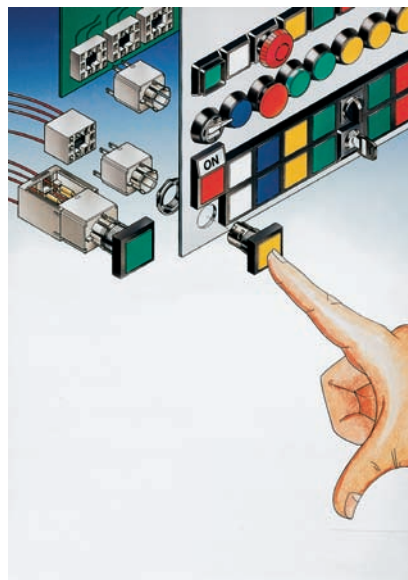




Control components

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General data

RAFIX 16 control component range

- For a mounting hole diameter of 16.2 mm to IEC 60947
- 250V/6A max.
- Water-jet proof IP65
- Contact blocks: Gold and silver contacts with quick-connect terminals 2.8 x 0.8 mm; Option: PCB plug-in socket
- 3 collar shapes, low-profile design
- The lamps of the pushbuttons can be replaced from the front or rear.
- The contact blocks snap directly onto the actuators without a coupling element and can be easily removed by turning = cost reducing assembly.

The specified data apply only if actuators/signal indicators are combined with contact blocks and lamp sockets within the same product range.

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RAFIX 16

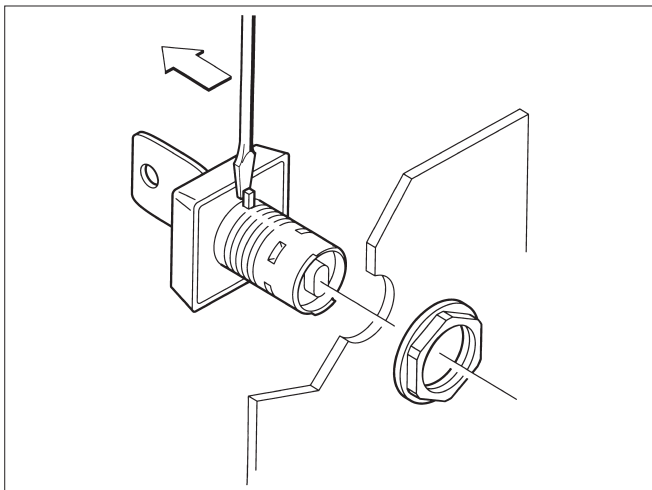
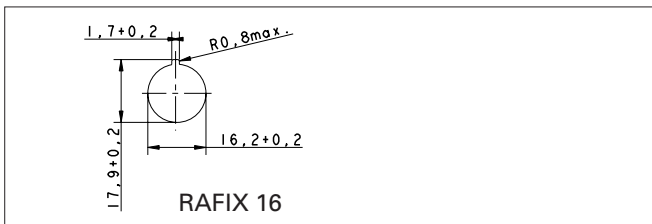
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General information

RAFIX 16 is a complete control component series for a mounting hole diameter of 16.2 mm. It enables you to design attractive control panels with a minimum of space requirements and at the same time sufficiently large actuating areas.

Actuators

- Mounting hole \varnothing 16.2 mm to DIN EN 50 007



- Locating lug (easily removable).
The locating lug can be easily removed using a screwdriver.
- Degree of protection IP 65 on panel.
This is achieved by a reliable, tried and tested special seal.

RAFIX 16 actuators

- Grid spacing 25 x 25 mm
- 7 mm height from front panel
- Three collar shapes, in black
 - Square 25 x 25 mm
 - Round 25 mm
 - Square 25 x 25 mm, alignable in flush fitting rows, which avoids accumulation of dirt between the collars.

Contact blocks

- Standard: for actuators with one-way operation
 - with latching mechanism (latching switch)
 - without latching mechanism (momentary switch)
- Universal: for E-stop pushbuttons and for actuators with two-way operation, e. g. selector switches
 - without latching mechanism

Contact material

- Silver contacts for mains voltage
- Gold contacts for electronic circuits

Illumination

- Wedge base lamp or LED with socket W 2 x 4.6 d

Assembly

- Single-handed cost-effective assembly method
- Panel thickness 0.5 ... 5 mm
- Fixing with hexagon nut
- Starting torque 1.2 Nm max.

Shock-resistance according to IEC 600 68-2-27

- Shock amplitude: \leq 50 g
- Shock time: 11 ms
- Shock type: half sinusoidal

Environment conditions

- Constant environment: acc. to IEC 600 68-2-3 and 2-30
- Variable environment: acc. to IEC 600 68-2-14 and 2-33

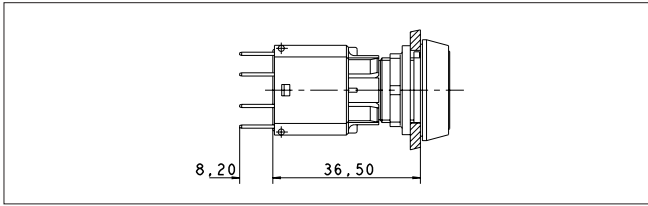
Temperature range

- Operating temperature:
 - non-illuminated: - 25 ... + 70 °C
 - illuminated: - 25 ... + 55 °C
- Storage temperature: - 40 ... + 85 °C

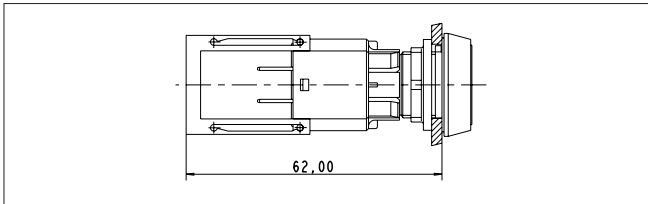
RAFIX 16

Dimensional Drawings RAFIX 16

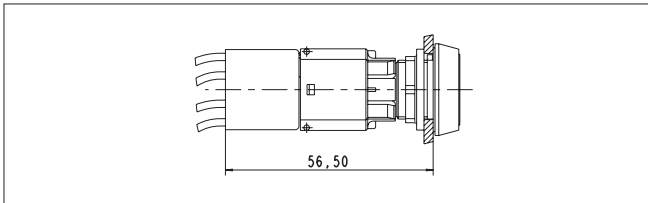
Actuator with contact block resp.
signal indicator with lamp socket



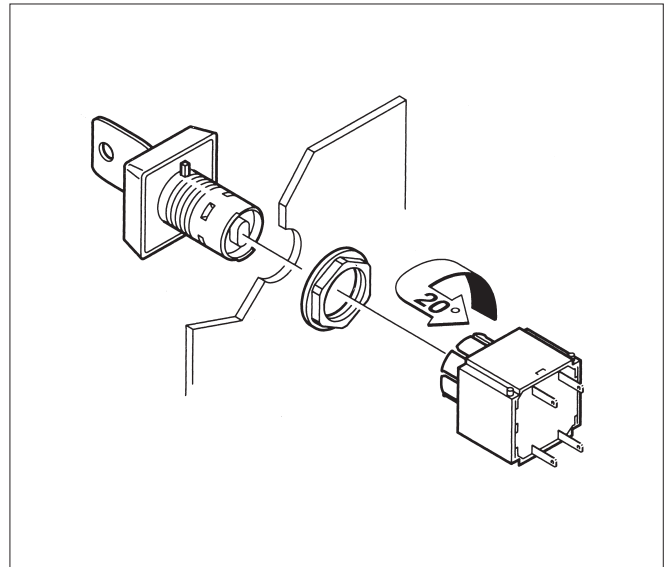
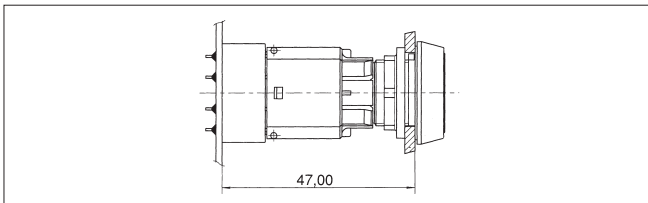
... with protection cage



... with multipole connector



... with PCB plug-in socket



Assembly/Disassembly

Assembly

- Insert the actuator through the panel cut-out from the front.
- If there is no locating indent provided in the cut-out, first remove the locating lug using a screwdriver.
- Screw the hexagon nut onto the actuator or signal indicator from the rear and tighten it using a fixing spanner.
- Slide the contact block onto the actuator from the rear with an audible click.
- Install protection against accidental contact, if applicable.
- Connect quick-connect terminals.
- Alternatively, connect crimped female quick-connect terminals to multipole connector and plug it onto the contact block.
- Alternatively, contact the plug-in socket soldered onto the PCB.

Disassembly

- Turn the contact block by approx. 20° to the left or right – the latches open.
 - Pull the contact block off towards the rear (commercially available flat nose pliers recommended).
- To dismount a PCB, pull the PCB with the soldered plug-in sockets off the mounted contact blocks.

Legending

All elements can be labelled using a separate label holder. The label holder is mounted together with the actuator/signal indicator. For order numbers and standard legend, refer to the section "Legending".

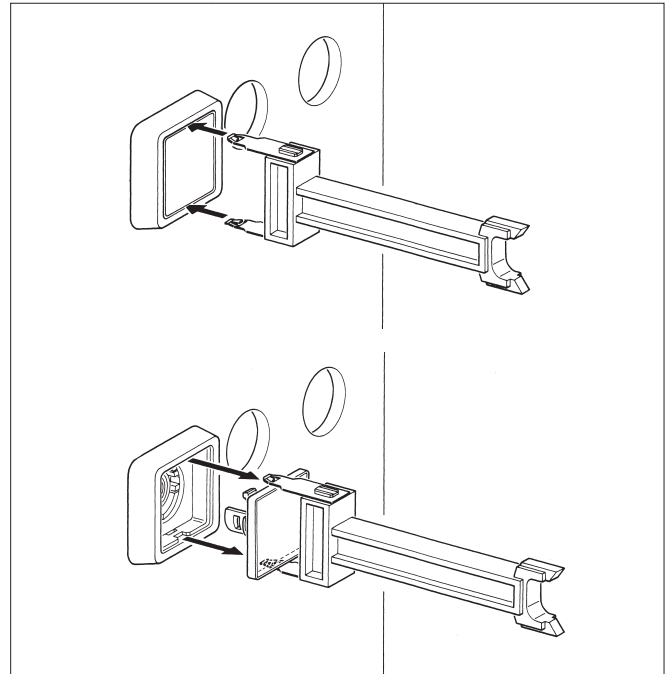
Non-illuminated push-buttons and mushroom-headed pushbuttons can be printed or laser engraved.

All illuminated pushbuttons and the majority of the signal indicators can be labelled by means of legend inserts. The legend inserts are fitted between actuator body and lens and can be easily changed.

RAFI can also provide you custom legending. Price and delivery on request.

Lamp replacement from front

Use the disassembly tool to grasp the actuator body and pull it towards the front with the lens. Alternatively, you can use a screwdriver in place of the disassembly tool. In this case, insert the screwdriver between actuator body and collar and carefully raise the actuator body. Replace the lamp using a lamp extractor or a suitable insulation sleeve.



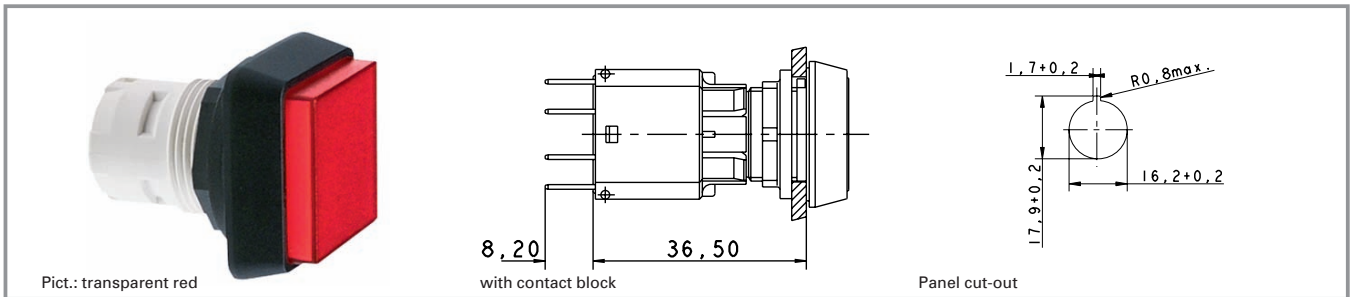
Lamp replacement from front

CE-Conformity RAFIX® 16

Combination actuator and contact block	Order no.	Limit	EU-Directive	
			NSR 73/23	Ma. Dir. 89/392
All actuators	1.30.07-.-.-	6(4) A/250 V AC	●	-
All contact blocks with silver contacts	1.20.12-.-.-			
Emergency stop	1.30.074.-.-	6(4) A/250 V AC	●	●
Contact blocks with silver contacts	1.20.123.-.-			
Emergency stop	1.30.074.-.-	250 mA/42 V AC/DC	-	●
Universal contact blocks with gold contacts	1.20.123.-.-			
Signal indicator	1.62.124.-.-	1,2 W/60 V AC/DC	●	-
lamp socket	1.71.212.-.-			

RAFIX 16

RAFIX 16 pushbutton



2

RAFIX 16

Technical data

General information

Form of lens mushroom
 Colour of lens see order block
 Form of collar see order block

Dimensions

Length of collar see order block
 Diameter of collar see order block
 Key grid 25 x 25 mm
 Width of collar see order block
 Overall height see order block
 Mounting depth 44.7 mm
 Mounting hole 16.2 mm

Mechanical design

Mounting ring nut
 Contact function according to contact block
 Contact arrangement according to contact block
 Illuminability see order block

Mechanical characteristics

Operating travel 3 mm
 Robustness min. 100 N

Other specifications

Operating life 2000000
 Degree of protection from front side IP65
 Ambient temp. operating min. -25 °C
 Ambient temp. operating without lamp max. +70 °C
 Storage temperature min. -40 °C
 Storage temperature max. +85 °C
 Resistance to constant environment according to IEC 600 68-2-3 and 2-30
 Resistance at variable environment according to IEC 60068-2-14 and 2-33

Typical accessories RAFIX 16 pushbutton

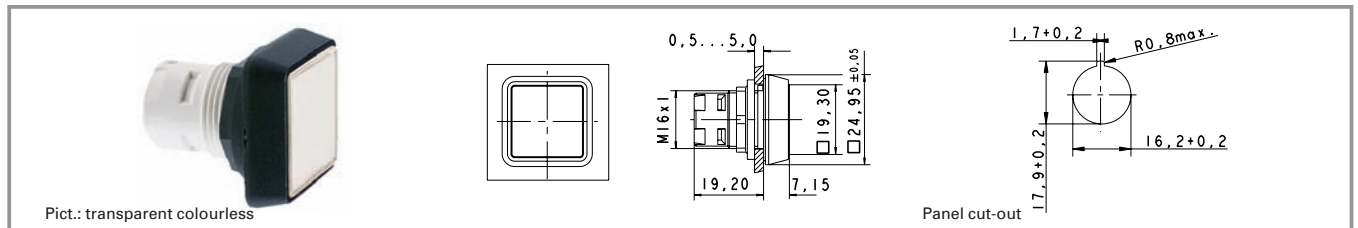
Description	Photo	Order no.	Additional accessories see page
RAFIX 16 standard contact block, 1 NC + 1 NO, momentary, silver contacts, with lamp socket		1.20.122.001/0000	2 - 48
RAFIX 16 standard contact block, 1 NC + 1 NO, momentary, gold contacts, with lamp socket		1.20.122.011/0000	2 - 44
RAFIX 16 standard contact block, 1 NC + 1 NO, momentary, silver contacts, without lamp socket		1.20.122.021/0000	2 - 48
RAFIX 16 standard contact block, 1 NC + 1 NO, momentary, gold contacts, without lamp socket		1.20.122.031/0000	2 - 44
RAFIX 16 contact block, AS-I, standard		1.20.130.101/0000	2 - 51
LED W 2 x 4.6d superbright, white, 24 V		1.90.690.365/0000	5 - 14
Disassembly tool for LUMOTAST 25, RAFIX 16		5.05.800.042/0000	2 - 60
Label holder, flush, for square collar		5.07.620.004/0000	2 - 62

RAFIX 16

Typical accessories RAFIX 16 pushbutton

Description	Photo	Order no.	Additional accessories see page
Fixing spanner for hexagon nut		5.58.002.034/0000	2 - 61
Legend insert, blank, use only for transparent lenses		5.70.635.000/2000	

RAFIX 16 pushbutton, flush lens, square collar



Illuminability	Colour of lens	Order no.	Order no. single parts	
			Housing	Lens
yes	transparent colourless	1.30.070.001/1002	1.30.070.501/0000	5.49.077.011/1002
yes	transparent red	1.30.070.001/1306	1.30.070.501/0000	5.49.077.011/1306
yes	transparent yellow	1.30.070.001/1403	1.30.070.501/0000	5.49.077.011/1403
yes	transparent green	1.30.070.001/1505	1.30.070.501/0000	5.49.077.011/1505
yes	transparent blue	1.30.070.001/1607	1.30.070.501/0000	5.49.077.011/1607
no	opaque black	1.30.070.251/0100	1.30.070.501/0000	5.49.077.011/0104
no	opaque white	1.30.070.251/0200	1.30.070.501/0000	5.49.077.011/0200
no	opaque red	1.30.070.251/0300	1.30.070.501/0000	5.49.077.011/0313
no	opaque yellow	1.30.070.251/0400	1.30.070.501/0000	5.49.077.011/0410
no	opaque green	1.30.070.251/0500	1.30.070.501/0000	5.49.077.011/0518
no	opaque blue	1.30.070.251/0600	1.30.070.501/0000	5.49.077.011/0612

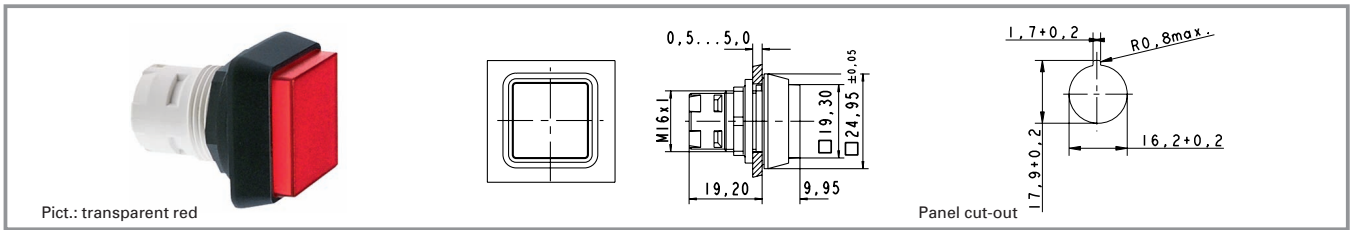
Technical data see page 2 - 8

Accessories:

Legend insert, blank, use only for transparent lenses: **5.70.635.000/2000**

For the "latching" function, please use the standard contact block with "latching" function.

RAFIX 16 pushbutton, protruding lens, square collar



Illuminability	Colour of lens	Order no.	Order no. single parts	
			Housing	Lens
yes	transparent colourless	1.30.070.051/1002	1.30.070.551/0000	5.49.077.012/1002
yes	transparent red	1.30.070.051/1306	1.30.070.551/0000	5.49.077.012/1306
yes	transparent yellow	1.30.070.051/1403	1.30.070.551/0000	5.49.077.012/1403
yes	transparent green	1.30.070.051/1505	1.30.070.551/0000	5.49.077.012/1505
yes	transparent blue	1.30.070.051/1607	1.30.070.551/0000	5.49.077.012/1607
no	opaque red	1.30.070.301/0300	-	-

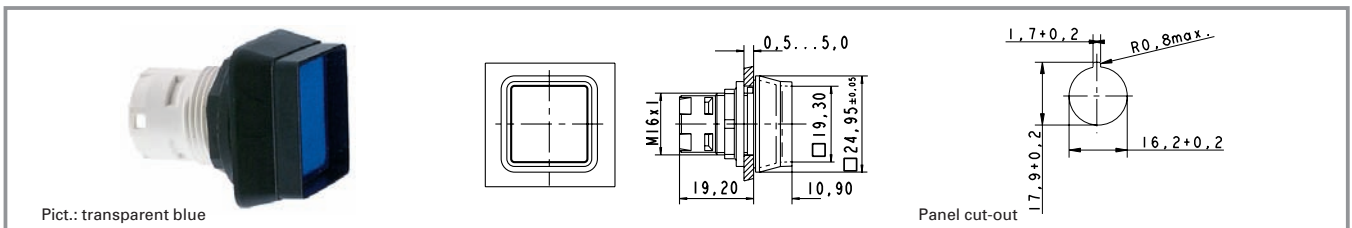
Technical data see page 2 - 8

Accessories:

Legend insert, blank, use only for transparent lenses: **5.70.635.000/2000**

For the "latching" function, please use the standard contact block with "latching" function.

RAFIX 16 pushbutton, protruding collar, square collar



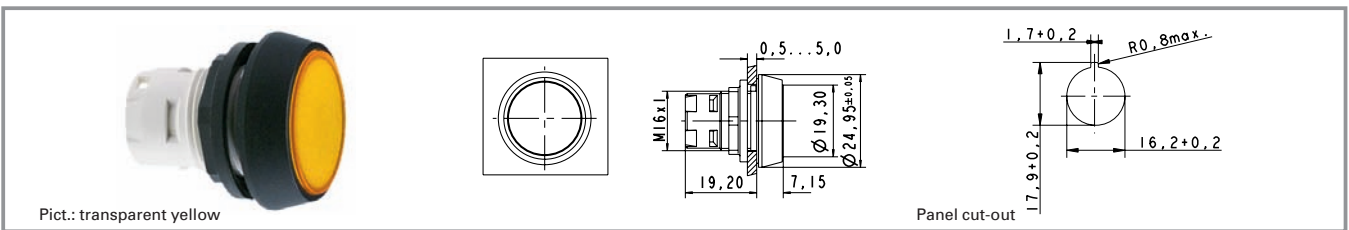
Illuminability	Colour of lens	Order no. complete	Order no. single parts	
			Housing	Lens
yes	transparent colourless	1.30.070.101/1002	1.30.070.601/0000	5.49.077.011/1002
yes	transparent red	1.30.070.101/1306	1.30.070.601/0000	5.49.077.011/1306
yes	transparent yellow	1.30.070.101/1403	1.30.070.601/0000	5.49.077.011/1403
yes	transparent green	1.30.070.101/1505	1.30.070.601/0000	5.49.077.011/1505
yes	transparent blue	1.30.070.101/1607	1.30.070.601/0000	5.49.077.011/1607

Technical data see page 2 - 8

The protruding collar offers protection against inadvertent operation and thereby fulfils the safety requirements of various machinery manufacturers, particularly in the printing industry.

For the "latching" function, please use the standard contact block with "latching" function.

RAFIX 16 pushbutton, flush lens, round collar



Illuminability	Colour of lens	Order no.	Order no. single parts	
			Housing	Lens
yes	transparent colourless	1.30.070.021/1002	1.30.070.521/0000	5.49.259.017/1002
yes	transparent red	1.30.070.021/1306	1.30.070.521/0000	5.49.259.017/1306
yes	transparent yellow	1.30.070.021/1403	1.30.070.521/0000	5.49.259.017/1403
yes	transparent green	1.30.070.021/1505	1.30.070.521/0000	5.49.259.017/1505
yes	transparent blue	1.30.070.021/1607	1.30.070.521/0000	5.49.259.017/1607
no	opaque black	1.30.070.271/0100	1.30.070.521/0000	5.49.259.017/0104
no	opaque white	1.30.070.271/0200	1.30.070.521/0000	5.49.259.017/0200
no	opaque red	1.30.070.271/0300	1.30.070.521/0000	5.49.259.017/0313
no	opaque yellow	1.30.070.271/0400	1.30.070.521/0000	5.49.259.017/0410
no	opaque green	1.30.070.271/0500	1.30.070.521/0000	5.49.259.017/0518
no	opaque blue	1.30.070.271/0600	1.30.070.521/0000	5.49.259.017/0612

Technical data see page 2 - 8

Accessories:

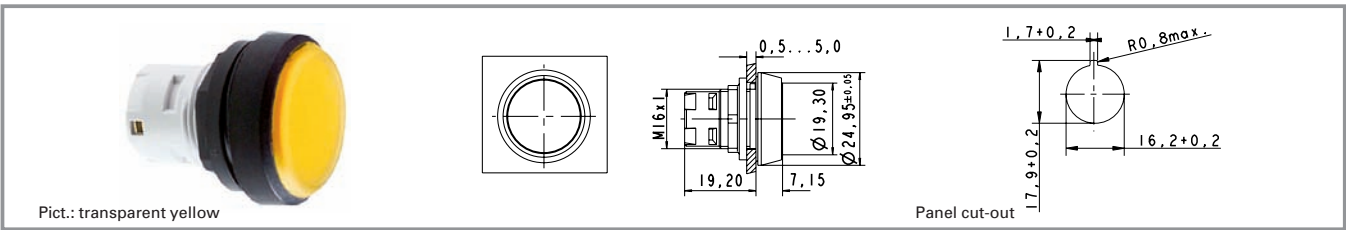
Legend insert, blank, use only for transparent lenses: 5.70.637.000/2000

For the "latching" function, please use the standard contact block with "latching" function.

2

RAFIX 16

RAFIX 16 pushbutton IP66 with protective cap



Illuminability	Colour of lens	Order no.	Order no. single parts	
			Housing	Lens
yes	transparent colourless	1.30.070.026/1002	-	-
yes	transparent red	1.30.070.026/1306	-	-
yes	transparent yellow	1.30.070.026/1403	-	-
yes	transparent green	1.30.070.026/1505	-	-
yes	transparent blue	1.30.070.026/1607	-	-

Technical data see page 2 - 8

Accessories:

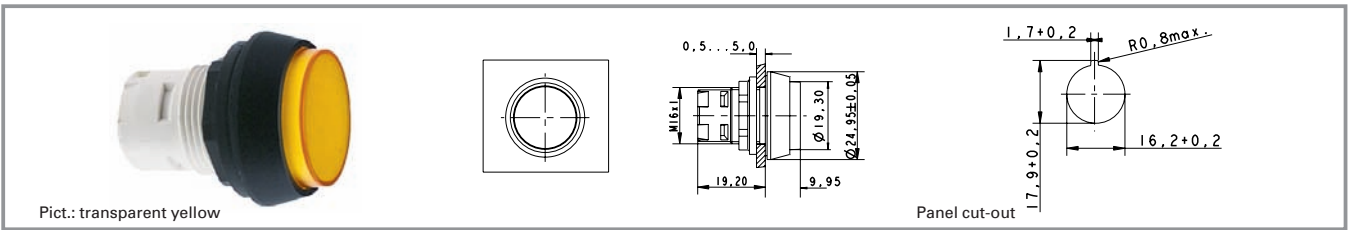
Legend insert, blank, use only for transparent lenses: 5.70.637.000/2000

Pushbutton for use in hostile environments. A transparent protective cap ensures a degree of protection of IP 66 to DIN/IEC. Operating life: 500,000 operations.

