGB	green		T20DGN	clear		T20DKL	red		T20DRT	opalwhite		T20DWS
blue		T20DBL																			
yellow		T20DGB																			
green		T20DGN																			
clear		T20DKL																			
red		T20DRT																			
opalwhite		T20DWS																			
		Concave Lens, non-transparent used in pushbuttons without inscription and illumination colour	<table border="0"> <tr><td>blue</td><td></td><td>T20DGBL</td></tr> <tr><td>yellow</td><td></td><td>T20DGGB</td></tr> <tr><td>green</td><td></td><td>T20DGGN</td></tr> <tr><td>black</td><td></td><td>T20DGSW</td></tr> <tr><td>red</td><td></td><td>T20DGRT</td></tr> <tr><td>white</td><td></td><td>T20DGWS</td></tr> </table>	blue		T20DGBL	yellow		T20DGGB	green		T20DGGN	black		T20DGSW	red		T20DGRT	white		T20DGWS
blue		T20DGBL																			
yellow		T20DGGB																			
green		T20DGGN																			
black		T20DGSW																			
red		T20DGRT																			
white		T20DGWS																			
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSRX...																		
		Nameplate with special imprint according to customer's specification	BSRXB																		
		Blank Nameplate	BSRXU																		

Emergency Stops Mushroom Heads

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Control Units
→ Actuators

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Enclosures

Terminal Blocks

Pedal Switches

Limit Switches

Type Index

Illustration

Dimensions

Description

Type

IP67



Sealing Cap

made of silicone rubber, down to -50°C

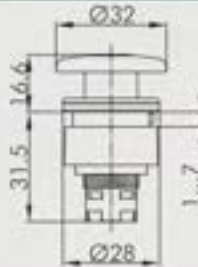
TK285



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

IP65



Mushroom Head, momentary

switching position indicator No
anti-lock collar No

suitable contact blocks

BUS A AZ CT CT CT CT CT

front bezel

charcoal

RXJS

RX-JUWEL

Ø 22.3 mm

made in germany



**Knob Set for potentiometers
Selector Switches (momentary/maintained)**

⊥ = Switching position
> = Spring return

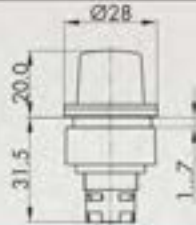
Illustration

Dimensions

Description

Type

IP65



Knob Set for potentiometers

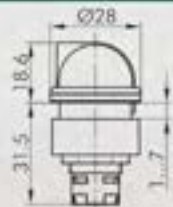
for potentiometers of 6 mm shaft dia. and thread M10 x 0.75.
Delivery without potentiometer.

Shaft length: approx. 50 mm ± 4 mm
knob colour black
front bezel charcoal



RXJR

IP65



Selector Head, maintained

suitable contact blocks

A AZ C1 C2 C3 C4 C5

front bezel charcoal



RXJWA

suitable contact blocks

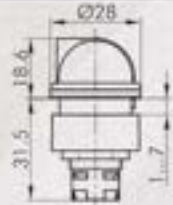
A AZ

front bezel charcoal



RXJWB

IP65



Selector Head, left maintained, right momentary

suitable contact blocks

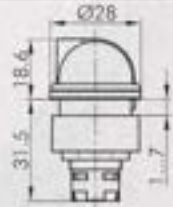
A AZ

front bezel charcoal



RXJWC

IP65



Selector Head, momentary

suitable contact blocks

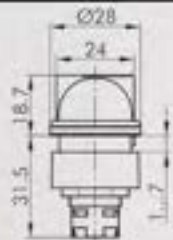
A AZ

front bezel charcoal



RXJSTB

IP65



**Illuminated Selector Head, maintained
(two-piece plunger)**

suitable contact blocks

AZ C1 C2

front bezel charcoal




RXJZWBL_KL


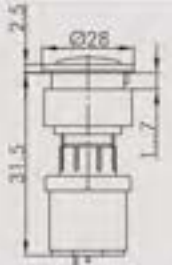

Key Switches (momentary/maintained)
Buzzers

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type		
		Key Actuator, maintained including two keys other lock types on request suitable contact blocks			
		suitable contact blocks front bezel charcoal	      	  	RXJ55A12E
		suitable contact blocks front bezel charcoal	   	  	RXJ55A13E
		suitable contact blocks front bezel charcoal	   	  	RXJ55A14E
		suitable contact blocks front bezel charcoal	   	  	RXJ55A15E
		suitable contact blocks front bezel charcoal	   	  	RXJ55A17E
		suitable contact blocks front bezel charcoal	   	  	RXJ55A18E

		Key Actuator, maintained (two-piece plunger) including two keys other lock types on request suitable contact blocks			
		suitable contact blocks front bezel charcoal	   	  	RXJZ55A12E
		suitable contact blocks front bezel charcoal	   	  	RXJZ55A13E

	Spare Key (standard) standard spare key, specify key number for special locks	E5E845
---	---	---------------

		Buzzer operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 87 db (10cm, 24V) max. 85 db (10cm, 12V)	
		operating temperature: -20°C ... 60°C front bezel charcoal	

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Final/Mixer Locks

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Limit Switches

Type Indicators

Buzzers

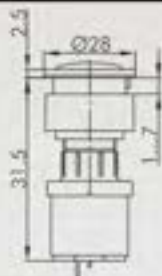
Illustration

Dimensions

Description

Type

IP65

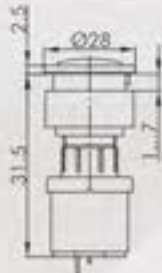


Interval Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: max. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 87 db (10cm, 24V)
 max. 85 db (10cm, 12V)
 interval: 1 s
 operating temperature: -20°C ... 60°C
 front bezel: charcoal

RXJNSG+SGL-24V

IP65

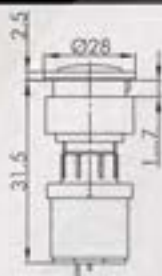


Illuminated Buzzer

Operating voltage: 12 ... 24V AC/DC
 Operating current: approx. 30mA
 Signal frequency: 3.5 +/- 0.5 kHz
 Volume: max. 87 db (10cm, 24V)
 max. 85 db (10cm, 12V)
 Operating temperature: -20°C ... 60°C
 front bezel: charcoal

RXJNSGL+SGLR-24V

IP65



Illuminated Interval Buzzer

Operating voltage: 12 ... 24V AC/DC
 Operating current: approx. 30mA
 Signal frequency: 3.5 +/- 0.5 kHz
 Volume: max. 87 db (10cm, 24V)
 max. 85 db (10cm, 12V)
 Interval: 1s
 Operating temperature: -20°C ... 60°C
 front bezel: charcoal

RXJNSGL+SGLR-24V



Faston Clamp 2.8 x 0.8 mm with snap-in pin

FH2,8

Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8



Insulating Case

IH2,8

for Faston clamp FH2,8, slip on from the front




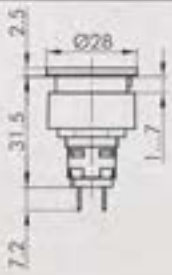


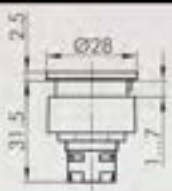









































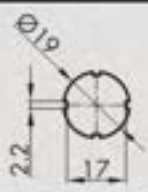
Double Faston

FD2,8

for the connection of 2 Faston clamps FH2.8

Pilot Lights

Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type																		
 <p>IP65 Sun icon Light icon</p>	 <p>2.5 Ø28 31.5 7.2 1.7</p>	<p>Pilot Light with Faston terminals 2.8x0.8 mm T5.5K socket</p> <p>front bezel charcoal </p>	RXJLS																		
 <p>IP65 Sun icon Light icon</p>	 <p>2.5 Ø28 31.5 1.7</p>	<p>Pilot Light Head suitable lampholders</p> <p>front bezel charcoal </p>	RXJN																		
		<p>Convex Lens</p> <p>colour</p> <table border="0"> <tr><td>blue</td><td></td><td>KF20BL</td></tr> <tr><td>yellow</td><td></td><td>KF20GB</td></tr> <tr><td>green</td><td></td><td>KF20GN</td></tr> <tr><td>clear</td><td></td><td>KF20KL</td></tr> <tr><td>red</td><td></td><td>KF20RT</td></tr> <tr><td>white</td><td></td><td>KF20WS</td></tr> </table>	blue		KF20BL	yellow		KF20GB	green		KF20GN	clear		KF20KL	red		KF20RT	white		KF20WS	
blue		KF20BL																			
yellow		KF20GB																			
green		KF20GN																			
clear		KF20KL																			
red		KF20RT																			
white		KF20WS																			
		<p>Hemispherical Lens</p> <p>colour</p> <table border="0"> <tr><td>blue</td><td></td><td>KH20BL</td></tr> <tr><td>yellow</td><td></td><td>KH20GB</td></tr> <tr><td>green</td><td></td><td>KH20GN</td></tr> <tr><td>clear</td><td></td><td>KH20KL</td></tr> <tr><td>red</td><td></td><td>KH20RT</td></tr> <tr><td>opalwhite</td><td></td><td>KH20WS</td></tr> </table>	blue		KH20BL	yellow		KH20GB	green		KH20GN	clear		KH20KL	red		KH20RT	opalwhite		KH20WS	
blue		KH20BL																			
yellow		KH20GB																			
green		KH20GN																			
clear		KH20KL																			
red		KH20RT																			
opalwhite		KH20WS																			
	 <p>Ø19 2.2 17</p>	<p>Nameplate with standard imprint</p> <p>Please specify index number (see nameplates on pages 404)</p>	BSRX...																		
	 <p>Ø19 2.2 17</p>	<p>Nameplate with special imprint according to customer's specification</p>	BSRXB																		

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Push Switches



Limit Switches

Type Index

Accessories for Actuators

Illustration	Dimensions	Description	Type
		Blank Nameplate	BSRXU
		Hexagonal Mounting Tool with torque limitation, for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-RJUWEL, RONTRON-QJUWEL, QUARTRON, QUARTRON-JUWEL, RXJUWEL	S16
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External Nameplate Holder for outside marking of the actuators of the RXJUWEL series, accepts self-adhesive nameplates colour charcoal	RXJABT
		Self-adhesive Nameplate laser-printed Inscription according to customer's specification Dimensions: 22 x 11 mm	BZ16L
		Self-adhesive Nameplate blank Dimensions: 22 x 11 mm	BZ16U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 22 x 11 mm	BZ168...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS 22
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS 22 548

Accessories for Actuators

Illustration	Dimensions	Description	Type
		Universal Lens Remover	USK
		Round Dummy to close unused mounting apertures colour charcoal	BVRXJ

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Control Units
↑

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Profil Mount Jocks

Bus Technology

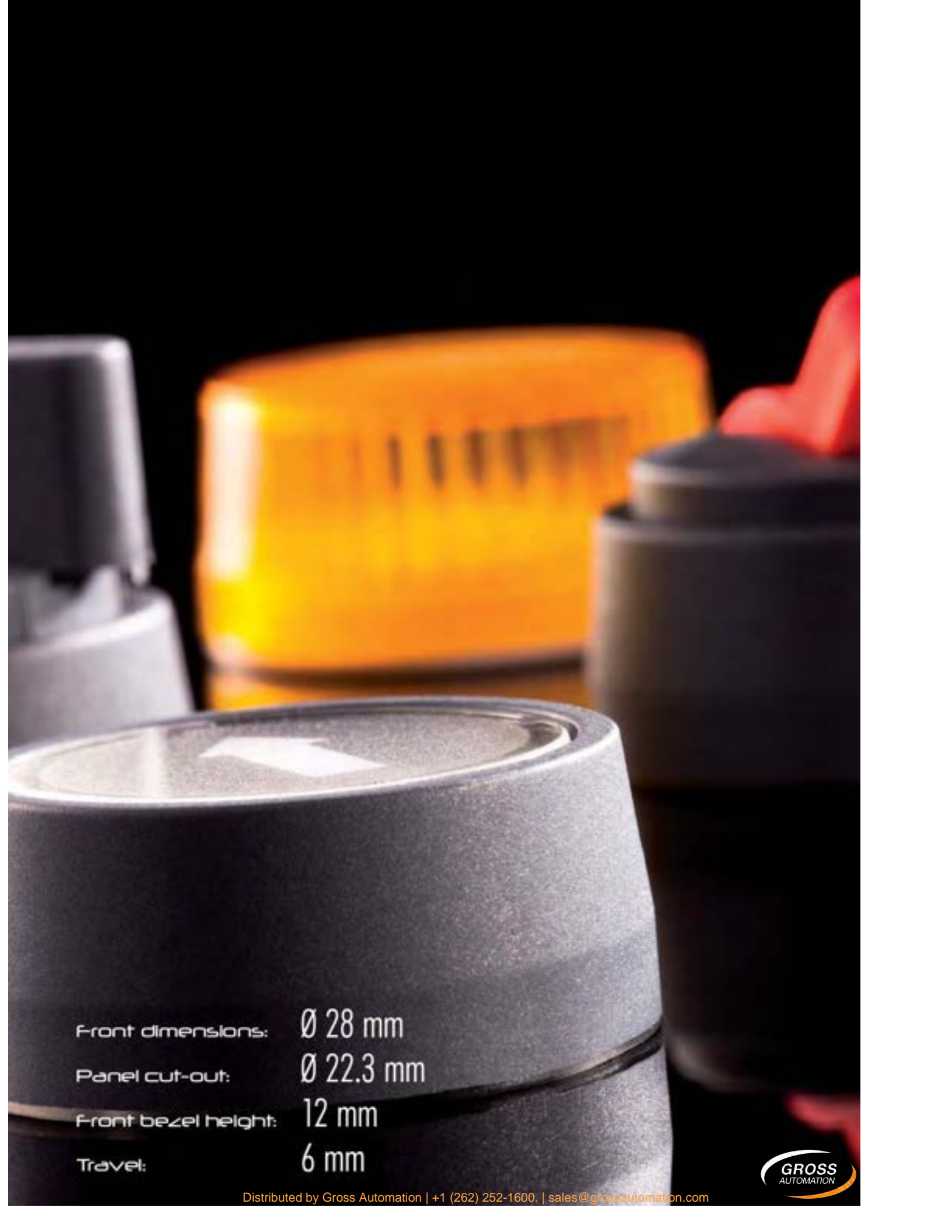
Enclosures

Terminal Blocks

Pedal Switches

Limit Switches

Type Index



Front dimensions: Ø 28 mm
Panel cut-out: Ø 22.3 mm
Front bezel height: 12 mm
Travel: 6 mm





RONDEX

Product configurator



Overview RONDEX series



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02 Emergency Stop Buttons	page 206	08 Acoustic Buzzers	page 210
03 Mushroom Heads	page 206	09 Pilot Lights	page 211
04 Knob Set for Rotary Switch / Potentiometer	page 207		
05 Selector Heads	page 207		
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Housing Colour



degree of protection

operating travel

illuminating option

labeling option



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DT...
Modular Contact Blocks
spring-clamp connection
page 528

DS
DS...
Modular Contact Blocks
push-in connection
page 522

MT
MT...
Modular Contact Blocks
screw connection
page 514

ET
ET...
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page 508

AS
ASL...
Contact Blocks
for AS-Interface
Safety @ Work
page 540

DFA
DFA...
Battery-free Wireless
Transmitter Modules
page 546

When combining the DT... contact blocks with key, selector and toggle heads,
please add ..._497 to the actuator type reference!

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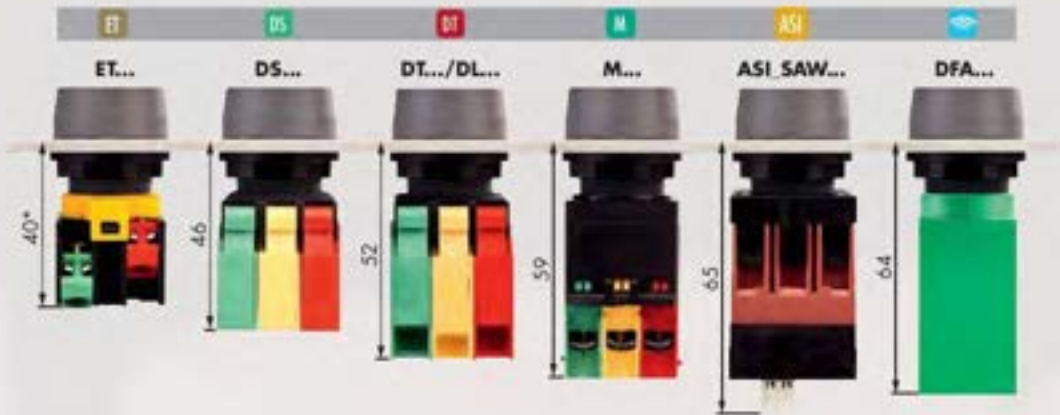
Terminal Blocks

Push Switches

Limit Switches

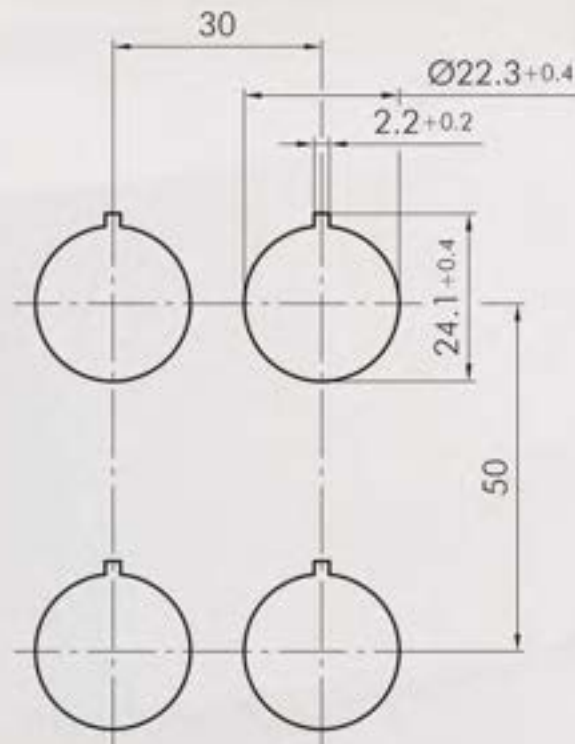
Type Index

Mounting Depth Dimensions

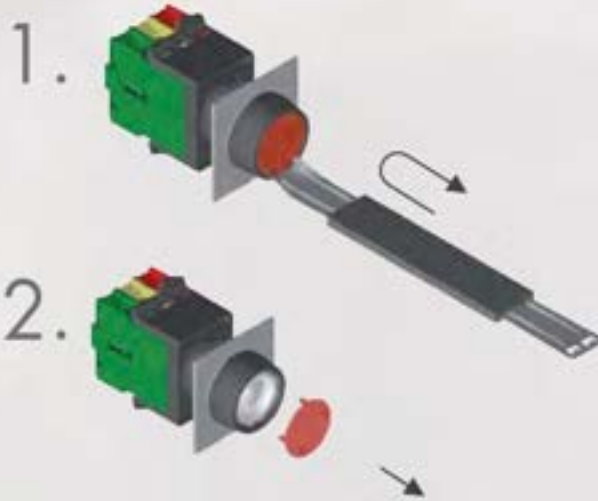


* ETR2 61mm, ETLR 50mm, ETLR2 70mm, EL9R 36mm

Cutout Dimensions



Mounting and Service Instructions



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Ø 22.3 mm

Pushbutton Heads

Lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

Type



Pushbutton Head

suitable contact blocks



front bezel

charcoal



RT



Flat Lens, transparent

colour

blue



TG22BL

yellow



TG22GB

green



TG22GN

clear



TG22KL

red



TG22RT

opalwhite



TG22WS



Flat Lens, non-transparent

used in pushbuttons without inscription and illumination

colour

blue



TG22GBL

yellow



TG22GGB

green



TG22GGN

black



TG22G5W

red



TG22GRT

white



TG22GWS



High Lens, transparent

colour

blue



KH23BL

yellow



KH23GB

green



KH23GN

clear



KH23KL

red



KH23RT

opalwhite



KH23WS



High Lens, non-transparent

used in pushbuttons without inscription and illumination

colour

blue



TG22GHL

yellow



TG22GHGB

green



TG22GHGN

black



TG22GH5W

red

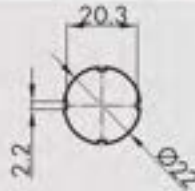


TG22GHRT

white



TG22GHWS



Nameplate with standard imprint

please specify index number (see nameplates on pages 404)

BSK...

Pushbutton Heads

Illustration	Dimensions	Description	Type
	20.3 2.2	Nameplate with special imprint according to customer's specification	BSKB
	20.3 2.2	Blank Nameplate	BSKU
		Membrane Pushbutton Head with tightly closed, transparent silicone cap, down to -50° C suitable contact blocks: front bezel charcoal	RTM
		Flat Lens, transparent colour	
		blue	T20FBL
		yellow	T20FGB
		green	T20FGN
		clear	T20FKL
		red	T20FRT
		opalwhite	T20FWS
	19 2.2	Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSRX...
	19 2.2	Nameplate with special imprint according to customer's specification	BSRXB
	19 2.2	Blank Nameplate	BSRXU

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Pushbutton Heads
Emergency Stops
Mushroom Heads

Illustration

Dimensions

Description

Type

IP67

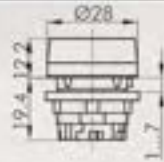


Sealing Cap

made of silicone rubber, down to -50°C

TK295

IP65



Economy Pushbutton Head

no inscription, no illumination

suitable contact blocks



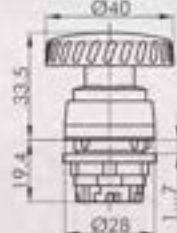
push-cap	green		
front bezel	charcoal		RTG
push-cap	red		RTR
push-cap	black		RTS
push-cap	white		RTW
push-cap	yellow		RTY
push-cap	blue		RTB



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

IP65



Mushroom Head, latch-type

other mushroom colours on request, must be mounted onto yellow background!

foolproof	No
switching position indicator	No
anti-lock collar	No
release	twist
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850

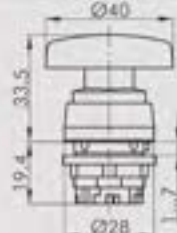


suitable contact blocks



mushroom head	red		
front bezel	charcoal		RV

IP65



Mushroom Head, momentary

other mushroom colours on request

switching position indicator	No
anti-lock collar	No

suitable contact blocks



mushroom head	red		
front bezel	charcoal		RS

suitable contact blocks



mushroom head	black		RS_SW.PILZ
---------------	-------	--	------------

Knob Set for rotary switches
Knob Set for potentiometers
Selector Switches (momentary/maintained)

I = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
		Knob Set for rotary switches, without inscription for Kraus & Naimer types CG4 and CA4 other versions on request front bezel charcoal	 RDA
		Knob Set for potentiometers for potentiometers of 6 mm shaft dia. and thread M10 x 0.75. Delivery without potentiometer. Shaft length: approx. 50 mm ± 2 mm incl. fastening thread front bezel charcoal	 RR
		Selector Head, maintained suitable contact blocks front bezel charcoal	 RWA RWB
		Selector Head, momentary suitable contact blocks front bezel charcoal	 RSTA RSTB
		Selector Head, left maintained, right momentary suitable contact blocks front bezel charcoal	 RWC

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RONDEX

Ø 22.3 mm

made in germany



Selector Switches (momentary/maintained) Toggle Heads

I = Switching position
> = Spring return

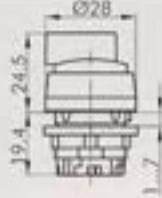
Illustration

Dimensions

Description

Type

IP65



Illuminated Selector Head, maintained

inclusive four small, transparent colour plates in red, yellow, green and blue

suitable contact blocks



front bezel

charcoal



RWAL

suitable contact blocks



front bezel

charcoal



RWBL

IP65



Illuminated Selector Head, left maintained, right momentary

inclusive four small, transparent colour plates in red, yellow, green and blue

suitable contact blocks



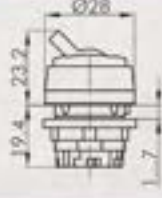
front bezel

charcoal



RWCL

IP65



Toggle Head

red toggle (other colours on request)

suitable contact blocks



knob colour

red



RK

front bezel

charcoal



Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type	
		Key Actuator, maintained including two keys other lock types on request suitable contact blocks		
		suitable contact blocks DT ET N		RSSA12E
		front bezel charcoal		RSSA13E
		suitable contact blocks DT ET N		RSSA14E
		front bezel charcoal		RSSA15E
		suitable contact blocks DT ET N		RSSA17E
		front bezel charcoal		RSSA18E
		front bezel charcoal		RSSA18E
		Key Actuator, momentary suitable contact blocks		
		suitable contact blocks DT ET N		RSSA23E
		front bezel charcoal		RSSA27E
		Key Actuator, left maintained, right momentary suitable contact blocks		
		suitable contact blocks DT ET N		RSSA24E
		Spare Key (standard) standard spare key, specify key number for special locks	ESE845	

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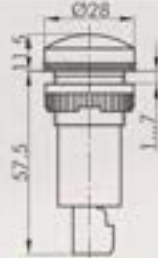
Buzzers

Illustration

Dimensions

Description

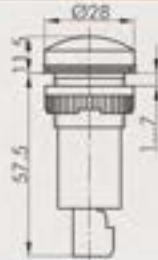
Type



Buzzer 230V

Operating voltage: 230V~
 Volume: 80 dB at 10 cm distance
 Mounting depth: 60 mm
 max. ambient temperature: -20°C up to 50°C
 Service life: > 5000 h
 front bezel: black

R5G-230V












































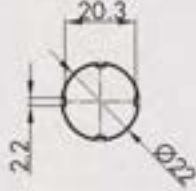

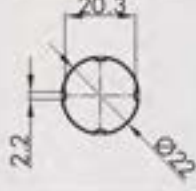

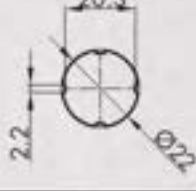
Buzzer 24V

Operating voltage: 18 - 30V AC/DC
 Volume: 80 dB at 10 cm distance
 Mounting depth: 60 mm
 max. ambient temperature: -20°C up to 50°C
 Service life: > 5000 h
 front bezel: black

R5G-24V

Pilot Lights

Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type												
 <p>IP65</p>		Pilot Light Head suitable lampholders front bezel charcoal	RN												
		Convex Lens colour <table border="0"> <tr><td>blue</td><td></td></tr> <tr><td>yellow</td><td></td></tr> <tr><td>green</td><td></td></tr> <tr><td>clear</td><td></td></tr> <tr><td>red</td><td></td></tr> <tr><td>opalwhite</td><td></td></tr> </table>	blue		yellow		green		clear		red		opalwhite		KF23BL KF23GB KF23GN KF23KL KF23RT KF23WS
blue															
yellow															
green															
clear															
red															
opalwhite															
		High Lens, transparent colour <table border="0"> <tr><td>blue</td><td></td></tr> <tr><td>yellow</td><td></td></tr> <tr><td>green</td><td></td></tr> <tr><td>clear</td><td></td></tr> <tr><td>red</td><td></td></tr> <tr><td>opalwhite</td><td></td></tr> </table>	blue		yellow		green		clear		red		opalwhite		KH23BL KH23GB KH23GN KH23KL KH23RT KH23WS
blue															
yellow															
green															
clear															
red															
opalwhite															
		Nameplate with standard imprint please specify index number (see nameplates on pages 404)	BSK...												
		Nameplate with special imprint according to customer's specification	BSKB												
		Blank Nameplate	BSKU												

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Ø 22.3 mm

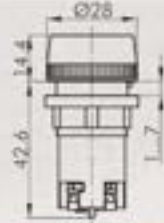
Pilot Lights

Illustration

Dimensions

Description

Type



Pilot Light with screw connections
BA9s socket

RL9G



Panoramic Lens

colour

blue



KG22BL

yellow



KG22OB

green



KG22GN

clear



KG22KL

red



KG22RT

white



KG22WS



Mega-bright LED, BA9s

with integrated bridge rectifier for 24V .. 28V AC/DC, 15.5mA
(typ. 24V)




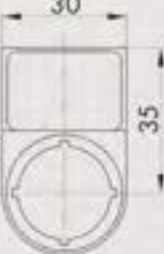











colour

white



LD9-24MW

Accessories for Actuators

Illustration	Dimensions	Description	Type
		Mounting Tool with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-R(-JUWEL), RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R(-G)-JUWEL series	S22
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External Nameplate Holder for outside marking of the actuators of the RONDEX series, accepts self-adhesive nameplates colour charcoal 	RABT
		Self-adhesive Nameplate, laser-printed Inscription according to customer's specification Dimensions: 19 x 27 mm	BZ23G
		Self-adhesive Nameplate blank Dimensions: 19 x 27 mm	BZ23U
		Self-adhesive Nameplate with standard imprint Please specify index no. [see nameplates on page 404] Dimensions: 19 x 27 mm	BZ23B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22 mm colour yellow 	NAS_22
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm colour yellow 	NAS_22_548
		Universal Lens Remover	USK
		Dummy to close unused mounting apertures colour charcoal 	BVR22

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Front dimensions: Ø 28 mm
Panel cut-out: Ø 22.3 mm
Front bezel height: 12 mm
Travel: 6 mm





RONDEX-M

Product configurator



RONDEX-M

Ø 22.3 mm

made in germany



Overview RONDEX-M series



01 Pushbutton Heads	page 220	07 Key Actuators	page 225
02 Emergency Stop Heads	page 222	08 Acoustic Buzzers	page 226
03 Mushroom Heads	page 222	09 Pilot Lights	page 227
04 Knob Set for Rotary Switches/Potentiometers	page 223		
05 Selector Heads	page 223		
06 Toggle Heads	page 224		
		Contact Blocks / Lampholders	page 408

Housing Colour



degree of protection

operating travel

illuminating option

labeling option



DT
DT...
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DS...
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ASI
ASI...
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DFA...
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When combining the DT... contact blocks with key, selector and toggle heads, please add ..._497 to the actuator type reference!

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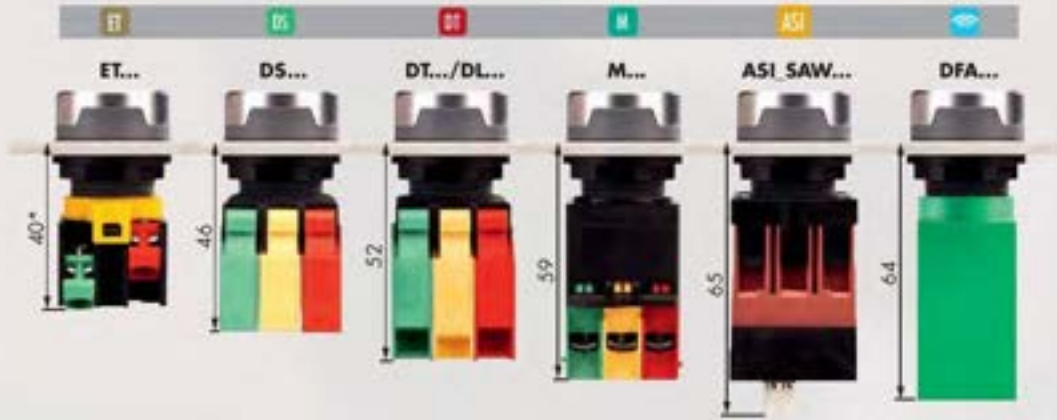
RONDEX-M

Ø 22.3 mm

made in germany

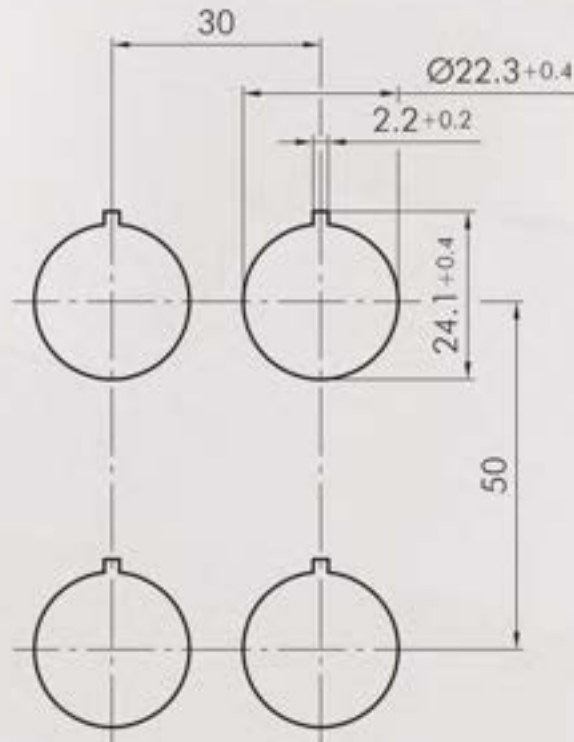


Mounting Depth Dimensions

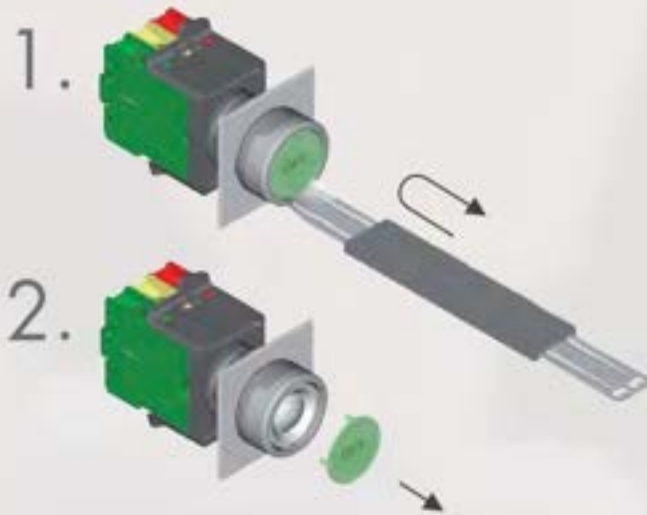


* ETR2 61mm, ETLR 50mm, ETLR2 70mm, EL9R 36mm

Cutout Dimensions



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RONDEX-M

Ø 22.3 mm

made in germany



Pushbutton Heads









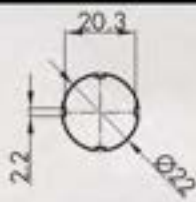
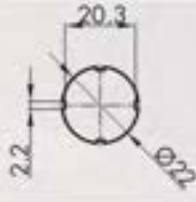

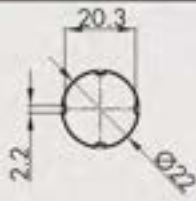















Lenses and nameplates to be ordered separately

- Actuators
- Control Units
- Panel Mount Units
- Bus Technology
- Enclosures
- Terminal Blocks
- Relay Switches
- Limit Switches
- Type Index

Illustration	Dimensions	Description	Type
<p>IP65</p>	<p>Ø28 19.4, 12.2 7</p>	Pushbutton Head suitable contact blocks front bezel metallic/charcoal	RMCT
<p>IP65</p>	<p>Ø28 19.4, 12.2 7</p>	Pushbutton Head with ring illumination incl. lens, inscription on request suitable contact blocks front bezel metallic/charcoal	RMCTLR
<p>IP65</p>	<p>Ø28 19.4, 12.2 7</p>	Pushbutton Head, maintained suitable contact blocks front bezel metallic/charcoal	RMCF
		Flat Lens, transparent colour blue yellow green clear red opalwhite	TG22BL TG22GB TG22GN TG22KL TG22RT TG22WS
		Flat Lens, non-transparent used in pushbuttons without inscription and illumination colour blue yellow green black red white	TG22GBL TG22GGB TG22GGN TG22G5W TG22GRT TG22GWS
		High Lens, transparent colour blue yellow green clear red opalwhite	KH23BL KH23GB KH23GN KH23KL KH23RT KH23WS



Pushbutton Heads

Illustration	Dimensions	Description	Type
		High Lens, non-transparent used in pushbuttons without inscription and illumination colour	
		blue  TG22GHBL yellow  TG22GHGB green  TG22GHGN black  TG22GH5W red  TG22GHRT white  TG22GHWS	
		Nameplate with standard imprint please specify index number (see nameplates on pages 40.4)	BSK...
		Nameplate with special imprint according to customer's specification	BSKB
		Blank Nameplate	BSKU
    		Membrane Pushbutton Head with tightly closed, transparent silicone cap, down to -50 C suitable contact blocks  front bezel metallic/charcoal 	RMCTM
		Flat Lens, transparent colour	
		blue  T20FBL yellow  T20FGB green  T20FGN clear  T20FKL red  T20FRT opalwhite  T20FWS	

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RONDEX-M

Ø 22.3 mm

made in germany



Emergency Stops Mushroom Heads

Illustration

Dimensions

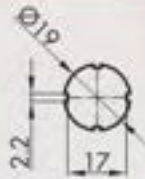
Description

Type



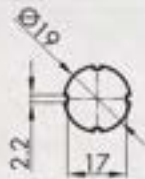
Nameplate with standard imprint
Please specify index number (see nameplates on pages 404)

BSRX...



Nameplate with special imprint
according to customer's specification

BSRXB



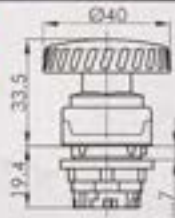
Blank Nameplate

BSRXU



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366
The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

IP65



Mushroom Head, latch-type

other mushroom colours on request, must be mounted onto yellow background!

foolproof No
switching position indicator No
anti-lock collar No
release twist
Standard EN 60947-5-1, EN 60947-5-5,
EN ISO 13850

suitable contact blocks

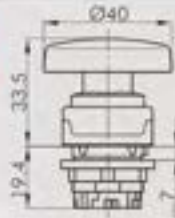


mushroom head red
front bezel metallic/charcoal



RMCV

IP65



Mushroom Head, momentary

other mushroom colours on request

switching position indicator No
anti-lock collar No

suitable contact blocks




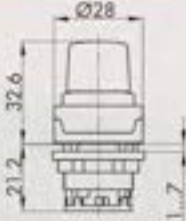




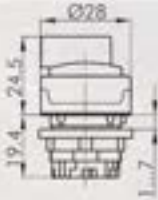


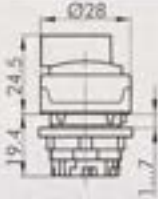

mushroom head red
front bezel metallic/charcoal



RMCS

**Knob Set for potentiometers
Selector Switches (momentary/maintained)**

⊥ = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
		<p>Knob Set for potentiometers for potentiometers of 6 mm shaft dia. and thread M10x0.75. Delivery without potentiometer. Shaft length: approx. 50 mm ± 2 incl. fastening thread</p> <p>front bezel metallic/charcoal <input type="checkbox"/></p>	RMCR
		<p>Selector Head, maintained</p> <p>suitable contact blocks ⊥ > ⊥ > ⊥ > ⊥ > ⊥</p> <p>front bezel metallic/charcoal <input type="checkbox"/></p> <p>suitable contact blocks ⊥ > ⊥ > ⊥ > ⊥</p> <p>front bezel metallic/charcoal <input type="checkbox"/></p>	 RMCWA RMCWB
		<p>Selector Head, momentary</p> <p>suitable contact blocks ⊥ > ⊥ > ⊥ > ⊥ > ⊥</p> <p>front bezel metallic/charcoal <input type="checkbox"/></p> <p>suitable contact blocks ⊥ > ⊥ > ⊥ > ⊥</p> <p>front bezel metallic/charcoal <input type="checkbox"/></p>	 RMCSTA RMCSTB
		<p>Selector Head, left maintained, right momentary</p> <p>suitable contact blocks ⊥ > ⊥ > ⊥ > ⊥</p> <p>front bezel metallic/charcoal <input type="checkbox"/></p>	 RMCWC

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RONDEX-M

Ø 22.3 mm

made in germany



Selector Switches (momentary/maintained) Toggle Heads

I = Switching position
> = Spring return

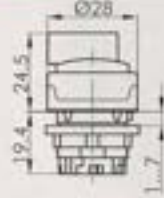
Illustration

Dimensions

Description

Type

W65



Selector Head, maintained

inclusive four small transparent colour plates in red, yellow, green and blue

suitable contact blocks

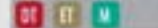


front bezel metallic/charcoal



RMCWAL

suitable contact blocks

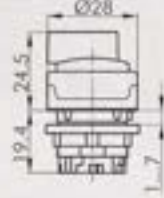


front bezel metallic/charcoal



RMCWBL

W65



Illuminated Selector Head, left maintained, right momentary

inclusive four small transparent colour plates in red, yellow, green and blue

suitable contact blocks

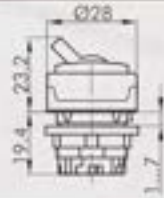


front bezel metallic/charcoal



RMCWCL

W65



Toggle Head

with red toggle (other colours on request)

suitable contact blocks



knob colour red












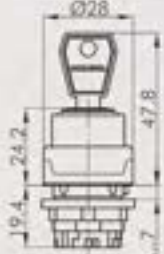



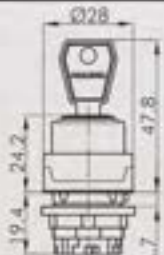


front bezel metallic/charcoal



RMCK

Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type	
		Key Actuator, maintained including two keys, other lock types on request suitable contact blocks DT ET N		
		front bezel metallic/charcoal		RMCS5A12E
		suitable contact blocks DT ET N		
		front bezel metallic/charcoal		RMCS5A13E
		suitable contact blocks DS DT ET N		
		front bezel metallic/charcoal		RMCS5A14E
		suitable contact blocks DS DT ET N		
		front bezel metallic/charcoal		RMCS5A15E
suitable contact blocks DS DT ET N				
front bezel metallic/charcoal		RMCS5A17E		
suitable contact blocks DS DT ET N				
front bezel metallic/charcoal		RMCS5A18E		
		Key Actuator, momentary suitable contact blocks DT ET N		RMCS5A23E
		suitable contact blocks DS DT ET N		
		front bezel metallic/charcoal		RMCS5A27E
		Key Actuator, left maintained, right momentary suitable contact blocks DT ET N		RMCS5A24E
		front bezel metallic/charcoal		
		Spare Key (standard) standard spare key, specify key number for special locks	E5E845	

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Ø 22.3 mm

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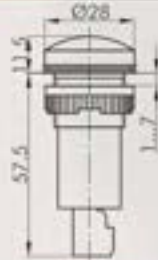
Buzzers

Illustration

Dimensions

Description

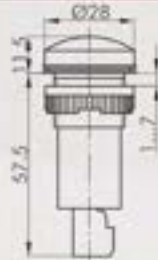
Type



Buzzer 230V

Operating voltage: 230V~
Volume: 80 dB at 10 cm distance
Mounting depth: 60 mm
max. ambient temperature: -20°C up to 50°C
Service life: > 5000 h
front bezel black

R5G-230V



Buzzer 24V

Operating voltage: 18 - 30V AC/DC
Volume: 80 dB at 10 cm distance
Mounting depth: 60 mm
max. ambient temperature: -20°C up to 50°C
Service life: > 5000 h
front bezel black

R5G-24V

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
































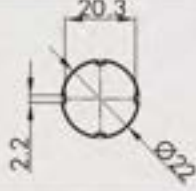

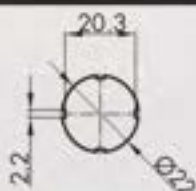

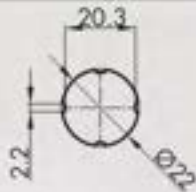
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Pilot Lights

Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type																		
		Pilot Light Head suitable lampholders front bezel metallic/charcoal	RMCN																		
		Convex Lens colour	<table border="0"> <tr><td>blue</td><td></td><td>KF23BL</td></tr> <tr><td>yellow</td><td></td><td>KF23GB</td></tr> <tr><td>green</td><td></td><td>KF23GN</td></tr> <tr><td>clear</td><td></td><td>KF23KL</td></tr> <tr><td>red</td><td></td><td>KF23RT</td></tr> <tr><td>opalwhite</td><td></td><td>KF23WS</td></tr> </table>	blue		KF23BL	yellow		KF23GB	green		KF23GN	clear		KF23KL	red		KF23RT	opalwhite		KF23WS
blue		KF23BL																			
yellow		KF23GB																			
green		KF23GN																			
clear		KF23KL																			
red		KF23RT																			
opalwhite		KF23WS																			
		High Lens, transparent colour	<table border="0"> <tr><td>blue</td><td></td><td>KH23BL</td></tr> <tr><td>yellow</td><td></td><td>KH23GB</td></tr> <tr><td>green</td><td></td><td>KH23GN</td></tr> <tr><td>clear</td><td></td><td>KH23KL</td></tr> <tr><td>red</td><td></td><td>KH23RT</td></tr> <tr><td>opalwhite</td><td></td><td>KH23WS</td></tr> </table>	blue		KH23BL	yellow		KH23GB	green		KH23GN	clear		KH23KL	red		KH23RT	opalwhite		KH23WS
blue		KH23BL																			
yellow		KH23GB																			
green		KH23GN																			
clear		KH23KL																			
red		KH23RT																			
opalwhite		KH23WS																			
		Nameplate with standard imprint please specify index number (see nameplates on pages 404)	BSK...																		
		Nameplate with special imprint according to customer's specification	BSKB																		
		Blank Nameplate	BSKU																		

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RONDEX-M

Ø 22.3 mm

made in germany





Accessories for Actuators

Illustration	Dimensions	Description	Type
		Mounting Tool with torque limitation for the series QUARTEX-R(JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/Q-JUWEL series	S22
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External Nameplate Holder for outside marking of the actuators of the RONDEX series, accepts self-adhesive nameplates colour charcoal	RABT
		Self-adhesive Nameplate, laser-printed Inscription according to customer's specification Dimensions: 19 x 27 mm	BZ23G
		Self-adhesive Nameplate blank Dimensions: 19 x 27 mm	BZ23U
		Self-adhesive Nameplate with standard imprint Please specify index no. [see nameplates on page 404] Dimensions: 19 x 27 mm	BZ23B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22_548
		Universal Lens Remover	USK

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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Dummy to close unused mounting apertures colour charcoal	BVR22
		Sealing Cap made of silicone rubber, down to -50°C	TK295

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Front dimensions: Ø 30 mm
Panel cut-out: Ø 22.3 mm
Front bezel height: 12 mm
Travel: 6 mm



DUX-Basic



DUX-Basic

Ø 22.3 mm

made in germany



Overview DUX-Basic series



01 Pushbutton Heads	page 236	07 Pilot Lights	page 249
02 Emergency Stop Buttons	page 237	Contact Blocks / Lampholders	page 408
03 Mushroom Heads	page 238		
04 Selector Heads	page 240		
05 Toggle Heads	page 244		
06 Key Actuators	page 245		

Housing colour



degree of protection

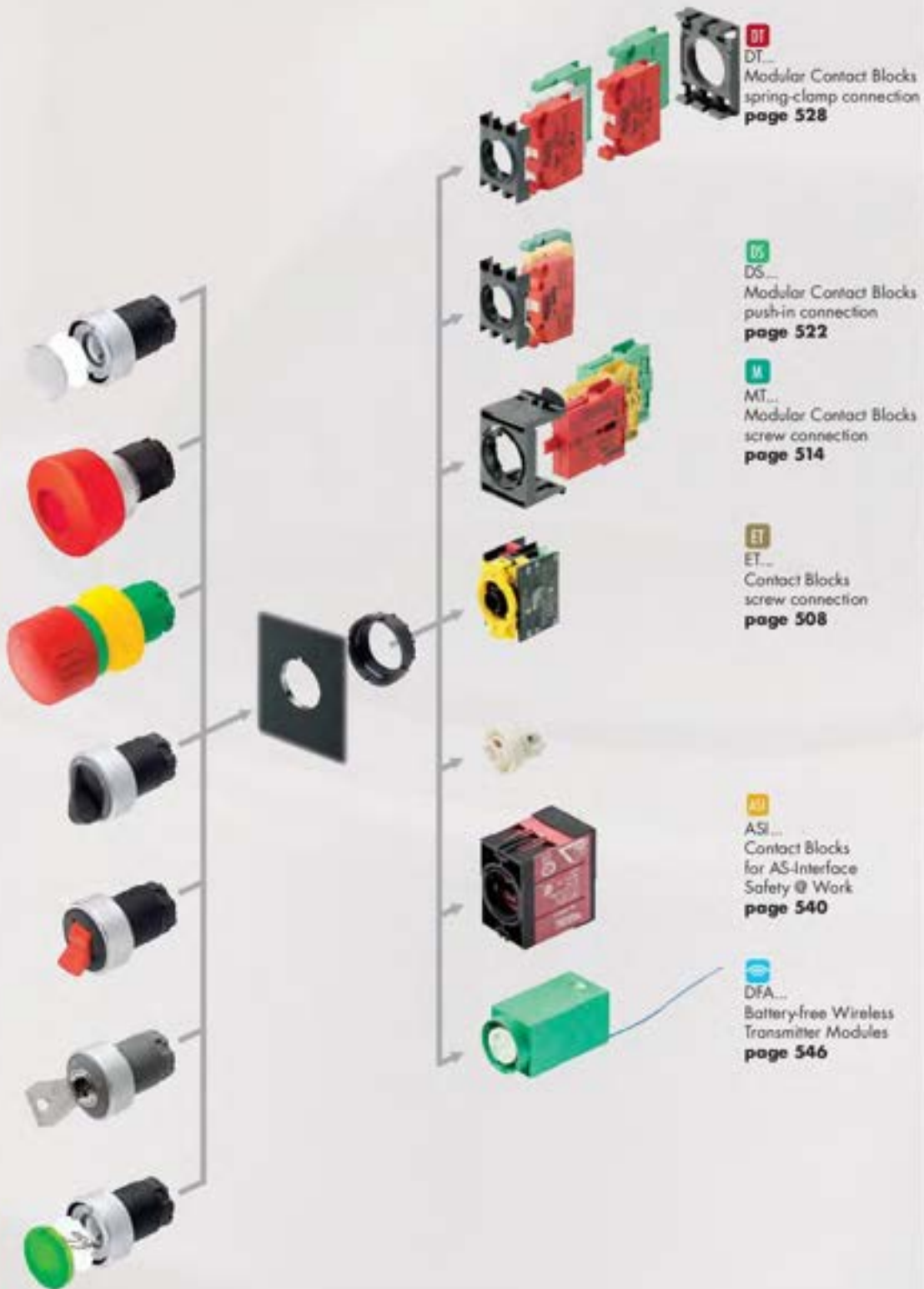
operating travel

illuminating option

labeling option



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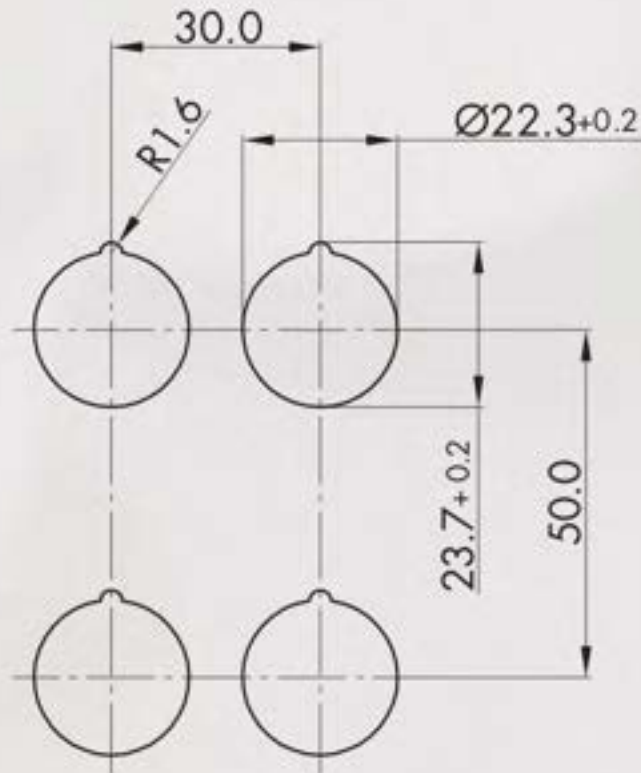
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Mounting Depth Dimensions

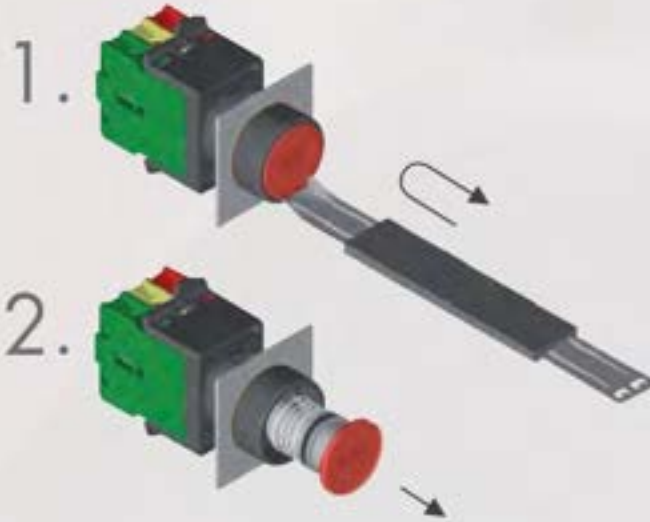


* ETR2 64mm, ETLR 53mm, ETLR2 73mm, EL9R 39mm

Cutout Dimension



Mounting and Service Instructions



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DUX-Basic

Ø 22.3 mm

made in germany



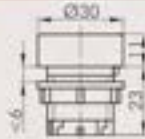
Pushbutton Heads

Illustration

Dimensions

Description

Type



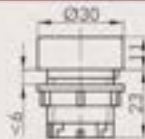
Pushbutton Head with flat non-transparent lens

available in white=WS, red=RT, green=GN, yellow=GB, black=SW, blue=BL, add code letter to type number, e.g. DXRTCRT no inscription, no illumination

suitable contact blocks



front bezel	mat		DXRTC...
	grey		DXRTG...
	polished		DXRTM...
	black		DXRTS...



Pushbutton Head with flat transparent lens and blank nameplate

available in red=RT, green=GN, yellow=GB, clear=KL, blue=BL, add code letter to type number, e.g. DXRTLCRT

suitable contact blocks



front bezel	mat		DXRTLC...
	grey		DXRTLG...
	polished		DXRTLM...
	black		DXRTLS...

Emergency Stops

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Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head with inscription</p> <p>switching position indicator Yes anti-lock collar No release pull Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850, EN 81-2 Abschnitt 15</p> <p></p> <p>suitable contact blocks </p> <p>mushroom head red  front bezel black  green </p>	<p>DXRV54055 DXRVG4055</p>
		<p>Emergency-stop Head with arrow</p> <p>must be mounted onto yellow background!</p> <p>switching position indicator Yes anti-lock collar No release twist Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850, EN 81-2 Abschnitt 15</p> <p></p> <p>suitable contact blocks </p> <p>mushroom head red  front bezel grey </p>	<p>DXRV39PF</p>
		<p>Emergency-stop Head</p> <p>switching position indicator No anti-lock collar No release twist Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks </p> <p>mushroom head red  front bezel polished grey  black </p>	<p>DXRV52MRT DXRV52GRT DXRV52SRT</p>

DUX-Basic

Ø 22.3 mm

made in germany



Emergency Stops Mushroom Heads

Illustration

Dimensions

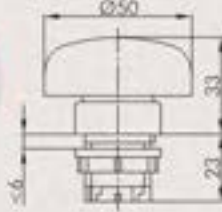
Description

Type



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366
The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

IP55



Mushroom Head, momentary

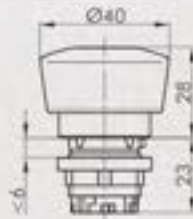
mushroom available in red=RT, green=GN, black=SW, add code letters to type number, e.g. DXRS50CRT

suitable contact blocks



front bezel	mat		DXRS50C...
	grey		DXRS50G...
	polished		DXRS50M...
	black		DXRS50S...

IP55



Mushroom Head, momentary, with illumination and labelling option

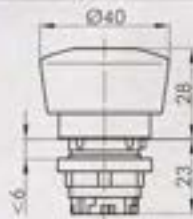
incl. blank nameplate, inscription on request, mushroom available in red=RT, green=GN, black=SW. Add code letters to type number, e.g. DXRS140CRT.

suitable contact blocks



front bezel	mat		DXRS140C...
	grey		DXRS140G...
	polished		DXRS140M...
	black		DXRS140S...

IP55



Mushroom Head, momentary

mushroom available in red=RT, green=GN, black=SW, add code letters to type number, e.g. DXRS40CRT.

suitable contact blocks



front bezel	mat		DXRS40C...
	grey		DXRS40G...
	polished		DXRS40M...
	black		DXRS40S...

Mushroom Heads

Illustration	Dimensions	Description	Type												
		<p>Mushroom Head, momentary, with illumination and labelling option incl. blank nameplate, inscription on request, mushroom available in red=RT, green=GN, black=SW, add code letters to type number, e.g. DXRSL28CRT</p> <p>suitable contact blocks</p> <p>front bezel</p> <table border="0"> <tr> <td>mat</td> <td></td> <td>DXRSL28C...</td> </tr> <tr> <td>grey</td> <td></td> <td>DXRSL28G...</td> </tr> <tr> <td>polished</td> <td></td> <td>DXRSL28M...</td> </tr> <tr> <td>black</td> <td></td> <td>DXRSL28S...</td> </tr> </table>	mat		DXRSL28C...	grey		DXRSL28G...	polished		DXRSL28M...	black		DXRSL28S...	
mat		DXRSL28C...													
grey		DXRSL28G...													
polished		DXRSL28M...													
black		DXRSL28S...													
		<p>Mushroom Head, momentary mushroom available in red=RT, green=GN, black=SW, add code letters to type number, e.g. DXRS28CRT</p> <p>suitable contact blocks</p> <p>front bezel</p> <table border="0"> <tr> <td>mat</td> <td></td> <td>DXRS28C...</td> </tr> <tr> <td>grey</td> <td></td> <td>DXRS28G...</td> </tr> <tr> <td>polished</td> <td></td> <td>DXRS28M...</td> </tr> <tr> <td>black</td> <td></td> <td>DXRS28S...</td> </tr> </table>	mat		DXRS28C...	grey		DXRS28G...	polished		DXRS28M...	black		DXRS28S...	
mat		DXRS28C...													
grey		DXRS28G...													
polished		DXRS28M...													
black		DXRS28S...													

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Selector Switches (momentary/maintained)
other colour combinations on request

⏏ = Switching position
➤ = Spring return

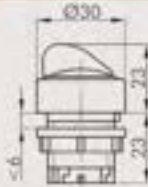
Illustration

Dimensions

Description

Type

IP65



Selector Head, maintained

available colour combinations:
black ring / black knob ...SWSW
black ring / grey knob ...SWDG
grey ring / black knob ...DGSW
grey ring / grey knob ...DGDG

Add code letters to type number, e.g. DXRWACSWDG

suitable contact blocks

⏏ ⏏ ⏏ ⏏ ⏏

front bezel

mat
grey
polished
black



DXRWAHC...
DXRWAHG...
DXRWAHM...
DXRWAHS...

suitable contact blocks

⏏ ⏏ ⏏

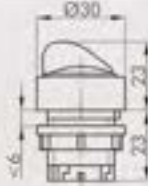
front bezel

mat
grey
polished
black



DXRWBHC...
DXRWBHG...
DXRWBHM...
DXRWBHS...

IP65



Selector Head, momentary

available colour combinations:
black ring / black knob ...SWSW
black ring / grey knob ...SWDG
grey ring / black knob ...DGSW
grey ring / grey knob ...DGDG

Add code letters to type number, e.g. DXRSTACSWDG

suitable contact blocks

⏏ ⏏ ⏏ ⏏ ⏏

front bezel

mat
grey
polished
black



DXRSTAHC...
DXRSTAHG...
DXRSTAHM...
DXRSTAHS...

suitable contact blocks

⏏ ⏏ ⏏

front bezel

mat
grey
polished
black





DXRSTBHC...
DXRSTBHG...
DXRSTBHM...
DXRSTBHS...

Selector Switches (momentary/maintained)
other colour combinations on request

⊥ = Switching position
> = Spring return

Illustration	Dimensions	Description	Type
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IP65


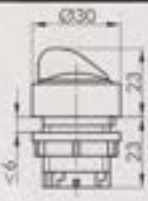
Selector Head, left maintained, right momentary
available colour combinations:
black ring / black knob ...SWSW
black ring / grey knob ...SWDG
grey ring / black knob ...DGSW
grey ring / grey knob ...DGDG

Add code letters to type number, e.g. DXRWCCSWDG

suitable contact blocks
DS DT N

front bezel	mat			DXRWCHC...
	grey			DXRWCHG...
	polished			DXRWCHM...
	black			DXRWCHS...






IP65

Selector Head, left momentary, right maintained
available colour combinations:
black ring / black knob ...SWSW
black ring / grey knob ...SWDG
grey ring / black knob ...DGSW
grey ring / grey knob ...DGDG

Add code letters to type number, e.g. DXRWDCSWDG

suitable contact blocks
DS DT N

front bezel	mat			DXRWDHC...
	grey			DXRWDHG...
	polished			DXRWDHM...
	black			DXRWDHS...

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Pedal Switches

Limit Switches

Type Index

DUX-Basic

Ø 22.3 mm

made in germany



Selector Switches (momentary/maintained)
other colour combinations on request

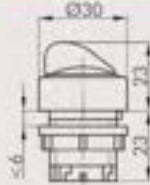
I = Switching position
> = Spring return

Illustration

Dimensions

Description

Type



Selector Head with ring illumination, maintained

available colour combinations:

- red ring / black knob ...RTSW
- red ring / grey knob ...RTDG
- green ring / black knob ...GNSW
- green ring / grey knob ...GNDG
- clear ring / black knob ...KLSW
- clear ring / grey knob ...KLDG

Add code letters to type number, e.g. DXRWALCRTSW

suitable contact blocks



front bezel	mat		
	grey		
	polished		
	black		

DXRWALHC...
DXRWALHG...
DXRWALHM...
DXRWALHS...

suitable contact blocks



front bezel	mat		
	grey		
	polished		
	black		

DXRWBLHC...
DXRWBLHG...
DXRWBLHM...
DXRWBLHS...

Selector Switches (momentary/maintained)
other colour combinations on request

I = Switching position
> = Spring return

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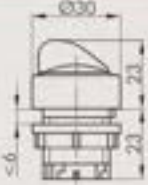






























Enclosures


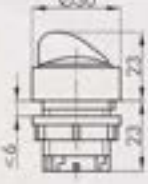















Terminal Blocks

Pedal Switches

Limit Switches

Type Index

Illustration	Dimensions	Description	Type																	
		<p>Selector Head, momentary, with ring illumination available colour combinations: red ring / black knob ...RTSW red ring / grey knob ...RTDG green ring / black knob ...GNSW green ring / grey knob ...GNDG clear ring / black knob ...KLSW clear ring / grey knob ...KLDG</p> <p>Add code letters to type number, e.g. DXRSTALCRTSW</p>																		
<p>suitable contact blocks</p> <p>DS DT</p>		<table border="1"> <tr> <td>front bezel</td> <td>mat</td> <td></td> <td rowspan="4">  </td> <td>DXRSTALHC...</td> </tr> <tr> <td></td> <td>grey</td> <td></td> <td>DXRSTALHG...</td> </tr> <tr> <td></td> <td>polished</td> <td></td> <td>DXRSTALHM...</td> </tr> <tr> <td></td> <td>black</td> <td></td> <td>DXRSTALHS...</td> </tr> </table>	front bezel	mat			DXRSTALHC...		grey		DXRSTALHG...		polished		DXRSTALHM...		black		DXRSTALHS...	
front bezel	mat			DXRSTALHC...																
	grey			DXRSTALHG...																
	polished			DXRSTALHM...																
	black			DXRSTALHS...																
<p>suitable contact blocks</p> <p>DS DT</p>		<table border="1"> <tr> <td>front bezel</td> <td>mat</td> <td></td> <td rowspan="4">  </td> <td>DXRSTBLHC...</td> </tr> <tr> <td></td> <td>grey</td> <td></td> <td>DXRSTBLHG...</td> </tr> <tr> <td></td> <td>polished</td> <td></td> <td>DXRSTBLHM...</td> </tr> <tr> <td></td> <td>black</td> <td></td> <td>DXRSTBLHS...</td> </tr> </table>	front bezel	mat			DXRSTBLHC...		grey		DXRSTBLHG...		polished		DXRSTBLHM...		black		DXRSTBLHS...	
front bezel	mat			DXRSTBLHC...																
	grey			DXRSTBLHG...																
	polished			DXRSTBLHM...																
	black			DXRSTBLHS...																

		<p>Selector Head with ring illumination, left maintained, right momentary available colour combinations: red ring / black knob ...RTSW red ring / grey knob ...RTDG green ring / black knob ...GNSW green ring / grey knob ...GNDG clear ring / black knob ...KLSW clear ring / grey knob ...KLDG</p> <p>Add code letters to type number, e.g. DXRWCLCRTSW</p>																		
<p>suitable contact blocks</p> <p>DS DT</p>		<table border="1"> <tr> <td>front bezel</td> <td>mat</td> <td></td> <td rowspan="4">  </td> <td>DXRWCLHC...</td> </tr> <tr> <td></td> <td>grey</td> <td></td> <td>DXRWCLHG...</td> </tr> <tr> <td></td> <td>polished</td> <td></td> <td>DXRWCLHM...</td> </tr> <tr> <td></td> <td>black</td> <td></td> <td>DXRWCLHS...</td> </tr> </table>	front bezel	mat			DXRWCLHC...		grey		DXRWCLHG...		polished		DXRWCLHM...		black		DXRWCLHS...	
front bezel	mat			DXRWCLHC...																
	grey			DXRWCLHG...																
	polished			DXRWCLHM...																
	black			DXRWCLHS...																

Selector Switches (momentary/maintained)

other colour combinations on request

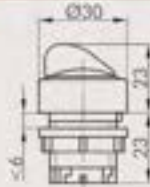
Toggle Heads

Illustration

Dimensions

Description

Type



Selector Head with ring illumination, left momentary, right maintained

available colour combinations

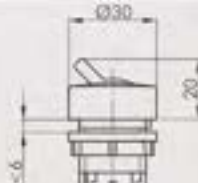
- red ring / black knob ...RTSW
- red ring / grey knob ...RTDG
- green ring / black knob ...GNSW
- green ring / grey knob ...GNDG
- clear ring / black knob ...KLSW
- clear ring / grey knob ...KLDG

Add code letters to type number, e.g. DXRWDLCRTSW

suitable contact blocks



- | | | | | |
|-------------|----------|--|--|-------------|
| front bezel | mat | | | DXRWDLHC... |
| | grey | | | DXRWDLHG... |
| | polished | | | DXRWDLHM... |
| | black | | | DXRWDLHS... |



Toggle Head, maintained

available colour combinations:

- black ring / black toggle ...SWSW
- black ring / red toggle ...SWRT
- black ring / white toggle ...SWWS
- grey ring / black toggle ...DGSW
- grey ring / red toggle ...DGRT
- grey ring / white toggle ...DGWS

Add code letters to type number, e.g. DXRKCSWSW




























suitable contact blocks



- | | | | |
|-------------|----------|--|----------|
| front bezel | mat | | DXRKC... |
| | grey | | DXRKG... |
| | polished | | DXRKM... |
| | black | | DXRKS... |

Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type
		Key Actuator, momentary including two keys, available colour combinations: black ring ...SW... grey ring ...DG... Add code letters to type number, e.g. DXRSSACDG12, other lock types on request	
		suitable contact blocks DS DT N	
		front bezel mat  grey  polished  black 	 DXRSSAC...12 DXRSSAG...12 DXRSSAM...12 DXRSSAS...12
		suitable contact blocks DS DT N	
		front bezel mat  grey  polished  black 	 DXRSSAC...13 DXRSSAG...13 DXRSSAM...13 DXRSSAS...13
		suitable contact blocks DS DT ET N	
		front bezel mat  grey  polished  black 	 DXRSSAC...17 DXRSSAG...17 DXRSSAM...17 DXRSSAS...17
		suitable contact blocks DS DT ET N	
		front bezel mat  grey  polished  black 	 DXRSSAC...18 DXRSSAG...18 DXRSSAM...18 DXRSSAS...18
		suitable contact blocks DS DT ET N	
		front bezel mat  grey  polished  black 	 DXRSSAC...18 DXRSSAG...18 DXRSSAM...18 DXRSSAS...18
		suitable contact blocks DS DT ET N	

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration

Dimensions

Description

Type

#65



Key Actuator, momentary

including two keys,
available colour combinations:
black ring ...SW...
grey ring ...DG...

Add code letters to type number, e.g. DXRSSACDG23,
other lock types on request

suitable contact blocks

IS DT M

front bezel

mat

grey

polished

black



DXRSSAC...23

DXRSSAG...23

DXRSSAM...23

DXRSSAS...23

suitable contact blocks

IS DT M

front bezel

mat

grey

polished

black



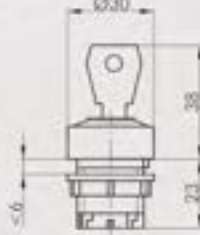
DXRSSAC...27

DXRSSAG...27

DXRSSAM...27

DXRSSAS...27

#65



Key Actuator maintained/left, momentary/right

including two keys
available colour combinations:
black ring ...SW...
grey ring ...DG...

Add code letters to type number,
e.g. DXRSSACDG24
other lock types on request

suitable contact blocks

IS DT M

front bezel

mat

grey

polished

black



DXRSSAC...24





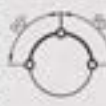




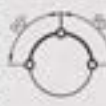




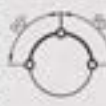
















































DXRSSAG...24

DXRSSAM...24

DXRSSAS...24

Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type																	
 		<p>Key Actuator with ring illumination, latching including two keys, available colour combinations: red ring ...RT... green ring ...GN... clear ring ...KL...</p> <p>Add code letters to type number, e.g. DXRSSALCRT12, other lock types on request Accepts only LEDs !</p>																		
<p>suitable contact blocks</p> <p>DS DT</p>		<table border="0"> <tr> <td>front bezel</td> <td>mat</td> <td></td> <td rowspan="4"></td> <td>DXRSSALC...12</td> </tr> <tr> <td></td> <td>grey</td> <td></td> <td>DXRSSALG...12</td> </tr> <tr> <td></td> <td>polished</td> <td></td> <td>DXRSSALM...12</td> </tr> <tr> <td></td> <td>black</td> <td></td> <td>DXRSSALS...12</td> </tr> </table>	front bezel	mat			DXRSSALC...12		grey		DXRSSALG...12		polished		DXRSSALM...12		black		DXRSSALS...12	
front bezel	mat			DXRSSALC...12																
	grey			DXRSSALG...12																
	polished			DXRSSALM...12																
	black			DXRSSALS...12																
<p>suitable contact blocks</p> <p>DS DT</p>		<table border="0"> <tr> <td>front bezel</td> <td>mat</td> <td></td> <td rowspan="4"></td> <td>DXRSSALC...13</td> </tr> <tr> <td></td> <td>grey</td> <td></td> <td>DXRSSALG...13</td> </tr> <tr> <td></td> <td>polished</td> <td></td> <td>DXRSSALM...13</td> </tr> <tr> <td></td> <td>black</td> <td></td> <td>DXRSSALS...13</td> </tr> </table>	front bezel	mat			DXRSSALC...13		grey		DXRSSALG...13		polished		DXRSSALM...13		black		DXRSSALS...13	
front bezel	mat			DXRSSALC...13																
	grey			DXRSSALG...13																
	polished			DXRSSALM...13																
	black			DXRSSALS...13																
<p>suitable contact blocks</p> <p>DS DT</p>		<table border="0"> <tr> <td>front bezel</td> <td>mat</td> <td></td> <td rowspan="4"></td> <td>DXRSSALC...17</td> </tr> <tr> <td></td> <td>grey</td> <td></td> <td>DXRSSALG...17</td> </tr> <tr> <td></td> <td>polished</td> <td></td> <td>DXRSSALM...17</td> </tr> <tr> <td></td> <td>black</td> <td></td> <td>DXRSSALS...17</td> </tr> </table>	front bezel	mat			DXRSSALC...17		grey		DXRSSALG...17		polished		DXRSSALM...17		black		DXRSSALS...17	
front bezel	mat			DXRSSALC...17																
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	polished			DXRSSALM...17																
	black			DXRSSALS...17																
<p>suitable contact blocks</p> <p>DS DT</p>		<table border="0"> <tr> <td>front bezel</td> <td>mat</td> <td></td> <td rowspan="4"></td> <td>DXRSSALC...18</td> </tr> <tr> <td></td> <td>grey</td> <td></td> <td>DXRSSALG...18</td> </tr> <tr> <td></td> <td>polished</td> <td></td> <td>DXRSSALM...18</td> </tr> <tr> <td></td> <td>black</td> <td></td> <td>DXRSSALS...18</td> </tr> </table>	front bezel	mat			DXRSSALC...18		grey		DXRSSALG...18		polished		DXRSSALM...18		black		DXRSSALS...18	
front bezel	mat			DXRSSALC...18																
	grey			DXRSSALG...18																
	polished			DXRSSALM...18																
	black			DXRSSALS...18																

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration

Dimensions

Description

Type

IP65



Key Actuator with ring illumination, momentary

including two keys,
available colour combinations:
red ring ...RT...
green ring ...GN...
clear ring ...KL...

Add code letters to type number, e.g. DXRSSALCRT23,
other lock types on request
Accepts only LEDs !

suitable contact blocks



front bezel

mat



DXRSSALC...23

grey



DXRSSALG...23

polished



DXRSSALM...23

black



DXRSSALS...23

suitable contact blocks



front bezel

mat



DXRSSALC...27

grey



DXRSSALG...27

polished



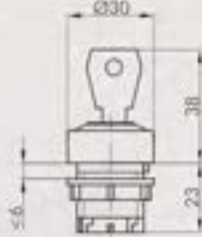
DXRSSALM...27

black



DXRSSALS...27

IP45



Key Actuator with ring illumination maintained/left, momentary/right

including two keys,
available colour combinations:
red ring ...RT...
green ring ...GN...
clear ring ...KL...

Add code letters to type number,
e.g. DXRSSALCRT24
other lock types on request
Accepts only LEDs !

suitable contact blocks



front bezel

mat



DXRSSALC...24

grey



DXRSSALG...24

silver-coloured



DXRSSALM...24

black



DXRSSALS...24

Pilot Lights

Please order the nameplates together with the pilot light heads.

Illustration	Dimensions	Description	Type	
		<p>Pilot Light Head with transparent convex lens available in red=RT, green=GN, yellow=GB, clear=KL, blue=BL, add code letters to type number, e.g. DXRNKCRT suitable lampholders</p> <p>DS DT ET M</p>	<p>front bezel</p> <ul style="list-style-type: none"> mat grey polished black 	<p>DXRNKC...</p> <p>DXRNKG...</p> <p>DXRNKM...</p> <p>DXRNKS...</p>
		<p>Pilot Light Head with transparent flat lens available in red=RT, green=GN, yellow=GB, clear=KL, blue=BL, add code letters to type number, e.g. DXRNFCRT suitable lampholders</p> <p>DS DT ET M</p>	<p>front bezel</p> <ul style="list-style-type: none"> mat grey polished black 	<p>DXRNFC...</p> <p>DXRNFG...</p> <p>DXRNFM...</p> <p>DXRNFS...</p>

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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Mounting Tool with torque limitation for the series QUARTEX-R(JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/Q-JUWEL series	S22
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External Nameplate Holder colour black	DRABT
		Self-adhesive Nameplate, laser-printed Inscription according to customer's specification Dimensions: 19 x 27 mm	BZ23G
		Self-adhesive Nameplate blank Dimensions: 19 x 27 mm	BZ23U
		Self-adhesive Nameplate with standard imprint Please specify index no. [see nameplates on page 404] Dimensions: 19 x 27 mm	BZ23B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22_548
		Universal Lens Remover	USK

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- Limit Switches
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Terminal Blocks

Push Switches

Limit Switches

Type Index





Front dimensions: 30 x 30 mm
Panel cut-out: Ø 22.3 mm
Front bezel height: 12 mm
Travel: 6 mm





QUARTEX-R

Product configurator



QUARTEX-R

Ø 22.3 mm

made in germany

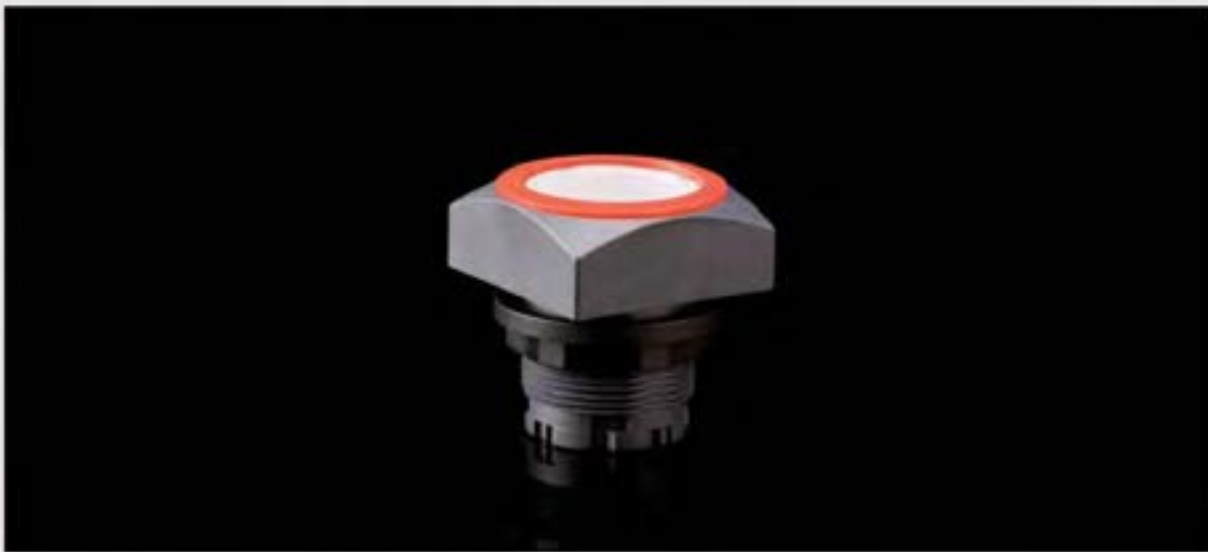


Overview QUARTEX-R series



01 Pushbutton Heads	page 258	07 Key Actuators	page 264
02 Emergency Stop Buttons	page 261	08 Pilot Lights	page 265
03 Mushroom Heads	page 261		
04 Knob Set for Rotary Switch / Potentiometer	page 262	Contact Blocks / Lampholders	page 408
05 Selector Heads	page 262		
06 Toggle Heads	page 263		

Housing Colour



degree of protection

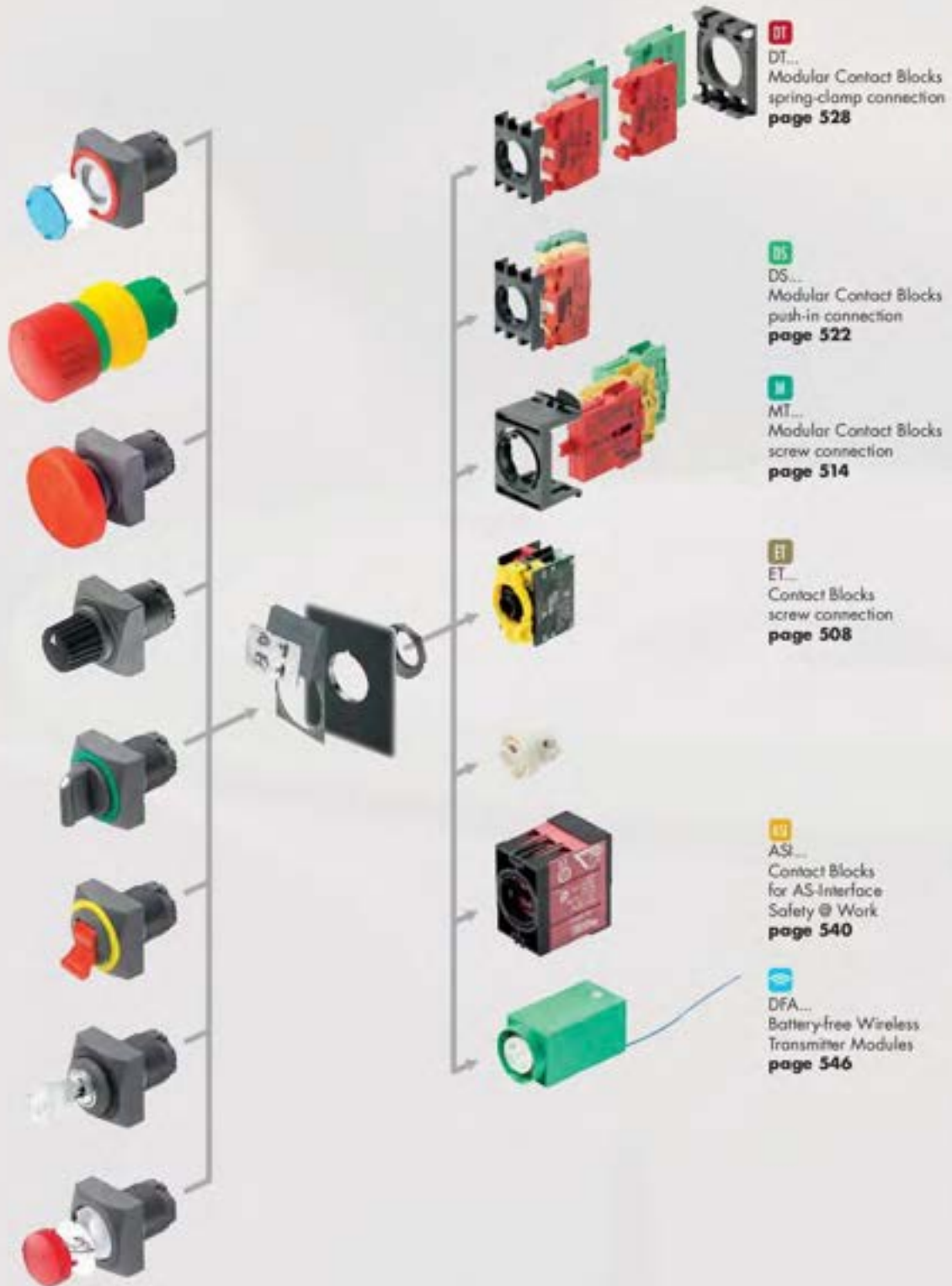
operating travel

illuminating option

labelling option



- About Us
- Control Lines
- Actuators
- Panel Mount Units
- Bus Technology
- Enclosures
- Terminal Blocks
- Panel Switches
- Limit Switches
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DT
DT...
Modular Contact Blocks
spring-clamp connection
page 528

DS
DS...
Modular Contact Blocks
push-in connection
page 522

MT
MT...
Modular Contact Blocks
screw connection
page 514

ET
ET...
Contact Blocks
screw connection
page 508

ASI
ASI...
Contact Blocks
for AS-Interface
Safety@ Work
page 540

DFA
DFA...
Battery-free Wireless
Transmitter Modules
page 546

When combining the DT... contact blocks with key, selector and toggle heads, please add ..._497 to the actuator type reference!

Mounting

Control Units
→ Actuators

Pin and Mouser Jacks

Bus Technology

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Pedal Switches

Limit Switches

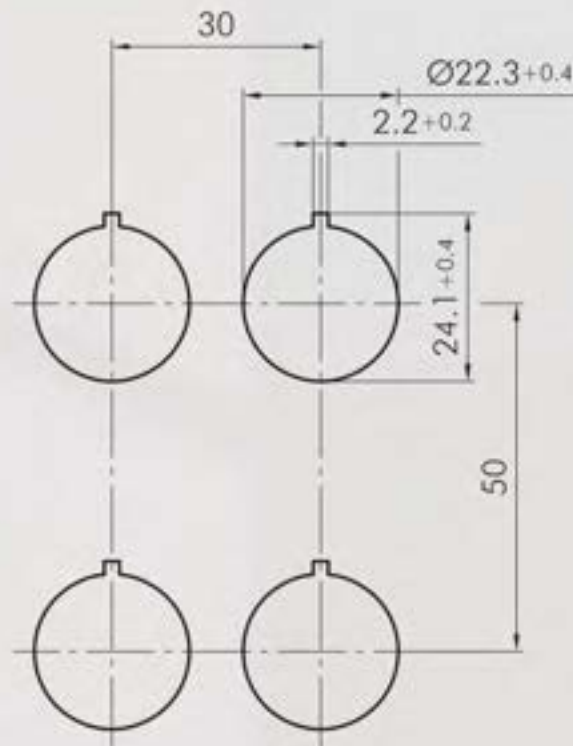
Type Index

Mounting Depth Dimensions

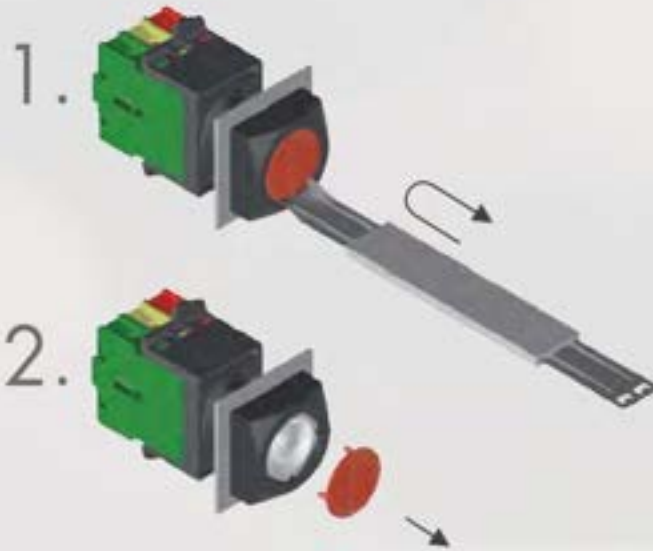


* ETR2 61mm, ETLR 50mm, ETLR2 70mm, EL9R 36mm

Cutout Dimensions



Mounting and Service Instructions



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QUARTEX-R

Ø 22.3 mm

made in germany



Pushbutton Heads

Front rings are supplied in dark-grey as a standard (QRT), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type number (e.g. QRT_RRT)
lenses and nameplates to be ordered separately

Illustration

Dimensions

Description

Type



Pushbutton Head

suitable contact blocks



front bezel

charcoal



QRT...



Concave Lens, transparent

colour

blue



T26DBL

yellow



T26DGB

green



T26DGN

clear



T26DKL

red



T26DRT

opalwhite



T26DWS



Concave Lens, non-transparent

used in pushbuttons without inscription and illumination

colour

blue



T26DGBL

yellow



T26DGGB

green



T26DGGN

black



T26DG5W

red



T26DGRT

white



T26DGWS



High Lens, transparent

colour

blue



KH23BL

yellow



KH23GB

green



KH23GN

clear



KH23KL

red



KH23RT

opalwhite



KH23WS



High Lens, non-transparent

used in pushbuttons without inscription and illumination

colour

blue



TG22GHBL

yellow



TG22GHGB

green



TG22GHGN

black



TG22GH5W

red

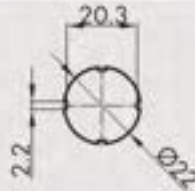


TG22GHRT

white



TG22GHWS





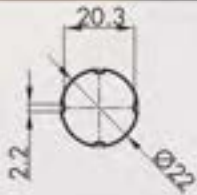












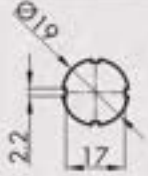
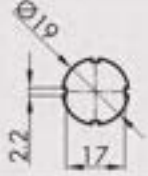
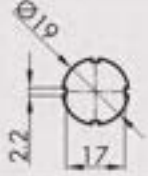


Nameplate with standard imprint

please specify index number (see nameplates on pages 404)

BSK...

Pushbutton Heads

Front rings are supplied in dark-grey as a standard (QRTM), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type number (e.g. QRTM_RRT)

Illustration	Dimensions	Description	Type
		Nameplate with special imprint according to customer's specification	BSKB
		Blank Nameplate	BSKU
		Membrane Pushbutton Head with tightly closed, transparent silicone cap, down to -50° C suitable contact blocks: 	QRTM... front bezel charcoal 
		Flat Lens, transparent colour blue  T20FBL yellow  T20FGB green  T20FGN clear  T20FKL red  T20FRT opalwhite  T20FWS	
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSRX...
		Nameplate with special imprint according to customer's specification	BSRXB
		Blank Nameplate	BSRXU

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Push Switches

Level Switches

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QUARTEX-R

Ø 22.3 mm

made in germany



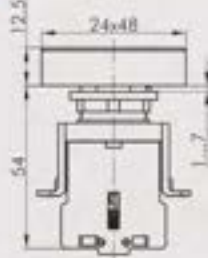
Pushbutton Heads

Illustration

Dimensions

Description

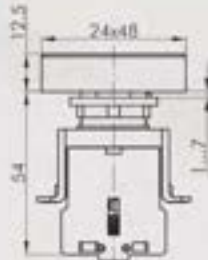
Type



Double Pushbutton

fully assembled with modular contact blocks
ON-pushbutton green, 1NO
OFF-pushbutton red, 1NC
front bezel charcoal

LDT



Illuminated Double Pushbutton

with central signal light
without lamp
fully assembled with modular contact blocks
ON-pushbutton green, 1NO
OFF-pushbutton red, 1NC
front bezel charcoal

LDTL

IP47



Sealing Cap

made of silicone rubber, down to -50°C

TK505

Emergency Stops Mushroom Heads

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Limit Switches

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Illustration	Dimensions	Description	Type
--------------	------------	-------------	------



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366
The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

IP65

Mushroom Head, latch-type
other mushroom colours on request must be mounted onto yellow background!
foolproof No
switching position indicator No
anti-lock collar No
release twist
Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks

AD	DS	DT	ET	N
----	----	----	----	---

mushroom head	red	
front bezel	charcoal	

QRV

IP65

Mushroom Head, momentary
other mushroom colours on request
switching position indicator No
anti-lock collar No

AD	DS	DT	ET	N
----	----	----	----	---

mushroom head	red	
front bezel	charcoal	

QRS

AD	DS	DT	ET	N
----	----	----	----	---

mushroom head	black	
---------------	-------	--

QRS_SW.PILZ

QUARTEX-R

Ø 22.3 mm

made in germany



Knob Set for rotary switches

Front rings are supplied in dark-grey as a standard (QRDAU), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type number (e.g. QRDAURT)

I = Switching position

> = Spring return

Knob Set for potentiometers

Selector Switches (momentary/maintained)

Illustration

Dimensions

Description

Type

W65



Knob Set for rotary switches, without inscription
for Kraus & Naimer types CG4 and CA4

other versions on request

front bezel

charcoal



QRDAU...

W65



Knob Set for rotary switches, with inscription
for Kraus & Naimer types CG4 and CA4

other versions on request

front bezel

charcoal



QRDAB...

W65



Knob Set for potentiometers

for potentiometers of 6 mm shaft dia. and thread M10 x 0.75.
Delivery without potentiometer.

Shaft length: approx. 50 mm ± 2 mm, incl. fastening thread

front bezel

charcoal



QRR...

W65



Selector Head, maintained

suitable contact blocks

CS DT ET M

front bezel

charcoal



QRWA...

suitable contact blocks

DT ET M

front bezel

charcoal



QRWB...

W65



Selector Head, momentary

suitable contact blocks

CS DT ET M

front bezel

charcoal



QRSTA...

suitable contact blocks

DT ET M

front bezel

charcoal



QRSTB...

W65



Selector Head, left maintained, right momentary

suitable contact blocks

DT ET M

front bezel

charcoal



QRWC...


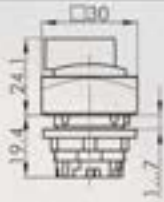

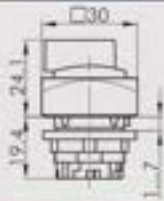


Selector Switches (momentary/maintained)

inclusive four small, transparent colour plates in red, yellow, green and blue

Toggle Heads

I = Switching position

> = Spring return

Illustration	Dimensions	Description	Type
		<p>Illuminated Selector Head, maintained inclusive four small, transparent colour plates in red, yellow, green and blue</p> <p>suitable contact blocks DS DT ET M</p> <p>front bezel charcoal</p> <p>suitable contact blocks DS DT ET M</p> <p>front bezel charcoal</p>	<p>QRWAL</p> <p>QRWBL</p>
		<p>Illuminated Selector Head, left maintained, right momentary</p> <p>suitable contact blocks DS DT ET M</p> <p>front bezel charcoal</p>	<p>QRWCL</p>
		<p>Toggle Head red toggle (other colours on request)</p> <p>suitable contact blocks DS DT ET M</p> <p>knob colour red</p> <p>front bezel charcoal</p>	<p>QRK...</p>

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QUARTEX-R

Ø 22.3 mm

made in germany



Key Switches (momentary/maintained)

Front rings are supplied in dark-grey as a standard QRSSA12E], also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type number (e.g. QRSSAA12E_RRT)

- I = Switching position
- > = Spring return
- = Key removable position

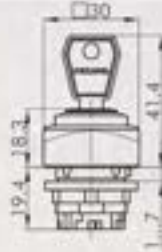
Illustration

Dimensions

Description

Type

#65



Key Actuator, maintained

including two keys
other lock types on request

suitable contact blocks

DT ET M

suitable contact blocks

DT ET M

front bezel charcoal

suitable contact blocks

DT ET M

front bezel charcoal

suitable contact blocks

DT ET M

front bezel charcoal

suitable contact blocks

DT ET M

front bezel charcoal

suitable contact blocks

DT ET M

front bezel charcoal

suitable contact blocks

DT ET M

front bezel charcoal



QRSSA12E...

QRSSA13E...

QRSSA14E...

QRSSA15E...

QRSSA17E...

QRSSA18E...

#65



Key Actuator, momentary

suitable contact blocks

DT ET M

front bezel charcoal

suitable contact blocks

DT ET M

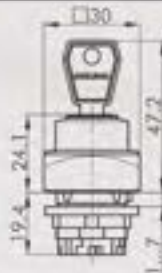
front bezel charcoal



QRSSA23E...

QRSSA27E...

#65



Key Actuator, left maintained, right momentary

suitable contact blocks

DT ET M

front bezel charcoal



QRSSA24E...



Spare Key (standard)

standard spare key, specify key number for special locks

ESE845

Pilot Lights

Front rings are supplied in dark-grey as a standard (QRN), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type number (e.g. QRN_RRT).
Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
	<p>Pilot Light Head suitable lampholders: DS UT EI M</p> <p>front bezel charcoal</p>	QRN...	
	<p>Convex Lens colour</p>	<ul style="list-style-type: none"> blue KF23BL yellow KF23GB green KF23GN clear KF23KL red KF23RT opalwhite KF23WS 	
	<p>High Lens, transparent colour</p>	<ul style="list-style-type: none"> blue KH23BL yellow KH23GB green KH23GN clear KH23KL red KH23RT opalwhite KH23WS 	
	<p>Concave Lens, transparent colour</p>	<ul style="list-style-type: none"> blue T26DBL yellow T26DGB green T26DGN clear T26DKL red T26DRT opalwhite T26DWS 	
	<p>Nameplate with standard imprint please specify index number (see nameplates on pages 404)</p>	BSK...	
	<p>Nameplate with special imprint according to customer's specification</p>	BSKB	

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QUARTEX-R

Ø 22.3 mm

made in germany



Accessories for Actuators

Illustration

Dimensions

Description

Type



Blank Nameplate

BSKU



Mounting Tool

S22

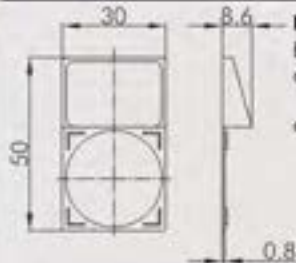
with torque limitation
for the series QUARTEX-R(JUWEL), KOMBITAST-R(JUWEL),
RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of
the RONTRON-R/Q(JUWEL) series.



Mounting Tool Adapter with 1/4" connections

SRA

for mounting tools S16 and S22



External Nameplate Holder

for outside marking of the actuators of the QUARTEX-R series,
accepts self-adhesive nameplates

colour

charcoal



QRABT



Self-adhesive Nameplate, laser-printed

BZ23G

Inscription according to customer's specification
Dimensions: 19 x 27 mm



Self-adhesive Nameplate blank

BZ23U

Dimensions: 19 x 27 mm



Self-adhesive Nameplate with standard imprint

BZ238...

Please specify index no.
[see nameplates on page 404]
Dimensions: 19 x 27 mm



Yellow Nameplate

self-adhesive PVC foil
printing on request
outer dia. 75 mm
for mounting dia. 22 mm




colour

yellow



NAS_22

Accessories for Actuators

Illustration	Dimensions	Description	Type
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm colour yellow	NAS_22_548
		Universal Lens Remover	USK
		Dummy to close unused mounting apertures colour charcoal	BVQR

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Design
Award
Winner
2000



reddot



excellent!
Design Center Stuttgart

Front dimensions: \varnothing 28 mm

Panel cut-out: \varnothing 22.3 mm

Front bezel height: 12 mm

Travel: 6 mm



RVA

Product configurator



Overview RVA series



- | | | |
|----|-------------------|----------|
| 01 | Pushbutton Heads | page 274 |
| 02 | Selector Heads | page 275 |
| 03 | Key Actuators | page 276 |
| 04 | Pilot Light Heads | page 276 |

Contact Blocks / Lampholders page 408

Housing Colour



degree of protection

operating travel

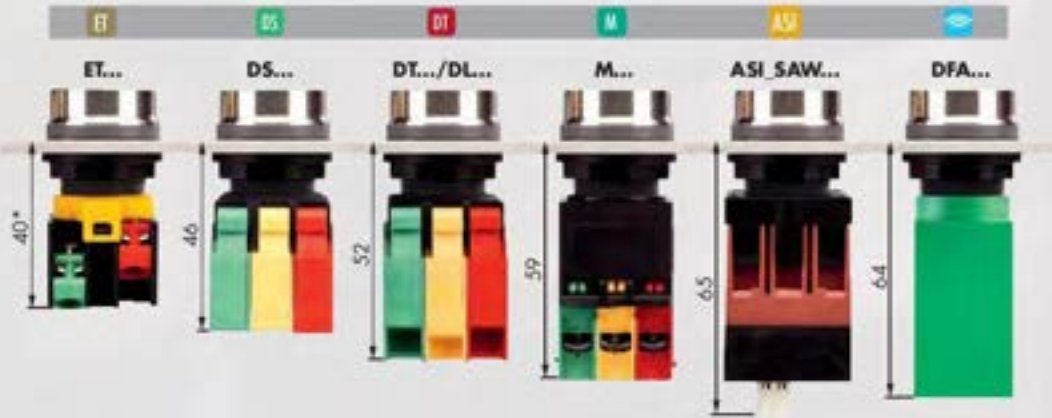
illuminating option

labeling option



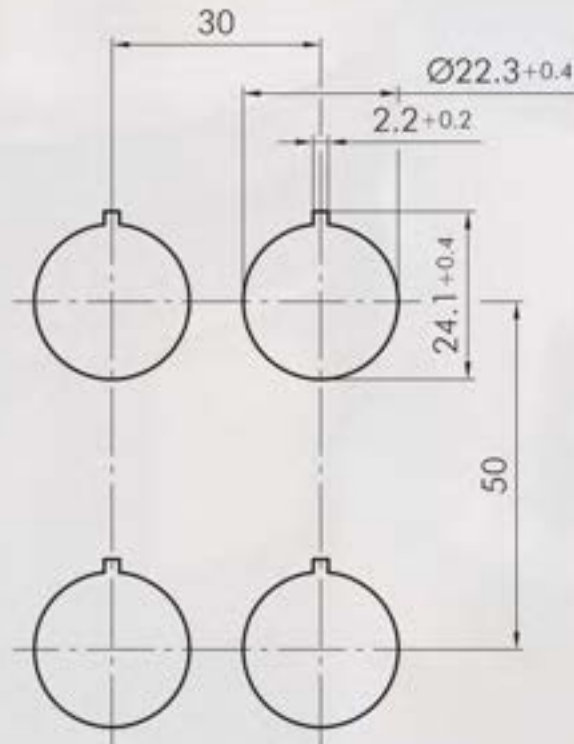
When combining the DT... contact blocks with key, selector and toggle heads, please add ..._497 to the actuator type reference!

Mounting Depth Dimensions



* ETR2 61mm, ETLR 50mm, ETLR2 70mm, EL9R 36mm

Cutout Dimensions



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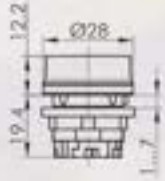


Limit Switches

Type Index

Pushbutton Heads

made of stainless steel V4A [1.4404]

The housing/visible edging is supplied in green-GN, red-RT, blue-BL, yellow-GB, black-SW, white-WS or charcoal-DG. Add code letter to type number, e.g. RVAT_RT.

Illustration	Dimensions	Description	Type
		Pushbutton Head laser printing on request suitable contact blocks GN RT BL GB SW WS DG front bezel stainless steel, polished 	RVAT_...
		Pushbutton Head with ring illumination suitable contact blocks GN RT BL GB SW WS DG front bezel stainless steel, polished 	RVATLR_...
		Pushbutton Head with ring illumination and laser printing incl. lens standard imprints see nameplates on pages #sbez# (please specify index number), special imprints on request GN RT BL GB SW WS DG front bezel stainless steel, polished 	RVATLRL_...
		Sealing Cap made of silicone rubber, down to -50°C	TK295

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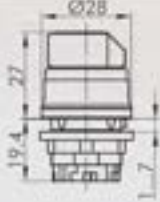






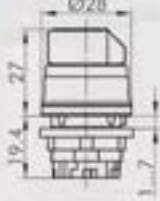




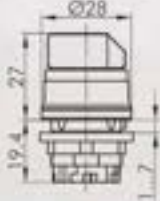



Selector Switches (momentary/maintained)

made of stainless steel V4A (1.4404)

The housing (visible edging) is supplied in green-GN, red-RT, blue-BL, yellow-GB, black-SW, white-WS or charcoal-DG. Add code letter to type number, e.g. RVAWA_RT.

I = Switching position

> = Spring return

Illustration	Dimensions	Description	Type
		<p>Selector Head, maintained</p> <p>suitable contact blocks </p> <p>front bezel stainless steel, polished </p> <p>suitable contact blocks </p> <p>front bezel stainless steel, polished </p>	 <p>RVAWA_...</p> <p>RVAWB_...</p>
		<p>Selector Head, momentary</p> <p>suitable contact blocks </p> <p>front bezel stainless steel, polished </p>	 <p>RVASTB_...</p>
		<p>Selector Head, left maintained, right momentary</p> <p>suitable contact blocks </p> <p>front bezel stainless steel, polished </p>	 <p>RVAWC_...</p>

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RVA

Ø 22.3 mm

made in germany



Key Switches (momentary/maintained)

made of stainless steel V4A [1.4]

The housing/visible edging and the luminous spot are supplied in green-GN, red-RT, blue-BL, yellow-GB, black-SW, white-W5 or charcoal-DG. Add code letter to type number, e.g. RVASSA12E_RT.

Pilot Lights

- I = Switching position
- > = Spring return
- = Key removable position

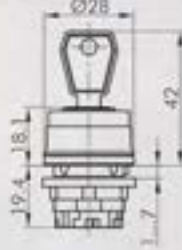
Illustration

Dimensions

Description

Type

#65



Key Actuator, maintained

including two keys
other lock types on request
suitable contact blocks

RT ET M

front bezel stainless steel, polished



RVASSA12E...

suitable contact blocks

RT ET M

front bezel stainless steel, polished



RVASSA13E...

suitable contact blocks

GN RT ET M

front bezel stainless steel, polished



RVASSA14E...

suitable contact blocks

GN GS RT ET M

front bezel stainless steel, polished



RVASSA15E...

suitable contact blocks

GN GS RT ET M

front bezel stainless steel, polished



RVASSA17E...

suitable contact blocks

GN RT ET M

front bezel stainless steel, polished



RVASSA18E...



Spare Key (standard)

standard spare key, specify key number for special locks

ESEB45

#66



Pilot Light Head

suitable lampholders

GN RT ET M

front bezel stainless steel, polished

RVAN...

- Aborts
- Control Units
- Actuator
- Panel Mount Locks
- Fire Technology
- Enclosures
- Terminal Blocks
- Pilot Switches
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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Mounting Tool with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-G-JUWEL series	522
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and 522	SRA
		Universal Lens Remover	USK

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tested down to
-40°C | -40°F



Front dimensions: \varnothing 36 mm

Panel cut-out: \varnothing 30.5 mm


Front bezel height: 2.7 mm

Travel: 6 mm





KOMBITAST-R-R-JUWEL

 Product configurator



KOMBITAST-R-JUWEL

Ø 30.5 mm

made in germany



Overview - KOMBITAST-R-JUWEL series



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02 Emergency Stop Buttons	page 287	08 Pilot Lights	page 304
03 Knob Set for Rotary Switches/Potentiometers	page 290		
04 Selector Heads	page 292	Contact blocks/Lampholders	page 408
05 Toggle Heads	page 297		
06 Key Actuators	page 297		

Housing Colours (silver-coloured, stainless steel, charcoal)

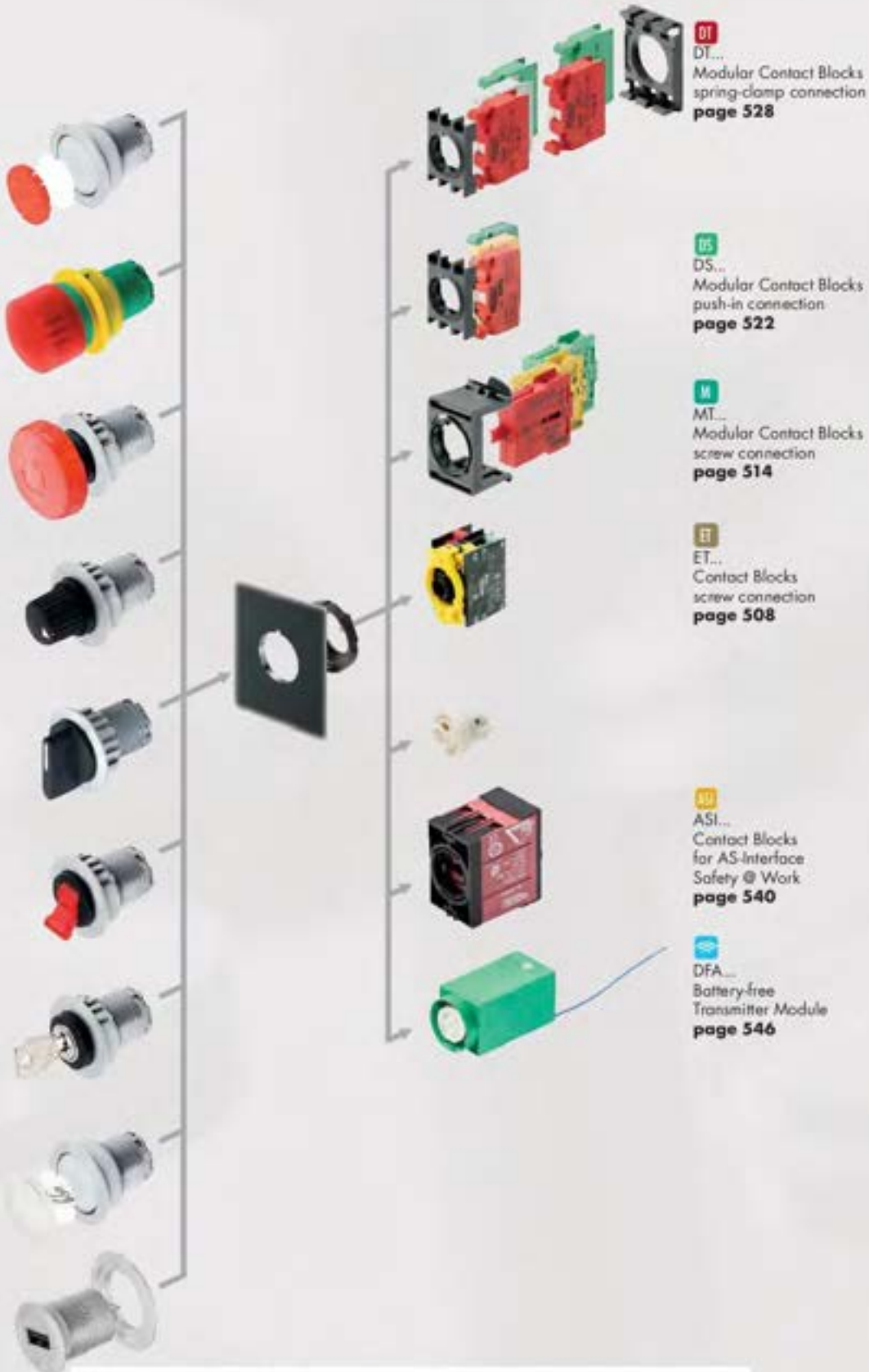


degree of protection

operating travel

illuminating option

labelling option



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MT...
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ET
ET...
Contact Blocks
screw connection
page 508

ASI
ASI...
Contact Blocks
for AS-Interface
Safety @ Work
page 540

DFA
DFA...
Battery-free
Transmitter Module
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When combining the DT... contact blocks with key, selector and toggle heads,
please add ..._497 to the actuator type reference!

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Limit Switches

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KOMBITAST-R-JUWEL

Ø 30.5 mm

made in germany

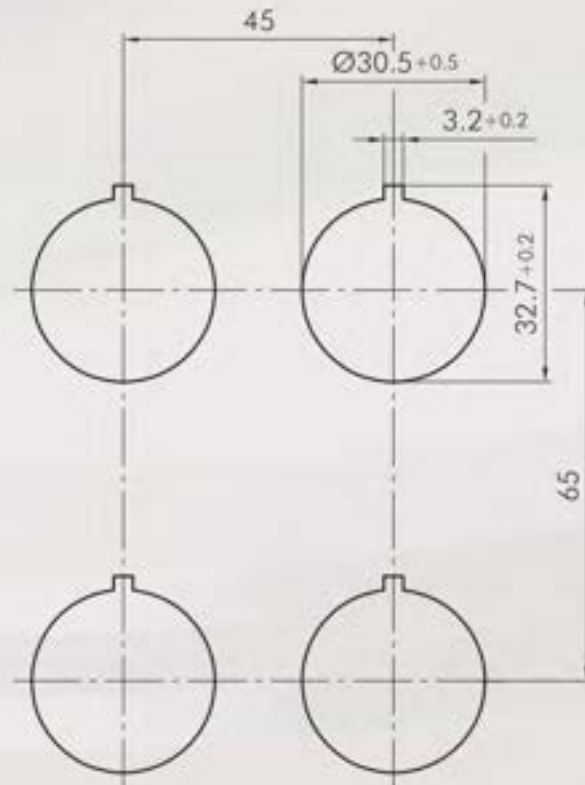


Mounting Depth Dimensions

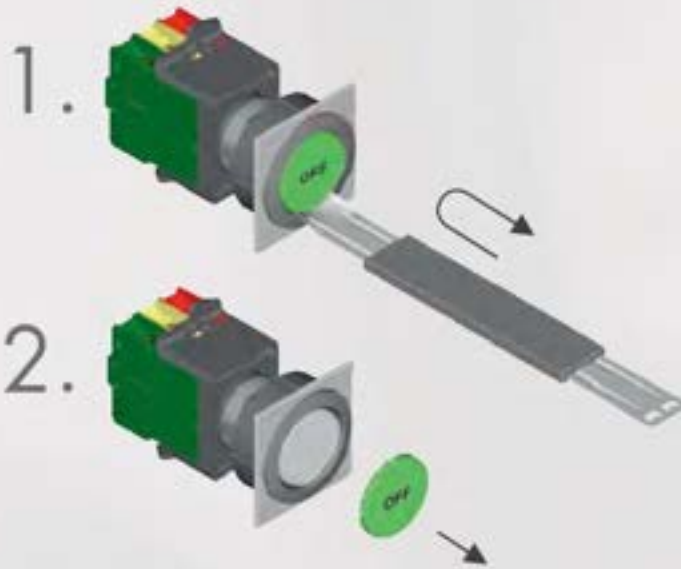


* ETR2 69mm, ETLR 58mm, ETLR2 78mm, EL9R 44mm

Cutout Dimensions



Mounting and Service Instructions



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made in germany




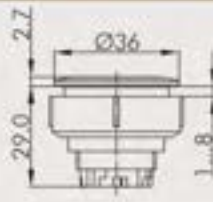

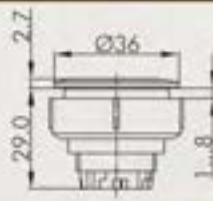

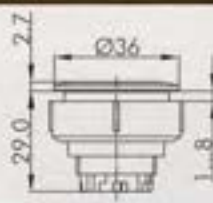






















































Ø 30.5 mm

Pushbutton Heads

Lenses and nameplates to be ordered separately

tested down to -40°F / -40°C









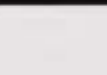




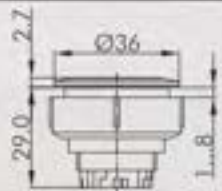



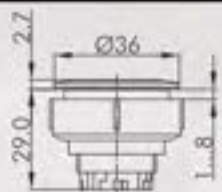



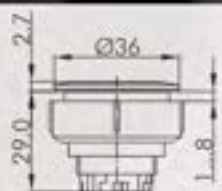



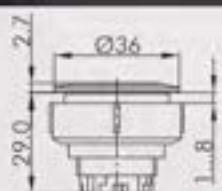


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- Lens Switches
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Illustration	Dimensions	Description	Type																							
 	<p>Pushbutton Head, silver-coloured</p> <p>suitable contact blocks</p> <p>front bezel silver-coloured</p>	<p>KRJMT</p>																								
 	<p>Pushbutton Head, charcoal</p> <p>suitable contact blocks</p> <p>front bezel charcoal</p>	<p>KRJT</p>																								
 	<p>Pushbutton Head, stainless steel</p> <p>suitable contact blocks</p> <p>front bezel stainless steel, polished</p>	<p>KRJVAT</p>																								
	<p>Flat Lens, transparent</p> <table border="0"> <tr> <td>colour</td> <td>blue</td> <td></td> <td>T30FBL</td> </tr> <tr> <td></td> <td>yellow</td> <td></td> <td>T30FG8</td> </tr> <tr> <td></td> <td>green</td> <td></td> <td>T30FGN</td> </tr> <tr> <td></td> <td>clear</td> <td></td> <td>T30FKL</td> </tr> <tr> <td></td> <td>red</td> <td></td> <td>T30FRT</td> </tr> <tr> <td></td> <td>opalwhite</td> <td></td> <td>T30FW5</td> </tr> </table>	colour	blue		T30FBL		yellow		T30FG8		green		T30FGN		clear		T30FKL		red		T30FRT		opalwhite		T30FW5	
colour	blue		T30FBL																							
	yellow		T30FG8																							
	green		T30FGN																							
	clear		T30FKL																							
	red		T30FRT																							
	opalwhite		T30FW5																							
	<p>Flat lens, non-transparent</p> <table border="0"> <tr> <td>colour</td> <td>blue</td> <td></td> <td>T30FGBL</td> </tr> <tr> <td></td> <td>yellow</td> <td></td> <td>T30FGGB</td> </tr> <tr> <td></td> <td>green</td> <td></td> <td>T30FGGN</td> </tr> <tr> <td></td> <td>white</td> <td></td> <td>T30FGW5</td> </tr> <tr> <td></td> <td>black</td> <td></td> <td>T30FGSW</td> </tr> <tr> <td></td> <td>red</td> <td></td> <td>T30FGRT</td> </tr> </table>	colour	blue		T30FGBL		yellow		T30FGGB		green		T30FGGN		white		T30FGW5		black		T30FGSW		red		T30FGRT	
colour	blue		T30FGBL																							
	yellow		T30FGGB																							
	green		T30FGGN																							
	white		T30FGW5																							
	black		T30FGSW																							
	red		T30FGRT																							
	<p>Convex Lens, transparent</p> <table border="0"> <tr> <td>colour</td> <td>blue</td> <td></td> <td>T30DBL</td> </tr> <tr> <td></td> <td>yellow</td> <td></td> <td>T30DGB</td> </tr> <tr> <td></td> <td>green</td> <td></td> <td>T30DGN</td> </tr> <tr> <td></td> <td>clear</td> <td></td> <td>T30DKL</td> </tr> <tr> <td></td> <td>red</td> <td></td> <td>T30DRT</td> </tr> </table>	colour	blue		T30DBL		yellow		T30DGB		green		T30DGN		clear		T30DKL		red		T30DRT					
colour	blue		T30DBL																							
	yellow		T30DGB																							
	green		T30DGN																							
	clear		T30DKL																							
	red		T30DRT																							



Pushbutton Heads

tested down to -40°F / -40°C

Illustration	Dimensions	Description	Type
		High Lens, transparent colour blue  yellow  green  clear  red 	T30HBL T30HGB T30HGN T30HKL T30HRT
		Nameplate with standard imprint please specify index number (see nameplates on pages 404)	BSKJ...
		Nameplate with special imprint according to customer's specification	BSKJB
		Blank Nameplate	BSKJU
		Pushbutton Head with ring illumination silver-coloured incl. lens, inscription on request suitable contact blocks  front bezel silver-coloured 	KRJMTLR
		Pushbutton Head with ring illumination, stainless steel incl. lens, inscription on request suitable contact blocks  front bezel stainless steel, polished 	KRJVATLR
		Pushbutton Head with ring illumination and laser printing, silver-coloured with push-cap, with laser printing, standard symbols see nameplates on pages 404 (please specify index number), special inscription on request suitable contact blocks  front bezel silver-coloured 	KRJMTLRL...
		Pushbutton Head with ring illumination and laser printing, stainless steel with push-cap, with laser printing, standard symbols see nameplates on pages 404 (please specify index number), special inscription on request suitable contact blocks  front bezel stainless steel, polished 	KRJVATLRL...

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KOMBITAST-R-JUWEL

made in germany



Ø 30.5 mm

Pushbutton Heads

tested down to -40°F / -40°C

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Illustration	Dimensions	Description	Type																		
		Membrane Pushbutton Head, silver-coloured with fully closed, transparent silicone cap, down to -50° C suitable contact blocks front bezel silver-coloured	KRJMTM																		
		Membrane Pushbutton Head with fully closed, transparent silicone cap, down to -50° C suitable contact blocks front bezel charcoal	KRJTM																		
		Membrane Pushbutton Head, stainless steel with fully closed, transparent silicone cap, down to -50° C suitable contact blocks front bezel stainless steel, polished	KRJVATM																		
		Flat Lens, transparent colour <table style="display: inline-table; vertical-align: middle;"> <tr><td>blue</td><td></td><td>T20FBL</td></tr> <tr><td>yellow</td><td></td><td>T20FGB</td></tr> <tr><td>green</td><td></td><td>T20FGN</td></tr> <tr><td>clear</td><td></td><td>T20FKL</td></tr> <tr><td>red</td><td></td><td>T20FRT</td></tr> <tr><td>opalwhite</td><td></td><td>T20FWS</td></tr> </table>	blue		T20FBL	yellow		T20FGB	green		T20FGN	clear		T20FKL	red		T20FRT	opalwhite		T20FWS	
blue		T20FBL																			
yellow		T20FGB																			
green		T20FGN																			
clear		T20FKL																			
red		T20FRT																			
opalwhite		T20FWS																			
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSRX...																		
		Nameplate with special imprint according to customer's specification	BSRXB																		
		Blank Nameplate	BSRXU																		



Emergency Stops

tested down to -40°F / -40°C

Mounting

Control Units

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Bus Technology


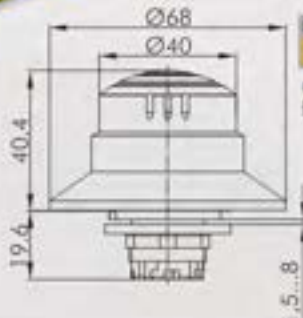



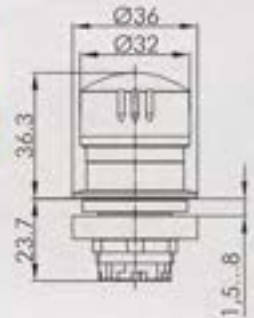



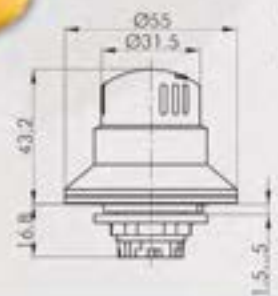


Enclosures

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Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head</p> <p>foolproof Yes switching position indicator Yes anti-lock collar Yes release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>TUV</p> <p>suitable contact blocks AS BS DT ET N</p> <p>mushroom head red  front bezel yellow </p>	KRBUV70
		<p>Emergency-stop Head</p> <p>foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>TUV</p> <p>suitable contact blocks AS BS DT ET N</p> <p>mushroom head red  front bezel yellow </p>	KRJUV
		<p>Emergency-stop Head</p> <p>consisting of QRBUV and adapter</p> <p>foolproof Yes switching position indicator Yes anti-lock collar Yes release twist right or left</p> <p>TUV</p> <p>suitable contact blocks AS BS DT ET N</p> <p>mushroom head red  front bezel yellow </p>	KRBUV

KOMBITAST-R-JUWEL

made in germany



Ø 30.5 mm

Emergency Stops

tested down to -40°F / -40°C

Illustration

Dimensions

Description

Type

#65



Emergency-stop Head

consisting of QRBUVSE and adapter

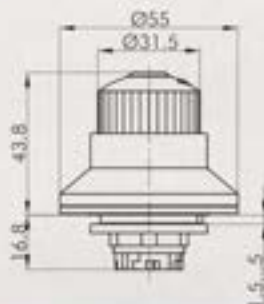
footproof	Yes
switching position indicator	Yes
anti-lock collar	Yes
release	key release

suitable contact blocks

AG ES DT ET M

mushroom head	red	
front bezel	yellow	

KRBUVSE



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

Mushroom Heads

tested down to -40°F / -40°C

Illustration	Dimensions	Description	Type
		<p>Latching Mushroom Head, silver-coloured</p> <p>foolproof No switching position indicator No anti-lock collar No release twist</p> <p>suitable contact blocks AU DS DT ET M</p> <p>mushroom head red front bezel silver-coloured</p>	KRJMV
		<p>Latching Mushroom Head, charcoal</p> <p>foolproof No switching position indicator No anti-lock collar No release twist</p> <p>suitable contact blocks AU DS DT ET M</p> <p>mushroom head red front bezel charcoal</p>	KRJV
		<p>Latching Mushroom Head, stainless steel</p> <p>foolproof No switching position indicator No anti-lock collar No release twist</p> <p>suitable contact blocks AU DS DT ET M</p> <p>mushroom head red front bezel stainless steel, polished</p>	KRJVAV
		<p>Mushroom Head, momentary, silver-coloured</p> <p>Other mushroom colours on request</p> <p>switching position indicator No anti-lock collar No</p> <p>suitable contact blocks DS DT ET M</p> <p>mushroom head red front bezel silver-coloured</p>	KRJMS
		<p>Mushroom Head, momentary, charcoal</p> <p>Other mushroom colours on request</p> <p>switching position indicator No anti-lock collar No</p> <p>suitable contact blocks DS DT ET M</p> <p>mushroom head red front bezel charcoal</p>	KRJS
		<p>Mushroom Head, momentary, stainless steel</p> <p>Other mushroom colours on request</p> <p>switching position indicator No anti-lock collar No</p> <p>suitable contact blocks DS DT ET M</p> <p>mushroom head red front bezel stainless steel, polished</p>	KRJVAS

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made in germany



Ø 30.5 mm


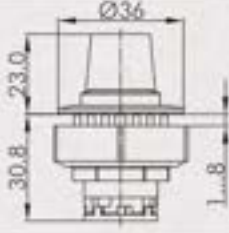

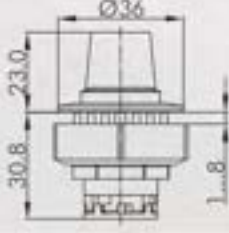

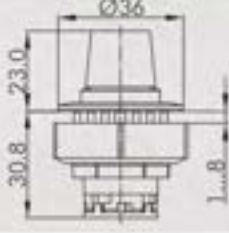
Knob Set for rotary switches
tested down to -40°F/-40°C

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Illustration	Dimensions	Description	Type
		Knob Set for rotary switches Kraus & Naimer, silver-coloured for Kraus & Naimer types CG4 and CA4 front bezel silver-coloured	 KRJMDAU
		Knob Set for rotary switches Kraus & Naimer, charcoal for Kraus & Naimer types CG4 and CA4 front bezel charcoal	 KRJDAU
		Knob Set for rotary switches ELEKTRA Tailfingen, silver-coloured front bezel silver-coloured	 KRJMDAU_ET
		Knob Set for rotary switches ELEKTRA Tailfingen, charcoal front bezel charcoal	 KRJDAU_ET



Knob Set for potentiometers
tested down to -40°F / -40°C

Illustration	Dimensions	Description	Type
		<p>Knob Set for potentiometers, silver-coloured for potentiometers of 6 mm shaft dia. and thread M10 x 0.75 Delivery without potentiometer Shaft length: approx. 50 mm ± 2 mm incl. fastening thread front bezel silver-coloured</p>	KRJMR
		<p>Knob Set for potentiometers, charcoal for potentiometers of 6 mm shaft dia. and thread M10 x 0.75 Delivery without potentiometer Shaft length: approx. 50 mm ± 2 mm incl. fastening thread front bezel charcoal</p>	KRJR
		<p>Knob Set for potentiometers, stainless steel for potentiometers of 6 mm shaft dia. and thread M10 x 0.75 Delivery without potentiometer Shaft length: approx. 50 mm ± 2 mm incl. fastening thread front bezel stainless steel, polished</p>	KRJVAR

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made in germany



Ø 30.5 mm

Selector Switches (momentary/maintained)
tested down to -40°F / -40°C

I = Switching position
> = Spring return

- Actuators
- Control Units
- Panel Mount Units
- Die Technology
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- Relay Switches
- Test Switches
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Illustration	Dimensions	Description	Type
		Selector Head, maintained, silver-coloured suitable contact blocks front bezel silver-coloured suitable contact blocks front bezel silver-coloured	 KRJMWA KRJMWB
		Selector Head, momentary, silver-coloured suitable contact blocks front bezel silver-coloured suitable contact blocks front bezel silver-coloured	 KRJMSTA KRJMSTB
		Selector Head, left maintained, right momentary silver-coloured suitable contact blocks front bezel silver-coloured	 KRJMWC
		Selector Head, maintained, silver-coloured (two-piece plunger) suitable contact blocks front bezel silver-coloured	 KRJMZWB
		Selector Head, momentary, silver-coloured (two-piece plunger) suitable contact blocks front bezel silver-coloured	 KRJMZSTB
		Selector Head, left maintained, right momentary silver-coloured (two-piece plunger) suitable contact blocks front bezel silver-coloured	 KRJMZWC



Selector Switches (momentary/maintained)

- I = Switching position
- > = Spring return

Illustration	Dimensions	Description	Type
		<p>Selector Head, left momentary, right maintained silver-coloured (two-piece plunger)</p> <p>suitable contact blocks</p> <p>DS DT M</p> <p>front bezel silver-coloured</p>	<p>KRJMWZD</p>
		<p>Illuminated Selector Head, maintained, silver-coloured</p> <p>inclusive four small transparent colour plates in red, yellow, green and blue</p> <p>suitable contact blocks</p> <p>DS DT ET M</p> <p>front bezel silver-coloured</p>	<p>KRJMWAL</p> <p>KRJMWBL</p>
		<p>Illuminated Selector Head, left maintained, right momentary, silver-coloured</p> <p>suitable contact blocks</p> <p>DS DT ET M</p> <p>front bezel silver-coloured</p>	<p>KRJMWCL</p>

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made in germany



Ø 30.5 mm

Selector Switches (momentary/maintained)
tested down to -40°F / -40°C

I = Switching position
> = Spring return

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Illustration	Dimensions	Description	Type
		Selector Head, maintained, charcoal suitable contact blocks front bezel charcoal	 KRJWA
		suitable contact blocks front bezel charcoal	 KRJWB
		Selector Head, momentary, charcoal suitable contact blocks front bezel charcoal	 KRJSTA
		suitable contact blocks front bezel charcoal	 KRJSTB
		Selector Head, left maintained, right momentary, charcoal suitable contact blocks front bezel charcoal	 KRJWC
		Selector Head, maintained, charcoal (two-piece plunger) suitable contact blocks front bezel charcoal	 KRJZWB
		Selector Head, momentary, charcoal (two-piece plunger) suitable contact blocks front bezel charcoal	 KRJZSTB
		Selector Head, left maintained, right momentary charcoal (two-piece plunger) suitable contact blocks front bezel charcoal	 KRJZWC



Selector Switches (momentary/maintained)

- I = Switching position
- > = Spring return

Illustration	Dimensions	Description	Type
		<p>Selector Head, left momentary, right maintained charcoal (two-piece plunger)</p> <p>DS DT N front bezel silver-coloured</p>	<p>KRJZWD</p>
		<p>Illuminated Selector Head, maintained, charcoal</p> <p>suitable contact blocks DS DT ET M front bezel charcoal</p> <p>suitable contact blocks DS DT ET M front bezel charcoal</p>	<p>KRJWAL</p> <p>KRJWBL</p>
		<p>Selector Head, left maintained, right momentary, charcoal</p> <p>suitable contact blocks DS DT ET M front bezel charcoal</p>	<p>KRJWCL</p>

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KOMBITAST-R-JUWEL

made in germany



Ø 30.5 mm

Selector Switches (momentary/maintained)

made of stainless steel V4A (1.4404)

tested down to -40°F / -40°C

- I = Switching position
- > = Spring return

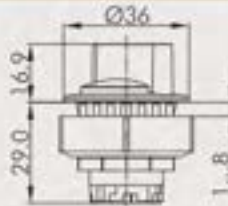
Illustration

Dimensions

Description

Type

W65



Selector Head, maintained, stainless steel

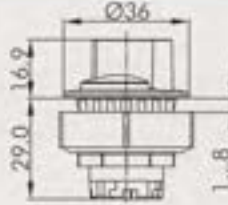
- suitable contact blocks
DS DT ET M
- front bezel stainless steel, polished
- suitable contact blocks
DT ET M
- front bezel stainless steel, polished



KRJVAWA

KRJVAWB

W65



Selector Head, momentary, stainless steel

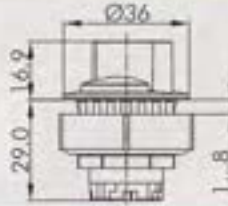
- suitable contact blocks
DS DT ET M
- front bezel stainless steel, polished
- suitable contact blocks
DT ET M
- front bezel stainless steel, polished



KRJVASTA

KRJVASTB

W65



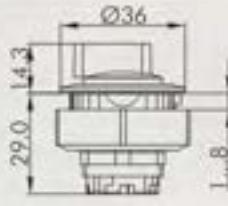
Selector Head, left maintained, right momentary stainless steel

- suitable contact blocks
DT ET M
- front bezel stainless steel, polished



KRJVAWC

W65



Illuminated Selector Head, maintained stainless steel

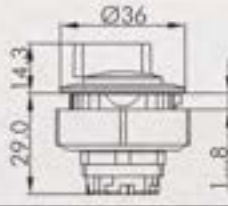
- suitable contact blocks
DS DT ET M
- front bezel stainless steel, polished
- suitable contact blocks
DS DT ET M
- front bezel stainless steel, polished



KRJVAWAL

KRJVAWBL

W65



Selector Head, left maintained, right momentary stainless steel

- suitable contact blocks
DS DT ET M
- front bezel stainless steel, polished



KRJVAWCL

Toggle Heads

tested down to -40°F / -40°C

Illustration	Dimensions	Description	Type
		<p>Toggle Head, silver-coloured red toggle (other colours on request) suitable contact blocks front bezel silver-coloured</p>	KRJMK
		<p>Toggle head, charcoal red toggle (other colours on request) suitable contact blocks front bezel charcoal</p>	KRJK
		<p>Toggle Head, stainless steel red toggle (other colours on request) suitable contact blocks front bezel stainless steel, polished</p>	KRJVK

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KOMBITAST-R-JUWEL

made in germany



Ø 30.5 mm

Key Switches (momentary/maintained)
tested down to -40°F / -40°C

- I = Switching position
- > = Spring return
- = Key removable position

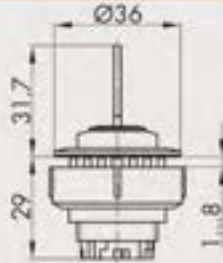
Illustration

Dimensions

Description

Type

IP65



Key actuator, maintained, silver-coloured

including two keys
other lock types on request

suitable contact blocks

front bezel silver-coloured

suitable contact blocks

front bezel silver-coloured

suitable contact blocks

front bezel silver-coloured

suitable contact blocks

front bezel silver-coloured

suitable contact blocks

front bezel silver-coloured

suitable contact blocks

front bezel silver-coloured

suitable contact blocks

front bezel silver-coloured

suitable contact blocks

front bezel silver-coloured

suitable contact blocks

front bezel silver-coloured



KRJM55A 12E

KRJM55A 13E

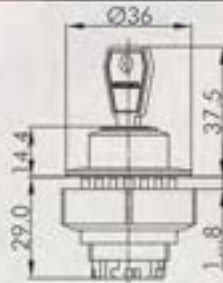
KRJM55A 14E

KRJM55A 15E

KRJM55A 17E

KRJM55A 18E

IP65



Key actuator, momentary, silver-coloured

including two keys
other lock types on request

suitable contact blocks

front bezel silver-coloured

suitable contact blocks

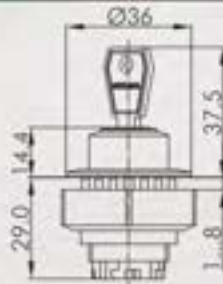
front bezel silver-coloured



KRJM55A 23E

KRJM55A 27E

IP65

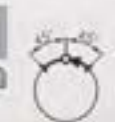


Key actuator, left maintained, right momentary silver-coloured

including two keys
other lock types on request

suitable contact blocks


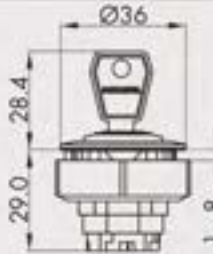


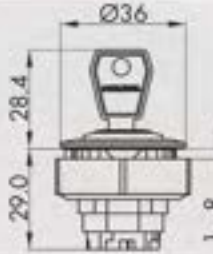


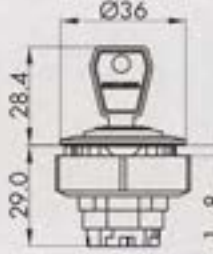

front bezel silver-coloured



KRJM55A 24E

Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type
		<p>Key Actuator, maintained, charcoal (two-piece plunger) including two keys other lock types on request suitable contact blocks</p> <p>DS DT N</p> <p>front bezel silver-coloured</p> <p>suitable contact blocks</p> <p>DS DT N</p> <p>front bezel silver-coloured</p>	 <p>KRJMZ55A12E</p> <p>KRJMZ55A13E</p>
		<p>Key Actuator, maintained, silver-coloured (two-piece plunger) including two keys other lock types on request suitable contact blocks</p> <p>DS DT N</p> <p>front bezel silver-coloured</p>	 <p>KRJMZ55A23E</p>
		<p>Key Actuator, left maintained, right momentary silver-coloured (two-piece plunger) including two keys other lock types on request suitable contact blocks</p> <p>DS DT N</p> <p>front bezel silver-coloured</p>	 <p>KRJMZ55A24E</p>

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KOMBITAST-R-JUWEL

made in germany



Ø 30.5 mm

Key Switches (momentary/maintained)

tested down to -40°F / -40°C

- I = Switching position
- > = Spring return
- = Key removable position

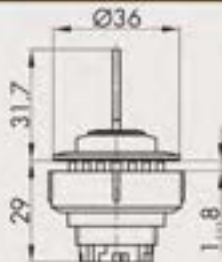
Illustration

Dimensions

Description

Type

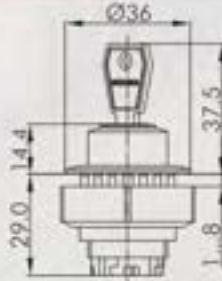
W65



Key Actuator, maintained, charcoal

suitable contact blocks	DT ET M			
front bezel	charcoal			KRJ55A 12E
suitable contact blocks	DT ET M			
front bezel	charcoal			KRJ55A 13E
suitable contact blocks	DS DT ET M			
front bezel	charcoal			KRJ55A 14E
suitable contact blocks	DS DT ET M			
front bezel	charcoal			KRJ55A 15E
suitable contact blocks	DS DT ET M			
front bezel	charcoal			KRJ55A 17E
suitable contact blocks	DS DT ET M			
front bezel	charcoal			KRJ55A 18E

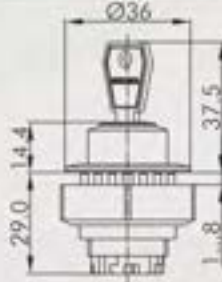
W65



Key Actuator, maintained, charcoal

suitable contact blocks	DT ET M			
front bezel	charcoal			KRJ55A 23E
suitable contact blocks	DS DT ET M			
front bezel	charcoal			KRJ55A 27E

W65



Key Actuator, left maintained, right momentary charcoal

suitable contact blocks	DT ET M			
front bezel	charcoal			KRJ55A 24E

Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type
		Key Actuator, maintained, charcoal (two-piece plunger) suitable contact blocks DS DT N front bezel charcoal	 KRJZSSA12E
		suitable contact blocks DS DT N front bezel charcoal	 KRJZSSA13E
		Key Actuator, momentary, charcoal (two-piece plunger) suitable contact blocks DS DT N front bezel charcoal	 KRJZSSA23E
		Key Actuator, left maintained, right momentary charcoal (two-piece plunger) suitable contact blocks DS DT N front bezel charcoal	 KRJZSSA24E

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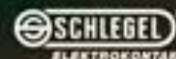
Push Switches

Limit Switches

Type Index

KOMBITAST-R-JUWEL

made in germany



Ø 30.5 mm

Key Switches (momentary/maintained)
made of stainless steel V4A (1.4404)

tested down to -40°F / -40°C

- I = Switching position
- > = Spring return
- = Key removable position

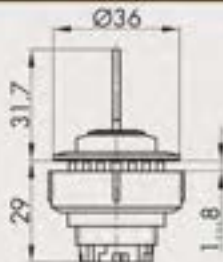
Illustration

Dimensions

Description

Type

IP65



Key Actuator, maintained, stainless steel

including two keys
other lock types on request

suitable contact blocks

front bezel stainless steel, polished

suitable contact blocks

front bezel stainless steel, polished

suitable contact blocks

front bezel stainless steel, polished

suitable contact blocks

front bezel stainless steel, polished

suitable contact blocks

front bezel stainless steel, polished

suitable contact blocks

front bezel stainless steel, polished

suitable contact blocks

front bezel stainless steel, polished

suitable contact blocks

front bezel stainless steel, polished

suitable contact blocks

front bezel stainless steel, polished



KRJVASSA 12E



KRJVASSA 13E



KRJVASSA 14E



KRJVASSA 15E



KRJVASSA 17E



KRJVASSA 18E

IP65



Key Actuator, momentary, stainless steel

suitable contact blocks

front bezel stainless steel, polished

suitable contact blocks

front bezel stainless steel, polished

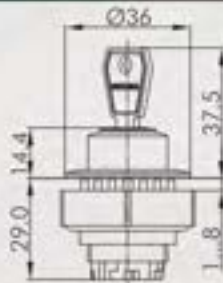


KRJVASSA 23E



KRJVASSA 27E

IP65



Key Actuator, left maintained, right momentary stainless steel

suitable contact blocks

front bezel stainless steel, polished



KRJVASSA 24E



Spare Key (standard)

standard spare key, specify key number for special locks

ESE845



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Pedal Switches

Time Switches

Key Index

Panel Mount Jacks

Illustration	Dimensions	Description	Type
 <p>KRJ(X)22R</p>  <p>Ø30.5</p>		<p>Adapter for flush-mounted jacks allows true-to-size mounting of all flush-mounted jacks of the Rontron-R-Juwel series into cut-outs of 30.5 mm dia. The jack is not included in delivery.</p> <p>subtable jacks</p> <p>colour silver-coloured</p>	KRJM22R



For panel mount jacks,
please refer to page 552

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→ Actuators

Panel Mount Jacks

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Terminal Blocks

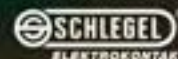
Push Switches

Limit Switches

Type Index

KOMBITAST-R-JUWEL

made in germany



Ø 30.5 mm

Pilot Lights

Lenses and nameplates to be ordered separately

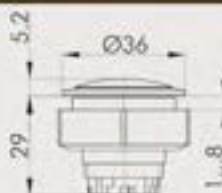
tested down to -40°F / -40°C

Illustration

Dimensions

Description

Type



Pilot Light Head, silver-coloured

suitable lampholders

DS DT ET M

front bezel silver-coloured

KRJMN



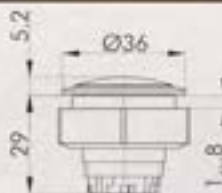
Pilot Light Head, charcoal

suitable lampholders

DS DT ET M

front bezel charcoal

KRJN



Pilot Light Head, stainless steel

suitable contact blocks

DS DT ET M

front bezel stainless steel, polished

KRJVN



Convex Lens

colour

blue



K30DBL

yellow



K30DGB

green



K30DGN

clear



K30DKL

red



K30DRT

opalwhite



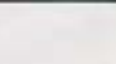
K30DWS



Nameplate with standard imprint

please specify index number(see nameplates on pages 404)

BSKJ...



Nameplate with special imprint

according to customer's specification

BSKJB



Blank Nameplate

BSKJU

Pilot Lights

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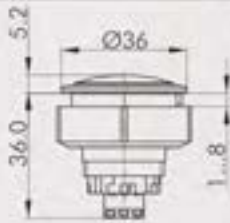





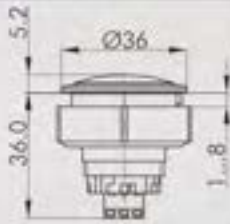





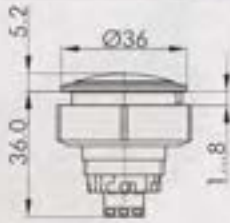

Embosses

Terminal Blocks

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Illustration	Dimensions	Description	Type
   		<p>Two-colour LED Pilot Light 24V silver-coloured</p> <p>Operating temperature: -25°C ... 60°C Rated voltage: 24V DC Rated current: max. 10mA per LED Insulation voltage: 0.5kV Insulation resistance: ≥ 2MΩm Connection: screw terminals 3x1mm²</p> <p><u>Pin assignment</u> Pin 1: red Pin 2: GND Pin 3: green</p> <p>other colours on request</p> <p>incl. lens and nameplate LED colour red/green front bezel silver-coloured</p>	 <p>KRJML 24R_G</p>
   		<p>Two-colour LED Pilot Light 24V charcoal</p> <p>Operating temperature: -25°C ... 60°C Rated voltage: 24V DC Rated current: max. 10mA per LED Insulation voltage: 0.5kV Insulation resistance: ≥ 2MΩm Connection: screw terminals 3x1mm²</p> <p><u>Pin assignment</u> Pin 1: red Pin 2: GND Pin 3: green</p> <p>other colours on request</p> <p>incl. lens and nameplate LED colour red/green front bezel charcoal</p>	 <p>KRJL 24R_G</p>
   		<p>Two-colour LED Pilot Light 24V stainless steel</p> <p>Operating temperature: -25°C ... 60°C Rated voltage: 24V DC Rated current: max. 10mA per LED Insulation voltage: 0.5kV Insulation resistance: ≥ 2MΩm Connection: screw connection 3x1mm²</p> <p><u>Pin Assignment</u> Pin 1: red Pin 2: GND Pin 3: green</p> <p>other colours on request</p> <p>incl. lens and nameplate LED colour red/green front bezel stainless steel, polished</p>	 <p>KRJVAL 24R_G</p>

Ø 30.5 mm

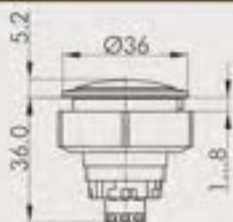
Pilot Lights

Illustration

Dimensions

Description

Type



Two-colour LED Pilot Light 230V

silver-coloured

Operating temperature: -25°C ... 55°C
 Rated voltage: 230V AC / 50 ... 60Hz
 Rated current: max. 4mA per LED
 Insulation voltage: 2.5kV
 Insulation resistance: ≥ 2MΩ
 Connection: screw terminals 3x1mm²

Pin assignment

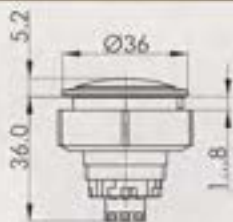
Pin 1: red
 Pin 2: GND
 Pin 3: green

other colours on request

incl. lens and nameplate
 LED colour red/green
 front bezel silver-coloured



KRJML_230R_G



Two-colour LED Pilot Light 230V

charcoal

Operating temperature: -25°C ... 55°C
 Rated voltage: 230V AC / 50 ... 60Hz
 Rated current: max. 4mA per LED
 Insulation voltage: 2.5kV
 Insulation resistance: ≥ 2MΩ
 Connection: screw terminals 3x1mm²

Pin assignment

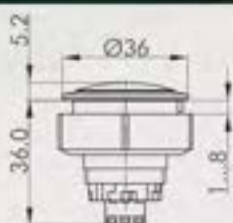
Pin 1: red
 Pin 2: GND
 Pin 3: green

other colours on request

incl. lens and nameplate
 LED colour red/green
 front bezel charcoal



KRJL_230R_G



Two-colour LED Pilot Light 230V

stainless steel

Operating temperature: -25°C ... 55°C
 Rated voltage: 230V AC / 50 ... 60Hz
 Rated current: max. 4mA per LED
 Insulation voltage: 2.5kV
 Insulation resistance: ≥ 2MΩ
 Connection: screw connection 3x1mm²

Pin Assignment

Pin 1: red
 Pin 2: GND
 Pin 3: green



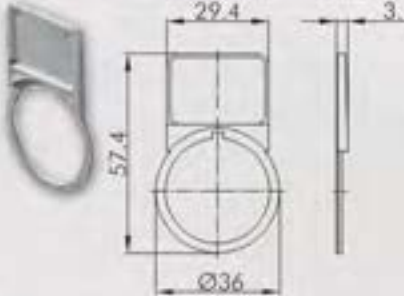
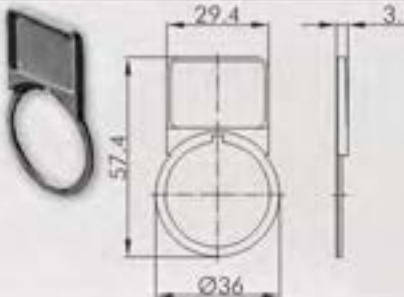




other colours on request

incl. lens and nameplate
 LED colour red/green
 front bezel stainless steel, polished



KRJVAL_230R_G

Accessories for Actuators

Illustration	Dimensions	Description	Type
		Mounting Tool with torque limitation for the series QUARTEX-R(-JUWEL), KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R(-G)-JUWEL series	S22
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External Nameplate Holder for outside marking of the actuators of the KOMBITAST-R-JUWEL series, accepts self-adhesive nameplates colour silver-coloured	KRJMA8T
		External Nameplate Holder for outside marking of the actuators of the KOMBITAST-R-JUWEL series, accepts self-adhesive nameplates colour charcoal	KRJABT
		Self-adhesive Nameplate, laser-printed Inscription according to customer's specification Dimensions: 19 x 27 mm	BZ23G
		Self-adhesive Nameplate blank Dimensions: 19 x 27 mm	BZ23U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 19 x 27 mm	BZ23B...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 30,5 mm colour yellow	NAS_30

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KOMBITAST-R-JUWEL

made in germany



Ø 30.5 mm

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- Abwärt
- Actuator
- Control Lines
- Panel Mount Acts
- Bus Technology
- Enclosures
- Terminal Blocks
- Push Switches
- Lens Switches
- Type Index

Illustration	Dimensions	Description	Type
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting dia. 30,5 mm colour yellow	 NAS_30_548
		Lead-sealable Protective Lid for pushbutton KRJMT(LR)/KRJT/KRJVAT(LR) colour transparent	 KDKRT
		Lead-sealable Protective Lid for selector switches KRJMW/KRJWA/KRJVAWA colour transparent	 KDKRWA
		Lead-sealable Protective Lid for selector switches KRJMWB/KRJWB/KRJVAWB colour transparent	 KDKRWB
		Universal Lens Remover	USK
 		Dummy, silver-coloured to close unused mounting apertures colour silver-coloured	 BVKRJM
 		Dummy, charcoal to close unused mounting apertures colour charcoal	 BVKRJ



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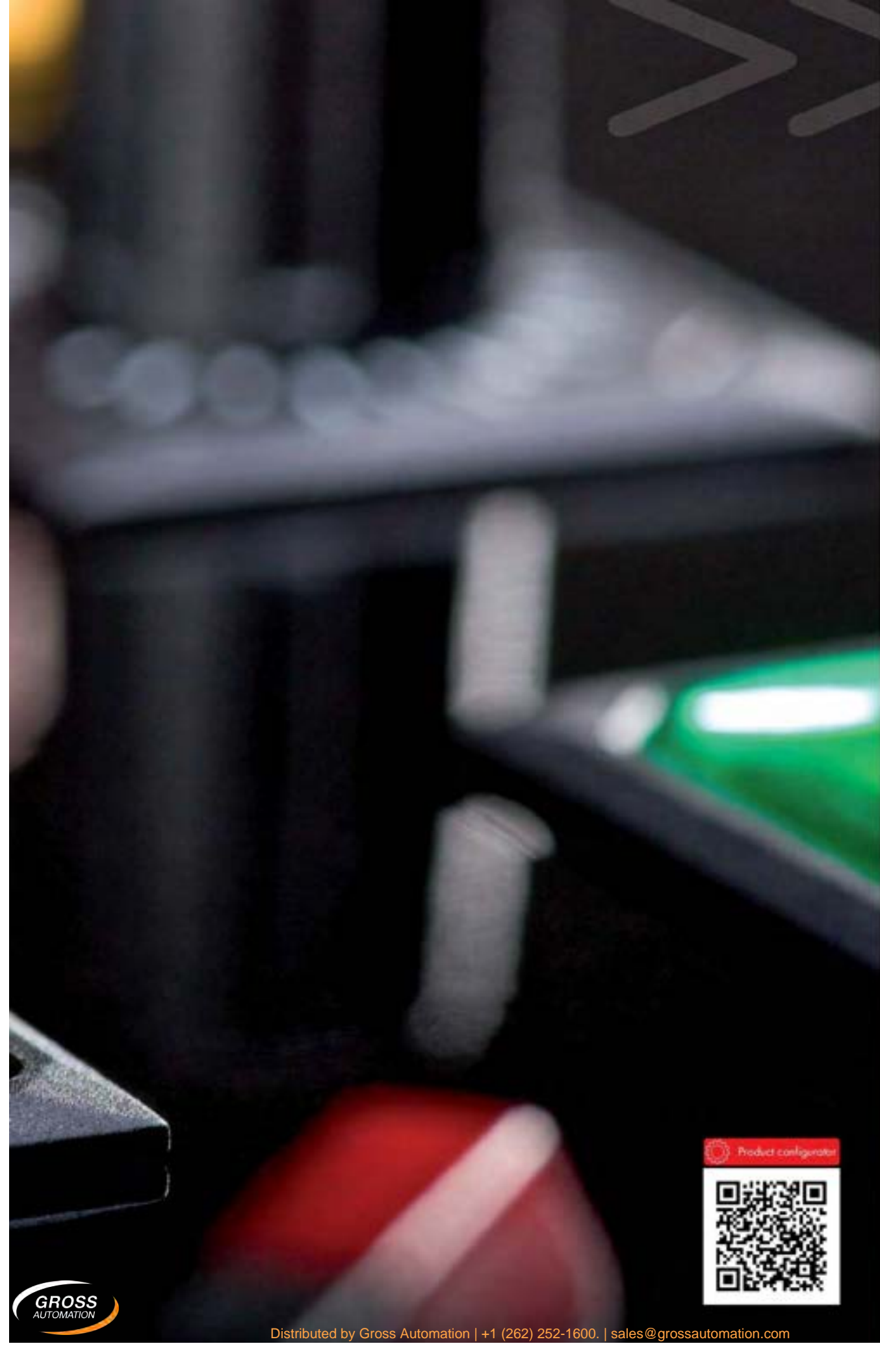
Type Index





Front dimensions: 25 x 25 mm
Panel cut-out: 23.1 x 23.1 mm
Front bezel height: 2 mm
Travel: 3 mm





OKTRON-JUWEL

Product configurator



Overview OKTRON-JUWEL series



- 01 Pushbutton Heads
- 02 Emergency Stop Buttons
- 03 Knob Set for Potentiometers
- 04 Selector Heads
- 05 Key Actuators
- 06 Acoustic Buzzers

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- page 318
- page 320
- page 322

- 07 Flush-mounted jacks
- 08 Pilot Lights

- page 324
- page 325

Contact Blocks / Lampholders page 408

Housing Colour



degree of protection

operating travel

illuminating option

labelling option



- 

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CT...
Contact Blocks
Faston terminals
page 490
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CZ...
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B
R
BFK...
Contact Blocks
screw connection
page 436
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AS
ASL...
Contact Blocks
for AS-interface
page 534
- 

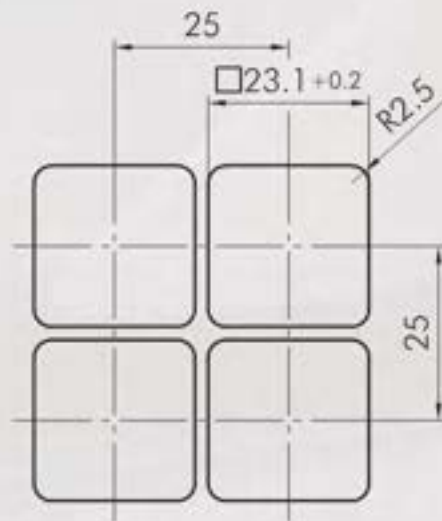
AS
ASL...
Contact Blocks
for AS-interface
Safety @ Work
page 540

23 x 23 mm

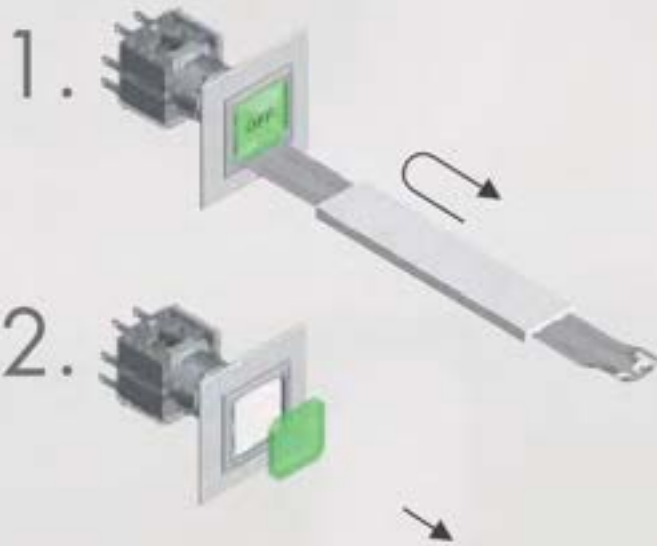
Mounting Depth Dimensions



Cutout Dimensions



Mounting and Service Instructions



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23 x 23 mm

Pushbutton Heads

Lenses and nameplates to be ordered separately

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- Panel Mount Units
- Bus Technology
- Endusers
- Terminal Blocks
- Relay Switches
- Limit Switches
- Type Index

Illustration	Dimensions	Description	Type
		Pushbutton Head suitable contact blocks front bezel block	OKJT
		Flat Lens, transparent colour blue TOKJFBL yellow TOKJFGB green TOKJFGN clear TOKJFKL red TOKJFRT white TOKJFWS	
		Flat Lens, non-transparent used in pushbuttons without inscription and illumination colour blue TOKJFGBL yellow TOKJFGGB green TOKJFGGN black TOKJFGSW red TOKJFGRT white TOKJFGWS	
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSOKJ...
		Nameplate with special imprint according to customer's specification	BSOKJB
		Blank Nameplate	BSOKJU

Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks A1 A2 A3 A4 P1P P1F</p> <p>mushroom head red  front bezel yellow </p>	OKJUV

		<p>Emergency-stop Head foolproof Yes switching position indicator Yes anti-lock collar Yes release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks A1 A2 A3 A4 P1P P1F</p> <p>knob colour red  front bezel yellow </p>	OKJBUV
--	--	---	---------------



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366
 The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

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Knob Set for potentiometers
Selector Switches (momentary/maintained)


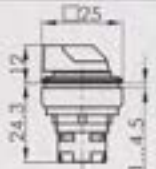







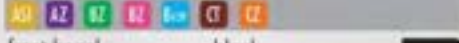







⊥ = Switching position
 > = Spring return

- Abwärts
- Control Units
- Anwärts
- Panel Mount Jacks
- Die Technology
- Enclosures
- Terminal Blocks
- Push Switches
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Illustration	Dimensions	Description	Type
		Knob Set for potentiometers for potentiometers of 6 mm shaft dia. and thread M10x0.75. Delivery without potentiometer. Shaft length: approx. 32 mm front bezel black	 OKJR
		Selector Head, maintained suitable contact blocks BUS A1 A2 B BF BZ B2 B3 B4 C1 C2 C3 C4 front bezel black	 OKJWA OKJWB
		Selector Head, momentary suitable contact blocks BUS A1 A2 B BF BZ B2 B3 B4 C1 C2 C3 C4 front bezel black	 OKJSTA OKJSTB
		Selector Head, left maintained, right momentary suitable contact blocks A1 A2 BZ B2 B3 B4 C1 C2 front bezel black	 OKJWC
		Illuminated Selector Head, maintained Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. OKJWAL_GN) suitable contact blocks BUS A1 A2 B BF BZ B2 B3 B4 C1 C2 C3 C4 front bezel black	 OKJWAL... OKJWBL...