For the "latching" function, please use the standard contact block with "latching" function.

RAFIX 16

RAFIX 16 pushbutton, protruding lens, round collar



Illuminability	Colour of lens	Order no.	Order no. single parts	
			Housing	Lens
yes	transparent colourless	1.30.070.071/1002	1.30.070.571/0000	5.49.259.018/1002
yes	transparent red	1.30.070.071/1306	1.30.070.571/0000	5.49.259.018/1306
yes	transparent yellow	1.30.070.071/1403	1.30.070.571/0000	5.49.259.018/1403
yes	transparent green	1.30.070.071/1505	1.30.070.571/0000	5.49.259.018/1505
yes	transparent blue	1.30.070.071/1607	1.30.070.571/0000	5.49.259.018/1607
no	opaque red	1.30.070.321/0300	-	-

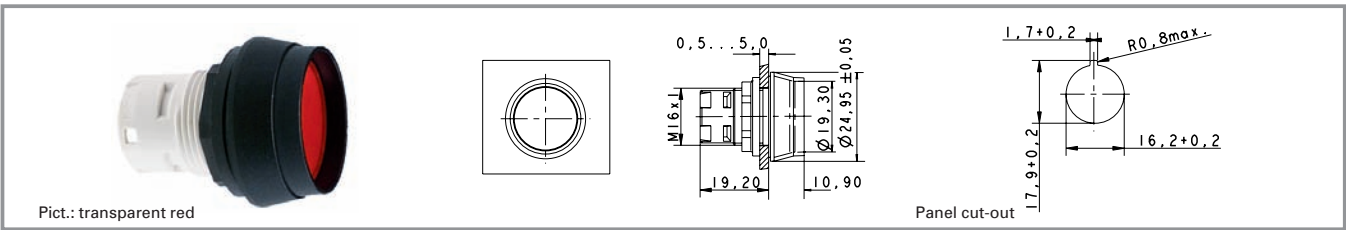
Technical data see page 2 - 8

Accessories:

Legend insert, blank, use only for transparent lenses: 5.70.637.000/2000

For the "latching" function, please use the standard contact block with "latching" function.

RAFIX 16 pushbutton, protruding collar, round collar



Illuminability	Colour of lens	Order no.	Order no. single parts	
			Housing	Lens
yes	transparent colourless	1.30.070.121/1002	1.30.070.621/0000	5.49.259.017/1002
yes	transparent red	1.30.070.121/1306	1.30.070.621/0000	5.49.259.017/1306
yes	transparent yellow	1.30.070.121/1403	1.30.070.621/0000	5.49.259.017/1403
yes	transparent green	1.30.070.121/1505	1.30.070.621/0000	5.49.259.017/1505
yes	transparent blue	1.30.070.121/1607	1.30.070.621/0000	5.49.259.017/1607

Technical data see page 2 - 8

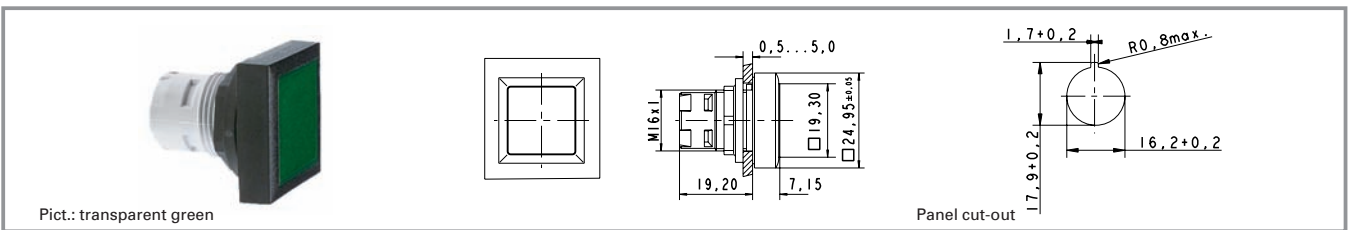
Accessories:

Legend insert, blank, use only for transparent lenses: 5.70.637.000/2000

The protruding collar offers protection against inadvertent operation and thereby fulfils the safety requirements of various machinery manufacturers, particularly in the printing industry.

For the "latching" function, please use the standard contact block with "latching" function.

RAFIX 16 pushbutton, flush lens, square collar, alignable without gaps



Illuminability	Colour of lens	Order no.	Order no. single parts	
			Housing	Lens
yes	transparent colourless	1.30.070.201/1002	1.30.070.701/0000	5.49.077.011/1002
yes	transparent red	1.30.070.201/1306	1.30.070.701/0000	5.49.077.011/1306
yes	transparent yellow	1.30.070.201/1403	1.30.070.701/0000	5.49.077.011/1403
yes	transparent green	1.30.070.201/1505	1.30.070.701/0000	5.49.077.011/1505
yes	transparent blue	1.30.070.201/1607	1.30.070.701/0000	5.49.077.011/1607
no	opaque black	1.30.070.451/0100	1.30.070.701/0000	5.49.077.011/0104
no	opaque white	1.30.070.451/0200	1.30.070.701/0000	5.49.077.011/0200
no	opaque red	1.30.070.451/0300	1.30.070.701/0000	5.49.077.011/0313
no	opaque yellow	1.30.070.451/0400	1.30.070.701/0000	5.49.077.011/0410
no	opaque green	1.30.070.451/0500	1.30.070.701/0000	5.49.077.011/0518
no	opaque blue	1.30.070.451/0600	1.30.070.701/0000	5.49.077.011/0612

Technical data see page 2 - 8

Accessories:

Legend insert, blank, use only for transparent lenses: **5.70.635.000/2000**

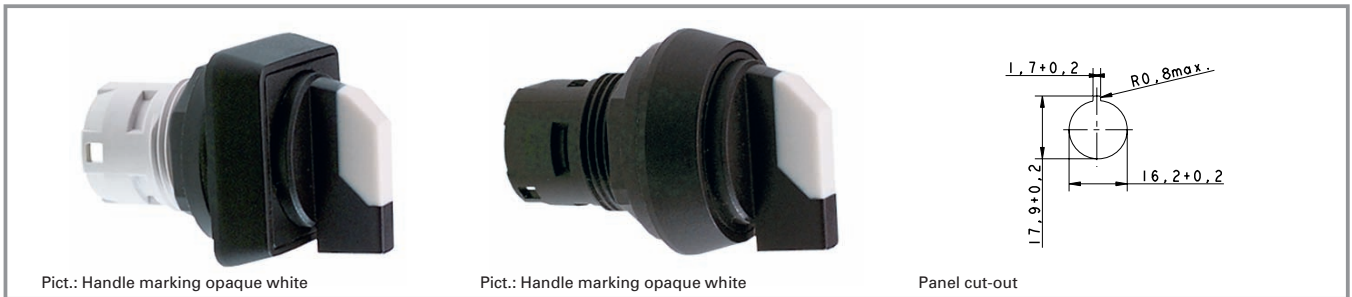
For the "latching" function, please use the standard contact block with "latching" function.

2

RAFIX
16

RAFIX 16

RAFIX 16 selector switch



Pict.: Handle marking opaque white

Pict.: Handle marking opaque white

Panel cut-out

2

General data

The illuminated selector switches are provided with translucent handle markings. These are opaque on the non-illuminated versions.

RAFIX
16

Technical data

General information

Actuator	handle
Marking of handle	see order block
Form of collar	see order block

Dimensions

Length of collar	see order block
Diameter of collar	see order block
Key grid	25 x 25 mm
Width of collar	see order block
Overall height	17.1 mm
Mounting depth	44.7 mm
Mounting hole	16.2 mm

Mechanical design

Mounting	ring nut
Contact function	see order block
Contact arrangement	according to contact block
Illuminability	see order block
Rotating angle	see order block

Mechanical characteristics

Torque max.	1.3 Nm
-------------	--------

Other specifications

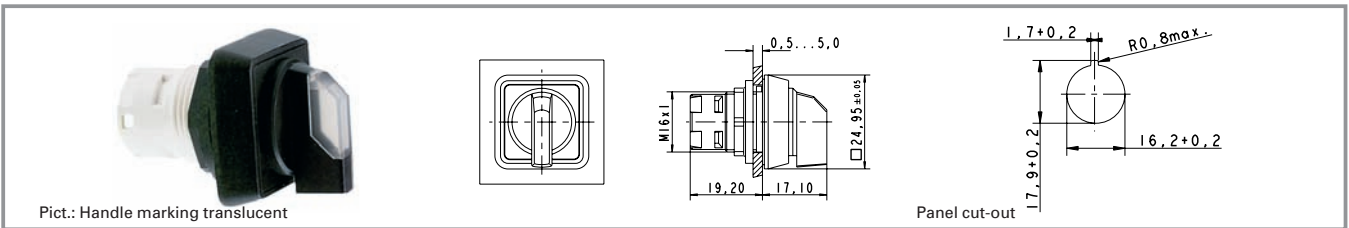
Operating life	30000
Degree of protection from front side	IP65
Ambient temp. operating min.	-25 °C
Ambient temp. operating without lamp max.	+70 °C
Ambient temp. operating with lamp max.	+55 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Resistance to constant environment	according to IEC 600 68-2-3 and 2-30
Resistance at variable environment	according to IEC 60068-2-14 and 2-33

Typical accessories RAFIX 16 selector switch

Description	Photo	Order no.	Additional accessories see page
RAFIX 16 universal contact block, 1 NC + 1 NO, momentary, silver contacts, with lamp socket		1.20.123.001/0000	2 - 49
RAFIX 16 universal contact block, 1 NC + 1 NO, momentary, gold contacts, with lamp socket		1.20.123.011/0000	2 - 45
Label holder, flush, for square collar		5.07.620.004/0000	2 - 62
Fixing spanner for hexagon nut		5.58.002.034/0000	2 - 61

For suitable LED, filament lamps and other contact blocks, refer to the chapter "RAFIX 16 contact blocks"; for additional accessories, refer to the chapter "RAFIX 16 special accessories".

RAFIX 16 selector switch, square collar



Illuminability	Contact function	Rotating angle	Marking of handle	Order no. complete
yes	momentary	1 x 40°		translucent white 1.30.073.551/2000
yes	momentary	2 x 40°		translucent white 1.30.073.651/2000
yes	latching	L, 1 x 90°		translucent white 1.30.073.501/2000
yes	latching	V, 1 x 90°		translucent white 1.30.073.601/2000
yes	latching	2 x 60°		translucent white 1.30.073.701/2000
no	momentary	1 x 40°		opaque white 1.30.073.550/0200
no	momentary	2 x 40°		opaque white 1.30.073.650/0200
no	latching	L, 1 x 90°		1.30.073.500/0200
no	latching	V, 1 x 90°		1.30.073.600/0200
no	latching	2 x 60°		1.30.073.700/0200

Technical data see page 2 - 16

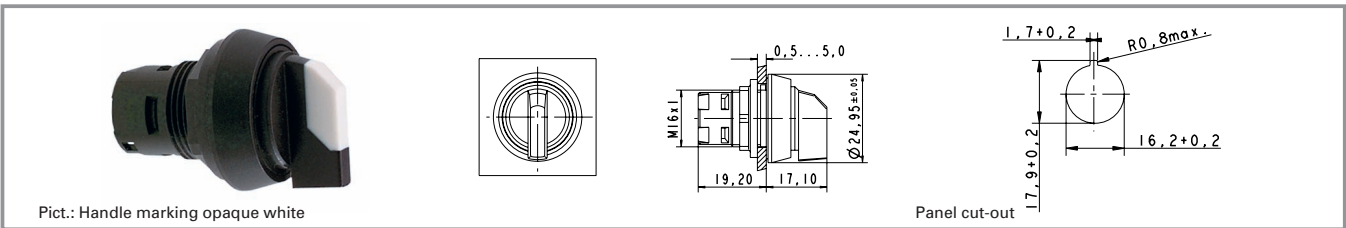
Only use contact blocks with "momentary" contact function.

For versions with clockwise and counterclockwise rotation, use universal contact blocks only!

Other contact functions and handle marking colours available on request.

For coloured illumination of the handle marking please use contact block with lamp socket and coloured LED W 2 x 4,6d (see chapter 5 accessories).

RAFIX 16 selector switch, round collar



Pict.: Handle marking opaque white

Panel cut-out

Illuminability	Contact function	Rotating angle		Marking of handle	Order no. complete
yes	momentary	1 x 40°		translucent white	1.30.073.571/2000
yes	momentary	2 x 40°		translucent white	1.30.073.671/2000
yes	latching	L, 1 x 90°		translucent white	1.30.073.521/2000
yes	latching	V, 1 x 90°		translucent white	1.30.073.621/2000
yes	latching	2 x 60°		translucent white	1.30.073.721/2000
no	momentary	1 x 40°		opaque white	1.30.073.570/0200
no	momentary	2 x 40°		opaque white	1.30.073.670/0200
no	latching	L, 1 x 90°		opaque white	1.30.073.520/0200
no	latching	V, 1 x 90°		opaque white	1.30.073.620/0200
no	latching	2 x 60°		opaque white	1.30.073.720/0200

Technical data see page 2 - 16

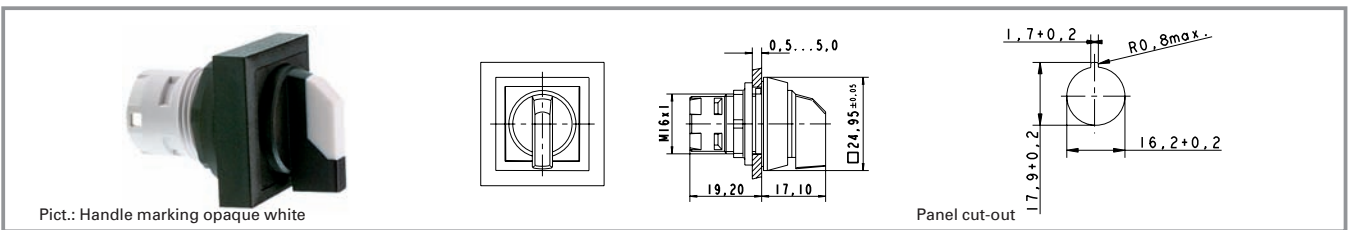
Only use contact blocks with "momentary" contact function.

For versions with clockwise and counterclockwise rotation, use universal contact blocks only!

Other contact functions and handle marking colours available on request.

For coloured illumination of the handle marking please use contact block with lamp socket and coloured LED W 2 x 4,6d (see chapter 5 accessories).

RAFIX 16 selector switch, square collar, alignable without gaps



Pict.: Handle marking opaque white

Panel cut-out

Illuminability	Contact function	Rotating angle	Marking of handle	Order no. complete
yes	momentary	1 x 40°		translucent white 1.30.073.591/2000
yes	momentary	2 x 40°		translucent white 1.30.073.691/2000
yes	latching	L, 1 x 90°		translucent white 1.30.073.541/2000
yes	latching	V, 1 x 90°		translucent white 1.30.073.641/2000
yes	latching	2 x 60°		translucent white 1.30.073.741/2000
no	momentary	1 x 40°		opaque white 1.30.073.590/0200
no	momentary	2 x 40°		opaque white 1.30.073.690/0200
no	latching	L, 1 x 90°		opaque white 1.30.073.540/0200
no	latching	V, 1 x 90°		opaque white 1.30.073.640/0200
no	latching	2 x 60°		opaque white 1.30.073.740/0200

Technical data see page 2 - 16

Only use contact blocks with "momentary" contact function.

For versions with clockwise and counterclockwise rotation, use universal contact blocks only!

Other contact functions and handle marking colours available on request.

For coloured illumination of the handle marking please use contact block with lamp socket and coloured LED W 2 x 4,6d (see chapter 5 accessories).

RAFIX 16

RAFIX 16 keylock switch MICROMECC



Panel cut-out

2

RAFIX 16

Technical data

General information

Form of collar see order block

Dimensions

Length of collar see order block
 Diameter of collar see order block
 Key grid 25 x 25 mm
 Width of collar see order block
 Overall height 27.95 mm
 Mounting depth 44.7 mm
 Mounting hole 16.2 mm

Mechanical design

Mounting ring nut
 Contact function see order block
 Contact arrangement according to contact block
 Illuminability no
 Lock Micromec
 Wafers 5
 Lock type 001
 Number of locking positions 500
 Main key on request
 Symmetric key no
 Rotating angle see order block
 Key removal position see order block
 Group key on request
 General key on request

Mechanical characteristics

Torque max. 1.3 Nm

Electrical characteristics

Protection class II

Other specifications

ESD-strength lock / contact 15 kV
 ESD strength key/ front panel 8 kV
 Operating life 65000
 Degree of protection from front side IP65
 Ambient temp. operating min. -25 °C
 Ambient temp. operating without lamp max. +70 °C
 Storage temperature min. -40 °C
 Storage temperature max. +85 °C
 Resistance to constant environment according to IEC 600 68-2-3 and 2-30
 Resistance at variable environment according to IEC 60068-2-14 and 2-33

Typical accessories RAFIX 16 keylock switch MICROMECC

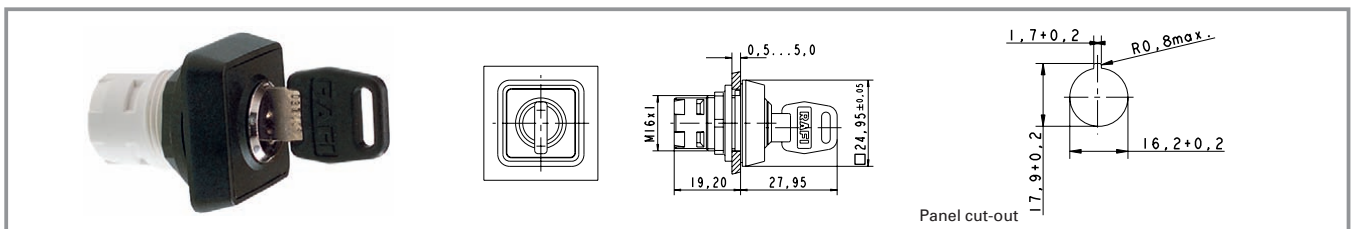
Description	Photo	Order no.	Additional accessories see page
RAFIX 16 universal contact block, 1 NC + 1 NO, momentary, silver contacts, without lamp socket		1.20.123.021/0000	2 - 49
RAFIX 16 universal contact block, 1 NC + 1 NO, momentary, gold contacts, without lamp socket		1.20.123.031/0000	2 - 45
RAFIX 16 contact block, AS-I, standard		1.20.130.101/0000	2 - 51
Label holder, flush, for square collar		5.07.620.004/0000	2 - 62
Fixing spanner for hexagon nut		5.58.002.034/0000	2 - 61

Typical accessories RAFIX 16 keylock switch MICROMECC

Description	Photo	Order no.	Additional accessories see page
Spare key, for single action, e.g. 1 x 90° (delivery content 1 key)		5.58.007.001/0000	
Spare key, for double action, e.g. 2 x 90° (delivery content 2 keys)		5.58.008.001/0000	

For other contact blocks, refer to the chapter "RAFIX 16 contact blocks"; for additional accessories, refer to the chapter "RAFIX 16 special accessories".

RAFIX 16 keylock switch MICROMECC, square collar



Contact function	Rotating angle	Key removal position	Order no. complete
momentary	1 x 40°	0	1.30.076.501/0000
momentary	2 x 40°	0	1.30.076.701/0000
latching	L, 1 x 90°	0	1.30.076.001/0000
latching	L, 1 x 90°	0+1	1.30.076.051/0000
latching	V, 1 x 90°	0	1.30.076.101/0000
latching	V, 1 x 90°	0+1	1.30.076.151/0000
latching	2 x 90°	0	1.30.076.301/0000
latching	2 x 90°	0+1+2	1.30.076.401/0000

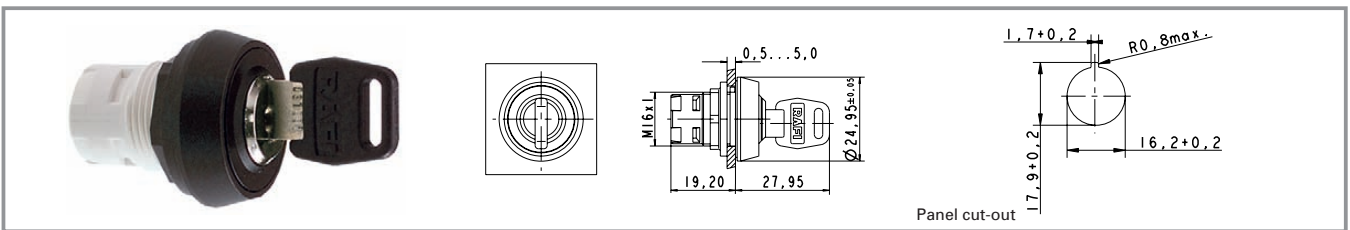
Technical data see page 2 - 20

Only use contact blocks with "momentary" contact function. For versions with clockwise and counterclockwise rotation, use universal contact block only.

Other contact functions on request.

Included: 2 keys

RAFIX 16 keylock switch MICROMECC, round collar



Contact function	Rotating angle	Key removal position	Order no. complete
momentary	1 x 40°	0	1.30.076.521/0000
momentary	2 x 40°	0	1.30.076.721/0000
latching	L, 1 x 90°	0	1.30.076.021/0000
latching	L, 1 x 90°	0+1	1.30.076.071/0000
latching	V, 1 x 90°	0	1.30.076.121/0000
latching	V, 1 x 90°	0+1	1.30.076.171/0000
latching	2 x 90°	0	1.30.076.321/0000
latching	2 x 90°	0+1+2	1.30.076.421/0000

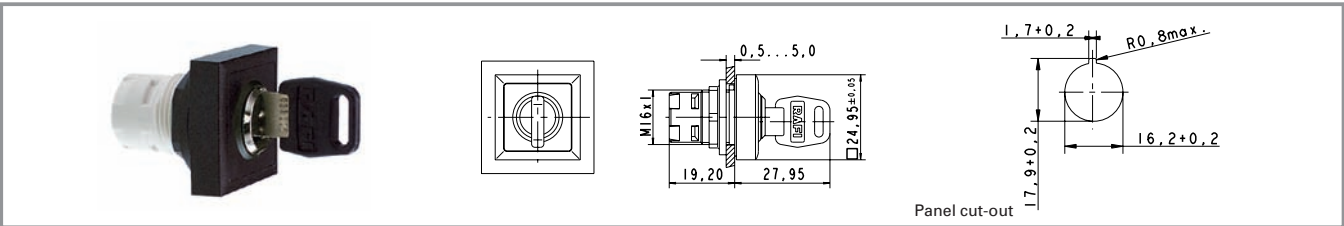
Technical data see page 2 - 20

Only use contact blocks with "momentary" contact function. For versions with clockwise and counterclockwise rotation, use universal contact block only.
Other contact functions on request.
Included: 2 keys

2

RAFIX 16

RAFIX 16 keylock switch MICROMECC, square collar, alignable without gaps



Contact function	Rotating angle	Key removal position	Order no. complete
momentary	1 x 40°	0	1.30.076.541/0000
momentary	2 x 40°	0	1.30.076.741/0000
latching	L, 1 x 90°	0	1.30.076.041/0000
latching	L, 1 x 90°	0+1	1.30.076.091/0000
latching	V, 1 x 90°	0	1.30.076.141/0000
latching	V, 1 x 90°	0+1	1.30.076.191/0000
latching	2 x 90°	0	1.30.076.341/0000
latching	2 x 90°	0+1+2	1.30.076.441/0000

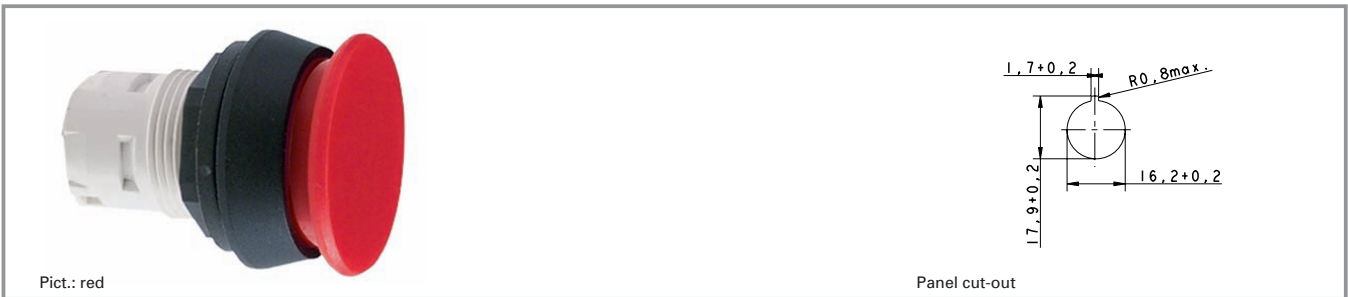
Technical data see page 2 - 20

Only use contact blocks with "momentary" contact function. For versions with clockwise and counterclockwise rotation, use universal contact block only.
Other contact functions on request.
Included: 2 keys

2

RAFIX
16

RAFIX 16 mushroom-headed pushbutton



2

RAFIX 16

Technical data

General information

Actuator mushroom
 Colour of mushroom see order block
 Form of collar see order block

Dimensions

Length of collar see order block
 Diameter of collar see order block
 Key grid 25 x 25 mm
 Width of collar see order block
 Overall height see order block
 Mounting depth see order block
 Mounting hole see order block

Mechanical design

Mounting ring nut
 Contact function according to contact block
 Contact arrangement according to contact block
 Illuminability no

Mechanical characteristics

Operating travel 3 mm
 Robustness min. 100 Nm

Other specifications

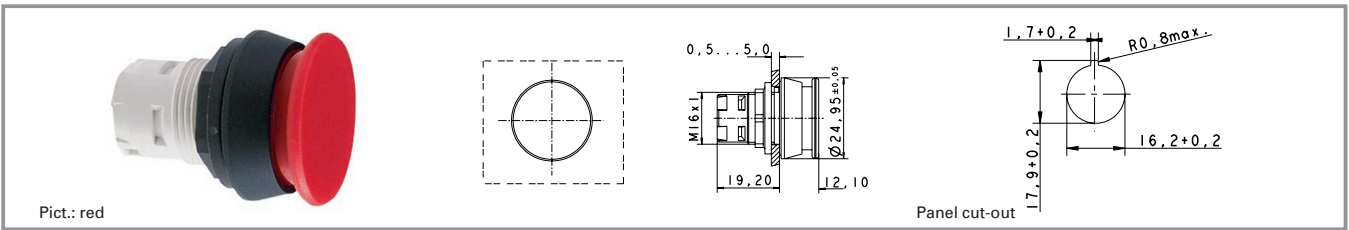
Operating life 2000000
 Degree of protection from front side IP65
 Ambient temp. operating min. -25 °C
 Ambient temp. operating without lamp max. +70 °C
 Storage temperature min. -40 °C
 Storage temperature max. +85 °C
 Resistance to constant environment according to IEC 600 68-2-3 and 2-30
 Resistance at variable environment according to IEC 60068-2-14 and 2-33

Typical accessories RAFIX 16 mushroom-headed pushbutton

Description	Photo	Order no.	Additional accessories see page
RAFIX 16 standard contact block, 1 NC + 1 NO, momentary, silver contacts, without lamp socket		1.20.122.021/0000	2 - 48
RAFIX 16 standard contact block, 1 NC + 1 NO, momentary, gold contacts, without lamp socket		1.20.122.031/0000	2 - 44
RAFIX 16 contact block, AS-I, standard		1.20.130.101/0000	2 - 51
Label holder, flush, for square collar		5.07.620.004/0000	2 - 62
Fixing spanner for hexagon nut		5.58.002.034/0000	2 - 61

For other contact blocks, refer to the chapter "RAFIX 16 contact blocks"; for additional accessories, refer to the chapter "RAFIX 16 special accessories".

RAFIX 16 mushroom-headed pushbutton, round collar



Illuminability	Colour of mushroom	Order no.
no	opaque black	1.30.071.021/0100
no	opaque red	1.30.071.021/0300

Technical data see page 2 - 24

For the "latching" function, please use the standard contact block with "latching" function.

RAFIX 16 emergency stop pushbutton



2

RAFIX 16

Technical data

General information

Actuator mushroom
 Colour of mushroom see order block
 Form of collar see order block

Dimensions

Length of collar see order block
 Diameter of collar see order block
 Key grid 25 x 25 mm
 Width of collar see order block
 Overall height see order block
 Mounting depth see order block
 Mounting hole see order block

Mechanical design

Mounting ring nut
 Contact function latching
 Contact arrangement according to contact block
 Illuminability see order block
 Reset counterclockwise or clockwise rotation

Other specifications

Operating life 30000
 Degree of protection from front side IP65
 Ambient temp. operating min. -25 °C
 Ambient temp. operating without lamp max. +70 °C
 Ambient temp. operating with lamp max. +55 °C
 Storage temperature min. -40 °C
 Storage temperature max. +85 °C
 Resistance to constant environment according to IEC 600 68-2-3 and 2-30
 Resistance at variable environment according to IEC 60068-2-14 and 2-33
 Corresponding to CE Ma-Dir. 89/392
 Approvals yes IEC 60204, IEC 73

Mechanical characteristics

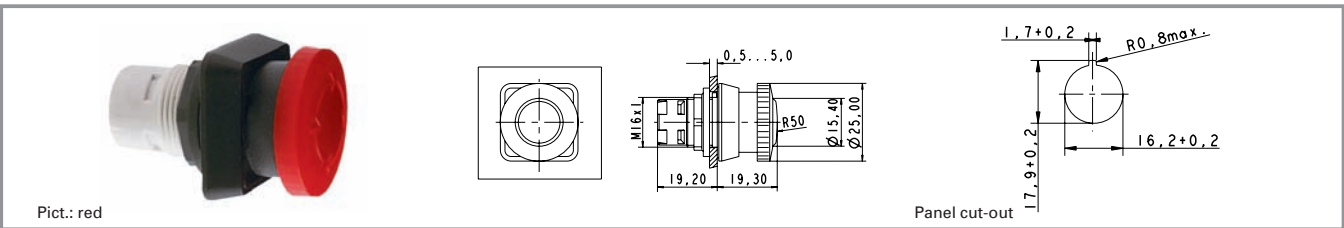
Robustness min. 100 N
 Robustness acc. IEC 60947-5-5

Typical accessories RAFIX 16 emergency stop pushbutton

Description	Photo	Order no.	Additional accessories see page
RAFIX 16 universal contact block, 1 NC, momentary, silver contacts, without lamp socket		1.20.123.022/0000	2 - 49
RAFIX 16 universal contact block, 1 NC, momentary, gold contacts, without lamp socket		1.20.123.032/0000	2 - 45
RAFIX 16 contact block AS-I, E-stop, coupling contact		1.20.130.001/0000	2 - 53
Fixing spanner for hexagon nut		5.58.002.034/0000	2 - 61
Emergency stop label, yellow, round 60 mm, PVC adhesive, without legend		5.76.204.400/0400	2 - 63

For suitable LED, filament lamps and other contact blocks, refer to the chapter "RAFIX 16 contact blocks"; for additional accessories, refer to the chapter "RAFIX 16 special accessories".

RAFIX 16 emergency stop pushbutton, square collar, illuminated

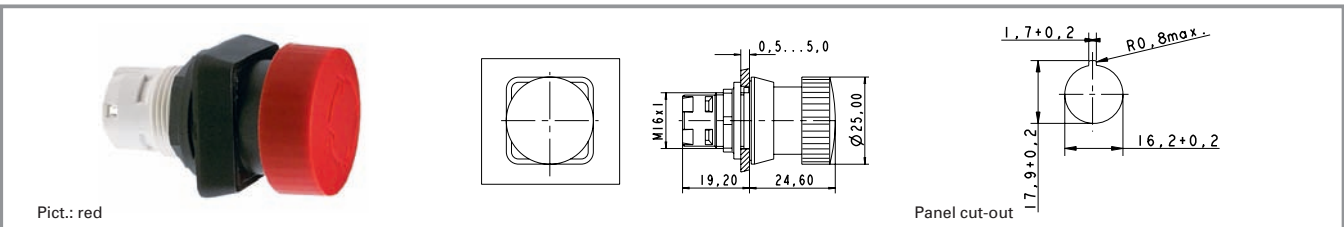


Illuminability	Colour of mushroom	Order no.
yes	translucent red	1.30.074.501/0304

Technical data see page 2 - 26

Only use universal contact blocks.

RAFIX 16 emergency stop pushbutton, square collar, dupe-proof



Illuminability	Colour of mushroom	Order no.
no	opaque red	1.30.074.101/0301

Technical data see page 2 - 26

Only use universal contact blocks.

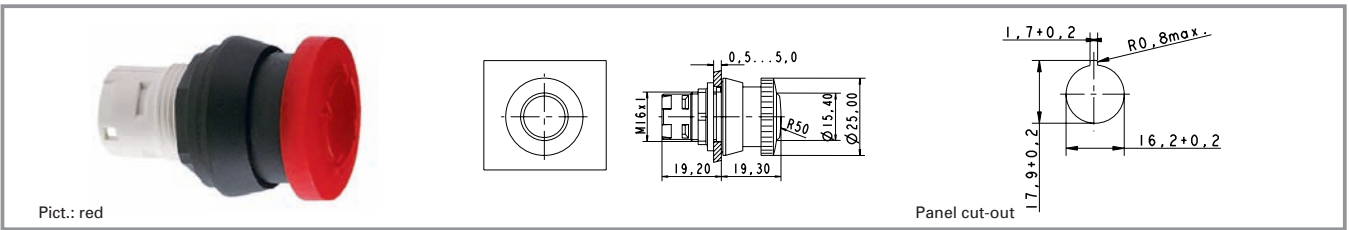
The positively driven mechanical arrangement is dupe-proof to EN 418.

2

RAFIX 16

RAFIX 16

RAFIX 16 emergency stop pushbutton, round collar, illuminated



Illuminability	Colour of mushroom	Order no.
yes	translucent red	1.30.074.521/0304

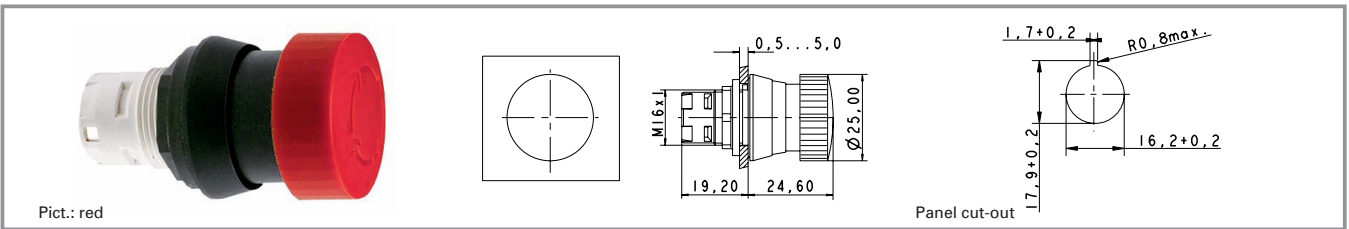
Technical data see page 2 - 26

Only use universal contact blocks.

2

RAFIX
16

RAFIX 16 emergency stop pushbutton, round collar, dupe-proof



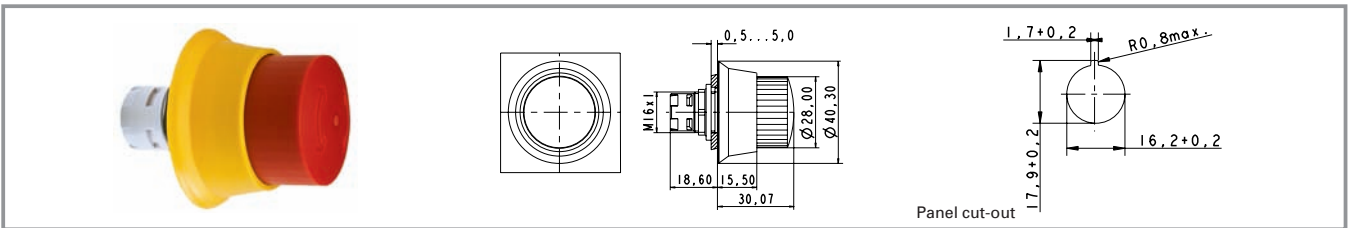
Illuminability	Colour of mushroom	Order no.
no	opaque red	1.30.074.121/0301

Technical data see page 2 - 26

Only use universal contact blocks.

The positively driven mechanical arrangement is dupe-proof to EN 418.

RAFIX 16 safety emergency stop pushbutton, round collar, dupe-proof, non-blocking



Illuminability	Colour of mushroom	Order no.
no	opaque red, collar yellow	1.30.074.821/0000

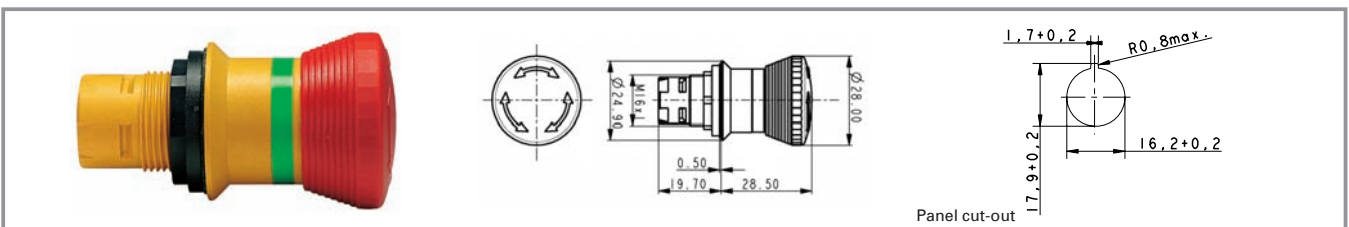
Technical data see page 2 - 26

Only use universal contact blocks.

The positively driven mechanical arrangement is dupe-proof to EN 418.

Special shape prevents blocking: Actuation cannot be interrupted by any jamming objects.

RAFIX 16 safety emergency stop pushbutton, round collar, conical, dupe-proof, non-blocking



Illuminability	Colour of mushroom	Order no.
no	opaque red, collar yellow	1.30.074.281/0300

Technical data see page 2 - 26

Only use universal contact blocks.

The positively driven mechanical arrangement is dupe-proof to EN 418.

RAFIX 16

RAFIX 16 toggle switch



Pict.: black handle

Panel cut-out

2

RAFIX 16

Technical data

General information

Actuator toggle
Colour of toggle see order block
Form of collar see order block

Dimensions

Length of collar see order block
Diameter of collar see order block
Key grid 25 x 25 mm
Width of collar see order block
Overall height 18.4 mm
Mounting depth 44.7 mm
Mounting hole 16.2 mm

Mechanical design

Mounting ring nut
Contact function latching
Contact arrangement according to contact block
Illuminability no

Mechanical characteristics

Robustness min. 100 N

Other specifications

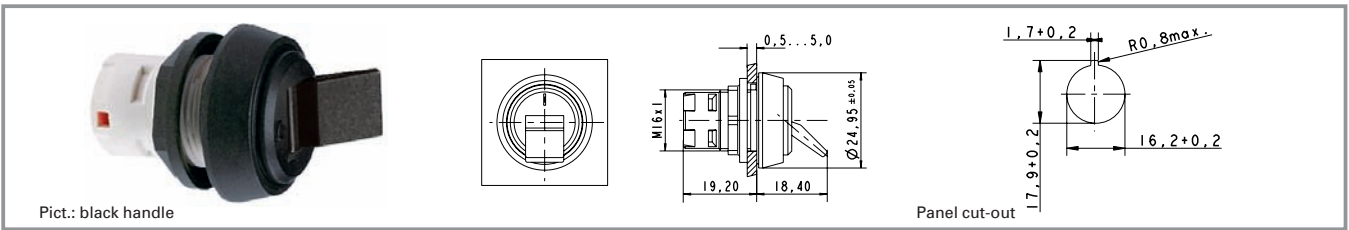
Degree of protection from front side IP65
Ambient temp. operating min. -25 °C
Ambient temp. operating without lamp max. +70 °C
Ambient temp. operating with lamp max. +55 °C
Storage temperature min. -40 °C
Storage temperature max. +85 °C
Resistance to constant environment according to IEC 600 68-2-3 and 2-30
Resistance at variable environment according to IEC 60068-2-14 and 2-33
Operating life (operations) 300000

Typical accessories RAFIX 16 toggle switch

Description	Photo	Order no.	Additional accessories see page
RAFIX 16 standard contact block, 1 NC + 1 NO, momentary, silver contacts, without lamp socket		1.20.122.021/0000	2 - 48
RAFIX 16 standard contact block, 1 NC + 1 NO, momentary, gold contacts, without lamp socket		1.20.122.031/0000	2 - 44
RAFIX 16 contact block, AS-I, standard		1.20.130.101/0000	2 - 51
Label holder, flush, for square collar		5.07.620.004/0000	2 - 62
Fixing spanner for hexagon nut		5.58.002.034/0000	2 - 61

For other contact blocks, refer to the chapter "RAFIX 16 contact blocks"; for additional accessories, refer to the chapter "RAFIX 16 special accessories".

RAFIX 16 toggle switch, round collar

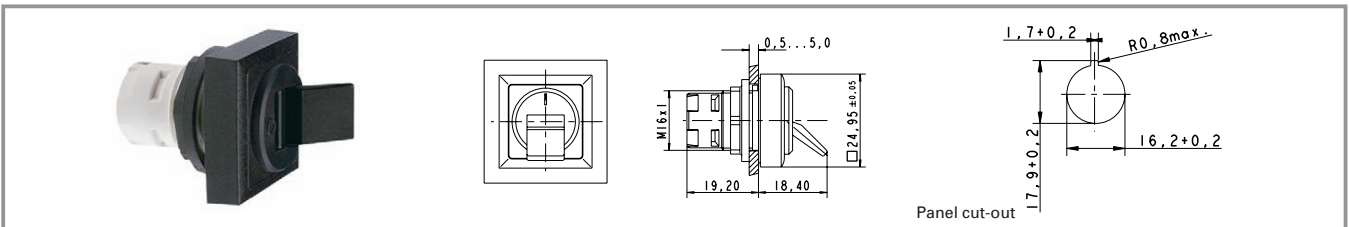


Contact function	Illuminability	Colour of toggle	Order no.
latching	no	opaque black	1.30.075.021/0104

Technical data see page 2 - 30

Only use contact blocks with "momentary" contact function.

RAFIX 16 toggle switch, square collar, alignable without gaps



Contact function	Illuminability	Colour of toggle	Order no.
latching	no	opaque black	1.30.075.041/0104

Technical data see page 2 - 30

Only use contact blocks with "momentary" contact function.

RAFIX 16 potentiometer drive



2

General data

To operate potentiometers with a shaft diameter of 6 mm.
Suitable for potentiometers to DIN 41 450 with a shaft length of 32 mm.
Potentiometer not included.

RAFIX
16

Technical data

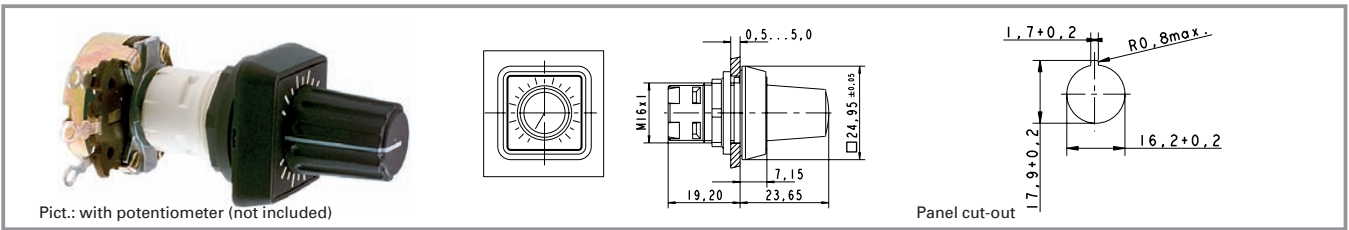
General information		Thread sleeve	M 10 x 0.75
Form of lens	handle	Other specifications	
Colour of handle	black	Degree of protection from front side	IP65
Form of collar	see order block	Ambient temp. operating min.	-25 °C
Dimensions		Ambient temp. operating max.	+70 °C
Length of collar	see order block	Storage temperature min.	-40 °C
Diameter of collar	see order block	Storage temperature max.	+85 °C
Key grid	25 x 25 mm	Resistance to constant environment	according to IEC 600 68-2-3 and 2-30
Width of collar	see order block	Resistance at variable environment	according to IEC 600 68-2-14 and 2-33
Overall height	23.65 mm		
Mounting depth	19.2 mm		
Mounting hole	16.2 mm		
Mechanical design			
Mounting	ring nut		

Typical accessories RAFIX 16 potentiometer drive

Description	Photo	Order no.	Additional accessories see page
Label holder, flush, for square collar		5.07.620.004/0000	2 - 62
Fixing spanner for hexagon nut		5.58.002.034/0000	2 - 61

For additional accessories, refer to the chapter "RAFIX 16 special accessories".

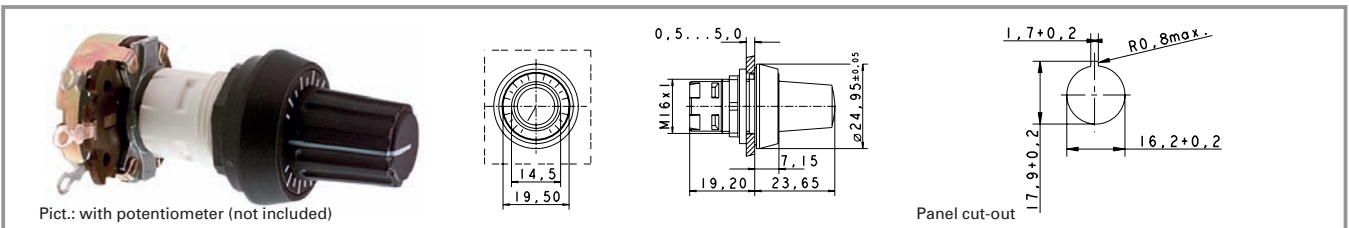
RAFIX 16 potentiometer drive, square collar



Form of lens	Form of collar	Colour of handle	Order no.
handle	square	black	1.30.077.001/0000

Technical data see page 2 - 32

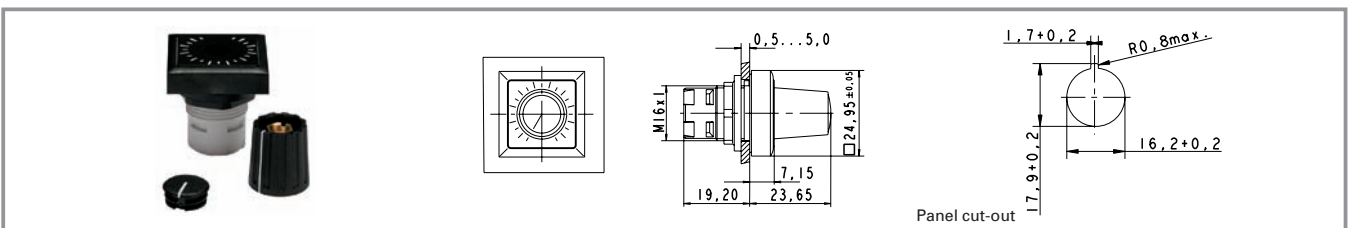
RAFIX 16 potentiometer drive, round collar



Form of lens	Form of collar	Colour of handle	Order no.
handle	round	black	1.30.077.021/0000

Technical data see page 2 - 32

RAFIX 16 potentiometer drive, square collar, alignable without gaps



Form of lens	Form of collar	Colour of handle	Order no.
handle	square alignable	black	1.30.077.041/0000

Technical data see page 2 - 32

RAFIX 16

RAFIX 16 buzzer



Panel cut-out

2

Technical data

General information

Form of lens flat lens
 Colour of lens opaque black
 Form of collar see order block
 Sound see order block

Input current see order block
 Frequency of intervall 2300 Hz
 beep

Dimensions

Length of collar see order block
 Diameter of collar see order block
 Key grid 25 x 25 mm
 Width of collar see order block
 Overall height 6.95 mm
 Mounting depth 30.5 mm
 Mounting hole 16.2 mm

Mechanical characteristics

Robustness min. 100 N

Other specifications

Degree of protection from front side IP65
 Ambient temp. operating min. -25 °C
 Ambient temp. operating max. +70 °C
 Storage temperature min. -40 °C
 Storage temperature max. +85 °C
 Resistance to constant environment according to IEC 600 68-2-3 and 2-30
 Resistance at variable environment according to IEC 60068-2-14 and 2-33

Mechanical design

Mounting ring nut

Acoustic characteristics

Sonic pressure, 1 m distance min. see order block

Electrical characteristics

Operating voltage DC 24 V

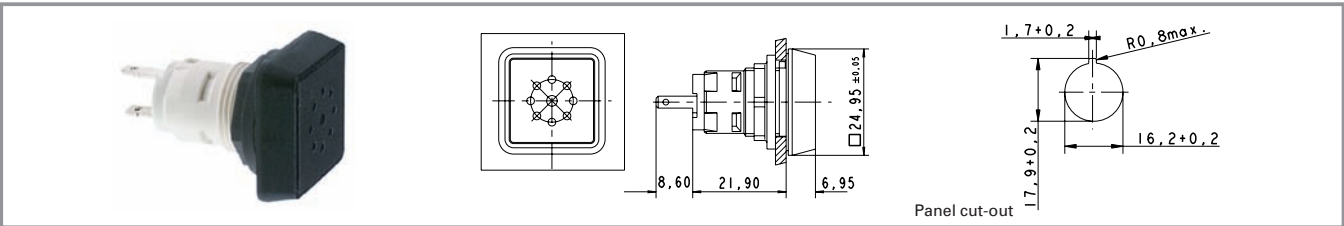
Typical accessories RAFIX 16 buzzer

Description	Photo	Order no.	Additional accessories see page
Fixing spanner for hexagon nut		5.58.002.034/0000	2 - 61

For additional accessories, refer to the chapter "RAFIX 16 special accessories".

RAFIX 16

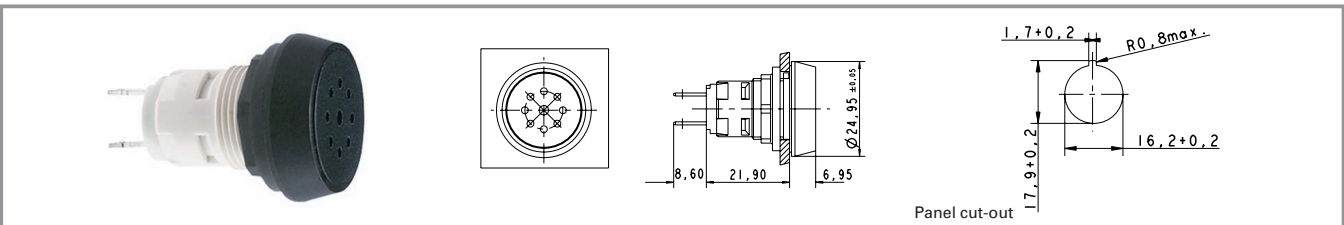
RAFIX 16 buzzer, square collar



Sound	Operating voltage DC	Input current	Sonic pressure, 1 m distance min.	Order no.
continuous beep	24 V	25 mA	70 dB	1.30.078.001/0100

Technical data see page 2 - 34
12 V DC available on request.

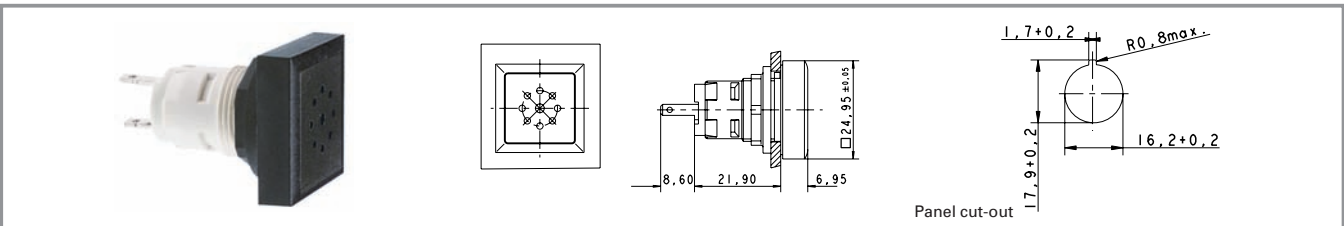
RAFIX 16 buzzer, round collar



Sound	Operating voltage DC	Input current	Sonic pressure, 1 m distance min.	Order no.
continuous beep	24 V	25 mA	70 dB	1.30.078.021/0100

Technical data see page 2 - 34
12 V DC available on request.