Selector Switches (momentary/maintained)

- I = Switching position
- > = Spring return

Illustration	Dimensions	Description	Type
		<p>Illuminated Selector Head, momentary Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. OKJSTAL_GN) suitable contact blocks:  front bezel black  OKJSTAL...</p> <p>suitable contact blocks:  front bezel black  OKJSTBL...</p>	
		<p>Illuminated Selector Head, left maintained, right momentary Knob available in blue-BL, yellow-GB, clear-KL, green-GN, red-RT (e.g. OKJWCL_GN) suitable contact blocks:  front bezel black  OKJWCL...</p>	
		<p>Selector Head for desert application, maintained tested with coarse Arizona dust suitable contact blocks:  knob colour black  front bezel black  OKJWB_514</p>	

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Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration

Dimensions

Description

Type

#65



Key Actuator, maintained

including two keys
other lock types on request

suitable contact blocks

A1 A2 B1 B2 B3 CT CZ

front bezel black

suitable contact blocks

A1 A2 B1 B2 B3 CT CZ

front bezel black

suitable contact blocks

A1 A2 B1 B2 B3 B4 CT CTF CTF CZ

front bezel black

suitable contact blocks

A1 A2 B1 B2 B3 B4 CT CTF CTF CZ

front bezel black

suitable contact blocks

A1 A2 B1 B2 B3 B4 CT CTF CTF CZ

front bezel black

suitable contact blocks

A1 A2 B1 B2 B3 B4 CT CTF CTF CZ

front bezel black

suitable contact blocks

A1 A2 B1 B2 B3 B4 CT CTF CTF CZ

front bezel black

suitable contact blocks

A1 A2 B1 B2 B3 B4 CT CTF CTF CZ

front bezel black



OKJ55A12

OKJ55A13

OKJ55A14

OKJ55A15

OKJ55A16

OKJ55A17

OKJ55A18

#65



Key Actuator, maintained

including 3 keys:
1st key: two-way operation
2nd key: operation to the left only
3rd key: operation to the right only

suitable contact blocks

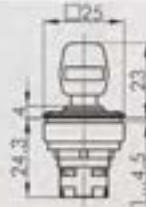
A1 A2 B1 B2 B3 CT CZ

front bezel black



OKJ55A31

#65



Key Actuator, momentary

including two keys,
other lock types on request

suitable contact blocks

A1 A2 B1 B2 B3 CT CZ

front bezel black

suitable contact blocks

A1 B1 B2 B3 B4 CT CTF CTF CZ

front bezel black


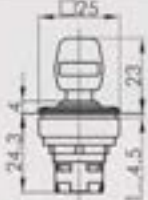
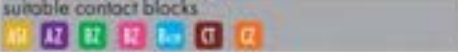




OKJ55A23

OKJ55A28

Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type
		<p>Key Actuator, left maintained, right momentary including two keys other lock types on request suitable contact blocks</p>  <p>front bezel black</p> 	OKJ55A25
		<p>Standard Spare Keys standard spare key, specify key number for special locks</p>	ESMIC482

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Buzzers

Illustration

Dimensions

Description

Type

#65



Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: max. 30mA
 signal frequency: 3.5 +/- 0.5 kHz
 volume: max. 85 db (10cm, 24V)
 max. 75 db (10cm, 12V)
 operating temperature: -20°C ... 60°C
 front bezel: black

**OKJNSG+
SG-24V**

#65

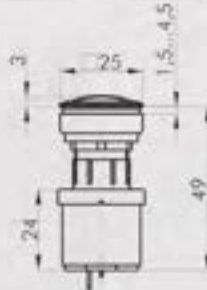


Interval Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: max. 30mA
 signal frequency: 3.5 +/- 0.5 kHz
 volume: max. 85 db (10cm, 24V)
 max. 75 db (10cm, 12V)
 interval: 1 s
 operating temperature: -20°C ... 60°C
 front bezel: black

**OKJNSG+
SGI-24V**

#65



Illuminated Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: approx. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 85 db (10cm, 24V)
 max. 75 db (10cm, 12V)
 operating temperature: -20°C ... 60°C
 front bezel: black

**OKJNSGL+
SGLR-24V**

#65



Illuminated Interval Buzzer

operating voltage: 12 ... 24V AC/DC
 operating current: approx. 30mA
 signal frequency: 3.5 +/- 0.5 Hz
 volume: max. 85 db (10cm, 24V)
 max. 75 db (10cm, 12V)
 interval: 1 s
 operating temperature: -20°C ... 60°C
 front bezel: black

**OKJNSGL+
SGILR-24V**



Faston Clamp 2.8 x 0.8 mm with snap-in pin

FH2,8

Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8

Buzzers

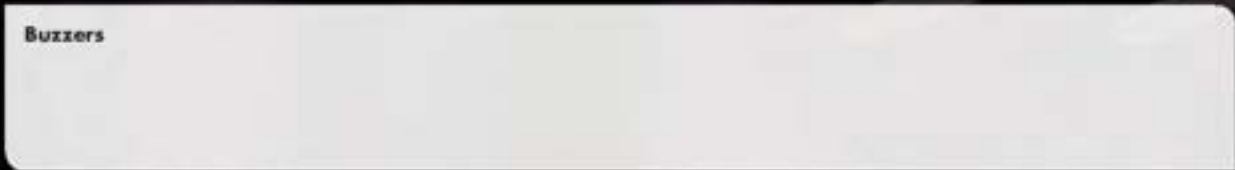




Illustration	Dimensions	Description	Type
		Insulating Case for Faston clamp FH2,8, slip on from the front	IH2,8
		Double Faston for the connection of 2 Faston clamps FH2.8	FD2,8

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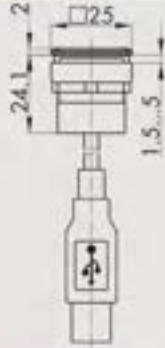
Panel Mount Jacks

Illustration

Dimensions

Description

Type



USB Jack

front:
USB jack type A

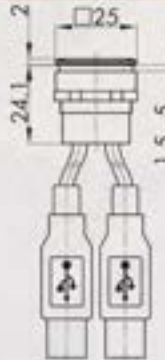
rear:
USB2.0 cable (length 60 cm) with plug type A

other lengths on request

front bezel block



OKJ_USB



Double USB Jack

front:
2x USB: type A

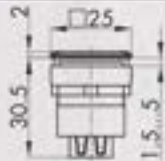
rear:
2x USB2.0 cable (length 60 cm) with plug type A

other lengths on request

front bezel block



OKJ_2USB



USB Jack

front:
USB jack type A

rear:
USB jack type A

front bezel block




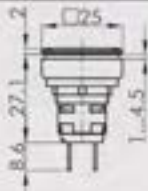





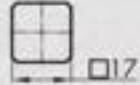
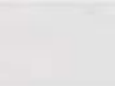
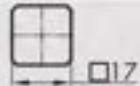

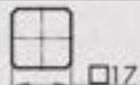
OKJ_USB_AA

**For panel mount jacks,
please refer to page 552**



Pilot Lights

Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
		Pilot Light with Faston terminals 2.8x0.8 mm W2x4.6d socket front bezel black	OKJL4
		Pilot Light Head suitable lampholders front bezel black	OKJIN
		Convex Lens, transparent colour blue yellow green clear red white	KOKJFBL KOKJFGB KOKJFGN KOKJFKL KOKJFRT KOKJFWS
		Flat Lens, transparent colour blue yellow green clear red white	TOKJFBL TOKJFGB TOKJFGN TOKJFKL TOKJFRT TOKJFWS
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSOKJ...
		Nameplate with special imprint according to customer's specification	BSOKJB
		Blank Nameplate	BSOKJU

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Illustration	Dimensions	Description	Type
		Hexagonal Mounting Tool with torque limitation, for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-RJUWEL, RONTRON-QJUWEL, QUARTRON, QUARTRON-JUWEL, RXJUWEL	S16
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 60 mm for mounting aperture 23 x 23 mm colour yellow	 NAS_23
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 60 mm for mounting aperture 23 x 23 mm colour yellow	 NAS_23_548
		Protective Lid for pushbuttons and jacks of the OKTRON-JUWEL series colour transparent	 KDOKJ
		Universal Lens Remover	USK
		Dummy to close unused mounting apertures colour black	 BVOKJ

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Front dimensions: 27 x 27 mm
Panel cut-out: 24 x 24 mm
Front bezel height: 2.5 mm
Travel: 6 mm



QUARTRON-JUWEL

Product configurator



QUARTRON-JUWEL

24 x 24 mm

made in germany



Overview QUARTRON-JUWEL series



01 Pushbutton Heads	page 334	07 Key Actuators	page 339
02 Emergency Stop Buttons	page 337	08 Acoustic Buzzers	page 341
03 Mushroom Heads	page 337	09 Pilot Lights	page 344
04 Knob Set for Potentiometers	page 338		
05 Selector Heads	page 338	Contact Blocks / Lampholders	page 408
06 Toggle Heads	page 338		

Housing Colours



degree of protection

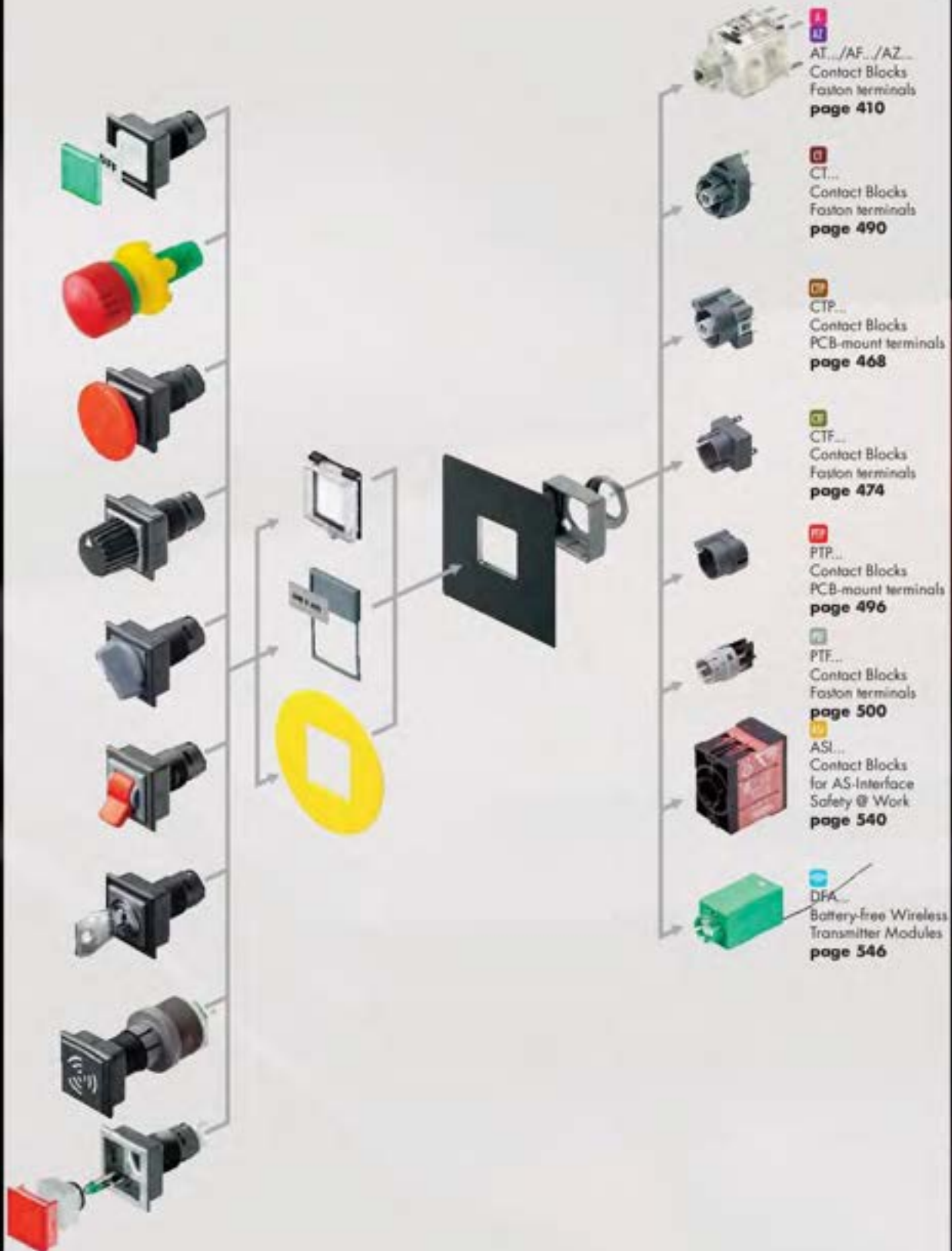
operating travel

illuminating option

labeling option



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Faston terminals
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-  **CT...**
Contact Blocks
Faston terminals
page 490
-  **CTP...**
Contact Blocks
PCB-mount terminals
page 468
-  **CTF...**
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Contact Blocks
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Safety @ Work
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Battery-free Wireless
Transmitter Modules
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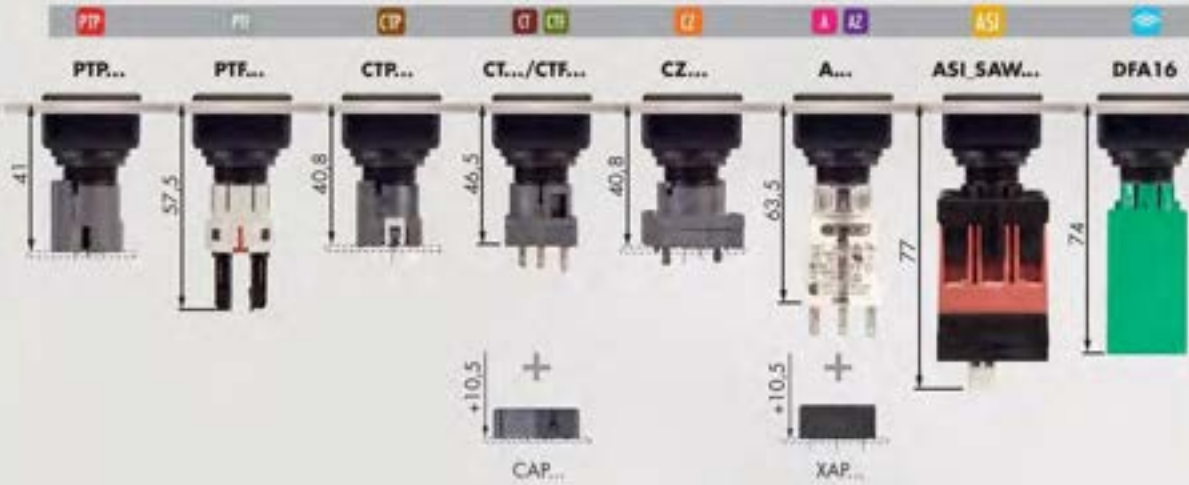
QUARTRON-JUWEL

24 x 24 mm

made in germany

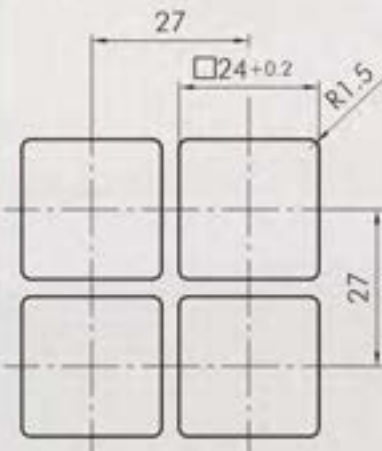


Mounting Depth Dimensions

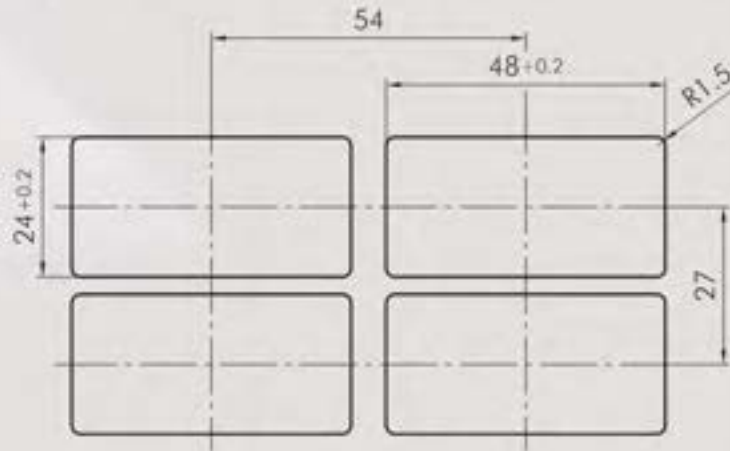


Cutout Dimensions

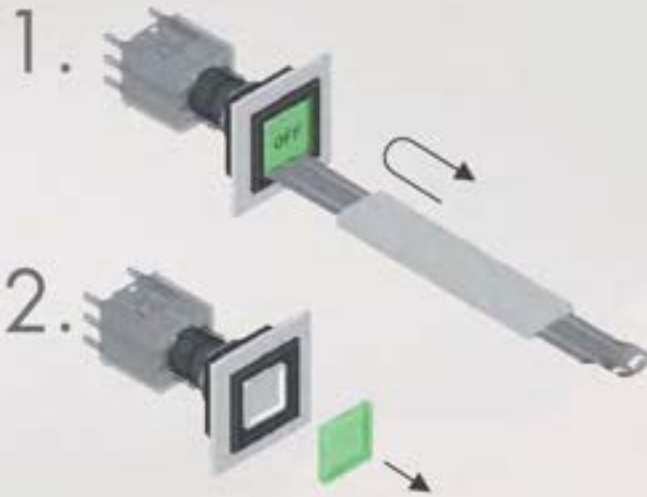
QXJ...



LXJ...



Mounting and Service Instructions



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QUARTRON-JUWEL

made in germany



24 x 24 mm

Pushbutton Heads

Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
		Pushbutton Head suitable contact blocks front bezel black charcoal	QXJT QXJTDG
		Pushbutton Head Two prisms reflect the light from the center to a „window“ at the edge of the lens. suitable contact blocks front bezel black charcoal	QXJTL QXJTLDG
		Short-stroke Pushbutton Head suitable contact blocks front bezel black charcoal	QXJD QXJDDG
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSQX...
		Nameplate with special imprint according to customer's specification	BSQXB
		Blank Nameplate	BSQXU
		Concave Lens, transparent colour blue yellow green clear red opalwhite	T25DBL T25DGB T25DGN T25DKL T25DRT T25DWS
		Flat Lens, transparent colour blue yellow green clear red opalwhite	T25FBL T25FGB T25FGN T25FKL T25FRT T25FWS

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










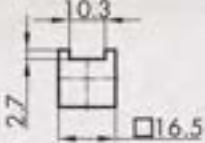
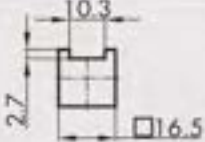

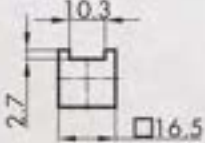


Field Switches

Limit Switches

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Accessories for Actuators

Illustration	Dimensions	Description	Type
		Flat Lens, non-transparent colour blue  colour yellow  colour green  colour black  colour red  colour white 	T25FGBL T25FGGB T25FGGN T25FGSW T25FGRT T25FGW5
		High Lens, transparent colour blue  colour yellow  colour green  colour clear  colour red  colour opalwhite 	T25HBL T25HGB T25HGN T25HKL T25HRT T25HWS
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSQXLL...
		Nameplate with special imprint according to customer's specification	BSQXLLB
		Blank Nameplate	BSQXLLU
 IP67		Dichtungskappe aus PVC, von -5°C bis +60°C	TK27P
 IP67		Sealing Cap made of silicone rubber, -50°C to +60°C	TK27S

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QUARTRON-JUWEL

24 x 24 mm

made in germany



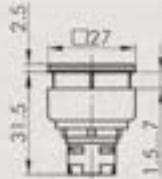
Pushbutton Heads

Illustration

Dimensions

Description

Type



Short-stroke Membrane Pushbutton Head

- with transparent silicone protection cap, down to -50° C
- with transparent, flat lens, add code letter to type number, e.g. QXJDMRT (red-RT, green-GN, yellow-GB, blue-BL, clear-KL)
- with illuminating option, blank nameplate included.
- Standard or special imprints on request.

suitable contact blocks



front bezel	black		QXJDM...
front bezel	charcoal		QXJDMDG...

Emergency Stops Mushroom Heads

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Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head</p> <p>foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p> suitable contact blocks AZ A AZ PTP PTT</p> <p>mushroom head red front bezel yellow</p>	QXJUV
		<p>Emergency-stop Head</p> <p>foolproof Yes switching position indicator Yes anti-lock collar Yes release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p> suitable contact blocks AZ A AZ PTP PTT</p> <p>mushroom head red front bezel yellow</p>	QXJBUV
		<p>For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366</p> <p>The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.</p>	
		<p>Mushroom Head, momentary</p> <p>other mushroom colours on request switching position indicator No anti-lock collar No</p> <p> suitable contact blocks A AZ CI CE CP C</p> <p>mushroom head red front bezel black charcoal</p>	QXJ5 QXJ5DG

QUARTRON-JUWEL

24 x 24 mm

made in germany



Knob Set for potentiometers
Selector Switches (momentary/maintained)
Toggle Heads

I = Switching position
 > = Spring return

- Knob (1)
- Control Units
- Accessories
- Panel Mount Units
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Illustration	Dimensions	Description	Type
		Knob Set for potentiometers for potentiometers of 6 mm shaft dia. and thread M10x0.75. Delivery without potentiometer. Shaft length: approx. 50 mm ± 4 mm knob colour black front bezel black charcoal	 QXJR QXJRDG
		Selector Head, maintained suitable contact blocks front bezel black suitable contact blocks front bezel black	 QXJWA QXJWB
		Selector Head, momentary suitable contact blocks front bezel black suitable contact blocks front bezel black	 QXJSTA QXJSTB
		Selector head, left maintained, right momentary suitable contact blocks front bezel black	 QXJWC
		Toggle Head red toggle (other colours on request) suitable contact blocks knob colour red front bezel black charcoal	 QXJK QXJKDG



Key Switches (momentary/maintained)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type		
		Key Actuator, maintained including two keys other lock types on request suitable contact blocks A A2			
		front bezel	black charcoal		QXJSSA12E QXJSSDGA12E
		front bezel	black charcoal		QXJSSA13E QXJSSDGA13E
		front bezel	black charcoal		QXJSSA14E QXJSSDGA14E
		front bezel	black charcoal		QXJSSA15E QXJSSDGA15E
		front bezel	black charcoal		QXJSSA17E QXJSSDGA17E
		front bezel	black charcoal		QXJSSA18E QXJSSDGA18E
		Key Actuator, momentary suitable contact blocks A A2			
		front bezel	black charcoal		QXJSSA23E QXJSSDGA23E
		front bezel	black charcoal		QXJSSA27E QXJSSDGA27E
		Key Actuator, left maintained, right momentary suitable contact blocks A A2			
		front bezel	black charcoal		QXJSSA24E QXJSSDGA24E
		front bezel	black charcoal		QXJSSA25E QXJSSDGA25E

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QUARTRON-JUWEL

24 x 24 mm

made in germany



Accessories for Actuators

- I = Switching position
- > = Spring return
- = Key removable position

Illustration

Dimensions

Description

Type

W65



Key Actuator with protection cap, maintained

suitable contact blocks				
A AZ				
front bezel	black			QXJ55KA12E
suitable contact blocks				
A AZ				
front bezel	black			QXJ55KA13E
suitable contact blocks				
A AZ CT CT OP CT				
front bezel	black			QXJ55KA14E
suitable contact blocks				
A AZ CT CT OP CT				
front bezel	black			QXJ55KA15E
suitable contact blocks				
A AZ CT CT OP CT				
front bezel	black			QXJ55KA17E
suitable contact blocks				
A AZ CT CT OP CT				
front bezel	black			QXJ55KA18E

W65



Key Actuator with protection cap, momentary

suitable contact blocks				
A AZ				
front bezel	black			QXJ55KA23E
suitable contact blocks				
A AZ CT CT OP CT				
front bezel	black			QXJ55KA27E

W65



Key Actuator with protection cap, left maintain, right momentary

suitable contact blocks				
A AZ				
front bezel	black			QXJ55KA24E
suitable contact blocks				
A AZ				
front bezel	black			QXJ55KA25E









Spare Key (standard)

standard spare key, specify key number for special locks

ESE845

Buzzers

Illustration	Dimensions	Description	Type
		<p>Buzzer operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 90 db [10cm, 24V] max. 80 db [10cm, 12V] operating temperature: -20°C ... 60°C front bezel: black</p>	<p>QXJNSG+ SG-24V</p>
		<p>Interval Buzzer operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 90 db [10cm, 24V] max. 80 db [10cm, 12V] interval: 1 s operating temperature: -20°C ... 60°C front bezel: black</p>	<p>QXJNSG+ SGI-24V</p>
		<p>Illuminated Buzzer operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 90 db [10cm, 24V] max. 80 db [10cm, 12V] operating temperature: -20°C ... 60°C front bezel: black</p>	<p>QXJNSGL+ SGLR-24V</p>
		<p>Illuminated Interval Buzzer operating voltage: 12 ... 24V AC/DC operating current: max. 30mA signal frequency: 3.5 +/- 0.5 Hz volume: max. 90 db [10cm, 24V] max. 80 db [10cm, 12V] interval: 1 s operating temperature: -20°C ... 60°C front bezel: black</p>	<p>QXJNSGL+ SGILR-24V</p>
		<p>Faston Clamp 2.8 x 0.8 mm with snap-in pin Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8</p>	<p>FH2,8</p>
		<p>Insulating Case for Faston clamp FH2,8, slip on from the front</p>	<p>IH2,8</p>
		<p>Double Faston for the connection of 2 Faston clamps FH2.8</p>	<p>FD2,8</p>

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QUARTRON-JUWEL

24 x 48 mm

made in germany



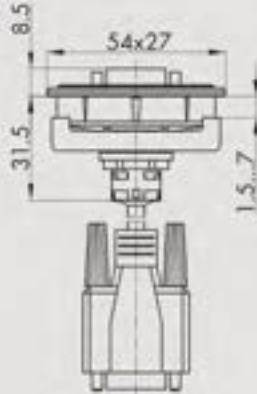
Panel Mount Jacks

Illustration

Dimensions

Description

Type



VGA Jack

front:
VGA jack

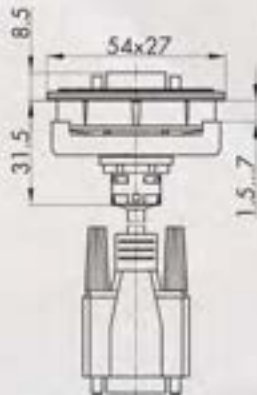
rear:
VGA cable (length 100 cm) with plug

other lengths on request

front bezel block



LXJ
VGA_100CM



RS232 Jack

front:
RS232 jack

rear:
RS232 cable (length 100 cm) with plug

other lengths on request

front bezel block



LXJ
RS232_100CM

Keurth

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Panel Mount Jacks

Illustration	Dimensions	Description	Type
		<p>For panel mount jacks, please refer to page 552</p>	

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made in germany



24 x 24 mm

Pilot Lights


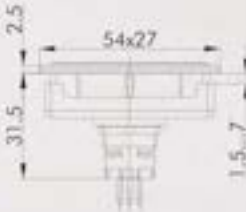

Lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type	
		Pilot Light with Faston Terminals 2.8x0.8 mm T5.5K socket front bezel	black charcoal	QXJL5 QXJL5DG
		Pilot Light Head suitable lampholders front bezel	black charcoal	QXJN QXJNDG
		Flat Lens, depolished colour	blue yellow green red opalwhite	KF25BL KF25GB KF25GN KF25RT KF25W5
		Flat Lens, transparent colour	blue yellow green clear red	KF25KSBL KF25K5GB KF25K5GN KF25K5KL KF25K5RT
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)		BSQX...
		Nameplate with special imprint according to customer's specification		BSQXB
		Blank Nameplate		BSQXU

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Seven-segment Displays

Illustration	Dimensions	Description	Type
 		<p>4-Digit 7-Segment Display with serial interface</p> <p>Operating temperature : -30 bis +70°C Operating voltage: 24V DC (18-28V) Current consumption: 70mA at 24V Inputs (Enable, Clock, Data): 24V PLC level Clock pulse rate: 0...10kHz Data telegram: 20 bit, serial Available character set: 0..9, A, I, II, U, -, blank Connection: via integrated 6-pole diode plug acc. to DIN 45322</p> <p>Option: parallel control (8 bit) via additional module</p>	LXJLASCE-SPS
		<p>DIN Female Connector serves to connect the 7-segment displays in compliance with DIN 45322</p>	MAK6

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QUARTRON-JUWEL

24 x 24 mm

made in germany



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Illustration	Dimensions	Description	Type
		Hexagonal Mounting Tool with torque limitation, for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RXJUWEL	S16
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and S22	SRA
		External Nameplate Holder for outside marking of the actuators of the QUARTRON-JUWEL series, accepts self-adhesive nameplates colour charcoal	QXJABT
		Self-adhesive Nameplate laser-printed Inscription according to customer's specification Dimensions: 22 x 11 mm	BZ16L
		Self-adhesive Nameplate blank Dimensions: 22 x 11 mm	BZ16U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on page 404) Dimensions: 22 x 11 mm	BZ168...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 60 mm for mounting aperture 24 x 24 mm colour yellow	NAS_24
		Yellow Nameplate with quadrilateral imprint self-adhesive PVC foil outer dia. 60 mm for mounting aperture 24 x 24 mm colour yellow	NAS_24_548
		Lead-sealable Protective Lid fits on the pushbuttons of the QUARTRON-JUWEL series Attention: mounting grid 30 x 30mm	KDP24

Accessories for Actuators

Illustration	Dimensions	Description	Type
		Lead-sealable Protective Lid fits onto the pushbuttons of the QUARTRON-JUWEL series	KDQ24
		Universal Lens Remover	USK
		Dummy to close unused mounting apertures colour black	QX24

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Front dimensions: 30 x 30 mm
Panel cut-out: 26 x 26 mm
Front bezel height: 6 mm
Travel: 6 mm





QUARTEX-R-JUWEL

 Product configurator



QUARTEX-R-JUWEL

26 x 26 mm

made in germany



Overview QUARTEX-R-JUWEL series



01 Pushbutton Heads	page 354	07 Pilot Lights	page 360
02 Emergency Stop Buttons	page 356	Contact Blocks / Lampholders	page 408
03 Knob Set for Rotary Switch / Potentiometer	page 357		
04 Selector Heads	page 357		
05 Toggle Heads	page 358		
06 Key Actuators	page 359		

Housing Colour

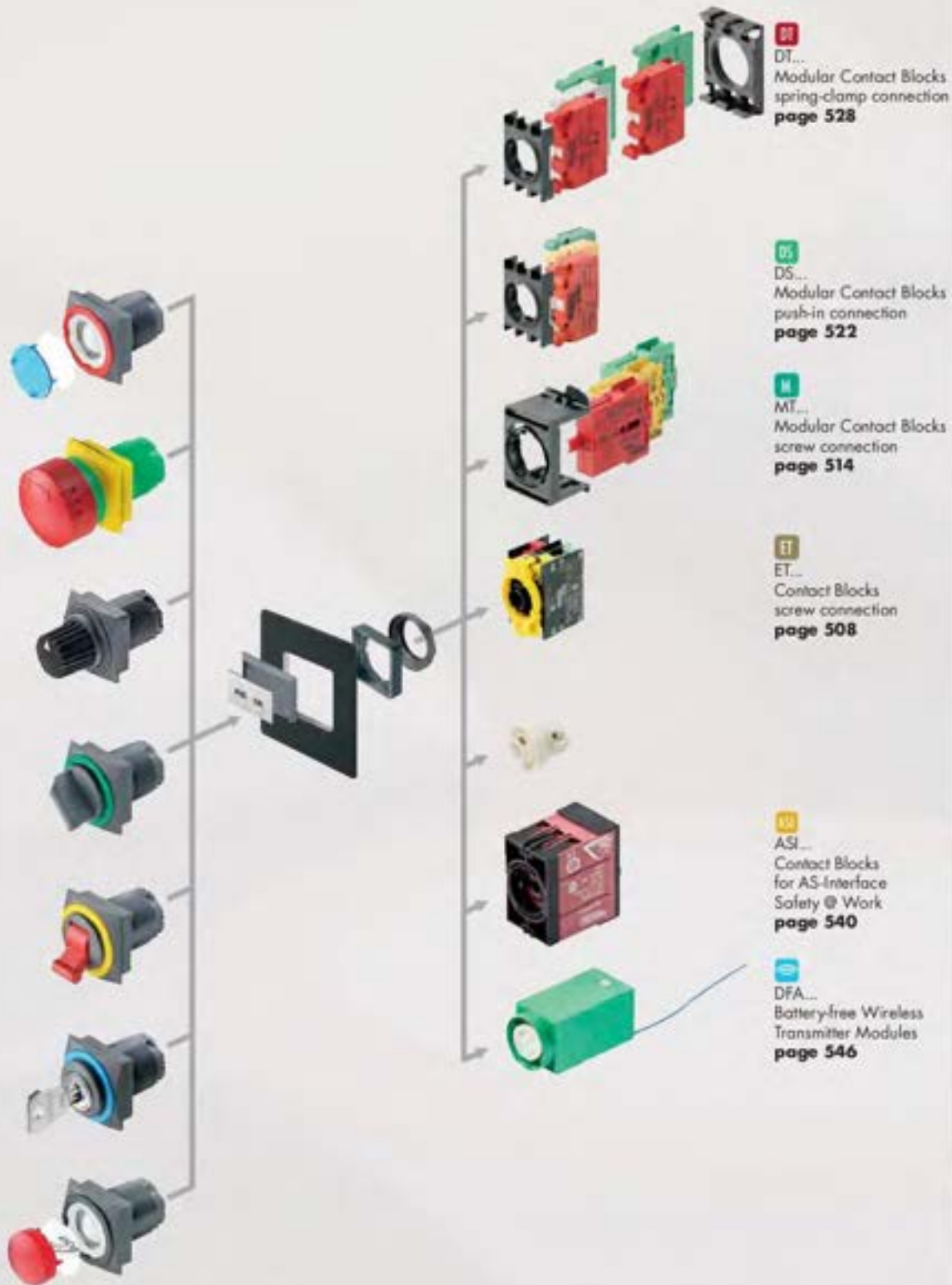


IP65 degree of protection

6mm operating travel

illuminating option

labeling option



When combining the DT... contact blocks with key, selector and toggle heads,
please add ..._497 to the actuator type reference!

QUARTEX-R-JUWEL

26 x 26 mm

made in germany

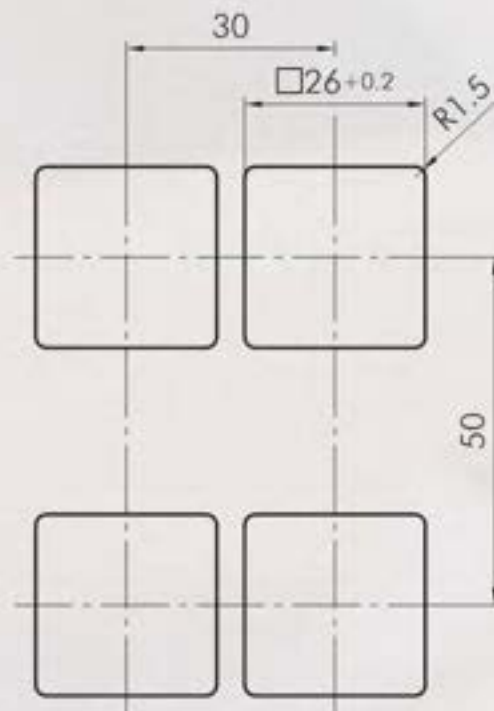


Mounting Depth Dimensions

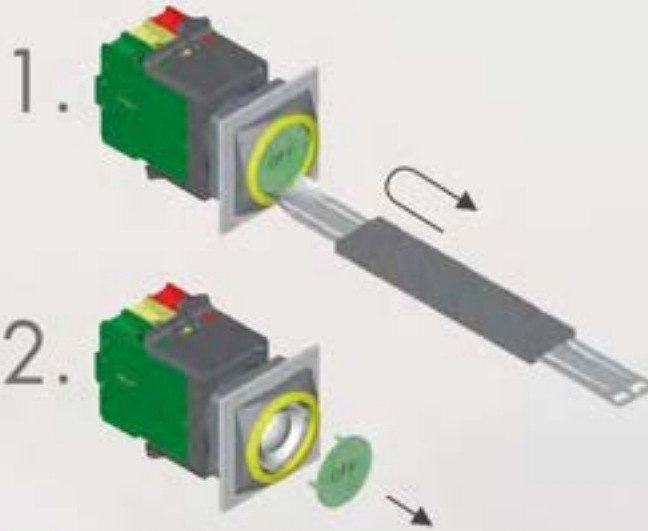


* ETR2 68mm, ETLR 57mm, ETLR2 77mm, EL9R 43mm

Cutout Dimensions



Mounting and Service Instructions



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QUARTEX-R-JUWEL

made in germany



26 x 26 mm

Pushbutton Heads

Front rings are supplied in dark-grey as a standard (QRJT), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type number (e.g. QRJTRT)
lenses and nameplates to be ordered separately

Illustration	Dimensions	Description	Type
		Pushbutton Head suitable contact blocks front bezel charcoal	QRJT...
		Concave Lens, transparent colour	
		blue T26DBL yellow T26DGB green T26DGN clear T26DKL red T26DRT opalwhite T26DWS	
		Concave Lens, non-transparent used in pushbuttons without inscription and illumination colour	
		blue T26DGBL yellow T26DGGB green T26DGGN black T26DG5W red T26DGRT white T26DGWS	
		Nameplate with standard imprint please specify index number (see nameplates on pages 404)	BSK...
		Nameplate with special imprint according to customer's specification	BSKB
		Blank Nameplate	BSKU

Hours

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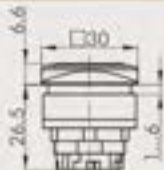












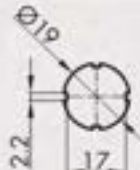

Limit Switches

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Pushbutton Heads

Front rings are supplied in dark-grey as a standard (QRJTM), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type number (e.g. QRJTMRT)

Illustration	Dimensions	Description	Type																		
		Membrane Pushbutton Head with tightly closed, transparent silicone cap, down to -50° C suitable contact blocks  front bezel charcoal 	QRJTM...																		
		Flat Lens, transparent colour <table border="0" style="margin-left: 20px;"> <tr> <td>blue</td> <td></td> <td>T20FBL</td> </tr> <tr> <td>yellow</td> <td></td> <td>T20FGB</td> </tr> <tr> <td>green</td> <td></td> <td>T20FGN</td> </tr> <tr> <td>clear</td> <td></td> <td>T20FKL</td> </tr> <tr> <td>red</td> <td></td> <td>T20FRT</td> </tr> <tr> <td>opalwhite</td> <td></td> <td>T20FWS</td> </tr> </table>	blue		T20FBL	yellow		T20FGB	green		T20FGN	clear		T20FKL	red		T20FRT	opalwhite		T20FWS	
blue		T20FBL																			
yellow		T20FGB																			
green		T20FGN																			
clear		T20FKL																			
red		T20FRT																			
opalwhite		T20FWS																			
		Nameplate with standard imprint Please specify index number (see nameplates on pages 404)	BSRX...																		
		Nameplate with special imprint according to customer's specification	BSRXB																		
		Blank Nameplate	BSRXU																		

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QUARTEX-R-JUWEL

26 x 26 mm

made in germany



Emergency Stops

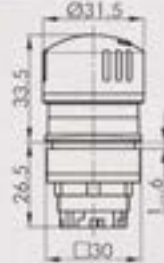
Illustration

Dimensions

Description

Type

#65



Emergency-stop Head

foolproof	Yes
switching position indicator	Yes
anti-lock collar	No
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks



mushroom head red
front bezel yellow



QRJUV



For further emergency stops, please refer to the chapter "Emergency-stop Heads" starting on page 366

The emergency-stop heads can also be supplied as latching mushroom heads with mushrooms in different colours.

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Knob Set for rotary switches

Front rings are supplied in dark-grey as a standard (QRJDAU), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.





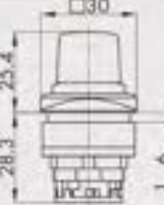

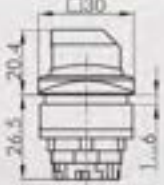

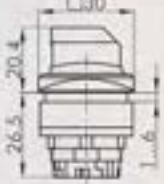

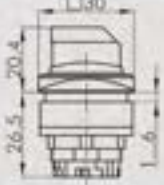
Add code letter to type number, e.g. QRJDAURT

Knob Set for potentiometers

Selector Switches (momentary/maintained)

I = Switching position

> = Spring return

Illustration	Dimensions	Description	Type
		Knob Set for rotary switches, without inscription for Kraus & Naimer types CG4 and CA4 other versions on request front bezel charcoal	QRJDAU...
		Knob Set for rotary switches, with inscription for Kraus & Naimer types CG4 and CA4 other versions on request front bezel charcoal	QRJDAB...
		Knob Set for potentiometers for potentiometers of 6 mm shaft dia. and thread M10x0.75. Delivery without potentiometer. Shaft length: approx. 50 mm ± 2 mm incl. fastening thread front bezel charcoal	QRJR...
		Selector Head, maintained suitable contact blocks front bezel charcoal	QRJWA...
		front bezel charcoal	QRJWB...
		Selector Head, momentary suitable contact blocks front bezel charcoal	QRJSTA...
		front bezel charcoal	QRJSTB...
		Selector Head, left maintained, right momentary suitable contact blocks front bezel charcoal	QRJWC...

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QUARTEX-R-JUWEL

made in germany



26 x 26 mm

Toggle Heads

Front rings are supplied in dark-grey as a standard (QRJK), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type number, e.g. QRJKRT.

Illustration

Dimensions

Description

Type

IP65



Toggle Head

red toggle (other colours on request)

suitable contact blocks



front bezel

charcoal



QRJK...

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Key Switches (momentary/maintained)

Front rings are supplied in dark-grey as a standard (QRJSSA12E), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type number (e.g. QRJSSA12ERT)

- I = Switching position
- > = Spring return
- = Key removable position

Illustration	Dimensions	Description	Type	
		Key Actuator, maintained including two keys other lock types on request suitable contact blocks		
		front bezel charcoal		QRJSSA 12E...
		suitable contact blocks front bezel charcoal		QRJSSA 13E...
		suitable contact blocks front bezel charcoal		QRJSSA 14E...
		suitable contact blocks front bezel charcoal		QRJSSA 15E...
		suitable contact blocks front bezel charcoal		QRJSSA 17E...
		suitable contact blocks front bezel charcoal		QRJSSA 18E...
front bezel charcoal	QRJSSA 23E...			
suitable contact blocks front bezel charcoal	QRJSSA 27E...			
		Key Actuator, left maintained, right momentary suitable contact blocks		
		front bezel charcoal		QRJSSA 24E...
		Spare Key (standard) standard spare key, specify key number for special locks	E5E845	

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made in germany



26 x 26 mm

Pilot Lights

Front rings are supplied in dark-grey as a standard (QRJN), also available in blue-BL, yellow-GB, green-GN, red-RT, white-WS and black-SW.
Add code letter to type number, e.g. QRJNRT.
Lenses and nameplates to be ordered separately.

Illustration	Dimensions	Description	Type																		
		Pilot Light Head suitable lampholders front bezel charcoal	QRJN...																		
		Convex Lens colour <table border="0"> <tr><td>blue</td><td></td><td>KF23BL</td></tr> <tr><td>yellow</td><td></td><td>KF23GB</td></tr> <tr><td>green</td><td></td><td>KF23GN</td></tr> <tr><td>clear</td><td></td><td>KF23KL</td></tr> <tr><td>red</td><td></td><td>KF23RT</td></tr> <tr><td>opalwhite</td><td></td><td>KF23WS</td></tr> </table>	blue		KF23BL	yellow		KF23GB	green		KF23GN	clear		KF23KL	red		KF23RT	opalwhite		KF23WS	
blue		KF23BL																			
yellow		KF23GB																			
green		KF23GN																			
clear		KF23KL																			
red		KF23RT																			
opalwhite		KF23WS																			
		High Lens, transparent colour <table border="0"> <tr><td>blue</td><td></td><td>KH23BL</td></tr> <tr><td>yellow</td><td></td><td>KH23GB</td></tr> <tr><td>green</td><td></td><td>KH23GN</td></tr> <tr><td>clear</td><td></td><td>KH23KL</td></tr> <tr><td>red</td><td></td><td>KH23RT</td></tr> <tr><td>opalwhite</td><td></td><td>KH23WS</td></tr> </table>	blue		KH23BL	yellow		KH23GB	green		KH23GN	clear		KH23KL	red		KH23RT	opalwhite		KH23WS	
blue		KH23BL																			
yellow		KH23GB																			
green		KH23GN																			
clear		KH23KL																			
red		KH23RT																			
opalwhite		KH23WS																			
		Nameplate with standard imprint please specify index number (see nameplates on pages 404)	BSK...																		
		Nameplate with special imprint according to customer's specification	BSKB																		
		Blank Nameplate	BSKU																		

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Illustration	Dimensions	Description	Type
		Mounting Tool with torque limitation for the series QUARTEX-R-JUWEL, KOMBITAST-R-JUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-Q-JUWEL series	522
		Mounting Tool Adapter with 1/4" connections for mounting tools S16 and 522	SRA
		External Nameplate Holder for outside marking of the actuators of the QUARTEX-R-JUWEL series, accepts self-adhesive nameplates	QRJABT
		colour charcoal 	
		Self-adhesive Nameplate - laser-printed Inscription according to customer's specifications Dimensions: 17 x 24 mm	BZ26G
		Self-adhesive Nameplate blank Dimensions: 17 x 24 mm	BZ26U
		Self-adhesive Nameplate with standard imprint Please specify index no. (see nameplates on pages 404) Dimensions 17 x 24 mm	BZ268...
		Yellow Nameplate self-adhesive PVC foil printing on request outer dia. 75 mm for mounting aperture 26 x 26 mm	NAS_26
		colour yellow 	
		Yellow Nameplate with quadrilingual imprint self-adhesive PVC foil outer dia. 75 mm for mounting aperture 26 x 26 mm	NAS_26_548
		colour yellow 	
		Universal Lens Remover	USK
		Dummy to close unused mounting apertures	BVGRJ
		colour charcoal 	

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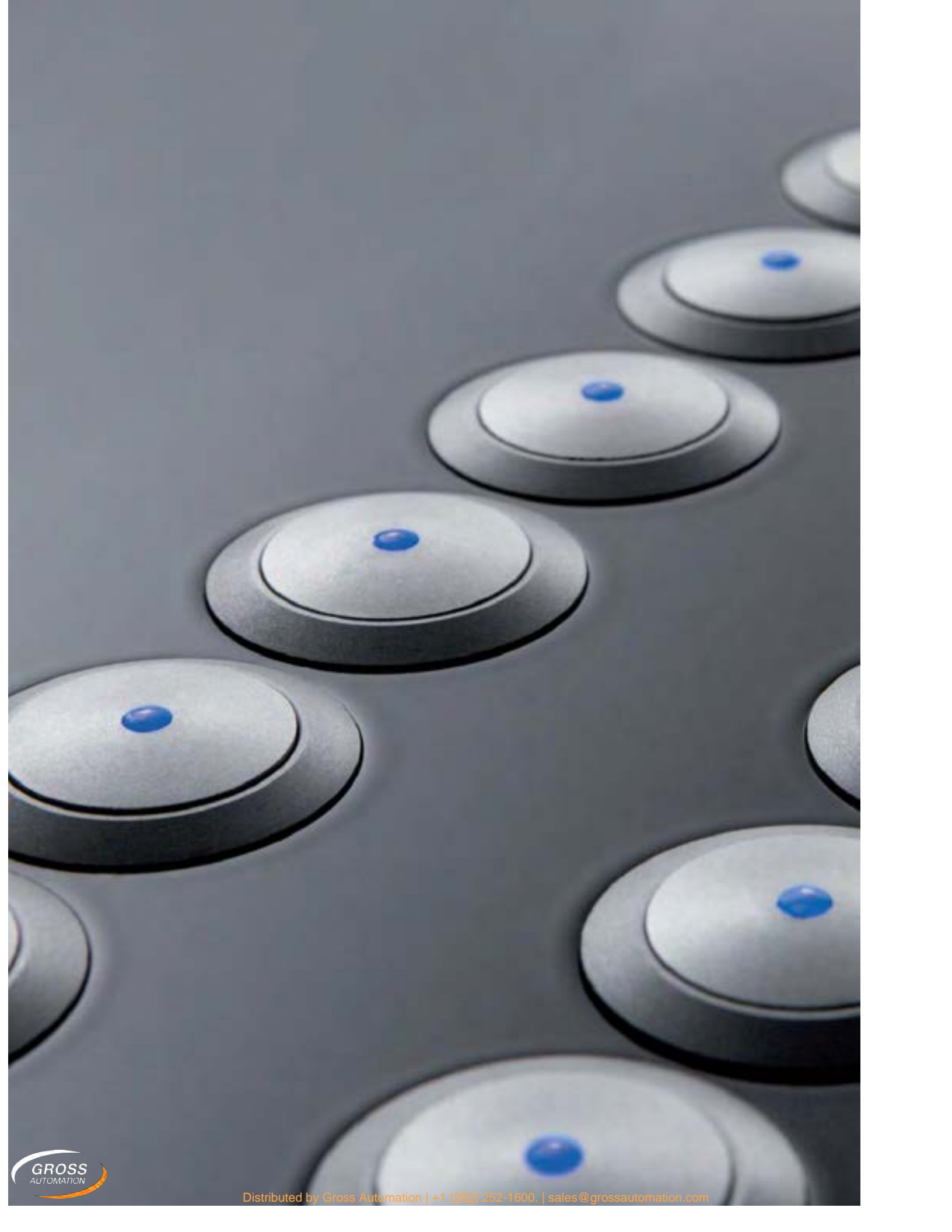
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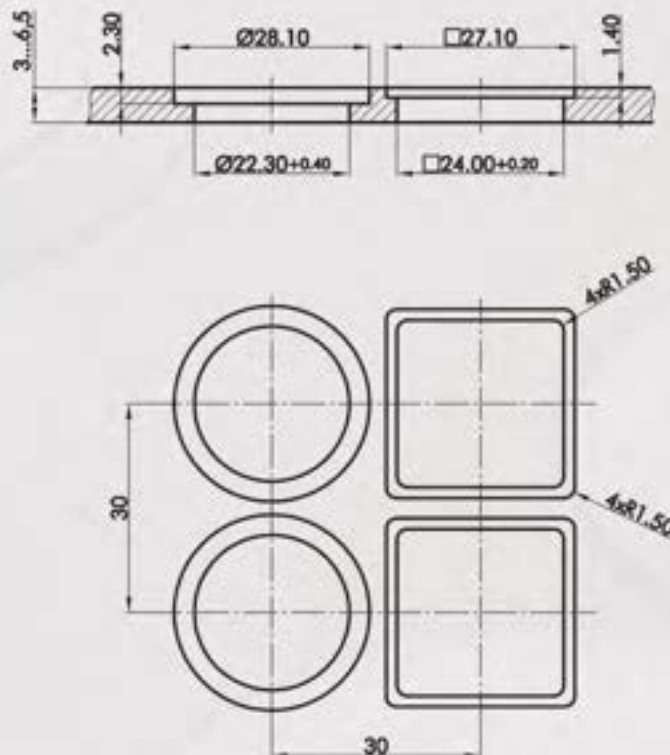
Vandalism-proof




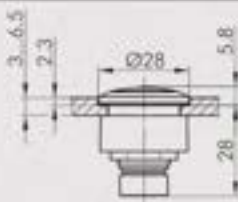

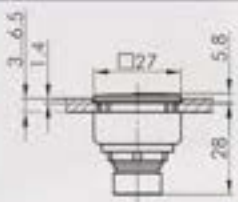
Mounting Depth Dimensions



Cutout Dimensions



Pushbutton Heads

Illustration	Dimensions	Description	Type
		Short-stroke Pushbutton Head, momentary all-metal (anodised aluminium) suitable contact blocks front bezel silver-coloured	RXJUH
		Short-stroke Pushbutton Head, momentary all-metal (zinc-die casting, mat chromium plated) suitable contact blocks front bezel silver-coloured	QXJUDIP65_CR

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Emergency Stops



Safe and Optically Appealing Emergency-stop Buttons

The user can choose from a wide range of TÜV certified emergency-stop buttons by Schlegel and DUX for panel cut-outs of different shapes and dimensions (16mm, 22mm, 30mm...) which can be combined with both, the standard and ASi contact units. The actuators are well known for their modern and attractive design combining mechanical robustness and outstanding functionality, featuring e.g. a clearly visible switching position indicator, a twist release (in either direction) or pull release and tightness from IP65 to IP69K, depending on the model.

Safety Contact Blocks for Emergency-stop Buttons

Even redundant, secure emergency-stop chains are ineffective unless the contact block is accurately connected with the emergency-stop button. The safety contact blocks by Schlegel Elektrokontakt are the response to this danger that may occur e.g. as a result of a negligent assembly or a mechanical damage. In such a situation they ensure that the emergency function is activated and the installation is switched off immediately. It can only be restarted after successful trouble-shooting. The contact blocks are available with screw connections or faston terminals and do have positive opening contacts acc. to IEC60947-5-1. They can be supplied with one or two channels and also, when combined with the appropriate E-stop button, in a foolproof version acc. to EN60947-5-5 and EN13850. The high-quality contact elements allow reliable switching even of low currents (5mA at 24V or less). They are available as conventional contact blocks as well as for AS-Interface application (Safety@Work).


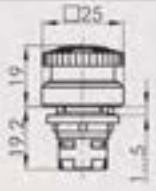

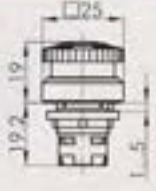
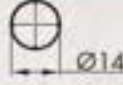
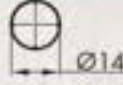

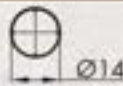

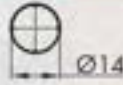

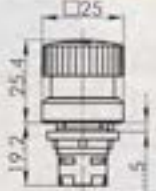
Safety@Work

Safety@Work is an extension of the existing ASi system by safety-related components, such as e.g. emergency stop switches. The great advantage is that standard and safety-related ASi slaves can be used in one and the same system. That means an existing ASi network consisting of ASi master, power supply and slaves, is simply extended by a safety monitor and safe ASi slaves. Safety@Work is based on the standard ASi protocol reaching the safety integrity level 3. As base serves the transmission of dynamic code sequences which are stored in each safe ASi slave.



Automatic switch off on separation of the contact block from the emergency-stop button

Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head Other mushroom colours on request</p> <p>Series OKTRON</p> <p>Panel cut-out Ø 16.2 mm</p> <p>foolproof No</p> <p>switching position indicator No</p> <p>anti-lock collar No</p> <p>release twist right or left</p> <p>suitable contact blocks AZ LZ RZ PTP PIT</p> <p>mushroom head red</p> <p>front bezel yellow</p>	OKVGB
		<p>Emergency-stop Head with illuminating and labelling option including blank nameplate [inscription on request]</p> <p>Series OKTRON</p> <p>Panel cut-out Ø 16.2 mm</p> <p>foolproof No</p> <p>switching position indicator No</p> <p>anti-lock collar No</p> <p>release twist right or left</p> <p>suitable contact blocks AZ LZ RZ</p> <p>mushroom head red</p> <p>front bezel yellow</p>	OKVLGBB
		<p>Nameplate with special imprint as per customer's specification</p>	BSRJB
		<p>Nameplate with standard imprint Please specify index number (see nameplates on pages 404)</p>	BSRJ...
		<p>Blank Nameplate</p>	BSRJU
		<p>Emergency-stop Head</p> <p>Series OKTRON</p> <p>Panel cut-out Ø 16.2 mm</p> <p>foolproof Yes</p> <p>switching position indicator No</p> <p>anti-lock collar No</p> <p>release twist right or left</p> <p>Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>suitable contact blocks AZ LZ RZ PTP PIT</p> <p>mushroom head red</p> <p>front bezel yellow</p>	OKUVGB

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Emergency Stops

Illustration

Dimensions

Description

Type

IP65



Emergency-stop Head

with snap-action mechanism

Series OKTRON-R
 Panel cut-out \varnothing 16.2 mm
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5,
 EN ISO 13850



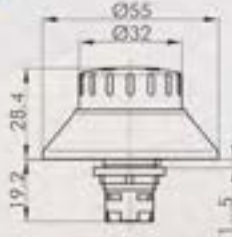
suitable contact blocks



mushroom head red
 front bezel yellow

RKUV28

IP65



Emergency-stop Head

Series OKTRON-R
 Panel cut-out \varnothing 16.2 mm
 foolproof Yes
 switching position indicator Yes
 anti-lock collar Yes
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5,
 EN ISO 13850



suitable contact blocks



mushroom head red
 front bezel yellow

RKUV32

IP65



Emergency-stop Head

Series OKTRON-R
 Panel cut-out \varnothing 16.2 mm
 foolproof Yes
 switching position indicator No
 anti-lock collar Yes
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5,
 EN ISO 13850



suitable contact blocks



mushroom head red
 front bezel yellow

RKUV40

Emergency Stops Accessories for Actuators

Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head</p> <p>Series OKTRON-R Panel cut-out Ø 16.2 mm foolproof Yes switching position indicator No anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks </p> <p>mushroom head red front bezel yellow</p>	RKUVGB
		<p>Emergency-stop Head</p> <p>Other mushroom colours on request</p> <p>Series OKTRON-R Panel cut-out Ø 16.2 mm foolproof No switching position indicator No anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks </p> <p>mushroom head red front bezel yellow</p>	RKVGB
		<p>Emergency-stop Head</p> <p>incl. blank nameplate (inscription on request)</p> <p>Series OKTRON-R Panel cut-out Ø 16.2 mm foolproof No switching position indicator No anti-lock collar No release twist right or left</p> <p>suitable contact blocks </p> <p>mushroom head red front bezel yellow</p>	RKVLGB
		<p>Nameplate with special imprint as per customer's specification</p>	BSRJB
		<p>Nameplate with standard imprint Please specify index number (see nameplates on pages 404)</p>	BSRJ...
		<p>Blank Nameplate</p>	BSRJU

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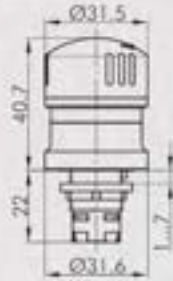
Illustration

Dimensions

Description

Type

IP65



Emergency-stop Head

Series: QUARTRON
 Panel cut-out: Ø 16.2 mm
 foolproof: Yes
 switching position indicator: Yes
 anti-lock collar: No
 release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



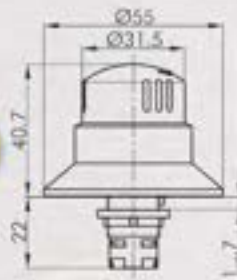
suitable contact blocks



mushroom head: red
 front bezel: yellow

RXUV

IP65



Emergency-stop Head

Series: QUARTRON
 Panel cut-out: Ø 16.2 mm
 foolproof: Yes
 switching position indicator: Yes
 anti-lock collar: Yes
 release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



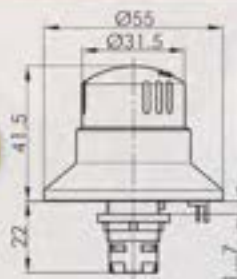
suitable contact blocks



mushroom head: red
 front bezel: yellow

RXBUV

IP65



Illuminated Emergency-stop Head

24V / 15mA AC/DC
 Connection of the LED ring illumination possible via VK_BKL034 or VK_JST025BK1
 Series: QUARTRON
 Panel cut-out: Ø 16.2 mm
 foolproof: Yes
 switching position indicator: Yes
 anti-lock collar: Yes
 release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850




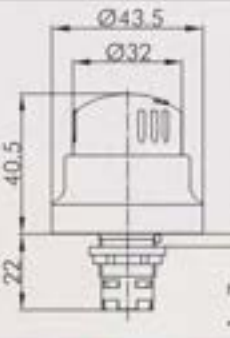
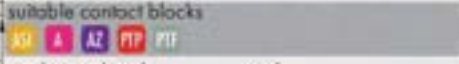
suitable contact blocks



mushroom head: red
 front bezel: yellow

RXBLUV

Not-Halt/Not-Aus-Taste

Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head</p> <p>Series: QUARTRON Panel cut-out: Ø 16.2 mm foolproof: Yes switching position indicator: Yes anti-lock collar: Yes release: twist right or left Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>suitable contact blocks: </p> <p>mushroom head: red front bezel: yellow</p>	<p>RX8UV43</p>

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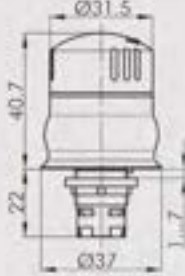
Illustration

Dimensions

Description

Type

IP66
IP67



Emergency-stop Head for hygienic applications

Cannot be used with threaded adapter RT6x11
Conforms to BG (= Employer's Liability Insurance Association) in accordance with DIN EN 1672-2 and GS-FW 01/01

Series	QUARTRON
Panel cut-out	Ø 16.2 mm
foolproof	Yes
switching position indicator	No
anti-lock collar	No
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks

KA A AZ PF1 PF2

mushroom head red
front bezel yellow

RXUVF



Yellow Nameplate

self-adhesive PVC foil
printing on request
outer dia. 60 mm
for mounting dia. 16 mm

Series	QUARTRON
Panel cut-out	Ø 16.2 mm
colour	yellow

NAS_16



Yellow Nameplate with quadrilingual imprint

self-adhesive PVC foil
outer dia. 60 mm
for mounting dia. 16 mm

Series	QUARTRON
Panel cut-out	Ø 16.2 mm
colour	yellow

NAS_16_548

IP66
IP67
IP69K



Emergency-stop Head

Series	RONTRON-RJUWEL
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar	No
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks

KA AZ RL RL PF1 PF2

mushroom head red
front bezel yellow

RRJUV

General Data

Type Reference:	FRVKD(O)(OO)(O)(P)L AU
Description:	Emergency Stop, active/inactive (without diagnostic device)
Approvals:	CE, TÜV_Süd
Nature of contact:	1NC/1NO/1NC+1NO
Degree of protection:	IP65 / IP67
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi / AgNi, gold-plated 5µm
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	50,000
Electrical life (rated load):	50,000 at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 50 mOhm (new state)
Positive opening contact:	acc. to EN60947-5-1, appendix, K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage Ui:	250 V	250 V
Rated operating voltage Ue:	35 V	35 V
Rated operating current Ie:	5A	2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	2.5A

Technical Data - Lamp

Lamp socket:	none, with integrated 3 mm LED
Definition:	X1...anode, X2...cathode

Additional Data

Mounting aperture:	22.3mm
Tightening torque (mounting nut):	1.3 ... 1.9 Nm
Release:	twist release, left or right
Mounting position:	any
Standards:	ISO 13850:2015(E), EN ISO 13850:2015(D), DIN EN ISO 13850:2016-05
Id:	20% (NC)
B10d:	250.000
Overvoltage category:	II
Pollution degree:	2
Material group:	I

Note

- with switching position indicator
- a diagnostic unit is not included

Electrical Features - 5µm gold-plating (type addition ...AU)	
Switching voltage	20mV ... 35V AC/DC
Switching current	1mA ... 250mA

For the version with Faston terminals, use partially or fully insulated Faston clamps.

Illuminated version, status indication active/inactive:	acc. to ISO 13850:2015(E), EN ISO 13850:2015(D), DIN EN ISO 13850:2016-05
Mushroom "grey":	"inactive", no emergency stop
Mushroom "red":	"active" emergency stop

Technical Data of LED:

Type:	Opto Devices
Typical data at IF=20mA:	
Luminous intensity:	min. 10000 mcd, typical 13000 mcd
Beam angle:	typical 15°
Dominant wavelength:	618...624 nm, typical 621 nm
Rated voltage:	24 V DC ± 10%
Rated current:	17.8 mA (15.6 ... 19.95mA)
Typical luminous intensity at IF=1.8mA:	min. 9000 mcd, typical 11700 mcd
LED cut-off voltage:	max. 70V
Average life:	approx. 80,000...100,000h

Safety Instructions:

- The emergency stop must only be used when lighting conditions ensure clear and distinct visibility of the red illuminated (active) mushroom.
- Before using the emergency stop, a systematic safety review of the overall system is required.
- Depending on the designer's risk assessment, the illumination of the emergency stop must be monitored by means of a "diagnostic unit", and in case of error one has to react in accordance with the risk evaluation.

Standard compliant applications:

- pluggable stations
- wireless operator stations
- pluggable system components (fixed system components which are only temporarily in operation)

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Type Info

General Data

Type Reference:	FRVK(P)(I)(O)(OO)(OOO)(O)(OO)(O)(Z)(LZ)P(L)_AU
Description:	Emergency Stop, foolproof
Approvals:	CCC, CE, TÜV_Süd, positive opening contact, UR
Nature of contact:	1NC / 2NC / 3 NC / 1 NC+1NO / 2NC+1NO / 1NC+2NO
Degree of protection:	IP65 / IP67
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi / AgNi, gold-plated 5µm
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	50,000
Electrical life (rated load):	50,000 at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 50 mOhm (new state)
Bouncing time NO:	< 10 ms
Bouncing time NC:	< 10 ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage Ui:	250 V	250 V
Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V
Rated operating current Ie:	1.5A / 3A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	

Technical Data - Lamp

Lamp socket:	none, with integrated 3 mm LED
Max. lamp voltage:	30 V AC/DC
Max. lamp output:	4 mA at 24 V DC
Definition:	X1...anode, X2...cathode

Additional Data

Mounting aperture:	22.3mm
Tightening torque (mounting nut):	1.3 ... 1.9 Nm
Release:	twist release, left or right
Mounting position:	any
Standards:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850
Id:	20% (NC)
B10d:	250,000
Pollution degree :	3

Note

with switching position indicator

Electrical Features - 5µm gold-plating (type addition ...AU)

Switching voltage	20mV ... 42V AC/DC
Switching current	1mA ... 250mA

For the version with Faston terminals use partially or fully insulated Faston clamps.
 Illuminated version (24V-LED): overvoltage category II (2.5kV), pollution degree 2
 Version with 3 contacts: overvoltage category II (2.5 kV), pollution degree 2

FRVKP...	emergency stop for hygienic areas
Approvals:	CE, DGUV-Test
Mechanical life:	20,000 (20°C)
	>6050 (-25°C)
	>6050 (+70°C)
B10d/Id:	150,000/20% (20°C)

FRVK...[Z]	...emergency stop for base-plate mounting
FRVK...[LZ]	...emergency stop for base-plate mounting with height compensation to use the Shortron series

Approvals: CE
 Snap-fit the corresponding contact block (PTS...) to the actuator neck.
 Spacer sleeves ensure the correct distance between PCB and mounting plate. Screws must be secured against loosening.

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General Data

Type Reference:	FRVKA1(O)(OO)(OOO)(O)(OOI)(OII)(P)(AU)
Description:	Emergency Stop, aluminium version, foolproof
Approvals:	CE, TÜV_Süd, positive opening contact, UR
Nature of contact:	1NC / 2NC / 3 NC / 1 NC+1NO / 2NC+1NO / 1NC+2NO
Degree of protection:	IP65 / IP67
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi / AgNi, gold-plated 5µm
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	25°C ... 70°C
Mechanical life:	50,000
Electrical life (rated load):	50,000 at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 50 mOhm (new state)
Bouncing time NO:	< 10 ms
Bouncing time NC:	< 10 ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 G300
Rated insulation voltage Ui:	250 V	250 V
Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V
Rated operating current Ie:	1.5A / 3A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	

Additional Data

Mounting aperture:	22.3mm
Tightening torque (mounting nut):	1.3 ... 1.9 Nm
Release:	twist release, left or right
Mounting position:	any
Standards:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850
Pollution degree :	3

Reliability Data

Id:	20% (NC)
B10d:	250.000

Note

with switching position indicator

Electrical Features - 5µm gold-plating (type addition ...AU)	
Switching voltage	20mV ... 42V AC/DC
Switching current	1mA ... 250mA

For the version with Faston terminals use partially or fully insulated Faston clamps.
Version with 3 contacts: overvoltage category II (2.5 kV), pollution degree 2

Data acc. to UL508

Ratings:	silver: B300, 24Vdc/3A gold: 24Vdc/100mA
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made in germany



Emergency Stops

Type addition for gold-plated version _AU [e.g. FRVKOO_AU]

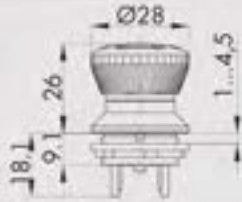
Illustration

Dimensions

Description

Type

IF6
PL7



Emergency Stop

Series SHORTRON
 Panel cut-out Ø 22.3 mm
 Connection type Faston terminals 2.8x0.8 mm
 Contact equipment 2NC
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5,
 EN ISO 13850



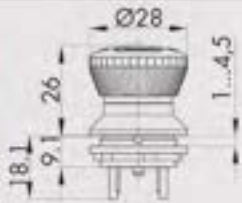
mushroom head
front bezel

red
yellow



FRVKOO

IF6
PL7



Emergency Stop

Series SHORTRON
 Panel cut-out Ø 22.3 mm
 Connection type Faston terminals 2.8x0.8 mm
 Contact equipment 2NC + 1NO
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5,
 EN ISO 13850



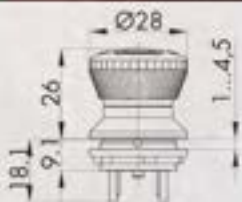
mushroom head
front bezel

red
yellow



FRVKOOI

IF6
PL7



Illuminated Emergency Stop

Series SHORTRON
 Panel cut-out Ø 22.3 mm
 Connection type Faston terminals 2.8x0.8 mm
 Contact equipment 2NC
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5,
 EN ISO 13850



mushroom head
front bezel








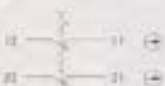



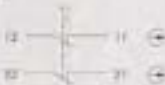
red
yellow



FRVKLOO

Emergency Stops

Type addition for gold-plated version _AU (e.g. _FRVKALOO_AU)

Illustration	Dimensions	Description	Type
		<p>Emergency Stop, made of aluminium for robust applications</p> <p>Series: SHORTRON Panel cut-out: Ø 22.3 mm Connection type: Faston terminals 2.8x0.8 mm Contact equipment: 2NC foolproof: Yes switching position indicator: Yes anti-lock collar release: No Standard: twist right or left EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>mushroom head front bezel</p> <p>red yellow</p> 	FRVKALOO
		<p>Emergency Stop made of aluminium for robust applications</p> <p>Series: SHORTRON Panel cut-out: Ø 22.3 mm Connection type: Faston terminals 2.8x0.8 mm Contact equipment: 2NC + 1NO foolproof: Yes switching position indicator: Yes anti-lock collar release: No Standard: twist right or left EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>mushroom head front bezel</p> <p>red yellow</p> 	FRVKALOOI
		<p>Emergency Stop for hygienic applications</p> <p>Hygiene-tested acc. to DIN EN 16722 / DIN EN ISO 14159 and GS-NV 3, GS-NV 6</p> <p>Series: SHORTRON Panel cut-out: Ø 22.3 mm Connection type: Faston terminals 2.8x0.8 mm Contact equipment: 2NC foolproof: Yes switching position indicator: No anti-lock collar release: No Standard: twist right or left EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>mushroom head front bezel</p> <p>red yellow</p> 	FRVKPOO

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Type addition for gold-plated version „AU [e.g. FRVKOO_AU]

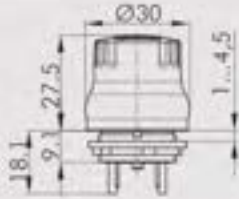
Illustration

Dimensions

Description

Type

IP64



Emergency Stop for hygienic applications

Hygienic test acc. to DIN EN 1672-2 / DIN EN ISO 14159 and GS-NV 3, GS-NV 6

Series SHORTRON
 Panel cut-out Ø 22.3 mm
 Connection type Faston terminals 2.8x0.8 mm
 Contact equipment 2NC + 1NO
 foolproof Yes
 switching position indicator No
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



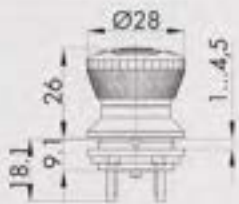
mushroom head
front bezel

red
yellow



FRVKPOOI

IP64



Emergency Stop with pull and twist release

Series SHORTRON
 Panel cut-out Ø 22.3 mm
 Connection type Faston terminals 2.8x0.8 mm
 Contact equipment 2NC
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 release pull/twist
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850

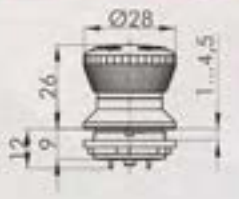
mushroom head
front bezel

red
yellow



FRZVKOO

IP64



Emergency Stop

Series SHORTRON
 Panel cut-out Ø 22.3 mm
 Connection type PCB-mount terminals
 Contact equipment 2NC
 foolproof Yes
 switching position indicator Yes
 anti-lock collar No
 release twist right or left
 Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850



mushroom head
front bezel

red
yellow



FRVKOO

Emergency Stops

Type addition for gold-plated version _AU (e.g. _FRVKALOO_AU)

Illustration	Dimensions	Description	Type
		<p>Emergency Stop</p> <p>Series SHORTRON Panel cut-out Ø 22.3 mm Connection type PCB-mount terminals Contact equipment 2NC + 1NO foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p> mushroom head front bezel</p> <p>red yellow</p> 	FRVKOOIP
		<p>Illuminated Emergency Stop</p> <p>Series SHORTRON Panel cut-out Ø 22.3 mm Connection type PCB-mount terminals Contact equipment 2NC foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p> mushroom head front bezel</p> <p>red yellow</p> 	FRVKLOOP
		<p>Yellow Nameplate</p> <p>self-adhesive PVC foil printing on request outer dia. 75 mm for mounting dia. 22 mm</p> <p>Series SHORTRON Panel cut-out Ø 22.3 mm colour yellow</p>	NAS_22
		<p>Yellow Nameplate with quadrilingual imprint</p> <p>self-adhesive PVC foil outer dia. 75 mm for mounting dia. 22 mm</p> <p>Series SHORTRON Panel cut-out Ø 22.3 mm colour yellow</p>	NAS_22_548

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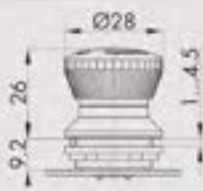
Illustration

Dimensions

Description

Type

#65



Emergency Stop for 9.2 mm mounting depth

Series	Shorttron for base-plate mounting
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar	No
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks



mushroom head	red
front bezel	yellow

FRVK

#65



Emergency Stop for 16.2 mm mounting depth

ATTENTION: only suitable for illuminated contact unit!

Series	Shorttron for base-plate mounting
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar	No
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks



mushroom head	red
front bezel	yellow

FRVKZ

#65



Illuminated Emergency Stop for 9.2mm mounting depth

Series	Shorttron for base-plate mounting
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar	No
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850




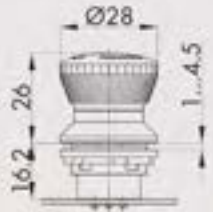





suitable contact blocks



mushroom head	red
front bezel	yellow

FRVKL

Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Illuminated Emergency Stop for 16.2 mm mounting depth ATTENTION: only suitable for illuminated contact units!</p> <p>Series: Shorttron for base-plate mounting Panel cut-out: Ø 22.3 mm foolproof: Yes switching position indicator: Yes anti-lock collar: No Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>suitable contact blocks</p> <p>mushroom head: red front bezel: yellow</p>	FRVKZL
		<p>Emergency Stop made of aluminium for robust applications for 9.2 mm mounting depth</p> <p>Series: Shorttron for base-plate mounting Panel cut-out: Ø 22.3 mm foolproof: Yes switching position indicator: Yes anti-lock collar: No release: twist right or left Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks</p> <p>mushroom head: red front bezel: yellow</p>	FRVKAL
		<p>Emergency Stop, aluminium for robust applications for 16.2 mm mounting depth</p> <p>Series: Shorttron for base-plate mounting Panel cut-out: Ø 22.3 mm foolproof: Yes switching position indicator: Yes anti-lock collar: No release: twist right or left Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>suitable contact blocks</p> <p>mushroom head: red front bezel: yellow</p>	FRVKZAL

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Illustration

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#44



Emergency Stop for hygienic applications for 9.2 mm mounting depth

Hygienic test acc. to DIN EN 1672:2 / DIN EN ISO 14159 and GS-NV 3, GS-NV 6

Series	Shorttron for base-plate mounting
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	No
anti-lock collar	No
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks



mushroom head	red
front bezel	yellow

FRVKP

#44



Emergency Stop for hygienic applications for 16.2 mm mounting depth

Hygienic test acc. to DIN EN 1672:2 / DIN EN ISO 14159 and GS-NV 3, GS-NV 6

Series	Shorttron for base-plate mounting
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	No
anti-lock collar	No
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850

suitable contact blocks



mushroom head	red
front bezel	yellow

FRVKZP



Yellow Nameplate

self-adhesive PVC foil
printing on request
outer dia. 75 mm
for mounting dia. 22 mm

Series	SHORTRON
Panel cut-out	Ø 22.3 mm
colour	yellow

NAS_22



Yellow Nameplate with quadrilingual imprint

self-adhesive PVC foil
outer dia. 75 mm
for mounting dia. 22 mm

Series	SHORTRON
Panel cut-out	Ø 22.3 mm
colour	yellow

NAS_22_548

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Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Active Illuminated Safety Emergency Stop with position indication active/inactive Delivery without diagnostic unit for LED monitoring LED: 24V DC/18mA</p> <p>Series: SHORTRON</p> <p>Panel cut-out: Ø 22.3 mm</p> <p>Connection type: Faston terminals 2.8x0.8 mm</p> <p>Contact equipment: 2NC</p> <p>foolproof: Yes</p> <p>switching position indicator: Yes</p> <p>anti-lock collar release: No</p> <p>release: twist right or left</p> <p>Standard: ISO 13850:2015(E), EN ISO 13850:2015(D), DIN EN ISO 13850:2016-05</p> <p>mushroom head: red</p> <p>front bezel: yellow</p>	<p>FRVKDOO</p> 

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General Data

Type Reference:	YV O ((O)) (O) (O) (O) _AU
Description:	Emergency Stop, foolproof
Approvals:	CE, TÜV_Süd
Nature of contact:	2NC / 2NC+1NO / 1NC
Degree of protection:	IP65 / IP67
Connection type:	Faston terminals 2.8 mm x 0.5 mm
Contact material:	AgNi / AgNi, gold-plated 5µm
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	30,000
Electrical life (rated load):	30,000 at rated load
Contact resistance NO:	< 20 mOhm / < 50 mOhm (Au)
Contact resistance NC:	< 20 mOhm / < 50 mOhm (Au)
Bouncing time NO:	< 10 ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage Ui:	250 V	250V
Rated operating voltage Ue:	35 V	35 V
Rated operating current Ie:	5A	2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	

Technical Data - Lamp

Lamp socket:	none, with integrated LED
Max. lamp voltage:	30 V AC/DC
Max. lamp output:	8mA/4.5mA (bei 24 V DC/AC)
Definition:	X1...anode, X2...cathode

Additional Data

Mounting aperture:	16.2 mm
Tightening torque (mounting nut):	0.8 ... 1.5 Nm
Release:	twist release, left or right
Mounting position:	any
Standards:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850
Material group:	I
Overvoltage category:	II
Pollution degree :	2

Electrical Features

Operational voltage:	20 mV...35 V AC/DC
Operational current AC/DC:	max. 100 mA
·	max. 100 mA
I _d :	20% (NC)
B10d:	250,000

Note

- with switching position indicator

- Use partially insulated Faston clamps

Recommend Schlegel type "FHT12,8x0,5_01"

0.5-1.5mm² (AWG 20-16)
-30°C - 75°C

Supplementary data for versions without 3rd contact assignment/illumination (type YV00):

acc. to IEC/EN 60947-5-1 (VDE 0660 sect. 200)

AC15 B300:	240V 1.5A
DC13 Q300:	250V 0.27A

Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Emergency Stop</p> <p>Series: mYnitron Panel cut-out: Ø 16.2 mm Connection type: Faston terminals 2.8 mm x 0.5 mm Contact equipment: 1NC foolproof: Yes switching position indicator: Yes anti-lock collar: No release: twist right or left Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>mushroom head: red front bezel: yellow</p>	<p>YVO</p>
		<p>Emergency Stop</p> <p>Series: mYnitron Panel cut-out: Ø 16.2 mm Connection type: Faston terminals 2.8 mm x 0.5 mm Contact equipment: 2NC foolproof: Yes switching position indicator: Yes anti-lock collar: No release: twist right or left Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>mushroom head: red front bezel: yellow</p>	<p>YVOO</p>
		<p>Emergency Stop</p> <p>Series: mYnitron Panel cut-out: Ø 16.2 mm Connection type: Faston terminals 2.8 mm x 0.5 mm Contact equipment: 2NC + 1NO foolproof: Yes switching position indicator: Yes anti-lock collar: No release: twist right or left Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>mushroom head: red front bezel: yellow</p>	<p>YVOOI</p>
		<p>Illuminated Emergency Stop</p> <p>Series: mYnitron Panel cut-out: Ø 16.2 mm Connection type: Faston terminals 2.8 mm x 0.5 mm Contact equipment: 1NC foolproof: Yes switching position indicator: Yes anti-lock collar: No release: twist right or left Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>mushroom head: red front bezel: yellow</p>	<p>YVLO</p>

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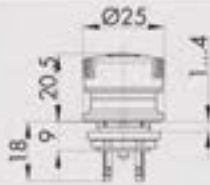
Type addition for gold-plated version _AU (e. g. YVLOO_AU)

Illustration

Dimensions

Description

Type



Illuminated Emergency Stop

Series: mYnitron
 Panel cut-out: Ø 16.2 mm
 Connection type: Faston terminals 2.8 mm x 0.5 mm
 Contact equipment: 2NC
 foolproof: Yes
 switching position indicator: Yes
 anti-lock collar: No
 release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850

mushroom head: red
 front bezel: yellow



YVLOO


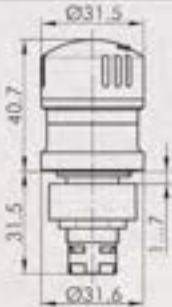



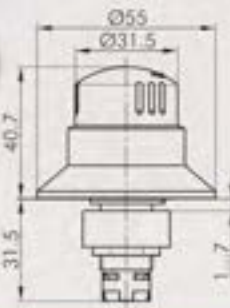



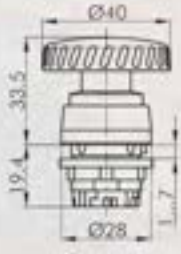




Faston Clamp 2.8 x 0.5, partially insulated, with snap-in pin, for connection to YV... types

Cross section: 0.5-1.5mm²
 AWG: 20-16
 Material: brass, partially insulated, with snap-in pin
 Max. current: 10A
 Max. voltage: 300V
 Temperature: -30°C - 70°C
 UL Listed E70188



Emergency Stops Mushroom Heads

Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head</p> <p>Series RXJUWEL Panel cut-out Ø 22.3 mm foolproof Yes switching position indicator Yes anti-lock collar No release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks </p> <p>mushroom head red front bezel yellow</p>	RXJUW
		<p>Emergency-stop Head</p> <p>Series RXJUWEL Panel cut-out Ø 22.3 mm foolproof Yes switching position indicator Yes anti-lock collar Yes release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks </p> <p>mushroom head red front bezel yellow</p>	RXJBUV
		<p>Mushroom Head, latch-type other mushroom colours on request must be mounted onto yellow background!</p> <p>Series RONDEX Panel cut-out Ø 22.3 mm foolproof No switching position indicator No anti-lock collar No release twist Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks </p> <p>mushroom head red front bezel charcoal</p>	RV

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Mushroom Heads Emergency Stops

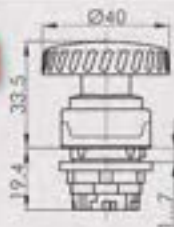
Illustration

Dimensions

Description

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Mushroom Head, latch-type

other mushroom colours on request
must be mounted onto yellow background!

Series RONDEX-M
Panel cut-out \varnothing 22.3 mm
footproof No
switching position indicator No
anti-lock collar No
release twist
Standard EN 60947-5-1, EN 60947-5-5,
EN ISO 13850

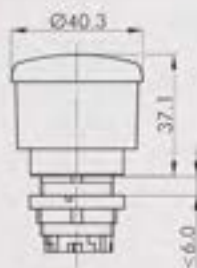
suitable contact blocks



mushroom head red
front bezel metallic/charcoal

RMCV

#65



Emergency-stop Head with inscription

other mushroom colours on request, must be mounted onto yellow background!

Series DUX-Basic
Panel cut-out \varnothing 22.3 mm
switching position indicator Yes
anti-lock collar No
release pull
Standard EN 60947-5-1, EN 60947-5-5,
EN ISO 13850,
EN 81-2 Abschnitt 15



suitable contact blocks

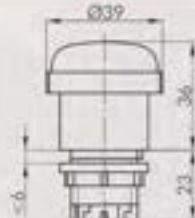


mushroom head red
front bezel black
green

DXRV5405S

DXRVG405S

#65



Emergency-stop Head with arrow

must be mounted onto yellow background!

Series DUX-Basic
switching position indicator Yes
anti-lock collar No
release twist
Standard EN 60947-5-1, EN 60947-5-5,
EN ISO 13850,
EN 81-2 Abschnitt 15






suitable contact blocks



mushroom head red
front bezel grey

DXRV39PF

Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head</p> <p>Series DUX-Basic</p> <p>other mushroom colours on request, must be mounted onto yellow background!</p> <p>Panel cut-out Ø 22.3 mm</p> <p>switching position indicator No</p> <p>anti-lock collar No</p> <p>release twist</p> <p>Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks</p> <p>DS DT TT M</p> <p>mushroom head red</p> <p>front bezel polished</p> <p>grey</p> <p>black</p>	<p>DXRV52MRT</p> <p>DXRV52GRT</p> <p>DXRV52SRT</p>

		<p>Emergency-stop Head</p> <p>Series QUARTEX-R</p> <p>Panel cut-out Ø 22.3 mm</p> <p>foolproof Yes</p> <p>switching position indicator Yes</p> <p>anti-lock collar No</p> <p>release twist right or left</p> <p>Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>  </p> <p>suitable contact blocks</p> <p>AG DS DT TT M</p> <p>mushroom head red</p> <p>front bezel yellow</p>	<p>QRUV</p>
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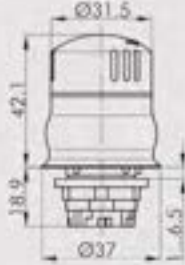
Illustration

Dimensions

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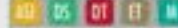
Emergency-stop Head for hygienic applications

conforms to BG (= Employer's Liability Insurance Association) in accordance with DIN EN 1672-2 and GS-FW 01/01

Series	QUARTEX-R
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	No
anti-lock collar	No
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



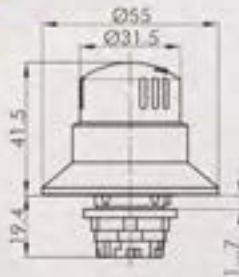
suitable contact blocks



mushroom head red
front bezel yellow

QRUVP

IP65
IP44



Emergency-stop Head

Series	QUARTEX-R
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar	Yes
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



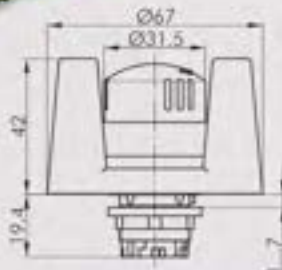
suitable contact blocks



mushroom head red
front bezel yellow

QRBUV

IP65
IP44



Emergency-stop Head with protective shroud

NOTE: The user must ensure the emergency stop with protective shroud to be easy accessible!

Series	QUARTEX-R
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar	Yes
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850




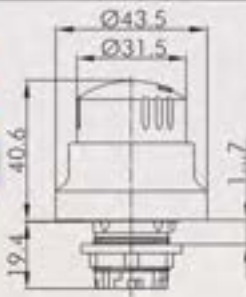

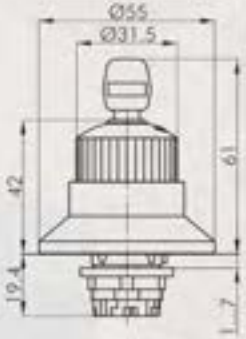


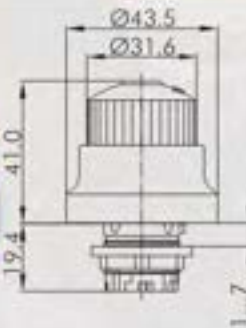
suitable contact blocks



mushroom head red
front bezel yellow

QRSKUV

Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head</p> <p>Series: QUARTEX-R Panel cut-out: Ø 22.3 mm foolproof: Yes switching position indicator: Yes anti-lock collar: Yes release: twist right or left Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>suitable contact blocks: A0 ES RT EI M</p> <p>mushroom head: red front bezel: yellow</p>	QRBUV43
		<p>Emergency-stop Head</p> <p>Series: QUARTEX-R Panel cut-out: Ø 22.3 mm foolproof: Yes switching position indicator: Yes anti-lock collar: Yes release: key release Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>  suitable contact blocks: A0 ES RT EI M </p> <p>mushroom head: red front bezel: yellow</p>	QRBUV5E
		<p>Emergency-stop Head</p> <p>Series: QUARTEX-R Panel cut-out: Ø 22.3 mm foolproof: Yes switching position indicator: Yes anti-lock collar: Yes release: key release Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p>suitable contact blocks: A0 ES RT EI M</p> <p>mushroom head: red front bezel: yellow</p>	QRBUV5E43

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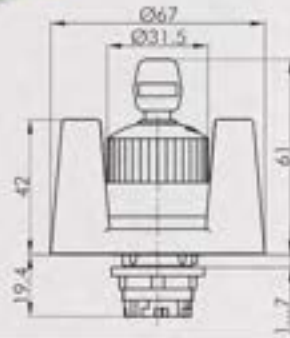
#94



Emergency-stop Head with protective shroud

NOTE: The user must ensure the emergency stop with protective shroud to be easy accessible!

Series	QUARTEX-R
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar	Yes
release	key release
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks	
mushroom head	red
front bezel	yellow

QRSKUVSE

#15



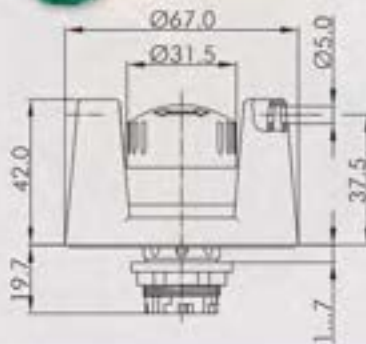
Emergency-stop Head

In its active state, the emergency-stop head can be latched with a U-lock.
The U-lock is not included with the delivery scope.

Note: The user must ensure easy accessibility of the E-stop with protective collar!


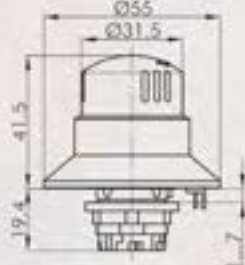


Series	QUARTEX-R
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar	Yes
release	twist right or left

suitable contact blocks	
mushroom head	red
front bezel	yellow



QRSKUV_556

Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Illuminated Emergency-stop Head with illuminated anti-lock collar, 24V / 15mA AC/DC, connection of LED ring illumination possible via VK_BKL034, VK_JST025BKL or MAL</p> <p>Series QUARTEX-R Panel cut-out Ø 22.3 mm foolproof Yes switching position indicator Yes anti-lock collar Yes release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks AD DS DT ET M</p> <p>mushroom head red front bezel yellow</p>	QRBLUV
		<p>Emergency-stop Head with illuminated protective shroud 24V / 15mA AC/DC, connection of LED ring illumination possible via VK_BKL034, VK_JST025BKL or MAL</p> <p>NOTE: The user must ensure the emergency stop with protective shroud to be easy accessible!</p> <p>Series QUARTEX-R Panel cut-out Ø 22.3 mm foolproof Yes switching position indicator Yes anti-lock collar Yes release twist right or left Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks DS DT ET M</p> <p>mushroom head red front bezel yellow</p>	QRSKLUV

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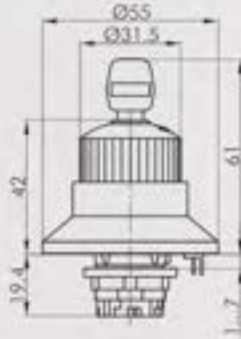
Emergency Stops

Illustration

Dimensions

Description

Type



Illuminated Emergency-stop Head

with illuminated anti-lock collar, 24V / 15mA AC/DC, connection of LED ring illumination possible via VK_BKL043, VK_JST025BKL or MAL

Series	QUARTEX-R
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar	Yes
release	key release
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850

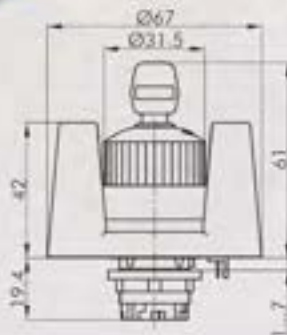


suitable contact blocks



mushroom head	red
front bezel	yellow

QRBLUVSE



Emergency-stop Head with illuminated protective shroud

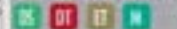
24V / 15mA AC/DC, connection of LED ring illumination possible via VK_BKL034, VK_JST025BKL or MAL

NOTE: The user must ensure the emergency stop with protective shroud to be easy accessible!

Series	QUARTEX-R
Panel cut-out	Ø 22.3 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar	Yes
release	key release
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850







suitable contact blocks



mushroom head	red
front bezel	yellow

QRSKLUVSE

Accessories for Actuators

Illustration	Dimensions	Description	Type
 <p>IP30</p>		<p>Connection Module serves to connect the illuminated emergency stops via a screw terminal. The connection module is snapped into the module holders MHR_3 or MHR_5 12-30V, AC/DC, max. 44mA Series QUARTEX-R Connection type screw connection 2x2.5mm²</p> <p></p> <p>colour white</p>	MAL
		<p>Connection Cable serves to connect an illuminated emergency-stop pushbutton to a AS-Interface slave (Safety at Work), 2-core strand, red/black, 0.25 mm², with male connector crimped on both sides, length: approx. 10 cm</p>	VK_J5T025BKL
		<p>Connection Cable with open end, serves to connect the illuminated emergency stops to a voltage source. Length: approx. 30 cm, cross section 0.34 mm² (AWG22)</p>	VK_BKL034

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Emergency Stops Mushroom Heads

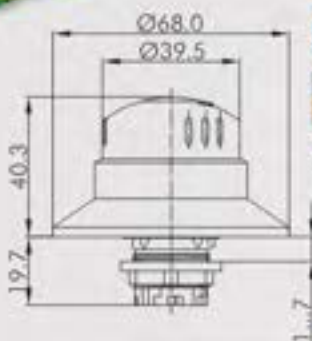
Illustration

Dimensions

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#65



suitable contact blocks

AS DS DT ET M

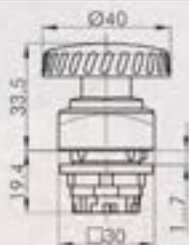
mushroom head red
front bezel yellow

QRBUV70

Emergency-stop Head

Series QUARTEX-R
Panel cut-out Ø 22.3 mm
foolproof Yes
switching position indicator Yes
anti-lock collar Yes
release twist right or left
Standard EN 60947-5-1, EN 60947-5-5,
EN ISO 13850

#65



Mushroom Head, latch-type

other mushroom colours on request
must be mounted onto yellow background!

Series QUARTEX-R
Panel cut-out Ø 22.3 mm
foolproof No
switching position indicator No
anti-lock collar No
release twist
Standard EN 60947-5-1, EN 60947-5-5,
EN ISO 13850



suitable contact blocks

AS DS DT ET M

mushroom head red
front bezel charcoal

QRV



Yellow Nameplate

self-adhesive PVC foil
printing on request
outer dia. 75 mm
for mounting dia. 22 mm

Series SHORTRON
Panel cut-out Ø 22.3 mm
colour yellow

NAS_22



Yellow Nameplate with quadrilingual imprint

self-adhesive PVC foil
outer dia. 75 mm
for mounting dia. 22 mm

Series SHORTRON
Panel cut-out Ø 22.3 mm
colour yellow

NAS_22_548

Mushroom Heads Emergency Stops

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Illustration	Dimensions	Description	Type
		<p>Mushroom Head, latch-type must be mounted onto yellow background</p> <p>Series KOMBITAST-R Panel cut-out Ø 30.5 mm foolproof No switching position indicator No anti-lock collar No release twist Standard EN 60947-5-1, EN 60947-5-5, EN 60068, EN ISO 13850</p> <p></p> <p>suitable contact blocks </p> <p>front bezel charcoal</p>	KRV
		<p>Emergency-stop Head consisting of QRBUV and adapter</p> <p>Series KOMBITAST-R-JUWEL Panel cut-out Ø 30.5 mm foolproof Yes switching position indicator Yes anti-lock collar Yes release twist right or left</p> <p>suitable contact blocks </p> <p>mushroom head red front bezel yellow</p>	KRBUV
		<p>Emergency-stop Head consisting of QRBUVSE and adapter</p> <p>Series KOMBITAST-R-JUWEL Panel cut-out Ø 30.5 mm foolproof Yes switching position indicator Yes anti-lock collar Yes release key release</p> <p>suitable contact blocks </p> <p>mushroom head red front bezel yellow</p>	KRBUVSE

Emergency Stops

Illustration

Dimensions

Description

Type

IP65



Emergency-stop Head

Series	KOMBITAST-R-JUWEL
Panel cut-out	Ø 30.5 mm
foolproof	Yes
switching position indicator	Yes
anti-lock collar	Yes
release	twist right or left
Standard	EN 60947-5-1, EN 60947-5-5, EN ISO 13850

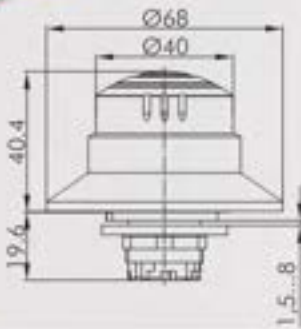


suitable contact blocks



mushroom head	red
front bezel	yellow

KRBUV70



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Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head</p> <p>Series OKTRON-JUWEL</p> <p>Panel cut-out 23 x 23 mm</p> <p>foolproof Yes</p> <p>switching position indicator Yes</p> <p>anti-lock collar No</p> <p>release twist right or left</p> <p>Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks </p> <p>mushroom head red front bezel yellow</p>	OKJUV
		<p>Emergency-stop Head</p> <p>Series OKTRON-JUWEL</p> <p>Panel cut-out 23 x 23 mm</p> <p>foolproof Yes</p> <p>switching position indicator Yes</p> <p>anti-lock collar Yes</p> <p>release twist right or left</p> <p>Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p></p> <p>suitable contact blocks </p> <p>knob colour red front bezel yellow</p>	OKJBUV
		<p>Yellow Nameplate</p> <p>self-adhesive PVC foil</p> <p>printing on request</p> <p>outer dia. 60 mm</p> <p>for mounting aperture 23 x 23 mm</p> <p>Series OKTRON-JUWEL</p> <p>Panel cut-out 23 x 23 mm</p> <p>colour yellow</p>	NAS_23
		<p>Yellow Nameplate with quadrilingual imprint</p> <p>self-adhesive PVC foil</p> <p>outer dia. 60 mm</p> <p>for mounting aperture 23 x 23 mm</p> <p>Series OKTRON-JUWEL</p> <p>Panel cut-out 23 x 23 mm</p> <p>colour yellow</p>	NAS_23_548

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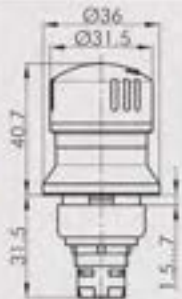
Illustration

Dimensions

Description

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IP65



Emergency-stop Head

Series: QUARTRON JUWEL
 Panel cut-out: 24 x 24 mm
 foolproof: Yes
 switching position indicator: Yes
 anti-lock collar: No
 release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



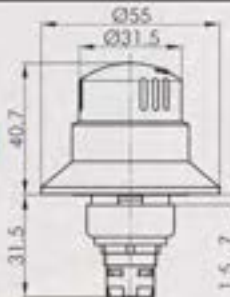
suitable contact blocks



mushroom head: red
 front bezel: yellow

QXJUW

IP65



Emergency-stop Head

Series: QUARTRON JUWEL
 Panel cut-out: 24 x 24 mm
 foolproof: Yes
 switching position indicator: Yes
 anti-lock collar: Yes
 release: twist right or left
 Standard: EN 60947-5-1, EN 60947-5-5, EN ISO 13850



suitable contact blocks



mushroom head: red
 front bezel: yellow

QXJBUW



Yellow Nameplate

self-adhesive PVC foil
 printing on request
 outer dia. 60 mm
 for mounting aperture 24 x 24 mm
 Series: QUARTRON JUWEL
 Panel cut-out: 24 x 24 mm
 colour: yellow

NAS_24



Yellow Nameplate with quadrilingual imprint

self-adhesive PVC foil
 outer dia. 60 mm
 for mounting aperture 24 x 24 mm
 Series: QUARTRON JUWEL
 Panel cut-out: 24 x 24 mm
 colour: yellow

NAS_24_548

Emergency Stops

Illustration	Dimensions	Description	Type
		<p>Emergency-stop Head</p> <p>Series QUARTEX-R-JUWEL</p> <p>Panel cut-out 26 x 26 mm</p> <p>foolproof Yes</p> <p>switching position indicator Yes</p> <p>anti-lock collar No</p> <p>release twist right or left</p> <p>Standard EN 60947-5-1, EN 60947-5-5, EN ISO 13850</p> <p> suitable contact blocks</p> <p></p> <p>mushroom head red</p> <p>front bezel yellow</p>	<p>QRJUV</p>

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Nameplates

The round nameplates as well as the index numbers shown hereafter are representative for all the other shapes of nameplates we offer. Specify nameplate reference followed by index number, e.g. BSRX5. Subject to alterations with regard to graphical layout and typeface of the nameplates.



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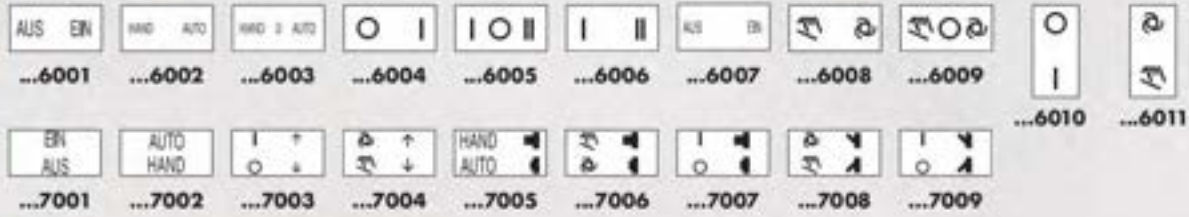
Test Switches

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Self-adhesive Nameplates for External Nameplate Holders

Subject to alterations with regard to graphical layout and typeface of the nameplates.



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→ Electric Contact Blocks with PCB-mounted Terminals

Type	Page	Contact Configuration	Data acc. to VDE 0630		Data acc. to IEC 60947-5-1		Max. Switching Capacity
			Ue	Ie	Ue -	Ie	
CTP...	468	1 inverter					48V AC/DC 100mA
CZ...	482	1...2 inverters					48V AC/DC 100mA
PT...	496	NC / NO			240V / 120V	1.5A / 3A	120V- / 3A 240V- / 1.5A
P...	502	NC / NO			240V / 120V	1.5A / 3A	120V- / 3A 240V- / 1.5A

→ Electric Contact Blocks with Faston Terminals

Type	Page	Contact Configuration	Data acc. to VDE 0630		Data acc. to IEC 60947-5-1		Max. Switching Capacity
			Ue	Ie	Ue -	Ie	
AT...	410	NC/NO	250V-	6(3)A	250V	3A	250V- / 6(3)A
AE...		NC/NCIb/NO/NOem/CC	250V-	6(4)A	250V	3A	250V- / 6(4)A
AZ...	420	NC/NO	250V-	6(4)A	250V	3A	250V- / 6(4)A
BF...	428	NC/NO	250V-	6(4)A	250V	1.5A	250V- / 6(4)A
B... 439	442	2NC/2NO			60V	3A (inductive)	60V- / 3A and 60V DC / 1A
BZ...	450	NC/NO	250V-	6(4)A	250V	1.5A	250V- / 6(4)A
CTF...	474	1 inverter					48V AC/DC 100mA
CT...	490	1...2 inverters					48V AC/DC 100mA
PT...	500	NC / NO			240V / 120V	1.5A / 3A	120V- / 3A 240V- / 1.5A

→ Electric Contact Blocks with Screw Connections

Type	Page	Contact Configuration	Data acc. to VDE 0630		Data acc. to IEC 60947-5-1		Max. Switching Capacity
			Ue	Ie	Ue -	Ie	
BF...K	436	NC/NO	250V-	6(4)A	250V	1.5A	250V- / 6(4)A
BZ...K	460	NC/NO	250V-	6(4)A	250V	1.5A	250V- / 6(4)A
ET...	508	NC/NO	250V- / 440V-	10(6)A / 6(3)A	250V / 400V	5A / 3A	250V- / 10(6)A 440V- / 6(3)A
MT...	514	NC/NCIb/NO/NOem/NOem-NCb/NC-NOem	250V- / 440V-	16(10)A / 10(6)A	250V / 440V	3A / 1.6A	250V- / 16(10)A 440V- / 10(6)A

→ Electric Contact Blocks with Spring-cage resp. Push-In Connection

Type	Page	Contact Configuration	Data acc. to VDE 0630		Data acc. to IEC 60947-5-1		Max. Switching Capacity
			Ue	Ie	Ue -	Ie	
D5...	522	1NC/1NO	250V- / 400V-	16(10)A / 10(5)A	240V / 380V	3A / 1.9A	250V- / 16(10)A 400V- / 10(5)A
DT...	528	NC/NCIb/NO/NOem	250V- / 400V-	16(10)A / 10(5)A	240V / 380V	3A / 1.9A	250V- / 16(10)A 400V- / 10(5)A

→ Battery-free Transmitter Modules for Wireless Pushbuttons (page 546)

The transmitter modules enable the implementation of battery-free radio transmission of a pushbutton signal, particularly in the building and industrial automation, automotive industry and others. The required energy is provided by an electrodynamic power generator using the energy of the key travel (energy harvesting).

→ Contact Blocks (Slaves) for AS-Interface (page 534)

Instead of up to 10 cable lines per control unit, ASi requires only two wires which are connected by insulation piercing (IDC technology) and looped through to all the assigned slaves. Up to 62 control units can be connected to one 2-conductor cable. This saves work, cuts installation times, reduces the number of potential errors and the system can be easily changed or expanded as required.

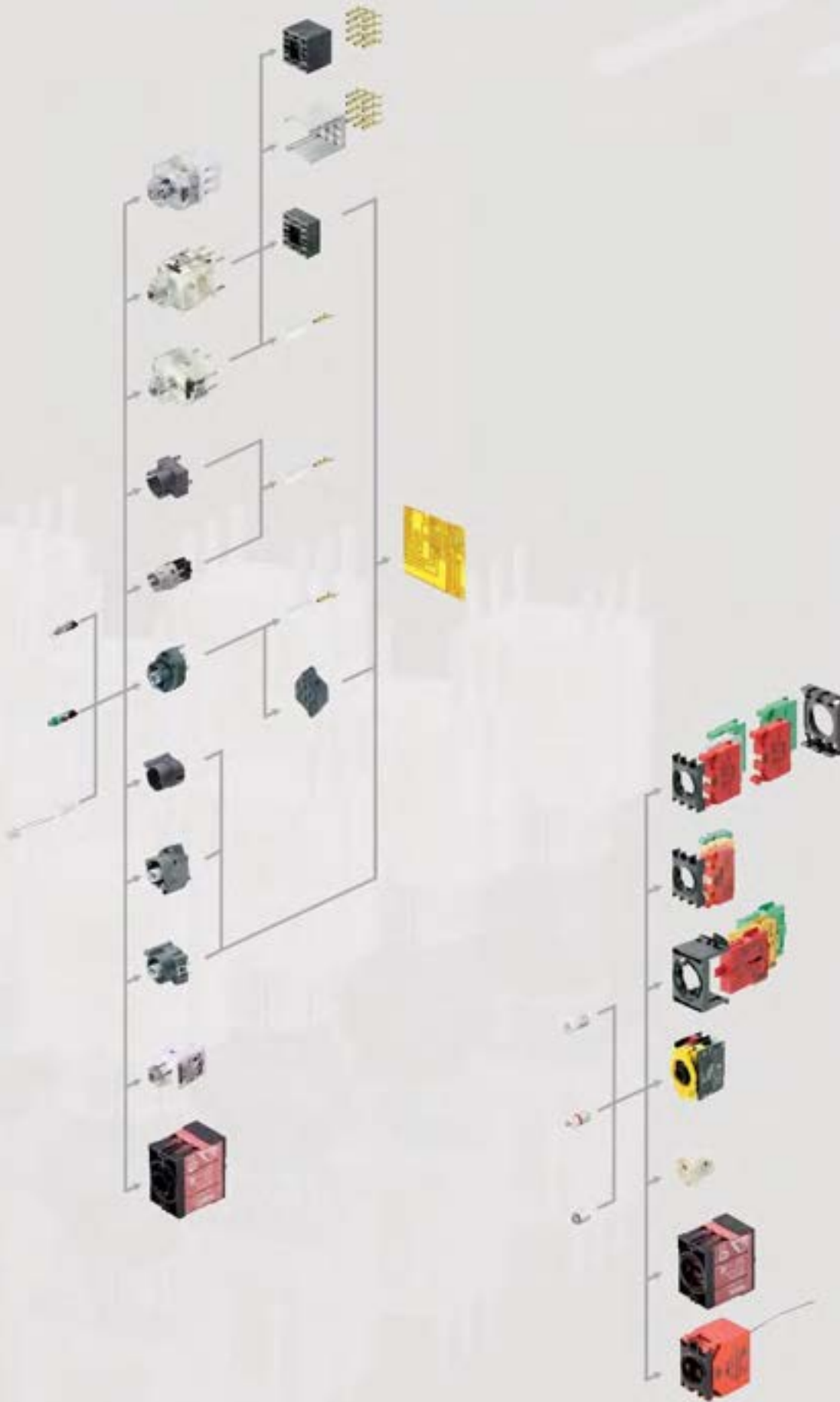
Due to the flexible AS-Interface network structure, the Schlegel slaves can be connected to any position. Each control and signalling unit means a separate node in the AS-Interface system with individual address.

The current ratings in brackets refer to the inductive load acc. to EN61058-1.

→ Modular Bus Operating Concept (page 572)

CANopen, Profibus, EtherCAT, Profinet I/O, Ethernet IP, AS-Interface

*) lb= late break contact em= early make contact CC= central contact





General Data

Type Reference:	AT..., AF...
Description:	Contact Block, positive opening contact
Approvals:	CCC, CSA, ENEC10, VDE, CE, NV, UR
Protection class:	II (protective insulation)
Operation travel:	6 mm
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m operations
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 20ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

Utilisation category:	alternate current	direct current
Rated insulation voltage U_i :	AC15 A300	DC13 Q300
Rated operating voltage U_e :	250 V	300 V
Rated operating current I_e :	250 V	250V / 125V / 60V / 24V
Breaking capacity:	3A	0.2A / 0.4A / 1A / 2A
Continuous thermal current:	10A	1, 1A
	6 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V~
Rated current I_e :	6(3) A

Technical Data - Lamp

Lamp socket:	T5,5K
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features - 5µm gold-plating, type addition **AU**

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

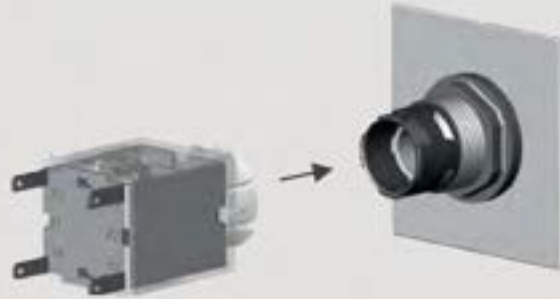
Note

Notice for emergency-stop contact blocks:
For inverters of the Za type (as defined in EN 60947-5-1), only the NC contact must be used for remotely controlled safety circuits.

type series A...

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Illustration	Description	Type
  	<p>Contact Block, momentary 1NC + 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP4 suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>AT AT_AU</p>
  	<p>Illuminated Contact Block, momentary 1NC + 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP6 lamp socket T5,5K suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>ATL ATL_AU</p>
  	<p>Contact Block, momentary 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP4 suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>ATI ATI_AU</p>
  	<p>Contact Block, momentary 1NC Faston terminals 2.8x0.8 mm suitable plug-in socket XAP4 suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>ATO ATO_AU</p>
  	<p>Contact Block, momentary 2NC+2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAPB suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>AT2 AT2_AU</p>
  	<p>Illuminated Contact Block, momentary 2NC+2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP10 lamp socket T5,5K suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>ATL2 ATL2_AU</p>

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Contact Blocks

made in germany

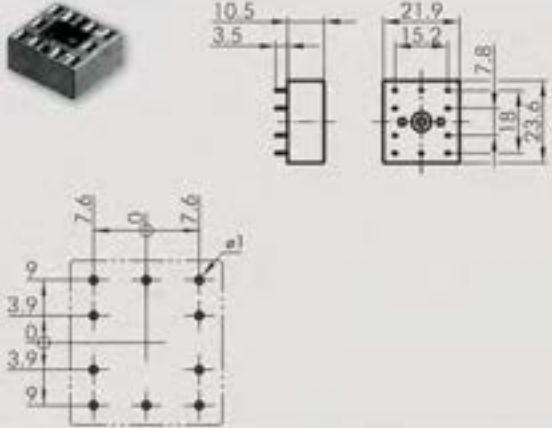
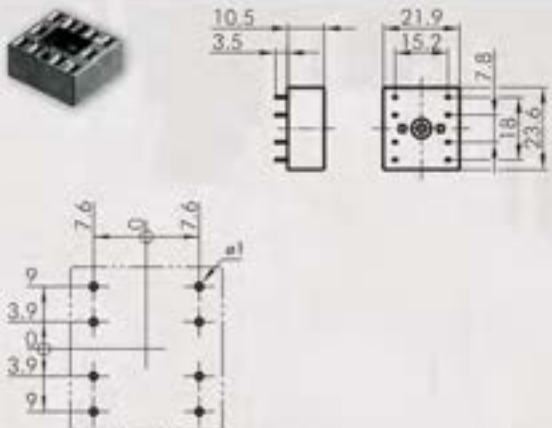
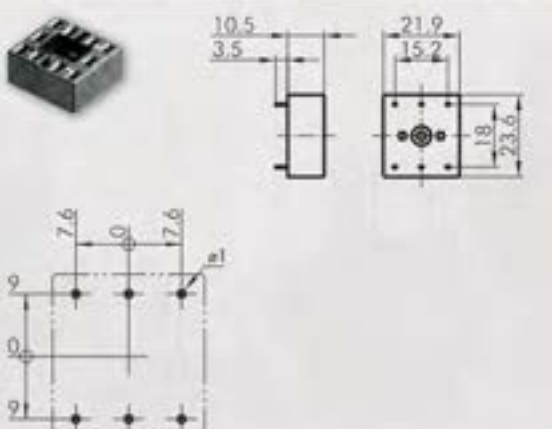


Faston terminals 2.8x0.8 mm

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Illustration	Description	Type
<p>22/21 14/13</p> <p>0 1 2 3 4 5 6</p>	Contact Block, maintained 1NC + 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP4 suitable actuators contact material AgNi contact material AgNi, gold-plated	AF AF_AU
<p>22/21 14/13</p> <p>0 1 2 3 4 5 6</p>	Illuminated Contact Block, maintained 1NC + 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP6 lamp socket T5,5K suitable actuators contact material AgNi contact material AgNi, gold-plated	AFL AFL_AU
<p>22/21 14/13 30/31 44/43</p> <p>0 1 2 3 4 5 6</p>	Contact Block, maintained 2NC+2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP8 suitable actuators contact material AgNi contact material AgNi, gold-plated	AF2 AF2_AU
<p>22/21 14/13 30/31 44/43</p> <p>0 1 2 3 4 5 6</p>	Illuminated Contact Block, maintained 2NC+2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP10 lamp socket T5,5K suitable actuators contact material AgNi contact material AgNi, gold-plated	AFL2 AFL2_AU
<p>31</p>	Lampholder Faston terminals 2.8x0.8 mm suitable plug-in socket XAP2 lamp socket T5,5K suitable pilot light heads	AL5
<p>31</p>	Lampholder Faston terminals 2.8x0.8 mm lamp socket T5,5K suitable pilot light heads	L5



Illustration	Description	Type
 <p>Technical drawing showing side and top views of the XAP10 contact block. Dimensions include a height of 10.5 mm, a pin pitch of 3.5 mm, a total width of 21.9 mm, and a pin width of 15.2 mm. The top view shows a 2x5 grid of pins with a 7.6 mm spacing between columns and a 18 mm spacing between rows. A pin layout diagram below shows a 2x5 grid with dimensions 7.6 mm between columns and 3.9 mm between rows.</p>	<p>Plug-in Socket PCB-mount terminals with 10 pins</p>	<p>XAP10</p>
 <p>Technical drawing showing side and top views of the XAP8 contact block. Dimensions include a height of 10.5 mm, a pin pitch of 3.5 mm, a total width of 21.9 mm, and a pin width of 15.2 mm. The top view shows a 2x4 grid of pins with a 7.6 mm spacing between columns and a 18 mm spacing between rows. A pin layout diagram below shows a 2x4 grid with dimensions 7.6 mm between columns and 3.9 mm between rows.</p>	<p>Plug-in Socket PCB-mount terminals with 8 pins</p>	<p>XAP8</p>
 <p>Technical drawing showing side and top views of the XAP6 contact block. Dimensions include a height of 10.5 mm, a pin pitch of 3.5 mm, a total width of 21.9 mm, and a pin width of 15.2 mm. The top view shows a 2x3 grid of pins with a 7.6 mm spacing between columns and a 18 mm spacing between rows. A pin layout diagram below shows a 2x3 grid with dimensions 7.6 mm between columns and 3.9 mm between rows.</p>	<p>Plug-in Socket PCB-mount terminals with 6 pins</p>	<p>XAP6</p>

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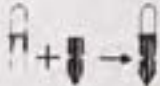
Faston terminals 2.8x0.8 mm

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Illustration	Description	Type
	Plug-in Socket PCB-mount terminals with 4 pins	XAP4
	Plug-in Socket PCB-mount terminals with 2 pins fits the lampholders	XAP2
	Insulating Case for Faston clamp FH2,8, slip on from the front	IH2,8
	Faston Clamp 2.8 x 0.8 mm with snap-in pin Cross section 0.75 - 1.50 mm ² , tin-plated brass, with pin to snap into the sockets XA, XAL and the insulating case IH2,8	FH2,8
	Double Faston for the connection of 2 Faston clamps FH2,8	FD2,8

Illustration	Description	Type															
	<p>Ultra-bright LED, T5,5K socket, 12V with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1 / - ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>																
	colour white	L5,5K12UW															
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1 / - ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>																
	colour white	L5,5K24UW															
	<p>Two-colour LED, T5,5K socket - 24V with integrated series resistor colour dependent on polarity Storage temperature: -25°C ... +80°C Ambient temperature: -20°C ... +60°C Voltage tolerance: + 10 %</p> <table border="0"> <tr> <td>Colour:</td> <td>red</td> <td></td> </tr> <tr> <td>green</td> <td></td> <td></td> </tr> <tr> <td>Rated current [mA]:</td> <td>14</td> <td>13</td> </tr> <tr> <td>Brightness [mcd]:</td> <td>2300</td> <td>650</td> </tr> <tr> <td>Dominant wavelength: [nm]</td> <td>625</td> <td>525</td> </tr> </table>	Colour:	red		green			Rated current [mA]:	14	13	Brightness [mcd]:	2300	650	Dominant wavelength: [nm]	625	525	
Colour:	red																
green																	
Rated current [mA]:	14	13															
Brightness [mcd]:	2300	650															
Dominant wavelength: [nm]	625	525															
	colour red/green	L5,5K24RG															
 	<p>LED Adapter for LEDs of 3 and 5 mm Ø to be used in T5,5K sockets, an external resistor must be provided.</p>	LA5,5															
	lamp socket T5,5K																
	<p>Voltage Reducer (for LEDs) Faston terminals 2.8x0.8 mm to operate a LED at 230V AC</p>	VE_LED230															

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Faston terminals 2.8x0.8 mm

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Illustration

Description

Type



Cable Set with Faston connections VE_VK2,8
suitable for VE_LED230



Cable Set with wire end ferrules VE_VKAE
suitable for VE_LED230

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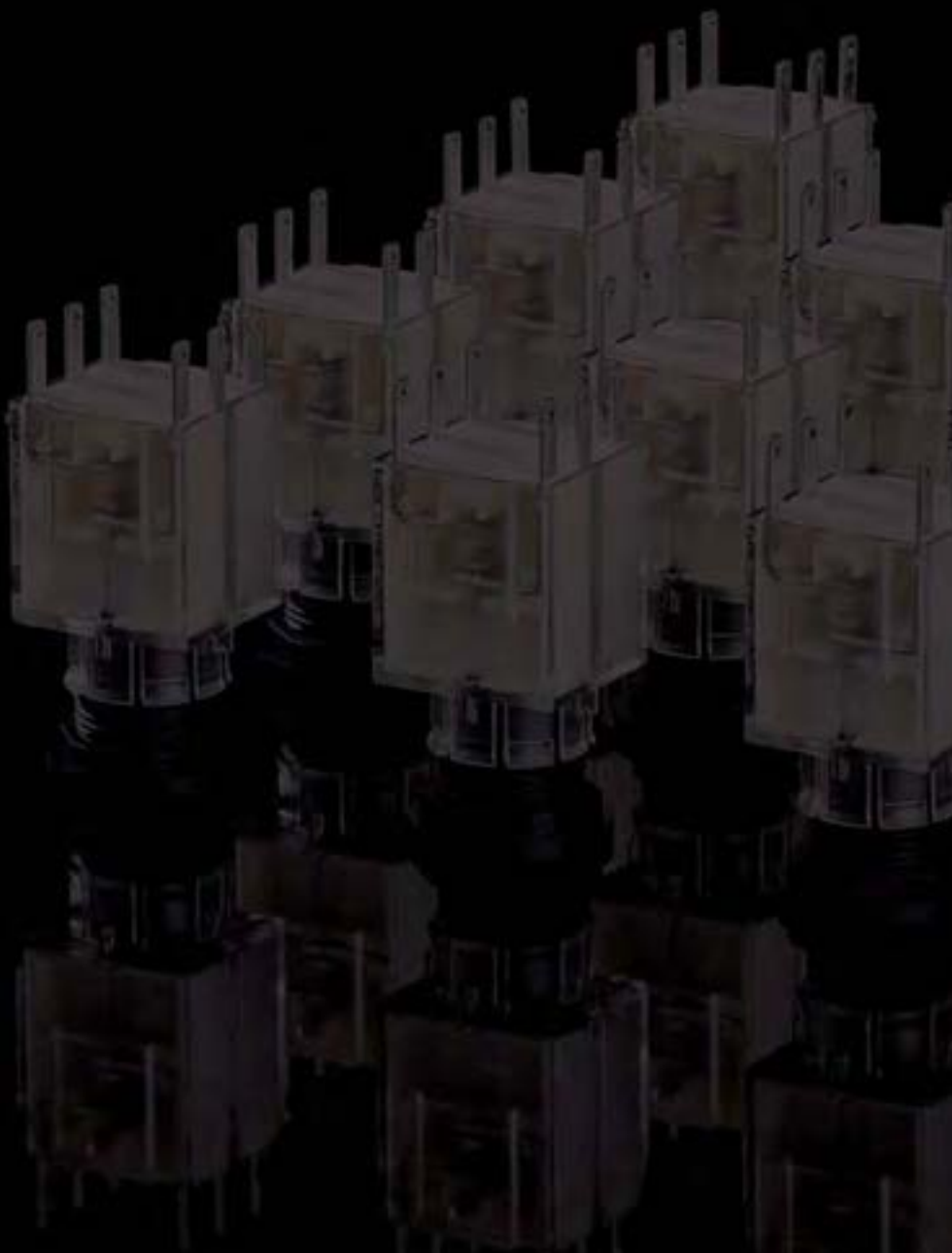
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General Data

Type Reference:	AZ...
Description:	Twin Contact Block, separate plungers, positive opening contact
Approvals:	CCC, cCSAus, ENEC05, KEMA, CE, NV, TÜV_Süd
Protection class:	II (protective insulation)
Operation travel:	6 mm
Connection type:	Faston terminals 2.8x0.8 mm
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m operations at rated load
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 20ms
Positive opening contact:	acc. to EN60947-5-1, appendix: K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 A300	DC13 Q300
Rated insulation voltage U_i :	250 V	300 V
Rated operating voltage U_e :	250 V	250V / 125V / 60V / 24V
Rated operating current I_e :	3A	0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1, 1Ie
Continuous thermal current:	6 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V~
Rated current I_e :	6(4) A

Electrical Features - 5µm gold-plating, type addition ...AU

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

Note

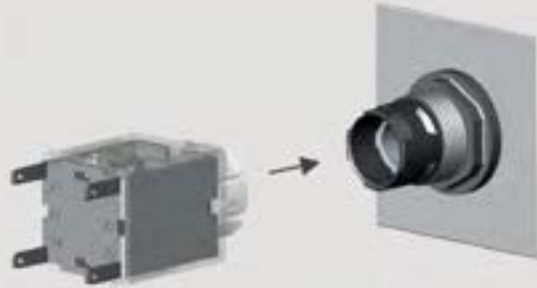
Notice for emergency-stop contact blocks:
For inverters of the Za type (as defined in EN 60947-5-1), only the NC contact must be used for remotely controlled safety circuits.

The electrical data acc. to UL/CSA may deviate.

type series A...

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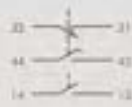

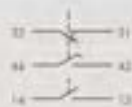

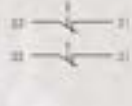





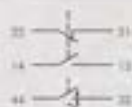


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Illustration	Description	Type
 <p>22/21 44/43 14/13</p> <p>0 1 2 3 + 5 4</p> 	<p>Contact Block, momentary 1NC + 1NO + 1NO early make Faston terminals 2.8x0.8 mm suitable plug-in socket XAP8 suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>AZ011 AZ011_AU</p>
 <p>22/21 44/43 14/13</p> <p>0 1 2 3 + 5 4</p> <p>Disruptor</p> 	<p>Two-step Contact Block, momentary 1NC + 1NO + 1NO early make Faston terminals 2.8x0.8 mm suitable plug-in socket XAP10 suitable actuators</p> <p>contact material AgNi</p>	<p>AZ011_97</p>
 <p>22/21 33/31</p> <p>0 1 2 3 + 5 4</p> 	<p>Contact Block, momentary 2NC Faston terminals 2.8x0.8 mm suitable plug-in socket XAP4 suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>AZ00 AZ00_AU</p>
 <p>22/21 11/12 41/42 31/32</p> <p>0 1 2 3</p> 	<p>Contact Block, momentary 4NC Faston terminals 2.8x0.8 mm suitable plug-in socket XAP8 suitable actuators</p> <p>contact material AgNi</p>	<p>AZ40</p>
 <p>22/21 11/12 41/42 31/32</p> <p>0 1 2 3</p> 	<p>Illuminated Contact Block, momentary 4NC Faston terminals 2.8x0.8 mm suitable plug-in socket XAP10 lamp socket T5,5K suitable actuators</p> <p>contact material AgNi</p>	<p>AZL40</p>
 <p>22/21 14/13 44/43</p> <p>0 1 2 3 + 5 4</p> 	<p>Contact Block, momentary 1NC + 1NO + 1centre contact Faston terminals 2.8x0.8 mm suitable plug-in socket XAP8 suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>AZ111 AZ111_AU</p>
 <p>22/21 14/13 44/43 33/31</p> <p>0 1 2 3</p> 	<p>Contact Block, momentary 4NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP8 suitable actuators</p> <p>contact material AgNi</p>	<p>AZ4I</p>

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Faston terminals 2.8x0.8 mm

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Illustration

Description

Type

Illuminated Contact Block, momentary 4NO
 Faston terminals 2.8x0.8 mm
 suitable plug-in socket XAP10
 lamp socket TS,5K
 suitable actuators
 contact material AgNi

AZ14I

Contact Block, momentary 2NC+2NO
 Faston terminals 2.8x0.8 mm
 suitable plug-in socket XAP8

suitable actuators
 contact material AgNi

AZ2

Contact Block, momentary 2NC+2NO
 Faston terminals 2.8x0.8 mm
 suitable plug-in socket XAP8

suitable actuators
 contact material AgNi

AZ2N

Contact Block, momentary 1 NO early make + 1 NC late break
 Faston terminals 2.8x0.8 mm
 suitable plug-in socket XAP8

suitable actuators
 contact material AgNi
 contact material AgNi, gold-plated

**AZVN
 AZVN_AU**

Momentary Contact Block for Emergency Stops, with failure switch-off *) 2NC + 1NO
 Faston terminals 2.8x0.8 mm
 *) 1 NC, 1 NO and 1 safety circuit, consisting of 1 NC for emergency stop connected in series with 1 NO, which is always closed during operation but opens automatically once the actuator and contact block are separated from each other.

suitable plug-in socket XAP8
 suitable actuators
 contact material AgNi
 contact material AgNi, gold-plated

**AZOSOI
 AZOSOI_AU**

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Illustration	Description	Type
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	<p>Momentary Contact Block for Emergency Stops with failure switch-off *) 2NC</p> <p>Faston terminals 2.8x0.8 mm *) 2 safety circuits, consisting of 1 NC for emergency stop connected in series with 1 NO, which is always closed during operation but opens automatically once the actuator and contact block are separated from each other.</p> <p>suitable plug-in socket XAP8 suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>AZSOSO AZSOSO_AU</p>
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	<p>Plug-in Socket XAP4</p> <p>PCB-mount terminals with 4 pins</p>	<p>XAP4</p>
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	<p>Plug-in Socket XAP8</p> <p>PCB-mount terminals with 8 pins</p>	<p>XAP8</p>
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Illustration	Description	Type
	Plug-in Socket PCB-mount terminals with 10 pins	XAP10
	Insulating Case for Faston clamp FH2,8, slip on from the front	IH2,8
	Faston Clamp 2.8 x 0.8 mm with snap-in pin Cross section 0.75 - 1.50 mm ² , tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2,8	FH2,8
	Double Faston for the connection of 2 Faston clamps FH2,8	FD2,8
	Ultra-bright LED, T5,5K socket, 12V with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %	colour white L5,5K12UW
	Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %	colour white L5,5K24UW



Illustration	Description	Type												
	<p>Two-colour LED, T5,5K socket - 24V with integrated series resistor colour dependent on polarity Storage temperature: -25°C ... +80°C Ambient temperature: -20°C ... +60°C Voltage tolerance: + 10 %</p> <table border="0"> <tr> <td>Colour:</td> <td>red</td> <td>green</td> </tr> <tr> <td>Rated current [mA]:</td> <td>14</td> <td>13</td> </tr> <tr> <td>Brightness [mcd]:</td> <td>2300</td> <td>650</td> </tr> <tr> <td>Dominant wavelength: [nm]</td> <td>625</td> <td>525</td> </tr> </table>	Colour:	red	green	Rated current [mA]:	14	13	Brightness [mcd]:	2300	650	Dominant wavelength: [nm]	625	525	
Colour:	red	green												
Rated current [mA]:	14	13												
Brightness [mcd]:	2300	650												
Dominant wavelength: [nm]	625	525												
colour	red/green	L5,5K24RG												
	<p>LED Adapter for LEDs of 3 and 5 mm Ø to be used in T5,5K sockets, an external resistor must be provided.</p> <p>lamp socket T5,5K</p>	LA5,5												
	<p>Voltage Reducer (for LEDs) Faston terminals 2.8x0.8 mm to operate a LED at 230V AC</p>	VE_LED230												
	<p>Cable Set with Faston connections suitable for VE_LED230</p>	VE_VK2,8												
	<p>Cable Set with wire end ferrules suitable for VE_LED230</p>	VE_VKAE												

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General Data

Type Reference:	BF... (without screw connection)
Description:	Contact Block
Approvals:	CCC, cCSAus, ENEC10, VDE, CE, NV, UR
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LED's
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1m operations at rated load
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage U_i :	250 V	300 V
Rated operating voltage U_e :	250 V	250V / 125V / 60V / 24V
Rated operating current I_e :	1.5A	0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	6 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V~
Rated current I_e :	6(4) A

Technical Data - Lamp

Lamp socket:	T5,5K / W2x4,6d
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features

Operational voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

Additional Electrical Data

Overvoltage category:	II
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type series B...

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Illustration	Description	Type
 <p>22/21 0 1 2 3 14/12</p> 	<p>Contact Block, maintained 1NC + 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP601</p> <p>suitable actuators</p>  <p>contact material AgNi BF contact material AgNi, gold-plated BF_AU</p>	
 <p>22/21 0 1 2 3 14/12</p> 	<p>Illuminated Contact Block, maintained 1NC + 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP601 lamp socket W2x4,6d</p> <p>suitable actuators</p>  <p>contact material AgNi BFL contact material AgNi, gold-plated BFL_AU</p>	
 <p>22/21 0 1 2 3 14/12</p> 	<p>Illuminated Contact Block, maintained 1NC + 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP601 lamp socket T5,5K</p> <p>suitable actuators</p>  <p>contact material AgNi BFL5 contact material AgNi, gold-plated BFL5_AU</p>	
 <p>24/23 0 1 2 3 14/12</p> 	<p>Contact Block, maintained 2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP611</p> <p>suitable actuators</p>  <p>contact material AgNi BFI contact material AgNi, gold-plated BFI_AU</p>	
 <p>24/23 0 1 2 3 14/12</p> 	<p>Illuminated Contact Block, maintained 2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP611 lamp socket W2x4,6d</p> <p>suitable actuators</p>  <p>contact material AgNi BFLI contact material AgNi, gold-plated BFLI_AU</p>	
 <p>24/23 0 1 2 3 14/12</p> 	<p>Illuminated Contact Block, maintained 2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP611 lamp socket T5,5K</p> <p>suitable actuators</p>  <p>contact material AgNi BFL5 contact material AgNi, gold-plated BFL5_AU</p>	

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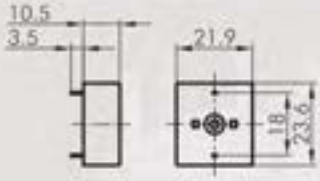
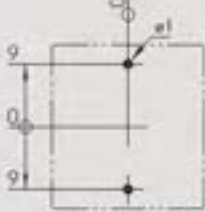

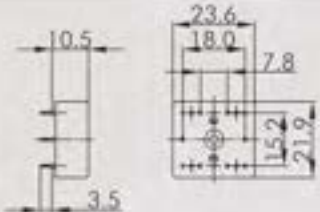
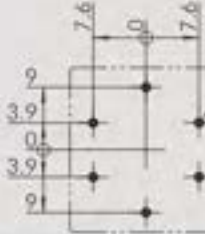
Illustration	Description	Type
 	<p>Lampholder Faston terminals 2.8x0.8 mm suitable plug-in socket XAP2 lamp socket W2x4,6d suitable pilot light heads</p> 	BL4
 	<p>Lampholder Faston terminals 2.8x0.8 mm suitable plug-in socket XAP2 lamp socket T5,5K suitable pilot light heads</p> 	BL5
 	<p>Lampholder Faston terminals 2.8x0.8 mm suitable protection plug XAL lamp socket W2x4,6d suitable pilot light heads</p> 	L4
  	<p>Plug-in Socket PCB-mount terminals with 2 pins fits the lampholders</p>	XAP2
  	<p>Plug-in Socket PCB-mount terminals with 6 pins</p>	XAP611



Illustration	Description	Type
	Plug-in Socket PCB-mount terminals with 6 pins	XAP601
	Insulating Case for Faston clamp FH2,8, slip on from the front	IH2,8
	Faston Clamp 2.8 x 0.8 mm with snap-in pin Cross section 0.75 - 1.50 mm ² , tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2,8	FH2,8
	Double Faston for the connection of 2 Faston clamps FH2,8	FD2,8
	Ultra-bright LED, W2x4,6d socket, 12V with half-wave rectifier, for 12 V AC/DC (6/12 mA) When connecting to DC, the correct polarity must be observed: + ... X1 / - ... X2 storage temperature: -25°C ... +80°C ambient temperature: 20°C ... +60°C voltage tolerance: + 10 % colour white	L2X4,6-12UW
	Ultra-bright LED, W2x4,6d socket, 24V with half-wave rectifier, for 24 V AC/DC (2/4 mA) When connecting to DC, the correct polarity must be observed: + ... X1 / - ... X2 storage temperature: -25°C ... +80°C ambient temperature: 20°C ... +60°C voltage tolerance: + 10 % colour white	L2X4,6-24UW

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Illustration	Description	Type															
	<p>Ultra-bright LED, T5,5K socket, 12V with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>	<p>colour white L5,5K12UW</p>															
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>	<p>colour white L5,5K24UW</p>															
	<p>Two-colour LED, T5,5K socket - 24V with integrated series resistor colour dependent on polarity Storage temperature: -25°C ... +80°C Ambient temperature: -20°C ... +60°C Voltage tolerance: + 10 %</p> <table border="0"> <tr> <td>Colour:</td> <td>red</td> <td></td> </tr> <tr> <td>green</td> <td></td> <td></td> </tr> <tr> <td>Rated current [mA]:</td> <td>14</td> <td>13</td> </tr> <tr> <td>Brightness [mcd]:</td> <td>2300</td> <td>650</td> </tr> <tr> <td>Dominant wavelength: [nm]</td> <td>625</td> <td>525</td> </tr> </table>	Colour:	red		green			Rated current [mA]:	14	13	Brightness [mcd]:	2300	650	Dominant wavelength: [nm]	625	525	<p>colour red/green L5,5K24RG</p>
Colour:	red																
green																	
Rated current [mA]:	14	13															
Brightness [mcd]:	2300	650															
Dominant wavelength: [nm]	625	525															
	<p>Ultra-bright LED solder pins, grid 2.54 mm ready-made for CTP_485 3680 mcd white</p>	LED3UW															
	<p>LED Adaptor for LEDs of 3 and 5 mm Ø to be used in T5,5K sockets, an external resistor must be provided.</p>	LA5,5															
	<p>lamp socket T5,5K</p>																



Illustration	Description	Type
	Voltage Reducer (for LEDs) Faston terminals 2.8x0.8 mm to operate a LED at 230V AC	VE_LED230
	Cable Set with Faston connections suitable for VE_LED230	VE_VK2,8
	Cable Set with wire end ferrules suitable for VE_LED230	VE_VKAE

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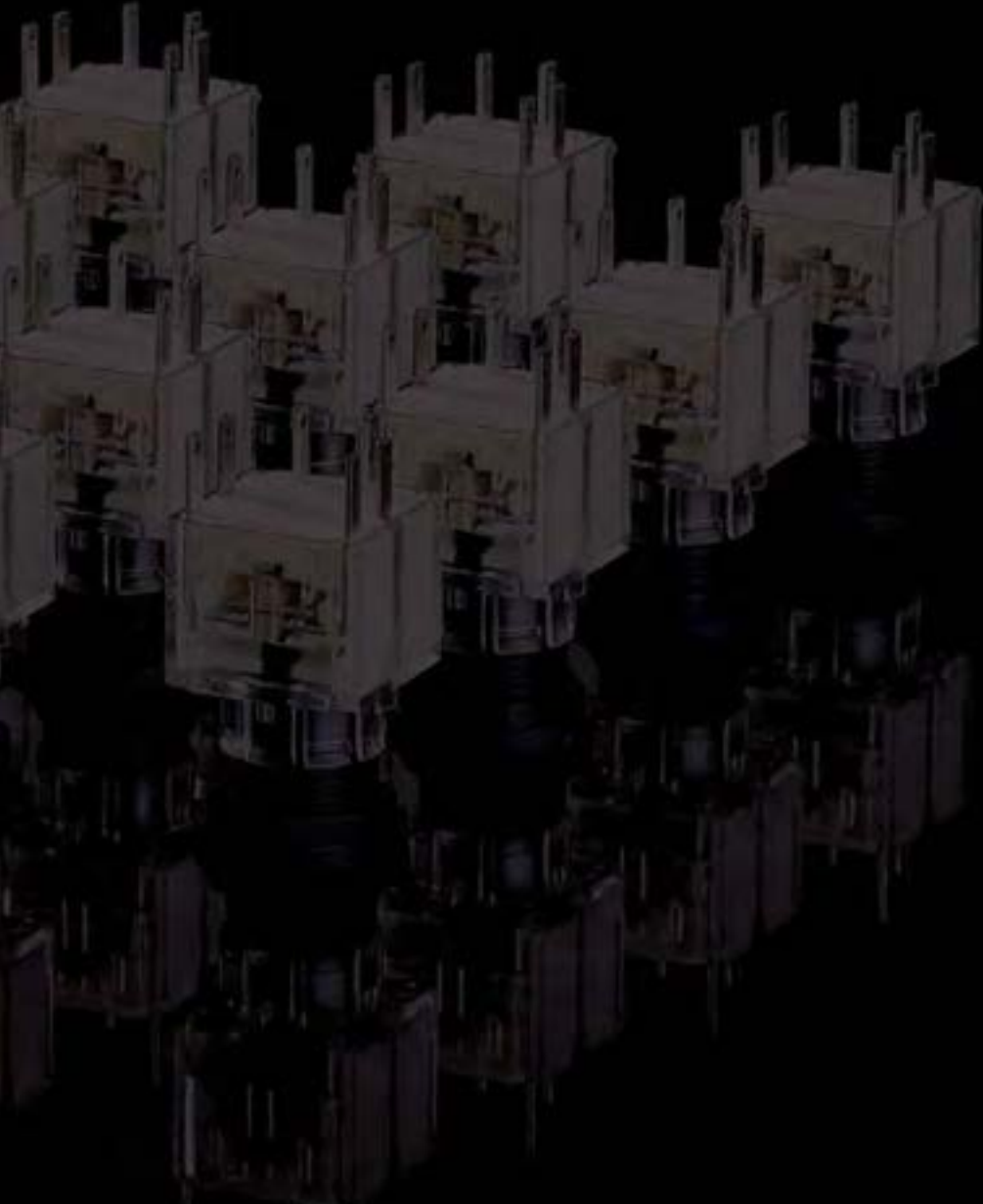
Enclosures

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Type Indicators





General Data

Type Reference:	BF...K
Description:	Contact Block
Approvals:	CCC, cCSAus, ENEC10, VDE, CE, NV, UR
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	screw connection
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LED's
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1m operations at rated load
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage U_i :	250 V	300 V
Rated operating voltage U_e :	250 V	250V / 125V / 60V / 24V
Rated operating current I_e :	1.5A	0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	6 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V-
Rated current I_e :	6(4) A

Technical Data - Lamp

Lamp socket:	T5,5K / W2x4,6d
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features

Operational voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm
Tightening torque (screw terminal):	0.4 Nm

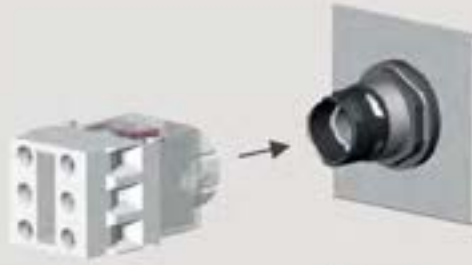
Additional Electrical Data

Overtoltage category: II

type series B...K

Mounting Instructions

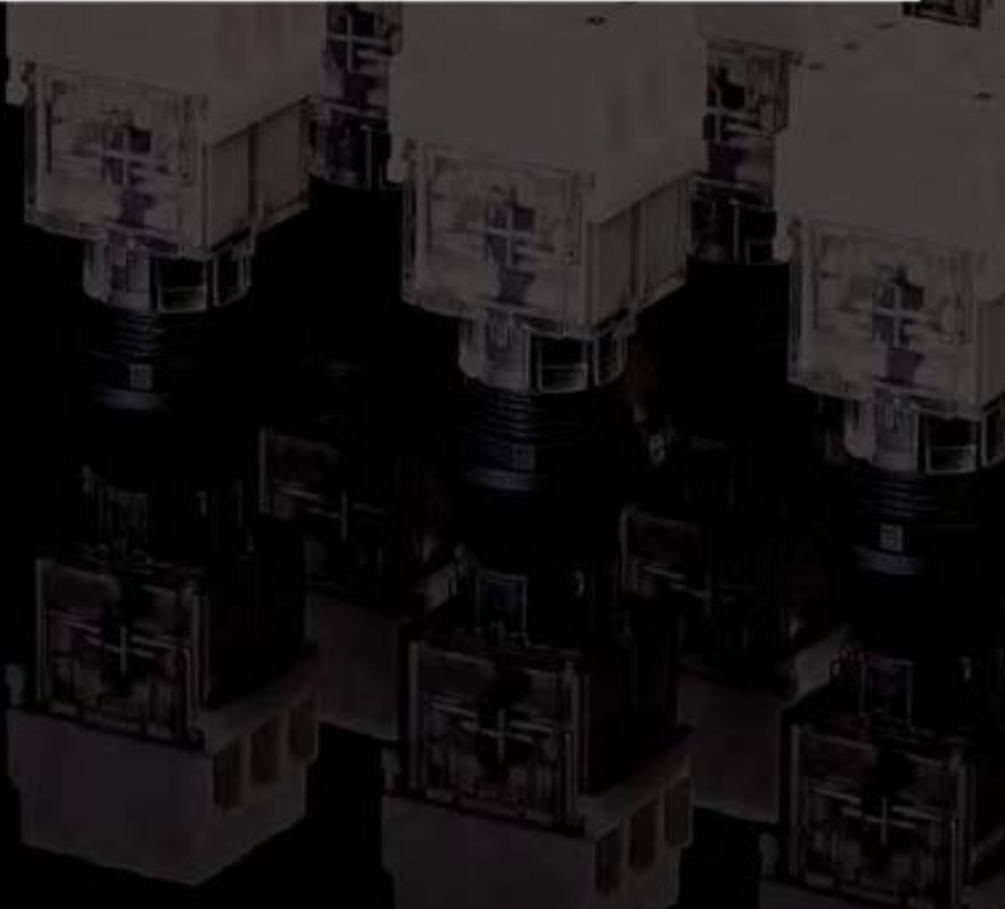
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Illustration	Description	Type
 <p>2201 0 1 2 3 1413</p> 	<p>Contact Block, maintained 1NC + 1NO screw connection 2.5 mm²</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	BFK
 <p>2201 0 1 2 3 1413</p> 	<p>Illuminated Contact Block, maintained 1NC + 1NO screw connection 2.5 mm² lamp socket W2x4,6d</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	BFLK
 <p>2201 0 1 2 3 1413</p> 	<p>Illuminated Contact Block, maintained 1NC + 1NO screw connection 2.5 mm² lamp socket T5,5K</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	BFL5K
 <p>2403 0 1 2 3 1413</p> 	<p>Contact Block, maintained 2NO screw connection 2.5 mm²</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	BFIK
 <p>2403 0 1 2 3 1413</p> 	<p>Illuminated Contact Block, maintained 2NO screw connection 2.5 mm² lamp socket W2x4,6d</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	BFLIK
 <p>2403 0 1 2 3 1413</p> 	<p>Illuminated Contact Block, maintained 2NO screw connection 2.5 mm² lamp socket T5,5K</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	BFL5K
 <p>01 02</p> 	<p>Lampholder screw connection 2.5 mm² lamp socket W2x4,6d</p> <p>suitable pilot light heads</p> 	BL4K
 <p>01 02</p> 	<p>Lampholder screw connection 2.5 mm² T5,5K socket lamp socket T5,5K</p> <p>suitable pilot light heads</p> 	BL5K

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screw connection 2.5 mm²

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Illustration

Description

Type



Ultra-bright LED, W2x4,6d socket, 12V

with half-wave rectifier, for 12 V AC/DC (6/12 mA)

When connecting to DC, the correct polarity must be observed:

+ ... X1/- ... X2

storage temperature:

-25°C ... +80°C

ambient temperature:

-20°C ... +60°C

voltage tolerance:

+ 10 %

colour white

L2X4,6-12UW



Ultra-bright LED, W2x4,6d socket, 24V

with half-wave rectifier, for 24 V AC/DC (2/4 mA)

When connecting to DC, the correct polarity must be observed:

+ ... X1/- ... X2

storage temperature:

-25°C ... +80°C

ambient temperature:

-20°C ... +60°C

voltage tolerance:

+ 10 %

colour white

L2X4,6-24UW



Ultra-bright LED, T5,5K socket, 12V

with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA)

When connecting to DC, the correct polarity must be observed:

+ ... X1/- ... X2

storage temperature:

-25°C ... +80°C

ambient temperature:

-20°C ... +60°C

voltage tolerance:

+ 10 %

colour white

L5,5K12UW



Ultra-bright LED, T5,5K socket, 24V

with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)

When connecting to DC, the correct polarity must be observed:

+ ... X1/- ... X2

storage temperature:

-25°C ... +80°C

ambient temperature:

-20°C ... +60°C

voltage tolerance:

+ 10 %

colour white

L5,5K24UW

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Illustration	Description	Type															
	<p>Two-colour LED, T5,5K socket - 24V with integrated series resistor colour dependent on polarity Storage temperature: 25°C ... +80°C Ambient temperature: 20°C ... +60°C Voltage tolerance: + 10 %</p> <table border="0"> <tr> <td>Colour:</td> <td>red</td> <td></td> </tr> <tr> <td></td> <td>green</td> <td></td> </tr> <tr> <td>Rated current [mA]:</td> <td>14</td> <td>13</td> </tr> <tr> <td>Brightness [mcd]:</td> <td>2300</td> <td>650</td> </tr> <tr> <td>Dominant wavelength: [nm]</td> <td>625</td> <td>525</td> </tr> </table> <p>colour red/green</p>	Colour:	red			green		Rated current [mA]:	14	13	Brightness [mcd]:	2300	650	Dominant wavelength: [nm]	625	525	L5,5K24RG
Colour:	red																
	green																
Rated current [mA]:	14	13															
Brightness [mcd]:	2300	650															
Dominant wavelength: [nm]	625	525															
	<p>Ultra-bright LED solder pins, grid 2.54 mm ready-made for CTP_485</p> <p>3680 mcd white</p>	LED3UW															
	<p>LED Adapter for LEDs of 3 and 5 mm Ø to be used in T5,5K sockets, an external resistor must be provided.</p> <p>lamp socket T5,5K</p>	LA5,5															
	<p>Voltage Reducer (for LEDs) Faston terminals 2.8x0.8 mm to operate a LED at 230V AC</p>	VE_LED230															
	<p>Cable Set with wire end ferrules suitable for VE_LED230</p>	VE_VKAE															

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General Data

Type Reference:	B...439
Description:	Contact Block
Approvals:	CCC, CE
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 m switching cycles
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 20ms

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Rated insulation voltage U_i :	60V	60V
Rated operating voltage U_e :	60V-	60V[ind.] / 60V [R] / 50V[R] / 40V[R]
Rated operating current I_e :	3A [inductive]	1A / 3A / 4A / 5A
Continuous thermal current:	6 A	

Technical Data - Lamp

Lamp socket:	T5,5K / W2x4,6d
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features

Rated voltage:	20mV ... 42V AC/DC
Rated current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

Additional Electrical Data

Overvoltage category: II

Note

BZ...439 with two-piece plunger

Electrical lifetime data:

AC15	60V/3A	1000.000
DC13	24V/5A	50.000
DC13	60V/1A	100.000
DC	40V/5A	100.000 [ohmic load]
DC	50V/4A	100.000 [ohmic load]
DC	60V/3A	100.000 [ohmic load]

Using a flyback diode, the DC lifetime can be considerably increased at inductive load. The contacts of the "BZ...439" are, as defined in EN 60947-5-1 app. K, not designed as positive opening contacts. Hence, they are not suitable for emergency-stop applications.

Mounting Instructions

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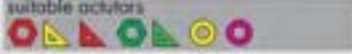

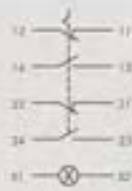
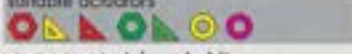

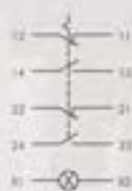



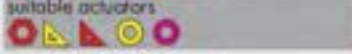





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Illustration	Description	Type
 <p>13/11 0 1 2 3 14/13 22/21 24/23</p> 	<p>Contact Block, maintained 2NC+2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP8 suitable actuators</p>  <p>contact material AgNi BF_439 contact material AgNi, gold-plated BF_439_AU</p>	
 <p>13/11 0 1 2 3 14/13 22/21 24/23</p> 	<p>Illuminated Contact Block, maintained 2NC+2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP10 lamp socket W2x4,6d suitable actuators</p>  <p>contact material AgNi BFL_439 contact material AgNi, gold-plated BFL_439_AU</p>	
 <p>13/11 0 1 2 3 14/13 22/21 24/23</p> 	<p>Illuminated Contact Block, maintained 2NC+2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP10 lamp socket T5,5K suitable actuators</p>  <p>contact material AgNi BFL5_439 contact material AgNi, gold-plated BFL5_439_AU</p>	
 <p>13/11 0 1 2 3 14/13 22/21 24/23</p> 	<p>Contact Block, momentary 2NC+2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP8 suitable actuators</p>  <p>contact material AgNi BZ_439 contact material AgNi, gold-plated BZ_439_AU</p>	
 <p>13/11 0 1 2 3 14/13 22/21 24/23</p> 	<p>Illuminated Contact Block, momentary 2NC+2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP10 lamp socket W2x4,6d suitable actuators</p>  <p>contact material AgNi BZL_439 contact material AgNi, gold-plated BZL_439_AU</p>	

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Faston terminals 2.8x0.8 mm

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Illustration	Description	Type
	Plug-in Socket PCB-mount terminals with 10 pins	XAP10
	Plug-in Socket PCB-mount terminals with 8 pins	XAP8
	Insulating Case for Faston clamp FH2,8, slip on from the front	IH2,8
	Faston Clamp 2.8 x 0.8 mm with snap-in pin Cross section 0.75 - 1.50 mm ² , tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2,8	FH2,8
	Double Faston for the connection of 2 Faston clamps FH2,8	FD2,8
	Ultra-bright LED, W2x4,6d socket, 12V with half-wave rectifier, for 12 V AC/DC (6/12 mA) When connecting to DC, the correct polarity must be observed: + ... X1/ - ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour white	L2X4,6-12UW



Illustration	Description	Type												
	<p>Ultra-bright LED, W2x4,6d socket, 24V with half-wave rectifier, for 24 V AC/DC (2/4 mA) When connecting to DC, the correct polarity must be observed: + ... X1 / - ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>													
	colour white	L2X4,6-24UW												
	<p>Ultra-bright LED, T5,5K socket, 12V with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1 / - ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>													
	colour white	L5,5K12UW												
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1 / - ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>													
	colour white	L5,5K24UW												
	<p>Two-colour LED, T5,5K socket - 24V with integrated series resistor colour dependent on polarity Storage temperature: -25°C ... +80°C Ambient temperature: -20°C ... +60°C Voltage tolerance: + 10 %</p> <table border="0"> <tr> <td>Colour:</td> <td>red</td> <td>green</td> </tr> <tr> <td>Rated current [mA]:</td> <td>14</td> <td>13</td> </tr> <tr> <td>Brightness [mcd]:</td> <td>2300</td> <td>650</td> </tr> <tr> <td>Dominant wavelength: [nm]</td> <td>625</td> <td>525</td> </tr> </table>	Colour:	red	green	Rated current [mA]:	14	13	Brightness [mcd]:	2300	650	Dominant wavelength: [nm]	625	525	
Colour:	red	green												
Rated current [mA]:	14	13												
Brightness [mcd]:	2300	650												
Dominant wavelength: [nm]	625	525												
	colour red/green	L5,5K24RG												

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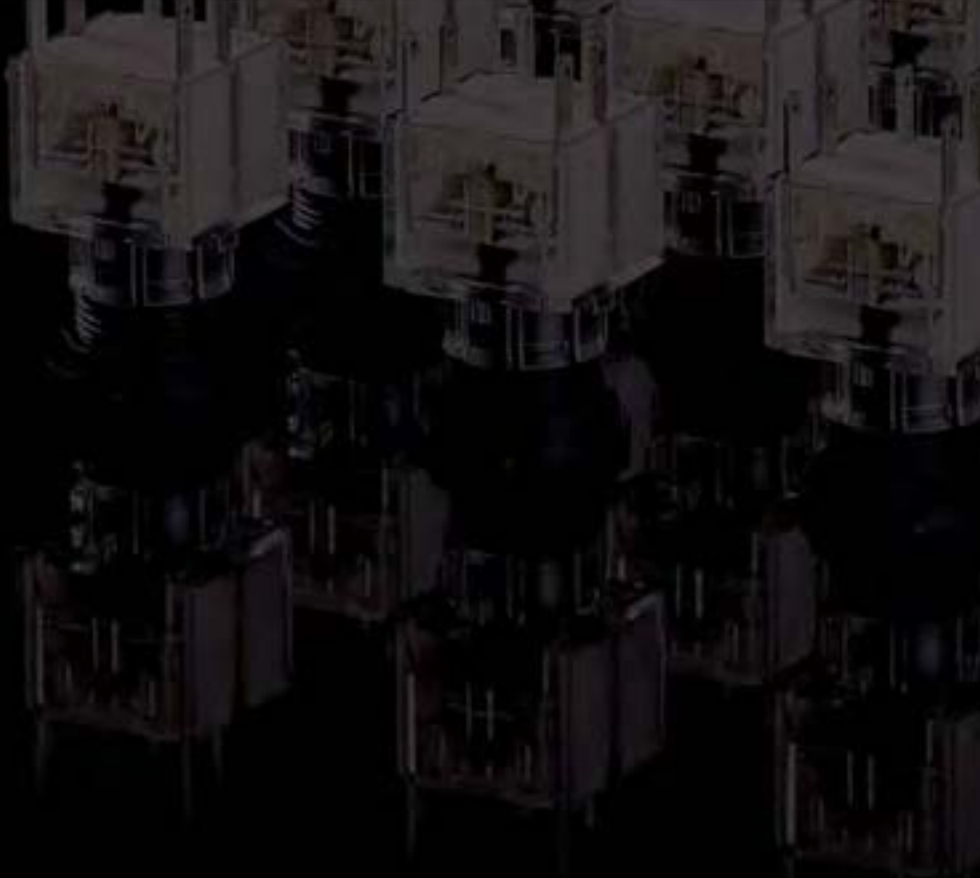
Faston terminals 2.8x0.8 mm

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Illustration	Description	Type
	Ultra-bright LED solder pins, grid 2.54 mm ready-made for CTP_485 3680 mcd white	LED3UW
	LED Adapter for LEDs of 3 and 5 mm Ø to be used in T5.5K sockets, an external resistor must be provided. lamp socket T5,5K	LA5,5
	Voltage Reducer (for LEDs) Faston terminals 2.8x0.8 mm to operate a LED at 230V AC	VE_LED230
	Cable Set with Faston connections suitable for VE_LED230	VE_VK2,8
	Cable Set with wire end ferrules suitable for VE_LED230	VE_VKAE





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General Data

Type Reference:	BZ... (without screw connection)
Description:	Twin Contact Block, separate plungers, positive opening contact
Approvals:	CCC, cCSAus, ENEC10, VDE, CE, NV, TÜV_Süd, positive opening contact, UR II (protective insulation)
Protection class:	3 mm
Operation travel:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Connection type:	AgNi
Contact material:	-50°C ... 85°C
Max. storage temperature:	-30°C ... 70°C, without illumination
Max. operating temperature:	-30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LED's
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1m operations at rated load
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

Utilisation category:	alternate current	direct current
Rated insulation voltage U_i :	AC15 B300	DC13 Q600
Rated operating voltage U_e :	250 V	300 V
Rated operating current I_e :	250 V	250V / 125V / 60V / 24V
Breaking capacity:	1.5A	0.2A / 0.4A / 1A / 2A
Continuous thermal current:	10Ie	1, 1Ie
	6 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V~
Rated current I_e :	6(4) A

Technical Data - Lamp

Lamp socket:	T5,5K / W2x4,6d
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features

Operational voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

type series B...