RAFIX 16 buzzer, square collar, alignable without gaps

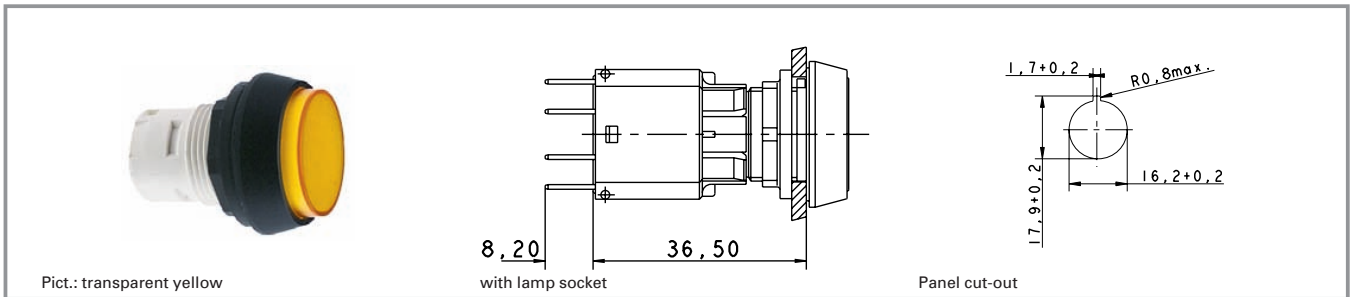


Sound	Operating voltage DC	Input current	Sonic pressure, 1 m distance min.	Order no.
continuous beep	24 V	25 mA	70 dB	1.30.078.041/0100

Technical data see page 2 - 34
12 V DC available on request.

RAFIX 16

RAFIX 16 signal indicator



Pict.: transparent yellow

with lamp socket

Panel cut-out

2

Technical data

General information

Form of lens see order block
 Colour of lens see order block
 Form of collar see order block

Dimensions

Length of collar see order block
 Diameter of collar see order block
 Key grid 25 x 25 mm
 Width of collar see order block
 Overall height see order block
 Mounting depth 30,5/44,7 mm
 Mounting hole 16.2 mm

Mechanical design

Mounting ring nut
 Illuminability yes

Mechanical characteristics

Robustness min. 100 N

Other specifications

Degree of protection from front side IP65
 Ambient temp. operating min. -25 °C
 Ambient temp. operating without lamp max. +70 °C
 Ambient temp. operating with lamp max. +55 °C
 Storage temperature min. -40 °C
 Storage temperature max. +85 °C
 Resistance to constant environment according to IEC 60068-2-3 and 2-30
 Resistance at variable environment according to IEC 60068-2-14 and 2-33

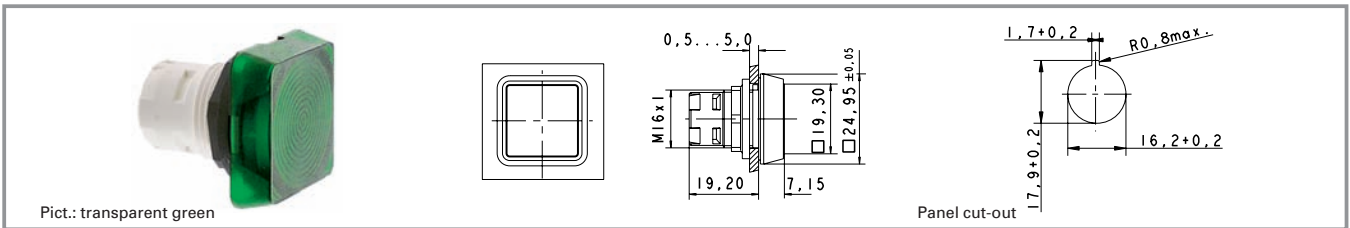
RAFIX 16

Typical accessories RAFIX 16 signal indicator

Description	Photo	Order no.	Additional accessories see page
RAFIX 16 lamp socket W 2 x 4.6 d		1.71.212.001/0000	2 - 55
RAFIX 16 lamp socket W 2 x 4.6 d		1.71.212.011/0000	2 - 56
LED W 2 x 4.6d superbright, white, 24 V		1.90.690.365/0000	5 - 14
Disassembly tool for LUMOTAST 25, RAFIX 16		5.05.800.042/0000	2 - 60
Label holder, flush, for square collar		5.07.620.004/0000	2 - 62
Fixing spanner for hexagon nut		5.58.002.034/0000	2 - 61

For suitable LED and filament lamps, refer to the chapter "RAFIX 16 lamp sockets"; for additional accessories, refer to the chapter "RAFIX 16 special accessories".

RAFIX 16 signal indicator, square lens

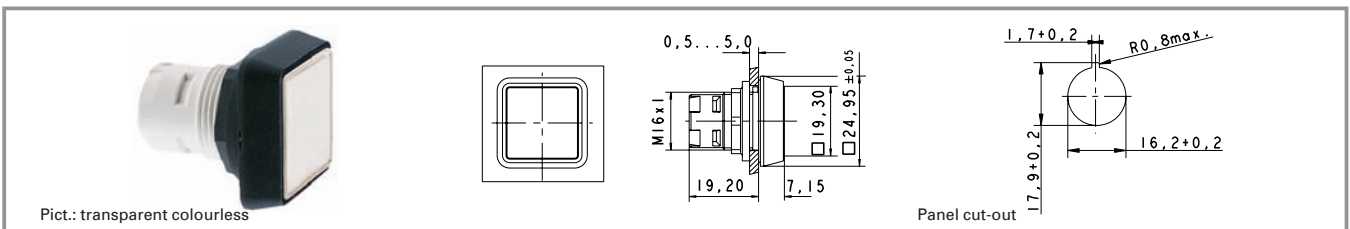


Form of lens	Form of collar	Colour of lens	Order no.	Order no. single parts	
				Housing	Lens
lens square		transparent colourless	1.65.124.001/1002	1.65.124.101/0000	5.49.263.006/1002
lens square		transparent red	1.65.124.001/1306	1.65.124.101/0000	5.49.263.006/1306
lens square		transparent yellow	1.65.124.001/1403	1.65.124.101/0000	5.49.263.006/1403
lens square		transparent green	1.65.124.001/1505	1.65.124.101/0000	5.49.263.006/1505
lens square		transparent blue	1.65.124.001/1607	1.65.124.101/0000	5.49.263.006/1607

Technical data see page 2 - 36

Legending can only be made externally on a label holder.

RAFIX 16 signal indicator, square collar, flush lens



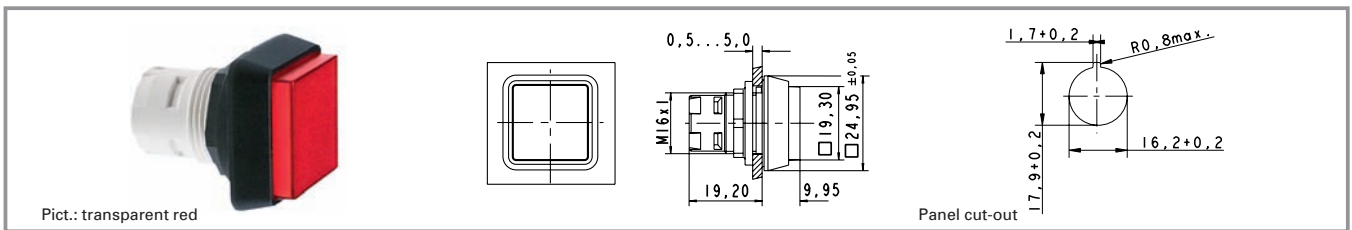
Form of lens	Form of collar	Colour of lens	Order no.	Order no. single parts	
				Housing	Lens
flat lens	square	transparent colourless	1.65.124.301/1002	1.65.124.401/0000	5.49.077.011/1002
flat lens	square	transparent red	1.65.124.301/1306	1.65.124.401/0000	5.49.077.011/1306
flat lens	square	transparent yellow	1.65.124.301/1403	1.65.124.401/0000	5.49.077.011/1403
flat lens	square	transparent green	1.65.124.301/1505	1.65.124.401/0000	5.49.077.011/1505
flat lens	square	transparent blue	1.65.124.301/1607	1.65.124.401/0000	5.49.077.011/1607

Technical data see page 2 - 36

Accessories:

Legend insert, blank, use only for transparent lenses: **5.70.635.000/2000**

RAFIX 16 signal indicator, square collar, protruding lens



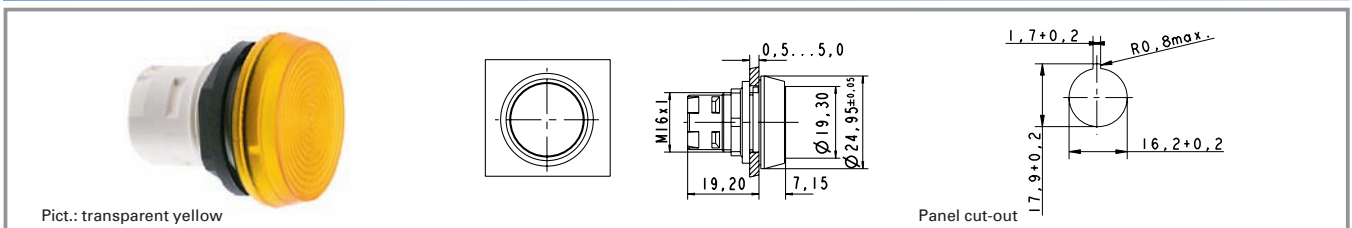
Form of lens	Form of collar	Colour of lens	Order no.	Order no. single parts	
				Housing	Lens
protruding lens	square	transparent colourless	1.65.124.351/1002	1.65.124.451/0000	5.49.077.012/1002
protruding lens	square	transparent red	1.65.124.351/1306	1.65.124.451/0000	5.49.077.012/1306
protruding lens	square	transparent yellow	1.65.124.351/1403	1.65.124.451/0000	5.49.077.012/1403
protruding lens	square	transparent green	1.65.124.351/1505	1.65.124.451/0000	5.49.077.012/1505
protruding lens	square	transparent blue	1.65.124.351/1607	1.65.124.451/0000	5.49.077.012/1607

Technical data see page 2 - 36

Accessories:

Legend insert, blank, use only for transparent lenses: **5.70.635.000/2000**

RAFIX 16 signal indicator, round lens

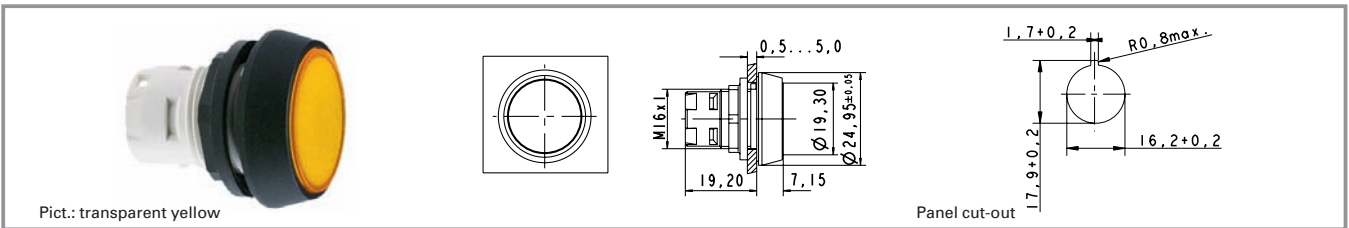


Form of lens	Form of collar	Colour of lens	Order no.	Order no. single parts	
				Housing	Lens
lens round	round	transparent colourless	1.65.124.021/1002	1.65.124.101/0000	5.49.263.007/1002
lens round	round	transparent red	1.65.124.021/1306	1.65.124.101/0000	5.49.263.007/1306
lens round	round	transparent yellow	1.65.124.021/1403	1.65.124.101/0000	5.49.263.007/1403
lens round	round	transparent green	1.65.124.021/1505	1.65.124.101/0000	5.49.263.007/1505

Technical data see page 2 - 36

Legending can only be made externally on a label holder.

RAFIX 16 signal indicator, round collar, flush lens



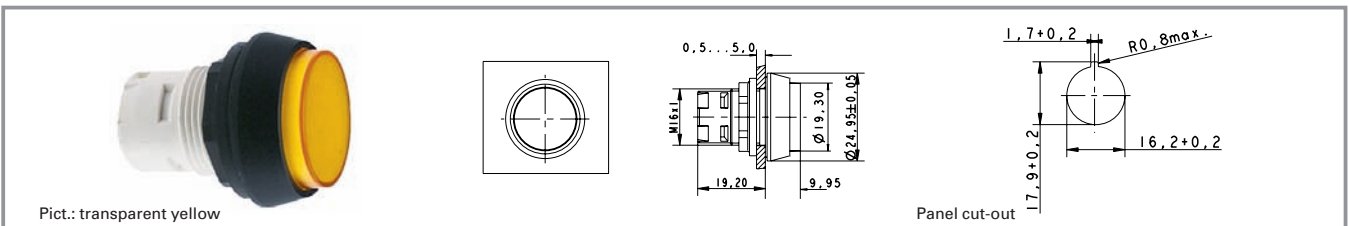
Form of lens	Form of collar	Colour of lens	Order no.	Order no. single parts	
				Housing	Lens
flat lens	round	transparent colourless	1.65.124.321/1002	1.65.124.421/0000	5.49.259.017/1002
flat lens	round	transparent red	1.65.124.321/1306	1.65.124.421/0000	5.49.259.017/1306
flat lens	round	transparent yellow	1.65.124.321/1403	1.65.124.421/0000	5.49.259.017/1403
flat lens	round	transparent green	1.65.124.321/1505	1.65.124.421/0000	5.49.259.017/1505
flat lens	round	transparent blue	1.65.124.321/1607	1.65.124.421/0000	5.49.259.017/1607

Technical data see page 2 - 36

Accessories:

Legend insert, blank, use only for transparent lenses: 5.70.637.000/2000

RAFIX 16 signal indicator, round collar, protruding lens



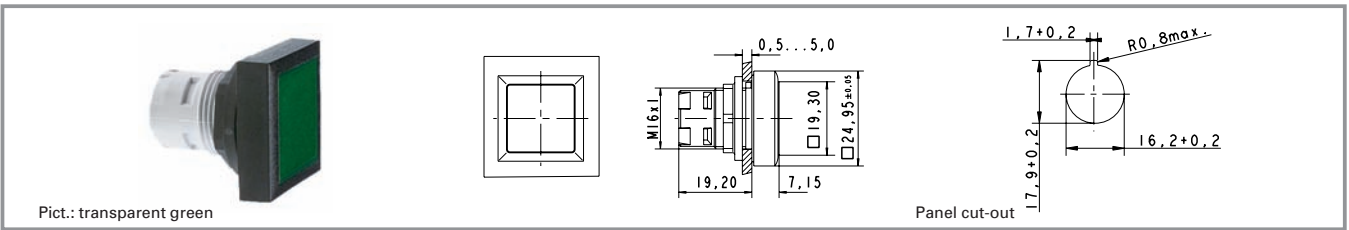
Form of lens	Form of collar	Colour of lens	Order no.	Order no. single parts	
				Housing	Lens
protruding lens	round	transparent colourless	1.65.124.371/1002	1.65.124.471/0000	5.49.259.018/1002
protruding lens	round	transparent red	1.65.124.371/1306	1.65.124.471/0000	5.49.259.018/1306
protruding lens	round	transparent yellow	1.65.124.371/1403	1.65.124.471/0000	5.49.259.018/1403
protruding lens	round	transparent green	1.65.124.371/1505	1.65.124.471/0000	5.49.259.018/1505
protruding lens	round	transparent blue	1.65.124.371/1607	1.65.124.471/0000	5.49.259.018/1607

Technical data see page 2 - 36

Accessories:

Legend insert, blank, use only for transparent lenses: 5.70.637.000/2000

RAFIX 16 signal indicator, square collar, alignable without gaps, flush lens



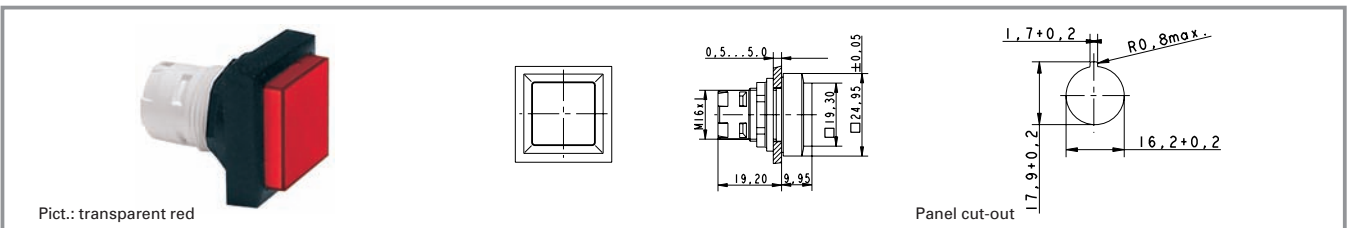
Form of lens	Form of collar	Colour of lens	Order no.	Order no. single parts	
				Housing	Lens
flat lens	square alignable	transparent colourless	1.65.124.551/1002	1.65.124.651/0000	5.49.077.011/1002
flat lens	square alignable	transparent red	1.65.124.551/1306	1.65.124.651/0000	5.49.077.011/1306
flat lens	square alignable	transparent yellow	1.65.124.551/1403	1.65.124.651/0000	5.49.077.011/1403
flat lens	square alignable	transparent green	1.65.124.551/1505	1.65.124.651/0000	5.49.077.011/1505
flat lens	square alignable	transparent blue	1.65.124.551/1607	1.65.124.651/0000	5.49.077.011/1607

Technical data see page 2 - 36

Accessories:

Legend insert, blank, use only for transparent lenses: **5.70.635.000/2000**

RAFIX 16 signal indicator, square collar, alignable without gaps, protruding lens



Form of lens	Form of collar	Colour of lens	Order no.	Order no. single parts	
				Housing	Lens
protruding lens	square alignable	transparent colourless	1.65.124.501/1002	1.65.124.661/0000	5.49.077.012/1002
protruding lens	square alignable	transparent red	1.65.124.501/1306	1.65.124.661/0000	5.49.077.012/1306
protruding lens	square alignable	transparent yellow	1.65.124.501/1403	1.65.124.661/0000	5.49.077.012/1403
protruding lens	square alignable	transparent green	1.65.124.501/1505	1.65.124.661/0000	5.49.077.012/1505
protruding lens	square alignable	transparent blue	1.65.124.501/1607	1.65.124.661/0000	5.49.077.012/1607

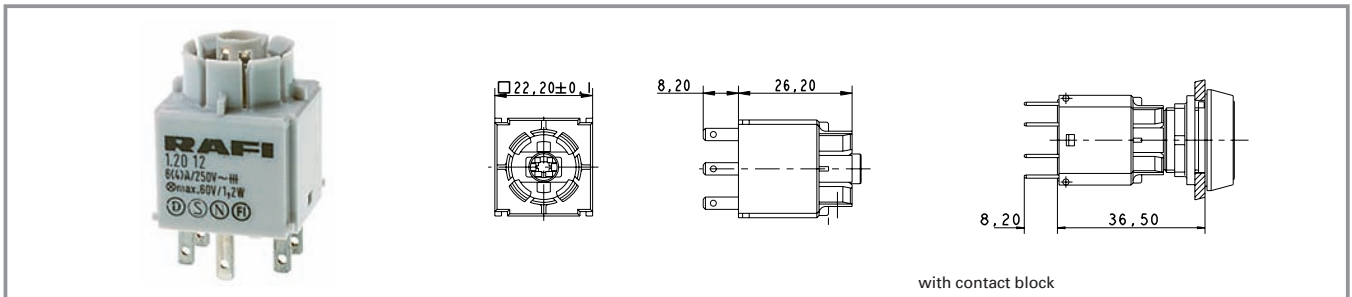
Technical data see page 2 - 36

Accessories:

Legend insert, blank, use only for transparent lenses: **5.70.635.000/2000**

RAFIX 16

RAFIX 16 contact blocks with gold contacts



2

RAFIX 16

Technical data

Dimensions

Length	see order block
Width	see order block
Height	see order block
Mounting depth (with actuator / indicator)	see order block

Mechanical design

Mounting	snap on actuator
Contact system	bridge-contact self cleaning
Contact materials	Au
Contact arrangement	see order block
Contact function	see order block
Lamp socket	see order block
Terminals	quick connector 2.8 x 0.8 according to DIN 50013, X1 = +, X2 = -
Terminal marking	
Operating travel	3 mm
Robustness	100 N

Mechanical characteristics

Robustness	acc. IEC 60947-5-5
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Electrical characteristics

Rated voltage min.	see order block
Rated voltage max. (AC/DC)	42 V
Rated current min.	see order block
Rated current max.	see order block

Operating life switching element (momentary)	2000000
Contact resistance when new max.	50 mΩ

Other specifications

Protection class	II
Shock resistance acc. to IEC 600 68-2-27	see order block
Ambient temp. operating min.	-25 °C
Ambient temp. operating without lamp max.	+70 °C
Ambient temp. operating with lamp max.	+55 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Colour code	white bottom
Resistance to constant environment	IEC 600 68-2-3 and 2-30
Resistance at variable environment	IEC 600 68-2-14 and 2-33
Mechanical operating life latching (operations)	see order block
Resistance to vibrations acc. to IEC 600 68-2-6	10 g at 20 ... 500 Hz
Flame class acc. to UL 94	V 0
Hot wire ignition acc. to IEC 60695-2-1	yes

Typical accessories RAFIX 16 contact blocks with gold contacts

Description	Photo	Order no.	Additional accessories see page
Filament lamp, W 2 x 4.6d base, 24 - 30 V		1.90.120.005/0000	5 - 4
Filament lamp, W 2 x 4.6d base, 60 V		1.90.120.009/0000	5 - 4
Filament lamp, W 2 x 4.6d base, 48 V		1.90.120.010/0000	5 - 4

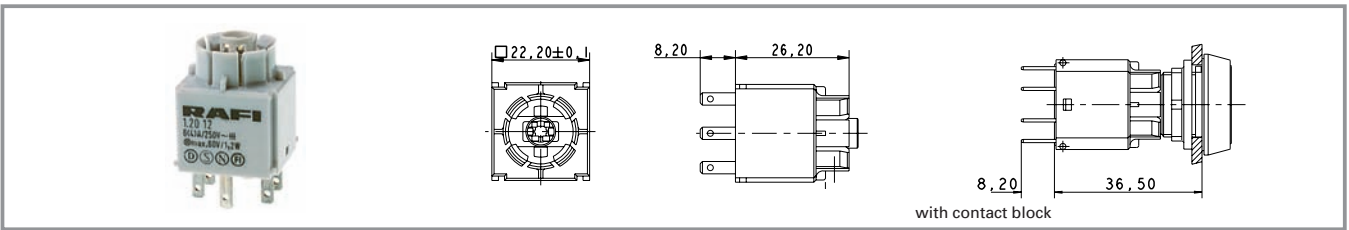
Typical accessories RAFIX 16 contact blocks with gold contacts

Description	Photo	Order no.	Additional accessories see page
Filament lamp, W 2 x 4.6d base, 24 V		1.90.120.011/0000	5 - 4
Filament lamp, W 2 x 4.6d base, 12 V		1.90.120.012/0000	5 - 4
Filament lamp, W 2 x 4.6d base, 6 V		1.90.120.013/0000	5 - 4
LED W 2 x 4.6d superbright, red, 24 V		1.90.690.361/0000	5 - 14
LED W 2 x 4.6d superbright, green, 24 V		1.90.690.362/0000	5 - 14
LED W 2 x 4.6d superbright, yellow, 24 V		1.90.690.363/0000	5 - 14
LED W 2 x 4.6d superbright, blue, 24 V		1.90.690.364/0000	5 - 14
LED W 2 x 4.6d superbright, white, 24 V		1.90.690.365/0000	5 - 14
Multipole connector		5.05.510.421/0000	2 - 59
PCB plug-in socket, 10 contacts (universal application)		5.05.510.644/0000	2 - 58
Female quick-connect terminal DIN 46340-B 2.8-1-MS		5.37.540.024/8622	2 - 59
Plug distributor		5.37.540.029/6000	2 - 59
Protection against contact		5.55.103.105/0100	2 - 60

2

RAFIX
16

RAFIX 16 standard contact block, gold contacts, with lamp socket

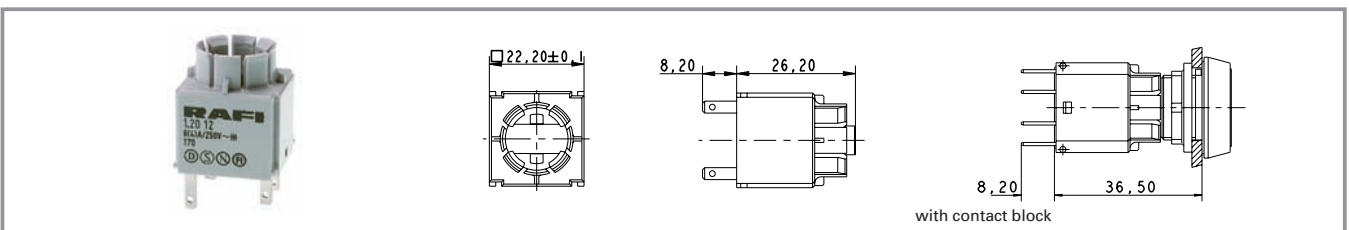


Contact function	Contact arrangement	Lamp socket	Rated voltage max. (AC/DC)	Rated current max.	Order no.
momentary	1 NC + 1 NO	W 2 x 4.6d	42 V	0.25 A	1.20.122.011/0000
momentary	2 NO	W 2 x 4.6d	42 V	0.25 A	1.20.122.012/0000
latching	1 NC + 1 NO	W 2 x 4.6d	42 V	0.25 A	1.20.122.051/0000
latching	2 NO	W 2 x 4.6d	42 V	0.25 A	1.20.122.052/0000

Technical data see page 2 - 42

Standard contact blocks have one common contact chamber and one actuator plunger. Contact blocks with "latching" contact function are used as switches. When combined with pushbuttons and mushroom actuators, the switching position is visible, releasing is effected by actuating again.

RAFIX 16 standard contact block, gold contacts, without lamp socket



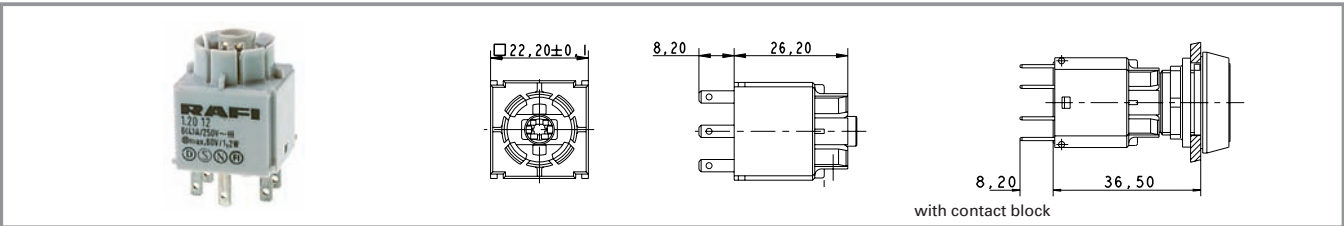
Contact function	Contact arrangement	Lamp socket	Rated voltage max. (AC/DC)	Rated current max.	Order no.
momentary	1 NC + 1 NO		42 V	0.25 A	1.20.122.031/0000
momentary	2 NO		42 V	0.25 A	1.20.122.032/0000

Technical data see page 2 - 42

Standard contact blocks have one common contact chamber and one actuator plunger. Contact blocks with "latching" contact function are used as switches. When combined with pushbuttons and mushroom actuators, the switching position is visible, releasing is effected by actuating again.

RAFIX 16

RAFIX 16 universal contact block, gold contacts, with lamp socket

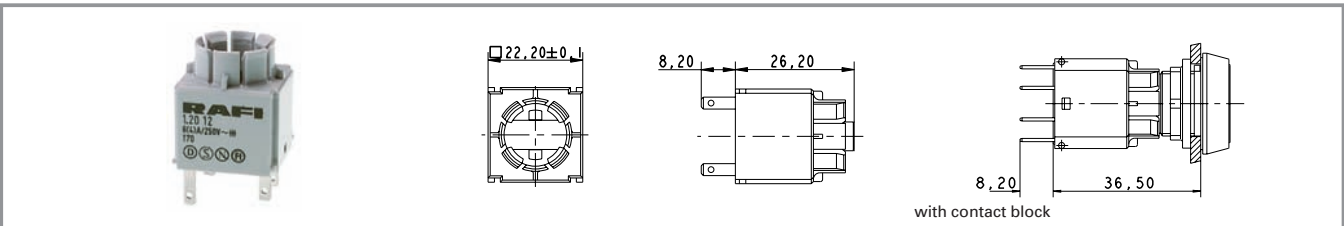


Contact function	Contact arrangement	Lamp socket	Rated voltage max. (AC/DC)	Rated current max.	Order no.
momentary	1 NC + 1 NO	W 2 x 4.6d	42 V	0.25 A	1.20.123.011/0000
momentary	1 NO	W 2 x 4.6d	42 V	0.25 A	1.20.123.013/0000
momentary	2 NC	W 2 x 4.6d	42 V	0.25 A	1.20.123.014/0000
momentary	2 NO	W 2 x 4.6d	42 V	0.25 A	1.20.123.015/0000

Technical data see page 2 - 42

Universal contact blocks have two separate contact chambers and two actuator plungers for alternating actuation directions. Two different polarities can be switched. The NC contacts are positive opening contacts to IEC 60947-5-1.

RAFIX 16 universal contact block, gold contacts, without lamp socket

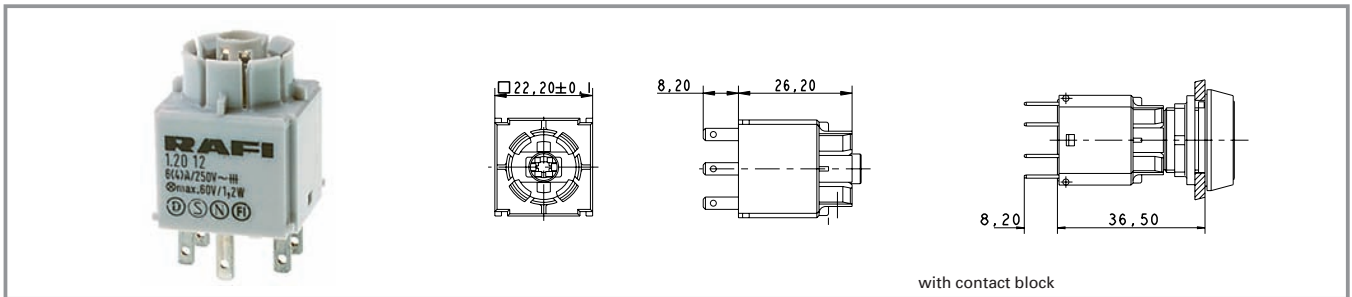


Contact function	Contact arrangement	Lamp socket	Rated voltage max. (AC/DC)	Rated current max.	Order no.
momentary	1 NC + 1 NO		42 V	0.25 A	1.20.123.031/0000
momentary	1 NC		42 V	0.25 A	1.20.123.032/0000
momentary	1 NO		42 V	0.25 A	1.20.123.033/0000
momentary	2 NC		42 V	0.25 A	1.20.123.034/0000
momentary	2 NO		42 V	0.25 A	1.20.123.035/0000

Technical data see page 2 - 42

Universal contact blocks have two separate contact chambers and two actuator plungers for alternating actuation directions. Two different polarities can be switched. The NC contacts are positive opening contacts to IEC 60947-5-1.

RAFIX 16 contact blocks with silver contacts



2

RAFIX 16

Technical data

Dimensions

Length	22.2 mm
Width	22.2 mm
Height	34.4 mm
Mounting depth (with actuator / indicator)	44.7 mm

Mechanical design

Mounting	snap on actuator
Contact system	bridge-contact self cleaning
Contact materials	Ag
Contact arrangement	see order block
Contact function	see order block
Lamp socket	see order block
Terminals	quick connector 2.8 x 0.8
Terminal marking	according to DIN 50013, X1 = +, X2 = -
Operating travel	3 mm
Robustness	100 N

Mechanical characteristics

Robustness	acc. IEC 60947-5-5
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Electrical characteristics

Rated insulation voltage acc. to VDE 0110, AC	250 V
Rated insulation voltage acc. to VDE 0110, DC	300 V
Ohmic rated current I_R	6 A
Rated motor current $I_{M\text{ nenn}}$	4 A
Application category acc. to VDE 0660 part 200	AC 15B 300 V
Application category acc. to VDE 0660 part 200	DC 13Q 300 V
Rated insulation voltage U_i , AC	250 V
Rated insulation voltage U_i , DC	300 V
Rated voltage U_E / Rated current I_E , AC	250 V/1,5 A, 120 V/3,0 A V
Rated voltage U_E / Rated current I_E , DAC	250 V/0,27 A, 125 V/0,55 A, 60 V/1 A, 24 V/2 A V

















Thermic rated current

I_{the} , AC	5 A
Thermic rated current I_{the} , DC	2,5 A
Operating life switching element AC	100000 at 6A, 800000 at 2A
Operating life switching element DC	250000 at 220 V/0.2 A, 1000000 at 24 V/2 A
Rated power AC	$1,1 \times I_E$
Rated power DC	$10 \times I_E$
Contact resistance when new max.	20 mΩ

Other specifications

Protection class	II
Approvals	ENEC 25 T 70 (55), UL, CSA
Corresponding to EU directive N	72/73 yes
Shock resistance acc. to IEC 600 68-2-27	amplitude < 50g, 11ms, half sinusoidal
Ambient temp. operating min.	-25 °C
Ambient temp. operating without lamp max.	+70 °C
Ambient temp. operating with lamp max.	+55 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Colour code	grey bottom
Resistance to constant environment	according to IEC 600 68-2-3 and 2-30
Resistance at variable environment	according to IEC 60068-2-14 and 2-33
Mechanical operating life latching (operations)	100000
Resistance to vibrations acc. to IEC 600 68-2-6	10 g at 20 ... 500 Hz
Flame class acc. to UL 94	V 0
Hot wire ignition acc. to IEC 60695-2-1	yes

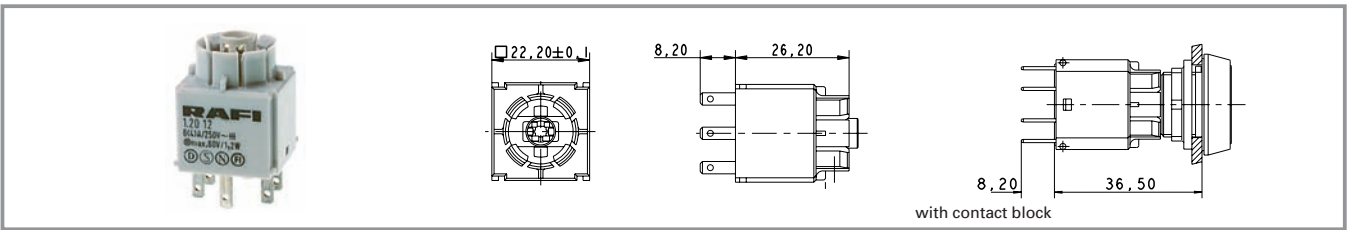
Typical accessories RAFIX 16 contact blocks with silver contacts

Description	Photo	Order no.	Additional accessories see page
Filament lamp, W 2 x 4.6d base, 24 - 30 V		1.90.120.005/0000	5 - 4
Filament lamp, W 2 x 4.6d base, 60 V		1.90.120.009/0000	5 - 4
Filament lamp, W 2 x 4.6d base, 48 V		1.90.120.010/0000	5 - 4
Filament lamp, W 2 x 4.6d base, 24 V		1.90.120.011/0000	5 - 4
Filament lamp, W 2 x 4.6d base, 12 V		1.90.120.012/0000	5 - 4
Filament lamp, W 2 x 4.6d base, 6 V		1.90.120.013/0000	5 - 4
LED W 2 x 4.6d superbright, red, 24 V		1.90.690.361/0000	5 - 14
LED W 2 x 4.6d superbright, green, 24 V		1.90.690.362/0000	5 - 14
LED W 2 x 4.6d superbright, yellow, 24 V		1.90.690.363/0000	5 - 14
LED W 2 x 4.6d superbright, blue, 24 V		1.90.690.364/0000	5 - 14
LED W 2 x 4.6d superbright, white, 24 V		1.90.690.365/0000	5 - 14
Multipole connector		5.05.510.421/0000	2 - 59
PCB plug-in socket, 10 contacts (universal application)		5.05.510.644/0000	2 - 58
Female quick-connect terminal DIN 46340-B 2.8-1-MS		5.37.540.024/8622	2 - 59
Plug distributor		5.37.540.029/6000	2 - 59
Protection against contact		5.55.103.105/0100	2 - 60

2

RAFIX
16

RAFIX 16 standard contact block, silver contacts, with lamp socket

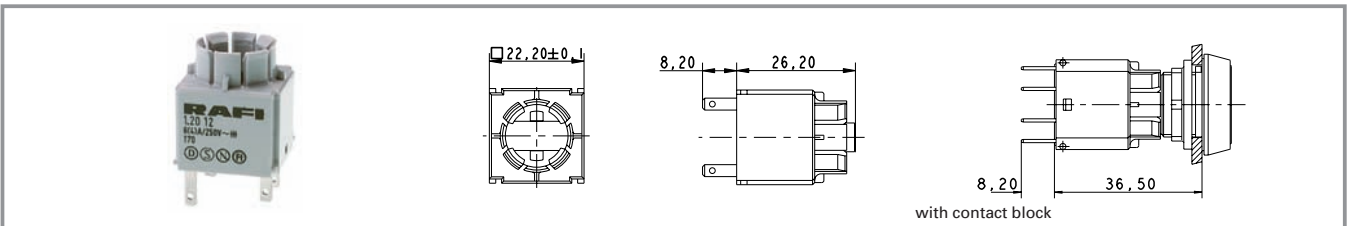


Contact function	Contact arrangement	Lamp socket	Rated insulation voltage U_i , AC	Ohmic rated current I_R	Order no.
momentary	1 NC + 1 NO	W 2 x 4.6d	250 V	6 A	1.20.122.001/0000
momentary	2 NO	W 2 x 4.6d	250 V	6 A	1.20.122.002/0000
momentary	2 NC	W 2 x 4.6d	250 V	6 A	1.20.122.003/0000
latching	1 NC + 1 NO	W 2 x 4.6d	250 V	6 A	1.20.122.041/0000
latching	2 NO	W 2 x 4.6d	250 V	6 A	1.20.122.042/0000

Technical data see page 2 - 46

Standard contact blocks have one common contact chamber and one actuator plunger. Contact blocks with "latching" contact function are used as switches. When combined with pushbuttons and mushroom actuators, the switching position is visible, releasing is effected by actuating again.

RAFIX 16 standard contact block, silver contacts, without lamp socket



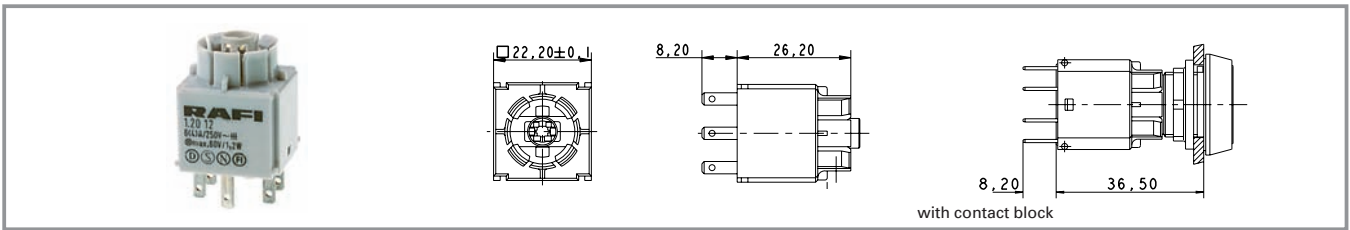
Contact function	Contact arrangement	Lamp socket	Rated insulation voltage U_i , AC	Ohmic rated current I_R	Order no.
momentary	1 NC + 1 NO		250 V	6 A	1.20.122.021/0000
momentary	2 NO		250 V	6 A	1.20.122.022/0000
momentary	2 NC		250 V	6 A	1.20.122.023/0000
latching	1 NC + 1 NO		250 V	6 A	1.20.122.061/0000
latching	2 NO		250 V	6 A	1.20.122.062/0000

Technical data see page 2 - 46

Standard contact blocks have one common contact chamber and one actuator plunger. Contact blocks with "latching" contact function are used as switches. When combined with pushbuttons and mushroom actuators, the switching position is visible, releasing is effected by actuating again.

RAFIX 16

RAFIX 16 universal contact block, silver contacts, with lamp socket



Contact function	Contact arrangement	Lamp socket	Rated insulation voltage U_i , AC	Ohmic rated current I_R	Order no.
momentary	1 NC + 1 NO	W 2 x 4.6d	250 V	6 A	1.20.123.001/0000
momentary	1 NO	W 2 x 4.6d	250 V	6 A	1.20.123.003/0000
momentary	2 NC	W 2 x 4.6d	250 V	6 A	1.20.123.004/0000
momentary	2 NO	W 2 x 4.6d	250 V	6 A	1.20.123.005/0000

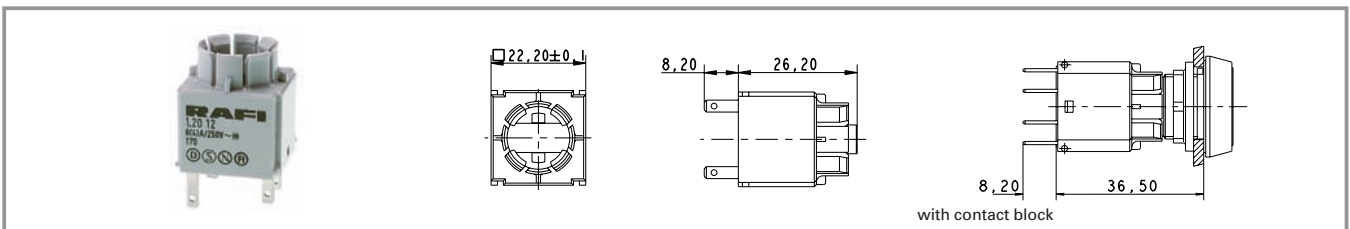
Technical data see page 2 - 46

Universal contact blocks have two separate contact chambers and two actuator plungers. This makes it possible to switch two different polarities. The NC contacts are positive opening contacts to IEC 60947-5-1.

2

RAFIX 16

RAFIX 16 universal contact block, silver contacts, without lamp socket



Contact function	Contact arrangement	Lamp socket	Rated insulation voltage U_i , AC	Ohmic rated current I_R	Order no.
momentary	1 NC + 1 NO		250 V	6 A	1.20.123.021/0000
momentary	1 NC		250 V	6 A	1.20.123.022/0000
momentary	1 NO		250 V	6 A	1.20.123.023/0000
momentary	2 NC		250 V	6 A	1.20.123.024/0000
momentary	2 NO		250 V	6 A	1.20.123.025/0000

Technical data see page 2 - 46

Universal contact blocks have two separate contact chambers and two actuator plungers. This makes it possible to switch two different polarities. The NC contacts are positive opening contacts to IEC 60947-5-1.

NEW

RAFIX 16 contact blocks AS-Interface, standard



2

General data

The AS-Interface standard contact block is a slave with 2 input / 1 output lines for the AS-I fieldbus system. It is designed for the extended address range and meets the AS-I profile S-B.A.B.E (2 inputs / 2 outputs).



More information on request.

RAFIX
16

Technical data

Dimensions		Switching reliability	< 10 x 10 ⁻⁶ at 24 V/5 mA DC
Length	22.2 mm	Approvals / CE	according to 89/336/EWG
Width	22.1 mm	Operating temperature min.:	-25 °C
Height	45.05 mm	Operating temperature max.:	70 °C
Mounting depth	56 mm	Storage temperature min.:	-40 °C
Key grid	25 x 25 mm	Storage temperature max.:	80 °C
Mechanical design		Resistance to constant environment:	IEC 60068-2-78
Mounting	snap on actuator	Vibration resistance:	10 g at 40 ... 500 Hz
Contact system	bridge-contact self cleaning	Shock resistance acc. to IEC 60068-2-27	50 g at 11 ms amplitude, half sinusoidal
Contact materials	Au	AS-I Schnittstelle	
Contact arrangement	2NO	AS-Interface profile	S-B.A.E
Illuminability	see order block	Terminal code	yes
Mounting position	variable	Rated voltage	26.5 ... 31.6 V
Terminals	supplied connector	Rated current	30 mA
Coupling contact	no	Deceleration time for readiness	1 sec
2-pole digital output, 24 V / 15 mA	no	AS-Interface IC	AS-I-SW
Robustness	100 N	AS-Interface specification	V3.0
Electrical characteristics		AS-Interface certificate	65001
Rated voltage AC / DC	24 V		
Rated current AC / DC	1 ... 250 mA		
Other specifications			
Operating life	1 Mio. operations at 24 V / 50 mA DC		

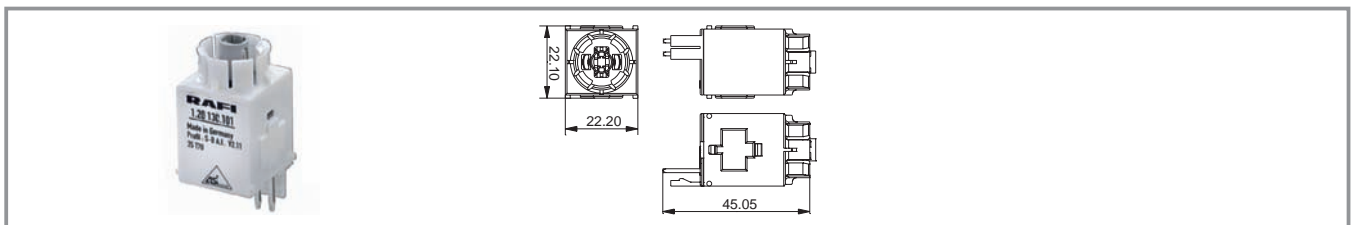
Typical accessories RAFIX 16 contact blocks AS-Interface, standard

Description	Photo	Order no.	Additional accessories see page
RAFIX 16 F pushbutton, illuminated, flush lens, housing		1.30.090.501/0000	
Filament lamp, W 2 x 4.6d base, 24 V		1.90.120.011/0000	5 - 4
LED W 2 x 4.6d superbright, red, 24 V		1.90.690.361/0000	5 - 14
LED W 2 x 4.6d superbright, green, 24 V		1.90.690.362/0000	5 - 14
LED W 2 x 4.6d superbright, yellow, 24 V		1.90.690.363/0000	5 - 14
LED W 2 x 4.6d superbright, blue, 24 V		1.90.690.364/0000	5 - 14
LED W 2 x 4.6d superbright, white, 24 V		1.90.690.365/0000	5 - 14

2

RAFIX 16

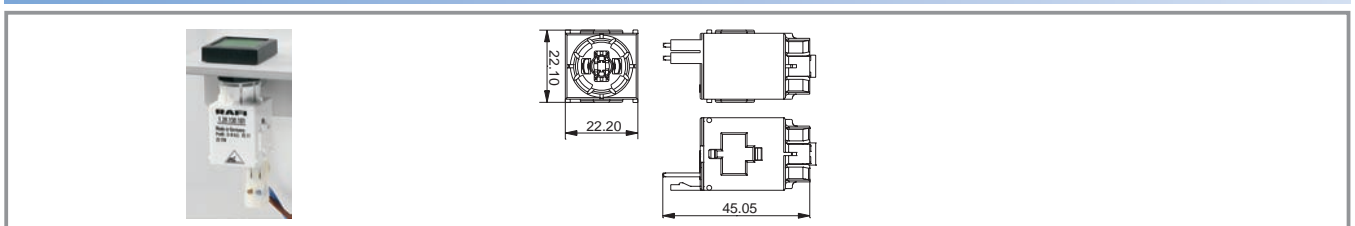
RAFIX 16 contact block AS-I, standard with lamp socket



Content arrangement	Illuminability	2-pole digital output, 24V / 15mA	Coupling contact	Order no.
2 NO	Lamp socket W 2 x 4,6 d	no	no	1.20.130.111/0000

Technical data see page 2 - 50

RAFIX 16 contact block AS-I, standard without lamp socket



Content arrangement	Illuminability	2-pole digital output, 24V / 15mA	Coupling contact	Order no.
2 NO	no	no	no	1.20.130.101/0000

Technical data see page 2 - 50

NEW RAFIX 16 contact blocks AS-Interface, E-stop, Safety at Work



2

RAFIX 16

General data

The AS-Interface E-stop contact block is a slave for the AS-I fieldbus system. It is designed for the standard address range and meets the AS-I profile S-7.B.E (safety slave with max. 4 input / 4 output lines). Up to 30 of these contact blocks can be linked to one AS-I line, the 31st member is a safety monitor. The four (safe) input lines are used for the safe transfer of the E-stops switching position signal. The (not safe) output line is used to control the lamp in the E-stop or for an external signal lamp (option).

The coupling contact is an additional safety feature. It supervises the coupling between E-stop actuator and contact block and informs the AS-I bus, when this connection is interrupted.

Technical data

Dimensions

Length	53.7 mm
Width	48.0 mm
Height	53.7 mm
Mounting depth	56 mm
Key grid	50 x 30 mm

Resistance to constant environment:

IEC 60068-2-78

Vibration resistance:

10 g at 40 ... 500 Hz

Shock resistance acc. to IEC 60068-2-27

50 g at 11 ms amplitude, half sinusoidal

Mechanical design

Mounting	snap on actuator
Contact system	bridge-contact self cleaning
Contact materials	Au
Contact arrangement	2NC
Illumination	1 x LED red
Mounting position	variable
Terminals	supplied connector
Coupling contact	see order block
2-pole digital output, 24 V / 15 mA	see order block
Robustness	100 N

AS-I Schnittstelle

AS-Interface profile	S-7.B.E
Terminal code	yes
Rated voltage	26.5 ... 31.6 V
Rated current	60 mA (Version 002: 50 mA)

Deceleration time for readiness

1 sec

AS-Interface IC

A² SI

AS-Interface specification

V3.0

AS-Interface certificate
Probability of failure, acc. to IEC 61508

ZU 63001, 63701
PFD total: 2.2×10^{-4} ,
operation period: 10 years
PFH/h: 2.5×10^{-9}

Electrical characteristics



Rated voltage AC / DC	24 V
Rated current AC / DC	0.01 ... 50 mA

Other specifications

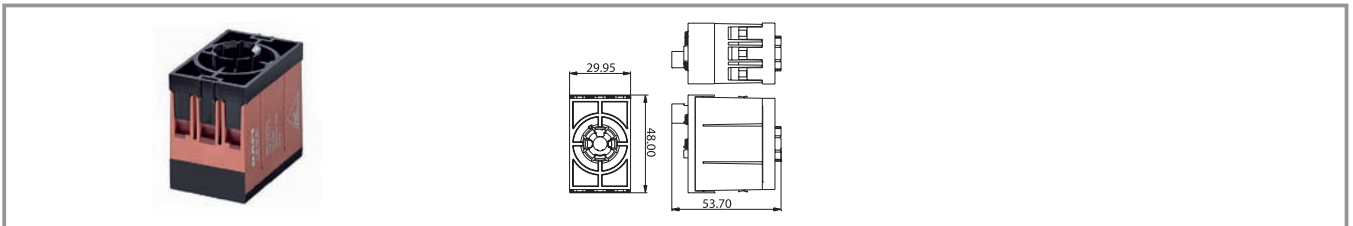
Operating life	1 Mio. operations at 24 V/50 mA DC
Approvals / CE	according to 89/336/EWG
Operating temperature min.:	-25 °C
Operating temperature max.:	70 °C
Storage temperature min.:	-40 °C
Storage temperature max.:	80 °C

RAFIX 16

Typical accessories RAFIX 16 contact blocks AS-Interface, E-stop, Safety at Work

Description	Photo	Order no.	Additional accessories see page
RAFIX 16 safety emergency stop pushbutton, round collar, conical, dupe-proof, non-blocking		1.30.074.281/0300	2 - 29
RAFIX 16 F emergency stop pushbutton, non-blocking, dupe-proof		1.30.094.001/0300	2 - 81

RAFIX 16 contact block AS-I, E-stop, Safety at Work



Content arrangement	Illuminability	2-pole digital output, 24V / 15mA	Coupling contact	Order no.
2 NC	1 x LED red	yes, (max. cable length 10 cm)	yes	1.20.130.001/0000
2 NC	1 x LED red	no	no	1.20.130.002/0000
2 NC	1 x LED red	no	yes	1.20.130.011/0000

Technical data see page 2 - 52

RAFIX 16 lamp socket



2

RAFIX 16

Technical data

Dimensions

Length	see order block
Width	see order block
Height	see order block
Mounting depth	see order block

Mechanical design

Mounting	see order block
Lamp socket	wedge-base W 2 x 4.6d
Terminals	quick connector 2.8 x 0.8
Terminal marking	X1 = anode, X2 = cathode
Robustness	100 N

Electrical characteristics

Rated voltage max.	60 V
Rated power max.	1.2 W

Other specifications

Approvals	ENEC 25 T 70 (55), UL, CSA
-----------	----------------------------

Shock resistance acc. to IEC 600 68-2-27

amplitude < 50g, 11ms, half sinusoidal

Ambient temp. operating min.