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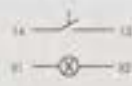

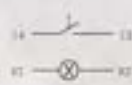




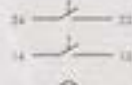
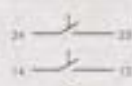
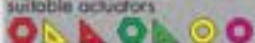
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Illustration	Description	Type
 <p>14/13 0 1 2 3</p> 	<p>Contact Block, momentary 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP411</p> <p>suitable actuators</p>  <p>contact material AgNi BZI contact material AgNi, gold-plated BZI_AU</p>	
 <p>14/13 0 1 2 3</p> 	<p>Illuminated Contact Block, momentary 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP611 lamp socket W2x4,6d</p> <p>suitable actuators</p>  <p>contact material AgNi BZLI contact material AgNi, gold-plated BZLI_AU</p>	
 <p>14/13 0 1 2 3</p> 	<p>Illuminated Contact Block, momentary 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP611 lamp socket T5,5K</p> <p>suitable actuators</p>  <p>contact material AgNi BZLI5 contact material AgNi, gold-plated BZLI5_AU</p>	
 <p>24/22 0 1 2 3 14/13</p> 	<p>Contact Block, momentary 2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP411</p> <p>suitable actuators</p>  <p>contact material AgNi BZII contact material AgNi, gold-plated BZII_AU</p>	
 <p>24/22 0 1 2 3 14/13</p> 	<p>Illuminated Contact Block, momentary 2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP611 lamp socket W2x4,6d</p> <p>suitable actuators</p>  <p>contact material AgNi BZLII contact material AgNi, gold-plated BZLII_AU</p>	
 <p>24/22 0 1 2 3 14/13</p> 	<p>Illuminated Contact Block, momentary 2NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP611 lamp socket T5,5K</p> <p>suitable actuators</p>  <p>contact material AgNi BZLII5 contact material AgNi, gold-plated BZLII5_AU</p>	

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Illustration	Description	Type
<p>2201 0 1 2 3</p> <p>22 21</p>	<p>Contact Block, momentary 1NC Faston terminals 2.8x0.8 mm suitable plug-in socket XAP4 suitable actuators</p> <p>contact material AgNi BZO contact material AgNi, gold-plated BZO_AU</p>	
<p>2201 0 1 2 3</p> <p>22 21</p> <p>11 10</p>	<p>Illuminated Contact Block, momentary 1NC Faston terminals 2.8x0.8 mm suitable plug-in socket XAP6 lamp socket W2x4,6d suitable actuators</p> <p>contact material AgNi BZLO contact material AgNi, gold-plated BZLO_AU</p>	
<p>2201 0 1 2 3</p> <p>22 21</p> <p>11 10</p>	<p>Illuminated Contact Block, momentary 1NC Faston terminals 2.8x0.8 mm suitable plug-in socket XAP6 lamp socket T5,5K suitable actuators</p> <p>contact material AgNi BZLO5 contact material AgNi, gold-plated BZLO5_AU</p>	
<p>2201 0 1 2 3</p> <p>1011</p> <p>22 21</p> <p>12 11</p>	<p>Contact Block, momentary 2NC Faston terminals 2.8x0.8 mm suitable plug-in socket XAP4 suitable actuators</p> <p>contact material AgNi BZOO contact material AgNi, gold-plated BZOO_AU</p>	
<p>2201 0 1 2 3</p> <p>1011</p> <p>22 21</p> <p>13 11</p> <p>11 10</p>	<p>Illuminated Contact Block, momentary 2NC Faston terminals 2.8x0.8 mm suitable plug-in socket XAP6 lamp socket W2x4,6d suitable actuators</p> <p>contact material AgNi BZLOO contact material AgNi, gold-plated BZLOO_AU</p>	
<p>2201 0 1 2 3</p> <p>1011</p> <p>22 21</p> <p>12 11</p> <p>11 10</p>	<p>Illuminated Contact Block, momentary 2NC Faston terminals 2.8x0.8 mm suitable plug-in socket XAP6 lamp socket T5,5K suitable actuators</p> <p>contact material AgNi BZLOOS contact material AgNi, gold-plated BZLOOS_AU</p>	



Illustration	Description	Type
<p>22/21 0 1 2 3 14/13</p>	<p>Contact Block, momentary 1NC + 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP601</p> <p>suitable actuators</p> <p>contact material AgNi BZOI contact material AgNi, gold-plated BZOI_AU</p>	
<p>22/21 0 1 2 3 14/13</p>	<p>Illuminated Contact Block, momentary 1NC + 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP601 lamp socket W2x4,6d</p> <p>suitable actuators</p> <p>contact material AgNi BZLOI contact material AgNi, gold-plated BZLOI_AU</p>	
<p>22/21 0 1 2 3 14/13</p>	<p>Illuminated Contact Block, momentary 1NC + 1NO Faston terminals 2.8x0.8 mm suitable plug-in socket XAP601 lamp socket T5,5K</p> <p>suitable actuators</p> <p>contact material AgNi BZLOIS contact material AgNi, gold-plated BZLOIS_AU</p>	
<p>12/11 0 1 2 3 14/13 22/21 24/23</p>	<p>Contact Block, momentary 2NC + 2NO Faston terminals 2.8x0.8 mm</p> <p>suitable actuators</p> <p>contact material AgNi BZ_494</p>	
<p>10.5 21.9 3.5 15.2</p> <p>7.6 7.6 1.8 23.6</p>	<p>Plug-in Socket XAP6 PCB-mount terminals with 6 pins</p>	

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Illustration	Description	Type
	<p>Plug-in Socket PCB-mount terminals with 4 pins</p>	<p>XAP4</p>
	<p>Plug-in Socket PCB-mount terminals with 6 pins</p>	<p>XAP611</p>
	<p>Plug-in Socket PCB-mount terminals with 6 pins</p>	<p>XAP601</p>



Illustration	Description	Type
	Plug-in Socket with 4 pins	XAP411
	Insulating Case for Faston clamp FH2,8, slip on from the front	IH2,8
	Faston Clamp 2.8 x 0.8 mm with snap-in pin Cross section 0.75 - 1.50 mm ² , tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8	FH2,8
	Double Faston for the connection of 2 Faston clamps FH2.8	FD2,8
	Ultra-bright LED, W2x4,6d socket, 12V with half-wave rectifier, for 12 V AC/DC (6/12 mA) When connecting to DC, the correct polarity must be observed: + ... X1 /- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %	colour white L2X4,6-12UW
	Ultra-bright LED, W2x4,6d socket, 24V with half-wave rectifier, for 24 V AC/DC (2/4 mA) When connecting to DC, the correct polarity must be observed: + ... X1 /- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %	colour white L2X4,6-24UW

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Illustration	Description	Type												
	<p>Ultra-bright LED, T5,5K socket, 12V with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>	<p>colour white L5,5K12UW</p>												
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>	<p>colour white L5,5K24UW</p>												
	<p>Two-colour LED, T5,5K socket - 24V with integrated series resistor colour dependent on polarity Storage temperature: -25°C ... +80°C Ambient temperature: -20°C ... +60°C Voltage tolerance: + 10 %</p> <table border="0"> <tr> <td>Colour:</td> <td>red</td> <td>green</td> </tr> <tr> <td>Rated current [mA]:</td> <td>14</td> <td>13</td> </tr> <tr> <td>Brightness [mcd]:</td> <td>2300</td> <td>650</td> </tr> <tr> <td>Dominant wavelength: [nm]</td> <td>625</td> <td>525</td> </tr> </table>	Colour:	red	green	Rated current [mA]:	14	13	Brightness [mcd]:	2300	650	Dominant wavelength: [nm]	625	525	<p>colour red/green L5,5K24RG</p>
Colour:	red	green												
Rated current [mA]:	14	13												
Brightness [mcd]:	2300	650												
Dominant wavelength: [nm]	625	525												
	<p>Ultra-bright LED solder pins, grid 2.54 mm ready-made for CTP_485 3680 mcd white</p>	LED3UW												
	<p>LED Adaptor for LEDs of 3 and 5 mm Ø to be used in T5,5K sockets, an external resistor must be provided.</p>	LA5,5												
	<p>lamp socket T5,5K</p>													



Illustration	Description	Type
	Voltage Reducer (for LEDs) Faston terminals 2.8x0.8 mm to operate a LED at 230V AC	VE_LED230
	Cable Set with Faston connections suitable for VE_LED230	VE_VK2,8
	Cable Set with wire end ferrules suitable for VE_LED230	VE_VKAE

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General Data

Type Reference:	BZ...K
Description:	Twin Contact Block, separate plungers, positive opening contact
Approvals:	CCC, cCSAus, ENEC10, VDE, CE, NV, TÜV_Süd, positive opening contact, UR II (protective insulation)
Protection class:	3 mm
Operation travel:	screw connection
Connection type:	AgNi
Contact material:	-50°C ... 85°C
Max. storage temperature:	-30°C ... 70°C, without illumination
Max. operating temperature:	-30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LED's
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1m operations at rated load
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

Utilisation category:	alternate current	direct current
Rated insulation voltage U_i :	AC15 B300	DC13 Q600
Rated operating voltage U_e :	250 V	300 V
Rated operating current I_e :	250 V	250V / 125V / 60V / 24V
Breaking capacity:	1.5A	0.2A / 0.4A / 1A / 2A
Continuous thermal current:	10Ie	1, 1Ie
	6 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V-
Rated current I_e :	6(4) A

Technical Data - Lamp

Lamp socket:	T5,5K / W2x4,6d
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features

Operational voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

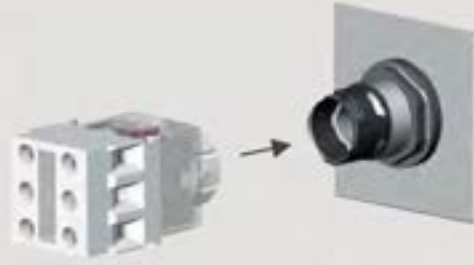
Additional Data

Tightening torque (screw terminal):	0.4 Nm
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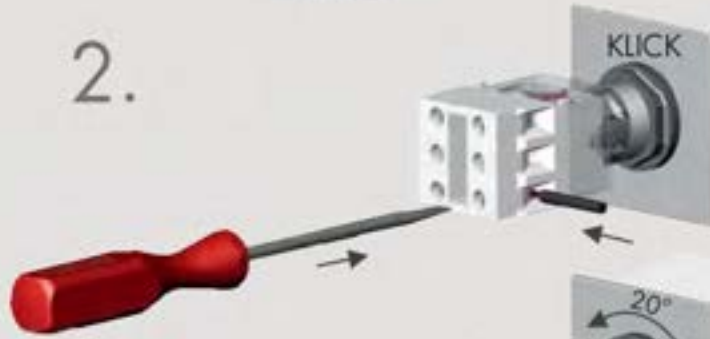
type series BZ...K

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Illustration	Description	Type
 <p>14113 0 1 2 3</p> 	<p>Contact Block, momentary 1NO screw connection 2.5 mm²</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	BZIK
 <p>14113 0 1 2 3</p> 	<p>Illuminated Contact Block, momentary 1NO screw connection 2.5 mm² lamp socket W2x4,6d</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	BZLIK
 <p>14112 0 1 2 3</p> 	<p>Illuminated Contact Block, momentary 1NO screw connection 2.5 mm² lamp socket T5,5K</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	BZL15K
 <p>24103 0 1 2 3 14112 0 1 2 3</p> 	<p>Contact Block, momentary 2NO screw connection 2.5 mm²</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	BZIIK
 <p>24103 0 1 2 3 14112 0 1 2 3</p> 	<p>Illuminated Contact Block, momentary 2NO screw connection 2.5 mm² lamp socket W2x4,6d</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	BZLIIK
 <p>24101 0 1 2 3 14112 0 1 2 3</p> 	<p>Illuminated Contact Block, momentary 2NO screw connection 2.5 mm² lamp socket T5,5K</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	BZLII5K
 <p>20101 0 1 2 3</p> 	<p>Contact Block, momentary 1NC screw connection 2.5 mm²</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	BZOK
 <p>20101 0 1 2 3</p> 	<p>Illuminated Contact Block, momentary 1NC screw connection 2.5 mm² lamp socket W2x4,6d</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	BZLOK

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<p>2201 0 1 2 3 1011</p>	<p>Illuminated Contact Block, momentary 1NC screw connection 2.5 mm² lamp socket T5,5K suitable actuators contact material AgNi</p>	BZLO5K
<p>2201 0 1 2 3 1011</p>	<p>Contact Block, momentary 2NC screw connection 2.5 mm² suitable actuators contact material AgNi</p>	BZOOK
<p>2201 0 1 2 3 1011</p>	<p>Illuminated Contact Block, momentary 2NC screw connection 2.5 mm² lamp socket W2x4,6d suitable actuators contact material AgNi</p>	BZLOOK
<p>2201 0 1 2 3 1011</p>	<p>Illuminated Contact Block, momentary 2NC screw connection 2.5 mm² lamp socket T5,5K suitable actuators contact material AgNi</p>	BZLOOSK
<p>2201 0 1 2 3 1413</p>	<p>Contact Block, momentary 1NC + 1NO screw connection 2.5 mm² suitable actuators contact material AgNi</p>	BZIOK
<p>2201 0 1 2 3 1413</p>	<p>Illuminated Contact Block, momentary 1NC + 1NO screw connection 2.5 mm² lamp socket W2x4,6d suitable actuators contact material AgNi</p>	BZLOIK
<p>2201 0 1 2 3 1412</p>	<p>Illuminated Contact Block, momentary 1NC + 1NO screw connection 2.5 mm² lamp socket T5,5K suitable actuators contact material AgNi</p>	BZLOISK



Illustration	Description	Type
	<p>Ultra-bright LED, W2x4,6d socket, 12V</p> <p>with half-wave rectifier, for 12 V AC/DC (6/12 mA)</p> <p>When connecting to DC, the correct polarity must be observed: + ... X1 / - ... X2</p> <p>storage temperature: -25°C ... +80°C</p> <p>ambient temperature: -20°C ... +60°C</p> <p>voltage tolerance: + 10 %</p> <p>colour white</p>	L2X4,6-12UW
	<p>Ultra-bright LED, W2x4,6d socket, 24V</p> <p>with half-wave rectifier, for 24 V AC/DC (2/4 mA)</p> <p>When connecting to DC, the correct polarity must be observed: + ... X1 / - ... X2</p> <p>storage temperature: -25°C ... +80°C</p> <p>ambient temperature: -20°C ... +60°C</p> <p>voltage tolerance: + 10 %</p> <p>colour white</p>	L2X4,6-24UW
	<p>Ultra-bright LED, T5,5K socket, 12V</p> <p>with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA)</p> <p>When connecting to DC, the correct polarity must be observed: + ... X1 / - ... X2</p> <p>storage temperature: -25°C ... +80°C</p> <p>ambient temperature: -20°C ... +60°C</p> <p>voltage tolerance: + 10 %</p> <p>colour white</p>	L5,5K12UW
	<p>Ultra-bright LED, T5,5K socket, 24V</p> <p>with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)</p> <p>When connecting to DC, the correct polarity must be observed: + ... X1 / - ... X2</p> <p>storage temperature: -25°C ... +80°C</p> <p>ambient temperature: -20°C ... +60°C</p> <p>voltage tolerance: + 10 %</p> <p>colour white</p>	L5,5K24UW

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Illustration	Description	Type												
	<p>Two-colour LED, T5,5K socket - 24V</p> <p>with integrated series resistor colour dependent on polarity Storage temperature: -25°C ... +80°C Ambient temperature: -20°C ... +60°C Voltage tolerance: + 10 %</p> <table border="0"> <tr> <td>Colour:</td> <td>red</td> <td>green</td> </tr> <tr> <td>Rated current [mA]:</td> <td>14</td> <td>13</td> </tr> <tr> <td>Brightness [mcd]:</td> <td>2300</td> <td>650</td> </tr> <tr> <td>Dominant wavelength: [nm]</td> <td>625</td> <td>525</td> </tr> </table>	Colour:	red	green	Rated current [mA]:	14	13	Brightness [mcd]:	2300	650	Dominant wavelength: [nm]	625	525	
Colour:	red	green												
Rated current [mA]:	14	13												
Brightness [mcd]:	2300	650												
Dominant wavelength: [nm]	625	525												
	<table border="0"> <tr> <td>colour</td> <td>red/green</td> <td>L5,5K24RG</td> </tr> </table>	colour	red/green	L5,5K24RG										
colour	red/green	L5,5K24RG												
	<p>Ultra-bright LED</p> <p>solder pins, grid 2.54 mm ready-made for CTP_485</p> <p>3680 mcd white</p>	LED3UW												
	<p>LED Adaptor</p> <p>for LEDs of 3 and 5 mm Ø to be used in T5,5K sockets, an external resistor must be provided.</p> <p>lamp socket T5,5K</p>	LA5,5												
	<p>Voltage Reducer (for LEDs)</p> <p>Faston terminals 2.8x0.8 mm to operate a LED at 230V AC</p>	VE_LED230												
	<p>Cable Set with wire end ferrules</p> <p>suitable for VE_LED230</p>	VE_VKAE												





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General Data

Type Reference:	CTP...
Description:	Electronic Contact block, PCB-mount terminals, with snap action
Approvals:	CCC, cCSAus, NV, CE
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	PCB-mount terminals
Contact material:	gold-plated 1.5µm
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1m operations at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Technical Data - Lamp

Lamp socket:	T5,5K
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC12	DC12
Rated insulation voltage U_i :	60V	60V
Rated operating voltage U_e :	48V	48V
Rated operating current I_e :	0.1A	0.1A
Continuous thermal current:	100mA	100mA

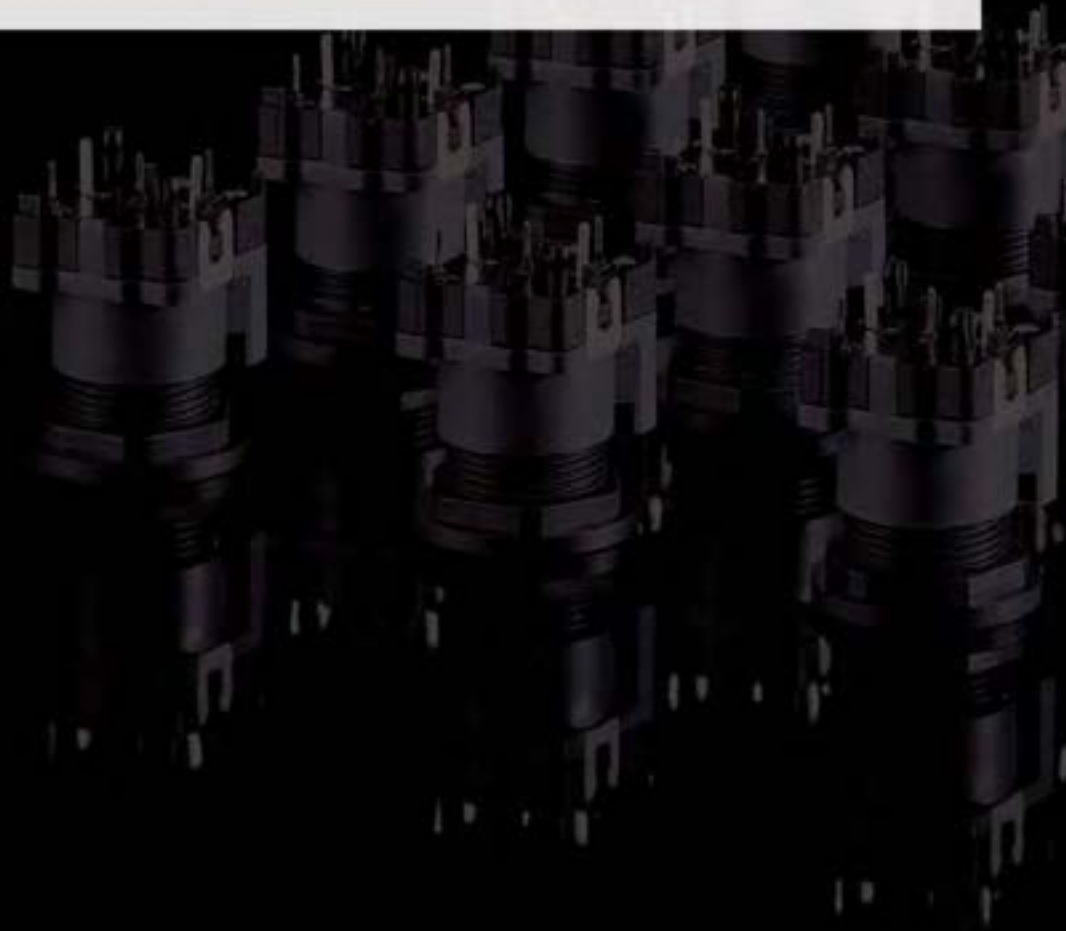
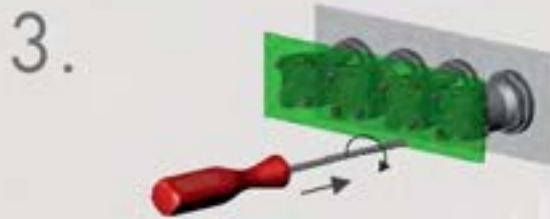
Remark

GB14048.5-2008 (IEC60947-5-1)

Elektrische Daten nach C22.2 No. 14-10

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

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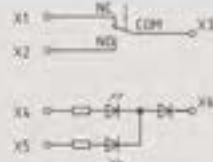
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Illustration

Description

Type



Contact Unit, momentary, with 2-colour LED red/green 1 inverter

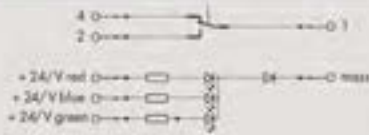
screw connection

suitable actuators



contact material gold-plated 1.5µm

CTFS_24R_G



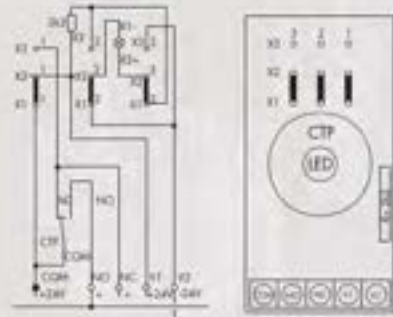
Contact Unit, momentary, incl. RGB LED 1 inverter

screw connection

suitable actuators



CTFS_24RGB



Assembled PCB Strips

screw connection

specially designed for the elevator industry, with 12 illuminated electronic contact units (snap action type). Plug-in bridge connectors allow easy change-over from positive to negative logic. The strips can easily be separated as required. The power supply lines are guided through the predetermined breaking points.

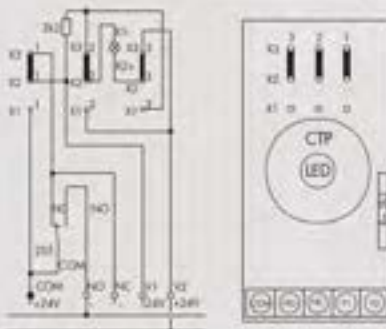
Each pushbutton is assigned a full set of terminals.

For technical data of the contact unit, refer to type CTLP

suitable actuators



PCD3012



Ultra-bright LED, T5,5K socket, 12V

with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA)

When connecting to DC, the correct polarity must be observed:

+ ... X1/- ... X2

storage temperature:

-25°C ... +80°C

ambient temperature:

-20°C ... +60°C

voltage tolerance:

+ 10 %

colour white

L5,5K12UW



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Illustration	Description	Type												
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>	<p>colour white L5,5K24UW</p>												
	<p>Two-colour LED, T5,5K socket - 24V with integrated series resistor colour dependent on polarity Storage temperature: -25°C ... +80°C Ambient temperature: -20°C ... +60°C Voltage tolerance: + 10 %</p> <table border="0"> <tr> <td>Colour:</td> <td>red</td> <td>green</td> </tr> <tr> <td>Rated current [mA]:</td> <td>14</td> <td>13</td> </tr> <tr> <td>Brightness [mcd]:</td> <td>2300</td> <td>650</td> </tr> <tr> <td>Dominant wavelength: [nm]</td> <td>625</td> <td>525</td> </tr> </table>	Colour:	red	green	Rated current [mA]:	14	13	Brightness [mcd]:	2300	650	Dominant wavelength: [nm]	625	525	<p>colour red/green L5,5K24RG</p>
Colour:	red	green												
Rated current [mA]:	14	13												
Brightness [mcd]:	2300	650												
Dominant wavelength: [nm]	625	525												
	<p>Ultra-bright LED solder pins, grid 2.54 mm ready-made for CTP_485 3680 mcd white</p>	LED3UW												
	<p>LED Adapter for LEDs of 3 and 5 mm Ø to be used in T5,5K sockets, an external resistor must be provided.</p>	<p>lamp socket T5,5K LA5,5</p>												

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General Data

Type Reference:	CTLF, CTF, CTF_250, CTF_250
Description:	Illuminated Electronic Contact Block with snap action
Approvals:	cCSAus, CE
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	Faston terminals 2.8x0.8 mm
Contact material:	gold-plated 1.5µm
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1m operations at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Technical Data - Lamp

Lamp socket:	T5,5K
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Electrical Data acc. to EN 61058-1 "micro disconnection", µ

Rated voltage:	250V-
Rated current:	max. 100 mA
Contact opening distance:	< 3 mm (µ)
Creepage resistance:	II / PTI 400V
Insulation resistance:	> 100 MOhm/500 V
Test voltage:	500V (61058-1 Tab.12)
Pollution degree:	2
Electrical life (additional test):	50000

Note

types CTF_250, CTF_250

The applicability of the "micro disconnection" (µ) acc. to EN 61058-1 is regulated in the relative product standards which have to be observed by the customer (product designer).

Faston terminals 2.8x0.8mm are not suitable for manual soldering.

Elektrische Daten nach C22.2 No. 14-10

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

type series C...F
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Illustration	Description	Type
	Contact Unit, momentary 1 inverter Faston terminals 2.8x0.8 mm suitable actuators contact material gold-plated 1.5µm	CTF
	Contact Unit, momentary, for 250V-1 inverter Faston terminals 2.8x0.8 mm EN 61058-1 µ 250V~/100mA, µ micro-disconnection (µ)	CTF_250
	Illuminated Contact Unit, momentary 1 inverter Faston terminals 2.8x0.8 mm lamp socket T5,5K suitable actuators contact material gold-plated 1.5µm	CTLF
	Illuminated Contact Unit, momentary, for 250V-1 inverter Faston terminals 2.8x0.8 mm EN 61058-1 µ 250V~/100mA, µ micro-disconnection (µ) LED max. 60V lamp socket T5,5K suitable actuators contact material gold-plated 1.5µm	CTLF_250
	Lampholder Faston terminals 2.8x0.8 mm lamp socket T5,5K suitable pilot light heads	CLF
	Insulating Case for Faston clamp FH2.8, slip on from the front	IH2,8
	Faston Clamp 2.8 x 0.8 mm with snap-in pin Cross section 0.75 - 1.50 mm ² , fin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8	FH2,8

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Faston terminals 2.8x0.8 mm

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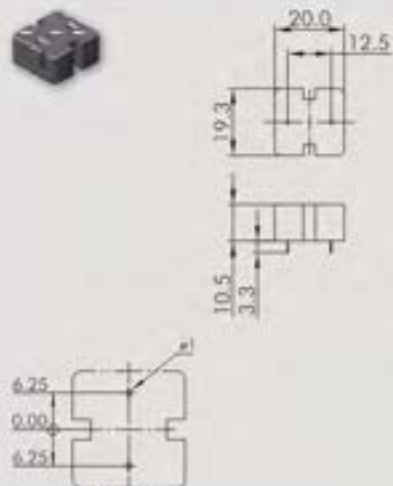
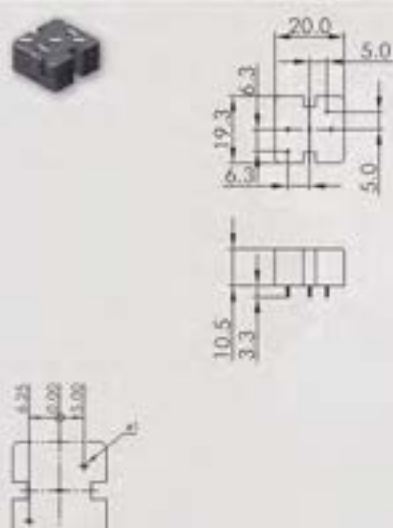
Illustration	Description	Type
	<p>Double Faston for the connection of 2 Faston clamps FH2.8</p>	<p>FD2,8</p>
	<p>Plug-in Socket PCB-mount terminals with 2 contact pins to fit CLF lampholder</p>	<p>CAFP2</p>
	<p>Plug-in Socket PCB-mount terminals with 3 contact pins to fit CTF contact unit</p>	<p>CAFP3</p>



Illustration	Description	Type
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	<p>Plug-in Socket PCB-mount terminals with 5 contact pins to fit CTIF contact unit</p>	<p>CAFP5</p>
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	<p>Ultra-bright LED, T5,5K socket, 12V with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1 / - ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>	<p>colour white L5,5K12UW</p>
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	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1 / - ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %</p>	<p>colour white L5,5K24UW</p>
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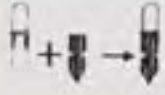
Contact Blocks

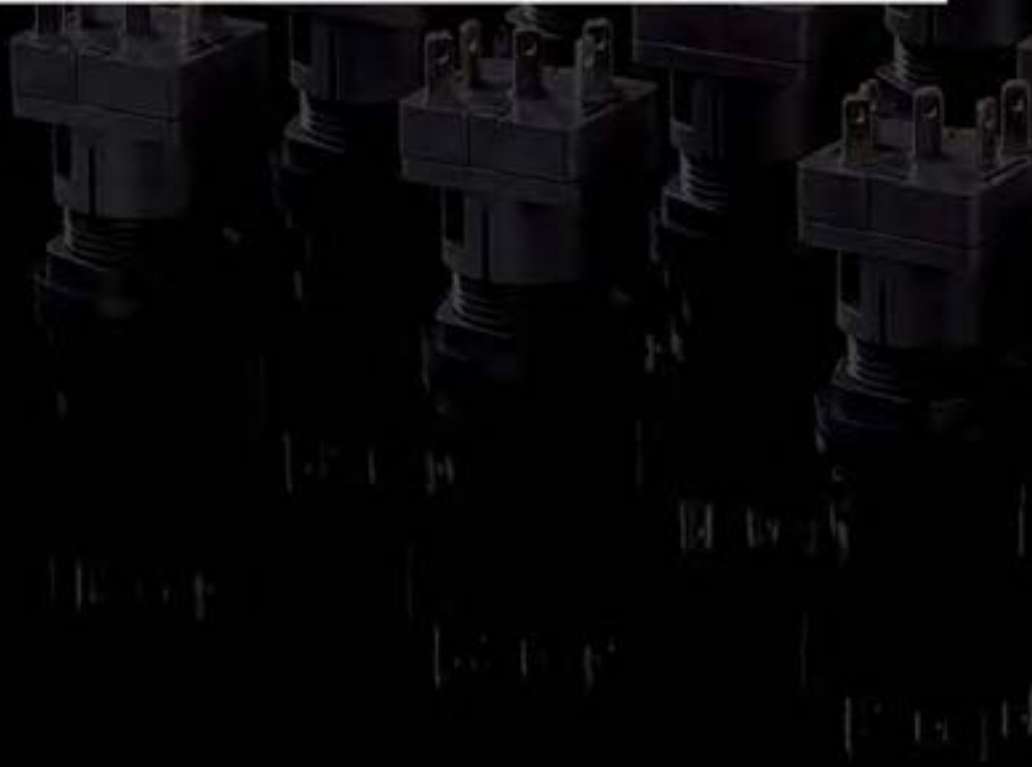
Faston terminals 2.8x0.8 mm

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Illustration	Description	Type												
	<p>Two-colour LED, T5,5K socket - 24V with integrated series resistor colour dependent on polarity Storage temperature: -25°C ... +80°C Ambient temperature: -20°C ... +60°C Voltage tolerance: + 10 %</p> <table border="0"> <tr> <td>Colour:</td> <td>red</td> <td>green</td> </tr> <tr> <td>Rated current [mA]:</td> <td>14</td> <td>13</td> </tr> <tr> <td>Brightness [mcd]:</td> <td>2300</td> <td>650</td> </tr> <tr> <td>Dominant wavelength: [nm]</td> <td>625</td> <td>525</td> </tr> </table>	Colour:	red	green	Rated current [mA]:	14	13	Brightness [mcd]:	2300	650	Dominant wavelength: [nm]	625	525	L5,5K24RG
Colour:	red	green												
Rated current [mA]:	14	13												
Brightness [mcd]:	2300	650												
Dominant wavelength: [nm]	625	525												
	<p>Ultra-bright LED solder pins, grid 2.54 mm ready-made for CTP_485 3680 mcd white</p>	LED3UW												
 	<p>LED Adaptor for LEDs of 3 and 5 mm Ø to be used in T5,5K sockets, an external resistor must be provided.</p>	LA5,5												
	lamp socket	T5,5K												





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General Data

Type Reference:	CZ...
Description:	Electronic Contact Block with snap action
Approvals:	CCC, cCSAus, NV, CE
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	PCB-mount terminals
Contact material:	gold-plated 1.5µm
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1m operations at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Technical Data - Lamp

Lamp socket:	T5,5K
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC12	DC12
Rated insulation voltage U_i :	60V	60V
Rated operating voltage U_e :	48V	48V
Rated operating current I_e :	0.1A	0.1A
Continuous thermal current:	100mA	100mA

Remark

GB14048.5-2008 (IEC60947-5-1)

Elektrische Daten nach C22.2 No. 14-10

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

type series CZ...

Mounting Instructions

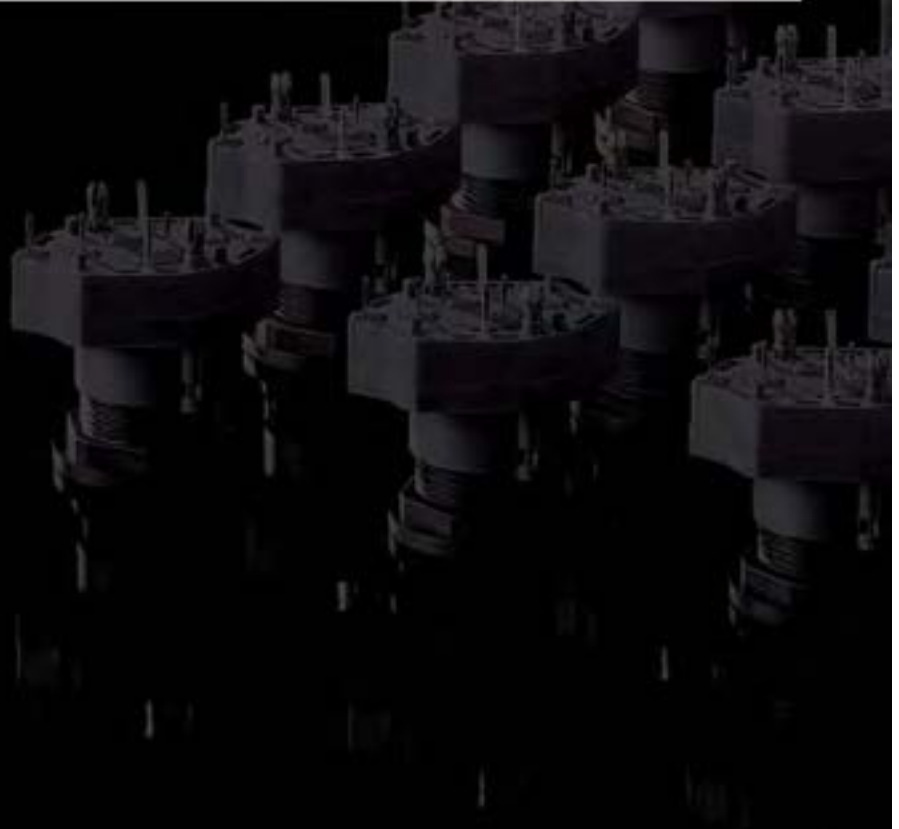
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Illustration	Description	Type
	<p>Contact Unit, momentary 1 inverter PCB-mount terminals can only be combined with the contact units PTP... and C...485</p> <p>suitable actuators: </p> <p>contact material: gold-plated 1.5µm CZTP</p>	
	<p>Illuminated Contact Unit, momentary 1 inverter PCB-mount terminals can only be combined with the contact units PTP... and C...485 lamp socket: T5,5K</p> <p>suitable actuators: </p> <p>contact material: gold-plated 1.5µm CZTLP</p>	
	<p>Contact Unit, momentary 2 inverters PCB-mount terminals can only be combined with the contact units PTP... and C...485</p> <p>suitable actuators: </p> <p>contact material: gold-plated 1.5µm CZTP2</p>	

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Illustration	Description	Type
	<p>Illuminated Contact Unit with two-piece plunger 2 inverters</p> <p>PCB-mount terminals 2 independent single-circuit inverters can only be combined with the contact units PTP... and C...485</p> <p>lamp socket T5,5K suitable actuators</p> <p>contact material gold-plated 1.5µm</p>	<p>CZTP2_549</p>
	<p>Lampholder</p> <p>PCB-mount terminals can only be combined with the contact units PTP... and C...485</p> <p>lamp socket T5,5K suitable pilot light heads</p>	<p>CZLP</p>
	<p>Ultra-bright LED, T5,5K socket, 12V with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA)</p> <p>When connecting to DC, the correct polarity must be observed: + ... X1 / - ... X2</p> <p>storage temperature: 25°C ... +80°C ambient temperature: 20°C ... +60°C voltage tolerance: + 10 %</p>	<p>colour white</p> <p>L5,5K12UW</p>

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PCB-mount terminals

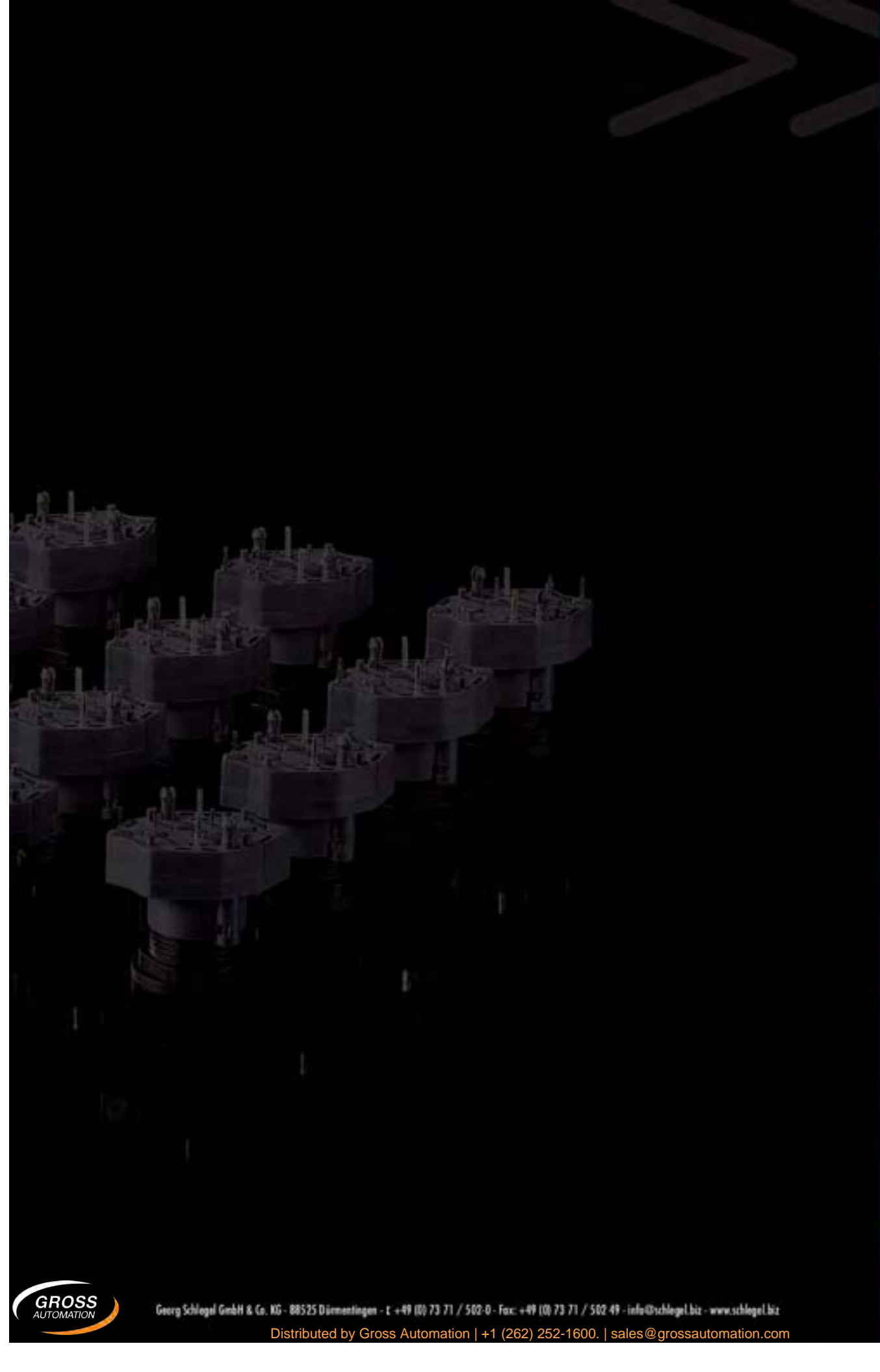
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Illustration	Description	Type												
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour white</p>	L5,5K24UW												
	<p>Two-colour LED, T5,5K socket - 24V with integrated series resistor colour dependent on polarity Storage temperature: -25°C ... +80°C Ambient temperature: -20°C ... +60°C Voltage tolerance: + 10 %</p> <table border="1"> <tr> <td>Colour:</td> <td>red</td> <td>green</td> </tr> <tr> <td>Rated current [mA]:</td> <td>14</td> <td>13</td> </tr> <tr> <td>Brightness [mcd]:</td> <td>2300</td> <td>650</td> </tr> <tr> <td>Dominant wavelength: [nm]</td> <td>625</td> <td>525</td> </tr> </table> <p>colour red/green</p>	Colour:	red	green	Rated current [mA]:	14	13	Brightness [mcd]:	2300	650	Dominant wavelength: [nm]	625	525	L5,5K24RG
Colour:	red	green												
Rated current [mA]:	14	13												
Brightness [mcd]:	2300	650												
Dominant wavelength: [nm]	625	525												
	<p>Ultra-bright LED solder pins, grid 2.54 mm ready-made for CTP_485 3680 mcd white</p>	LED3UW												
	<p>LED Adapter for LEDs of 3 and 5 mm Ø to be used in T5,5K sockets, an external resistor must be provided.</p> <p>lamp socket T5,5K</p>	LA5,5												





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General Data

Type Reference:	CT...
Description:	Electronic Contact Block with snap action
Approvals:	CCC, cCSAus, NV, CE
Protection class:	II (protective insulation)
Operation travel:	3 mm
Connection type:	Faston terminals 2.8x0.8 mm
Contact material:	gold-plated 1.5µm
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1m operations at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Technical Data - Lamp

Lamp socket:	T5,5K
Max. lamp voltage:	60V
Max. lamp output:	1.2W
Definition:	X1...anode, X2...cathode

Electrical Features

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Note

Faston terminals 2.8x0.8mm are not suitable for manual soldering.

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC12	DC12
Rated insulation voltage U_i :	60V	60V
Rated operating voltage U_e :	48V	48V
Rated operating current I_e :	0.1A	0.1A
Continuous thermal current:	100mA	100mA

Remark

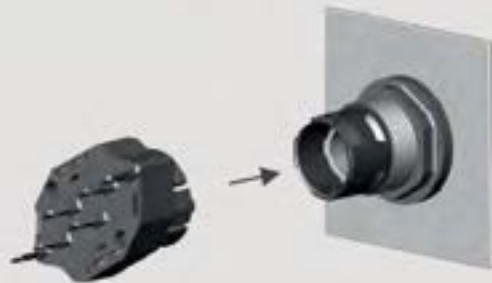
GB14048.5-2008 (IEC60947-5-1)

Elektrische Daten nach C22.2 No. 14-10

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Mounting Instructions

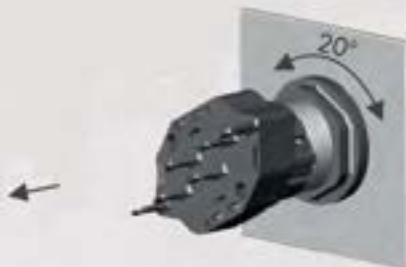
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Illustration	Description	Type
	<p>Contact Unit, momentary 2 inverters Faston terminals 2.8x0.8 mm 2 independent single-circuit inverters suitable plug-in socket CAP6</p> <p>suitable actuators </p> <p>contact material gold-plated 1.5µm CT2</p>	
	<p>Illuminated Contact Unit, momentary 2 inverters Faston terminals 2.8x0.8 mm 2 independent single-circuit inverters suitable plug-in socket CAP8</p> <p>lamp socket T5,5K</p> <p>suitable actuators </p> <p>contact material gold-plated 1.5µm CTL2</p>	
	<p>Contact Unit with two-piece plunger, momentary 2 inverters Faston terminals 2.8x0.8 mm 2 independent single-circuit inverters suitable plug-in socket CAP6</p> <p>suitable actuators </p> <p>contact material gold-plated 1.5µm CT2_549</p>	
	<p>Illuminated Contact Block with separate plungers, momentary 2 inverters Faston terminals 2.8x0.8 mm 2 independent single-circuit inverters suitable plug-in socket CAP8</p> <p>lamp socket T5,5K</p> <p>suitable actuators </p> <p>contact material gold-plated 1.5µm CTL2_549</p>	

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Faston terminals 2.8x0.8 mm

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Illustration	Description	Type
	<p>Plug-in Socket PCB-mount terminals with 8 contact pins to fit CTL2 contact unit</p>	<p>CAP8</p>
	<p>Plug-in Socket PCB-mount terminals with 6 contact pins to fit CT2 contact unit</p>	<p>CAP6</p>
	<p>Insulating Case for Faston clamp FH2.8, slip on from the front</p>	<p>IH2.8</p>
	<p>Faston Clamp 2.8 x 0.8 mm with snap-in pin Cross section 0.75 - 1.50 mm², tinned brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2.8</p>	<p>FH2.8</p>



Illustration	Description	Type
	Double Faston for the connection of 2 Faston clamps FH2.8	FD2,8
	Ultra-bright LED, T5,5K socket, 12V with integrated series resistor and half-wave rectifier, for 12 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %	L5,5K12UW
	Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA) When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 %	L5,5K24UW
	Two-colour LED, T5,5K socket - 24V with integrated series resistor colour dependent on polarity Storage temperature: -25°C ... +80°C Ambient temperature: -20°C ... +60°C Voltage tolerance: + 10 %	L5,5K24RG
	Ultra-bright LED solder pins, grid 2.54 mm ready-made for CTP_485 3680 mcd white	LED3UW
 	LED Adapter for LEDs of 3 and 5 mm Ø to be used in T5,5K sockets, an external resistor must be provided.	LA5,5
	lamp socket T5,5K	

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General Data

Type Reference:	PTF..., PTP...
Description:	Contact Block, positive opening contact
Approvals:	CE, TÜV_Süd, positive opening contact II (protective insulation)
Protection class:	
Connection type:	Faston terminals 2.8x0.8 mm / PCB-mount terminals
Contact material:	AgNi
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1m operations at rated load AC
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC
Rated insulation voltage U_i :	250 V	250V
Rated operating voltage U_e :	240V / 120V	240V / 120V
Rated operating current I_e :	1.5A / 3A	0.27A / 0.55A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	

Electrical Features

Operational current AC/DC:	100 mA
Operational voltage AC/DC:	42V
Rated insulation voltage:	50V AC/DC
Electrical life (24DC / 10mA):	1m

Environmental Tests

Shock resistance, IEC 600-68-2-27:	50g at 11ms amplitude, semi-sinusoidal
Vibration resistance, IEC 600-68-2-6:	5g at 10...500Hz
Constant climatic resistance:	IEC 600-68-2-3 and 2-30
Resistance to alternating atmosphere:	IEC 600-68-2-14 and 2-33
Salt spray:	IEC 600-68-2-11
Resistance to soldering heat:	IEC 600-68-2-20
Soldering method:	wave and manual soldering

Note

DC13 life-time: 100,000 at max. load, 10 operations/min

Soldering connection: CuZn37H95, tinned all-round

type series PTF...

Mounting Instructions

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Illustration	Description	Type
<p>Physical view of the PTPOO contact block. Terminal layout diagram showing 22/21 and 12/11 terminals. Dimensions: 7.3, 3.9, 0.1, 3.9, 7.3, 6.5, 5.4, 0.6, 5.4, 6.5, 6.5, 5.4, 5.4, 6.5. Mounting hole diameter: Ø19. Actuator symbols: 0, 1, 2, 3.</p>	<p>Contact Unit for emergency stops, momentary 2NC PCB-mount terminals</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>PTPOO PTPOO_AU</p>
<p>Physical view of the PTPOI contact block. Terminal layout diagram showing 22/21 and 12/11 terminals. Dimensions: 7.3, 3.9, 0.1, 3.9, 7.3, 6.5, 5.4, 0.6, 5.4, 6.5, 6.5, 5.4, 5.4, 6.5. Mounting hole diameter: Ø19. Actuator symbols: 0, 1, 2, 3.</p>	<p>Contact Unit for emergency stops, momentary 1NC + 1NO PCB-mount terminals</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>PTPOI PTPOI_AU</p>
<p>Physical view of the PTFPOO contact block. Terminal layout diagram showing 22/21 and 12/11 terminals. Dimensions: 3.9, 0.1, 3.9, 4xø1.5, ø1.8, 6.5, 5.4, 0.6, 5.4, 6.5. Mounting hole diameter: Ø19. Actuator symbols: 0, 1, 2, 3. Labels A and B are present.</p>	<p>Contact Unit for Emergency Stops, momentary 2NC PCB-mount terminals 2 positive opening NC contacts (no snap-action)</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>PTFPOO PTFPOO_AU</p>

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Illustration	Description	Type
	<p>Contact Unit for Emergency Stops, momentary 1NC + 1NO PCB-mount terminals 1 positive opening NC + 1 NO (no snap-action)</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>PTFPOI PTFPOI_AU</p>
	<p>Contact Unit for Emergency Stops, momentary 2NC Faston terminals 2.8x0.8 mm</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>PTFOO PTFOO_AU</p>
	<p>Contact Unit for Emergency Stops, momentary 1NC + 1NO Faston terminals 2.8x0.8 mm</p> <p>suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>PTFOI PTFOI_AU</p>
	<p>Insulating Case for Faston clamp FH2,8, slip on from the front</p>	<p>IH2,8</p>
	<p>Faston Clamp 2.8 x 0.8 mm with snap-in pin Cross section 0.75 - 1.50 mm², tin-plated brass, with pin to snapfit into the sockets XA, XAL and the insulating case IH2,8</p>	<p>FH2,8</p>
	<p>Double Faston for the connection of 2 Faston clamps FH2,8</p>	<p>FD2,8</p>





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General Data

Type Reference:	PTS(L)(OO)(I)(O)(OIT)(OOI)(OOIT)(OOO)(OI)(OIT)(III)(IIT)(L, AU)(L, RO)
Description:	Contact Block for base-plate mounting, with positive opening contact
Approvals:	CE, TÜV, Süd
Nature of contact:	2NC / 1NC+1NO / 2NO / 2NC+1NO / 1NC+2NO / 3NO / 3NC
Operation travel:	2.3 mm
Connection type:	PCB-mount terminals
Contact material:	AgNi / AgNi, gold-plated 5µm
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m operations
Contact resistance NO:	< 20 mOhm / < 50 mOhm (Au)
Contact resistance NC:	< 20 mOhm / < 50 mOhm (Au)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 B300	DC13 Q300
Rated insulation voltage Ui:	250 V	250V
Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V
Rated operating current Ie:	1.5A / 3A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	5A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V~
Rated current Ie:	6(4) A

Technical Data - Lamp

Lamp socket:	none, with integrated LED
Max. lamp voltage:	30 V AC/DC [*1]
Definition:	X1...anode, X2...cathode

Electrical Features

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA

Note

RO=LED without series resistor

Contact elements for pushbutton actuator (OIT)(OOIT)(OIT)(IIT) with bridged plunger (*T)

The contact unit is snapped into the actuator neck.
Spacer sleeves ensure the correct distance between PCB and mounting plate.

DC13 lifetime: 100,000 at max. load, 10 operations/min

Illuminated versions (LED):	Overvoltage category II (2.5kV), pollution degree 2
Versions with third contact:	Overvoltage category II (2.5kV), pollution degree 2

(*1) does not apply to the types "....RO"

General Data

Type Reference:	PCTS(I)_RO
Description:	Contact Block for base-plate mounting
Approvals:	CE
Nature of contact:	1 inverter
Operation travel:	2.3 mm
Connection type:	PCB-mount terminals
Contact material:	gold-plated 1.5µm
Max. storage temperature:	-40°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m operations at rated load
Contact resistance NO:	< 50 mOhm (new state)
Contact resistance NC:	< 100 mOhm (new state)
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms

Technical Data - Lamp

Lamp socket:	none, with integrated 3 mm LED
Max. lamp voltage:	30 V AC/DC [*1]
Definition:	X1...anode, X2...cathode

Electrical Features

Rated voltage:	20mV ... 48V AC/DC
Rated current:	0.01mA ... 100mA

Note

RO= LED without series resistor

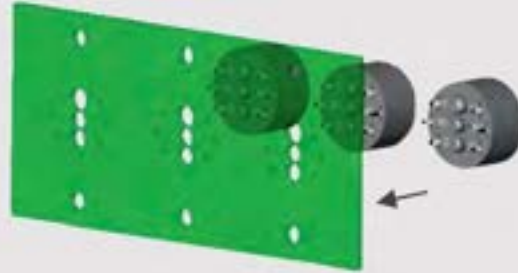
The contact unit is snapped into the actuator neck.
Spacer sleeves ensure the correct distance between PCB and mounting plate.

(*1) does not apply to the types "..._RO"



Mounting Instructions

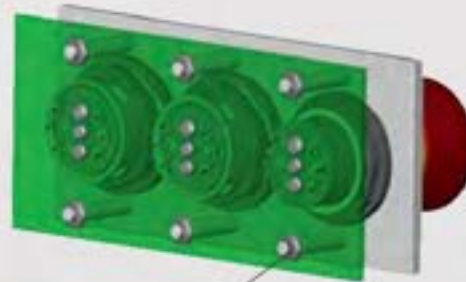
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secured captive nuts

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Illustration	Description	Type
<p>11/12 0 1 2</p>	<p>Contact Unit, momentary 1NC PCB-mount terminals suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>1NC PTSO PTSO_AU</p>
<p>11/12 0 1 2</p>	<p>Illuminated Contact Unit, momentary 1NC PCB-mount terminals incl. white LED suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>1NC PTSLO PTSLO_AU</p>
<p>13/14 0 1 2</p>	<p>Contact Unit, momentary 1NO PCB-mount terminals suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>1NO PTSI PTSI_AU</p>
<p>13/14 0 1 2</p>	<p>Illuminated Contact Unit, momentary 1NO PCB-mount terminals incl. white LED suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>1NO PTSLI PTSLI_AU</p>
<p>11/12 0 1 2 21/22</p>	<p>Contact Unit, momentary 2NC PCB-mount terminals suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>2NC PTSOO PTSOO_AU</p>
<p>11/12 0 1 2 21/22</p>	<p>Illuminated Contact Unit, momentary 2NC PCB-mount terminals incl. white LED suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>2NC PTSLOO PTSLOO_AU</p>
<p>11/12 0 1 2 23/24</p>	<p>Contact Unit, momentary 1NC + 1NO PCB-mount terminals suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>1NC + 1NO PTSOI PTSOI_AU</p>
<p>11/12 0 1 2 23/24</p>	<p>Illuminated Contact Unit, momentary 1NC + 1NO PCB-mount terminals incl. white LED suitable actuators</p> <p>contact material AgNi contact material AgNi, gold-plated</p>	<p>1NC + 1NO PTSLOI PTSLOI_AU</p>



Illustration		Description	Type
	<p>0 1 2</p> <p>11/12 </p> <p>23/24 </p>	<p>Contact Unit, momentary 1NC + 1NO PCB-mount terminals only suitable for pushbutton heads suitable actuators </p> <p>contact material AgNi PTSOIT contact material AgNi, gold-plated PTSOIT_AU</p>	
	<p>0 1 2</p> <p>11/12 </p> <p>23/24 </p>	<p>Illuminated Contact Unit, momentary 1NC + 1NO PCB-mount terminals incl. white LED only suitable for pushbutton heads suitable actuators </p> <p>contact material AgNi PTSLOIT contact material AgNi, gold-plated PTSLOIT_AU</p>	
	<p>0 1 2</p> <p>13/14 </p> <p>23/24 </p>	<p>Contact Unit, momentary 2NO PCB-mount terminals suitable actuators </p> <p>contact material AgNi PTSII contact material AgNi, gold-plated PTSII_AU</p>	
	<p>0 1 2</p> <p>13/14 </p> <p>23/24 </p>	<p>Illuminated Contact Unit, momentary 2NO PCB-mount terminals suitable actuators </p> <p>contact material AgNi PTSLII contact material AgNi, gold-plated PTSLII_AU</p>	
	<p>0 1 2</p> <p>11/12 </p> <p>33/34 </p> <p>21/22 </p>	<p>Contact Unit, momentary 2NC + 1NO PCB-mount terminals suitable actuators </p> <p>contact material AgNi PTSOOI contact material AgNi, gold-plated PTSOOI_AU</p>	
	<p>0 1 2</p> <p>11/12 </p> <p>21/22 </p>	<p>Lampholder incl. LED PCB-mount terminals suitable actuators </p> <p>PTSL</p>	
	<p>0 1 2</p> <p>1.100M </p> <p>1.200C </p> <p>1.400D </p>	<p>Tactile Contact Unit, momentary not suitable for emergency stops suitable actuators </p> <p>PCTS</p>	
	<p>0 1 2</p> <p>1.100M </p> <p>1.200C </p> <p>1.400D </p> <p>11 </p> <p>12 </p>	<p>Illuminated Tactile Contact Unit, momentary not suitable for emergency stops suitable actuators </p> <p>PCTS_L</p>	

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General Data

Type Reference:	ET...
Description:	Contact Block, positive opening contact
Approvals:	CE, CSA, UL
Protection class:	II (protective insulation)
Operation travel:	6 mm
Connection type:	screw connection, finger-protected acc. to VBG4
Contact material:	AgNi
Max. storage temperature:	-50°C ... 70°C
Max. operating temperature:	-30°C ... 70°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m at 250 V/10(6) A 250,000 at 250 V/16(10) A 500,000 at 250 V/5 A (AC15)
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage U_i :	400V	400V
Rated operating voltage U_e :	250V / 400V	400V / 250V / 125V / 60V / 24V
Rated operating current I_e :	5A / 3A	0.12A / 0.2A / 0.4A / 1A / 2A
Breaking capacity:	10e	1,1e
Continuous thermal current:	10A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V~ / 440 V~
Rated current I_e :	10(6) A / 6(3) A

Technical Data - Lamp

Lamp socket:	BA9s
Max. lamp voltage:	250 V / (CSA max. 150V)
Max. lamp output:	2 W
Definition:	X1...anode, X2...cathode

Electrical Features

Operational voltage:	20mV ... 42V AC/DC
Operational current:	1 mA ... 250 mA
Contact resistance (new state):	< 50 mOhm

Note

Note for emergency-stop contact blocks:

In case of inverters of the Za form (in terms of EN 60947-5-1), only the NC contact must be used for the remotely controlled safety circuit.

Mounting Instructions

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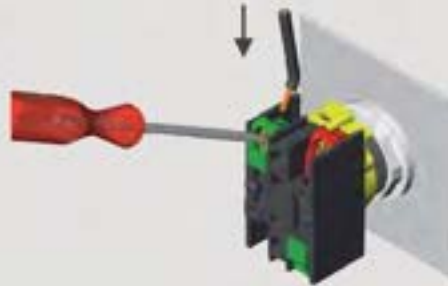




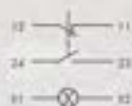

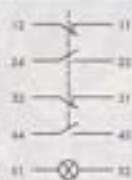



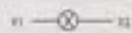



Illustration	Description	Type
 <p>12/11 24/23</p> <p>0 1 2 3 4 5 6</p> 	<p>Contact Block, momentary 1NC + 1NO screw connection, finger-protected acc. to VBG4 suitable actuators contact material AgNi</p>	ETR
 <p>12/11 24/23 32/31 44/43</p> <p>0 1 2 3 4 5 6</p> 	<p>Contact Block, momentary 2NC+2NO screw connection, finger-protected acc. to VBG4 suitable actuators contact material AgNi</p>	ETR2
 <p>12/11 24/23</p> <p>0 1 2 3 4 5 6</p> 	<p>Illuminated Contact Block, momentary 1NC + 1NO screw connection, finger-protected acc. to VBG4 lamp socket BA9s suitable actuators contact material AgNi</p>	ETLR
 <p>12/11 24/23 32/31 44/43</p> <p>0 1 2 3 4 5 6</p> 	<p>Illuminated Contact Block, momentary 2NC+2NO screw connection, finger-protected acc. to VBG4 lamp socket BA9s suitable actuators contact material AgNi</p>	ETLR2
 <p>01</p> 	<p>Lampholder BA9s screw connection lamp socket BA9s suitable pilot light heads colour black</p>	EL9R
 <p>01</p> 	<p>Lampholder screw connection max. 250V 2W lamp socket BA9s suitable pilot light head colour white</p>	L9R
	<p>Ultra-bright LED, BA9s socket with integrated bridge rectifier for 24V AC/DC, 15mA colour white</p>	LD9-24UW

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screw connection, finger-protected acc. to VBG4

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Illustration	Description	Type
	Mega-bright LED, BA9s with integrated bridge rectifier for 24V .. 28V AC/DC, 15.5mA (typ. 24V) colour white	LD9-24MW
	Ultra-bright LED, BA9s with integrated single-wave rectifier for 230V AC, 3mA colour white	LD9-230UW
	Flashing LED, BA9s for 24V colour green red yellow	LB9-24G LB9-24R LB9-24Y





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General Data

Type Reference:	MT...
Description:	Modular Contact Block
Approvals:	CCC, CSA, ENEC05, KEMA, CE, TÜV_Süd, UL
Protection class:	II (protective insulation)
Operation travel:	6 mm
Connection type:	screw connection 2x2.5mm ²
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 85°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LEDs
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1m operations at rated load
Contact resistance NO:	< 20 mOhm
Contact resistance NC:	< 20 mOhm
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

Utilisation category:	alternate current AC15 A600	direct current DC13 Q600
Rated insulation voltage U_i :	600 V	600 V
Rated operating voltage U_e :	240V / 440V	440V / 250V / 125V / 60V / 24V
Rated operating current I_e :	3A / 1.6A	0.12A / 0.2A / 0.4A / 1A / 2A
Breaking capacity:	10Ie	1, 1Ie
Continuous thermal current:	16 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V- / 440 V-
Rated current I_e :	16(10) A / 10(6) A

Technical Data - Lamp

Lamp socket:	BA9s
Max. lamp voltage:	250 V / (CSA max. 150V)
Max. lamp output:	2 W
Definition:	X1...anode, X2...cathode

Electrical Features - 5µm gold-plating, type addition ...AU

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

General Data

Tightening torque (screw terminal):	0.8...1.0 Nm
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Note

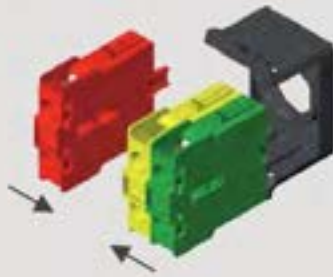
Min. operating temperature when assembled with KRJ...actuators: -40°C ...;
Data Sheet does not apply to the following type: MTOSFE

Electrical Data acc. to UL 508

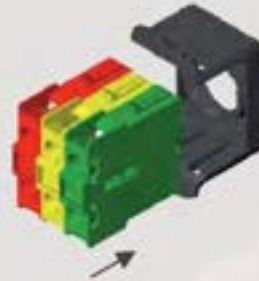
Ratings:	A600, 600 V AC
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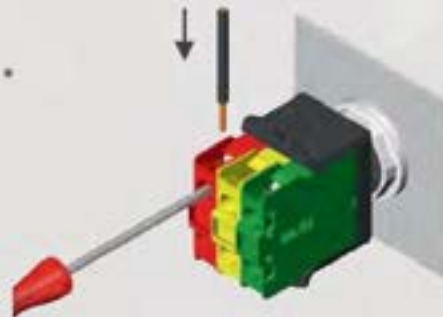
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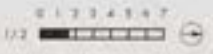

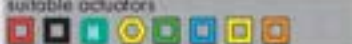

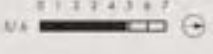
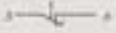




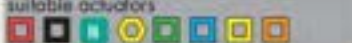



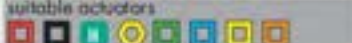

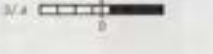

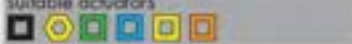

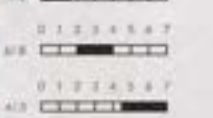
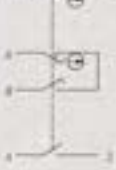



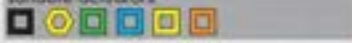
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  	<p>Modular Contact, momentary 1NC screw connection 2x2.5mm²</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	MTO
  	<p>Modular Contact, momentary 1NC late break screw connection 2x2.5mm²</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	MTON
  	<p>Modular Contact, momentary 1NO screw connection 2x2.5mm²</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	MTI
  	<p>Modular Contact, momentary 1NO early make screw connection 2x2.5mm²</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	MTIV
  	<p>Modular Contact, momentary 1NO + 1NO early make screw connection 2x2.5mm² with action point after the early make contact closes</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	MT97
  	<p>Modular Contact 1NC + 1NO + 1centre contact screw connection 2x2.5mm²</p> <ul style="list-style-type: none"> - to be used with 3-position actuators with 1 plunger - one contact is closed in each position - no contact overlapping <p>contact material AgNi</p>	MHW3I
  	<p>Modular Contact, momentary, with real enabling function 1 permissive contact (1NC + 1NO) screw connection 2x2.5mm² 3-position enabling contact block acc. to EN 60947-5-8</p> <p>suitable actuators</p>  <p>contact material AgNi</p>	MTZU

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screw connection 2x2.5mm²

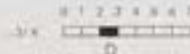
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Illustration

Description

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Modular Contact with real enabling function (usable with module holder MHR5 for 2 channels)
1 permissive contact (1NC + 1NO)
 screw connection 2x2.5mm²
 3-position enabling contact block acc. to EN 60947-5-8

two MTZU_564 and one MHR5 are required for 2 channels
 contact material AgNi

MTZU_564



Self-monitoring Emergency Contact Block, requires only one place in the module holder 1NC (+ 1NO)

screw connection 2x2.5mm²
 The safety contact permanently monitors the proper connection between the emergency-stop button and the contact element. If, due to a negligent assembly or mechanical damage, the emergency-stop button is separated from the contact element, the safety contact disconnects immediately and the machine is stopped.

suitable actuators



contact material AgNi

MTOSFE



Latch-type Module

screw connection 2x2.5mm²
 when used as center element in the module holder it provides a maintained unit with the adjacent momentary-type modules

suitable actuators



colour grey

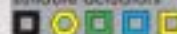
MF



Latch-type Lamp Module

screw connection 2x2.5mm²
 max. 250V 2W
 lamp socket BA9s

suitable actuators



colour yellow/grey

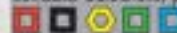
MFL



Lamp Module

screw connection 2x2.5mm²
 max. 250V 2W
 lamp socket BA9s

suitable actuators/pilot light heads



colour yellow

ML



Connection Module

screw connection 2x2.5mm²
 serves to connect the illuminated emergency stops via a screw terminal. The connection module is snapped into the module holders MHR_3 or MHR_5
 12-30V, AC/DC, max. 44mA

suitable actuators



colour white

MAL



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Illustration	Description	Type
	<p>120V Lamp Module screw connection 2x2.5mm² with ultra-bright LED, finger-protected screw connections and integrated bridge rectifier. - operating temperature: -25...70 °C - protection degree acc. to IEC/EN 60529: IP20</p> <p>for 12-120V AC/DC, 8-12mA suitable actuators/pilot light heads</p>  <p>LED colour white</p>	MLED12-120W
	<p>24V Lamp Module screw connection 2x2.5mm² with ultra-bright LED, finger-protected screw connections and integrated bridge rectifier. - operating temperature: -25...70 °C - protection degree acc. to IEC/EN 60529: IP20 - approvals: cCSAus, CE, GOSTR</p> <p>for 18-30V AC/DC, 8-14mA suitable actuators/pilot light heads</p>  <p>LED colour white</p>	MLED24W
	<p>24V Latch-type Lamp Module screw connection 2x2.5mm² similar to MLED24... but with latching function suitable actuators/pilot light heads</p>  <p>LED colour white</p>	MFLED24W
	<p>230V Lamp Module screw connection 2x2.5mm² with ultra-bright LED, finger-protected screw connections and integrated bridge rectifier. - operating temperature: -25...70 °C - protection degree acc. to IEC/EN 60529: IP20 - approvals: cCSAus, CE, GOSTR</p> <p>for 230V AC, 16mA (50Hz) suitable actuators/pilot light heads</p>  <p>LED colour white</p>	MLED230W
	<p>230V Latch-type Lamp Module screw connection 2x2.5mm² similar to MLED230...but with latching function suitable actuators/pilot light heads</p>  <p>LED colour white</p>	MFLED230W

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screw connection 2x2.5mm²

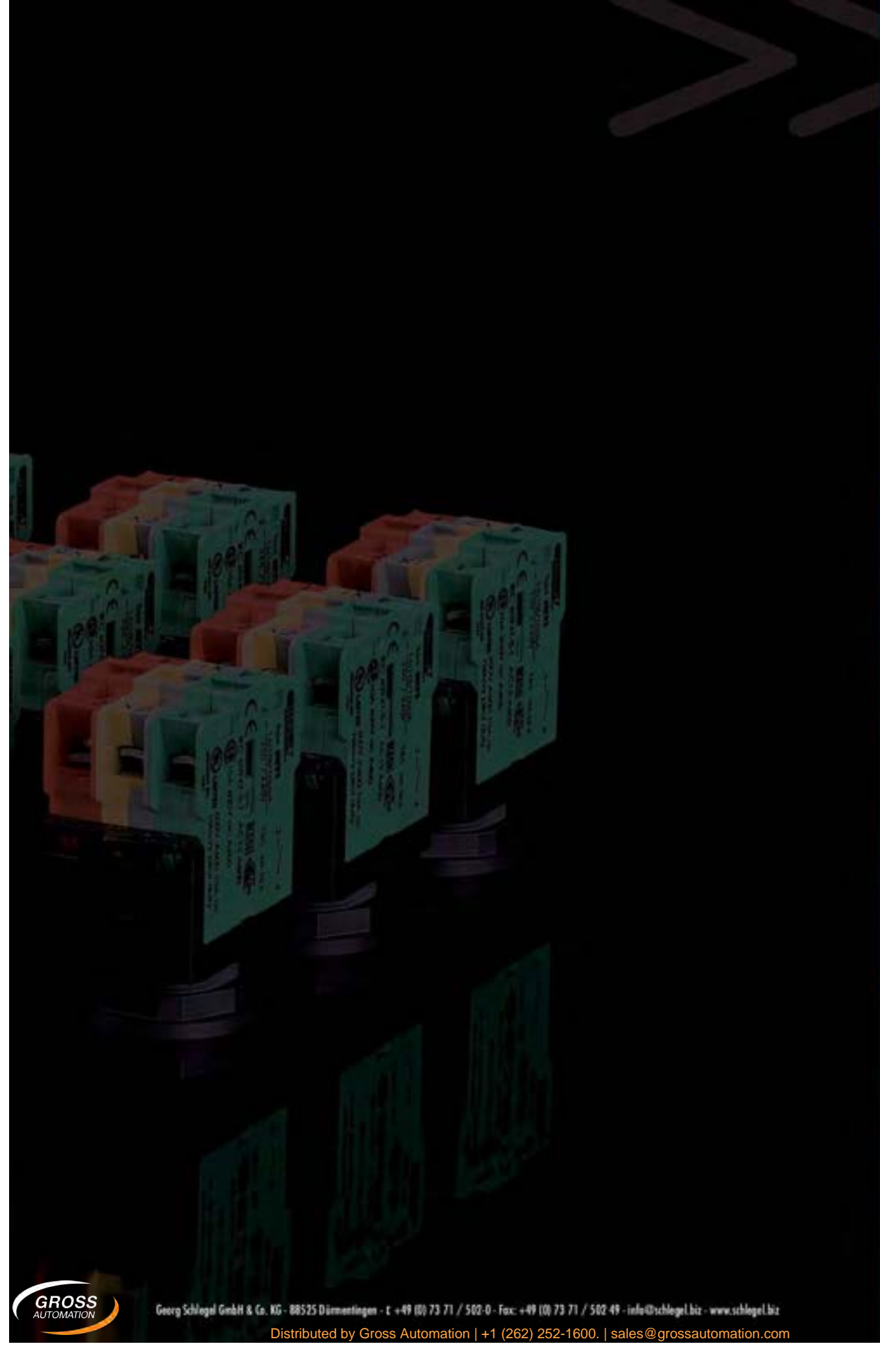
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Illustration	Description	Type
	Module Holder for 3 elements with bayonet mount, to combine the modular contacts with the actuators	MHR_3
	Module Holder for 5 elements with bayonet mount, to combine the modular contacts with the actuators	MHR_5
	Ultra-bright LED, BA9s socket with integrated bridge rectifier for 24V AC/DC, 15mA colour white	LD9-24UW
	Mega-bright LED, BA9s with integrated bridge rectifier for 24V .. 28V AC/DC, 15.5mA (typ. 24V) colour white	LD9-24MW
	Ultra-bright LED, BA9s with integrated single-wave rectifier for 230V AC, 3mA colour white	LD9-230UW
	Flashing LED, BA9s for 24V colour green red yellow	LB9-24G LB9-24R LB9-24Y





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General Data

Type Reference:	DSTI, DSTO
Description:	Modular Contact Block (positive opening contact), PUSH-IN connection
Approvals:	CCC, cCSAus, CE, KEMA KEUR, TÜV_Süd
Protection class:	II (protective insulation)
Operation travel:	5 mm
Connection type:	push-in connection/0.75 ... 2.5 mm ²
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-25°C ... 55°C, with/without illumination
Mechanical life:	200,000
Electrical life (rated load):	100,000 at rated load
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	5 mA (under laboratory conditions)
Min. voltage:	24 V
Bouncing time NO:	< 10 ms
Bouncing time NC:	< 10 ms
Positive opening contact:	acc. to EN60947-5-1, appendix: K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 A600	DC13 Q300
Rated insulation voltage Ui:	600 V	400V
Rated operating voltage Ue:	240V / 380V	250V / 125V / 60V / 24V
Rated operating current Ie:	3A / 1.9A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10Ie	1,1Ie
Continuous thermal current:	16 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V- / 400 V-
Rated current Ie:	16(10) A / 10(5) A

Technical Data - Lamp

Lamp socket:	BA9s
Max. lamp voltage:	250V
Max. lamp output:	2 W
Definition:	X1...anode, X2...cathode

Electrical Features

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

Note

Min. operating temperature when assembled with KRJ...actuators: -40°C...

type series DS...

Mounting Instructions

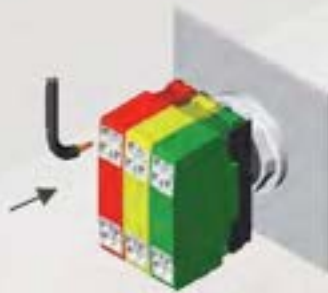
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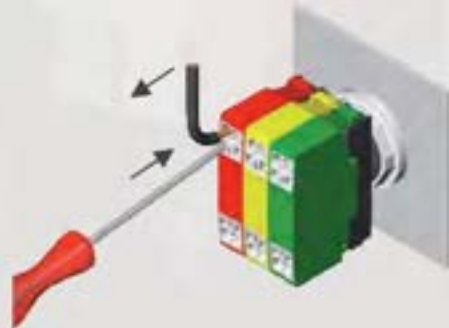
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Illustration	Description	Type
  	<p>Modular Contact Block , momentary 1NO push-in connection/0.75 ... 2.5 mm²</p> <p>available actuators</p>  <p>contact material AgNi</p>	DSTI
  	<p>Modular Contact Block , momentary 1NC push-in connection/0.75 ... 2.5 mm²</p> <p>available actuators</p>  <p>contact material AgNi</p>	DSTO
 	<p>Lamp Module push-in connection/0.75 ... 2.5 mm² max. 250V 2W lamp socket BA9s</p> <p>available actuators/pilot light heads</p>  <p>colour yellow</p>	DSL9
  	<p>Self-monitoring Emergency Contact Block, requires only one place in the module holder 1NC (+ 1NO) push-in connection/0.75 ... 2.5 mm²</p> <p>The safety contact permanently monitors the proper connection between the emergency-stop button and the contact element. If, due to a negligent assembly or mechanical damage, the emergency-stop button is separated from the contact element, the safety contact disconnects immediately and the machine is stopped.</p> <p>contact material AgNi</p>	DSTOSDE
	<p>Connection Module push-in connection/0.75 ... 2.5 mm² serves to connect the illuminated emergency-stop actuators via push-in connection.</p> <p>The DSAL module is snapped into the module holder DMR.</p> <p>12-30V, AC/DC, max. 44mA</p> <p>colour white</p>	DSAL
	<p>Module Holder for 3 modules with bayonet, to combine the modular contact blocks with the actuators</p>	DMR
	<p>Ultra-bright LED, BA9s socket with integrated bridge rectifier for 24V AC/DC, 1.5mA</p> <p>colour white</p>	LD9-24UW

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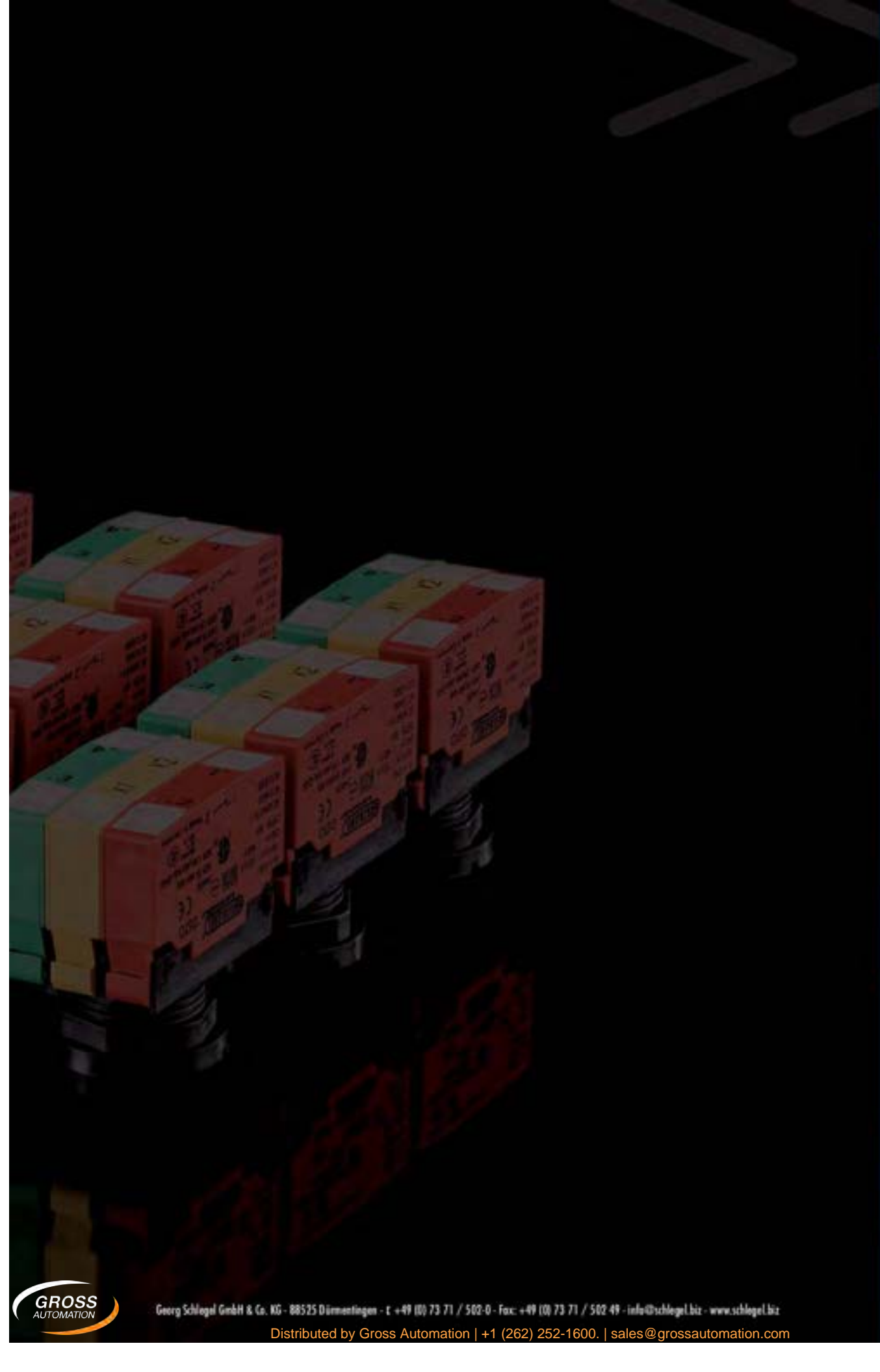
push-in connection/0.75 ... 2.5 mm²



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Illustration	Description	Type
	Mega-bright LED, BA9s with integrated bridge rectifier for 24V ... 28V AC/DC, 15.5mA (typ. 24V) colour white	LD9-24MW
	Ultra-bright LED, BA9s with integrated single-wave rectifier for 230V AC, 3mA colour white	LD9-230UW
	Flashing LED, BA9s for 24V colour green red yellow	LB9-24G LB9-24R LB9-24Y





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General Data

Type Reference:	DT...
Description:	Modular Contact Block, with Cage-Clamp technology
Approvals:	CCC, cCSAus, ENEC10, VDE, CE, GL, KEMA KEUR, TÜV_Süd
Protection class:	II (protective insulation)
Operation travel:	6 mm
Connection type:	Cage-Clamp 0.08-2.5 mm ²
Contact material:	AgNi
Max. storage temperature:	-40°C ... 70°C
Max. operating temperature:	-25°C ... 55°C, with/without illumination
Mechanical life:	1 m switching cycles
Electrical life (rated load):	50,000
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix: K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15 A600	DC13 Q300
Rated insulation voltage U _i :	600 V	400V
Rated operating voltage U _e :	240V / 380V	250V / 125V / 60V / 24V
Rated operating current I _e :	3A / 1.9A	0.27 A / 0.55 A / 1 A / 2 A
Breaking capacity:	10I _e	1,1I _e
Continuous thermal current:	16 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U _e :	250 V- / 400 V-
Rated current I _e :	16(10) A / 10(5) A

Technical Data - Lamp

Lamp socket:	BA9s
Max. lamp voltage:	250V
Max. lamp output:	2 W
Definition:	X1...anode, X2...cathode

Electrical Features

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

Environmental / Climatic Tests

Vibration resistance:	50m/s ² at 5-150Hz according to DIN IEC 68 2-6
Shock resistance:	30m/s ² at 50ms acc. to DIN IEC 68 2-27
Constant climatic resistance:	IEC 600-68-2-3 and 2-30

Note

- When combining the DT... contact blocks with key actuators, selector and toggle heads, add the type code ...497 to the actuator type reference!
- Min. operating temperature when assembled with KRJ...actuators: -40°C ...
- The use of wire end ferrules is basically possible but not necessary.

Mounting Instructions

1.



5.



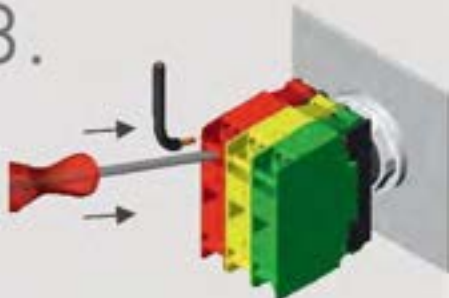
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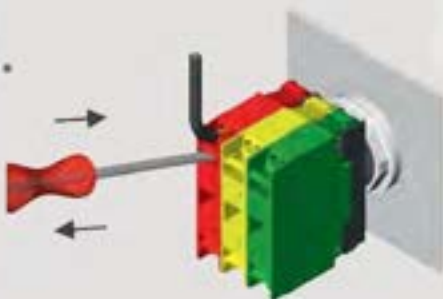
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Illustration	Description	Type
 <p>1/2 0 1 2 3 4 5 6 7</p>	Modular Contact Block, momentary 1NC Cage-Clamp 0.08-2.5 mm ² suitable actuators contact material AgNi	DTO
 <p>1/4 0 1 2 3 4 5 6 7</p>	Modular Contact Block, momentary 1NC late break Cage-Clamp 0.08-2.5 mm ² suitable actuators contact material AgNi	DTON
 <p>1/4 0 1 2 3 4 5 6 7</p>	Modular Contact Block, momentary 1NO Cage-Clamp 0.08-2.5 mm ² suitable actuators contact material AgNi	DTI
 <p>1/3 0 1 2 3 4 5 6 7</p>	Modular Contact Block, momentary 1NO early make Cage-Clamp 0.08-2.5 mm ² suitable actuators contact material AgNi	DTIV
 <p>11 12</p>	Lamp Module Lampholder Cage-Clamp 0.08-2.5 mm ² max. 250V 2W lamp socket BA9s suitable actuators/pilot light heads colour yellow	DL
 <p>1/2 0 1 2 3 4 5 6 7</p> <p>Bottom subjected to Klemmung</p>	Self-monitoring Emergency Contact Block, momentary 1NC (+ 1NO) Cage-Clamp 0.08-2.5 mm ² *) 1 NC, 1NO and 1 safety contact consisting of 1 emergency NC connected in series to 1 NO which is always closed during operation and disconnects automatically on separation of the actuator from the modular contact. suitable actuators contact material AgNi	DMTOSFA
	Dummy Module used in case of several levels to fill the positions not occupied colour grey	DB

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Cage-Clamp 0.08-2.5 mm²

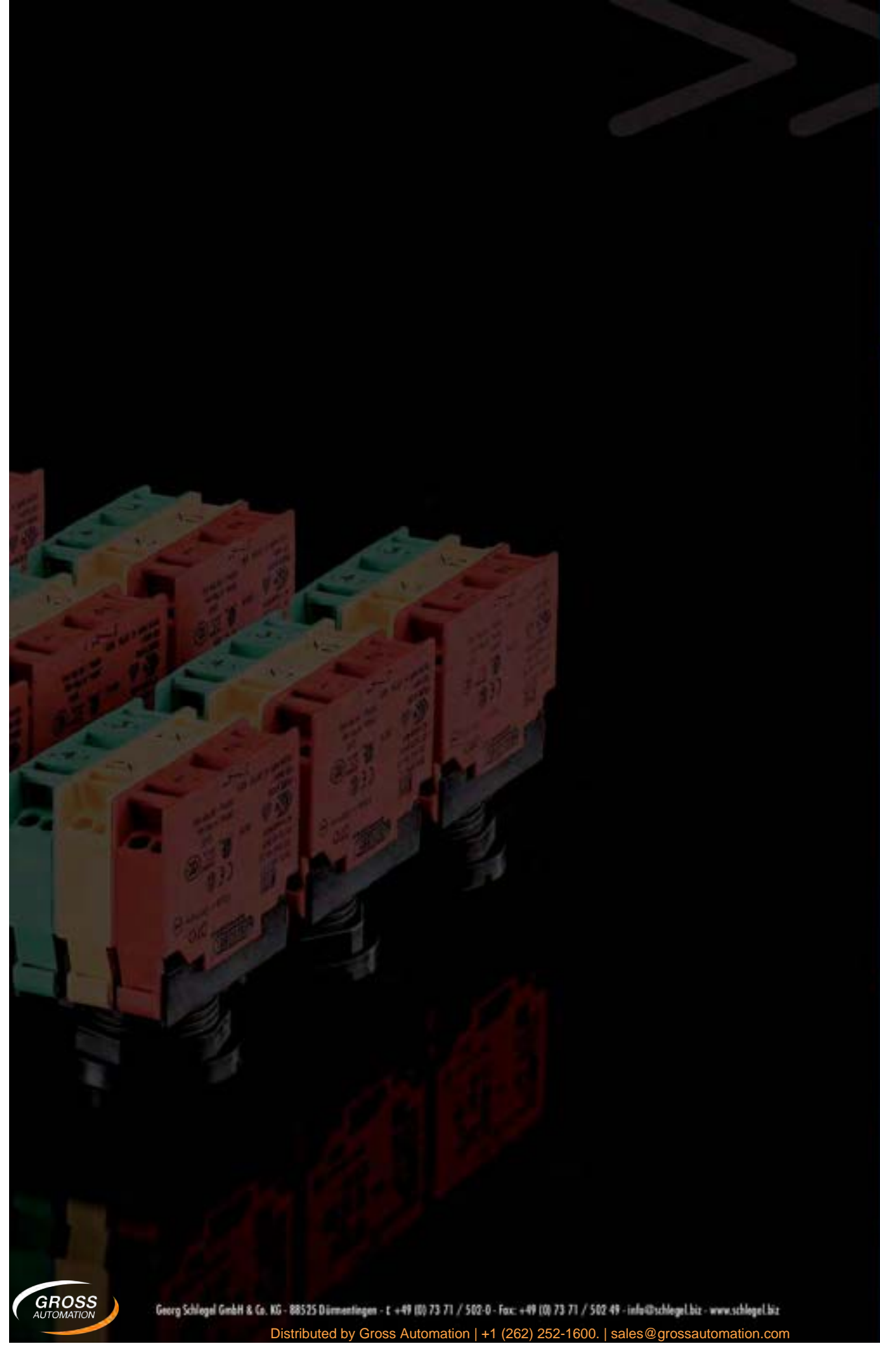
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Illustration	Description	Type
	Module Holder for 3 modules with bayonet, to combine the modular contact blocks with the actuators	DMR
	Module Holder for modules from second level on	DMA
	Ultra-bright LED, BA9s socket with integrated bridge rectifier for 24V AC/DC, 15mA colour white	LD9-24UW
	Mega-bright LED, BA9s with integrated bridge rectifier for 24V .. 28V AC/DC, 15.5mA (typ. 24V) colour white	LD9-24MW
	Ultra-bright LED, BA9s with integrated single-wave rectifier for 230V AC, 3mA colour white	LD9-230UW
	Flashing LED, BA9s for 24V colour green red yellow	LB9-24G LB9-24R LB9-24Y





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General Data

Type Reference: ASI_BZ, ASI_BZL5
Description: AS-Interface-Slave
Approvals: ASI, cCSAus

Note

Communication
- AS-Interface Specification: V2.11
- Slave profile: 5B.A.E
- Connection: via 2-pole IDC connector (3.96mm),
type ref. "ASI_5B2AWG18"
double-core flexible wire, AWG18, e.g. "ASI_SL2AWG18"
- Connection cable: 100m (without repeater)
- Max. network length: < 10ms (62 A/B slaves)
- Max. cycle time:

Ambient Conditions

- Operating temperature: -25°C ... +70°C
- Storage temperature: -40°C ... +80°C
- Humidity: up to 95%, non-condensing

Mechanical Data

- Operating travel: <= 3mm
- Operating cycles: >= 1 million

Electrical Data

- Power supply: 26.5 ... 31.6 V, through the AS-Interface line
- Total power consumption: <= 30 mA
- Signalling unit - output *1): supply through AS-Interface line,
continuously short-circuit proof, overload protection
20 mA
Max. load current of LED: via D0/D1 individually controllable/dimmable in 4 steps
Luminous intensity: 24 V DC (+10%)
Rated voltage: T5,5k
Socket: I5,5k24U...
LED, Schlegel ref.:

Norms and Standards:

CE, IEC 62026-2, cCSAus

The Schlegel ASI slaves comply with the specification
AS-Interface POWER24 and can also be operated at 24 V.

*) only ASI_BZL5

AS-Interface

Contact Blocks

2-pole connector (3.96 mm spacing)

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Illustration

Description

Type



AS-Interface Slave bus-compatible (2 I/2O)
 2-pole connector (3.96 mm spacing)
 - unlighted
 - small mounting depth due to built-in IDC connector
 - with 2 integrated inputs D2/D3
 - profile: S-B.A.E
 - applicable standard: V2.1.1
 - reversely compatible to type ASI_BZ115 (female connector not included)

ASI_BZ

suitable actuators



AS-Interface Slave with T5,5K socket bus-compatible (2 I/2O)
 2-pole connector (3.96 mm spacing)
 - illuminated, LED socket T5,5K
 - small mounting depth due to built-in IDC connector
 - with 2 integrated inputs D2/D3
 - with 1 integrated LED output, individually controllable/dimmable (4 steps) via D0/D1
 - profile: S-B.A.E
 - applicable standard: V2.1.1
 - reversely compatible to type ASI_BZ115 (socket not included)

ASI_BZLS

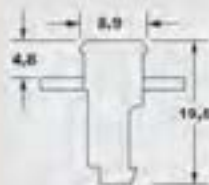
lamp socket T5,5K

suitable actuators



Ultra-bright LED, T5,5K socket, 24V
 with integrated series resistor and half-wave rectifier, for 24 V AC/DC (7/14 mA)
 When connecting to DC, the correct polarity must be observed:
 + ... X1 / - ... X2
 storage temperature: -25°C ... +80°C
 ambient temperature: -20°C ... +60°C
 voltage tolerance: + 10 %
 colour white

L5,5K24UW



IDC Connector
 2 poles, for AWG18, to connect the AS-Interface slaves by insulation piercing (IDC technology);
 with lock mechanism and strain relief

ASI_SB2AWG18

Technical data:

- connector spacing 3.96 mm
- wire size: AWG18 [0.8...1.0 mm²]
- outside dia.: 1.0...2.28 mm

Recommendation: optimal strain relief when used with „ASI_K2“

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	Cover with integrated strain relief for 2-pole IDC connector	ASI_K2
	Hand Tool serves to press the single conductors into the IDC connector, connector spacing 3.96 mm	ASI_MRT
	AS-Interface Addressing Cable serves to address the slaves ASI_BZ, ASI_BZL5 with a commercial AS-Interface hand addressing device. Technical data: - PVC cable 500 mm, 2 x 0.75 mm ² - M12 straightline plug	ASI_PK500M12
	Flexible Equipment Wire suitable for insulation piercing (IDC technology), serves to connect the AS-Interface slaves, twisted 2-core cable, brown/blue; 50 m per unit Technical data: - AWG18 - 19 wires - conductor resistance 21 Ohm/km - style no. 1007 / TR4 - operating temperature max. 80/90 °C (UL/CSA) - storage temperature down to -55 °C - acid/alkali-proof and oil-resistant - flame-resistant - keeps its elasticity under heat and cold	ASI_5L2AWG18
 	Flat Cable Branch with M12 socket without mounting straps, allows connection of a cable with M12 connector to the yellow profile line; Technical data: - 2 A max. - IP20	ASI_AZM12
 	Flat Cable Branch with M12 socket and mounting straps, allows the connection of a cable with M12 connector to the yellow profile line; Technical data: - 2 A max. - IP20	ASI_AZM12L

AS-Interface

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2-pole connector (3.96 mm spacing)

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Illustration	Description	Type
	<p>M12 Straight-line Plug with plastic nut, self-assembly via screw connections, serves to connect the AS-Interface flexible equipment wire to a M12 connector</p> <p>Technical data: - 4 A max. - 4 poles - PG7</p>	<p>ASI_M12</p>
	<p>M12 Right-angle Plug with plastic nut, self-assembly via screw connections, serves to connect the AS-Interface flexible equipment wire to a M12 connector.</p> <p>Technical data: - 4 A max. - 4 poles - PG7</p>	<p>ASI_M12W</p>
 	<p>Flat Cable Branch self-assembly via screw connections, with mounting straps, serves to connect the AS-Interface flexible equipment wire to the yellow profile line.</p> <p>Technical data: - 2 poles - 4 A max.</p>	<p>ASI_AZL</p>
 	<p>Flat Cable Branch self-assembly via screw connections, without mounting straps, serves to connect the AS-Interface flexible equipment wire to the yellow profile line.</p> <p>Technical data: - 2 poles - 4 A max.</p>	<p>ASI_AZ</p>





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General Data

Type Reference: ASI_SAW16A, ASI_SAW16E, ASI_SAW22A, ASI_SAW22E,
Description: AS-Interface Slave (Safety at Work)
Approvals: ASI, cCSAus, TÜV_Süd, TÜV_SÜD, CE

Note

Communication

- AS-Interface specification: V 2.1
- Slave profile: ASI_SAWxxA S-7.B.E
ASI_SAWxxE S-0.B.E
- Standby delay time: < 1s
- Input delay: < 5ms
- Connection: via 2-pole IDC connector(3.96mm) with lock mechanism and strain relief
type ref.: "ASI_SL2AWG18"
- Addressing: via integrated connector or separate addressing connector *)

Ambient Conditions

- Operating temperature: -25 °C ...+70 °C
- Humidity: up to 95%, non-condensing
- Degree of protection /slave: IP20
- Pollution degree: 2 (acc. to IEC 60947-1)

Electrical Data

- Operating voltage: 26.5...30.6 V, through the AS-Interface line
- Total power consumption: ASI_SAWxxA: <= 60 mA
ASI_SAWxxE: <= 50 mA
- Reverse polarity protection: available
- Contacts: two positive opening contacts acc. to IEC60947-5-5
- Safety integrity level: SIL 3
- Output (not safe): for the control of a LED *)
Rated voltage: 24 V DC (+10%)
Max. power consumption: approx. 15mA
Short circuit/overload: LED output
Connection cable: type ref.: "VK_JST025BK1", "VK_JST034"

Norms and Standards

- Complete AS-Interface Specification, Version 2.11 Rev.1, V3.0 Rev. 0
- IEC 62026-2, IEC 60204-1, IEC 61508, EN 13850, IEC 60947-5-5
- TÜV Type Approval, UL/CSA Approval
- AS-Interface Certificate 62801

- The Schlegel ASi slaves comply with the specification
AS-Interface POWER24 and can also be operated at 24 V.

*) refers only to types ASI_SAW16A, ASI_SAW22A (with additional addressing connector)

Illustration	Description	Type
	<p>AS-Interface Slave (Safety at Work) 16 mm for safety-related control units of 16 mm mounting diameter, e.g. emergency-stop actuators</p> <ul style="list-style-type: none"> - with short-circuit proof, individually controllable, digital output - permanent monitoring and safety shutdown if contact block and actuator are separated - profile: S-7.B.E - applicable standard: V 2.1 - safety integrity level: SIL 3 	<p>ASI_SAW16A</p>
	<p>AS-Interface Slave (Safety at Work) 16 mm for safety-related control units of 16 mm mounting diameter, e.g. emergency-stop actuators</p> <ul style="list-style-type: none"> - profile: S-0.B.E, - applicable standard: V 2.1 - safety integrity level: SIL 3 	<p>ASI_SAW16E</p>
	<p>AS-Interface Slave (Safety at Work) 22 mm for safety-related control units of 22 mm mounting diameter, e.g. emergency-stop actuators</p> <ul style="list-style-type: none"> - with short-circuit proof, individually controllable, digital output - permanent monitoring and safety shutdown if contact block and actuator are separated - profile: S-7.B.E, - applicable standard: V 2.1 - safety integrity level: SIL 3 	<p>ASI_SAW22A</p>
	<p>AS-Interface Slave (Safety at Work) 22 mm for safety-related control units of 22 mm mounting diameter, e.g. emergency-stop actuators</p> <ul style="list-style-type: none"> - profile: S-0.B.E, - applicable standard: V 2.1 - safety integrity level: SIL 3 	<p>ASI_SAW22E</p>
	<p>Connection Cable serves to connect an illuminated emergency-stop pushbutton to a AS-Interface slave (Safety at Work), 2-core strand, red/black, 0.25 mm², with male connector crimped on both sides, length: approx. 10 cm</p>	<p>VK_J5T025BKL</p>
	<p>Connection Cable with open end, to connect e.g. an external LED signal lamp to an AS-Interface slave (Safety at Work), 2-core strand, red/black, 0.34 mm², with male connector crimped on one side, length: approx. 10 cm</p>	<p>VK_J5T034</p>

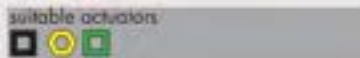


Illustration	Description	Type
	Please refer to the E-stop enclosures for AS-Interface systems starting on page 596	
 	IDC Connector 2 poles, for AWG18, to connect the AS-Interface slaves by insulation piercing (IDC technology); with lock mechanism and strain relief Technical data: - connector spacing 3.96 mm - wire size: AWG18 (0.8...1.0 mm ²) - outside dia.: 1.0...2.28 mm Recommendation: optimal strain relief when used with „ASI_K2“	ASI_5B2AWG18
	Cover with integrated strain relief for 2-pole IDC connector	ASI_K2
	Hand Tool serves to press the single conductors into the IDC connector, connector spacing 3.96 mm	ASI_MRT
	AS-Interface Addressing Cable serves to address the slaves ASI_BZ, ASI_BZL5 with a commercial AS-Interface hand addressing device. Technical data: - PVC cable 500 mm, 2 x 0.75 mm ² - M12 straight-line plug	ASI_PK500M12
	Flexible Equipment Wire suitable for insulation piercing (IDC technology), serves to connect the AS-Interface slaves, twisted 2-core cable, brown/blue; 50 m per unit Technical data: - AWG18 - 19 wires - conductor resistance 21 Ohm/km - style no. 1007 / TR4 - operating temperature max. 80/90 °C (UL/CSA) - storage temperature down to -55 °C - acid/alkali-proof and oil-resistant - flame-resistant - keeps its elasticity under heat and cold	ASI_5L2AWG18

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Illustration	Description	Type
	<p>Flat Cable Branch with M12 socket without mounting straps, allows connection of a cable with M12 connector to the yellow profile line;</p> <p>Technical data: - 2 A max. - IP20</p>	<p>ASI_AZM12</p>
	<p>Flat Cable Branch with M12 socket and mounting straps, allows the connection of a cable with M12 connector to the yellow profile line;</p> <p>Technical data: - 2 A max. - IP20</p>	<p>ASI_AZM12L</p>
	<p>M12 Straight-line Plug with plastic nut, self-assembly via screw connections, serves to connect the AS-Interface flexible equipment wire to a M12 connector</p> <p>Technical data: - 4 A max. - 4 poles - PG7</p>	<p>ASI_M12</p>
	<p>M12 Right-angle Plug with plastic nut, self-assembly via screw connections, serves to connect the AS-Interface flexible equipment wire to a M12 connector.</p> <p>Technical data: - 4 A max. - 4 poles - PG7</p>	<p>ASI_M12W</p>

Battery-free Wireless Pushbuttons

The DUX transmitter modules enable the implementation of battery-free radio transmission of a pushbutton signal, particularly in the building and industrial automation, automotive industry and others. The required energy is provided by an electrodynamic power generator using the energy of the key travel (energy harvesting).

The module complies with the R & TTE-EU Directive on wireless transmission equipment.

The transmitter module is licensed under



Battery-free Wireless Modules

547



Illustration

Description

Type



**Battery-free Radio Contact Block (868.3 MHz)
for actuators with 16mm bayonet**

- no extra power supply necessary
- no additional wiring and cable routing
- based on EnOcean protocol
- easy programming of receiver
- combinable with pushbutton and 2-position selector heads and key actuators
- operating temperature: -25°C ... 65°C

colour green

DFA16



**Battery-free Radio Contact Block (868.3 MHz)
for actuators with 22mm bayonet**

- no extra power supply necessary
- no additional wiring and cable routing
- based on EnOcean protocol
- easy programming of receiver
- combinable with pushbutton and 2-position selector heads and key actuators
- operating temperature: -25°C ... 65°C

colour green

DFA22



Battery-free Radio Limit Switch 868.3 MHz
deliverable with different actuators

- no extra power supply necessary
- no additional wiring and cable routing
- based on EnOcean protocol
- easy programming of receiver
- operating temperature: -25°C ... 65°C

colour green

EK-FA-KRHV



Illustration	Description	Type
	<p>1-Channel Wireless Receiver 8V - 24V for flush mounting</p> <ul style="list-style-type: none"> - Operating voltage: 8V-24V DC - No. of channels (relay outputs): 1 (potential-free) - No. of transmitters: 35 - max. switching current 12V/24V DC: 8 A - Load specifications acc. to EN 60669-2-1: max. 2000 W, at filament lamp load - Rated switching capacity per contact: 16A/250V AC - Standby loss: 0.3W - 0.9W - Ambient temperature at mounting location: -20°C...+50°C - Relative humidity: annual average value <75% - Operating cycles: 1000/h - Life at rated load, cos phi = 1: 100.000 switching cycles or filament lamp 500W at 100/h - IP protection: enclosure/connections: IP30/IP20 - Switching functions: momentary or latching; optionally with release delay - Connectivity technology: screw-type 4mm² - Mounting: flush mounting - Dimensions: 45mm long, 45mm wide, 33mm deep - Repeater function can be activated as required 	S_FSR61_8-24VUC
	<p>1-Channel Wireless Receiver 230V for flush mounting</p> <ul style="list-style-type: none"> - Operating voltage: 230V AC 50 Hz - No. of channels (relay outputs): 1 (potential-free) - No. of transmitters: 35 - max. switching current 12V/24V DC: 8 A - Load specifications acc. to EN 60669-2-1: max. 2000 W, at filament lamp load - Rated switching capacity per contact: 16A/250V AC - Standby loss: 0.3W - 0.9W - Ambient temperature at mounting location: -20°C...+50°C - Relative humidity: annual average value <75% - Operating cycles: 1000/h - Life at rated load, cos phi = 1: 100.000 switching cycles or filament lamp 500W at 100/h - IP protection: enclosure/connections: IP30/IP20 - Switching functions: momentary or latching; optionally with release delay - Connectivity technology: screw-type 4mm² - Mounting: flush mounting - Dimensions: 45mm long, 45mm wide, 33mm deep - Repeater function can be activated as required 	S_FSR61_230V
	<p>Wireless Antenna Module - expandable radio receiver</p> <ul style="list-style-type: none"> - Antenna included - Power supply: 230V AC 50HZ - Operating voltage: 12V DC 1A (integrated switching power supply) - Number of channels (relay outputs): max. 128 - Protocol: EnOcean 868.3 MHz - Mounting: DIN rail EN 60715 TH35 - Dimensions: 36mm wide, 58mm deep - IP Protection: enclosure/connections: IP50/IP 20 - Ambient temperature at mounting location: -20°C...+50°C - Storage temperature: -25°C up to +70°C - Relative humidity: annual average value <75% <p>The S_FAM14 is a receiver with integrated switching power supply. The RS485 bus actuators (S_FSR14-2x) are not included in delivery. At a load exceeding 50% of the rated capacity of 12 W, a ventilation clearance of half of module must be maintained on the left side by using the spacer S_D514.</p>	S_FAM14

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RS485 Bus Actuator

5_FSR14-2x

- up to 118 wireless transmitters per channel
- Rotary switch for teaching-in the transmitters
- Simultaneous latching and momentary function possible with different transmitters
- LED signalling to assist teaching-in procedure
- No. of channels (relay outputs): 2 (potential-free)
- No. of receive channels: 120
- Max. switching current: 12V/24V DC (per channel): 8 A
- Load specifications acc. to EN 60669-2-1: max. 2000 W, at filament lamp load
- Rated switching capacity per contact: 16A/250V AC
- Standby loss: 0.05W-0.5W
- Ambient temperature at mounting location: -20°C...+50°C
- Relative humidity: annual average value <75%
- Life at rated load, cos phi = 1: 100.000 switching cycles
- Filament lamp 500W at 100/h
- IP protection: enclosure/connections: IP50/IP20
- Switching functions: momentary/latching - optionally with release delay
- Connectivity technology: screw-type 6mm²
- Mounting: DIN rail EN 60715 TH35
- Dimensions: 18mm wide, 58mm deep

Suitable RS485 bus actuator for 5_FAM14, jumpers for connection are included



Wireless Repeater Level 1/2

5_FRP14

increases the radio transmission range considerably

- Connection via jumper to the RS485 bus or directly with 12V power supply
- Power supply: 12V DC
- Standby loss: 0.6W
- Repeater functions: level 1 / level 2
- Protocol: EnOcean 868.3 MHz
- Mounting: DIN rail EN 60715 TH35
- Dimensions: 18mm wide, 58mm deep
- Ambient temperature at mounting location: -20°C...+50°C
- Relative humidity: annual average value <75%

Suitable accessory: 12V switching power supply 5_FSNT12V



12V Switching Power Supply Unit for DIN rail mounting



5_FSNT12V

- Input voltage: 230V (-20% bis +10%)
- Output voltage: 12V DC
- Residual ripple: +1% (100mV)
- Rated capacity: 12W
- Efficiency: 83%
- Standby loss: 0.2W
- Protection class: II
- Inrush current: 18A/230V
- Overvoltage protection: 140-170%
- Temporary overload protection: 160-200%
- IP protection: IP20
- Mounting: DIN rail EN 60715 TH35
- Dimensions: 18mm wide, 58mm deep
- Operating temperature: -10/+50°C
- Switchable in parallel, number: 2

Ideal for power supply of 5_FRP14. At a load exceeding 50 % of the rated capacity, and always if there are adjacent switching power supply units from 12W rated capacity and if there are dimmers, a ventilation clearance of half module must be maintained on both sides by using the spacers 5_DS14.

wireless

no
batteries

Illustration	Description	Type
	External Antenna with magnet base 2.5 m feed line with SMA connector	S_758-910
	Spacer 1/2 modular spacing = 9mm in order to produce and maintain a ventilation clearance in case of very warm modular devices, as e.g. switching power supplies	S_DS14

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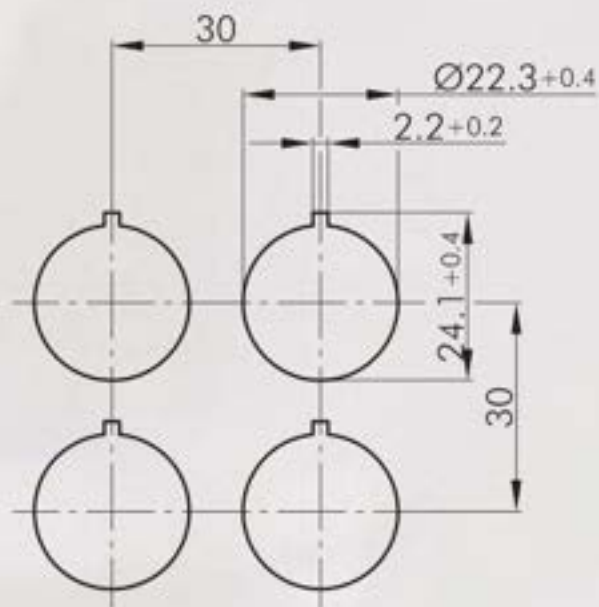




Panel Mount Jacks

>> Rontron-R-Juwel series	
- USB	555
- Fire-Wire	558
- RJ45	559
- PS2	560
- SVHS	560
- HDMI	560
- Jack Plugs	560
- Accessories	562
>> Rontron-Q-Juwel series	
- USB	565
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- RJ45	566
- Accessories	567
>> Oktron-Juwel series	
- USB	569
>> Quartron-Juwel series	
- VGA	571
- RS232	571

Cutout Dimensions



Panel Mount Jacks

Illustration	Dimensions	Description	Type
		<p>USB Jack, silver-coloured</p> <p>front: USB jack type A</p> <p>rear: USB2.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p> <p>Attention: Mounting position of USB jack does not conform to the USB2.0 specification.</p>	front bezel silver-coloured RRJ_USB
		<p>USB Jack, stainless steel</p> <p>front: USB jack type A</p> <p>rear: USB2.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p> <p>Attention: Mounting position of USB jack does not conform to the USB2.0 specification.</p>	front bezel stainless steel, polished RRJVA_USB
		<p>USB3.0 Jack, silver-coloured</p> <p>front: USB jack type A</p> <p>rear: USB3.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p>	front bezel silver-coloured RRJ_USB3
		<p>USB3.0 Jack, stainless steel</p> <p>front: USB jack type A</p> <p>rear: USB3.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p>	front bezel stainless steel, polished RRJVA_USB3

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RONTRON-R-JUWEL

Ø 22.3 mm

made in germany



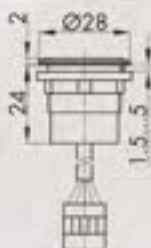
Panel Mount Jacks

Illustration

Dimensions

Description

Type



USB Jack, silver-coloured

front:
USB jack type A

rear:
USB2.0 cable (length 100 cm) with jack housing, 5 poles (spacing 2.54 mm)

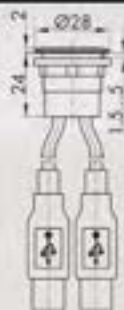
for direct connection to a motherboard

other lengths on request

front bezel silver-coloured



RRJ_USB-100CM_673



Double USB Jack, silver-coloured

front:
2x USB jack type A

rear:
2x USB2.0 cable (length 60 cm) with plug type A

other lengths on request

front bezel silver-coloured



RRJ_2USB



Double USB Jack, stainless steel

front:
2x USB jack type A

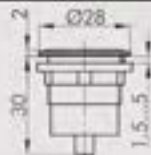
rear:
2x USB2.0 cable (length 60 cm) with plug type A

other lengths on request

front bezel stainless steel, polished



RRJVA_2USB



USB Jack, silver-coloured

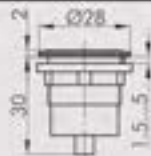
front:
USB jack type A

rear:
USB jack type A

front bezel silver-coloured



RRJ_USB_AA



USB Jack, stainless steel

front:
USB jack type A

rear:
USB jack type A

front bezel stainless steel, polished



RRJVA_USB_AA

Panel Mount Jacks

Illustration	Dimensions	Description	Type
		USB3.0 Jack, silver-coloured pinout 1:1 front: USB jack type A rear: USB jack type A front bezel silver-coloured	RRJ_USB3_AA
		USB3.0 Jack, stainless steel pinout 1:1 front: USB jack type A rear: USB jack type A front bezel stainless steel, polished	RRJVA_USB3_AA
		USB3.0 Jack, silver-coloured Pinout: twisted data line front: USB jack type A rear: USB jack type A front bezel silver-coloured	RRJ_USB3_AA_633
		USB3.0 Jack, stainless steel Pinout: twisted data line front: USB jack type A rear: USB jack type A front bezel stainless steel, polished	RRJVA_USB3_AA633
		USB Jack, silver-coloured front: USB jack type A rear: USB jack type B front bezel silver-coloured	RRJ_USB_AB
		USB Jack, stainless steel front: USB jack type A rear: USB jack type B front bezel stainless steel, polished	RRJVA_USB_AB

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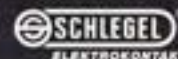
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RONTRON-R-JUWEL

Ø 22.3 mm

made in germany



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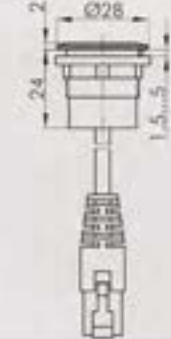


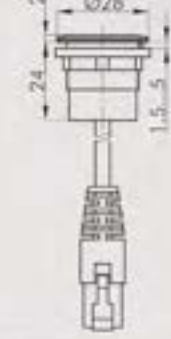





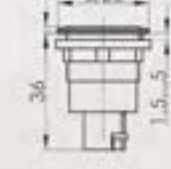

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Illustration	Dimensions	Description	Type
		USB Jack, silver-coloured front: USB jack type B rear: USB jack type A front bezel silver-coloured	RRJ_USB_BA
		USB Jack, stainless steel front: USB jack type B rear: USB jack type A front bezel stainless steel, polished	RRJVA_USB_BA
		USB Jack, silver-coloured front: USB jack type B rear: USB jack type B front bezel silver-coloured	RRJ_USB_BB
		USB Jack, stainless steel front: USB jack type B rear: USB jack type B front bezel stainless steel, polished	RRJVA_USB_BB
		USB Jack, silver-coloured front: USB jack type B rear: USB2.0 cable (length 50 cm) with plug type B front bezel silver-coloured	RRJ_USB_BB_50CM
		FireWire Jack, silver-coloured front: FireWire jack rear: FireWire jack front bezel silver-coloured	RRJ_FW6_STB

Panel Mount Jacks

Illustration	Dimensions	Description	Type
		FireWire Jack, stainless steel front: FireWire jack rear: FireWire jack front bezel stainless steel, polished 	RRJVA_FW6_STB
		RJ45 Jack, silver-coloured front: RJ45 jack with screen rear: 60 cm cable screened with RJ45 connector front bezel silver-coloured 	RRJ_RJ45
		RJ45 Jack, stainless steel front: RJ45 jack with screen rear: 60cm cable with screened RJ45 connector front bezel stainless steel, polished 	RRJVA_RJ45
		RJ45 Jack, silver-coloured front: RJ45 jack with screen rear: RJ45 jack with screen front bezel silver-coloured 	RRJ_RJ45_STB
		RJ45 Jack, stainless steel front: RJ45 jack with screen rear: RJ45 jack with screen front bezel stainless steel, polished 	RRJVA_RJ45_STB

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made in germany



Ø 22.3 mm

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Illustration

Dimensions

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PS2 Jack, silver-coloured

front:
PS2 jack

rear:
PS2 cable (length 200 cm) with PS2 plug

other lengths on request

front bezel silver-coloured 

RRJ_PS2_200CM




SVHS Jack, silver-coloured

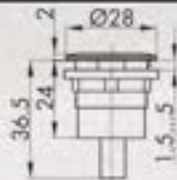
front:
SVHS jack

rear:
SVHS cable (length 200 cm) with SVHS plug

other lengths on request

front bezel silver-coloured 


RRJ_SVHS_200CM



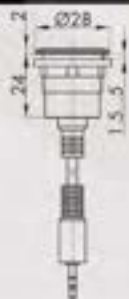
HDMI Jack, silver-coloured

front:
HDMI jack

rear:
HDMI jack

front bezel silver-coloured 

RRJ_HDMI_STB




2.5 mm Jack Plug, silver-coloured

front:
2.5 mm jack socket (TRS)

rear:
cable (length 200 cm) with 2.5 mm jack plug

other lengths on request

front bezel silver-coloured 

RRJ_KL2,5_200CM




2.5 mm Jack Plug, stainless steel

front:
2.5 mm jack socket (TRS)


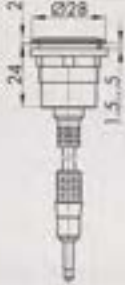


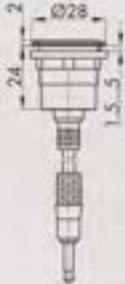


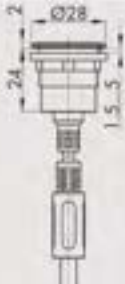




rear:
cable length 200 cm) with 2.5 mm jack plug

other lengths on request

front bezel stainless steel, polished 

RRJVA_KL2,5_200

Panel Mount Jacks

Illustration	Dimensions	Description	Type
		<p>3.5 mm Jack Plug, silver-coloured</p> <p>front: 3.5 mm jack socket (TRS)</p> <p>rear: cable (length 200 cm) with 3.5 mm jack plug</p> <p>other lengths on request</p> <p>front bezel silver-coloured </p>	RRJ KL3,5_200CM
		<p>3.5 mm Jack Plug, stainless steel</p> <p>front: 3.5 mm jack socket (TRS)</p> <p>rear: cable length 200 cm) with 3.5 mm jack plug</p> <p>other lengths on request</p> <p>front bezel stainless steel, polished </p>	RRJVA KL3,5_200
		<p>6.3 mm Jack Plug, silver-coloured</p> <p>front: 6.3 mm jack socket (TRS)</p> <p>rear: cable (length 200 cm) with 6.3 mm jack plug</p> <p>other lengths on request</p> <p>front bezel silver-coloured </p>	RRJ KL6,3_200CM
		<p>6.3 mm Jack Plug, stainless steel</p> <p>front: 6.3 mm jack socket (TRS)</p> <p>rear: cable (length 200 cm) with 6.3 mm jack plug</p> <p>other lengths on request</p> <p>front bezel stainless steel, polished </p>	RRJVA KL6,3_200

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Ø 22.3 mm

Accessories for Actuators

Illustration	Dimensions	Description	Type
		Robust Aluminium Protection Cap - captive lid, threadable - suitable for all jacks of the Rontron-R-Juwel series colour silver-coloured	SDAL22RR
		Lead-sealable Protective Lid from -30 °C to +70 °C colour transparent	KDP22RR
		Lead-sealable, robust Protective Lid Lifetime: >100,000 cycles colour transparent, black	KDPR22RR KDPR22RR_SW
		Protective Lid made of TPE from -50 °C to +100 °C colour black	AK22RRSW
	<p>Ø 30,5</p>	LED Light Ring for status indication or additional illumination - for an additional light signal - rated voltage: 24V AC/DC - rated current: 25 ... 35 mA (DC) - 30.5 mm mounting aperture - Connection: for JST plug ZHR-3 delivery without actuator LED colour	 LR22K_24B_619 LR22K_24Y_619 LR22K_24W_619 LR22K_24R_619 LR22K_24G_619
		Connection Cable for LED light ring with open end, to connect the LED light rings to a voltage supply source, length approx. 80 cm, cross section 0.14 mm ²	VK_JST3_014

Zubehör Betätiger

Illustration	Dimensions	Description	Type
 	<p>Ø 30,5</p>	<p>RGB LED Light Ring for status indication or illumination</p> <ul style="list-style-type: none"> - as an additional light signal - one-piece ring (360°) - rated voltage 24V AC (half-wave rectifier)/DC - up to 16.7 m colours are possible(colour mixing via PWM signal) 	<p>LED colour red/green/blue</p> <p>LR22K_24RGB_619</p>
		<p>Connection Cable for RGB-LED Light Ring</p> <p>with open end, to connect the RGB-LED light rings to a voltage supply source, length approx. 80 cm, cross section 0.14 mm²</p>	<p>VK_LRR22_RGB</p>
		<p>Mounting Tool</p> <p>with torque limitation for the series QUARTEX-R(JUWEL), KOMBITAST-R(JUWEL), RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-QJUWEL series</p>	<p>522</p>

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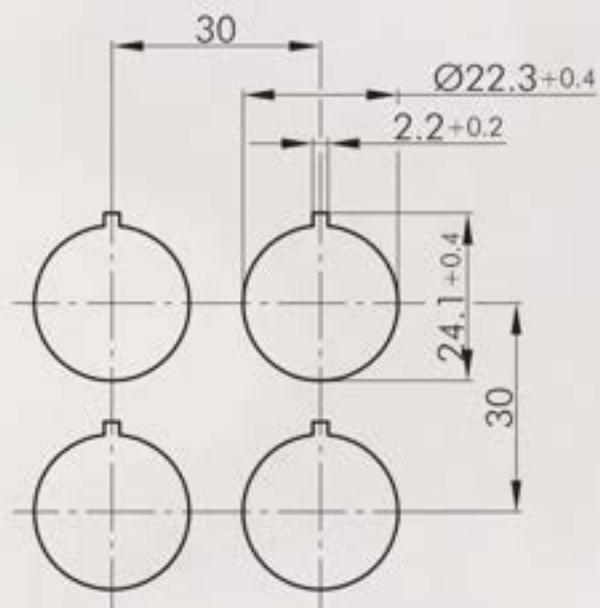
Terminal Blocks

Push Switches

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Cutout Dimensions



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Panel Mount Kits

Die Technology

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Red Switches

Green Switches

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Panel Mount Jacks

Illustration	Dimensions	Description	Type
		<p>USB Jack front: USB jack type A</p> <p>rear: USB2.0 cable (length 60 cm) with plug type A</p> <p>other lengths on request</p> <p>Attention: Mounting position of USB jack does not conform to the USB2.0 specification.</p>	front bezel silver-coloured RQJ_USB
		<p>USB Jack front: USB jack type A</p> <p>rear: USB jack type A</p>	front bezel silver-coloured RQJ_USB_AA
		<p>USB3.0 Jack front: USB jack type A</p> <p>rear: USB jack type A</p>	front bezel silver-coloured RQJ_USB3_AA
		<p>USB Jack front: USB jack type A</p> <p>rear: USB jack type B</p>	front bezel silver-coloured RQJ_USB_AB
		<p>USB Jack front: USB jack type B</p> <p>rear: USB jack type A</p>	front bezel silver-coloured RQJ_USB_BA
		<p>USB Jack front: USB jack type B</p> <p>rear: USB jack type B</p>	front bezel silver-coloured RQJ_USB_BB

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Type Indicators

RONTRON-Q-JUWEL

made in germany



Ø 22.3 mm

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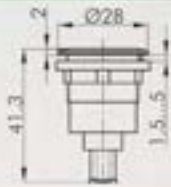
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Illustration

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Description

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Fire Wire Jack

front:
Fire Wire jack

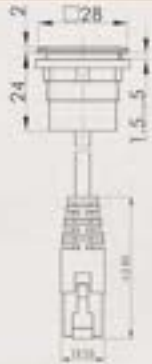
rear:
Fire Wire jack

front bezel

silver-coloured



RQJ_FW6_STB



RJ45 Jack

front:
RJ45 jack with screen

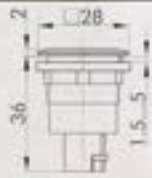
rear:
60cm cable screened with RJ45 connector

front bezel

silver-coloured



RQJ_RJ45



RJ45 Jack

front:
RJ45 jack with screen

rear:
RJ45 jack with screen

front bezel

silver-coloured



RQJ_RJ45_STB



Accessories for Actuators

Illustration	Dimensions	Description	Type
<p>IP40</p>		<p>Lead-sealable Protective Lid from -30 °C to +70 °C</p> <p>colour transparent</p>	KDP22RR
<p>IP65 IP67</p>		<p>Lead-sealable, robust Protective Lid</p> <p>colour transparent</p>	K DPR22RR
		<p>Mounting Tool with torque limitation for the series QUARTEX-R(JUWEL), KOMBITAST-R(JUWEL), RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/-QJUWEL series</p>	522

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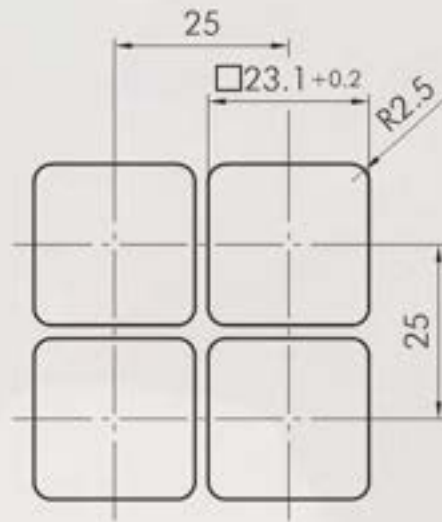
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Illustration	Dimensions	Description	Type
	<p>USB Jack front: USB jack type A rear: USB2.0 cable (length 60 cm) with plug type A other lengths on request front bezel black</p>		OKJ_USB
	<p>Double USB Jack front: 2x USB: type A rear: 2x USB2.0 cable (length 60 cm) with plug type A other lengths on request front bezel black</p>		OKJ_2USB
	<p>USB Jack front: USB jack type A rear: USB jack type A front bezel black</p>		OKJ_USB_AA
<p>IP40</p>	<p>Protective Lid for pushbuttons and jacks of the OKTRON-JUWEL series colour transparent</p>		KDOKJ
	<p>Mounting Tool with torque limitation for the series QUARTEX-R(JUWEL), KOMBITAST-RJUWEL, RONDEX, RONDEX-M, RVA, DUX-Basic, SHORTRON, jacks of the RONTRON-R/QJUWEL series</p>		522

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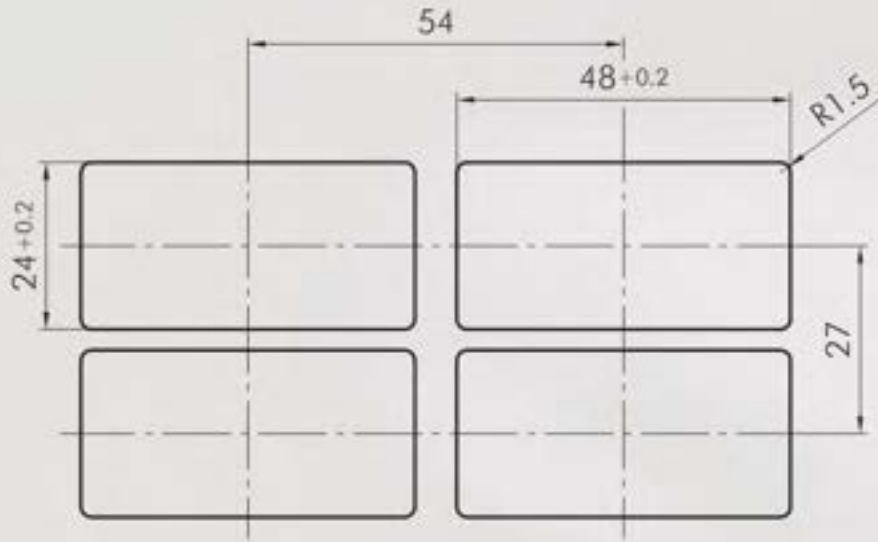
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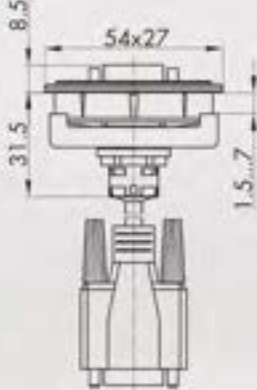

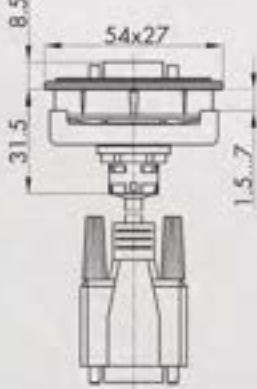

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Accessories for Actuators

Illustration	Dimensions	Description	Type
 	<p>8.5</p> <p>54x27</p> <p>31.5</p> <p>1.5...7</p>	<p>VGA Jack front: VGA jack</p> <p>rear: VGA cable (length 100 cm) with plug</p> <p>other lengths on request</p> <p>front bezel black</p>	<p>LXJ_VGA_100CM</p>
 	<p>8.5</p> <p>54x27</p> <p>31.5</p> <p>1.5...7</p>	<p>RS232 Jack front: RS232 jack</p> <p>rear: RS232 cable (length 100 cm) with plug</p> <p>other lengths on request</p> <p>front bezel black</p>	<p>LXJ_ RS232_100CM</p>
		<p>Hexagonal Mounting Tool with torque limitation, for the series OKTRON, OKTRON-JUWEL, OKTRON-R, RONTRON-R-JUWEL, RONTRON-Q-JUWEL, QUARTRON, QUARTRON-JUWEL, RX-JUWEL</p>	<p>516</p>

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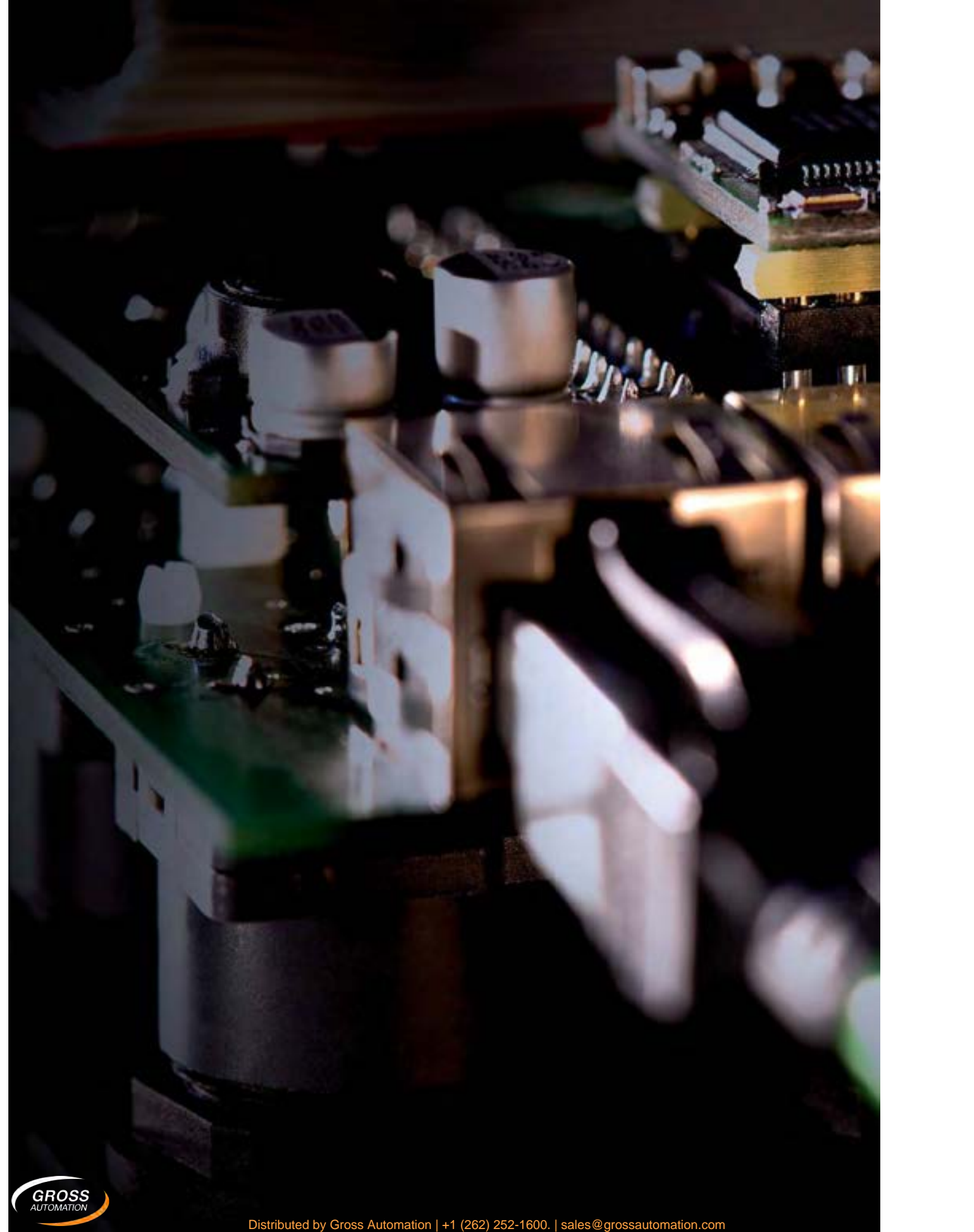
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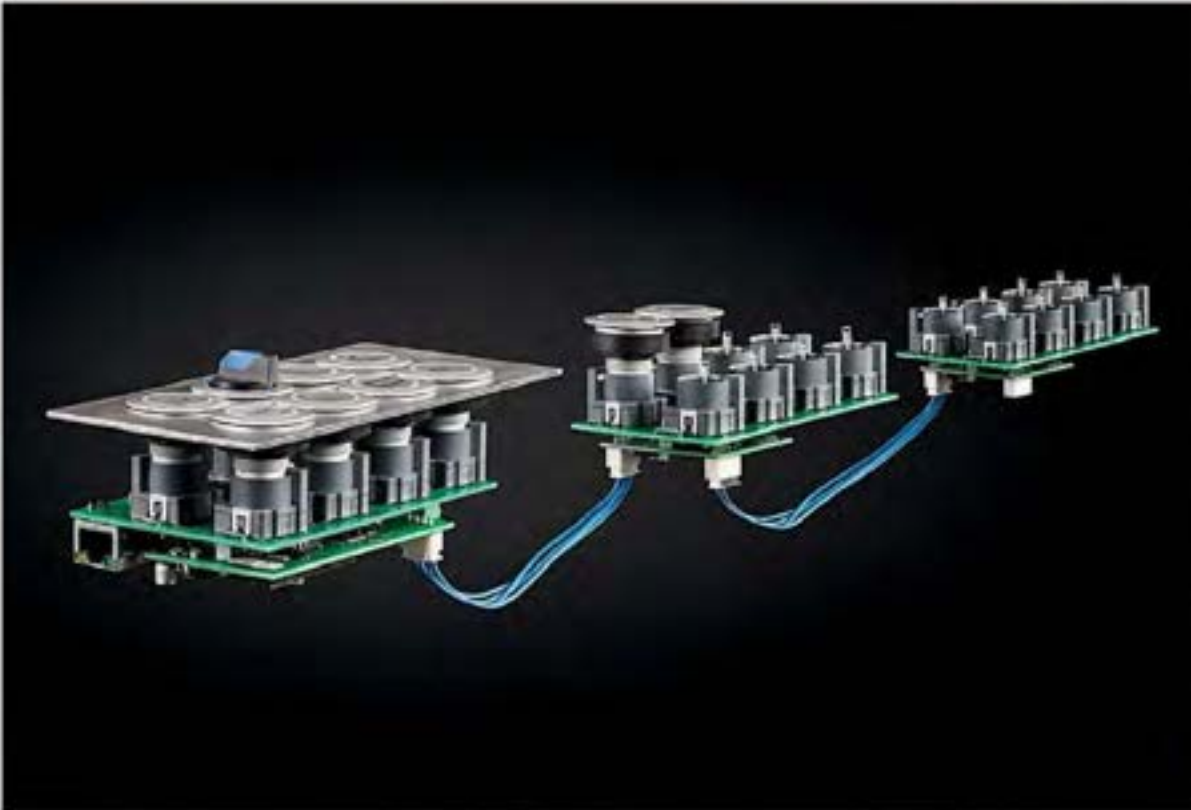
Limit Switches

Type Indicators

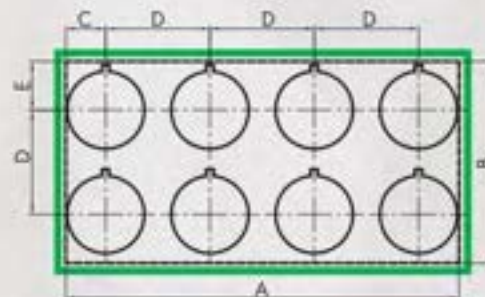
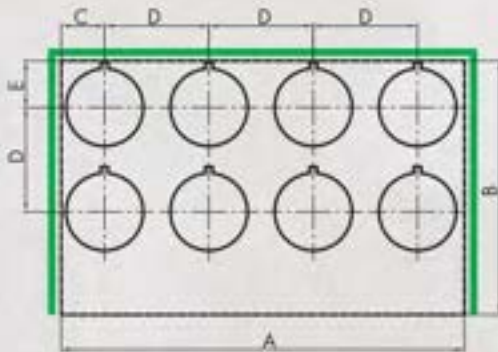


modular bus operating concept

>> CANopen	576
>> Profibus	578
>> EtherCAT	580
>> Profinet I/O	582
>> Ethernet IP	584
>> AS-Interface	586



Dimensions / Spacings



Basic module

spacing	25x25	27x27	30x30
A	98.0 mm	105.0 mm	116.0 mm
B	65.0 mm	70.0 mm	73.0 mm
C	11.5 mm	10.8 mm	12.5 mm
D	25.0 mm	27.0 mm	30.0 mm
E	11.5 mm	13.4 mm	13.4 mm

Expansion module

spacing	25x25	27x27	30x30
A	97.0 mm	104.0 mm	113.0 mm
B	47.0 mm	53.0 mm	58.0 mm
C	11.5 mm	10.8 mm	11.0 mm
D	25.0 mm	27.0 mm	30.0 mm
E	11.5 mm	13.3 mm	14.0 mm

Further expansion modules can be arranged in the same spacing at three outer edges of the basic module.

Modular Bus Operating Concept

The basic idea was to develop an operating concept that makes us flexible enough to provide low-cost up to high-end solutions. The result is a future-proof and dynamic system to integrate contemporary designs and state-of-the-art technology in modern machine concepts and panel layouts. The modular operating concept provides for project planning either standardised modules in a fixed grid spacing or the possibility to respond individually to customer-specific designs. The modular operating concept consists of two basic modules, the bus-specific basic module and the bus-independent expansion module. The basic module includes the typical bus connection as well as the bus node for communication with the corresponding bus system. The expansion module serves as a bus-independent I/O expansion in conjunction with the basic module, which enables us to integrate up to 128 command positions with 128 indicator lamps. The system power supply of the expansion modules is effected via the basic module, thus, reducing handling to a minimum. Each module is construed with 8 inputs for contact blocks and 8 outputs for the LED indicator lamps. We distinguish in this modular operating concept two basic applications, control panel construction in which all command points are summarised on one area, and plant engineering & construction with several command points, which are distributed in the system.

Customised - fast - cost-effective

If your design plans cannot be implemented with the standardised modules, we can respond to your special design requirements anyway. For customised designs we resort to sub-modules of the modular operating concept while adapting the carrier card with the command points (PCB with individual contact blocks) according to your design proposal, consequently, the cost-optimised concept also taking effect here.

Technical Description - Control Panel Construction / Plant Engineering & Construction

Control Panel Construction

For the control panel construction, we consider the arrangement of the command points on one control unit, on which we can set up max. 64 command points with 64 indicator lamps. The 8 modules are then connected through with a ribbon cable. The individual modules can be arranged in a max. distance of 250mm to each other.

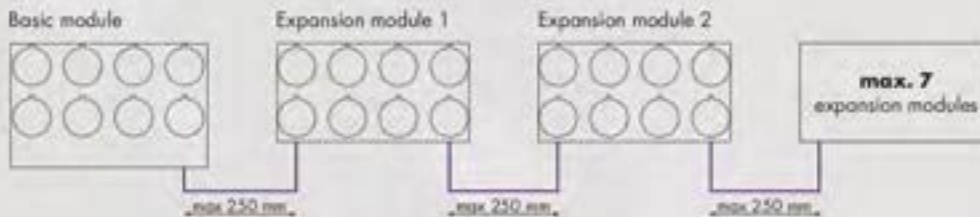
Plant Engineering & Construction

In the plant engineering & construction we consider the complete plant, which usually has a main control panel and several secondary control panels. In this case, the main control panel is equipped with the basic module and according to your operating concept, with additional expansion modules. The bus node with the typical bus connection is also arranged in the main control panel. It is then possible to equip more secondary control panels with expansion modules and to operate them via the main control panels using the bus data. In this application you can operate max. 128 command positions with 128 pilot lamps, and this at a cable length of 5m between the command positions and a total length of 30m within the plant.

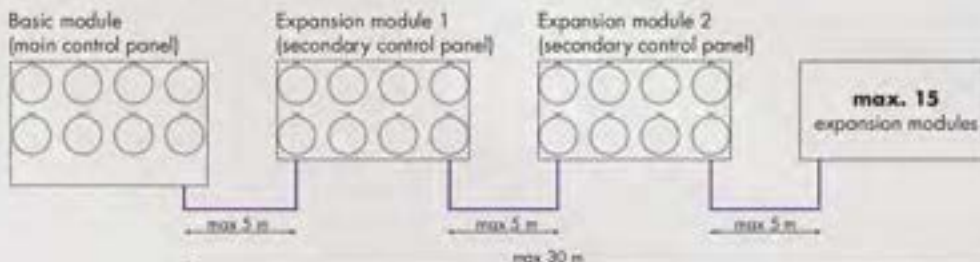
Mounting of Standard Modules

We offer the standardised modules in fixed grid spacings of 2.5 x 25mm, 27 x 27mm or 30 x 30mm. The modules are plugged on the actuators in the front panel and secured to the contact blocks by means of a locking bolt. Therefore, no additional spacers are needed in the front panel to mount the modules. The basic module is supplied with a supply voltage of +24V/DC and the bus signal. The expansion modules are connected to each other by means of a connecting cable, thus, there is no need for an additional wiring by what the wiring outlay reduces enormously. The individual modules can be attached in the same spacing.

Control Panel Construction



Plant Engineering & Construction



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Types (etc)

CANopen Basic Module



CANopen Bus System ISO11898
 CiA Standard DS401 version 2.0
 Addressing: DIP switch
 Baud rate: 10kbit up to 1Mbit are automatically detected by the bus
 I/Os: 8 I/Os, 8 inputs and 8 outputs, expandable to max. 64 I/Os for control panel construction and 128 I/Os for plant engineering and construction
 Bus connection: 3-pole screw terminal
 Bus termination: can be activated via sliding switch

Please download the EDS file and data sheet with pin configuration from www.schlegel.biz

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	CO_BTK25_01	CO_BTK27_01	CO_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	CO_BTK25_02	CO_BTK27_02	CO_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	CO_BTK25_03	CO_BTK27_03	CO_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	CO_BTK25_04	CO_BTK27_04	CO_BTK30_04

suitable actuators:








Expansion Module



I/Os: 8 I/Os (8 inputs and 8 outputs)
 Control panel construction: up to max. 64 I/Os using 7 additional modules and a cable length of 250 mm between the modules
 Plant engineering and construction: up to max. 128 I/Os using 15 additional modules and a cable length of 5 m between the modules, total length 30 m
 System connection: via the connecting cables VK_BTK,... (please order separately, see next page)

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_01	E_BTK27_01	E_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	E_BTK25_02	E_BTK27_02	E_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_03	E_BTK27_03	E_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	E_BTK25_04	E_BTK27_04	E_BTK30_04

Illustration	Description	
	<p>Expansion Module - Plant Engineering And Construction 8 external I/Os are led onto the bus via a terminal</p> <p>Connection: spring-type terminal I/Os: 8 I/Os, 8 inputs and 8 outputs up to max. 128 I/Os with additional 15 modules</p> <p>System Connection: via connecting cable VK_BTK_002... max. cable length 5m between the modules; total length 30m</p> <p>The data sheet with pin assignments can be downloaded at www.schlegel.biz</p>	E_BTK8IO_0304
	<p>Expansion Module - Control Panel Construction 8 external I/Os are led onto the bus via a terminal</p> <p>Connection: spring-type terminal from 0.25 mm² to 1.5 mm² I/Os: 8 I/Os, 8 inputs on switching contacts (low active) and 8 outputs on pilot lights 10mA (low active)</p> <p>System Connection: via connecting cable VK_BTK_001... max. cable length 250 mm between the modules</p> <p>The data sheet with pin assignments can be downloaded at www.schlegel.biz</p>	E_BTK8IO_0102
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC [7/14 mA]</p> <p>When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2</p> <p>storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour: white</p>	L5,5K24UW
	<p>Connecting Cable for control panel construction</p> <p>Length: 50 mm Length: 100 mm Length: 220 mm</p>	VK_BTK_001_50 VK_BTK_001_100 VK_BTK_001_220
	<p>Connecting Cable for plant engineering & construction</p> <p>Length: 90 mm Length: 140 mm Length: 300 mm</p>	VK_BTK_002_90 VK_BTK_002_140 VK_BTK_002_300

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Profibus Basic Module



Profibus specification: DPVO
 Data length: 96 byte I/O
 Module name: 8 byte input 8 byte output
 Addressing: DIP switch
 I/Os: 8 I/Os, 8 inputs and 8 outputs, expandable to max. 64 I/Os for control panel construction and 128 I/Os for plant engineering and construction
 Bus connection: 3-pole screw terminal
 Bus termination: can be activated via sliding switch

Please download the GSD file and data sheet with pin configuration from www.schlegel.biz

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	DP_BTK25_01	DP_BTK27_01	DP_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K. LEDs to be ordered separately	DP_BTK25_02	DP_BTK27_02	DP_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	DP_BTK25_03	DP_BTK27_03	DP_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K. LEDs to be ordered separately	DP_BTK25_04	DP_BTK27_04	DP_BTK30_04

suitable actuators:








Expansion Module



I/Os: 8 I/Os (8 inputs and 8 outputs)
 Control panel construction: up to max. 64 I/Os using 7 additional modules and a cable length of 250 mm between the modules
 Plant engineering and construction: up to max. 128 I/Os using 15 additional modules and a cable length of 5 m between the modules, total length 30 m
 System connection: via the connecting cables VK_BTK,... (please order separately, see next page)

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_01	E_BTK27_01	E_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K. LEDs to be ordered separately	E_BTK25_02	E_BTK27_02	E_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_03	E_BTK27_03	E_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K. LEDs to be ordered separately	E_BTK25_04	E_BTK27_04	E_BTK30_04

Illustration	Description	
	<p>Expansion Module - Plant Engineering And Construction 8 external I/Os are led onto the bus via a terminal</p> <p>Connection: spring-type terminal I/Os: 8 I/Os, 8 inputs and 8 outputs up to max. 128 I/Os with additional 15 modules</p> <p>System Connection: via connecting cable VK_BTK_002... max. cable length 5m between the modules; total length 30m</p> <p>The data sheet with pin assignments can be downloaded at www.schlegel.biz</p>	E_BTK8IO_0304
	<p>Expansion Module - Control Panel Construction 8 external I/Os are led onto the bus via a terminal</p> <p>Connection: spring-type terminal from 0.25 mm² to 1.5 mm² I/Os: 8 I/Os, 8 inputs on switching contacts (low active) and 8 outputs on pilot lights 10mA (low active)</p> <p>System Connection: via connecting cable VK_BTK_001... max. cable length 250 mm between the modules</p> <p>The data sheet with pin assignments can be downloaded at www.schlegel.biz</p>	E_BTK8IO_0102
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC [7/14 mA]</p> <p>When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2</p> <p>storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour: white</p>	L5,5K24UW
	<p>Connecting Cable for control panel construction</p> <p>Length: 50 mm Length: 100 mm Length: 220 mm</p>	VK_BTK_001_50 VK_BTK_001_100 VK_BTK_001_220
	<p>Connecting Cable for plant engineering & construction</p> <p>Length: 90 mm Length: 140 mm Length: 300 mm</p>	VK_BTK_002_90 VK_BTK_002_140 VK_BTK_002_300

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EtherCAT Basic Module



Transmission: 100 Mbit/s
 I/O data length: 8 byte input 8 byte output
 I/Os: 8 byte input 8 byte output
 Addressing: DIP switch
 I/Os: 8 I/Os, 8 inputs and 8 outputs, expandable to max. 64 I/Os for control panel construction and 128 I/Os for plant engineering and construction
 Bus connection: 2 x RJ45 plug connectors 8P4C

Please download the XML file and data sheet with pin configuration from www.schlegel.biz

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	EC_BTK25_01	EC_BTK27_01	EC_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K. LEDs to be ordered separately	EC_BTK25_02	EC_BTK27_02	EC_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	EC_BTK25_03	EC_BTK27_03	EC_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K. LEDs to be ordered separately	EC_BTK25_04	EC_BTK27_04	EC_BTK30_04

suitable actuators:








Expansion Module



I/Os: 8 I/Os (8 inputs and 8 outputs)
 Control panel construction: up to max. 64 I/Os using 7 additional modules and a cable length of 250 mm between the modules
 Plant engineering and construction: up to max. 128 I/Os using 15 additional modules and a cable length of 5 m between the modules, total length 30 m
 System connection: via the connecting cables VK_BTK,... (please order separately, see next page)

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_01	E_BTK27_01	E_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K. LEDs to be ordered separately	E_BTK25_02	E_BTK27_02	E_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_03	E_BTK27_03	E_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K. LEDs to be ordered separately	E_BTK25_04	E_BTK27_04	E_BTK30_04

Illustration	Description
	<p>Expansion Module - Plant Engineering And Construction 8 external I/Os are led onto the bus via a terminal</p> <p>Connection: spring-type terminal I/Os: 8 I/Os, 8 inputs and 8 outputs up to max. 128 I/Os with additional 15 modules System Connection: via connecting cable VK_BTK_002... max. cable length 5m between the modules; total length 30m</p> <p>The data sheet with pin assignments can be downloaded at www.schlegel.biz</p> <p style="text-align: right;">E_BTK8IO_0304</p>
	<p>Expansion Module - Control Panel Construction 8 external I/Os are led onto the bus via a terminal</p> <p>Connection: spring-type terminal from 0.25 mm² to 1.5 mm² I/Os: 8 I/Os, 8 inputs on switching contacts (low active) and 8 outputs on pilot lights 10mA (low active) System Connection: via connecting cable VK_BTK_001... max. cable length 250 mm between the modules</p> <p>The data sheet with pin assignments can be downloaded at www.schlegel.biz</p> <p style="text-align: right;">E_BTK8IO_0102</p>
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC [7/14 mA] When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour: white</p> <p style="text-align: right;">L5,5K24UW</p>
	<p>Connecting Cable for control panel construction</p> <p>Length: 50 mm VK_BTK_001_50 Length: 100 mm VK_BTK_001_100 Length: 220 mm VK_BTK_001_220</p>
	<p>Connecting Cable for plant engineering & construction</p> <p>Length: 90 mm VK_BTK_002_90 Length: 140 mm VK_BTK_002_140 Length: 300 mm VK_BTK_002_300</p>

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Profinet I/O Basic Module



ProFINET I/O specification: 2 ports with transformer
 Fieldbus Baud rates: up to 100 MBaud
 IP address: assignment via bus
 Fieldbus functions: TCP/IP
 I/Os: 8 I/Os, 8 inputs and 8 outputs, expandable to max. 64 I/Os for control panel construction and 128 I/Os for plant engineering and construction.
 Bus connection: 2 x RJ45 plug connectors 8P4C

Please download the GSDML file and the data sheet with pin configuration from www.schlegel.biz.

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	PN_BTK25_01	PN_BTK27_01	PN_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K. LEDs to be ordered separately	PN_BTK25_02	PN_BTK27_02	PN_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	PN_BTK25_03	PN_BTK27_03	PN_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K. LEDs to be ordered separately	PN_BTK25_04	PN_BTK27_04	PN_BTK30_04








Expansion Module



I/Os: 8 I/Os (8 inputs and 8 outputs)
 Control panel construction: up to max. 64 I/Os using 7 additional modules and a cable length of 250 mm between the modules
 Plant engineering and construction: up to max. 128 I/Os using 15 additional modules and a cable length of 5 m between the modules, total length 30 m
 System connection: via the connecting cables VK_BTK,... (please order separately, see next page)

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_01	E_BTK27_01	E_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K. LEDs to be ordered separately	E_BTK25_02	E_BTK27_02	E_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_03	E_BTK27_03	E_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K. LEDs to be ordered separately	E_BTK25_04	E_BTK27_04	E_BTK30_04

Illustration	Description
	<p>Expansion Module - Plant Engineering And Construction 8 external I/Os are led onto the bus via a terminal</p> <p>Connection: spring-type terminal I/Os: 8 I/Os, 8 inputs and 8 outputs up to max. 128 I/Os with additional 15 modules System Connection: via connecting cable VK_BTK_002... max. cable length 5m between the modules; total length 30m</p> <p>The data sheet with pin assignments can be downloaded at www.schlegel.biz</p> <p style="text-align: right;">E_BTK8IO_0304</p>
	<p>Expansion Module - Control Panel Construction 8 external I/Os are led onto the bus via a terminal</p> <p>Connection: spring-type terminal from 0.25 mm² to 1.5 mm² I/Os: 8 I/Os, 8 inputs on switching contacts (low active) and 8 outputs on pilot lights 10mA (low active) System Connection: via connecting cable VK_BTK_001... max. cable length 250 mm between the modules</p> <p>The data sheet with pin assignments can be downloaded at www.schlegel.biz</p> <p style="text-align: right;">E_BTK8IO_0102</p>
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC [7/14 mA] When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour: white</p> <p style="text-align: right;">L5,5K24UW</p>
	<p>Connecting Cable for control panel construction</p> <p>Length: 50 mm VK_BTK_001_50 Length: 100 mm VK_BTK_001_100 Length: 220 mm VK_BTK_001_220</p>
	<p>Connecting Cable for plant engineering & construction</p> <p>Length: 90 mm VK_BTK_002_90 Length: 140 mm VK_BTK_002_140 Length: 300 mm VK_BTK_002_300</p>

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EtherNet IP Basic Module



Transmission: 100 Mbit/s
 I/O data length: 8 byte input 8 byte output
 I/Os: 8 I/Os, 8 inputs and 8 outputs, expandable to max. 64 I/Os for control panel construction and 128 I/Os for plant engineering and construction
 Bus connection: 2 x RJ45 plug connectors 8P4C

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 incorporated white LEDs	EN_BTK25_01	EN_BTK27_01	EN_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	EN_BTK25_02	EN_BTK27_02	EN_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	EN_BTK25_03	EN_BTK27_03	EN_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	EN_BTK25_04	EN_BTK27_04	EN_BTK30_04

suitable actuators:








Expansion Module



I/Os: 8 I/Os (8 inputs and 8 outputs)
 Control panel construction: up to max. 64 I/Os using 7 additional modules and a cable length of 250 mm between the modules
 Plant engineering and construction: up to max. 128 I/Os using 15 additional modules and a cable length of 5 m between the modules, total length 30 m
 System connection: via the connecting cables VK_BTK,... (please order separately, see next page)

Application Area	Control Panel Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_01	E_BTK27_01	E_BTK30_01
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	E_BTK25_02	E_BTK27_02	E_BTK30_02

Application Area	Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
	8 contact blocks with snap action (CTP) and 8 integrated white LEDs	E_BTK25_03	E_BTK27_03	E_BTK30_03
	8 contact blocks with snap action (CTLP) for 8 pluggable LEDs type L5,5K LEDs to be ordered separately	E_BTK25_04	E_BTK27_04	E_BTK30_04

Illustration	Description
	<p>Expansion Module - Plant Engineering And Construction 8 external I/Os are led onto the bus via a terminal</p> <p>Connection: spring-type terminal I/Os: 8 I/Os, 8 inputs and 8 outputs up to max. 128 I/Os with additional 15 modules System Connection: via connecting cable VK_BTK_002... max. cable length 5m between the modules; total length 30m</p> <p>The data sheet with pin assignments can be downloaded at www.schlegel.biz</p> <p style="text-align: right;">E_BTK8IO_0304</p>
	<p>Expansion Module - Control Panel Construction 8 external I/Os are led onto the bus via a terminal</p> <p>Connection: spring-type terminal from 0.25 mm² to 1.5 mm² I/Os: 8 I/Os, 8 inputs on switching contacts (low active) and 8 outputs on pilot lights 10mA (low active) System Connection: via connecting cable VK_BTK_001... max. cable length 250 mm between the modules</p> <p>The data sheet with pin assignments can be downloaded at www.schlegel.biz</p> <p style="text-align: right;">E_BTK8IO_0102</p>
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC [7/14 mA] When connecting to DC, the correct polarity must be observed: + ... X1/- ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour: white</p> <p style="text-align: right;">L5,5K24UW</p>
	<p>Connecting Cable for control panel construction</p> <p>Length: 50 mm VK_BTK_001_50 Length: 100 mm VK_BTK_001_100 Length: 220 mm VK_BTK_001_220</p>
	<p>Connecting Cable for plant engineering & construction</p> <p>Length: 90 mm VK_BTK_002_90 Length: 140 mm VK_BTK_002_140 Length: 300 mm VK_BTK_002_300</p>

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AS-Interface Module



I/Os: 8 I/Os, 8 inputs and 8 Ausgänge
 AS-Interface specification: V3.0
 AS-Interface profile: S7.A7.A
 Communication protocol: CTT3 for Master M4
 Diagnostics: Data communication error signalling unit S5
 Protocol or peripheral error signalling unit S6
 Bus connection: 2-pole screw clamp
 Connecting cable: max. network length: 100m (without repeater)
 max. cycle time: ≤40ms

LED voltage supply via the bus

Application Area	Control Panel Construction / Plant Engineering and Construction	spacing 25 x 25 mm	spacing 27 x 27 mm	spacing 30 x 30 mm
8 contact blocks with snap action function (CTP) and 8 integrated white LEDs		ASI_BTK25_01	ASI_BTK27_01	ASI_BTK30_01
8 contact blocks with snap-action function (CTUP) to accept 8 pluggable LEDs L5,5K. Please order the LEDs separately		ASI_BTK25_02	ASI_BTK27_02	ASI_BTK30_02

suitable actuators:



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Illustration	Description
	<p>Ultra-bright LED, T5,5K socket, 24V with integrated series resistor and half-wave rectifier, for 24 V AC/DC [7/14 mA] When connecting to DC, the correct polarity must be observed: + ... X1/ - ... X2 storage temperature: -25°C ... +80°C ambient temperature: -20°C ... +60°C voltage tolerance: + 10 % colour white</p> <p style="text-align: right;">L5,5K24UW</p>

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Equipped Stainless Steel Enclosure

made in germany



SVA

Equipped Stainless Steel Enclosure

Illustration

Dimensions

Description

Type



Stainless Steel Enclosure with 2 illuminated pushbuttons also suitable for hygienic applications

Mounting hole diameter: \varnothing 4.3mm
 Actuators: 2 pushbutton heads ref.RRJAFT
 Contacts: 1 ea. inverter
 Operating temperature: -30 °C ... +65 °C
 Storage temperature: -50 °C ... +85 °C
 Connection: 8-pole M12 female connector
 Rated voltage: 1 V ... 30/36 V /AC/DC
 Rated current: 0.01 mA ... 100 mA

LED rated voltage: 24 V / AC/DC
 LED rated current: 7 /15 mA

other versions on request

mounting holes 2
 equipped Yes
 Panel cut-out \varnothing 22.3 mm
 colour stainless steel, brushed finish

SVAB22/2_01



Asst. I/O

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Type Indicators



General Data

Type Reference:	S41_01; S42_02; S43_03
Description:	Equipped Stainless Steel Enclosure
Approvals:	CE
Nature of contact:	emerg.stop, pos.1: 2NC pushbuttons, pos.2/3: 1NO each
Degree of protection:	IP54
Connection type:	M12 8 poles (m)emerg.stop:pin 1-2 NC1; pin 3-4: NC2 pushbutton 1;pin 5-6:NO
pushbutton 2:pin 7-8:NO	
Contact material:	AgNi, gold-plated
Max. storage temperature:	-25°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	emerg.stop:50,000 pushbutton:1m
Electrical life (rated load):	emerg.stop:50,000 pushbutton:1m
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1,appendix. K (emerg.stop)

General Data

Rated impulse voltage:	800 V (M12 connector)
Positive opening travel:	> 3 mm
Release:	twist release, left or right (E-stop)
Standards:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850

Electrical Features

Operational voltage:	1 V ... 24 V (UL: 30 VDC, 50 mW max)
Operational current:	1 mA ... 250 mA

Note

S41_01:	emerg.stop in stainless steel enclosure
S42_02:	emerg.stop and 1 pushbutton in stainless steel enclosure
S43_03:	emerg.stop and 2 pushbuttons in stainless steel enclosure
Mounting:	fastening clip - on top/at at the bottom (incl. T-shaped sliding block)
Emerg. stop:	FRVKOO_AU (2 NC)
Pushbuttons:	SSWTI (1 NO) incl. set of lenses (all colours), without nameplate
Approvals:	emerg.stop: TÜV, UR Pushbuttons: CCC, VDE, ENEC 10

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Equipped Stainless Steel Enclosure

made in germany



S4

General Data

Type Reference:	S44_04; S45_05; S46_06 Illuminated pushbuttons: S42_08; S43_07; S44_09; S45_10; S46
Description:	Equipped Stainless Steel Enclosure
Approvals:	CE
Nature of contact:	emerg.stop, pos.1: 2NC pushbuttons, pos.2...6: 1NO each (optional: with illumination)
Degree of protection:	IP54
Connection type:	Faston terminals 2.8x0.8 mm
Contact material:	AgNi
Max. storage temperature:	-25°C ... 80°C
Max. operating temperature:	-25°C ... 70°C
Mechanical life:	emerg.stop:50,000 pushbutton:1m
Electrical life (rated load):	emerg.stop:50,000 pushbutton:1m
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix: K (emerg.stop)

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

Utilisation category:	AC15	DC13
Rated operating voltage U _e :	24V	24V
Rated operating current I _e :	3A	2 A
Breaking capacity:	10Ie	1, 1Ie
Continuous thermal current:	5A	

Technical Data - Lamp

Lamp socket:	integrated 3 mm LED (applies only to illuminated types)
Max. lamp voltage:	30 V AC/DC
Max. lamp output:	14mA (at 24 V DC)
Definition:	X1...anode, X2...cathode

General Data

Positive opening travel:	> 3 mm
Release:	twist release, left or right (E-stop)
Standards:	EN 60947-5-1, EN 60947-5-5, EN ISO 13850

Note

S44_04:	emerg.stop and 3 pushbuttons in stainless steel enclosure, gilded
S45_05:	emerg.stop and 4 pushbuttons in stainless steel enclosure, gilded
S46_06:	emerg.stop and 5 pushbuttons in stainless steel enclosure, gilded
S43_07:	emerg.stop and 2 illuminated pushbuttons in stainless steel enclosure, gilded
S42_08:	emerg. stop and 1 illuminated pushbutton in stainless steel enclosure, gilded
S44_09:	emerg. stop and 3 illuminated pushbuttons in stainless steel enclosure, gilded

Mounting:	fastening clip on top/at the bottom (incl. T-shaped sliding block)
Cable gland:	M16x1.5
Emerg. stop:	FRV00 (2 NC)
Pushbuttons:	SSWTI (1 NO) incl. set of lenses (all colours), without nameplate or SSWTU (1 NO, illuminated) incl. set of lenses (all colours), without nameplate

Approvals:	emerg.stop: TÜV, UR
Pushbuttons:	CCC, VDE, ENEC 10

Use partially or fully insulated Faston clamps

The user has to make sure that the contact blocks mounted in the enclosure are properly connected in order to comply with the requirements regarding clearance and creepage distances in normal use.

Data Sheet	art.no.: 615403902
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Equipped Stainless Steel Enclosure

Illustration	Dimensions	Description	Type
		<p>Equipped Stainless Steel Enclosure with M12 cable entry (8 poles) for profile rail mounting</p> <p>1 emergency stop FRVKOO</p> <p>mounting holes 1</p> <p>equipped Yes</p> <p>colour stainless steel, brushed finish</p>	541_01
		<p>Equipped Stainless Steel Enclosure with M12 cable entry (8 poles) for profile rail mounting</p> <p>1 emergency stop FRVKOO</p> <p>1 pushbutton SSWTI</p> <p>incl. lenses (clear, red, green, yellow, blue)</p> <p>mounting holes 2</p> <p>equipped Yes</p> <p>colour stainless steel, brushed finish</p>	542_02
		<p>Equipped Stainless Steel Enclosure with M12 cable entry (8 poles) for profile rail mounting</p> <p>1 emergency stop FRVKOO</p> <p>2 pushbuttons SSWTI</p> <p>incl. lenses (clear, red, green, yellow, blue)</p> <p>mounting holes 3</p> <p>equipped Yes</p> <p>colour stainless steel, brushed finish</p>	543_03

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Equipped Stainless Steel Enclosure

Illustration

Dimensions

Description

Type



Equipped Stainless Steel Enclosure, glanded for profile rail mounting

1 emergency stop FRVK00
3 pushbuttons SSWTI

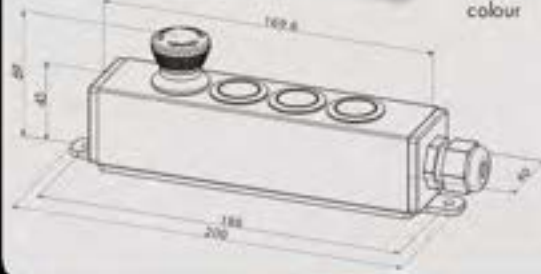
incl. lenses (clear, red, green, yellow, blue)

mounting holes 4

equipped Yes

colour stainless steel, brushed finish

S44_04



Equipped Stainless Steel Enclosure, glanded for profile rail mounting

1 emergency stop FRVK00
4 pushbuttons SSWTI

incl. lenses (clear, red, green, yellow, blue)

mounting holes 5

equipped Yes

colour stainless steel, brushed finish

S45_05



Equipped Stainless Steel Enclosure, glanded for profile rail mounting

1 emergency stop FRVK00
4 pushbuttons SSWTI

incl. lenses (clear, red, green, yellow, blue)

mounting holes 6

equipped Yes

colour stainless steel, brushed finish

S46_06



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Type Info

Insulated Plastic Enclosures

SIL... enclosures with M12 connection and special assemblies on request.

Illustration	Dimensions	Description	Type
		Insulated Plastic Enclosure with 1 mounting hole  mounting holes 1 equipped No weight 96 g cable entry break-through wall M20 mounting depth 59 mm Panel cut-out Ø 16.2 mm colour black bottom part/yellow cover	SIL16/1
		High Insulated Plastic Enclosure with 1 mounting hole  mounting holes 1 equipped No weight 104 g cable entry break-through wall M20 mounting depth 66 mm Panel cut-out Ø 16.2 mm colour black bottom part/yellow cover	SILH16/1
		Insulated Plastic Enclosure with 1 mounting hole  mounting holes 1 equipped No weight 96 g cable entry break-through wall M20 mounting depth 59 mm Panel cut-out Ø 22.3 mm colour black bottom part/yellow cover	SIL22/1
		High Insulated Plastic Enclosure with 1 mounting hole  mounting holes 1 equipped No weight 104 g cable entry break-through wall M20 mounting depth 66 mm Panel cut-out Ø 22.3 mm colour black bottom part/yellow cover	SILH22/1

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Type Indicators

General Data

Type Reference:	MT...
Description:	Modular Contact Block
Approvals:	CCC, CSA, ENEC05, KEMA, CE, TÜV_Süd, UL
Protection class:	II (protective insulation)
Operation travel:	6 mm
Connection type:	screw connection 2x2.5mm ²
Contact material:	AgNi
Max. storage temperature:	-50°C ... 85°C
Max. operating temperature:	-30°C ... 85°C, without illumination -30°C ... 55°C, using incandescent lamps -30°C ... 65°C, using LED's
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1m operations at rated load
Contact resistance NO:	< 20 mOhm
Contact resistance NC:	< 20 mOhm
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix. K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

Utilisation category:	alternate current	direct current
Rated insulation voltage Ui:	AC15 A600	DC13 G600
Rated operating voltage Ue:	600 V	600 V
Rated operating current Ie:	240V / 440V	440V / 250V / 125V / 60V / 24V
Breaking capacity:	3A / 1.6A	0.12A / 0.2A / 0.4A / 1A / 2A
Continuous thermal current:	10Ie	1,1Ie
	16 A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V- / 440 V-
Rated current Ie:	16(10) A / 10(6) A

Technical Data - Lamp

Lamp socket:	BA9s
Max. lamp voltage:	250 V / (CSA max. 150V)
Max. lamp output:	2 W
Definition:	X1...anode, X2...cathode

Electrical Features - 5µm gold-plating, type addition ...AU

Switching voltage:	20mV ... 42V AC/DC
Switching current:	1mA ... 250mA
Contact resistance (new state):	< 50 mOhm

General Data

Tightening torque (screw terminal):	0.8...1.0 Nm
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Note

Min. operating temperature when assembled with KRJ...actuators: -40°C ...;
Data Sheet does not apply to the following type: MTOSFE

Electrical Data acc. to UL 508

Ratings:	A600, 600 V AC
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Equipped Insulated Plastic Enclosures

SIL...enclosures with M12 connection and special assemblies on request

Illustration	Dimensions	Description	Type
		<p>Emergency-stop Control Station with switching position indicator and yellow anti-lock collar, twist release, acc. to EN ISO 13850, VDE 0660, sect.200, IEC/EN 60947-5-1 and IEC/EN 60947-5-5 For technical data on the appropriate contact blocks refer to previous page. Mounting hole dia. 4.2 mm equipped Yes cable entry break-through wall M20 Contact equipment 2NC colour black bottom part/yellow cover</p>	SIL_QRBUVOO
		<p>Emergency-stop Control Station, illuminated with switching position indicator and yellow illuminated anti-lock collar, twist release, acc. to EN ISO 13850, VDE 0660, sect.200, IEC/EN 60947-5-1 and IEC/EN 60947-5-5 For technical data on the appropriate contact blocks refer to previous page. Mounting hole dia. 4.2 mm equipped Yes cable entry break-through wall M20 Contact equipment 2NC colour black bottom part/yellow cover</p>	SIL_QRBLUVOO
		<p>Emergency-stop Control station with switching position indicator and yellow protective shroud, twist release, acc. to EN ISO 13850, VDE 0660, sect.200, IEC/EN 60947-5-1 and IEC/EN 60947-5-5 For technical data on the appropriate contact blocks refer to previous page. Mounting hole dia. 4.2 mm NOTE: The user must ensure the emergency stop with protective shroud to be easy accessible! equipped Yes cable entry break-through wall M20 Contact equipment 2NC colour black bottom part/yellow cover</p>	SIL_QRSKUVOO
		<p>Emergency-stop Control Station for hygienic application twist release E-stop, compliant to BG acc. to DIN EN 1672-2 and GS-FW 01/01 For technical data on the appropriate contact blocks refer to previous page. Mounting hole dia. 4.2 mm equipped Yes cable entry break-through wall M20 Contact equipment 2NC colour black bottom part/yellow cover</p>	SIL_QRUVPOO

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made in germany



SIL

General Data

Type Reference: ASI_SAW16A, ASI_SAW16E, ASI_SAW22A, ASI_SAW22E,
Description: AS-Interface Slave (Safety at Work)
Approvals: ASI, cCSAus, TÜV_Süd, TÜV_SUD, CE

Note

Communication

- AS-Interface specification: V 2.1
- Slave profile: ASI_SAWxxA S-7.B.E
ASI_SAWxxE S-0.B.E
- Standby delay time: < 1s
- Input delay: < 5ms
- Connection: via 2-pole IDC connector(3,96mm) with lock mechanism and strain relief
type ref.: "ASI_SL2AWG18"
via integrated connector or separate addressing connector *)
- Addressing:

Ambient Conditions

- Operating temperature: -25 °C ... +70 °C
- Humidity: up to 95%, non-condensing
- Degree of protection / slave: IP20
- Pollution degree: 2 (acc. to IEC 60947-1)

Electrical Data

- Operating voltage: 26.5...30,6 V, through the AS-Interface line
- Total power consumption: ASI_SAWxxA: <= 60 mA
ASI_SAWxxE: <= 50 mA
- Reverse polarity protection: available
- Contacts: two positive opening contacts acc. to IEC60947-5-5
- Safety integrity level: SIL 3
- Output (not safe): for the control of a LED *)
Rated voltage: 24 V DC (+10%)
Max. power consumption: approx. 15mA
Short circuit/overload: LED output
Connection cable: type ref.: "VK_JST025BKL", "VK_JST034"

Norms and Standards

- Complete AS-Interface Specification, Version 2.11 Rev.1, V3.0 Rev. 0
- IEC 62026-2, IEC 60204-1, IEC 61508, EN 13850, IEC 60947-5-5
- TÜV Type Approval, UL/CSA Approval
- AS-Interface Certificate 62801

- The Schlegel ASI slaves comply with the specification
AS-Interface POWER24 and can also be operated at 24 V.