-25 °C

Ambient temp. operating with lamp max.

+55 °C

Storage temperature min.

-40 °C

Storage temperature max.

+85 °C

Resistance to constant environment

according to IEC 600 68-2-3 and 2-30

Resistance at variable environment

according to IEC 60068-2-14 and 2-33

Flame class acc. to UL 94

V 0

Hot wire ignition acc. to IEC 60695-2-1

yes

Resistance to vibrations acc. to IEC 600 68-2-6

10 g at 20 ... 500 Hz

Häufig verwendetes Zubehör RAFIX 16 lamp socket

Description	Photo	Order no.	Additional accessories see page
Filament lamp, W 2 x 4.6d base, 24 - 30 V		1.90.120.005/0000	5 - 4
Filament lamp, W 2 x 4.6d base, 60 V		1.90.120.009/0000	5 - 4
Filament lamp, W 2 x 4.6d base, 48 V		1.90.120.010/0000	5 - 4
Filament lamp, W 2 x 4.6d base, 24 V		1.90.120.011/0000	5 - 4
Filament lamp, W 2 x 4.6d base, 12 V		1.90.120.012/0000	5 - 4
Filament lamp, W 2 x 4.6d base, 6 V		1.90.120.013/0000	5 - 4

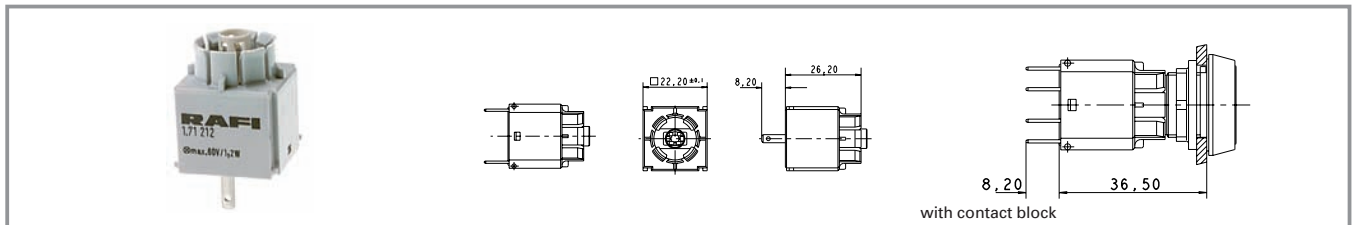
Häufig verwendetes Zubehör RAFIX 16 lamp socket

Description	Photo	Order no.	Additional accessories see page
LED W 2 x 4.6d superbright, red, 24 V		1.90.690.361/0000	5 - 14
LED W 2 x 4.6d superbright, green, 24 V		1.90.690.362/0000	5 - 14
LED W 2 x 4.6d superbright, yellow, 24 V		1.90.690.363/0000	5 - 14
LED W 2 x 4.6d superbright, blue, 24 V		1.90.690.364/0000	5 - 14
LED W 2 x 4.6d superbright, white, 24 V		1.90.690.365/0000	5 - 14
PCB plug-in socket, 2 contacts (lamp socket)		5.05.510.649/0000	2 - 58
Protection against contact		5.55.103.105/0100	2 - 60

2

RAFIX 16

RAFIX 16 lamp socket W 2 x 4.6 d

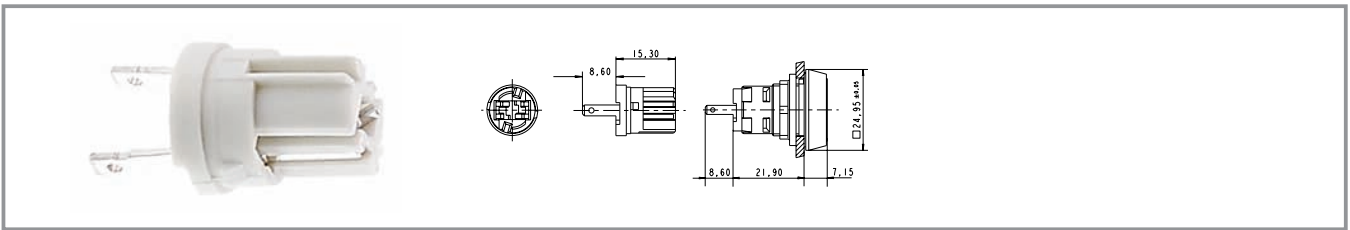


Rated voltage max.	Rated power max.	Lamp socket	Mounting	Mounting depth	Order no.
60 V	1.2 W	wedge-base W 2 x 4.6d	click on signal indicator	44.7 mm	1.71.212.001/0000

Technical data see page 2 - 54

A notch on the lamp socket identifies the cathode side.

RAFIX 16 lamp socket W 2 x 4.6 d



Rated voltage max.	Rated power max.	Lamp socket	Mounting	Mounting depth	Order no.
60 V	1.2 W	wedge-base W 2 x 4.6d	snap into signal indicator	30.5 mm	1.71.212.011/0000

Technical data see page 2 - 54

A notch on the lamp socket identifies the cathode side.

2

RAFIX
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RAFIX 16

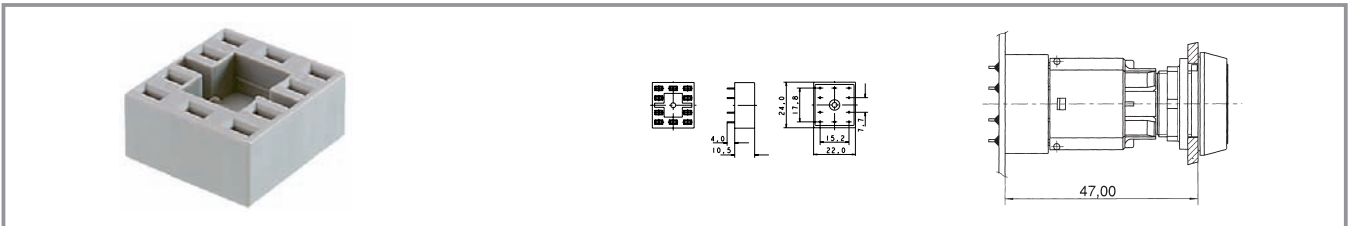
RAFIX 16 special accessories



3-module

2

PCB plug-in socket



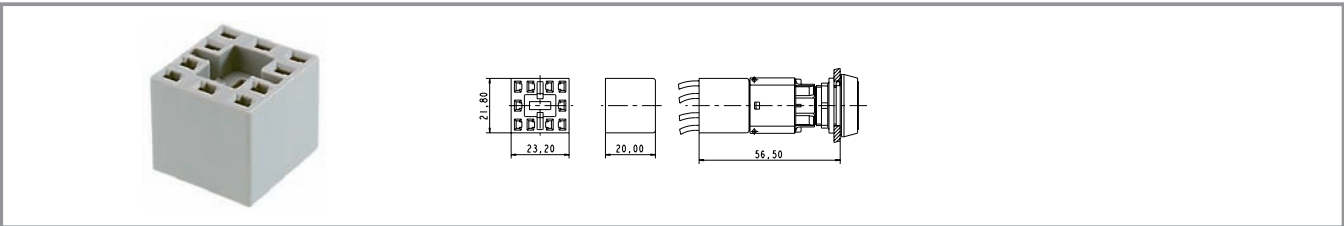
RAFIX
16

Short text	Feature 1	Feature 2	Order no.
PCB plug-in socket, 10 contacts (universal application)	22 mm	24 mm	5.05.510.644/0000
PCB plug-in socket, 6 contacts (2 NO, lamp socket)	22 mm	24 mm	5.05.510.645/0000
PCB plug-in socket, 6 contacts (1 NC, 1 NO, lamp socket)	22 mm	24 mm	5.05.510.646/0000
PCB plug-in socket, 6 contacts (2 NC, lamp socket)	22 mm	24 mm	5.05.510.647/0000
PCB plug-in socket, 4 contacts (2 NC)	22 mm	24 mm	5.05.510.648/0000
PCB plug-in socket, 2 contacts (lamp socket)	22 mm	24 mm	5.05.510.649/0000

For soldering onto PCBs. The PCB carrying the plug-in sockets is plugged onto the contact blocks/lamp sockets. Additional fixing of the PCB to the contact block is not required. Solder terminals for PCB 3.5 mm long, for 1.3 mm hole.

RAFIX 16

Multipole connector



Short text	Feature 1	Feature 2	Order no.
Multipole connector	21.8 mm	23.2 mm	5.05.510.421/0000

Makes it possible to simultaneously connect all terminals of a contact block. Can be fitted with 2.8 mm female quick-connect terminals.

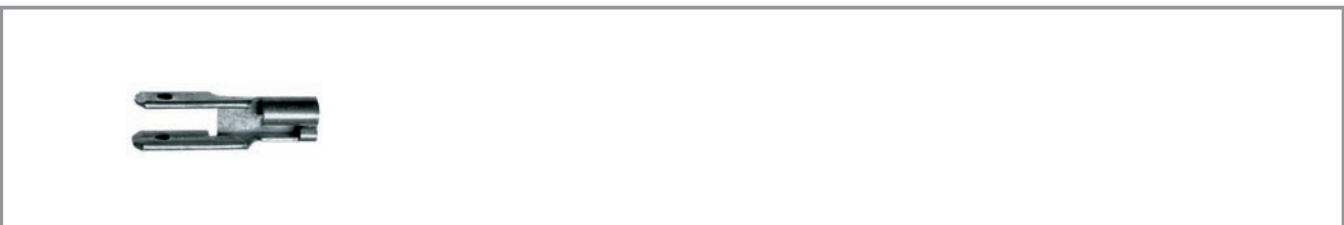
Female quick-connect terminal DIN 46340-B 2.8-1-MS



Short text	Feature 1	Feature 2	Order no.
Female quick-connect terminal DIN 46340-B 2.8-1-MS			5.37.540.024/8622

With latching detent for mating with a multipole connector.

Plug distributor



Short text	Feature 1	Feature 2	Order no.
Plug distributor			5.37.540.029/6000

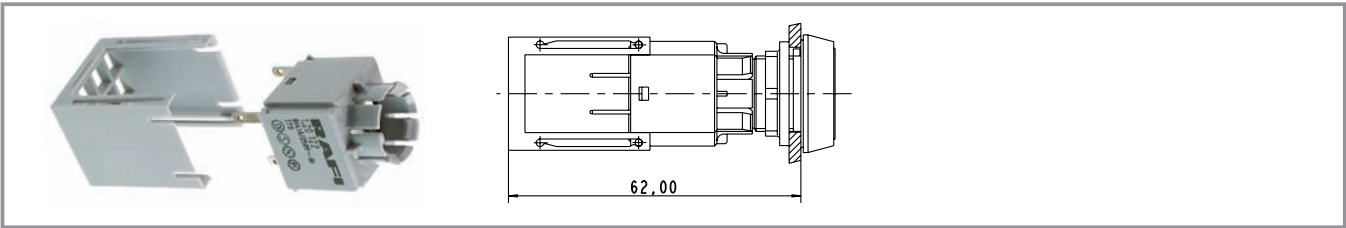
For mounting on the quick-connect terminals of contact blocks. The double number of contacts facilitates loop-through.

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RAFIX
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RAFIX 16

Protection against contact



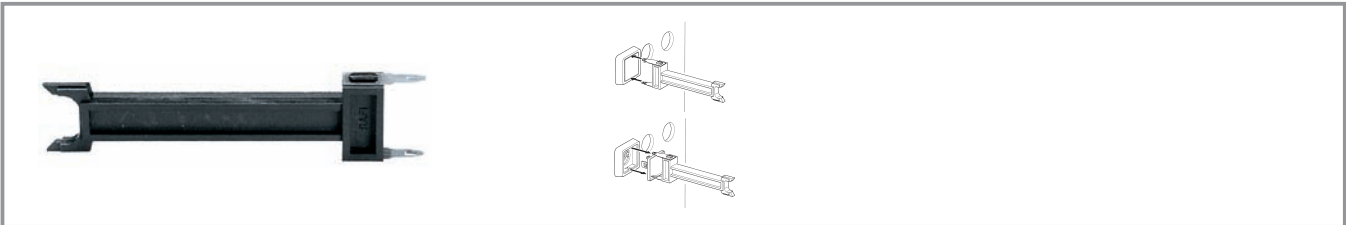
Short text	Feature 1	Feature 2	Order no.
Protection against contact			5.55.103.105/0100

Assembly sequence: Snap the protection against contact onto the contact block, connect wires to quick-connect terminals of contact block, pull protection against contact over the terminals; this ensures finger-proof condition to VBG 4.

2

RAFIX
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Disassembly tool



Short text	Feature 1	Feature 2	Order no.
Disassembly tool for LUMOTAST 25, RAFIX 16			5.05.800.042/0000

For replacing pushbutton and signal indicator lenses.

Protective cover, suitable for lead seal, for pushbuttons, alignable without gaps



Short text	Feature 1	Feature 2	Order no.
Protective cover, suitable for lead seal			5.05.800.055/0000

To prevent inadvertent operation. The legend is easily visible even when the cap is closed.

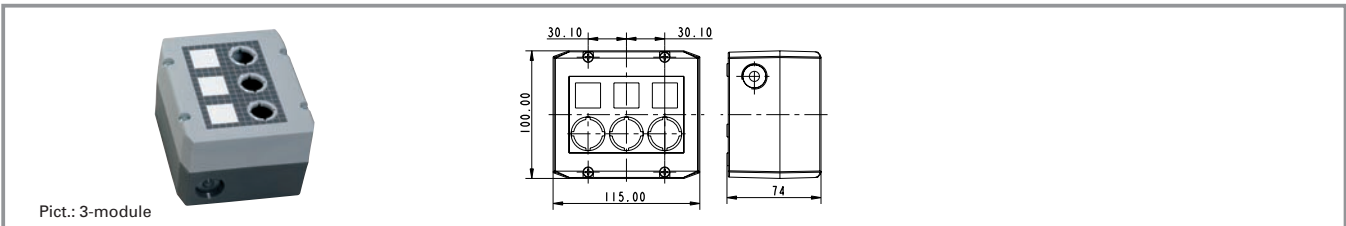
RAFIX 16

Fixing spanner for hexagon nut



Short text	Feature 1	Feature 2	Order no.
Fixing spanner for hexagon nut			5.58.002.034/0000

RAFIX 16 insulating housing



Short text	Feature 1	Feature 2	Order no.
RAFIX 16 insulating housing, 1-module, light grey/dark grey	55 mm	100 mm	1.20.810.001/0000
RAFIX 16 insulating housing, 1-module, yellow/yellow	55 mm	100 mm	1.20.810.002/0000
RAFIX 16 insulating housing, 2-module, light grey/dark grey	115 mm	100 mm	1.20.820.001/0000
RAFIX 16 insulating housing, 3-module, light grey/dark grey	115 mm	100 mm	1.20.830.001/0000
RAFIX 16 insulating housing, 4-module, light grey/dark grey	145 mm	100 mm	1.20.840.001/0000
Label sheet for housings			5.40.451.283/0000

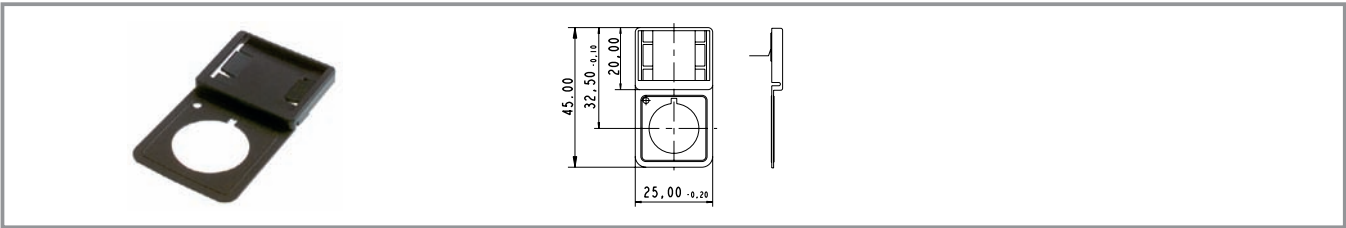
- Attractive plastic housing to accommodate up to 4 control components
- 2 cable entries prepared: 1-,2-,3-part: M20x1,5, 4-part: M25x1,5
- Degree of protection IP 65 to DIN
- All grey housings with overlay, legending possible with legend inserts
- Wall mounting with 2 screws through housing bottom prepared
- Dimensions (feature 1) x 100 mm x 74 mm
- Accessories: 50 pre-perforated legend inserts on a DIN A4 sheet for printing with a PC printer
- Housing with other cut-outs, e. g. for RAFIX 16F, on request.

2

RAFIX
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RAFIX 16

RAFIX 16 label holder, flush, for square collar



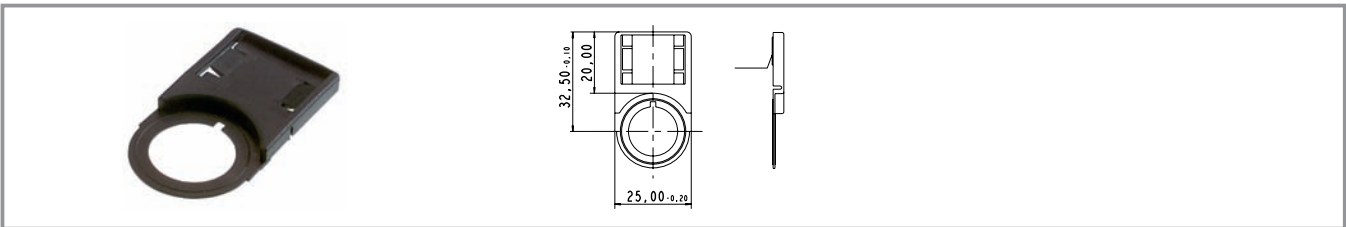
Short text	Feature 1	Feature 2	Order no.
Label holder, flush, for square collar			5.07.620.004/0000

Accessories:
Legend label 23 x 16 for label holder, without legend: **5.73.111.000/0000**
Legending available on request.

2

RAFIX
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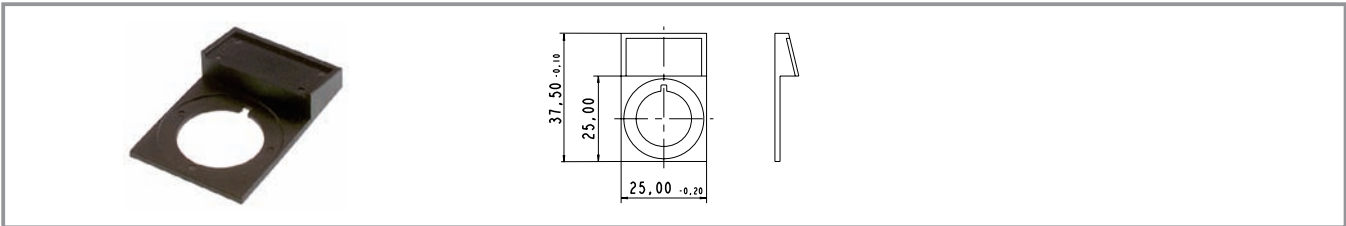
RAFIX 16 label holder, flush, for round collar



Short text	Feature 1	Feature 2	Order no.
Label holder, flush, for round collar			5.07.620.006/0000

Accessories:
Legend label 23 x 16 for label holder, without legend: **5.73.111.000/0000**
Legending available on request.

RAFIX 16 label holder, protruding, for square flush fitting collar



Short text	Feature 1	Feature 2	Order no.
Label holder, protruding, for square flush fitting collar			5.07.620.007/0000

Accessories:
Legend label 23 x 16, without legend: **5.73.112.000/0000**
Legending available on request.

Emergency stop label, yellow, round 60 mm, PVC adhesive



Short text	Feature 1	Feature 2	Order no.
Emergency stop label, yellow, round 60 mm, PVC adhesive, without legend	60 mm		5.76.204.400/0400
Emergency stop label, yellow, round 60 mm, PVC adhesive, with legend „NOT-AUS“	60 mm		5.76.204.401/0400
Emergency stop label, yellow, round 60 mm, PVC adhesive, with legend „EMERGENCY STOP“	60 mm		5.76.204.403/0400

2

RAFIX
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RAFIX 16

LUMOTAST 25, RAFIX 16 blanking cap complete with sealing disc and ring nut

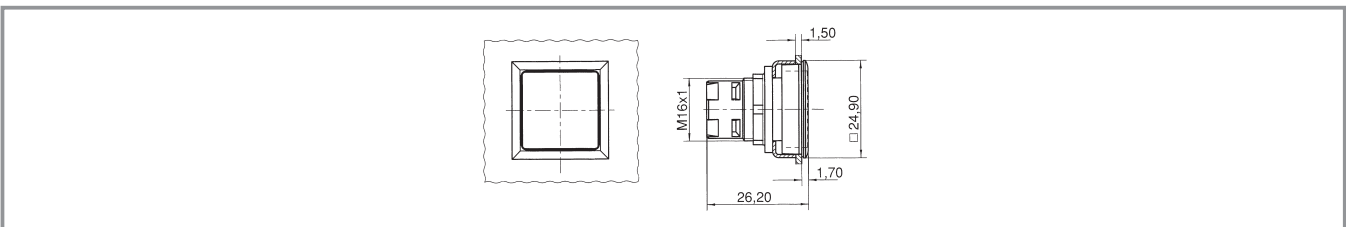


Short text	Feature 1	Feature 2	Order no.
Blanking cap complete with sealing disc and ring nut, square			5.05.800.049/0100
Blanking cap complete with sealing disc and ring nut, round			5.05.800.050/0100
Blanking cap complete with sealing disc and ring nut, square, alignable without gaps			5.05.800.051/0100

2

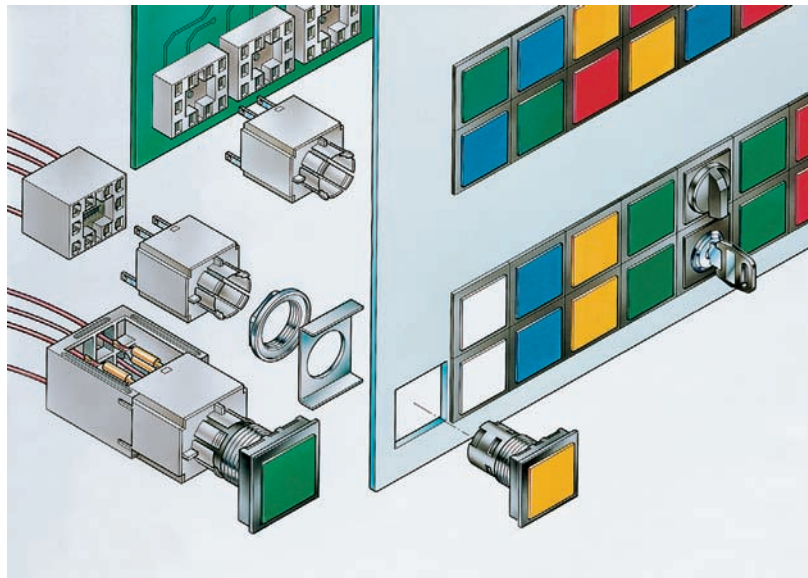
RAFIX
16

RAFIX 16 F, blanking cap



Short text	Feature 1	Feature 2	Order no.
RAFIX 16 F, blanking cap, black	opaque black	23.1 x 23.1 mm	5.05.800.063/0000

RAFIX 16 F



2

General data

RAFIX 16 F control component range

- Extremely low profile
- 250 V/6 A max.
- Water-jet proof IP65
- Contact blocks: Gold and silver contacts with quick-connect terminals 2.8 x 0.8 mm; Option: PCB plug-in socket
- The lamps of the pushbuttons can be replaced from the front or rear.
- The contact blocks snap directly onto the actuators without a coupling element and can be removed by turning = cost reducing mounting.
- Versions with round collars on request
- **For contact blocks and accessories, refer to RAFIX 16.**

RAFIX
16 F

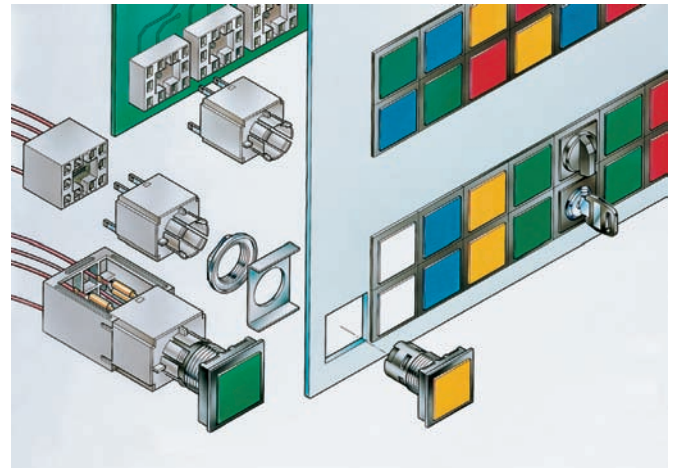
The specified data apply only if actuators/signal indicators are combined with contact blocks and lamp sockets within the same product range.

Content

RAFIX 16 F pushbutton	2 - 68
RAFIX 16 F pushbutton, flush lens, square collar	2 - 69
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RAFIX 16 F

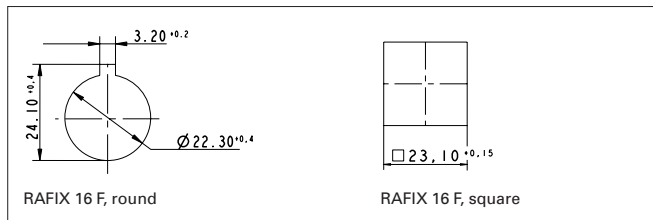
General information



RAFIX 16 is a complete control component series with low profile design.

Actuators

- Panel cut-out \varnothing 22,3 mm to IEC 60 947-5-1
- Panel cut-out \square 23,1 mm



- Locating lug (easily removable).
The locating lug can be easily removed using a screwdriver.
- Degree of protection IP 65 on panel.
This is achieved by a reliable, tried and tested special seal.
- Grid spacing 25 x 25 mm
- Low profile, only 1.7 mm
- Thickness of front panel 0.5 ... 3.5 mm
- Fixing with hexagon nut
- Starting torque 1.2 Nm max.

Contact blocks

- Standard: for actuators with one-way operation
 - with latching mechanism (latching switch)
 - without latching mechanism (momentary switch)
- Universal: for E-stop pushbuttons and for actuators with two-way operation, e. g. selector switches
 - without latching mechanism

Contact material

- Silver contacts for mains voltage
- Gold contacts for electronic circuits

Illumination

- Wedge base lamp or LED with socket W 2 x 4.6 d

Shock-resistance according to IEC 600 68-2-27

- Shock amplitude: \leq 50 g
- Shock time: 11 ms
- Shock type: half sinusoidal

Environment conditions

- Constant environment: acc. to IEC 600 68-2-3 and 2-30
- Variable environment: acc. to IEC 600 68-2-14 and 2-33

Temperature range

- Operating temperature:
 - non-illuminated: - 25 ... + 70 °C
 - illuminated: - 25 ... + 55 °C
- Storage temperature: - 40 ... + 85 °C

RAFIX 16 F

RAFIX 16 F pushbutton



2

Technical data

General information

Form of lens see order block
 Colour of lens see order block
 Form of collar see order block

Dimensions

Length of collar see order block
 Width of collar see order block
 Overall height see order block
 Mounting depth see order block
 Key grid see order block
 Mounting hole see order block

Mechanical design

Mounting ring nut
 Contact function according to contact block
 Illuminability see order block

Mechanical characteristics

Robustness min. 100 N

Other specifications

Operating life 200000 momentary/100000 latching
 Degree of protection from front side IP65
 Ambient temp. operating min. -25 °C
 Ambient temp. operating without lamp max. +70 °C
 Ambient temp. operating with lamp max. +55 °C
 Storage temperature min. -40 °C
 Storage temperature max. +85 °C
 Resistance to constant environment according to IEC 600 68-2-3 and 2-30
 Resistance at variable environment according to IEC 600 68-2-14 and 2-33

RAFIX 16 F

Typical accessories RAFIX 16 F pushbutton

Description	Photo	Order no.	Additional accessories see page
RAFIX 16 standard contact block, 1 NC + 1 NO, momentary, silver contacts, with lamp socket		1.20.122.001/0000	2 - 48
RAFIX 16 standard contact block, 1 NC + 1 NO, momentary, gold contacts, with lamp socket		1.20.122.011/0000	2 - 44
RAFIX 16 standard contact block, 1 NC + 1 NO, momentary, silver contacts, without lamp socket		1.20.122.021/0000	2 - 48
RAFIX 16 standard contact block, 1 NC + 1 NO, momentary, gold contacts, without lamp socket		1.20.122.031/0000	2 - 44
RAFIX 16 contact block, AS-I, standard		1.20.130.101/0000	2 - 51
LED W 2 x 4.6d superbright, white, 24 V		1.90.690.365/0000	5 - 14
Disassembly tool for LUMOTAST 25, RAFIX 16		5.05.800.042/0000	2 - 60
Fixing spanner for hexagon nut		5.58.002.034/0000	2 - 61

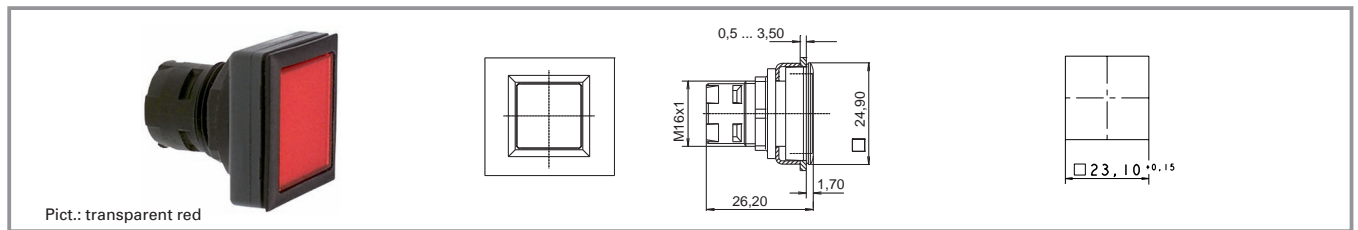
RAFIX 16 F

Typical accessories RAFIX 16 F pushbutton

Description	Photo	Order no.	Additional accessories see page
Legend insert, blank, use only for transparent lenses		5.70.635.000/2000	

For other contact blocks, refer to the chapter "RAFIX 16 contact blocks"; for additional accessories, refer to the chapter "RAFIX 16 special accessories".

RAFIX 16 F pushbutton, flush lens, square collar



Pict.: transparent red

Form of lens	Illuminability	Colour of lens	Order no.	Order no. single parts	
				Housing	Lens
flat lens	yes	transparent colourless	1.30.090.001/1000	1.30.090.501/0000	5.49.077.011/1002
flat lens	yes	transparent red	1.30.090.001/1300	1.30.090.501/0000	5.49.077.011/1306
flat lens	yes	transparent yellow	1.30.090.001/1400	1.30.090.501/0000	5.49.077.011/1403
flat lens	yes	transparent green	1.30.090.001/1500	1.30.090.501/0000	5.49.077.011/1505
flat lens	yes	transparent blue	1.30.090.001/1600	1.30.090.501/0000	5.49.077.011/1607
flat lens	no	opaque black	1.30.090.251/0100	-	-
flat lens	no	opaque white	1.30.090.251/0200	-	-
flat lens	no	opaque red	1.30.090.251/0300	-	-
flat lens	no	opaque yellow	1.30.090.251/0400	-	-
flat lens	no	opaque green	1.30.090.251/0500	-	-
flat lens	no	opaque blue	1.30.090.251/0600	-	-

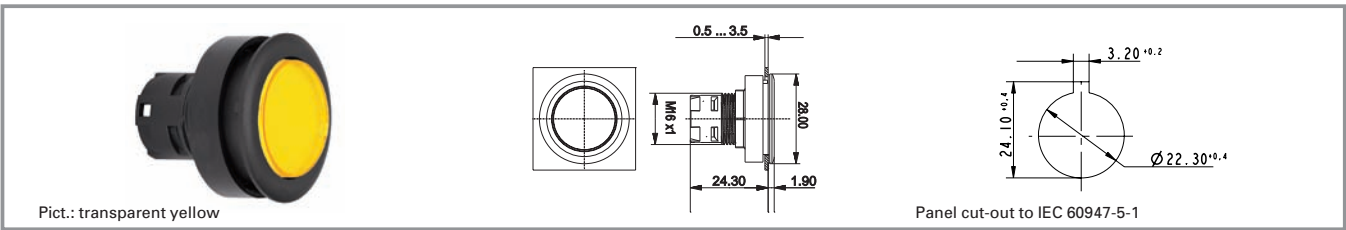
Technical data see page 2 - 68

Accessories:

Legend insert, blank, use only for transparent lenses: **5.70.635.000/2000**

For the "latching" function, please use the RAFIX 16 standard contact block with "latching" function.

RAFIX 16 F pushbutton, flush lens, round collar



2

RAFIX
16 F

Form of lens	Illuminability	Colour of lens	Order no.	Order no. single parts	
				Housing	Lens
flat lens	yes	transparent colourless	1.30.090.011/1000	1.30.090.511/0000	5.49.259.017/1002
flat lens	yes	transparent red	1.30.090.011/1300	1.30.090.511/0000	5.49.259.017/1306
flat lens	yes	transparent yellow	1.30.090.011/1400	1.30.090.511/0000	5.49.259.017/1403
flat lens	yes	transparent green	1.30.090.011/1500	1.30.090.511/0000	5.49.259.017/1505
flat lens	yes	transparent blue	1.30.090.011/1600	1.30.090.511/0000	5.49.259.017/1607
flat lens	no	opaque black	1.30.090.261/0100	-	-
flat lens	no	opaque white	1.30.090.261/0200	-	-
flat lens	no	opaque red	1.30.090.261/0300	-	-
flat lens	no	opaque yellow	1.30.090.261/0400	-	-
flat lens	no	opaque green	1.30.090.261/0500	-	-
flat lens	no	opaque blue	1.30.090.261/0600	-	-

Technical data see page 2 - 68

Accessories:

Legend insert, blank, use only for transparent lenses: 5.70.637.000/2000

RAFIX 16 F

RAFIX 16 F selector switch



2

General data

The illuminated selector switches are provided with translucent handle markings. These are opaque on the non-illuminated versions.

Technical data

RAFIX
16 F

General information

Form of lens	handle
Colour of handle marking	see order block
Form of collar	see order block

Dimensions

Length of collar	see order block
Key grid	see order block
Width of collar	see order block
Overall height	see order block
Mounting depth	see order block
Mounting hole	see order block

Mechanical design

Mounting	ring nut
Contact function	see order block
Illuminability	see order block
Rotating angle	see order block

Mechanical characteristics

Torque max.	1.3 Nm
-------------	--------

Other specifications

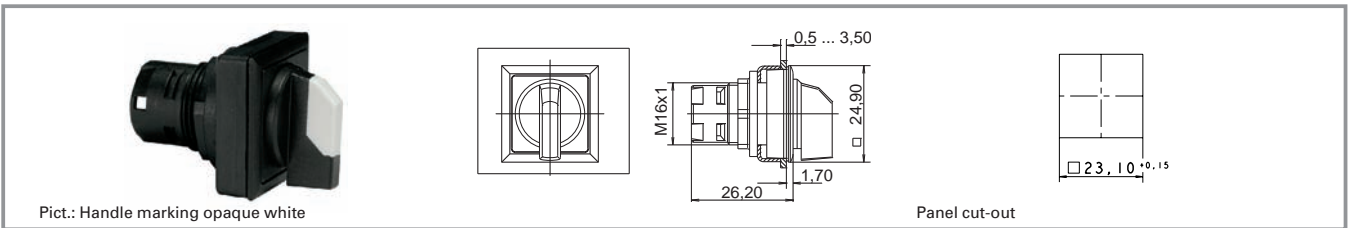
Operating life	30000
Degree of protection from front side	IP65
Ambient temp. operating min.	-25 °C
Ambient temp. operating without lamp max.	+70 °C
Ambient temp. operating with lamp max.	+55 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Resistance to constant environment	according to IEC 600 68-2-3 and 2-30
Resistance at variable environment	according to IEC 600 68-2-14 and 2-33

Typical accessories RAFIX 16 F selector switch

Description	Photo	Order no.	Additional accessories see page
RAFIX 16 universal contact block, 1 NC + 1 NO, momentary, silver contacts, with lamp socket		1.20.123.001/0000	2 - 49
RAFIX 16 universal contact block, 1 NC + 1 NO, momentary, gold contacts, with lamp socket		1.20.123.011/0000	2 - 45
RAFIX 16 contact block, AS-I, standard		1.20.130.101/0000	2 - 51
Fixing spanner for hexagon nut		5.58.002.034/0000	2 - 61

RAFIX 16 F

RAFIX 16 F selector switch



Illuminability	Contact function	Rotating angle		Colour of handle marking	Order no.
yes	momentary	1 x 40° °		translucent white	1.30.093.551/2000
yes	momentary	2 x 40° °		translucent white	1.30.093.651/2000
yes	latching	L, 1 x 90° °		translucent white	1.30.093.501/2000
yes	latching	V, 1 x 90° °		translucent white	1.30.093.601/2000
yes	latching	2 x 60° °		translucent white	1.30.093.701/2000
no	momentary	1 x 40° °		opaque white	1.30.093.550/0200
no	momentary	2 x 40° °		opaque white	1.30.093.650/0200
no	latching	L, 1 x 90° °		opaque white	1.30.093.500/0200
no	latching	V, 1 x 90° °		opaque white	1.30.093.600/0200
no	latching	2 x 60° °		opaque white	1.30.093.700/0200

Technical data see page 2 - 72

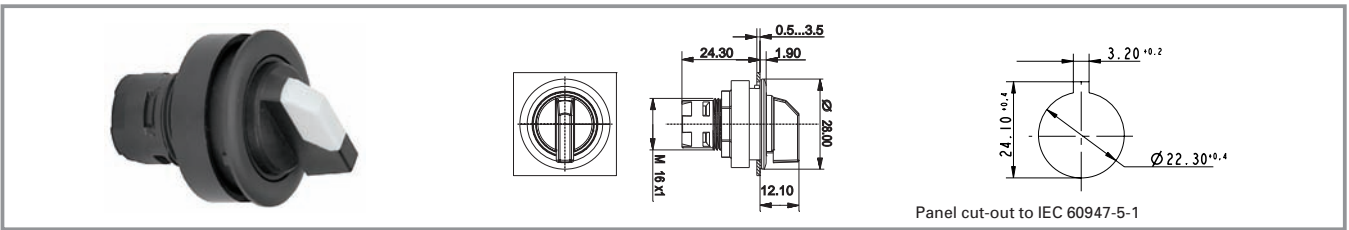
Only use RAFIX 16 contact blocks with "momentary" contact function. For versions with clockwise and counterclockwise rotation, use universal contact blocks only.

Other contact functions and handle markings available on request.

For coloured illumination of the handle marking please use contact block with lamp socket and coloured LED W 2 x 4,6d (see chapter 5 accessories).

RAFIX 16 F

RAFIX 16 F selector switch, non-illuminated



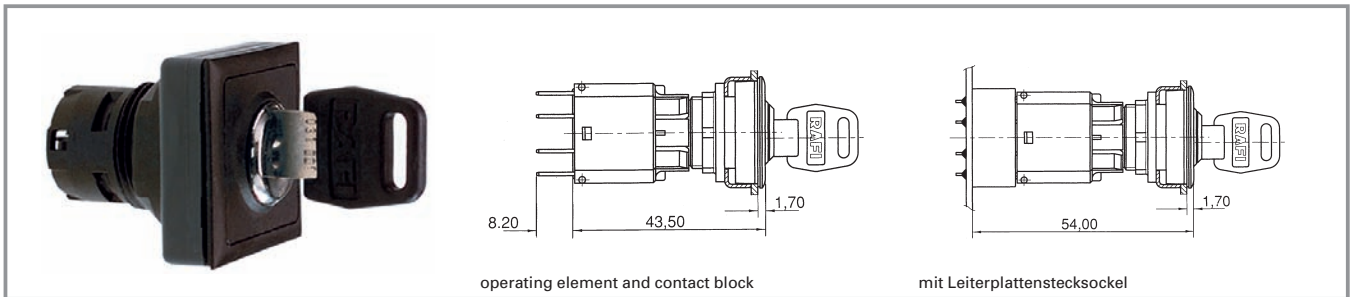
Illuminability	Contact function	Rotating angle		Colour of handle marking	Order no.
yes	momentary	1 x 40 °		translucent white	1.30.093.561/2000
yes	momentary	2 x 40 °		translucent white	1.30.093.661/2000
yes	latching	1 x 90 L °		translucent white	1.30.093.511/2000
yes	latching	1 x 90 V °		translucent white	1.30.093.611/2000
yes	latching	2 x 60 °		translucent white	1.30.093.711/2000
no	momentary	1 x 40 °		opaque white	1.30.093.560/2000
no	momentary	2 x 40 °		opaque white	1.30.093.660/2000
no	latching	1 x 90 L °		opaque white	1.30.093.510/2000
no	latching	1 x 90 V °		opaque white	1.30.093.610/2000
no	latching	2 x 60 °		opaque white	1.30.093.710/2000

Technical data see page 2 - 72

2

RAFIX
16 F

RAFIX 16 F keylock switch MICROMECC



2

Technical data

General information

Form of lens flat lens
Colour of lens opaque black
Form of collar see order block

Dimensions

Length of collar see order block
Key grid see order block
Width of collar see order block
Overall height see order block
Mounting depth see order block
Mounting hole see order block

Mechanical design

Mounting ring nut
Contact function see order block
Illuminability no
Lock Micromec
Wafers 5
Lock type 001
Number of locking positions 500
Main key on request
Symmetric key no
Rotating angle see order block
Key removal position see order block
Group key on request
General key on request

Mechanical characteristics

Torque max. 1.3 Nm

Electrical characteristics

Protection class II

Other specifications

Operating life 65000
Degree of protection from front side IP65
Ambient temp. operating min. -25 °C
Ambient temp. operating max. +70 °C
Storage temperature min. -40 °C
Storage temperature max. +85 °C
Resistance to constant environment according to IEC 600 68-2-3 and 2-30
Resistance at variable environment according to IEC 600 68-2-14 and 2-33
ESD-strength lock / contact 15 kV
ESD-strength key/ front panel 4 kV

RAFIX 16 F

Typical accessories RAFIX 16 F keylock switch MICROMECC

Description	Photo	Order no.	Additional accessories see page
RAFIX 16 universal contact block, 1 NC + 1 NO, momentary, silver contacts, without lamp socket		1.20.123.021/0000	2 - 49
RAFIX 16 universal contact block, 1 NC + 1 NO, momentary, gold contacts, without lamp socket		1.20.123.031/0000	2 - 45
RAFIX 16 contact block, AS-I, standard		1.20.130.101/0000	2 - 51
Fixing spanner for hexagon nut		5.58.002.034/0000	2 - 61
Spare key, for single action, e.g. 1 x 90° (delivery content 1 key)		5.58.007.001/0000	

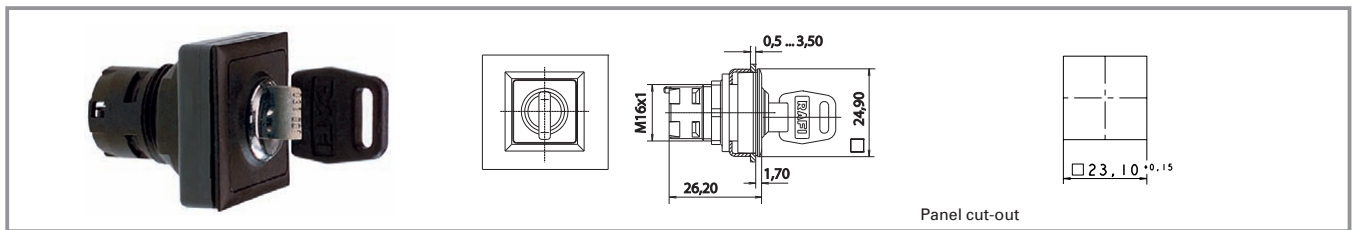
RAFIX 16 F



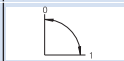
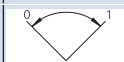
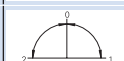
Typical accessories RAFIX 16 F keylock switch MICROMECC

Description	Photo	Order no.	Additional accessories see page
Spare key, for double action, e.g. 2 x 90° (delivery content 2 keys)		5.58.008.001/0000	

For additional accessories, refer to the chapter "RAFIX 16 special accessories".

RAFIX 16 F keylock switch MICROMECC, square collar



Contact function	Colour of lens	Rotating angle	Key removal position	Order no.	
momentary	opaque black	1 x 40° °		0	1.30.096.501/0000
momentary	opaque black	2 x 40° °		0	1.30.096.701/0000
latching	opaque black	L, 1 x 90° °		0+1	1.30.096.051/0000
latching	opaque black	V, 1 x 90° °		0+1	1.30.096.151/0000
latching	opaque black	2 x 90° °		0+1+2	1.30.096.401/0000

Technical data see page 2 - 76

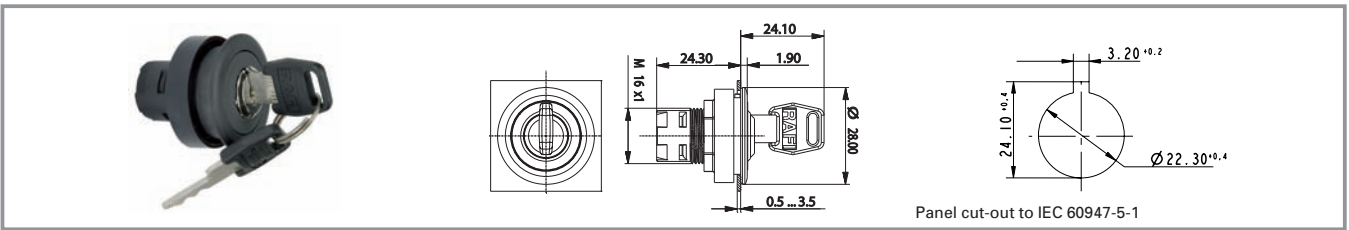
Only use RAFIX 16 contact blocks with "momentary" contact function. For versions with clockwise and counterclockwise rotation, use universal contact blocks only.

2

RAFIX 16 F

RAFIX 16 F

RAFIX 16 F keylock switch MICROMECC, round collar



Contact function	Colour of lens	Rotating angle	Key removal position	Order no.
momentary	opaque black	1x40 °	0	1.30.096.511/0000
momentary	opaque black	2x40 °	0	1.30.096.711/0000
latching	opaque black	1x90 L °	0+1	1.30.096.061/0000
latching	opaque black	2x90 V °	0+1	1.30.096.161/0000
latching	opaque black	2x90 °	0+1+2	1.30.096.411/0000

2

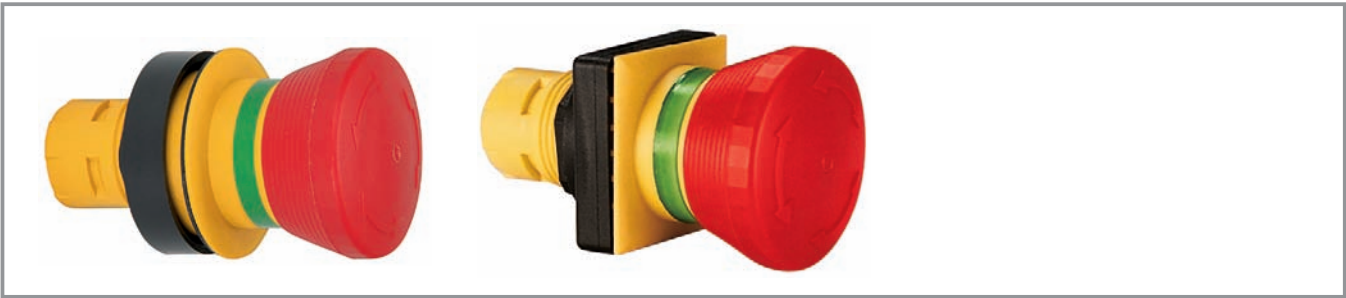
RAFIX
16 F

Technical data see page 2 - 76

Only use RAFIX 16 contact blocks with "momentary" contact function. For versions with clockwise and counterclockwise rotation, use universal contact blocks only.

RAFIX 16 F

RAFIX 16 F emergency stop pushbutton



2

Technical data

General information

Actuator	conical mushroom form
Colour of mushroom	red, collar yellow
Form of collar	see order block

Dimensions

Length of collar	see order block
Key grid	see order block
Width of collar	see order block
Overall height	see order block
Mounting depth	see order block
Mounting hole	see order block

Mechanical design

Mounting	ring nut
Contact function	latching
Illuminability	no

Mechanical characteristics

Robustness min.	100 N
-----------------	-------

Other specifications

Operating life	10000
Degree of protection from front side	IP65
Ambient temp. operating min.	-25 °C
Ambient temp. operating without lamp max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Resistance to constant environment	according to IEC 600 68-2-3 and 2-30
Resistance at variable environment	according to IEC 600 68-2-14 and 2-33
Approvals	IEC 60 947, EN 418

RAFIX 16 F

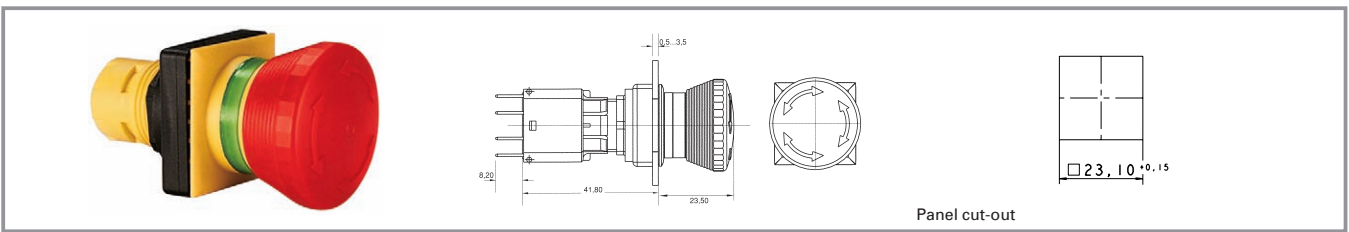
Typical accessories RAFIX 16 F emergency stop pushbutton

Description	Photo	Order no.	Additional accessories see page
RAFIX 16 universal contact block, 1 NC, momentary, silver contacts, without lamp socket		1.20.123.022/0000	2 - 49
RAFIX 16 universal contact block, 1 NC, momentary, gold contacts, without lamp socket		1.20.123.032/0000	2 - 45
RAFIX 16 contact block AS-I, E-stop, coupling contact		1.20.130.001/0000	2 - 53
RAFIX 16 F, emergency stop pushbutton, non-blocking, dupe-proof		1.30.094.011/0300	2 - 81
Fixing spanner for hexagon nut		5.58.002.034/0000	2 - 61

For other contact blocks, refer to the chapter "RAFIX 16 contact blocks"; for additional accessories, refer to the chapter "RAFIX 16 special accessories".

RAFIX 16 F

RAFIX 16 F emergency stop pushbutton, square collar



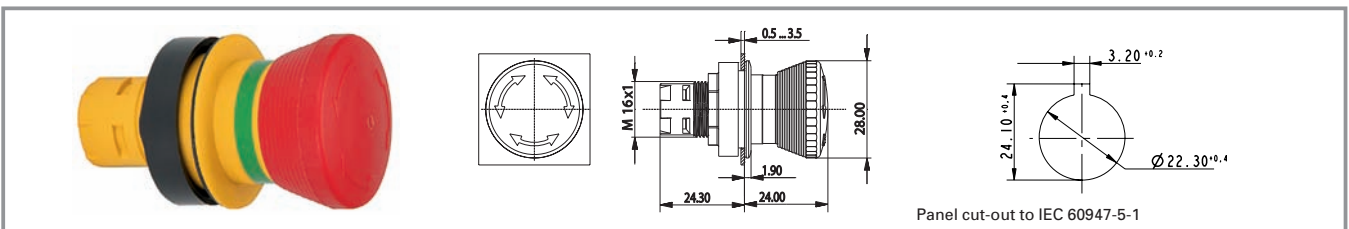
Contact function	Illuminability	Colour of mushroom	Mounting hole	Order no.
latching	no	red, collar yellow	23.1 x 23.1 mm	1.30.094.001/0300

Technical data see page 2 - 80

Only use universal contact blocks.