*) refers only to types ASI_SAW16A, ASI_SAW22A (with additional addressing connector)

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Illustration	Dimensions	Description	Type
<p>IP65</p> 		<p>AS-Interface Emergency-stop Control Station - Safety at Work -</p> <p> ASI slave: ASI_SAW22E actuator: QRBUY, foolproof acc. to EN ISO 13850 Connection: M12 (4 poles)</p> <p>equipped: Yes Contact equipment: bus-compatible colour: black bottom part/yellow cover</p>	<p>SILH_ASIE_QRBUY</p>
<p>IP65</p> 		<p>AS-Interface Emergency-stop Control Station, illuminated - Safety at Work -</p> <p> ASI slave: ASI_SAW22A actuator: QRBLUV, foolproof acc. to EN ISO 13850 connection: M12 (4 poles)</p> <p>equipped: Yes Contact equipment: bus-compatible colour: black bottom part/yellow cover</p>	<p>SILH_ASI_QRBLUV</p>
<p>IP65</p> 		<p>AS-Interface Emergency-stop Control Station - Safety at Work -</p> <p> ASI slave: ASI_SAW22E actuator: QRUV for hygienic application, (compliant with BG acc. to DIN EN 1672-2 and GS-FW 01/01) foolproof acc. to EN ISO 13850 Connection: M12 (4 poles)</p> <p>equipped: Yes Contact equipment: bus-compatible colour: black bottom part/yellow cover</p>	<p>SILH_ASIE_QRUV</p>
<p>IP65</p> 		<p>AS-Interface Emergency-stop Control Station - Safety at Work -</p> <p> ASI slave: ASI_SAW22E actuator: QRSKUV, foolproof acc. to EN ISO 13850 Connection: M12 (4 poles)</p> <p>equipped: Yes Contact equipment: bus-compatible colour: black bottom part/yellow cover</p>	<p>SILH_ASIE_QRSKUV</p>

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Equipped Insulated Plastic Enclosures

minibox

made in germany



Minibox with Cable Entry M16/M20 for profile rail or wall mounting

General Data - Contact Module

- > Operating temperature: -25°C ... 70°C
- > Storage temperature: -40°C ... 85°C
- > Vibration / shock resistance: acc. to EN 60068-2-6/-27
- > Environmental conditions: acc. to EN 60068-2

Technical Data - Switch Element

- > Ratings (gold-plated contacts): 20mV...42V AC/DC
1mA...250mA
- > Ratings (silver contacts) acc. to EN 60947-5-1: non-illuminated AC 15 B300 250V/1.5A, 1h 5A DC 13 Q300, 250V/0.27A
- > Electrical life (rated load): illuminated SELV 50,000
- > Positive opening contact: EN 60947-5-1, app. K

Technical Data - LED

- > Operating voltage: 24V DC
- > Power consumption: max. 15 mA (at 24 V DC)

Using the fastening clip, the minibox can be mounted both on a profile rail or on a wall.

Assembly sequence using the example of profile rail mounting with lateral cable entry (not M12 version)



- > screw down mounting clip

1



- > attach lower box part
- > insert cable
- > contact wire ends
- > snap in PC board

2



- > snap on upper box part

3



- > ready

4

Equipped Insulated Plastic Enclosures

Illustration	Dimensions	Description	Type
		<p>minibox with lateral cable entry M16 illuminated emergency-stop pushbutton</p> <p>IP65</p> <p>RU</p> <p>equipped Yes Contact equipment 2NC colour dark-grey bottom part/yellow cover</p>	MBP_FRVKLOO
		<p>minibox with lateral cable entry M16</p> <p>IP65</p> <p>RU</p> <p>equipped Yes Contact equipment 2NC colour dark-grey bottom part/yellow cover</p>	MBP_FRVKOO
		<p>minibox with bottom-side cable entry M20 illuminated emergency-stop pushbutton</p> <p>IP65</p> <p>RU</p> <p>equipped Yes Contact equipment 2NC colour dark-grey bottom part/yellow cover</p>	MBW_FRVKLOO
		<p>minibox with bottom-side cable entry M20</p> <p>IP65</p> <p>RU</p> <p>equipped Yes Contact equipment 2NC colour dark-grey bottom part/yellow cover</p>	MBW_FRVKOO

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Equipped Insulated Plastic Enclosures

ready-to-connect, M12 connection

Illustration

Dimensions

Description

Type

#65



minibox with M12 cable entry (4 poles)

Operating temperature: -25 °C...+70 °C
 Storage temperature: -25°C...+85 °C
 Connection: M12, 4 poles (m)
 Pin 1,2: NC 1; Pin 3,4: NC 2
 Contact material: AgNi
 Electrical life: 50.000 at rated load
 Positive opening: acc. to EN 60947-5-1, appendix K
 Test voltage M12 plug: 2.0 kV

Electrical Data acc. to IEC/EN 60947-5-1 (VDE 0660 sect. 200)

Utilisation category :	alternating current	direct current
Rated operating voltage Ue:	AC15	DC13
Rated operating voltage Ue:	240V	250V
Rated operating current Ie:	1.5A	0.27A

equipped Yes
 colour dark-grey bottom part/yellow cover

**MBM124
FRVKOO**

#65



minibox with M12 cable entry (8 poles)

Operating temperature: -25 °C...+70 °C
 Storage temperature: -25°C...+85 °C
 Connection: M12, 8 poles (m)
 pin 1,2: NC 1; pin 3,4: NC 2
 pin 5,6: NO ; pin 7,8: NC.
 Contact material: AgNi, gold-plating 5µm
 Electrical life: 50.000 at rated load
 Positive opening: acc. to EN 60947-5-1, appendix K
 Test voltage M12 plug: 1.5 kV

Electrical Data
 Operating voltage: 1V... 36V
 Operating current: 1mA ... 250mA
 equipped Yes
 Contact equipment 1 NO + 2 NC (positive opening contacts)
 colour dark-grey bottom part/yellow cover

**MBM128
FRVKOO**

Start-Up

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Equipped Insulated Plastic Enclosures
ready-to-connect, M12 connection

Illustration	Dimensions	Description	Type
		<p>minibox with M12 cable entry (8 poles) illuminated emergency-stop pushbutton</p> <p>Operating temperature: -25 °C...+70 °C Storage temperature: -25°C...+85 °C Connection: M12, 8 poles (m) Pin 1,2: NC 1; Pin 3,4: NC 2 Pin 5 (X1/+), Pin 6 (X2/-): LED; Pin 7,8: n.c. AgNi, gold-plated 5µm Contact material: Electrical life: 50.000 at rated load Positive opening: acc. to EN 60947-5-1, appendix K Test voltage M12 plug: 1.5 kV</p> <p>Electrical Data Operating voltage: 1V... 36V Operating current: 1mA ... 250mA LED lighting: max. 30 V AC/DC, type 4 mA (at 24 V DC)</p> <p>equipped: Yes Contact equipment: 2NC, positive opening contact colour: dark-grey bottom part/yellow cover</p>	<p>MBM128 FRVKLOO</p>

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Equipped Insulated Plastic Enclosures

ready-to-connect, M12 connection

Illustration

Dimensions

Description

Type

#65



minibox with M12 cable entry (8 poles)
incl. E-stop and pushbutton



Lenses and nameplates to be ordered separately.

Operating temperature: -25 °C...+70 °C

Storage temperature: -25°C...+85 °C

Switch type: emergency stop:
2 NC (positive opening), 1 NO
Pushbutton: 1 NO

Fixation: with fastening clip on the rear

Connection: M12 8 poles (m)
Pos.1 (emergency stop)
NC 1, pin 1-2; NC 2, pin 3-4;
NO, pin 5-6
Pos.2: (pushbutton)
NO, Pin 7-8

Contact material: AgNi, gold-plated 5µm

Electr./mech. life: emergency stop:
50.000 at rated load (ambient temp. = 20°C)

pushbutton: 1 million (ambient temp. = 20°C)

Positive opening: opening contact acc. to EN 60947-5-1,
appendix K

Test voltage M12 plug: 1.5kV

Electrical Data

Operating voltage: 1V... 36V

Operating current: 1mA ... 250mA

equipped: Yes

colour: dark-grey bottom part/yellow cover

MBM128_NOOIT

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Equipped Insulated Plastic Enclosures
ready-to-connect, M12 connection

Illustration	Dimensions	Description	Type
   		<p>minibox with 2 pushbuttons and M12 cable entry (8 poles)</p>  <p>Lenses and nameplates to be ordered separately.</p> <p>Operating temperature: -25 °C...+70 °C Storage temperature: -25°C...+85 °C Pushbutton type: 1 NO and 1 NC (positive opening) Fixation: with fastening clip on the rear Connection: M12 8 poles (m) Pos.1 (pushbutton) NO, pin 1-2; lamp, pin 3-4; Pos.2 (pushbutton); NC, pin 5-6; lamp, pin 7-8</p> <p>Contact material: AgNi, gold-plated 5µm Electrical life: 1 million at rated load (ambient temp. = 20°C) Mechanical life: 1 million operations (ambient temp. = 20°C) Positive opening: NC contact acc. to EN 60947-5-1, appendix K Test voltage M12 plug: 1.5 kV</p> <p>Electrical Data Operating voltage: 1V... 36V Operating current: 1mA ... 250mA LED illumination: max. 30 V AC/DC, typ. 4 mA (at 24 V DC)</p> <p>equipped Yes colour dark-grey bottom part/yellow cover dark-grey bottom part/light-grey cover</p>	
			<p>MBM128_TLITLO MBM128_GR_TLITLO</p>

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Equipped Insulated Plastic Enclosures

ready-to-connect, M12 connection

Illustration

Dimensions

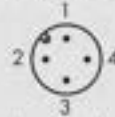
Description

Type

#65



minibox with 2 pushbuttons and M12 cable entry (4 poles)



Lenses and nameplates to be ordered separately.

Operating temperature:	-25 °C...+70 °C
Storage temperature:	-25°C...+85 °C
Pushbutton type:	1 NO and 1 NC (positive opening)
Fixation:	with rear mounting clip
Connection:	M12 4 poles (m)
	Pos. 1 (pushbutton 1) NO, pin 1-2
	Pos. 2 (pushbutton 2) NC, pin 3-4
Contact material:	AgNi
Mechanical life:	1 million (ambient temp. = 20°C)
Positive opening:	NC contact, acc. to EN 60947-5-1, appendix K
Test voltage M12 plug:	2.0kV

Electrical Data acc. to IEC/EN 60947-5-1 (VDE 0660 sect. 200)

	alternating current	direct current
Utilisation category:	AC15	DC13
Rated operating voltage U_e :	240V	250V
Rated operating current I_e :	1.5A	0.27A
equipped	Yes	
colour	dark-grey bottom part/yellow cover	

MBM124_TITO

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Equipped Insulated Plastic Enclosures
ready-to-connect, M12 connection

Illustration	Dimensions	Description	Type																		
   		<p>minibox with pushbutton and M12 cable entry (4 poles)</p>  <p>Lenses and nameplates to be ordered separately.</p> <p>Operating temperature: -25 °C...+70 °C Storage temperature: -25°C...+85 °C Pushbutton type: 1 NO Degree of protection: IP65 Fixation: with rear mounting clip Connection: M12 4 poles (m) NO, Pin 1-2 lamp, Pin 3 (X1 +) - Pin 4 (X2 -)</p> <p>Contact material: AgNi Mechanical life: 1 m (ambient temp. 20°C) Bouncing time: < 10ms Test voltage M12 plug: 2.0 kV</p> <p>Electrical Data - Contact Element acc. to IEC/EN 60947-5-1 [VDE 0660 sect. 200]</p> <table border="1"> <thead> <tr> <th></th> <th>alternating current</th> <th>direct current</th> </tr> </thead> <tbody> <tr> <td>Utilisation category:</td> <td>AC15</td> <td>DC13</td> </tr> <tr> <td>Rated operating voltage Ue:</td> <td>240V / 120V</td> <td>250V / 125V / 60V / 24V</td> </tr> <tr> <td>Rated operating current Ie:</td> <td>1.5A / 3A 0.27A</td> <td>0.55A / 1A / 2A</td> </tr> <tr> <td>Breaking capacity:</td> <td>10Ie</td> <td>1.1Ie</td> </tr> <tr> <td>Continuous thermal current:</td> <td>4A (40°C)</td> <td>2.5A</td> </tr> </tbody> </table> <p>Electrical Data - diode LED: max. 30 V AC/DC, typ. 14 mA (at 24 V DC)</p> <p>equipped Yes colour dark-grey bottom part/light-grey cover</p> <p style="text-align: right;">MBM124_GR_TU</p>		alternating current	direct current	Utilisation category:	AC15	DC13	Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V	Rated operating current Ie:	1.5A / 3A 0.27A	0.55A / 1A / 2A	Breaking capacity:	10Ie	1.1Ie	Continuous thermal current:	4A (40°C)	2.5A	
	alternating current	direct current																			
Utilisation category:	AC15	DC13																			
Rated operating voltage Ue:	240V / 120V	250V / 125V / 60V / 24V																			
Rated operating current Ie:	1.5A / 3A 0.27A	0.55A / 1A / 2A																			
Breaking capacity:	10Ie	1.1Ie																			
Continuous thermal current:	4A (40°C)	2.5A																			

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Insulated Plastic Enclosures

The degree of protection depends on the type of control units that are mounted, other enclosure colours on request

Illustration

Dimensions

Description

Type

#65



*Dimensions for fastening holes

Insulated Plastic Enclosure, 1 mounting hole
made of polyamide 6, empty or equipped, with front plate (engraving, printing or laser marking on request)

mounting holes 0
equipped No
weight 165 g
material polyamide 6
cable entry M20x1.5
mounting depth 69 mm
Panel cut-out without mounting hole
colour dark-grey bottom part/light-grey cover
colour dark-grey bottom part/yellow cover

DIRL1V
DIRL1VGB

mounting holes 1
Panel cut-out \varnothing 16.2 mm
colour dark-grey bottom part/light-grey cover
colour dark-grey bottom part/yellow cover

DIRL1V-R16
DIRL1VGB-R16

mounting holes 1
Panel cut-out \varnothing 22.3 mm
colour dark-grey bottom part/light-grey cover
colour dark-grey bottom part/yellow cover

DIRL1V-R22
DIRL1VGB-R22

mounting holes 1
Panel cut-out \varnothing 30.5 mm
colour dark-grey bottom part/light-grey cover
colour dark-grey bottom part/yellow cover

DIRL1VDGHHG-R30
DIRL1VDGGB-R30

mounting holes 1
Panel cut-out 23 x 23 mm
colour dark-grey bottom part/light-grey cover
colour dark-grey bottom part/yellow cover

DIRL1V-Q23
DIRL1VGB-Q23

mounting holes 1
Panel cut-out 24 x 24 mm
colour dark-grey bottom part/light-grey cover
colour dark-grey bottom part/yellow cover

DIRL1V-Q24
DIRL1VGB-Q24

mounting holes 1
Panel cut-out 26 x 26 mm
colour dark-grey bottom part/light-grey cover
colour dark-grey bottom part/yellow cover

DIRL1V-Q26
DIRL1VGB-Q26

Asst. IT

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Push Buttons

Light Switches

Type Info

Insulated Plastic Enclosures

The degree of protection depends on the type of control units that are mounted, other enclosure colours on request

Illustration	Dimensions	Description	Type	
  <p>*Dimensions for fastening holes</p>		<p>Insulated Plastic Enclosure, 2 mounting holes made of polyamide 6, empty or equipped, with front plate (engraving, printing or laser marking on request)</p> <p>equipped No weight 270 g material polyamide 6 cable entry M20x1.5 mounting depth 69 mm Panel cut-out without mounting hole colour dark-grey bottom part/light-grey cover</p>	DIRL2-3V	
		<p>mounting holes 2 Panel cut-out \varnothing 16.2 mm colour dark-grey bottom part/light-grey cover</p>	DIRL2V-R16	
		<p>mounting holes 2 Panel cut-out \varnothing 22.3 mm colour dark-grey bottom part/light-grey cover</p>	DIRL2V-R22	
		<p>mounting holes 2 Panel cut-out \varnothing 30.5 mm colour dark-grey bottom part/light-grey cover</p>	DIRL3VDGHH-2R30	
		<p>mounting holes 2 Panel cut-out 23 x 23 mm colour dark-grey bottom part/light-grey cover</p>	DIRL2V-Q23	
		<p>mounting holes 2 Panel cut-out 24 x 24 mm colour dark-grey bottom part/light-grey cover</p>	DIRL2V-Q24	
		<p>mounting holes 2 Panel cut-out 26 x 26 mm colour dark-grey bottom part/light-grey cover</p>	DIRL2V-Q26	

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Type Indicators

Insulated Plastic Enclosures

The degree of protection depends on the type of control units that are mounted, other enclosure colours on request

Illustration

Dimensions

Description

Type

#65



Insulated Plastic Enclosure, 3 mounting holes

made of polyamide 6, empty or equipped, with front plate (engraving, printing or laser marking on request)

mounting holes 3
 equipped No
 weight 270 g
 material PA6
 cable entry M20x1.5
 mounting depth 69 mm
 Panel cut-out \varnothing 16.2 mm
 colour dark-grey bottom part/light-grey cover

DIRL3V-R16



mounting holes 3
 Panel cut-out \varnothing 22.3 mm
 colour dark-grey bottom part/light-grey cover

DIRL3V-R22

mounting holes 3
 Panel cut-out 23 x 23 mm
 colour dark-grey bottom part/light-grey cover

DIRL3V-Q23

*Dimensions for fastening holes

mounting holes 3
 Panel cut-out 24 x 24 mm
 colour dark-grey bottom part/light-grey cover

DIRL3V-Q24

mounting holes 3
 Panel cut-out 26 x 26 mm
 colour dark-grey bottom part/light-grey cover

DIRL3V-Q26



Insulated Plastic Enclosures

The degree of protection depends on the type of control units that are mounted, other enclosure colours on request

Illustration	Dimensions	Description	Type
  <p>*Dimensions for fastening holes</p>		Insulated Plastic Enclosure, 3 resp. 4 mounting holes made of polyamide 6, empty or equipped, with front plate (engraving, printing or laser marking on request)	
		equipped No weight 310 g material polyamide 6 cable entry M25x1.5 mounting depth 69 mm Panel cut-out without mounting hole colour dark-grey bottom part/light-grey cover	DIRL4V
		mounting holes 4 Panel cut-out Ø 16.2 mm colour dark-grey bottom part/light-grey cover	DIRL4V-R16
		mounting holes 4 Panel cut-out Ø 22.3 mm colour dark-grey bottom part/light-grey cover	DIRL4V-R22
		mounting holes 3 Panel cut-out Ø 30.5 mm colour dark-grey bottom part/light-grey cover	DIRL4VDGHG-3R30
		mounting holes 4 Panel cut-out 23 x 23 mm colour dark-grey bottom part/light-grey cover	DIRL4V-Q23
		mounting holes 4 Panel cut-out 24 x 24 mm colour dark-grey bottom part/light-grey cover	DIRL4V-Q24
	mounting holes 4 Panel cut-out 26 x 26 mm colour dark-grey bottom part/light-grey cover	DIRL4V-Q26	

		High Insulated Plastic Enclosure, 4 mounting holes same as DIRL4V-R22 but with high lid, accepting 4 control units, each with two contact levels	
		mounting holes 4 material polyamide 6 cable entry M25x1.5 mounting depth 89 mm Panel cut-out Ø 22.3 mm colour dark-grey bottom part/light-grey cover	DIRL4V-R22-H

Equipped Insulated Plastic Enclosures

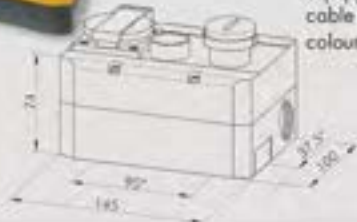
Illustration

Dimensions

Description

Type

IP54



Elevator Safety Control Station

Insulated plastic enclosure made of polyamide 6, printed „STOP“, including 1 emergency-stop pushbutton with yellow arrow marking which clearly defines the switching position, 1 illuminated pushbutton for the hoistway lighting and a Schuko socket

equipped
cable entry
colour

Yes
M25x1.5
dark-grey bottom part/yellow cover

DIR/GRU-I

IP54



Elevator Safety Control Station

Insulated plastic enclosure made of polyamide 6, including 1 illuminated pushbutton for the hoistway lighting, 1 alarm pushbutton and a Schuko socket

equipped
cable entry
colour

Yes
M25x1.5
dark-grey bottom part/light-grey cover

DIR/GRU-II

IP54



Elevator Safety Control Station

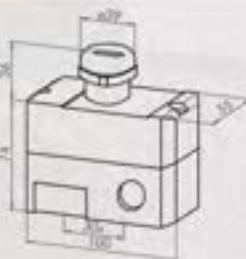
Insulated plastic enclosure made of polyamide 6, printed „STOP“, including 1 emergency-stop pushbutton with yellow arrow marking which clearly defines the switching position, 1 illuminated pushbutton for the hoistway lighting, 1 alarm pushbutton and a Schuko socket

equipped
cable entry
colour

Yes
M25x1.5
dark-grey bottom part/yellow cover

DIR/GRU-III

IP45



Emergency-stop Station for the elevator cage roof




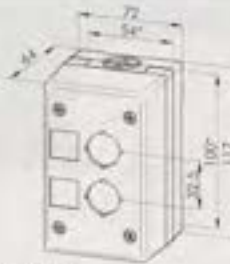

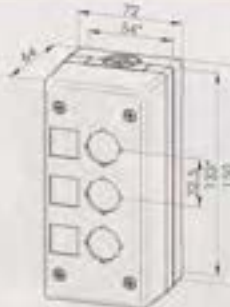

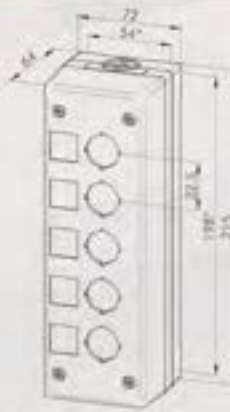
Insulated plastic enclosure marked STOP. The yellow arrow on the E-stop clearly defines the switching position. The standard version includes 1 NC (screw connection). Acc. to the EN81 regulations new lifts have to be equipped with an emergency-stop switch with switching position indicator.

equipped
cable entry
Panel cut-out
colour

Yes
M20x1.5
Ø 22.3 mm
dark-grey bottom part/yellow cover

DIRB1GB_05

Insulated Plastic Enclosures

Illustration	Dimensions	Description	Type
		<p>Insulated Plastic Enclosure Fastening holes: \varnothing 5.2mm mounting holes equipped: 1 No weight: 165 g material: ABS cable entry: with PVC cable entry on the top: 22.6 mm dia. break-through wall at the bottom: 22.6 mm dia.</p>	<p>IRL1M IRL1M_GELB</p>
<p>* Fastening hole dimensions</p>		<p>mounting depth: 52 mm Panel cut-out: \varnothing 22.3 mm colour: light-grey colour: yellow</p>	
		<p>Insulated Plastic Enclosure Fastening holes: \varnothing 5.2mm mounting holes equipped: 2 No weight: 195 g material: ABS cable entry: with PVC cable entry on the top: 22.6 mm dia. break-through wall at the bottom: 22.6 mm dia.</p>	<p>IRL2M</p>
<p>* Fastening hole dimensions</p>		<p>mounting depth: 52 mm Panel cut-out: \varnothing 22.3 mm colour: light-grey</p>	
		<p>Insulated Plastic Enclosure Fastening holes: \varnothing 5.2mm mounting holes equipped: 3 No weight: 230 g material: ABS cable entry: with PVC cable entry on the top: 22.6 mm dia. break-through wall at the bottom: 22.6 mm dia.</p>	<p>IRL3M</p>
<p>* Fastening hole dimensions</p>		<p>mounting depth: 52 mm Panel cut-out: \varnothing 22.3 mm colour: light-grey</p>	
		<p>Insulated Plastic Enclosure Fastening holes: \varnothing 5.2mm mounting holes equipped: 5 No weight: 300 g material: ABS cable entry: with PVC cable entry on the top: 22.6 mm dia. break-through wall at the bottom: 22.6 mm dia.</p>	<p>IRL5M</p>
<p>* Fastening hole dimensions</p>		<p>mounting depth: 52 mm Panel cut-out: \varnothing 22.3 mm colour: light-grey</p>	

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General Data

Type Reference:	FT...
Description:	Contact Block for base-plate mounting, with positive opening contact
Approvals:	CE
Protection class:	II (protective insulation)
Operation travel:	6 mm
Connection type:	screw connection 2x2.5mm ²
Contact material:	AgNi
Max. storage temperature:	-50°C ... 80°C
Max. operating temperature:	-30°C ... 70°C
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m at 250 V/10(6) A 250,000 at 250 V/16(10) A 500,000 at 250 V/5 A (AC15)
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA (under laboratory conditions)
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

Utilisation category:	alternate current	direct current
Rated insulation voltage Ui:	AC15	DC13
Rated operating voltage Ue:	400V	400V
Rated operating current Ie:	250V / 400V	400V / 250V / 125V / 60V / 24V
Breaking capacity:	5A / 3A	0,12A / 0,2A / 0,4A / 1A / 2A
Continuous thermal current:	10Ie	1,1Ie
	10A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage Ue:	250 V- / 400 V-
Rated current Ie:	10(6) A / 6(3) A

Note



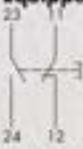


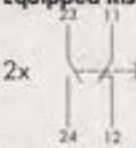


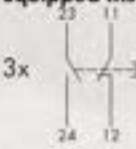
Note for emergency-stop contact blocks:

In case of inverters of the Za form (in terms of EN 60947-5-1), only the NC contact must be used for the remotely controlled safety circuit.

Only for IRF enclosures



Equipped Insulated Plastic Enclosures

Illustration	Dimensions	Description	Type
		<p>Equipped Insulated Plastic Enclosure</p>  <p>Technical data of the appropriate contact blocks see previous page Fastening holes: Ø 4.2mm mounting holes: 1 equipped: Yes weight: 115 g material: ABS cable entry: on the top/bottom: 21 mm dia. on the side/back: 21 mm dia./19 mm dia.</p> <p>Contact equipment: 1NC + 1NO Switching function: momentary action colour: light-grey</p>	IRF1
* Fastening hole dimensions			
		<p>Equipped Insulated Plastic Enclosure</p>  <p>2x</p> <p>Technical data of the appropriate contact blocks see previous page Fastening holes: Ø 4.2mm mounting holes: 2 equipped: Yes weight: 171 g material: ABS cable entry: on the top/bottom: 21 mm dia. on the side/back: 21 mm dia./19 mm dia.</p> <p>Contact equipment: 1NC + 1NO [per switching point] Switching function: momentary action colour: light-grey</p>	IRF2
* Fastening hole dimensions			
		<p>Equipped Insulated Plastic Enclosure</p>  <p>3x</p> <p>Technical data of the appropriate contact blocks see previous page Fastening holes: Ø 4.2mm mounting holes: 3 equipped: Yes weight: 217 g material: PA66 cable entry: on the top/bottom: 21 mm dia. on the side/back: 21 mm dia./19 mm dia.</p> <p>Contact equipment: 1NC + 1NO [per switching point] Switching function: momentary action colour: light-grey</p>	IRF3
* Fastening hole dimensions			

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Equipped Insulated Plastic Enclosures

Illustration

Dimensions

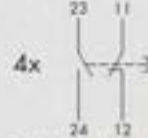
Description

Type

IP65



Equipped Insulated Plastic Enclosure



4x Technical data of the appropriate contact blocks see previous page

Fastening holes	Ø 4,2mm
mounting holes	4
equipped	Yes
weight	269 g
material	PA6
cable entry	on the top/bottom: 21 mm dia. on the side/back: 21 mm dia./19 mm dia.
Contact equipment	1NC + 1NO (per switching point)
Switching function	momentary action
colour	light-grey

* Fastening hole dimensions

IRF4



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Terminal Blocks with Screw Connections

Briefing

Schlegel terminal blocks are standard terminals for industrial application, particularly suitable for electric machine control systems, switchgear and controlgear, distribution and measuring systems, as well as for the lift and equipment construction. The terminals are suitable for high and low voltage for DC and AC. They are featuring short assembly times and small dimensions. With a complete documentation of the production process acc. to

ISO 9001-2008 Schlegel ensures the highest quality standards. Precise mould construction is the prerequisite for the production of high-quality terminals. Therefore, the necessary production tools have been manufactured in-house for many years in order to retain control on one of the most important quality criteria.

Conductivity

To ensure a tight contact between conductor and metal (clamping) body with the lowest possible contact resistance, several factors are playing an important role. That includes the use of solid, drawn or bent metal (clamping) bodies and corrosion-proof materials, such as e.g. nickel-plated copper alloys, and soft surface coatings as e.g. tin in which the conductors can "embed". Even the wire protection bracket, preventing the wire from screw damage, provides a high contact pressure. The relatively large conductor cross-sections of the terminals reduce voltage drop to a minimum.

Schlegel also uses zinc-plated steel for the foot of the earth terminal where a safe contact to the support rail (= earthing) is extremely important.

On screw-type terminals the quality of the screws dictates the quality

of the terminal connection. Even when applying high tightening torques, the screws must not break nor melt with the female thread. For this reason, Schlegel terminal blocks are using rolled steel screws with a good galvanic surface coating with passivated zinc. The structure of rolled screws is compressed and strengthened, contrary to turned screws which have damaged fibres. The combination of steel screws and female threads made of copper alloy or steel successfully avoids melting, as can happen with brass combinations.

Insulation

Insulating casings (insulating bodies) ensure the insulation from the surrounding area and the adjacent terminals. They must comply with the national and international specifications with regard to the creepage distance (transmission along the surface) and clearance distance (transmission through the air). This is achieved both by using high-quality polyamide 6.6 and by the specific construction of Schlegel terminal blocks (cavities in the casings extending the creepage distance).

The variety of approvals which Schlegel terminal blocks have obtained worldwide are assured by utilising top-quality raw materials. The exclusive use of such materials is monitored by regular follow-up inspections carried through by the approval authorities.

The higher the quality of the insulating material, the smaller can be the creepage distance. As a matter of fact, using high-quality plastics exerts direct influence on the external dimensions of a terminal block: The better the material, the smaller the terminal!

Installation

Considering the respective connection diameter, Schlegel screw-type terminals are the smallest terminals in the market with regard to their height, length (across the support rail) and width (in line with the

rail). At the same time they have a relatively large clamping space compared to competitors' products.

Wire Insertion

For screw-type terminals the conductor must be stripped before wiring. The optimal insulation stripping length must be observed as defined in the description of the relative terminals.

Basically, the Schlegel terminal blocks securely accept all wire types (solid, multiple and fine-stranded) even without wire end ferrules. Soldering of fine-stranded conductors is prohibited, because the tin-solder tends to creep.

The grading system of the available rated cross-sections is standardised (1.5/2.5/4/6/... mm²) and defined in a way to enable the trouble-free connection of conductors with ferrules or solid conductors to the cross-section next in size without having to use the next larger terminal size (this does not apply to multiple or

fine-stranded conductors!).

The Schlegel product portfolio offers terminals for the most popular rated cross-sections. With the 4mm² screw-type terminal Schlegel offers the cheapest terminal in this most frequently demanded range. Also, it should be pointed out that Schlegel terminals for 4mm² rated cross-section accept conductors down to 0.2mm in diameter.

In case of screw-type terminals with very large rated cross-sections (IK120 and IK240) the conductors are connected using cable lugs. It should be taken care to use wide partition walls between two such terminals sizes in order to insulate the blank cable lugs against each other.

Assembly

The screws of Schlegel terminals are tightened or loosened by means of a slotted-screw driver or a customary hexagonal screwdriver (for the large-sized terminals). The interlocking insulating bodies of the Schlegel terminals facilitate the assembly work. Due to this interlocking feature it is also possible to snap on the terminals as pre-assembled blocks. Another advantage of this interlocking system is the straight alignment of all terminals, even in case of different tractive forces of the wires or a slightly bent support

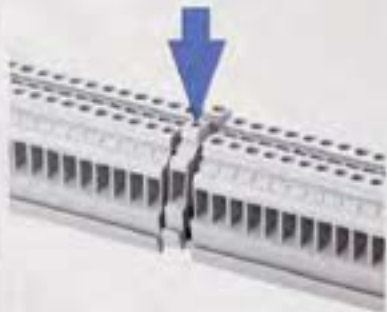
rail. Moreover, once snapped onto the rail, the terminal feet are relieved from stress which prevents material fatigue. However, if individual terminals have to be exchanged, the end clamp bracket must be loosened and the adjacent terminals must be shifted slightly. But this disadvantage takes only effect on the small number of exchanged terminals whereas the specified advantages become effective in general.



1. Slide-fitting of pre-assembled terminal blocks



2. Snap fitting of pre-assembled terminal blocks
Important: Once the terminals are mounted onto the rail, the snap-fit terminal feet are relieved from stress preventing the plastics from material fatigue.



3. Snap or slide fitting of individual terminals



4. Replacement of individual terminals: Once the terminal to be replaced has been set free by slightly shifting the adjacent terminals aside (each by approx. 3mm), it can be easily levered out by applying a screwdriver to the terminal foot.

Mounting on Support Rail N35

Schlegel terminal blocks have feet that simply snap onto the terminal rail from both sides and can be easily levered out with a screwdriver. Also, the terminals can be easily slid on the mounting rail from the side.

Rail-less Mounting

The terminals FK5 (for a rated cross-section of 4mm²) and FK16 (for a rated cross-section of 16mm²) are directly mounted e.g. on a switch cabinet. Since the terminals interlock securely into one another, only every 10th terminal has to be tightened by a screw. Attention should be paid to the fact that the FK5 and FK16 have different interlocking pins. Therefore, they cannot be mixed up when mounted.

PCB-Mounted

The 1.5mm² terminals with screw connection (type ref.: GK13) are directly soldered into a PCB. Two soldering pins keep the terminals in place even when tightening the screw strongly (protection of the solder connections). Moreover, the wire inserts of the terminals face upwards inclining by 30° from the horizontal in order to facilitate wire insertion. The galvanic tin-plating on a nickel diffusion barrier ensures excellent solderability.

Normal I/Os

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"OSK - Original Schlegel Clamping System"

On the screw-type terminals with wire protection bracket the conductors are pressed onto the basis of the conductive clamping body by the lower foot of the wire protection bracket which is fastened by a screw. This system is called the "OSK" system

(Original Schlegel Clamping System), because it is unique in the terminal market. This construction ensures the so-called "Six Securities":



Secure Wire Insertion due to:

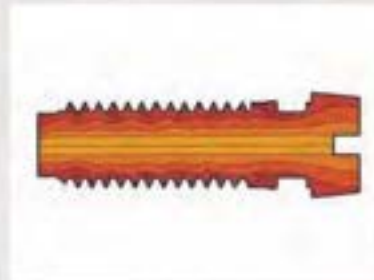
1. insulating walls next to wire insertion opening of the metal body,
2. reliable opening of the clamp when loosening the screws (because wire protection bracket snap-fits below screw head) and
3. limitation of clamping space by the lower arm of the wire protection bracket, thus no slipping of single wires or strands.



Security against screw loosening under vibration by the resilient wire protection bracket that presses against the screw head (this makes the screws captive).



Direct clamping pressure transmission onto the wire at full bearing of the screw and protection of the wire (no damaging or piercing by the screw)



High tightening torque
The Schlegel terminals have rolled screws which, contrary to turned screws, feature a high-compressed structure with unbroken fibres in the thread area. The very high mechanical strength properties are achieved by thread rolling and assure high tightening torques



Security against tilting of the clamp (the solid metal clamping body prevents the connection „cages“ from tilting when using thin wires)



Security against wire loosening thanks to resilient wire protection brackets and elastic deformation properties of the clamping body

Miniature Terminals

The miniature screw-type terminals for 2.5mm² (type ref. HK3) are normal feed-through terminals (same as IK3), which does not fit the

top-hat rail N35 but snaps on its smaller variant N15. Accordingly, they are smaller in dimension, apart from their width.

Terminal Blocks with Flat-Plug Connections

Briefing

Particularly for the automotive industry, Schlegel also offer 4mm² terminals with 2 x 2 flat plug connections for 6.3mm insulating sleeves (type ref. IZZ4).

This connection system features very quick and easy connection of the conductors, keeping them well in place.

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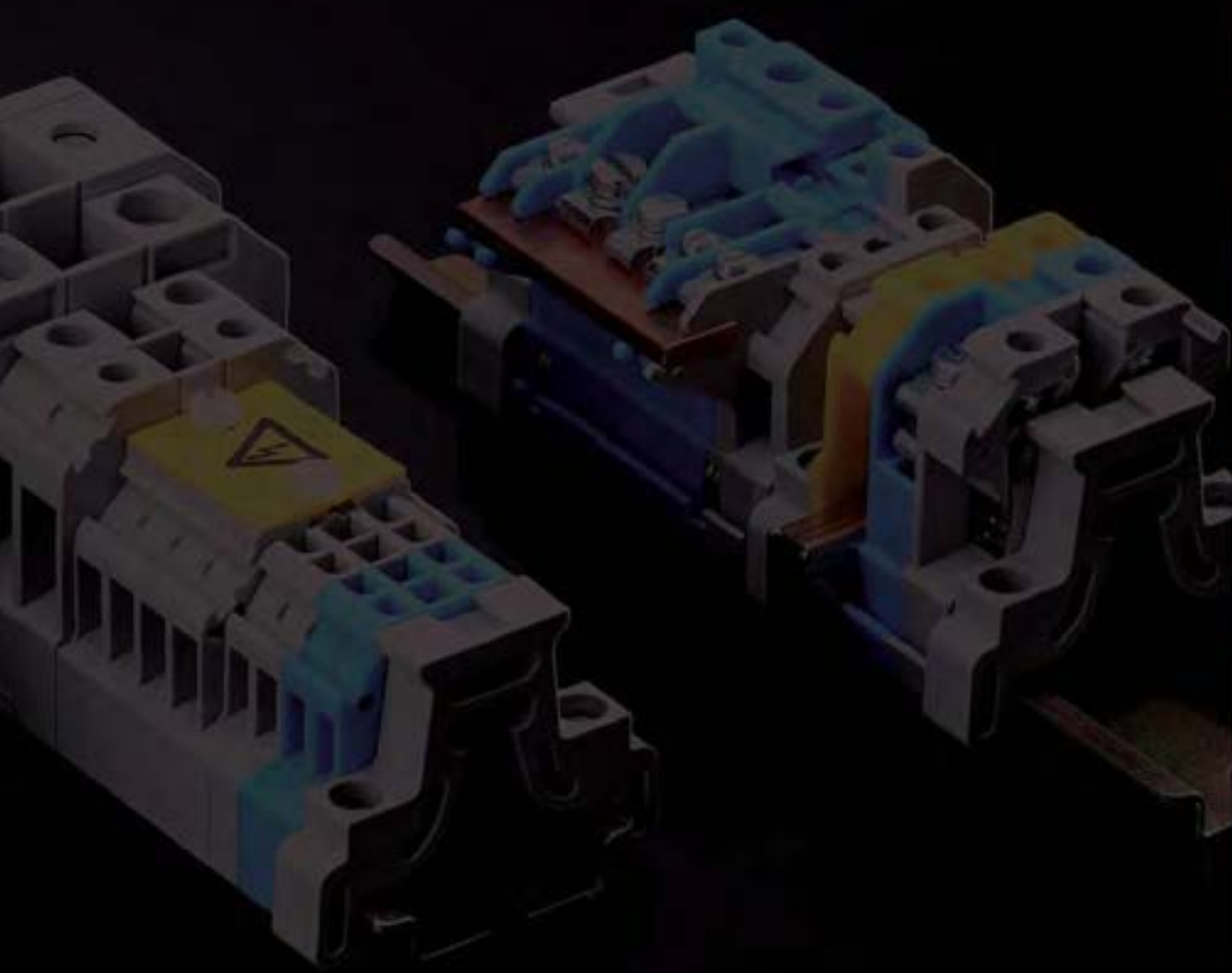
Terminal Blocks

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Terminal Blocks with Spring-Cage Connection

For spring-cage terminals the conductor must be stripped before wiring. The optimal insulation stripping length must be observed as defined in the description of the relative terminals.

The maximum connection space of the IFK spring-cage terminals enables quick wiring of solid and multiple conductors, even with wire end ferrules.

The spring-cage terminal is opened by inserting a screwdriver

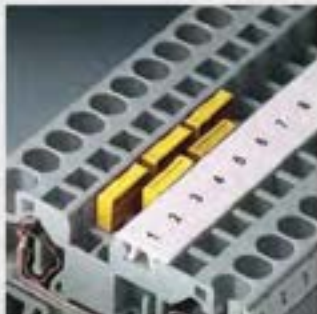
in the appropriate square opening of the clamping body. Then the conductor is inserted in the adjacent round opening. When removing the screwdriver the spring-cage closes and the conductor is clamped. Only one conductor can be wired in the round opening. For that reason, some terminal types are available with two openings per side.



The maximum connection space of the IFK spring-cage terminal blocks enables quick wiring of flexible and rigid conductors, even for nominal conductor sizes with customised wire end ferrules.



The clear and easy-to-read marking in the terminal centre enables time-saving installation. In addition to the large-sized centre marking a side marking is also possible for each terminal.



Chain bridges allow to connect any number of terminal blocks. A staggered insertion of the two-pole bridges enables flexible chain bridging up to the required number of poles.



2- and 10-pole plug-in bridges reduce wiring times considerably, because up to 10 terminals can be bridged at the same time.



Bridging of non-adjacent terminal blocks is possible by breaking off individual teeth from the standard bridge. Thus allowing two potentials in parallel. The bridges offer marking options on their up side.

Terminal Blocks with IDC Fast Connection System (Insulation Displacement)

Briefing

For screw-type and spring-cage terminals the conductor must be stripped before wiring. This is not necessary for terminals with IDC fast connection system, as its name implies. On this system the conductive contact is established by insulation piercing or displacement inside the terminals. Therefore, wire end ferrules or special tools are not necessary to connect the conductors.

For all kinds of IDC technology applies to always use the next larger sized terminal referred to the conductor cross-section because of the insulation (e.g. use 2.5 mm² terminal for 1.5mm² conductor).



Cut - Connect - Ready!

Time savings of 60 % and more compared to other connection systems.

Stripping and splicing is no longer necessary thanks to the insulation displacement connection system (IDC technology). All that is needed is to cut the conductors of the correct length and they can then be contacted within seconds.

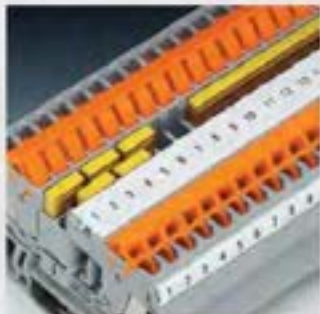
IDC Shift-Clip Connection

On the ISK series the conductor connection of 0.25 to 2.5 mm² is made by the patented insulation displacement contact (IDC cutting technology). The conductor is inserted in a shift-clip connection. After closing the shift-clip closure with a screwdriver, two convergent metal edges of the clamping body cut through the conductor insulation to establish a conductive contact. For disconnection and removal of the conductor the shift-clip closure must be opened. When installing these terminals, it should be noted that they are not equipped with interlocking pins. They also differ from the Schlegel screw-type terminal blocks with regard to their dimensions.



Powerful IDC contact

0.25 to 2.5 mm² conductors are connected using the patented insulation displacement contact (IDC). High-grade special alloys and snap-fittings of the switching statuses always ensure a secure electrical connection. Large-surface, spring-loaded contact points guarantee a current carrying capacity of 24 A.



A standardised bridging system enables efficient and user-friendly connection of several terminal blocks to one bridge. Two- and ten-pole bridges are available which help to reduce wiring times considerably.



2- and 10-pole plug-in bridges reduce wiring expenditure considerably, because up to 10 terminal blocks can be bridged at the same time.



A clear and easy-to-read marking in the terminal centre is a prerequisite for time-saving installation. Additionally to the large-sized centre marking, a side marking is also possible for each terminal.

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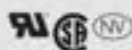
Terminal Blocks

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Quick-assembly Terminal Blocks

rated cross section	2.5 mm²
solid	0.5 ... 4 mm ²
multiple wire	0.5 ... 2.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	5.1 mm
Connection type	screw connection, slotted screw
tightening torque	0.5 Nm
rated voltage	750 V
rated current	25 A
operating temperature	-30°C ... 40°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V2
pollution degree	3
overvoltage category	III
material group	II
rated impulse voltage	
stripping length	8 mm
data acc. to UL1059	
tightening torque	5 lb in
connection range (solid wire)	22-12 AWG
rated voltage	600 V
rated current	20 A
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	18-12 AWG
rated voltage	600 V
rated current	25 A
identification labels	HSKM50...
end sections	IW2, IW4
jumpers	VB2-12, VB2-2
type	light-grey IK3 blue IK3BL



Quick-assembly Terminal Blocks

rated cross section	4 mm²
solid	0.5 ... 6 mm ²
multiple wire	0.5 ... 4 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	6 mm
Connection type	screw connection, slotted screw
tightening torque	0.8 Nm
rated voltage	750 V
rated current	32 A
operating temperature	-30°C ... 40°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V2
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	
stripping length	9 mm
data acc. to UL1059	
tightening torque	9...13 lb in
connection range (solid wire)	10-22 AWG
rated voltage	600 V
rated current	30 A
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	20-10 AWG
rated voltage	600 V
rated current	40 A
identification labels	HSKM60...
end sections	IW16, IW4
jumpers	VB4-12, VB4-2
type	light-grey IK5 blue IK5BL



Quick-assembly Terminal Blocks

10 mm²

0.5 ... 10 mm²

0.5 ... 10 mm²

Top hat rail N35, EN60715 TH35

8 mm

screw connection, slotted screw

0.8 Nm

830V/1000V (-> Note!)

57 A

-30°C ... 40°C at 57A)

V2

3

III

I

11 mm

13.3 lb in

8-22 AWG

600 V

50 A

24-8 AWG

600 V

50 A

HSKM80...

IW16, IW50

V86-12, V86-2

light-grey

IK10

blue

IK10BL

1000 V max. when using a partition wall IW16 between the terminals



Quick-assembly Terminal Blocks

16 mm²

0.5 ... 16 mm²

0.5 ... 16 mm²

Top hat rail N35, EN60715 TH35

10 mm

screw connection, slotted screw

1.2 Nm

1000 V

76 A

-30°C ... 40°C

V2

3

III

I

11 mm

18 lb in

6-22 AWG

600 V

65 A

2 Nm

20-6 AWG

600 V

68 A

HSKM100...

IW16, IW50

VB16-12, VB16-2

light-grey

IK16

blue

IK16BL



Quick-assembly Terminal Blocks

25 mm²

10 ... 25 mm²

10 ... 25 mm²

Top hat rail N35, EN60715 TH35

12 mm

screw connection, slotted screw

2.5 Nm

1000 V

101 A

-30°C ... 40°C

V2

3

III

I

16 mm

27 lb in

4-8 AWG Str

600 V

85 A

10-4 AWG

600 V

70 A

HSKM60...

IW50, IW70

VB25, VB35

light-grey

IK25

blue

IK25BL

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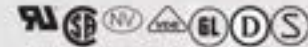
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Quick-assembly Terminal Blocks

rated cross section	50 mm²
solid	2x16/1x16 ... 50 mm ²
multiple wire	2x16/1x16 ... 50 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	16 mm
Connection type	screw connection, hexagon socket/slotted screw
tightening torque	5.6 Nm / 4 Nm
rated voltage	1000 V
rated current	150 A
operating temperature	-30°C ... 40°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V2
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	
stripping length	16 mm
data acc. to UL1059	
tightening torque	5,6 Nm
connection range (solid wire)	1/0-6 AWG
rated voltage	600 V
rated current	150 A
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	
identification labels	HSKM60...
end sections	IW51, IW70
jumpers	VB35, VBU35
type	light-grey IK51 blue IK51BL



Quick-assembly Terminal Blocks

rated cross section	70 mm²
solid	25 ... 70 mm ²
multiple wire	25 ... 70 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	23 mm
Connection type	screw connection, hexagon nut
tightening torque	10 Nm
rated voltage	1000 V
rated current	192 A
operating temperature	-30°C ... 40°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V2
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	
stripping length	26 mm
data acc. to UL1059	
tightening torque	123 Lb in
connection range (solid wire)	4/0-2 AWG
rated voltage	600 V
rated current	250 A
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	20 Nm
connection range (solid wire)	2-0000 AWG
rated voltage	600 V
rated current	200 A
identification labels	HSKM60...
end sections	IW70
jumpers	VB70, VBU35
type	light-grey IK70



Separator Terminals

rated cross section	4 mm²
solid	0.5 ... 4 mm ²
multiple wire	0.5 ... 4 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	6 mm
Connection type	screw connection, slotted screw
tightening torque	0.8 Nm
rated voltage	500 V
rated current	16 A
operating temperature	-30°C ... 40°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V2
pollution degree	3
overvoltage category	III
material group	II
rated impulse voltage	
stripping length	7 mm
data acc. to UL1059	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	22-12 AWG
rated voltage	300 V
rated current	20 A
identification labels	HSKM60...
end sections	IW16, IW4
jumpers	
type	light-grey IKT4
	red IKT4RT
	blue IKT4BL
	Separator terminal without disconnecting plug



Separator Terminals

rated cross section	4 mm²
solid	0.5 ... 4 mm ²
multiple wire	0.5 ... 4 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	6 mm
Connection type	screw connection, slotted screw
tightening torque	0.8 Nm
rated voltage	500 V
rated current	16 A
operating temperature	-30°C ... 40°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V2
pollution degree	3
overvoltage category	III
material group	II
rated impulse voltage	
stripping length	7 mm
data acc. to UL1059	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	22-12 AWG
rated voltage	300 V
rated current	20 A
identification labels	HSKM60...
end sections	IW16, IW4
jumpers	
type	light-grey IKT54
	Separator terminal + disconnecting plug (captive)



	Neutral Wire Separator Terminals	PE/N - Combined Three-wire Terminals
rated cross section	16 mm²	4 mm²
solid	0.5 ... 16 mm ²	0.5 ... 6 mm ²
multiple wire	0.5 ... 16 mm ²	0.5 ... 4 mm ²
mounting method	Top hat rail N35, EN60715 TH35	Top hat rail N35, EN60715 TH35
terminal width	10 mm	12 mm
Connection type	screw connection, slotted screw	screw connection, slotted screw
tightening torque	1.2 Nm	0.5 Nm
rated voltage	500 V	500 V
rated current	76 A	32 A
operating temperature	-30°C ... 40°C	-30°C ... 40°C
data acc. to IEC 60947-7-1		
flammability rating acc. to UL94	V2	V2
pollution degree	3	3
overvoltage category	III	III
material group	II	II
rated impulse voltage		
stripping length	10 mm	Earth connection terminal 10mm, separator terminal 7mm, feed-through terminal 9mm
data acc. to UL1059		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
data acc. to CSA C22.2 No 158-1987, ECN 5488		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
identification labels	HSKM100...	HSKM50...
end sections	IWTR4	IW2
jumpers		
type	blue IKTR16	blue/light-grey IKTRED

Combined three-wire terminal for the neutral, for the phase and for the PE conductor (with green/yellow marking)



	Distribution Terminals	Distribution Terminals
rated cross section	4 mm²	4 mm²
solid	0.5 ... 6 mm ²	0.5 ... 6 mm ²
multiple wire	0.5 ... 4 mm ²	0.5 ... 4 mm ²
mounting method	Top hat rail N35, EN60715 TH35	Top hat rail N35, EN60715 TH35
terminal width	6 mm	6 mm
Connection type	screw connection, slotted screw	screw connection, slotted screw
tightening torque	0.8 Nm	0.8 Nm
rated voltage	380 V	380 V
rated current	32 A	32 A
operating temperature	-30°C ... 40°C	-30°C ... 40°C
data acc. to IEC 60947-7-1		
flammability rating acc. to UL94	V2	V2
pollution degree	3	3
overvoltage category	III	III
material group	II	II
rated impulse voltage		
stripping length	Earth connection terminal 10 mm, neutral wire 9 mm, feed-through terminal 7 mm	9 / 7 mm
data acc. to UL1059		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
data acc. to CSA C22.2 No 158-1987, ECN 5488		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
identification labels	HSKM60...	HSKM60...
end sections	IWEPTR	IWEPTR
jumpers	VB4-12, VB4-2	VB4-12, VB4-2
type	light-grey IKEPN	light-grey IKPP
	PE conductor on support rail, continuous neutral wire	2-pole feed-through terminal

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rated cross section

solid
multiple wire
mounting method
terminal width

Fuse Terminals

4 mm²
0.5 ... 6 mm²
0.5 ... 4 mm²
Top hat rail N35, EN60715 TH35
8.1 mm



Fuse Terminals

6 mm²
0.5 ... 6 mm²
0.5 ... 6 mm²
Top hat rail N35, EN60715 TH35
16 mm

Connection type

screw connection, slotted screw

screw connection, slotted screw

tightening torque

0.8 Nm

0.8 Nm

rated voltage

20 A max.

850 V

rated current

-30°C ... 40°C

13.5 A/20 A max. (compound/separate arrangement)

operating temperature

-30°C ... 55°C

data acc. to IEC 60947-7-1

flammability rating acc. to UL94

V2

V0

pollution degree

3

3

overvoltage category

III

III

material group

II

I

rated impulse voltage

stripping length

7 mm

9 mm

data acc. to UL1059

tightening torque

connection range (solid wire)

rated voltage

rated current

8-22 AWG

600 V

20 A

data acc. to CSA C22.2 No 158-1987, ECN 5488

tightening torque

connection range (solid wire)

rated voltage

rated current

identification labels

HSKM80...

end sections

jumpers

KVS10-B

type

light-grey

IKFS15

light-grey

IKS110

red

IKS110RT

for 10,3x38 mm fuses
incl. fuseholder but without cartridge fuses
(please order separately)



Earth Connection Terminals

4 mm²
0.5 ... 4 mm ²
0.5 ... 4 mm ²
Top hat rail N35, EN60715 TH35
7.5 mm
screw connection, slotted screw
0.5 Nm

-30°C ... 40°C

V2

3

III

9 mm

8 lb In
10-22 AWG

HSKM80...

yellow/green **IKE4**

Please follow the instructions about the electrical short-term withstand current of top hat rails.



Earth Connection Terminals

10 mm²
4 ... 10 mm ²
4 ... 10 mm ²
Top hat rail N35, EN60715 TH35
8.5 mm
screw connection, slotted screw
0.8 Nm

-30°C ... 40°C

V2

3

III

10 mm

13.3 lb In
8 AWG, Str

HSKM80...

yellow/green **IKE10**

Please follow the instructions about the electrical short-term withstand current of top hat rails.



Earth Connection Terminals

16 mm²
0.5 ... 16 mm ²
0.5 ... 16 mm ²
Top hat rail N35, EN60715 TH35
10.5 mm
screw connection, slotted screw
1.2 Nm

-30°C ... 40°C

V2

3

III

11 mm

18 lb In
6 AWG, Str

HSKM100...

yellow/green **IKE16**

Please follow the instructions about the electrical short-term withstand current of top hat rails.

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	Earth Connection Terminals	Earth Connection Terminals
rated cross section	35 mm²	70 mm²
solid	2x16/1x16 35 mm ²	16 70 mm ²
multiple wire	2x16/1x16 35 mm ²	16 70 mm ²
mounting method	Top hat rail N35, EN60715 TH35	Top hat rail N35, EN60715 TH35
terminal width	19 mm	20 mm
Connection type	screw connection, hexagon socket	screw connection, hexagon nut
tightening torque	5.6 Nm	6 Nm
rated voltage		
rated current		
operating temperature	-30°C ... 40°C	-30°C ... 40°C
data acc. to IEC 60947-7-1		
flammability rating acc. to UL94	V2	
pollution degree	3	3
overvoltage category	III	III
material group	II	
rated impulse voltage		
stripping length	13 mm	22 mm
data acc. to UL1059		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
data acc. to CSA C22.2 No 158-1987, ECN 5488		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
identification labels	HSKM100...	
end sections		
jumpers		
type	IKE51	IKE70

Please follow the instructions about the electrical short-term withstand current of top hat rails.

Please follow the instructions about the electrical short-term withstand current of top hat rails.ils.

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Pickaback Terminals

4 mm²
0.5 ... 6 mm ²
0.5 ... 4 mm ²
Top hat rail N35, EN60715 TH35
6 mm
screw connection, slotted screw
0.5 Nm
750 V
32 A
-30°C ... 40°C
V2
3
III
II
7 mm
9...13 lb In
10-22 AWG
600 V
30 A
20-10 AWG
600 V
40 A
HSKM60...
IWH4
VB4-12, VB4-2
light-grey IKH4
blue IKH4BL

Terminal types that fit on the second level:
IK3 up to IK16, IKS14, IKT4, IKTR4, IKTR16



Miniature Terminals

2.5 mm²
0.5 ... 4 mm ²
0.5 ... 2.5 mm ²
Top hat rail N15
5.1 mm
screw connection, slotted screw
0.5 Nm
500 V
2.5 A
-30°C ... 40°C
V2
3
III
II
8 mm
5 lb In
22-12 AWG
300 V
20 A
18-12 AWG
300 V
25 A
HSKM50...
EH2
VB2-12, VB2-2
light-grey HK3

Double-level terminal

4 mm²
0.5 ... 6 mm ²
0.5 ... 4 mm ²
Top hat rail N35, EN60715 TH35
6 mm
screw connection, slotted screw
0,5 ... 0,8 Nm
750 V
32 A
-30°C ... 40°C
V2
3
III
I
top 9 mm, bottom 7 mm
9...13 lb In
10-22 AWG
600 V
30 A
HSKM60...
HSKM60_1-100, IWD5
VB4-12, VB4-2
light-grey IKD5

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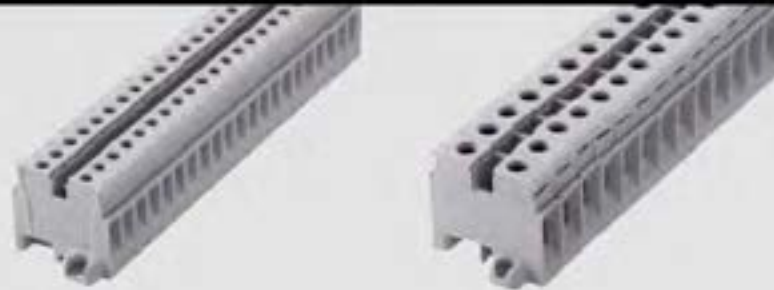
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→ Screw Connection



rated cross section	4 mm²	16 mm²
solid	0.5 ... 6 mm ²	0.5 ... 16 mm ²
multiple wire	0.5 ... 4 mm ²	0.5 ... 16 mm ²
mounting method	screw fastening	screw fastening
terminal width	6.9 mm	10 mm
Connection type	screw connection, slotted screw	screw connection, slotted screw
tightening torque	0.8 Nm	1.2 Nm
rated voltage	750 V	750 V
rated current	32 A	76 A
operating temperature	-30°C ... 40°C	-30°C ... 40°C
data acc. to IEC 60947-7-1		
flammability rating acc. to UL94	V2	V2
pollution degree	3	3
overvoltage category	III	III
material group		II
rated impulse voltage		
stripping length	7 mm	11 mm
data acc. to UL1059		
tightening torque		18 lb in
connection range (solid wire)		6-22 AWG
rated voltage		600 V
rated current		65 A
data acc. to CSA C22.2 No 158-1987, ECN 5488		
tightening torque		
connection range (solid wire)		6 AWG
rated voltage		600 V
rated current		80 A
identification labels	HSKM60...	HSKM100...
end sections		
jumpers	VBS4-2, VBS4-3	VB16-2
type	light-grey FK5	light-grey FK16

Easy and simple mounting. Screw every tenth terminal to secure the interlocking of the terminal row.



Rail-less Terminal Blocks

rated cross section	16 mm²
solid	0.5 ... 16 mm ²
multiple wire	0.5 ... 16 mm ²
mounting method	screw fastening
terminal width	10 mm
Connection type	screw connection, slotted screw
tightening torque	1.2 Nm
rated voltage	750 V
rated current	76 A
operating temperature	-30°C ... 40°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V2
pollution degree	3
overvoltage category	III
material group	II
rated impulse voltage	
stripping length	11 mm
data acc. to UL1059	
tightening torque	18 lb in
connection range (solid wire)	6-22 AWG
rated voltage	600 V
rated current	65 A
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	6 AWG
rated voltage	600 V
rated current	80 A
identification labels	HSKM100...
end sections	
jumpers	VB16-2
type	light-grey FK16

Easy and simple mounting. Screw every tenth terminal to secure the interlocking of the terminal row.



Rail-less Terminal Blocks

1.5 mm ²
0.15 ... 1.5 mm ²
0.15 ... 1.5 mm ²
PCB-mount terminals
5mm
screw connection, slotted screw
0.5 Nm
250 V
-30°C ... 40°C
V2
7 mm
HSKM50...
GWL3
light-grey
GKL3

Fixation on PCB: 2 soldering pins for PCB's with 1.3 mm holes
Wire insertion: at an angle of 30° upward from the horizontal line

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Illustration	Dimensions	Description	Type
		Identification Labels, blank 100-piece sheet suitable for GKL3, HK3, IK3, IKTRED, IK3BL	HSKM50U
		Identification Labels, printed 100-piece sheet printed from 1 ... 100 other imprints on request suitable for GKL3, HK3, IK3, IKTRED, IK3BL	HSKM50_1-100
		Identification Labels, blank 100-piece sheet suitable for FK5, IK25, IK5, IK51, IK70, IKEPN, IKEPP, IKEPT, IKEPTR, IKH4, IKI4, IKPP, IKT4, IKTR4, IKT54, IZZ4, IK5BL, IK25BL, IK51BL, IKT4RT, IKT4BL, IKH4BL, IKD5	HSKM60U
		Identification Labels, printed 100-piece sheet printed from 1 ... 100 other imprints on request suitable for FK5, IK25, IK5, IK51, IK70, IKEPN, IKEPP, IKEPT, IKEPTR, IKH4, IKI4, IKPP, IKT4, IKTR4, IKT54, IZZ4, IK5BL, IK25BL, IK51BL, IKT4RT, IKT4BL, IKH4BL, IKD5	HSKM60_1-100
		Identification Labels, blank 50-piece sheet suitable for IK10, IKE10, IKE4, IKFSI5, IKSIS, IKT10, IKTR10, IK10BL	HSKM80U
		Identification Labels, printed 50-piece sheet printed from 1 ... 50 other imprints on request suitable for IK10, IKE10, IKE4, IKFSI5, IKSIS, IKT10, IKTR10, IK10BL	HSKM80_1-50
		Identification Labels, printed 50-piece sheet printed from 51 ... 100 other imprints on request suitable for IK10, IKE10, IKE4, IKFSI5, IKSIS, IKT10, IKTR10, IK10BL	HSKM80_51-100

Illustration	Dimensions	Description	Type
		Identification Labels, blank 50-piece sheet suitable for FK16, IK120, IK16, IK240, IKE16, IKE51, IKSI4, IKTR16, IK16BL . . .	HSKM100U
		Identification Labels, printed 50-piece sheet printed from 1 ... 50 other imprints on request suitable for FK16, IK120, IK16, IK240, IKE16, IKE51, IKSI4, IKTR16, IK16BL . . .	HSKM100_1-50
		Identification Labels, printed 50-piece sheet printed from 51 ... 100 other imprints on request suitable for FK16, IK120, IK16, IK240, IKE16, IKE51, IKSI4, IKTR16, IK16BL . . .	HSKM100_51-100
		Top Hat Rail N35-7.5 mm The rails are made of rolled sheet steel, galvanised and passivated. Short-time current resistance: 1.92kA 2 m long	N35-2
		Top Hat Rail N35-7.5 mm, punched The rails are made of rolled sheet steel, galvanised and passivated. Short-time current resistance: 1.92kA 2 m long	N35L-2
		Top Hat Rail N35-15 mm, punched The rails are made of rolled sheet steel, galvanised and passivated. Short-time current resistance: 6kA 2 m long	N35L-2_15MM

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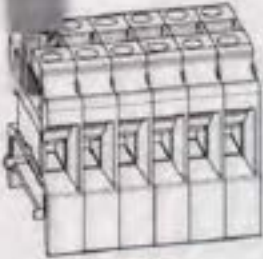
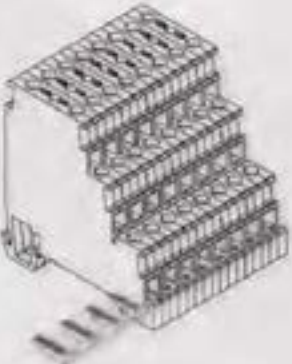
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Illustration	Dimensions	Description	Type
		Top Hat Rail N15-5 The rails are made of rolled sheet steel, galvanised and passivated. Short-time current resistance: 1.2kA 2 m long	N15-2
		End clamp bracket used as a fixing bracket at the end of a row of terminal blocks fits on N35-2, N35L-2, N35L-2_15MM rails	5K35
		End clamp bracket, reinforced version used as a fixing bracket at the end of a row of terminal blocks. For terminal blocks from 50 mm ² up the reinforced version is recommended. Fits on N35-2, N35L-2, N35-2_15MM rails.	5K535
		End Clamp Bracket used as a fixing bracket at the end of a row of terminal blocks fits on N15-2 rails	5K15
		End Clamp Bracket serves as a fixing bracket at the end of a row of terminal blocks, fits on N15-2	ESK15
		Insulated End Section The end section of each terminal size is designed in a way that it can be used as partition for the next smallest terminal size.	
		IK3, IKTRED, IK3BL	IW2
		IK3, IK5, IKT4, IKTS4, IK3BL, IK5BL, IKT4RT, IKT4BL	IW4
		IKD5	IWD5
		IK5, IK10, IK16, IK5BL, IK10BL, IK16BL, IKT4, IKT4RT, IKT4BL, IKTS4	IW16
		IK10, IK16, IK25, IK10BL, IK16BL, IK25BL	IW50
		IK51, IK51BL	IW51
		IK25, IK51, IK70, IK25BL, IK51BL	IW70
		IKEPTR, IKEPT, IKEPN, IKPP, IKEPP	IWEPTR
		IKH4, IKH4BL	IWH4
		IKT10	IWT10
		IKTR4, IKTR10, IKTR16	IWTR4
		IZZ4	IWZZ4
		HK3	EH2
		GKL3	GWL3

Illustration	Dimensions	Description	Type
		Insulating partition, large size fits on IK3, IK5, IK3BL, IK5BL	ITW4
		Insulating Partition fits on IKT10 IK120, IK240	IWTT10 TW240
		Safety cover insulating cover with marking acc. to VBG125 over 4 terminals, version for more than 4 terminals on request suitable for IK3, HK3, IK3BL IK5, FK5, IK5BL IK10, IK10BL IK16, FK16, IK16BL IK25, IK25BL IK51 IK70 IK120 IK240	KAW2 KAW4 KAW10 KAW16 KAW25 KAW35 KAW70 KAW120 KAW240
		Connecting Plug for bridging two terminals suitable for IKT10	VST10
		Comb-type jumper suitable for IKFS15 IK14 IKS10RT, IKS110	KVFI4-12 KVI4-12 KVS10-8

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Illustration

Dimensions

Description

Type



Jumper, 2 poles

to connect adjacent terminals

max. current load:

The permissible total current running through the jumper must not exceed the rated current of the respective terminal blocks:

2 poles, suitable for

IK3, HK3, IK3BL	VB2-2
12 poles, suitable for	
IK3, HK3, IK3BL	VB2-12
2 poles, suitable for	
IK5, IZZ4, IKH4, IKEPTR, IKEPT, IKEPN, IKPP, IKEPP, IK5BL, IKH4BL, IKD5	VB4-2
12 poles, suitable for	
IK5, IZZ4, IKEPTR, IKEPT, IKEPN, IKPP, IKEPP, IKH4, IK5BL, IKH4BL, IKD5	VB4-12
2 poles, suitable for	
FK5	VB54-2
3 poles, suitable for	
FK5	VB54-3
2 poles, suitable for	
IK10, IK10BL	VB6-2
12 poles, suitable for	
IK10, IK10BL	VB6-12
12 poles, suitable for	
IK16, FK16, IK16BL	VB16-2
12 poles, suitable for	
IK16, IK16BL	VB16-12
2 poles, suitable for	
IK25, IK25BL	VB25
2 poles, suitable for	
IK51, IK51BL	VB35
2 poles, suitable for	
IK70	VB70

Connecting Strap





to connect adjacent jumpers

2 poles, suitable for

IK3, HK3, IK3BL	VL2-2
2 poles, suitable for	
IK5, IKH4, FK5, IKEPN, IKPP, IKEPP, IK5BL, IKH4BL	VL4-2
2 poles, suitable for	
IK10, IK10BL	VL6-2
2 poles, suitable for	
IK16, FK16, IK16BL	VL16-2
2 poles, suitable for	
IK25, IK25BL	VL25
3 poles, suitable for	
IK25, IK25BL	VL25-3
3 poles, suitable for	
IK51, IK51BL	VL35-3
2 poles, suitable for	
IK70	VL70
3 poles, suitable for	
IK70	VL70-3



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Illustration	Dimensions	Description	Type
		Disconnecting Plug suitable for IKT4, IKT4RT, IKT4BL	TS4
		Resistor Plug with finely adjustable Cermet variable resistor 20 Ohm suitable for IKT4, IKT4RT, IKT4BL	WS20
		Bridge Rectifier with Si-rectifier B 250 C 1000, suitable for IKT4, IKT4RT, IKT4BL	BGS
		Quenching Diode Plug with diode up to 400V / 1A, the diode plugs have reverse polarity protection, suitable for IKT4, IKT4RT, IKT4BL	DSL
		Diode Plug, blue with diode up to 400V / 1A, the diode plugs have reverse polarity protection, suitable for IKT4, IKT4RT, IKT4BL	DS_BL

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Illustration	Dimensions	Description	Type
		Diode plug, red with diode up to 400V / 1A, the diode plugs have reverse polarity protection, suitable for IKT4, IKT4RT, IKT4BL	DS_RT
		Fuseholder suitable for IKS14	SH20
		Cartridge Fuse DIN 41571 0.125A, suitable for IKS14, IKS15	SP20-0,125 SP20-0,2 SP20-0,5 SP20-0,8 SP20-1,0 SP20-1,6 SP20-2,0 SP20-4,0 SP20-6,3
		Colour Identification Plate suitable for IKFS15 colour: violet colour: pink colour: light brown colour: brown colour: red colour: light blue colour: yellow colour: white (ecru) colour: light green	EP3 EP4 EP5 EP7,5 EP10 EP15 EP20 EP25 EP30
		Test Plug test plug for plug socket STB2 2 mm suitable for IK5, IKH4, FK5, IK5BL, IKH4BL test plug for plug socket STB4L, STB16, STB35 4 mm suitable for IK16, IK25, IK51, IK70, IKT10, FK16, IK16BL, IK25BL, IK51BL	PST2 PST4

IFK spring-cage terminals

spring-cage connection

made in germany



.9A-

Feed-through Terminals

rated cross section	1.5 mm²
solid	0.14 ... 1.5 mm ²
multiple wire	0.14 ... 1.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	4.2 mm
Connection type	spring-cage connection
tightening torque	
rated voltage	500 V
rated current	17.5 A
operating temperature	-40°C ... 80°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V0
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	6 kV
stripping length	10 mm

data acc. to UL1059

tightening torque	
connection range (solid wire)	26-14 AWG
rated voltage	300 V
rated current	15 A
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	

identification labels	HPK4.../HPKF4...
end sections	IWFK2,5
jumpers	SB1,5-10, SB1,5-2

type	light-grey	IFK1,5
	blue	IFK1,5BL

.9A-

Feed-through Terminals

rated cross section	2.5 mm²
solid	0.2 ... 4 mm ²
multiple wire	0.2 ... 2.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	5.2 mm
Connection type	spring-cage connection
tightening torque	
rated voltage	800 V
rated current	31 A
operating temperature	-40°C ... 80°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V0
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	8 kV
stripping length	10 mm

data acc. to UL1059

tightening torque	
connection range (solid wire)	26-12 AWG
rated voltage	600 V
rated current	20 A
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	

identification labels	HPK5.../HPKF5...
end sections	IWFK2,5
jumpers	SB2,5-10, SB2,5-2

type	light-grey	IFK2,5
	blue	IFK2,5BL

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Feed-through Terminals	
4 mm²	
0.2 ... 6 mm ²	
0.2 ... 4 mm ²	
Top hat rail N35, EN60715 TH35	
6.2 mm	
spring-cage connection	
800 V	
40 A	
-40°C ... 80°C	
V0	
3	
III	
I	
8 kV	
10 mm	
20-10 AWG	
600 V	
30 A	
HPK6.../HPKF6...	
IWFK4	
SB4-10, SB4-2	
light-grey	IFK4
blue	IFK4BL

Feed-through Terminals	
6 mm²	
0.5 ... 10 mm ²	
0.5 ... 6 mm ²	
Top hat rail N35, EN60715 TH35	
8.2 mm	
spring-cage connection	
800 V	
52 A	
-40°C ... 80°C	
V0	
3	
III	
I	
8 kV	
12 mm	
20-8 AWG	
600 V	
50 A	
HPK8.../HPKF8...	
IWFK6	
SB6-10, SB6-2	
light-grey	IFK6
blue	IFK6BL

Feed-through Terminals	
10 mm²	
1.5 ... 16 mm ²	
1.5 ... 10 mm ²	
Top hat rail N35, EN60715 TH35	
10 mm	
spring-cage connection	
800 V	
65 A	
-40°C ... 80°C	
V0	
3	
III	
I	
8 kV	
18 mm	
16-6 AWG	
600 V	
65 A	
HPK10.../HPKF8...	
IWFK10	
SB10-2	
light-grey	IFK10
blue	IFK10BL

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IFK spring-cage terminals

spring-cage connection

made in germany



.9A-

Feed-through Terminals

rated cross section

16 mm²

solid

1.5 ... 25 mm²

multiple wire

1.5 ... 16 mm²

mounting method

Top hat rail N35, EN60715 TH35

terminal width

12 mm

Connection type

spring-cage connection

tightening torque

rated voltage

800 V

rated current

90 A

operating temperature

-40°C ... 80°C

data acc. to IEC 60947-7-1

flammability rating acc. to UL94

V0

pollution degree

3

overvoltage category

III

material group

I

rated impulse voltage

8 kV

stripping length

18 mm

data acc. to UL1059

tightening torque

connection range (solid wire)

16-4 AWG

rated voltage

600 V

rated current

85 A

data acc. to CSA C22.2 No 158-1987, ECN 5488

tightening torque

connection range (solid wire)

rated voltage

rated current

identification labels

HPK10.../HPKF8...

end sections

IWFK16

jumpers

S816-2

type

light-grey

IFK16

blue

IFK16BL

.9A-

Feed-through Terminals

35 mm²

2.5 ... 35 mm²

2.5 ... 35 mm²

Top hat rail N35, EN60715 TH35

16 mm

spring-cage connection

800 V

125 A

-40°C ... 80°C

V0

3

III

I

8 kV

25 mm

14-2 AWG

600 V

115 A

HPK10.../HPKF8...

S835-2

light-grey

IFK35

blue

IFK35BL



Feed-through Terminals	
1.5 mm²	
0.14 ... 1.5 mm ²	
0.14 ... 1.5 mm ²	
Top hat rail N35, EN60715 TH35	
4.2 mm	
spring-cage connection	
500 V	
17.5 A	
-40°C ... 80°C	
V0	
3	
III	
I	
6 kV	
10 mm	
26-14 AWG	
300 V	
15 A	
HPK4.../HPKF4...	
IWFK2,5-1+2	
SB1,5-10, SB1,5-2	
light-grey IFK1,5-1+2	
blue IFK1,5BL-1+2	

Feed-through Terminals	
2.5 mm²	
0.2 ... 4 mm ²	
0.2 ... 2.5 mm ²	
Top hat rail N35, EN60715 TH35	
5.2 mm	
spring-cage connection	
800 V	
28 A	
-40°C ... 80°C	
V0	
3	
III	
I	
8 kV	
10 mm	
26-12 AWG	
600 V	
20 A	
HPK5.../HPKF5...	
IWFK2,5-1+2	
SB2,5-10, SB2,5-2	
light-grey IFK2,5-1+2	
blue IFK2,5BL-1+2	

Feed-through Terminals	
4 mm²	
0.2 ... 6 mm ²	
0.2 ... 4 mm ²	
Top hat rail N35, EN60715 TH35	
6.2 mm	
spring-cage connection	
800 V	
40 A	
-40°C ... 80°C	
V0	
3	
III	
I	
8 kV	
10 mm	
20-10 AWG	
600 V	
30 A	
HPK6.../HPKF6...	
IWFK4-1+2	
SB4-10, SB4-2	
light-grey IFK4-1+2	
blue IFK4BL-1+2	

* The max. load current must not be exceeded by the total current of all connected conductors.

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spring-cage connection

made in germany



IFK

Feed-through Terminals

rated cross section	1.5 mm²
solid	0.14 ... 1.5 mm ²
multiple wire	0.14 ... 1.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	4.2 mm
Connection type	spring-cage connection
lightening torque	
rated voltage	500 V
rated current	17.5 A
operating temperature	-40°C ... 80°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V0
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	6 kV
stripping length	10 mm

data acc. to UL1059

lightening torque	
connection range (solid wire)	26-14 AWG
rated voltage	300 V
rated current	15 A
data acc. to CSA C22.2 No 158-1987, ECN 5488	
lightening torque	
connection range (solid wire)	
rated voltage	
rated current	

identification labels	HPK4.../HPKF4...
end sections	IWFK2,5-2+2
jumpers	SB1,5-10, SB1,5-2

type	light-grey	IFK1,5-2+2
	blue	IFK1,5BL-2+2

* The max. load current must not be exceeded by the total current of all connected conductors.

IFK

Feed-through Terminals

rated cross section	2.5 mm²
solid	0.2 ... 4 mm ²
multiple wire	0.2 ... 2.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	5.2 mm
Connection type	spring-cage connection
lightening torque	
rated voltage	800 V
rated current	28 A
operating temperature	-40°C ... 80°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V0
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	8 kV
stripping length	10 mm

data acc. to UL1059

lightening torque	
connection range (solid wire)	26-12 AWG
rated voltage	600 V
rated current	20 A
data acc. to CSA C22.2 No 158-1987, ECN 5488	
lightening torque	
connection range (solid wire)	
rated voltage	
rated current	

identification labels	HPK5.../HPKF5...
end sections	IWFK2,5-2+2
jumpers	SB2,5-10, SB2,5-2

type	light-grey	IFK2,5-2+2
	blue	IFK2,5BL-2+2

* The max. load current must not be exceeded by the total current of all connected conductors.

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Feed-through Terminals	
4 mm²	
0.2 ... 6 mm ²	
0.2 ... 4 mm ²	
Top hat rail N35, EN60715 TH35	
6.2 mm	
spring-cage connection	
800 V	
40 A	
-40°C ... 80°C	
V0	
3	
III	
I	
8 kV	
10 mm	
20-10 AWG	
600 V	
30 A	
HPK6.../HPKF6...	
IWFK4-2+2	
SB4-10, SB4-2	
light-grey IFK4-2+2	
blue IFK4BL-2+2	

Feed-through Terminals	
1.5 mm²	
0.14 ... 1.5 mm ²	
0.14 ... 1.5 mm ²	
Top hat rail N35, EN60715 TH35	
4.2 mm	
spring-cage connection	
500 V	
17.5 A	
-40°C ... 80°C	
V0	
3	
III	
I	
6 kV	
10 mm	
26-14 AWG	
300 V	
15 A	
HPK4.../HPKF4...	
IWFKK2,5	
SB1,5-10, SB1,5-2	
light-grey IFKK1,5	
blue IFKK1,5BL	

Feed-through Terminals	
2.5 mm²	
0.2 ... 4 mm ²	
0.2 ... 2.5 mm ²	
Top hat rail N35, EN60715 TH35	
5.2 mm	
spring-cage connection	
500 V	
26 A	
-40°C ... 80°C	
V0	
3	
III	
I	
6 kV	
10 mm	
26-12 AWG	
300 V	
20 A	
HPK5.../HPKF5...	
IWFKK2,5	
SB2,5-10, SB2,5-2	
light-grey IFKK2,5	
blue IFKK2,5BL	

* The max. load current must not be exceeded by the total current of all connected conductors.

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spring-cage connection

made in germany



IFK4

Feed-through Terminals

rated cross section	4 mm²
solid	0.2 ... 6 mm ²
multiple wire	0.2 ... 4 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	6.2 mm
Connection type	spring-cage connection
tightening torque	
rated voltage	500 V
rated current	32 A
operating temperature	-40°C ... 80°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V0
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	6 kV
stripping length	10 mm

data acc. to UL1059

tightening torque	
connection range (solid wire)	20-10 AWG
rated voltage	300 V
rated current	30 A
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	

identification labels	HPK6.../HPKF6...
end sections	IWFKK4
jumpers	SB4-10, SB4-2

type	light-grey	IFKK4
	blue	IFKK4BL

IFK1,5E

Earth Connection Terminals

rated cross section	1.5 mm²
solid	0.14 ... 1.5 mm ²
multiple wire	0.14 ... 1.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	4.2 mm
Connection type	spring-cage connection
tightening torque	
rated voltage	
rated current	
operating temperature	-40°C ... 80°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V0
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	6 kV
stripping length	10 mm

data acc. to UL1059

tightening torque	
connection range (solid wire)	26-14 AWG
rated voltage	
rated current	
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	

identification labels	HPK4.../HPKF4...
end sections	IWFK2,5
jumpers	

type	yellow/green	IFK1,5E
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Please follow the instructions about the electrical short-term current strength of top hat rails.



Earth Connection Terminals	
2.5 mm²	
0.2 ... 4 mm ²	
0.2 ... 2.5 mm ²	
Top hat rail N35, EN60715 TH35	
5.2 mm	
spring-cage connection	
-40°C ... 80°C	
V0	
3	
III	
I	
8 kV	
10 mm	
26-12 AWG	
HPK5.../HPKF5...	
IWFK2,5	
yellow/green	IFK2,5E

Earth Connection Terminals	
4 mm²	
0.2 ... 6 mm ²	
0.2 ... 4 mm ²	
Top hat rail N35, EN60715 TH35	
6.2 mm	
spring-cage connection	
-40°C ... 80°C	
V0	
3	
III	
I	
8 kV	
10 mm	
20-10 AWG	
HPK6.../HPKF6...	
IWFK4	
yellow/green	IFK4E

Earth Connection Terminals	
10 mm²	
1.5 ... 16 mm ²	
1.5 ... 10 mm ²	
Top hat rail N35, EN60715 TH35	
10 mm	
spring-cage connection	
-40°C ... 80°C	
V0	
3	
III	
I	
8 kV	
18 mm	
16-6 AWG	
HPK10.../HPKF8...	
IWFK10	
SB10-2	
yellow/green	IFK10E

Please follow the instructions about the electrical short-term current strength of top hat rails.

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Please follow the instructions about the electrical short-term current strength of top hat rails.

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IFK spring-cage terminals

spring-cage connection

made in germany



IFK16E

IFK35E

Earth Connection Terminals

Earth Connection Terminals

rated cross section	16 mm²	35 mm²
solid	1.5 ... 25 mm ²	2.5 ... 35 mm ²
multiple wire	1.5 ... 16 mm ²	2.5 ... 35 mm ²
mounting method	Top hat rail N35, EN60715 TH35	Top hat rail N35, EN60715 TH35
terminal width	12 mm	16 mm
Connection type	spring-cage connection	spring-cage connection
tightening torque		
rated voltage		
rated current		
operating temperature	-40°C ... 80°C	-40°C ... 80°C
data acc. to IEC 60947-7-1		
flammability rating acc. to UL94	V0	V0
pollution degree	3	3
overvoltage category	III	III
material group	I	I
rated impulse voltage	8 kV	8 kV
stripping length	18 mm	25 mm
data acc. to UL1059		
tightening torque		
connection range (solid wire)	16-4 AWG	14-2 AWG
rated voltage		
rated current		
data acc. to CSA C22.2 No 158-1987, ECN 5488		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
identification labels	HPK10.../HPKF8...	HPK10.../HPKF8...
end sections	IFWFK16	
jumpers	SB16-2	SB35-2
type	yellow/green IFK16E	yellow/green IFK35E

Please follow the instructions about the electrical short-term current strength of top hat rails.

Please follow the instructions about the electrical short-term current strength of top hat rails.

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Earth Connection Terminals	
1.5 mm²	
0.14 ... 1.5 mm ²	
0.14 ... 1.5 mm ²	
Top hat rail N35, EN60715 TH35	
4.2 mm	
spring-cage connection	
-40°C ... 80°C	
V0	
3	
III	
I	
6 kV	
10 mm	
26-14 AWG	
HPK4.../HPKF4...	
IWFK2,5-1+2	
yellow/green	IFK1,5E-1+2

Earth Connection Terminals	
2.5 mm²	
0.2 ... 4 mm ²	
0.2 ... 2.5 mm ²	
Top hat rail N35, EN60715 TH35	
5.2 mm	
spring-cage connection	
-40°C ... 80°C	
V0	
3	
III	
I	
8 kV	
10 mm	
26-12 AWG	
HPK5.../HPKF5...	
IWFK2,5-1+2	
yellow/green	IFK2,5E-1+2

Earth Connection Terminals	
4 mm²	
0.2 ... 6 mm ²	
0.2 ... 4 mm ²	
Top hat rail N35, EN60715 TH35	
6.2 mm	
spring-cage connection	
-40°C ... 80°C	
V0	
3	
III	
I	
8 kV	
10 mm	
20-10 AWG	
HPK6.../HPKF6...	
IWFK4-1+2	
yellow/green	IFK4E-1+2

Please follow the instructions about the electrical short-term current strength of top hat rails.

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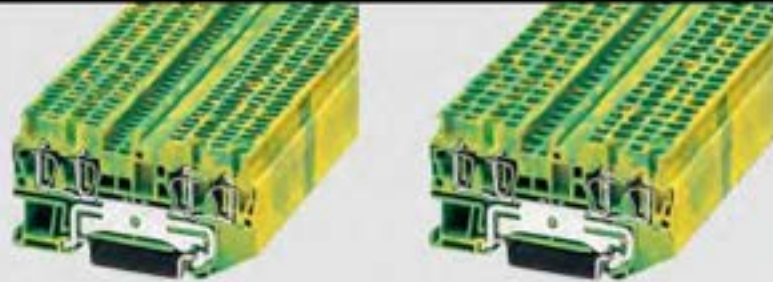
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IFK spring-cage terminals

spring-cage connection

made in germany



IFK1

Earth Connection Terminals

rated cross section	1.5 mm²
solid	0.14 ... 1.5 mm ²
multiple wire	0.14 ... 1.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	4.2 mm
Connection type	spring-cage connection
tightening torque	
rated voltage	
rated current	
operating temperature	-40°C ... 80°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V0
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	6 kV
stripping length	10 mm
data acc. to UL1059	
tightening torque	
connection range (solid wire)	26-14 AWG
rated voltage	
rated current	
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	
identification labels	HPK4.../HPKF4...
end sections	IWFK2,5-2+2
jumpers	
type	yellow/green IFK1,5E-2+2

IFK2

Earth Connection Terminals

rated cross section	2.5 mm²
solid	0.2 ... 4 mm ²
multiple wire	0.2 ... 2.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	5.2 mm
Connection type	spring-cage connection
tightening torque	
rated voltage	
rated current	
operating temperature	-40°C ... 80°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V0
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	8 kV
stripping length	10 mm
data acc. to UL1059	
tightening torque	
connection range (solid wire)	26-12 AWG
rated voltage	
rated current	
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	
identification labels	HPK5.../HPKF5...
end sections	IWFK2,5-2+2
jumpers	
type	yellow/green IFK2,5E-2+2

Please follow the instructions about the electrical short-term current strength of top hat rails.

Please follow the instructions about the electrical short-term current strength of top hat rails.





Earth Connection Terminals	
4 mm²	
0.2 ... 6 mm ²	
0.2 ... 4 mm ²	
Top hat rail N35, EN60715 TH35	
6.2 mm	
spring-cage connection	
-40°C ... 80°C	
V0	
3	
III	
I	
8 kV	
10 mm	
20-10 AWG	
HPK6.../HPKF6...	
IWFK4-2+2	
yellow/green	IFK4E-2+2

Earth Connection Terminals	
1.5 mm²	
0.14 ... 1.5 mm ²	
0.14 ... 1.5 mm ²	
Top hat rail N35, EN60715 TH35	
4.2 mm	
spring-cage connection	
-40°C ... 80°C	
V0	
3	
III	
I	
6 kV	
10 mm	
26-14 AWG	
HPK4.../HPKF4...	
IWFKK2,5	
yellow/green	IFKK1,5E

Earth Connection Terminals	
2.5 mm²	
0.2 ... 4 mm ²	
0.2 ... 2.5 mm ²	
Top hat rail N35, EN60715 TH35	
5.2 mm	
spring-cage connection	
-40°C ... 80°C	
V0	
3	
III	
I	
6 kV	
10 mm	
26-12 AWG	
HPK5.../HPKF5...	
IWFKK2,5	
yellow/green	IFKK2,5E

Please follow the instructions about the electrical short-term current strength of top hat rails.

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IFK spring-cage terminals

spring-cage connection

made in germany



IFK4E

IFK1,5BL

Earth Connection Terminals

Feed-through Terminals

rated cross section	4 mm²	1.5 mm²
solid	0.2 ... 6 mm ²	0.25 ... 1.5 mm ²
multiple wire	0.2 ... 4 mm ²	0.25 ... 1.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35	Top hat rail N35, EN60715 TH35
terminal width	6.2 mm	5.2 mm
Connection type	spring-cage connection	Insulation displacement fast connection
tightening torque		
rated voltage		800 V
rated current		17.5 A
operating temperature	-40°C ... 80°C	-40°C ... 80°C
data acc. to IEC 60947-7-1		
flammability rating acc. to UL94	V0	V0
pollution degree	3	3
overvoltage category	III	III
material group	I	I
rated impulse voltage	6 kV	8 kV
stripping length	10 mm	PVC, PE
data acc. to UL1059		
tightening torque		
connection range (solid wire)	20-10 AWG	24-16 AWG
rated voltage		600 V
rated current		10 A
data acc. to CSA C22.2 No 158-1987, ECN 5488		
tightening torque		
connection range (solid wire)		
rated voltage		
rated current		
identification labels	HPK6.../HPKF6...	HPK5.../HPKF5...
end sections	IFWFK4	IFW5K1,5
jumpers		SB2, 5-10, SB2, 5-2
type	yellow/green IFK4E	light-grey ISK1,5 blue ISK1,5BL

Please follow the instructions about the electrical short-term current strength of top hat rails.



Feed-through Terminals	
1.5 mm ²	
0.25 ... 1.5 mm ²	
0.25 ... 1.5 mm ²	
Top hat rail N35, EN60715 TH35	
5.2 mm	
Insulation displacement fast connection	
800 V	
17.5 A	
-40°C ... 80°C	
VO	
3	
III	
I	
8 kV	
PVC, PE	
24-16 AWG	
600 V	
10 A	
HPK5.../HPKF5...	
IWSK1,5-1+2	
SB2,5-10, SB2,5-2	
light-gray ISK1,5-1+2	
blue ISK1,5BL-1+2	

Feed-through Terminals	
1.5 mm ²	
0.25 ... 1.5 mm ²	
0.25 ... 1.5 mm ²	
Top hat rail N35, EN60715 TH35	
5.2 mm	
Insulation displacement fast connection	
800 V	
17.5 A	
-40°C ... 80°C	
VO	
3	
III	
I	
8 kV	
PVC, PE	
24-16 AWG	
600 V	
10 A	
HPK5.../HPKF5...	
IWSK1,5-2+2	
SB2,5-10, SB2,5-2	
light-gray ISK1,5-2+2	
blue ISK1,5BL-2+2	

Feed-through Terminals	
1.5 mm ²	
0.25 ... 1.5 mm ²	
0.25 ... 1.5 mm ²	
Top hat rail N35, EN60715 TH35	
5.2 mm	
Insulation displacement fast connection	
500 V	
17.5 A	
-40°C ... 80°C	
VO	
3	
III	
I	
6 kV	
PVC, PE	
24-16 AWG	
600 V	
10 A	
HSK5.../HSKF5...	
IWSKX1,5	
SB2,5-10, SB2,5-2	
light-gray ISKK1,5	
blue ISKK1,5BL	

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QUICKON fast connection terminals

Insulation displacement fast connection

made in germany



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Earth Connection Terminals

rated cross section	1.5 mm²
solid	0.25 ... 1.5 mm ²
multiple wire	0.25 ... 1.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	5.2 mm
Connection type	Insulation displacement fast connection
tightening torque	
rated voltage	
rated current	
operating temperature	-40°C ... 80°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V0
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	8 kV
stripping length	PVC, PE

data acc. to UL1059

tightening torque	
connection range (solid wire)	24-16 AWG
rated voltage	
rated current	
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	

identification labels	HPK5.../HPKF5...
end sections	IWSK1,5
jumpers	SB2,5-10, SB2,5-2

type yellow/green **ISK1,5E**

Please follow the instructions about the electrical short-term current strength of top hat rails.

.9A-

Earth Connection Terminals

rated cross section	1.5 mm²
solid	0.25 ... 1.5 mm ²
multiple wire	0.25 ... 1.5 mm ²
mounting method	Top hat rail N35, EN60715 TH35
terminal width	5.2 mm
Connection type	Insulation displacement fast connection
tightening torque	
rated voltage	
rated current	
operating temperature	-40°C ... 80°C
data acc. to IEC 60947-7-1	
flammability rating acc. to UL94	V0
pollution degree	3
overvoltage category	III
material group	I
rated impulse voltage	8 kV
stripping length	PVC, PE

data acc. to UL1059

tightening torque	
connection range (solid wire)	24-16 AWG
rated voltage	
rated current	
data acc. to CSA C22.2 No 158-1987, ECN 5488	
tightening torque	
connection range (solid wire)	
rated voltage	
rated current	

identification labels	HPK5.../HPKF5...
end sections	IWSK1,5-1+2
jumpers	SB2,5-10, SB2,5-2

type yellow/green **ISK1,5E-1+2**

Please follow the instructions about the electrical short-term current strength of top hat rails.

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→ IEC First Connection

Illustration	Dimensions	Description	Type
		Top Hat Rail N35-7.5 mm The rails are made of rolled sheet steel, galvanised and passivated. Short-time current resistance: 1.92kA 2 m long	N35-2
		Top Hat Rail N35-7.5 mm, punched The rails are made of rolled sheet steel, galvanised and passivated. Short-time current resistance: 1.92kA 2 m long	N35L-2
		Top Hat Rail N35-15 mm, punched The rails are made of rolled sheet steel, galvanised and passivated. Short-time current resistance: 6kA 2 m long	N35L-2_15MM
		End Clamp Bracket used as a fixing bracket at the end of a row of terminal blocks	SSK35
		Identification Labels, blank (for terminal centre) to fit on IFKK1,5.../IFK1,5... to fit on IFK2,5... / IFKK2,5... to fit on IFK4... / IFKK2,5... to fit on IFK10... / IFK35... / IFK6... to fit on IFK10.../IFK35...	HPK4U HPK5U HPK6U HPK8U HPK10U
		Identification Labels (for terminal centre) horizontal printing strip of ten, consecutive numbering 1-10 to fit on IFKK1,5.../IFK1,5... to fit on IFK2,5.../IFKK2,5... to fit on IFK4... / IFKK2,5... to fit on IFK10... / IFK35... / IFK6... to fit on IFK10.../IFK35...	HPK4B1-10 HPK5B1-10 HPK6B1-10 HPK8B1-10 HPK10B1-10

Illustration	Dimensions	Description	Type
		Identification Labels (for terminal centre) horizontal printing strip of ten, consecutive numbering 11-20 to fit on IFKK1,5.../IFK1,5... to fit on IFK2,5.../IFKK2,5... to fit on IFK4... / IFKK2,5... to fit on IFK10... / IFK35... / IFK6... to fit on IFK10.../IFK35...	HPK4B11-20 HPK5B11-20 HPK6B11-20 HPK8B11-20 HPK10B11-20
		Identification Labels (for terminal centre) vertical printing strip of ten, consecutive numbering 1-10 to fit on IFKK1,5.../IFK1,5... to fit on IFK2,5.../IFKK2,5... to fit on IFK4... / IFKK2,5... to fit on IFK10... / IFK35... / IFK6... to fit on IFK10.../IFK35...	HPK4B1-10S HPK5B1-10S HPK6B1-10S HPK8B1-10S HPK10B1-10S
		Identification Labels (for terminal centre) vertical printing strip of ten, consecutive numbering 11-20 to fit on IFKK1,5.../IFK1,5... to fit on IFK2,5.../IFKK2,5... to fit on IFK4... / IFKK2,5... to fit on IFK10... / IFK35... / IFK6... to fit on IFK10.../IFK35...	HPK4B11-20S HPK5B11-20S HPK6B11-20S HPK8B11-20S HPK10B11-20S
		Identification Labels (for the outer marking grooves) to fit on IFK1,5.../IFKK1,5... to fit on IFK2,5.../IFKK2,5... to fit on IFK4.../IFKK4... to fit on IFK10... / IFK35... / IFK6... to fit on IFK10...IFK35	HPKF4U HPKF5U HPKF6U HPKF8U HPKF10U
		Identification Labels (for the outer marking grooves) flat, horizontal printing strip of ten, consecutive numbering 1-10 to fit on IFK1,5.../IFKK1,5... to fit on IFK2,5.../IFKK2,5... to fit on IFK4.../IFKK4... to fit on IFK10... / IFK35.../IFK6... to fit on IFK10.../IFK35...	HPKF4B1-10 HPKF5B1-10 HPKF6B1-10 HPKF8B1-10 HPKF10B1-10
		Identification Labels (for the outer marking grooves) flat, horizontal printing strip of ten, consecutive numbering 11-20 to fit on IFK1,5.../IFKK1,5... to fit on IFK2,5.../IFKK2,5... to fit on IFK4.../IFKK4... to fit on IFK10... / IFK35.../IFK6... to fit on IFK10.../IFK35...	HPKF4B11-20 HPKF5B11-20 HPKF6B11-20 HPKF8B11-20 HPKF10B11-20

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Illustration

Dimensions

Description

Type

Identification Labels (for the outer marking grooves)

flat, vertical printing
strip of ten, consecutive numbering 1-10

to fit on IFK1,5.../IFKK1,5	HPKF4B1-10S
to fit on IFK2,5.../IFKK2,5	HPKF5B1-10S
to fit on IFK4.../IFKK4...	HPKF6B1-10S
to fit on IFK10.../IFK35.../IFK6...	HPKF8B1-10S
to fit on IFK10.../IFK35...	HPKF10B1-10S

Identification Labels (for the outer marking grooves)

vertical printing,
strip of ten, consecutive numbering 1-10

to fit on IFK1,5.../IFKK1,5...	HPKF4B11-20S
to fit on IFK2,5.../IFKK2,5...	HPKF5B11-20S
to fit on IFK4.../IFKK4...	HPKF6B11-20S
to fit on IFK10.../IFK35.../IFK6...	HPKF8B11-20S
to fit on IFK10.../IFK35...	HPKF10B11-20S



Insulated End Section

fits on

ISKK1,5, ISKK1,5E, ISKK1,5BL	IWSKK1,5
ISK1,5-1+2, ISK1,5E-1+2, ISK1,5BL-1+2	IWSK1,5-1+2
ISK1,5-2+2, ISK1,5E-2+2, ISK1,5BL-2+2	IWSK1,5-2+2
IFK1,5, IFK1,5E, IFK2,5E, IFK2,5, IFK1,5BL, IFK2,5BL	IWFK2,5
IFK1,5-1+2, IFK2,5-1+2, IFK1,5E-1+2, IFK2,5E-1+2, IFK1,5BL-1+2, IFK2,5BL-1+2	IWFK2,5-1+2
IFK1,5-2+2, IFK2,5-2+2, IFK1,5E-2+2, IFK2,5E-2+2, IFK1,5BL-2+2, IFK2,5BL-2+2	IWFK2,5-2+2
IFKK1,5, IFKK2,5, IFKK1,5E, IFKK2,5E, IFKK1,5BL, IFKK2,5BL	IWFKK2,5
IFK4, IFK4E, IFK4BL	IWFK4
IFK4-1+2, IFK4E-1+2, IFK4BL-1+2	IWFK4-1+2
IFK4-2+2, IFK4E-2+2, IFK4BL-2+2	IWFK4-2+2
IFKK4, IFKK4E, IFKK4BL	IWFKK4
IFK6, IFK6E, IFK6BL	IWFK6
IFK10, IFK10E, IFK10BL	IWFK10
IFK16, IFK16E, IFK16BL	IWFK16



Plug-in Bridges

for cross-connections in the terminal centre,
suitable for

IFK1,5, IFK1,5-1+2, IFK1,5-2+2, IFKK1,5, IFK1,5BL, IFK1,5BL-1+2, IFK1,5BL-2+2, IFKK1,5BL	SB1,5-2
IFK1,5, IFK1,5-1+2, IFK1,5-2+2, IFKK1,5, IFK1,5BL, IFK1,5BL-1+2, IFK1,5BL-2+2, IFKK1,5BL	SB1,5-10
IFK2,5-1+2, IFK2,5-2+2, IFKK2,5, ISK1,5, ISK1,5-1+2, ISK1,5-2+2, ISK1,5E, ISK1,5E-1+2, ISK1,5E-2+2, ISKK1,5, ISKK1,5E, IFK2,5, IFK2,5BL, IFK2,5BL-1+2, IFK2,5BL-2+2, IFKK2,5BL, ISK1,5BL, ISK1,5BL-1+2, ISK1,5BL-2+2, ISKK1,5BL	SB2,5-2
IFK2,5, IFK2,5-1+2, IFK2,5-2+2, IFKK2,5, ISK1,5, ISK1,5-1+2, ISK1,5-2+2, ISK1,5E, ISK1,5E-1+2, ISK1,5E-2+2, ISKK1,5, ISKK1,5E, IFK2,5BL, IFK2,5BL-1+2, IFK2,5BL-2+2, IFKK2,5BL, ISK1,5BL, ISK1,5BL-1+2, ISK1,5BL-2+2, ISKK1,5BL	SB2,5-10
IFK4, IFK4-1+2, IFK4-2+2, IFKK4, IFK4BL, IFK4BL-1+2, IFK4BL-2+2, IFKK4BL	SB4-2
IFK4, IFK4-1+2, IFK4-2+2, IFKK4, IFK4BL, IFK4BL-1+2, IFK4BL-2+2, IFKK4BL	SB4-10
IFK6, IFK6BL	SB6-2
IFK6, IFK6BL	SB6-10
IFK10, IFK10E, IFK10BL	SB10-2
IFK16, IFK16E, IFK16BL	SB16-2
IFK35, IFK35E, IFK35BL	SB35-2

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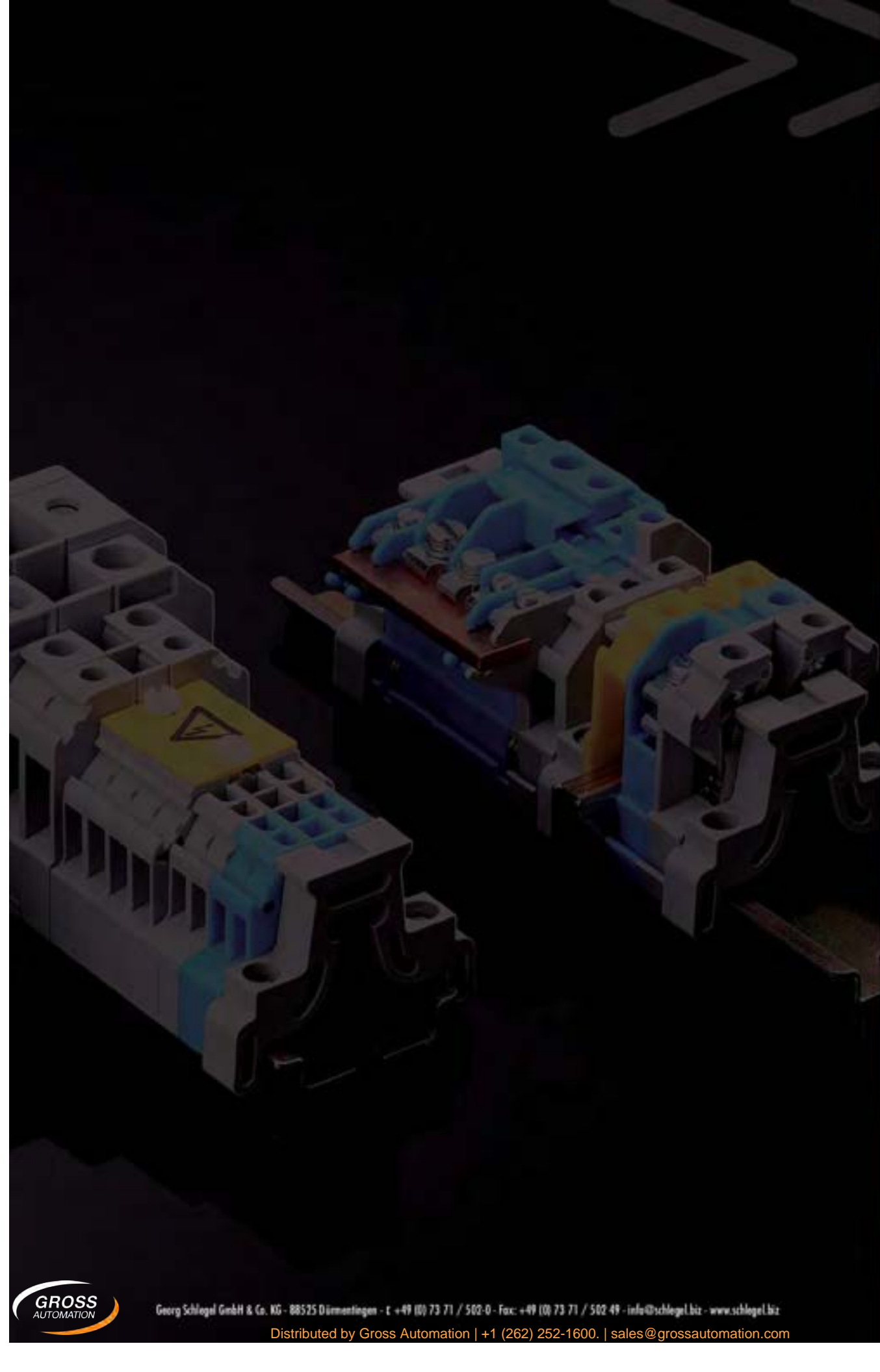
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General Data

Type Reference:	ET_KEF
Description:	Contact Block for base-plate mounting, with positive opening contact
Approvals:	CE
Nature of contact:	1NC + 1NO
Protection class:	II (protective insulation)
Connection type:	screw connection
Contact material:	AgNi
Max. storage temperature:	-50°C ... 70°C
Max. operating temperature:	-30°C ... 70°C
Mechanical life:	1 m switching cycles
Electrical life (rated load):	1 m at 250 V/10(6) A 250,000 at 250 V/16(10) A 500,000 at 250 V/5 A (AC15)
Contact resistance NO:	< 20 mOhm (new state)
Contact resistance NC:	< 20 mOhm (new state)
Min. current:	1 mA
Min. voltage:	5 V
Bouncing time NO:	< 10ms
Bouncing time NC:	< 10ms
Positive opening contact:	acc. to EN60947-5-1, appendix K

Electrical data acc. to IEC/EN 60947-5-1 (VDE 0660 Sect. 200)

	alternate current	direct current
Utilisation category:	AC15	DC13
Rated insulation voltage U_i :	400V	400V
Rated operating voltage U_e :	250V / 400V	400V / 250V / 125V / 60V / 24V
Rated operating current I_e :	5A / 3A	0.12A / 0.2A / 0.4A / 1A / 2A
Breaking capacity:	10le	1,1le
Continuous thermal current:	10A	

Electrical data acc. to IEC/EN 61058-1 (VDE 0630 Sect. 1)

Rated voltage U_e :	250 V~ / 440 V~
Rated current I_e :	10(6) A / 6(3) A

Note

Note for emergency-stop contact blocks:

In case of inverters of the Za form [in terms of EN 60947-5-1], only the NC contact must be used for the remotely controlled safety circuit.

Pedal Switches

made in germany

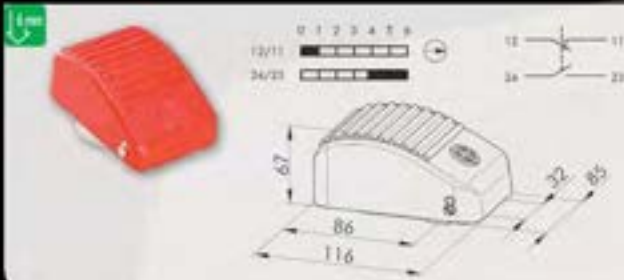


screw connection 2x2.5mm², finger-protected acc. to BGVA3

Illustration

Description

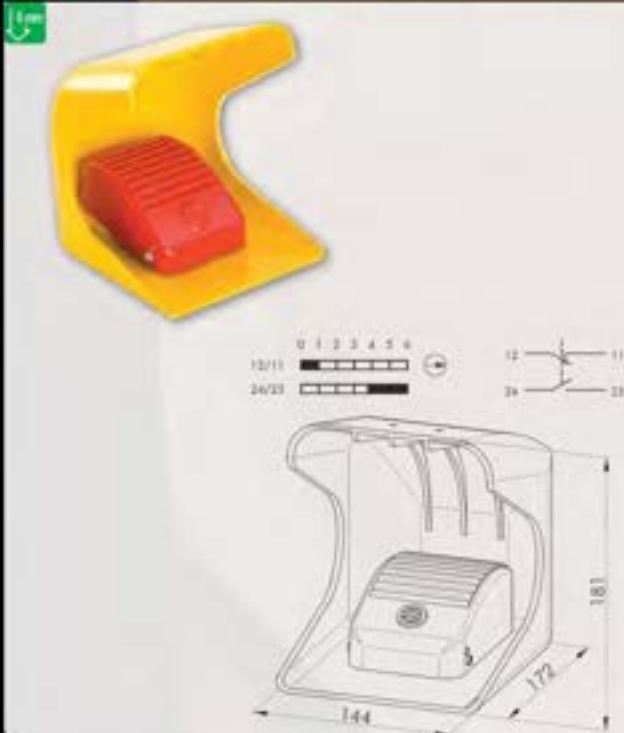
Type



Pedal Switch 1NC + 1NO

screw connection 2x2.5mm², finger-protected acc. to BGVA3 with red pedal (powder-coated) other colours on request cable entry: 1xM16x1.5 contact material AgNi

KEFM



Pedal Switch with protection cover 1NC + 1NO

screw connection 2x2.5mm², finger-protected acc. to BGVA3 with red pedal and yellow protective cover made of aluminium casting (powder-coated) other colours on request cable entry: 1x M16x1.5 contact material AgNi

KEFAM

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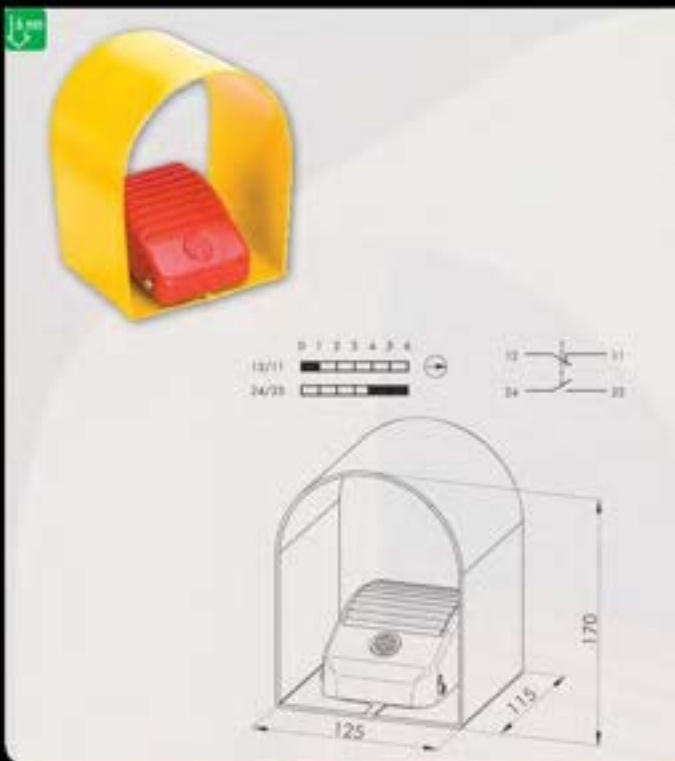
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Illustration	Description	Type
	<p>Pedal Switch with protection cover 1NC + 1NO screw connection 2x2.5mm², finger-protected acc. to VBG4 with red pedal and yellow protective cover made of steel sheet (powder-coated) other colours on request cable entry: 1x M16x1.5 contact material AgNi</p>	<p>KEFBM</p>

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- >> GW...series page 695
- >> Accessories page 701



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Description

Definition

Limit switches are also dealt under position switches or limit switches. However, behind all these terms hides a switchgear which is primarily used to protect man and machine.

Characteristics of DUX Limit Switches

These limit switches offer quite a number of actuators to be selected depending on the required mode of operation. They are used in auxiliary and pilot circuits and are excellently suitable for the control and movement limitation, e.g. in machine tools and processing machines, lifts, conveyor systems, vehicles, cranes, technical building equipments, crane systems as well as trigger switches in safety and alarm systems, and many more. The limit switches are available in various designs and materials and can such be used in different fields of application and environmental conditions. In order to meet the diverse equipment controlling requirements, a multitude of contact configurations can be implemented to provide optimal solutions for nearly all mechanical switching requirements. The variety of actuators, which are rotatable by 90°, enable high flexibility for each particular case of application.

Set-up and Operation of Limit Switches

Limit switch and plunger drive should only be used when the switching point is subject to a tight tolerance range. The actuation movement should preferably be in the same direction as the plunger movement. The limit switches are constructed in a way that they may in no case be used as a mechanical limit stop. The reset force for other movable actuating appliances (such as flaps, doors, etc.) must not be taken from the limit switch actuator, because it was only designed for the plunger reset of the limit switch. In order to guarantee an optimal switching action the max. operating angles of the different actuators must be observed. The cam of the respective machine must actuate the plunger only in the permissible level. The over-travel of the actuator

may only be used as shown in the relative switch travel diagram. It is not permitted to shorten the working travel by operating the actuator in advance. The reset movement of the actuator must be guided by the return movement of the machine's cam, i.e. the actuator must not spring back freely to its original position. The length of the actuating cam must be selected so that an actuating time with double safety is achieved. If e.g. the response time of the operated auxiliary contactor to its latching position is 15 ms, the min. actuating time of the limit switch should be 30 ms.

Limit Switch Mounting

Limit switches have to be mounted to be easy accessible and shock-resistant, following the a.m. instructions. To guarantee the specified degree of protection, the lid screws must be tightened evenly and the cable entry must be fixed appropriately according to the cable diameter.

The limit switches must be used under strict observance of the relative parameters and rules of application. Depending on the number of switching actuations and operating conditions, the operational reliability of the switches has to be checked regularly.

Limit Switches - EKU Series

Operating and ambient conditions compliant to
Degree of protection acc. to DIN 40050 IEC 144
Fastening dimensions acc. to DIN EN 50047
Contact base material
Transport, storage and operating temperature
Screw clamp connection
Terminal cross-section

Cable gland
Operating speed on plunger
Mechanical life

Operating force on plunger
Insulation group acc. to DIN VDE 110
Admissible on-load switching cycles
Min. switching current using silver contacts
with slow-action contact
with snap-action contact
Min. switching voltage using silver contacts
Electrical life

Max. rated current/AC
Rated frequency
Max. rated voltage

DIN IEC 721-3-1..3 and DIN IEC 721-3-6
IP 65
2x M4
PA6
-25°C up to +55°C
M 3.5
2x 0.75 ... 2.5 mm² solid, flexible
multicore with ferrule 2x 0.75.. 1.5 mm²
M16x1.5
max. 0.25 m/s min. 1mm/s AC; min. 20mm/s DC
1x10.000.000 switching cycles
10N
C
1200/h
0.1A
0.012A
0.012A
24V
5x 100.000 switching cycles
AC 380V/1A DC 220V/0.2A
6A
50...60Hz
AC 380V
DC 220V

Novel ILS

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EKU

made in germany



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INC + 1NO 	EKU1-K5T	EKU1-KD		EKU1-KG	EKU1-KH	EKU1-K
INC + 1NO snap action contact 	EKU1-SPR-K5T	EKU1-SPR-KD	EKU1-SPR-KFS	EKU1-SPR-KG	EKU1-SPR-KH	EKU1-SI-KRH
INC + 1NO slow action contact 	EKU1-FD-K5T	EKU1-FD-KD		EKU1-FD-KG	EKU1-FD-KH	

△ recommended operating travel
 ▲ positive opening

△ The EKU series are also available for AS-Interface applications.

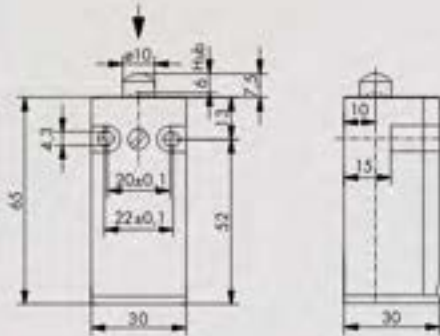


IP65 IP65 IP65 IP65 IP65 IP65 IP65 IP65

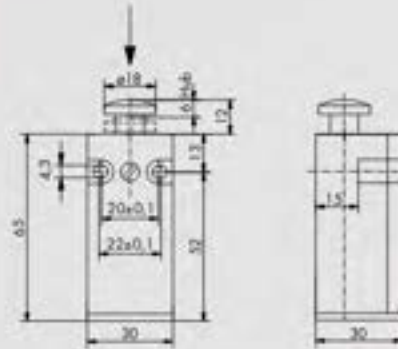


RH	EKU1-KRHV	EKU1-KK	EKU1-KDH	EKU1-KDF	EKU1-KR	EKU1-KV	EKU1-KW	EKU1-KZ
PR-	EKU1-SPR-KRHV	EKU1-SPR-KK	EKU1-SPR-KDH	EKU1-SPR-KDF	EKU1-SPR-KR	EKU1-SPR-KV	EKU1-SPR-KW	
		EKU1-FD-KK			EKU1-FD-KR	EKU1-FD-KV	EKU1-FD-KW	

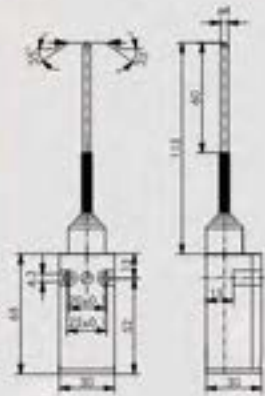
EKU1-KST
EKU1-FD-KST
EKU1-SPR-KST



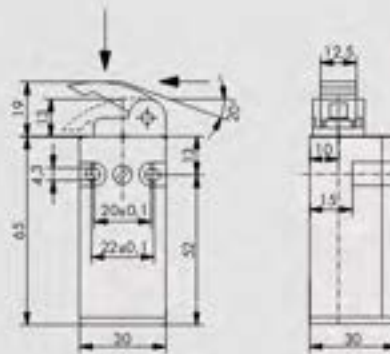
EKU1-KD
EKU1-SPR-KD
EKU1-FD-KD



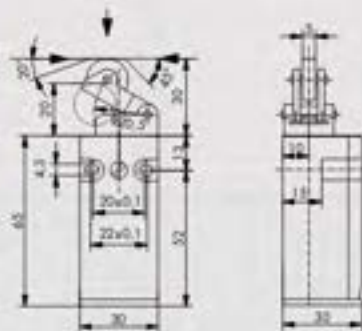
EKU1-SPR-KFS



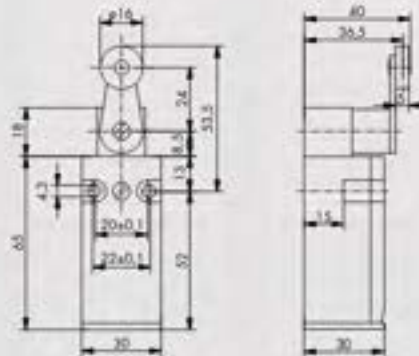
EKU1-KG
EKU1-SPR-KG
EKU1-FD-KG



EKU1-KH
EKU1-SPR-KH
EKU1-FD-KH



EKU1-KRH
EKU1-SPR-KRH



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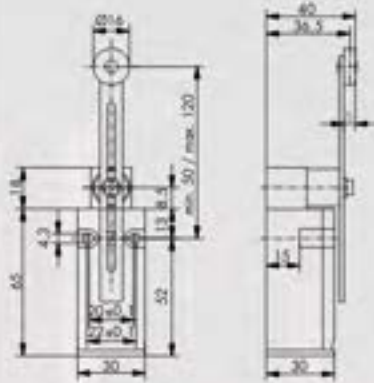
Terminal Blocks

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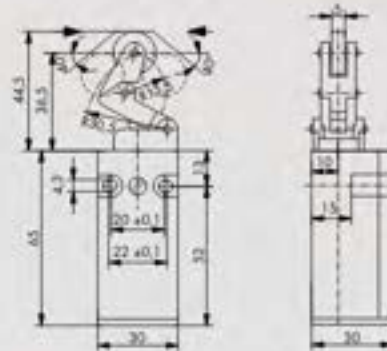
← Limit Switches

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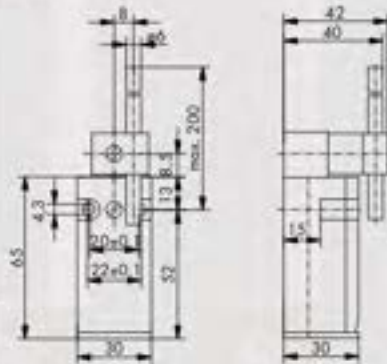
EKU1-KRHV
EKU1-SPR-KRHV



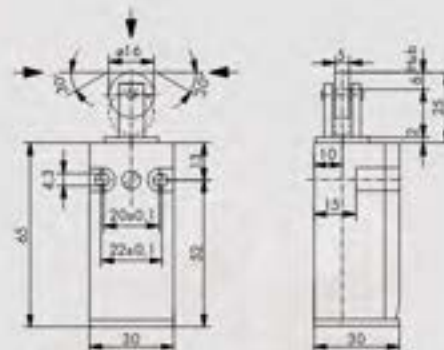
EKU1-KK
EKU1-SPR-KK
EKU1-FD-KK



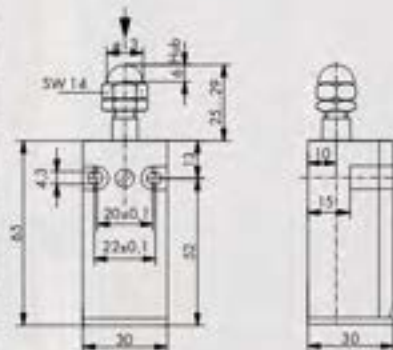
EKU1-KDH
EKU1-SPR-KDH
EKU1-KDF
EKU1-SPR-KDF



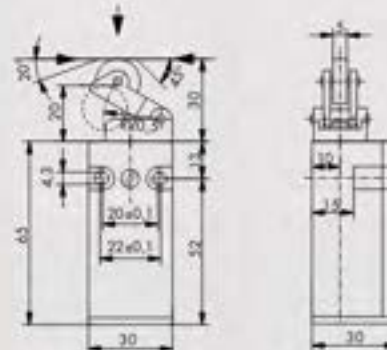
EKU1-KR
EKU1-SPR-KR
EKU1-FD-KR



EKU1-KV
EKU1-SPR-KV
EKU1-FD-KV



EKU1-KW
EKU1-SPR-KW
EKU1-FD-KW



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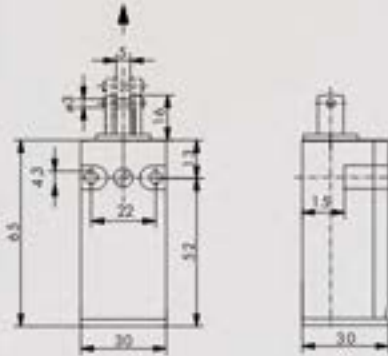
Limit Switches

made in germany



EKU

EKU1-KZ



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Technical Data of Limit Switches for AS-Interface Application

Communication

- AS-Interface specification: V2.11, Rev. 1
- Slave profile: S-B, A.E
- Connection: 4-pole sensor connector M12x1, contact 1 is assigned to ASI+ and contact 3 to ASI-
- Max. network length: 100m (without repeater)
- Max. cycle time: 10ms (62 A/B slaves)

Ambient Conditions

- Transport, storage and Operating temperature: -25°C ... +55°C

Mechanical Data

- Operating travel: 6mm

Electrical Data

- Voltage supply: 26.5...31.6 V, through the AS-Interface line
- Total power consumption: <= 30 mA
- Reverse polarity protection: available

- Admissible on-load switching cycles: 1200/h
- Mechanical life: 10 mill. switching cycles
- Operating force on plunger: 10 N
- Actuators: exchangeable and rotatable by 90°
- Degree of protection acc. to DIN 40050: IP65
- Construction: compliant to VDE 0660/200
- Ambient conditions acc. to DIN IEC 721-3-3: stationary use at weatherproof locations 3D6/3Z2/3Z10/3B2/3C2/3S3/3M6



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Relay Switches

→ Limit Switches

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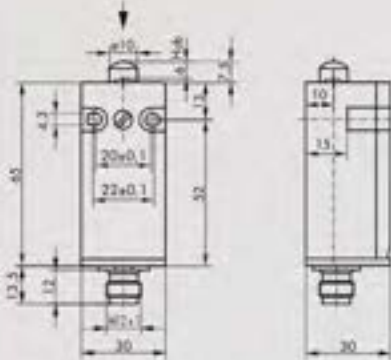


<p>INC + 1NO</p>	<p>ASI_EKU1-KST</p>	<p>ASI_EKU1-KD</p>		<p>ASI_EKU1-KG</p>	<p>ASI_EKU1-KH</p>	<p>ASI_EKU1-KRH</p>
<p>INC + 1NO snap action contact</p>	<p>ASI_EKU1-SPR-KST</p>	<p>ASI_EKU1-SPR-KD</p>	<p>ASI_EKU1-SPR-KFS</p>	<p>ASI_EKU1-SPR-KG</p>	<p>ASI_EKU1-SPR-KH</p>	<p>ASI_EKU1-KRH</p>

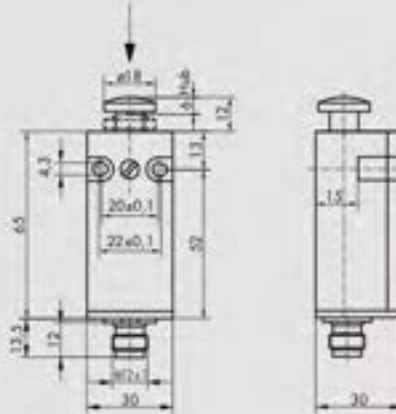
- △ recommended operating travel
- ▲ positive opening

-KRH	ASI_EKU1-KRHV	ASI_EKU1-KK	ASI_EKU1-KDH	ASI_EKU1-KDF	ASI_EKU1-KR	ASI_EKU1-KV	ASI_EKU1-KW	ASI_EKU1-KZ
-SPR-	ASI_EKU1-SPR-KRHV	ASI_EKU1-SPR-KK	ASI_EKU1-SPR-KDH	ASI_EKU1-SPR-KDF	ASI_EKU1-SPR-KR	ASI_EKU1-SPR-KV	ASI_EKU1-SPR-KW	

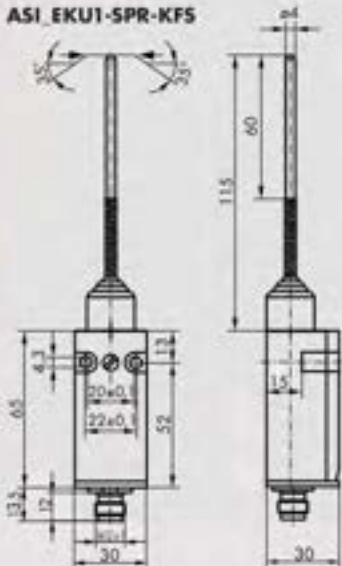
ASI_EKU1-KST
ASI_EKU1-SPR-KST



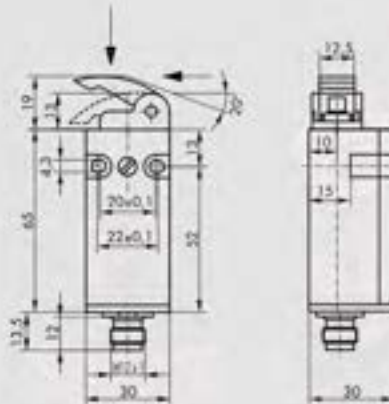
ASI_EKU1-KD
ASI_EKU1-SPR-KD



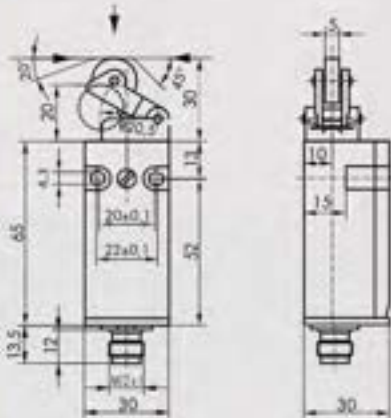
ASI_EKU1-SPR-KFS



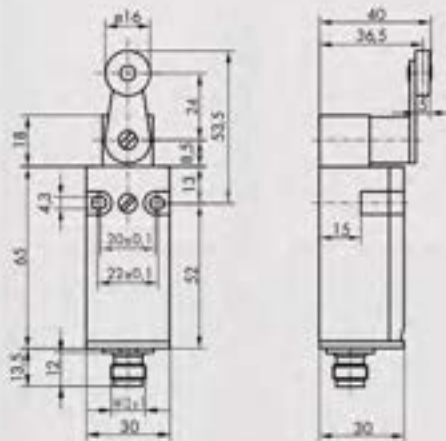
ASI_EKU1-KG
ASI_EKU1-SPR-KG



ASI_EKU1-KH
ASI_EKU1-SPR-KH



ASI_EKU1-KRH
ASI_EKU1-SPR-KRH



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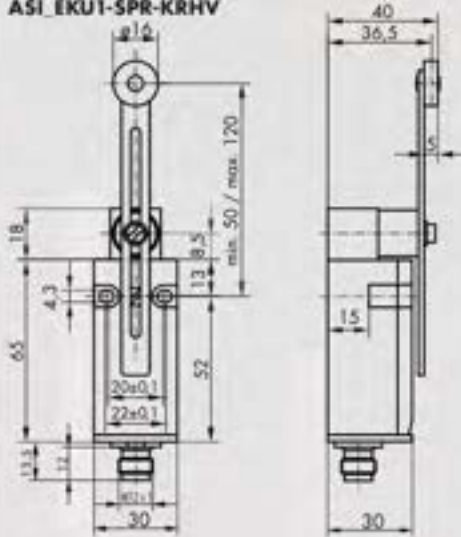
Terminal Blocks

Relay Switches

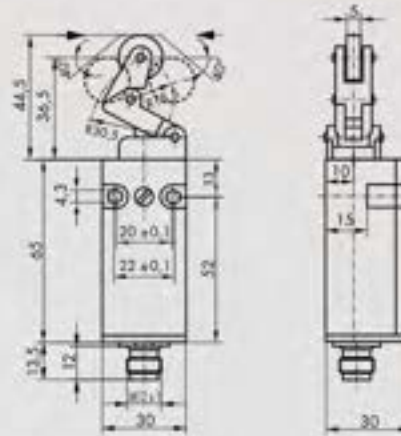
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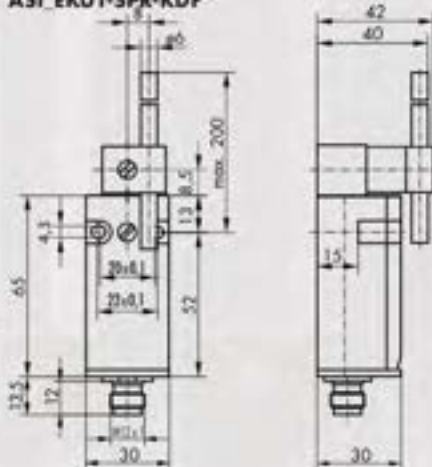
ASI_EKU1-KRHV
ASI_EKU1-SPR-KRHV



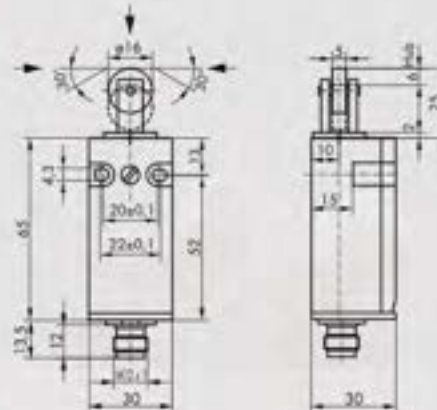
ASI_EKU1-KK
ASI_EKU1-SPR-KK



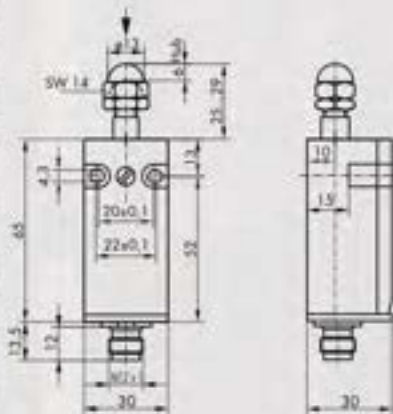
ASI_EKU1-KDH
ASI_EKU1-SPR-KDH
ASI_EKU1-KDF
ASI_EKU1-SPR-KDF



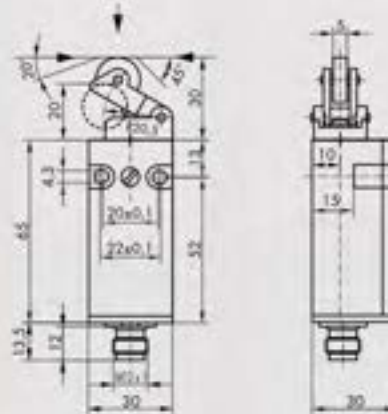
ASI_EKU1-KR
ASI_EKU1-SPR-KR



ASI_EKU1-KV
ASI_EKU1-SPR-KV



ASI_EKU1-KW
ASI_EKU1-SPR-KW



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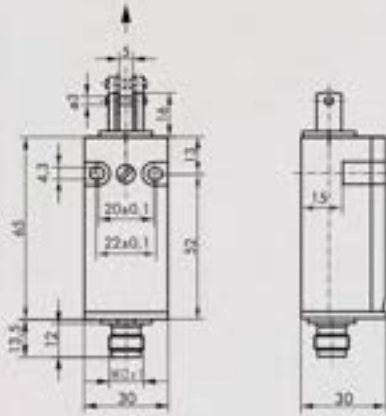
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ASI_EKU1-KZ



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Limit Switches - K... Series

Type approval	GL
Operating and ambient conditions compliant to	DIN IEC 721-3-1..3 and DIN IEC 721-3-6
Degree of protection acc. to DIN 40050 IEC 144	IP 65
Contact base material	PA6
Transport, storage and operating temperature	-25°C up to +55°C
Screw clamp connection	M 3.5
Terminal cross-section	2x 0.75 ... 2.5 mm ² solid, flexible multicore with ferrule 2x 0.75..1.5 mm ² max. 0.25 m/s min. 1mm/s AC; min. 20mm/s DC
Operating speed on plunger	
Mechanical life	1x10,000,000 switching cycles
Operating force on plunger	10N
Insulation group acc. to DIN VDE 110	C
Admissible on-load switching cycles	1200/h
Min. switching current using silver contacts	0.1A
with slow-action contact	0.012A
with snap-action contact	0.012A
Min. switching voltage using silver contacts	24V
Electrical life	5x 100,000 switching cycles AC 380V/1A DC 220V/0.2A
Max. rated current/ AC	6A
Rated frequency	50...60Hz
Max. rated voltage	AC 380V DC 220V



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Limit Switches

made in germany



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1NC 	KA1	KA1-D		KA1-G
1NC + 1NO 	KU1	KU1-D		KU1-G
1NC + 1NO (overlapping) 	KÜ1	KÜ1-D		KÜ1-G
1NC + 1NO slow action contact 	KU1-FD	KU1-FD-D		KU1-FD-G
1NC + 1NO snap action contact 	KU1-SP	KU1-SP-D	KU1-SP-FS	KU1-SP-G
2NC 	KA2	KA2-D		KA2-G
2NC + 1NO 	KA2-E1	KA2-E1-D		KA2-E1-G
2NO 	KE2	KE2-D		KE2-G
1NC + 2NO 	KE2-A1	KE2-A1-D		KE2-A1-G
1NC + 1NO slow action contact 	KA1-E1-FD	KA1-E1-FD-D		KA1-E1-FD-G

- recommended operating travel
- positive opening





KA1-H	KA1-K	KA1-R	KA1-V	KA1-W	
KU1-H	KU1-K	KU1-R	KU1-V	KU1-W	KU1-Z
KÜ1-H	KÜ1-K	KÜ1-R	KÜ1-V	KÜ1-W	
KU1-FD-H	KU1-FD-K	KU1-FD-R	KU1-FD-V	KU1-FD-W	
KU1-SP-H	KU1-SP-K	KU1-SP-R	KU1-SP-V	KU1-SP-W	
KA2-H	KA2-K	KA2-R	KA2-V	KA2-W	
KA2-E1-H	KA2-E1-K	KA2-E1-R	KA2-E1-V	KA2-E1-W	
KE2-H	KE2-K	KE2-R	KE2-V	KE2-W	
KE2-A1-H	KE2-A1-K	KE2-A1-R	KE2-A1-V	KE2-A1-W	
KA1-E1-FD-H	KA1-E1-FD-K	KA1-E1-FD-R	KA1-E1-FD-V	KA1-E1-FD-W	

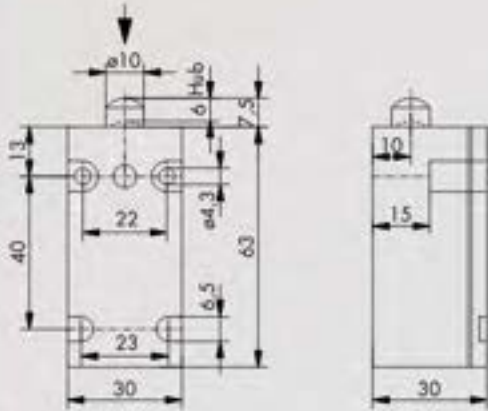
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- Hyd Switches
- Limit Switches

If you want to have the limit switches with "GL approval", just add "T" in front of type number (e.g. T-KA1).

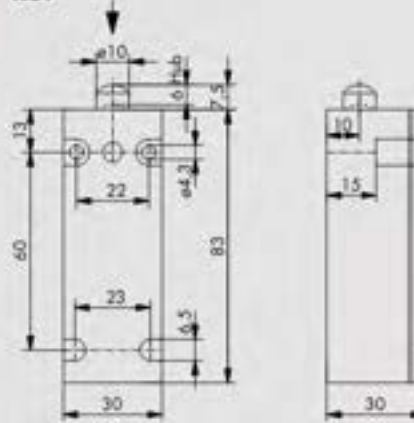


K

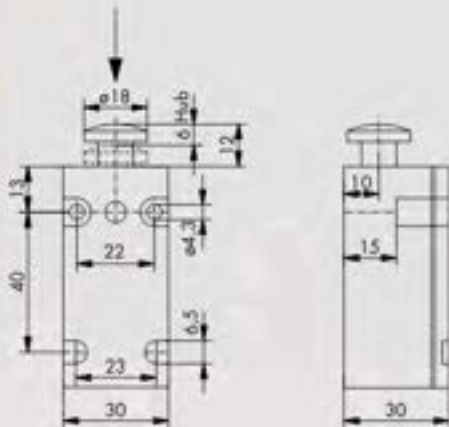
**KA1
KU1
KU1-FD
KU1-SP**



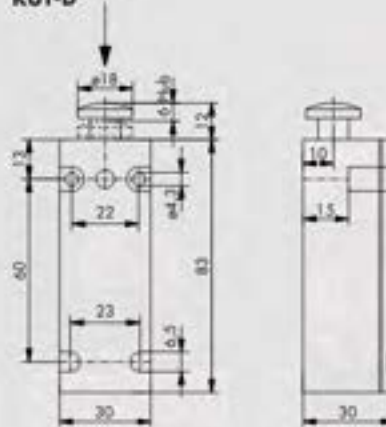
**KA2
KA2-E1
KE2
KE2-A1
KA1-E1-FD
KÜ1**



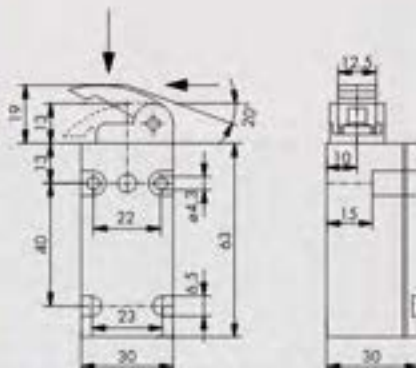
**KA1-D
KU1-D
KU1-FD-D
KU1-SP-D**



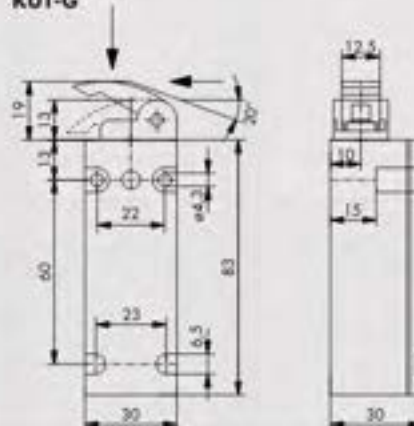
**KA2-D
KA2-E1-D
KE2-D
KE2-A1-D
KA1-E1-FD-D
KÜ1-D**



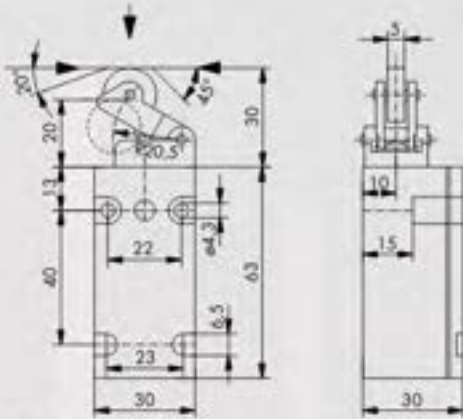
**KA1-G
KU1-G
KU1-FD-G
KU1-SP-G**



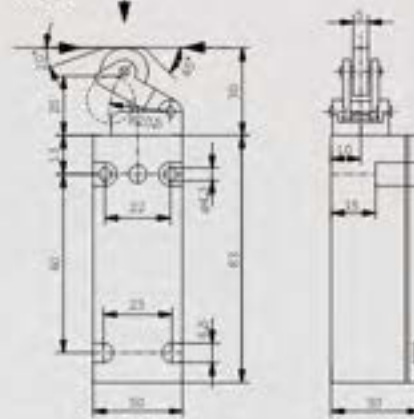
**KA2-G
KA2-E1-G
KE2-G
KE2-A1-G
KA1-E1-FD-G
KÜ1-G**



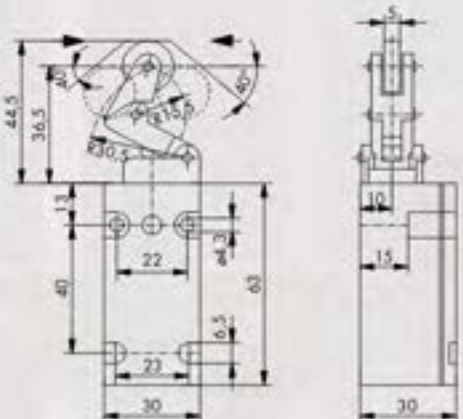
KA1-H
KU1-H
KU1-FD-H
KU1-SP-H



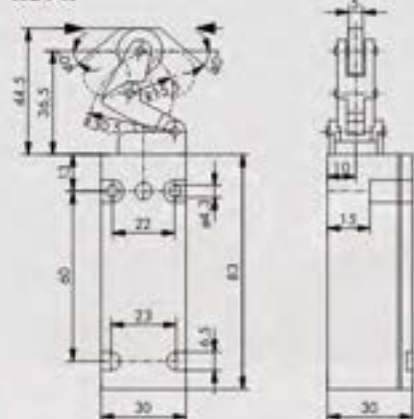
KA2-H
KA2-E1-H
KE2-H
KE2-A1-H
KA1-E1-FD-H
KÜ1-H



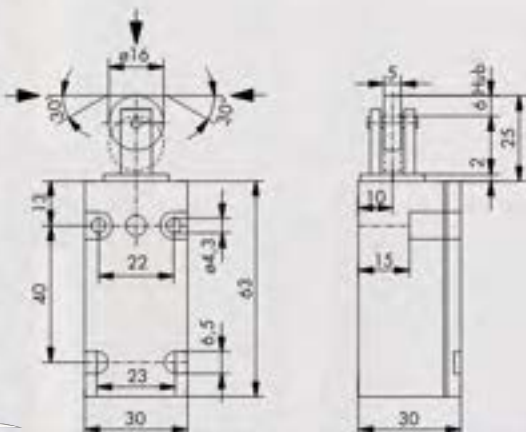
KA1-K
KU1-K
KU1-FD-K
KU1-SP-K



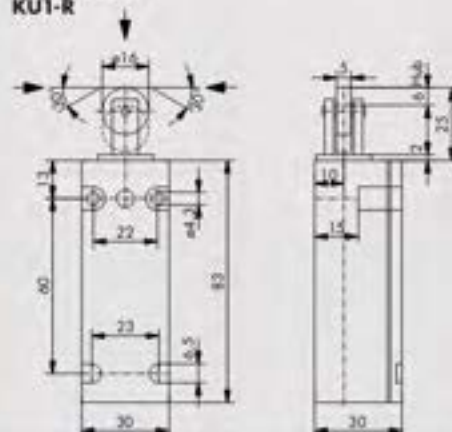
KA2-K
KA2-E1-K
KE2-K
KE2-A1-K
KA1-E1-FD-K
KÜ1-K



KA1-R
KU1-R
KU1-FD-R
KU1-SP-R



KA2-R
KA2-E1-R
KE2-R
KE2-A1-R
KA1-E1-FD-R
KÜ1-R



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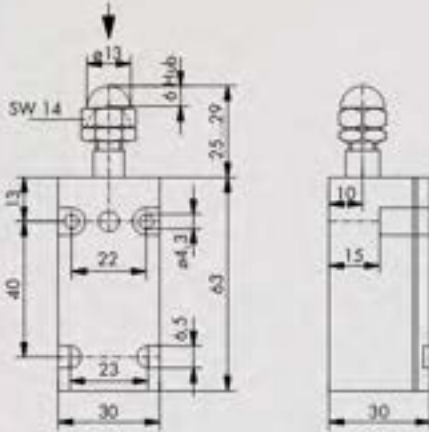
Hybrid Switches

→ Limit Switches

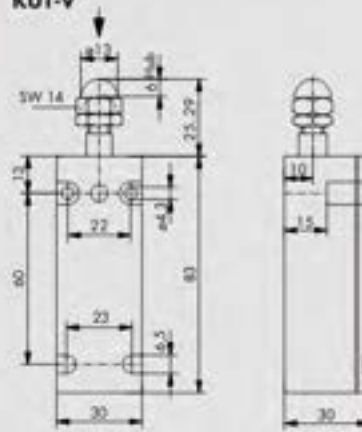
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K

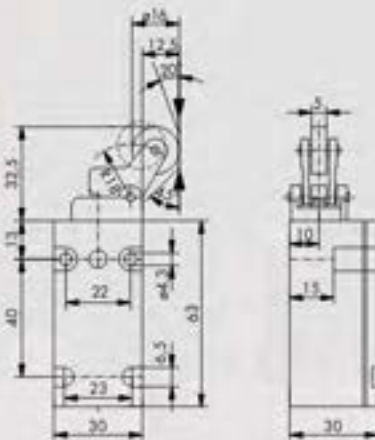
KA1-V
KU1-V
KU1-FD-V
KU1-SP-V



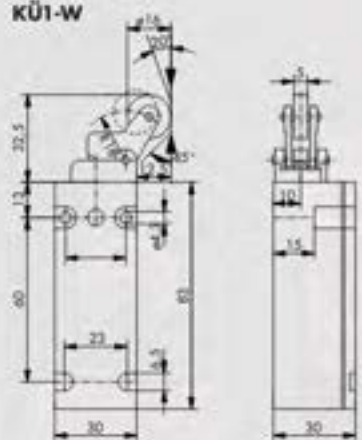
KA2-V
KA2-E1-V
KE2-V
KE2-A1-V
KA1-E1-FD-V
KÜ1-V



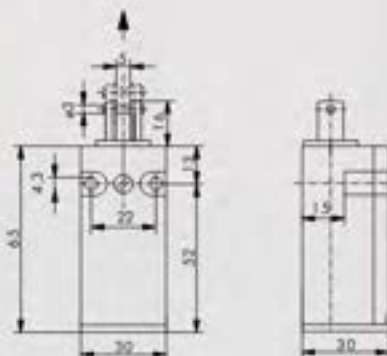
KA1-W
KU1-W
KU1-FD-W
KU1-SP-W



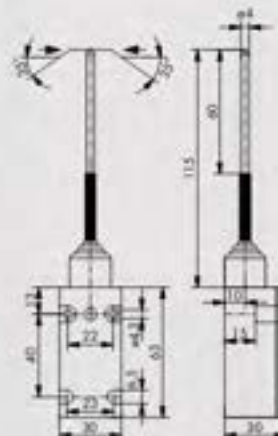
KA2-W
KA2-E1-W
KE2-W
KE2-A1-W
KA1-E1-FD-W
KÜ1-W



KU1-Z



KU1-SP-F5



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Limit Switches - GW...1 Standard Series

Type Approval	GL
Operating and ambient conditions compliant to	DIN IEC 721-3-1..3 and DIN IEC 721-3-6
Degree of protection acc. to DIN 40050 IEC 144	IP 65
Housing material	aluminium die casting
Transport, storage and operating temperature	-25°C up to +55°C
Screw clamp connection	M 4
Terminal cross-section	2x 0.75 ... 2.5 mm ² solid, flexible multicore with ferrule 2x 0.75..1.5 mm ²
Operating speed on plunger	max. 0.25 m/s min. 1mm/s AC; min. 20mm/s DC
Mechanical life	1x10.000.000 switching cycles
Operating force on plunger	18N
Insulation group acc. to DIN VDE 110	C
Admissible on-load switching cycles	1200/h
Min. switching current using silver contacts	0.1A
Min. switching voltage using silver contacts	24V
Electrical life	5x 100.000 switching cycles AC 380V/1A DC 220V/0,2A
Max. rated current/ AC	6A
Rated frequency	50...60Hz
Max. rated voltage	AC 380V DC 220V

Limit Switches - GW...2 Modular Series

Module type approval	-
Operating and ambient conditions compliant to	DIN IEC 721-3-1..3 and DIN IEC 721-3-6
Degree of protection acc. to DIN 40050 IEC 144	IP 65
Housing material	aluminium die casting
Contact base material	PA6.6
Transport, storage and operating temperature	-25°C up to +55°C
Screw clamp connection	Schlegel Modular Contact System
Screwless connection technology	CAGE CLAMP Modular Contact System
Operating speed on plunger	max. 0.25 m/s min 1mm/s AC min 20mm/s DC
Mechanical life	-
Operating force on plunger	18N
Admissible on-load switching cycles	1200/h

The possible combinations of the modular contact elements create a modular assembly system that offers a variant diversity which is unique. For instance, for connection workings the modular contact block can be freely removed from the housing, which makes wiring very easy.

Limit Switches - PW... Series

Operating and ambient conditions compliant to	DIN IEC 721-3-1..3
Degree of protection acc. to DIN 40050 IEC 144	IP 65
Housing material	PA6
Transport, storage and operating temperature	-25°C up to +55°C
Screw clamp connection	M 4
Terminal cross-section	2x 0.75 ... 2.5 mm ² solid, flexible multicore with ferrule 2x 0.75..1.5 mm ²
Operating speed on plunger	max. 0,25 m/s min. 1mm/s AC; min. 20mm/s DC
Mechanical life	1x10.000.000 switching cycles
Operating force on plunger	18N
Insulation group acc. to DIN VDE 110	C
Admissible on-load switching cycles	1200/h
Min. switching current using silver contacts	0.1A
Min. switching voltage using silver contacts	24V
Electrical life	5x 100.000 switching cycles AC 380V/1A DC 220V/0,2A
Max. rated current/ AC	6A
Rated frequency	50...60Hz
Max. rated voltage	AC 380V DC 220V

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	IP63	IP63	IP63
1NC 	GWA1 PWA1		GWA1-H PWA1-H
1NC + 1NO 	GWU1 PWU1	GWU1-D	GWU1-H PWU1-H
1 Ö + 1 S (überschneidend) 	GWÜ1	GWÜ1-D	GWÜ1-H
NC + 1NO (overlapping) + 1NC 	GWÜA1		GWÜA1-H
1NC + 1NO (overlapping) + 1NO 	GWÜE1		GWÜE1-H
2NC 	GWA2	GWA2-D	GWA2-H
2NC + 1NO 	GWA2-E1	GWA2-E1-D	GWA2-E1-H
2NC, positive opening contact 	GWA2-Zw		GWA2-H-Zw
2NC + 2NO 	GWU2	GWU2-D	GWU2-H
2NO 	GWE2	GWE2-D	GWE2-H
3NC 	GWA3	GWA3-D	GWA3-H
3NO 	GWE3	GWE3-D	GWE3-H

If you require a cable gland, just add "mKV" to type number (e.g. GWA1mKV).
 If you want to have the limit switches with "GL approval", just add "T" in front of type number (e.g. T-GWA1).





IP65



IP65



IP65



IP65



GWA1-R

PWA1-R

GWU1-R

PWU1-R

GWÜ1-R

GWÜA1-R

GWÜE1-R

GWA2-R

GWA2-R-Zw

GWU2-R

GWE2-R

GWA3-R

GWE3-R

GWA1-V

GWU1-V

GWÜ1-V

GWA2-V

GWA2-E1-V

GWA2-V-Zw

GWU2-V

GWE2-V

GWA3-V

GWE3-V

GWU1-F

GWÜ1-F

GWA2-F

GWA2-E1-F

GWU2-F

GWE2-F

GWA3-F

GWE3-F

GWU1-ZB

PWU1-ZB

△ recommended operating travel
▲ positive opening

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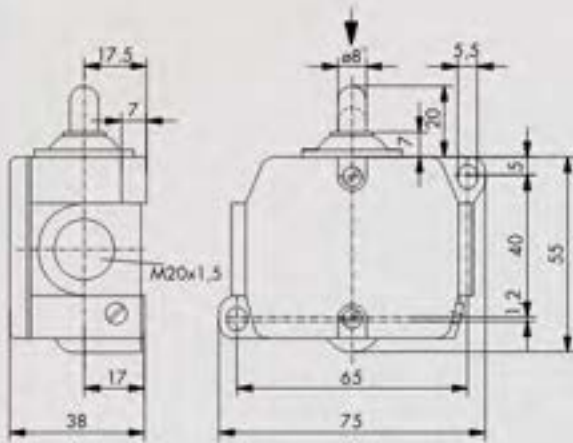
Terminal Blocks

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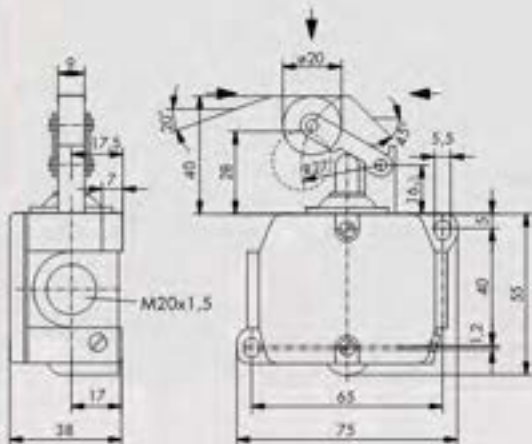
← Limit Switches

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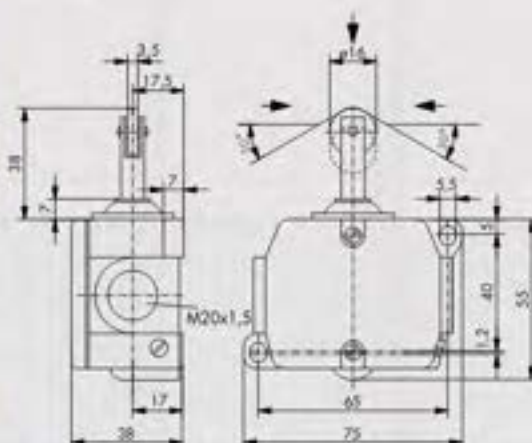
**GWA1
GWU1
PWA1
PWU1**



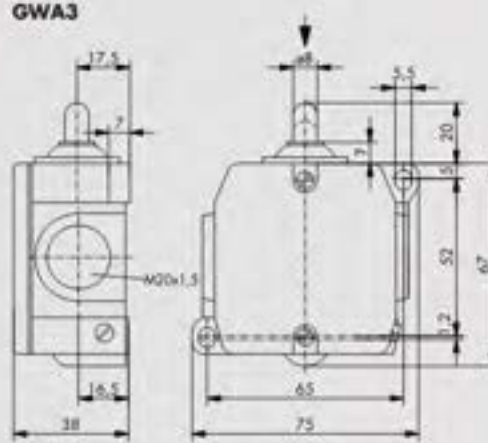
**GWA1-H
GWU1-H
PWA1-H
PWU1-H**



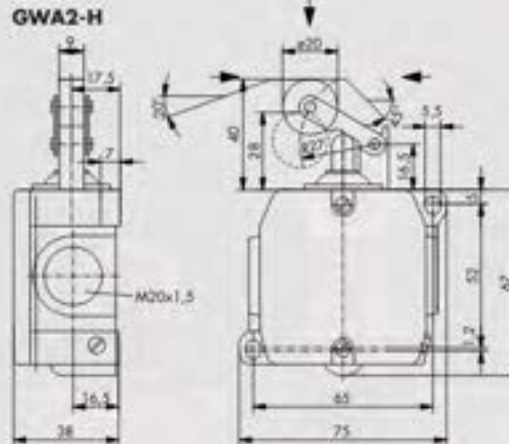
**GWA1-R
GWU1-R
PWA1-R
PWU1-R**



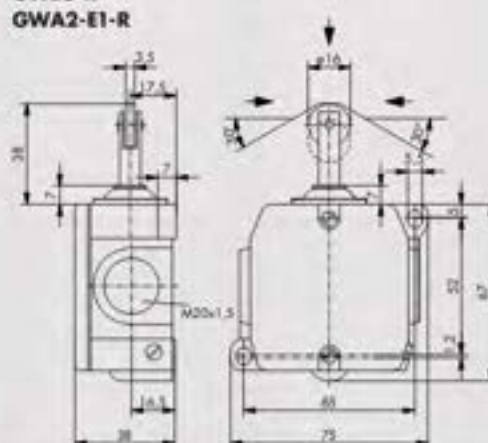
**GWA2
GWA2-E1
GWA2-Zw
GWU2
GWE2
GWA3**



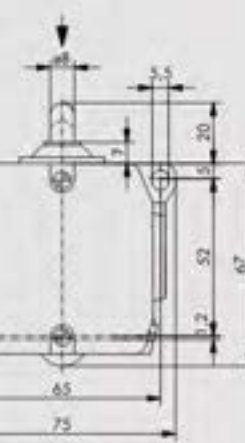
**GWA2-H-Zw
GWU2-H
GWE2-H
GWA3-H
GWE3-H
GWA2-H**



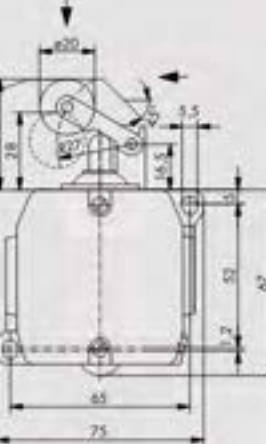
**GWA2-R
GWU2-R
GWE2-R
GWA3-R
GWE3-R
GWA2-E1-R**



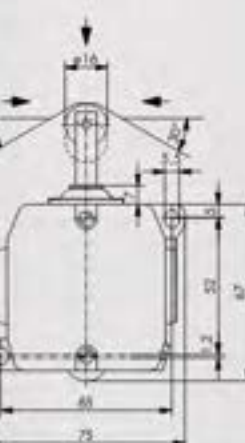
**GWE3
GWÜ1
GWÜA1
GWÜE1**



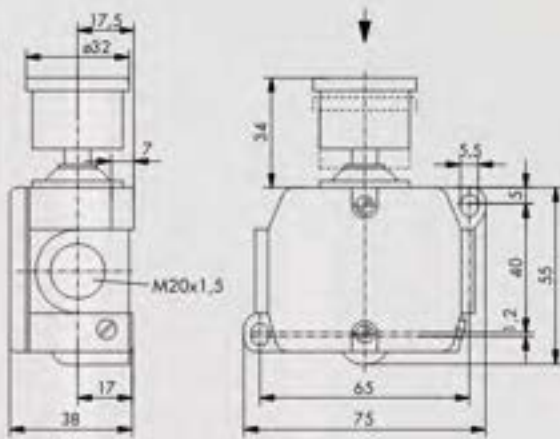
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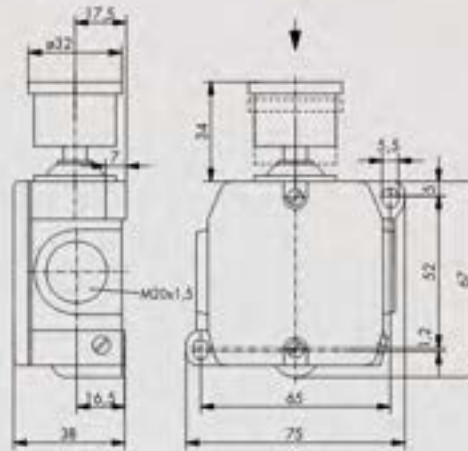
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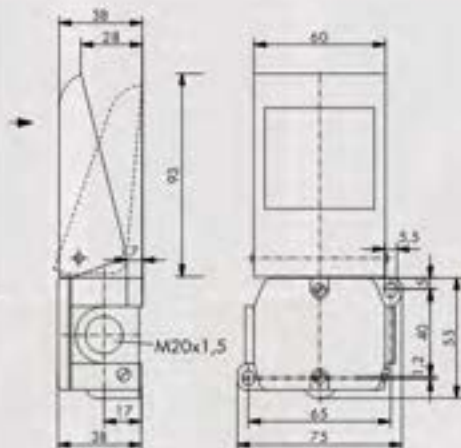


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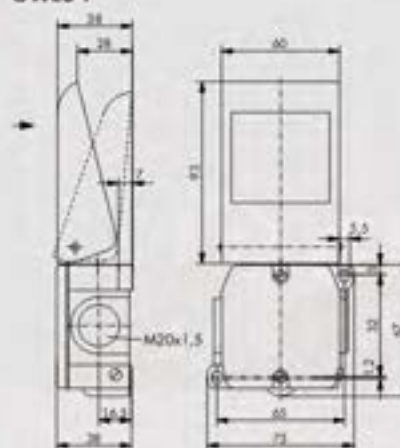


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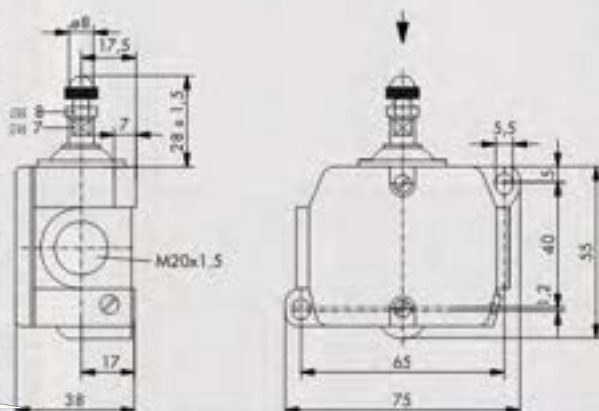


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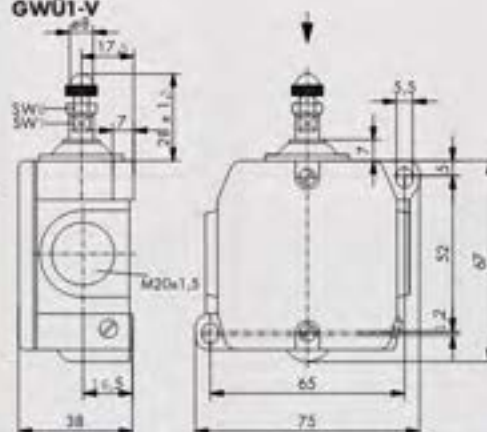


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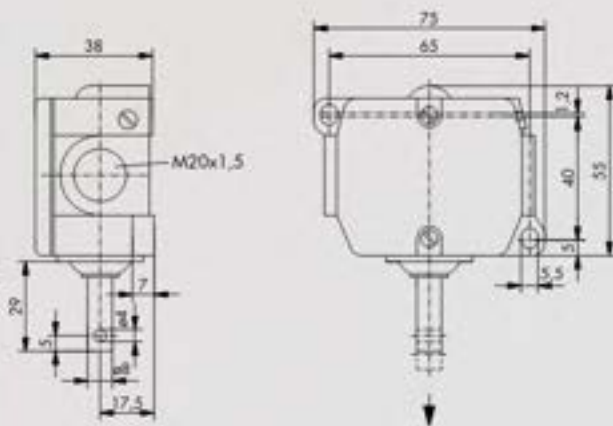





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