2

RAFIX 16 F emergency stop pushbutton, round collar



Contact function	Illuminability	Colour of mushroom	Mounting hole	Order no.
latching	no	red, collar yellow	o 22,3 mm	1.30.094.011/0300

Technical data see page 2 - 80

Only use universal contact blocks.

RAFIX
16 F

RAFIX 16 F

RAFIX 16 F signal indicator



2

Technical data

General information

Form of lens see order block
 Colour of lens see order block
 Form of collar see order block

Dimensions

Length of collar see order block
 Key grid see order block
 Width of collar see order block
 Overall height see order block
 Mounting depth see order block
 Mounting hole see order block

Mechanical design

Mounting ring nut
 Illuminability yes

Other specifications

Degree of protection from front side IP65
 Ambient temp. operating min. -25 °C
 Ambient temp. operating max. +55 °C
 Storage temperature min. -40 °C
 Storage temperature max. +85 °C
 Resistance to constant environment according to IEC 600 68-2-3 and 2-30
 Resistance at variable environment according to IEC 600 68-2-14 and 2-33

RAFIX
16 F

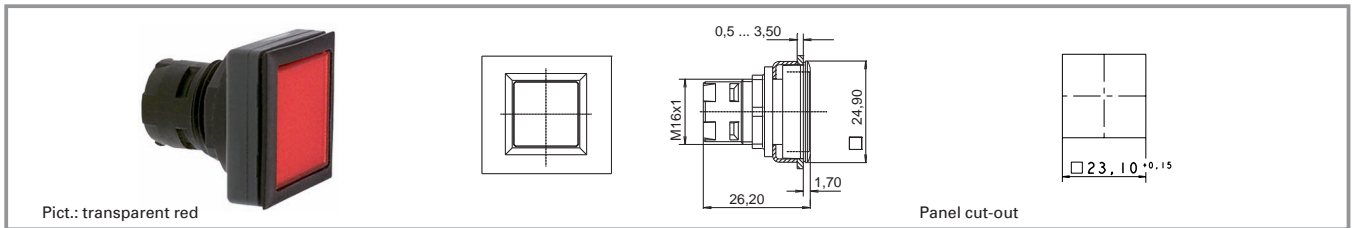
Typical accessories RAFIX 16 F signal indicator

Description	Photo	Order no.	Additional accessories see page
RAFIX 16 lamp socket W 2 x 4.6 d		1.71.212.001/0000	2 - 55
RAFIX 16 lamp socket W 2 x 4.6 d		1.71.212.011/0000	2 - 56
LED W 2 x 4.6d superbright, white, 24 V		1.90.690.365/0000	5 - 14
Disassembly tool for LUMOTAST 25, RAFIX 16		5.05.800.042/0000	2 - 60
Fixing spanner for hexagon nut		5.58.002.034/0000	2 - 61
Legend insert, blank, use only for transparent lenses		5.70.635.000/2000	

For additional accessories, refer to the chapter "RAFIX 16 special accessories".

RAFIX 16 F

RAFIX 16 F signal indicator, flush lens, square collar



Form of lens	Overall height	Colour of lens	Order no.	Order no. single parts	
				Housing	Lens
flat lens	1.7 mm	transparent colourless	1.65.126.301/1000	1.65.126.401/0000	5.49.077.011/1002
flat lens	1.7 mm	transparent red	1.65.126.301/1300	1.65.126.401/0000	5.49.077.011/1306
flat lens	1.7 mm	transparent yellow	1.65.126.301/1400	1.65.126.401/0000	5.49.077.011/1403
flat lens	1.7 mm	transparent green	1.65.126.301/1500	1.65.126.401/0000	5.49.077.011/1505
flat lens	1.7 mm	transparent blue	1.65.126.301/1600	1.65.126.401/0000	5.49.077.011/1607

Technical data see page 2 - 82

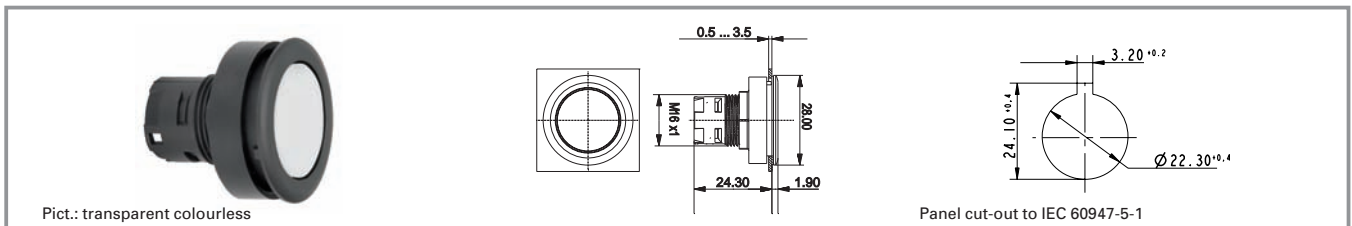
Accessories:

Legend insert, blank, use only for transparent lenses: **5.70.635.000/2000**

2

RAFIX
16 F

RAFIX 16 F signal indicator, flush lens, round collar



Form of lens	Overall height	Colour of lens	Order no.	Order no. single parts	
				Housing	Lens
flat lens	1.9 mm	transparent colourless	1.65.126.001/1000	1.65.126.101/0000	5.49.259.017/1002
flat lens	1.9 mm	transparent red	1.65.126.001/1300	1.65.126.101/0000	5.49.259.017/1306
flat lens	1.9 mm	transparent yellow	1.65.126.001/1400	1.65.126.101/0000	5.49.259.017/1403
flat lens	1.9 mm	transparent green	1.65.126.001/1500	1.65.126.101/0000	5.49.259.017/1505
flat lens	1.9 mm	transparent blue	1.65.126.001/1600	1.65.126.101/0000	5.49.259.017/1607

Technical data see page 2 - 82



General data

RAFIX 22QR control component range

- For a mounting hole diameter of 22.3 mm to IEC 60947
- 250V/10A max.
- Water-jet proof IP65
- 2 collar shapes
- The lamps of the pushbuttons can also be replaced from the front
- The contact blocks (silver or gold contacts) snap onto the actuators with a coupling
- Screw, cage clamp, quick connect terminals or RJ12 connector
- 3 NC + 3 NO max.
- **NEW: Contact blocks for AS-Interface connection**

The specified data apply only if actuators/signal indicators are combined with contact blocks and lamp sockets within the same product range.

Content

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RAFIX 22 QR pushbutton, flush lens, round collar	2 - 92
RAFIX 22 QR pushbutton, protruding lens, round collar	2 - 93
RAFIX 22 QR pushbutton, protruding front ring, round collar	2 - 94
RAFIX 22 QR pushbutton, flush lens, square collar	2 - 95
RAFIX 22 QR pushbutton, protruding lens, square collar	2 - 96
RAFIX 22 QR pushbutton, protruding front ring, square collar	2 - 97
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RAFIX 22 QR selector switch, round collar, short handle	2 - 99
RAFIX 22 QR selector switch, round collar, long handle	2 - 100
RAFIX 22 QR selector switch, square collar, short handle	2 - 101
RAFIX 22 QR selector switch, square collar, long handle	2 - 102
RAFIX 22 QR keylock switch	2 - 104
RAFIX 22 QR keylock switch, round collar	2 - 105
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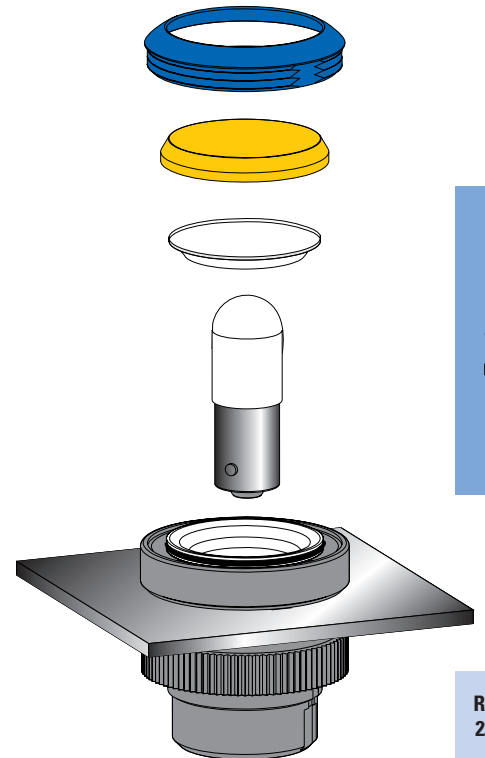
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RAFIX 22 QR



Contact blocks marked with different colours for ease of identification in stock and when connecting.

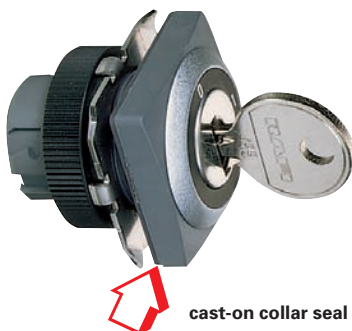
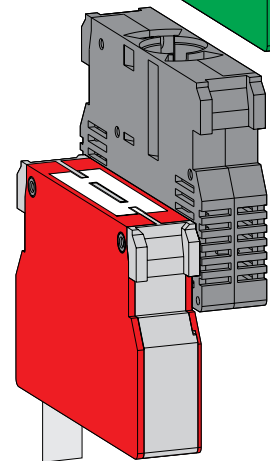
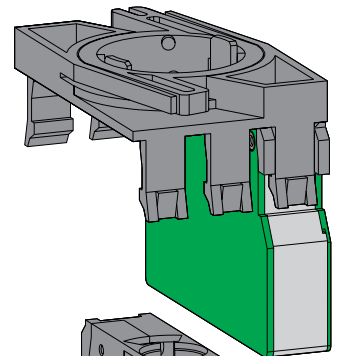
- NC contacts: red
- NO contacts: green
- NC/NO contacts: red/green
- Lamp socket: black
- Silver contacts: basic housing colour is black
- Gold contacts: basic housing colour is grey
- The terminals associated with a contact pair are colour coded on the connection side and marked with the respective contact numbers.



2

RAFIX 22 QR

The lamps of pushbuttons and signal lamps can be replaced from the front. This method saves time and increases safety since it eliminates the need for accessing the machine/control station interior and handling live cables for lamp replacement. After unscrewing the front ring, the lens can be removed and the lamp replaced.

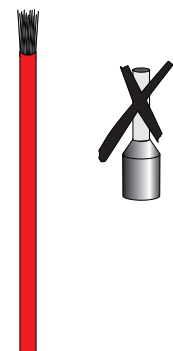


cast-on collar seal

The components feature a removable locating lug. If installed without locating lug, the ring nut with claw can be used. Accurate alignment of the actuator can be achieved behind the front panel. The cast-on collar seal can not get lost nor be twisted during installation and allows single-person assembly: the actuator is held in the mounting hole by the cast-on seal and can then be fixed by screwing from the rear.



First, snap the lamp socket and contact blocks into the coupling. Then snap the assembly on to the actuator. To release it, the bayonet must be pressed (prevents inadvertent releasing at the same time).



RAFIX 22 QR

Terminals

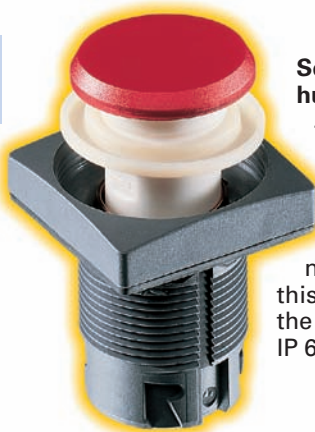
The RAFIX 22 QR contact blocks are available in different connection styles as required for your application:

- **Screw terminals**
The terminals are open and the captive screws are mounted in the terminal recess.
- **Quick connect/solder terminals 6.3 x 0.8 mm**
- **Spring-type terminals**
Simply insert a screwdriver to open the terminal, insert the cable and remove the screwdriver to close the terminal.
- **RJ 12-terminal**
Just plug in the cable with a RJ 12 connector.
- **AS-Interface**

2 Your advantage:

This offers your savings in three ways:

- Drastically reduced assembly time thanks to wire insertion from the rear, i.e. no more bending and lateral insertion of the wires required.
- You save material: No wire end sleeves are required.
- You save the time previously required for mounting the wire end sleeves.



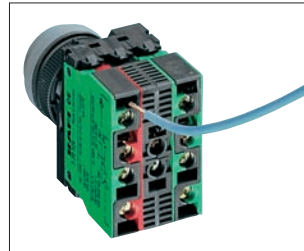
Sealed for life against humidity and dirt

The special seal reliably prevents moisture, oil and dust from penetrating to the contact block. In contrast to other sealing types which move up and down the shaft, this special seal is firmly seated on the housing (degree of protection IP 65 to DIN).

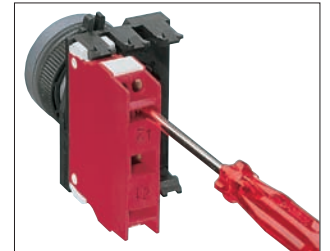
Assembly

Screw terminals

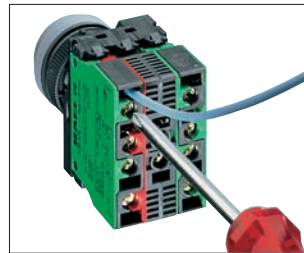
Spring-type terminals



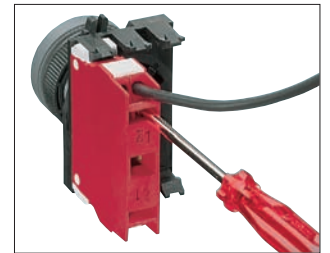
Insert the wire.



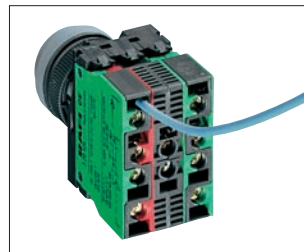
Open the terminal.



Tighten the screw.



Insert the wire.



Done.



Remove the screwdriver.



Versatility of design for customized panels

The RAFIX 22 QR system does not only have a particularly low profile and is also available in many different versions. Your design options for your customized panels are nearly unlimited thanks to the interchangeable front rings and lenses. In this way you can achieve an attractive design while ensuring safe operation of your equipment at the same time. RAFIX 22 QR components are available either with a round or with a square collar.

RAFIX 22 QR

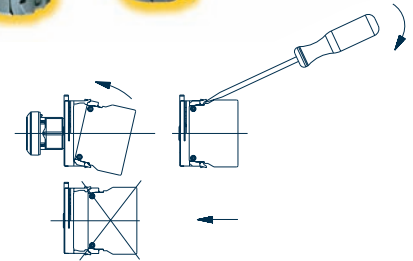
The RAFIX 22 QR control component range meets all the technical requirements and current standards for control units. The system is of modular design. Actuators, contact blocks and lamp sockets can be combined freely. This means that you may

implement modifications of design or configuration even at the last minute. An additional positive effect is the reduction of stockholding costs.



Sequence of assembly/disassembly at screw, spring-type and quick connect terminals


- Fix the actuator in the front panel with the ring nut.
- Snap the individual elements (a maximum three contact blocks or two contact blocks together with a lamp socket) in the coupling. You can install them on any assembling axis.
- Insert the lamp or LED into the lamp socket.
- Snap the coupling with the contact blocks on to the actuator.
- Connect the cables.
- Disassembly is performed in reverse order. To remove the coupling from the actuator, the latch lever must be pressed (by hand or with a screwdriver).

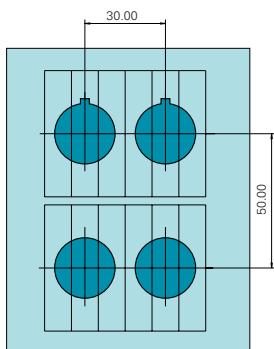


Assembly Disassembly

Approvals

● = approved, ○ = pending

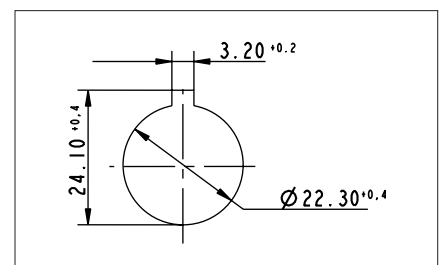
Part no.	BG zert.	VDE 0660	 10/15	ULc	GL
1.20 124.---	○	○	●	●	○
1.20 125.---	○	○	●	●	○
1.30 243.---	○			●	
1.71 213.---		○	●	●	○
1.71 214.---		○	●	●	○



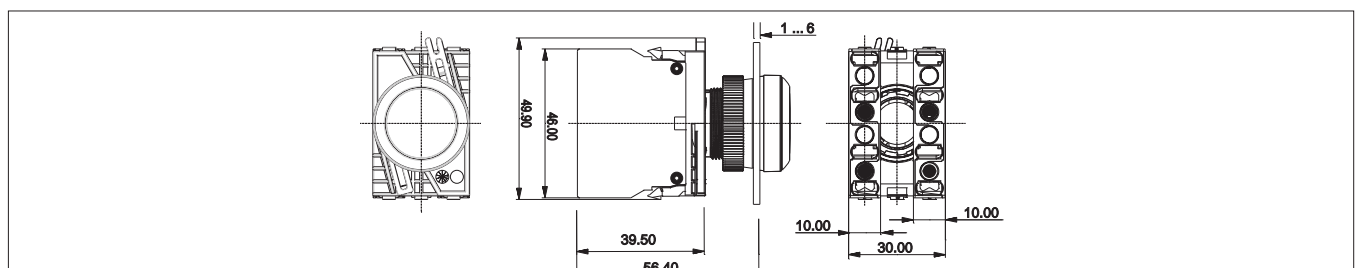
Panel cut-out according to IEC 60947-5-1

All actuators are provided with a locating lug which may be removed using a screwdriver for installation into mounting holes if required.

With a grid spacing of 30 mm horizontally and 50 mm vertically, the collars of the square actuators touch each other. We recommend to use the same grid spacing also for the round collar shapes (IEC 60947).

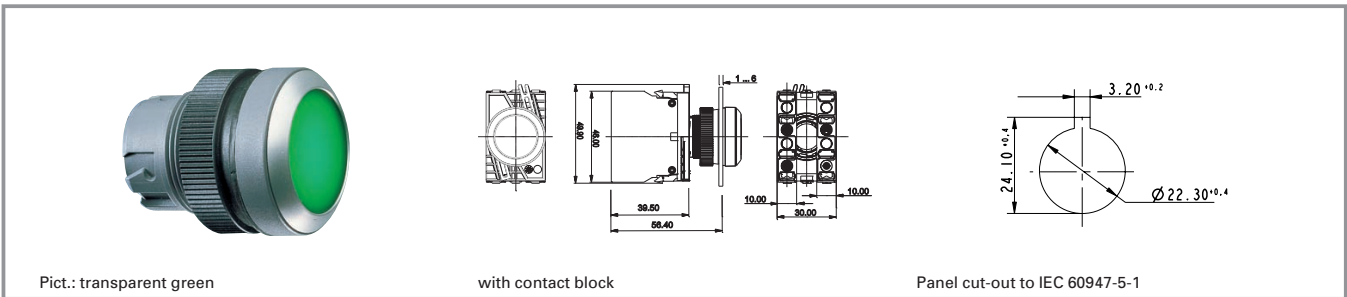


Dimensioned drawing



RAFIX 22 QR

RAFIX 22 QR pushbutton



2

Technical data

General information

Form of lens see order block
 Colour of lens see order block
 Colour of front ring see order block
 Form of collar see order block

Dimensions

Length of collar see order block
 Width of collar see order block
 Overall height see order block
 Mounting depth with contact block without cable 56.4 mm
 Mounting hole 22.3 mm
 Key grid 50 x 30 mm
 Diameter of collar see order block

Mechanical design

Mounting ring nut
 Contact function see order block
 Illuminability see order block

Mechanical characteristics

Operating travel 4 mm

Operating force max. approx. 5 N for 1 switching element
 Robustness min. 100 N

Other specifications





Operating life (operations) 1 million momentary/0.5 million latching
 Degree of protection from front side IP65
 Ambient temp. operating min. -25 °C
 Ambient temp. operating max. +70 °C
 Storage temperature min. -40 °C
 Storage temperature max. +80 °C
 Resistance to constant environment according to IEC 600 68-2-3 and 2-30
 Resistance at variable environment according to IEC 600 68-2-14 and 2-33

RAFIX 22 QR

Typical accessories RAFIX 22 QR pushbutton

Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR contact block with silver contacts, with coupling, without lamp socket, screw terminals, 1 NO		1.20.124.002/0000	2 - 128
RAFIX 22 QR contact block with silver contacts, with coupling and lamp socket, screw terminals, 1 NC + 1 NO		1.20.124.027/0000	2 - 129
RAFIX 22 QR contact block with gold contacts, with coupling and lamp socket, screw terminals, 1 NO		1.20.124.122/0000	2 - 133
RAFIX 22 QR contact block with silver contacts, with coupling and lamp socket, spring-type terminals, 1 NO, 1 NC		1.20.125.025/0000	2 - 129
Contact block with RJ 12 connector, 2 NO, white LED		1.20.128.015/0000	2 - 135
RAFIX 22 QR contact block, AS-I, standard		1.20.129.101/0000	2 - 137
RAFIX 22 QR contact block, AS-I, standard, white LED		1.20.129.121/0000	2 - 137

Typical accessories RAFIX 22 QR pushbutton

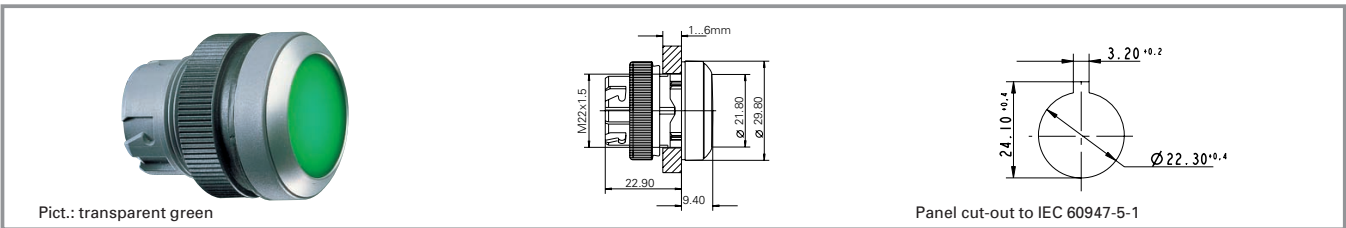
Description	Photo	Order no.	Additional accessories see page
Filament lamp, BA 9s base (MBC/MCC), 24 - 30 V		1.90.060.133/0000	5 - 7
LED BA 9s (MBC/MCC) superbright, white, 24 V		1.90.690.345/0000	5 - 17
Fixing spanner for ring nut and front ring		5.05.800.062/0000	5 - 21
Label holder, round collar, with adhesive tape and release liner on back 50 x 30 x 3.6 mm		5.07.620.010/0000	2 - 149

For other contact blocks, refer to the chapter "Contact blocks"; for additional accessories, refer to "RAFIX 22 QR special accessories".

2

RAFIX
22 QR

RAFIX 22 QR pushbutton, flush lens, round collar



Pict.: transparent green

Panel cut-out to IEC 60947-5-1

Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.240.001/10xx	1.30.240.021/1000	1.30.240.011/10xx	1.30.240.031/1000
yes	transparent red	1.30.240.001/13xx	1.30.240.021/1300	1.30.240.011/13xx	1.30.240.031/1300
yes	transparent yellow	1.30.240.001/14xx	1.30.240.021/1400	1.30.240.011/14xx	1.30.240.031/1400
yes	transparent green	1.30.240.001/15xx	1.30.240.021/1500	1.30.240.011/15xx	1.30.240.031/1500
yes	transparent blue	1.30.240.001/16xx	1.30.240.021/1600	1.30.240.011/16xx	1.30.240.031/1600
no	opaque black	1.30.240.101/01xx	1.30.240.121/0100	1.30.240.111/01xx	1.30.240.131/0100
no	opaque white	1.30.240.101/02xx	1.30.240.121/0200	1.30.240.111/02xx	1.30.240.131/0200
no	opaque red	1.30.240.101/03xx	1.30.240.121/0300	1.30.240.111/03xx	1.30.240.131/0300
no	opaque yellow	1.30.240.101/04xx	1.30.240.121/0400	1.30.240.111/04xx	1.30.240.131/0400
no	opaque green	1.30.240.101/05xx	1.30.240.121/0500	1.30.240.111/05xx	1.30.240.131/0500
no	opaque blue	1.30.240.101/06xx	1.30.240.121/0600	1.30.240.111/06xx	1.30.240.131/0600
no	opaque slate-grey	1.30.240.101/07xx	1.30.240.121/0700	1.30.240.111/07xx	1.30.240.131/0700

Technical data see page 2 - 90

Accessories:

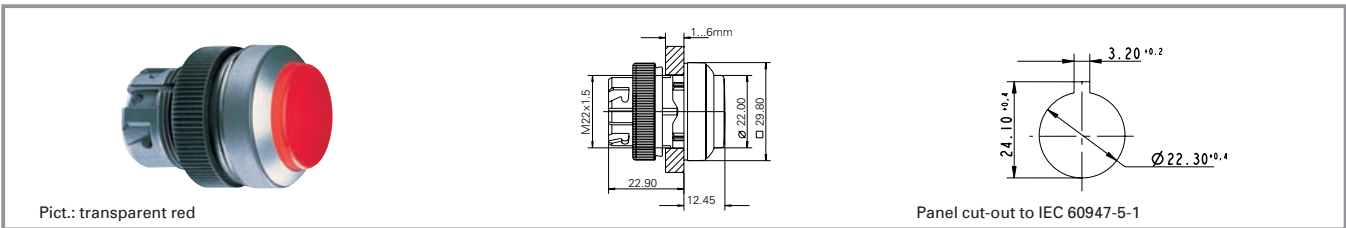
- Front ring, plastic with thermoflex protective cap, black: **5.05.004.914/0100**
- Front ring, plastic with protective cap, slate grey: 5.05.004.914/0700
- Front ring, plastic with thermoflex protective cap, silver grey: 5.05.004.914/0800
- Protective cover, auto-closing: 5.05.511.194/0000
- Protective cover, latching: 5.05.511.195/0000

xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08

Pushbuttons with plastic front ring and white lens are also available with the following front ring colours: red = 03, yellow = 04, green = 05, blue = 06. Other colour combinations on request.

Order numbers **1.30.240.001/—08**, **1.30.240.011/—08** and **1.30.240.101/—08** (with silver grey plastic front ring) are **stock items**.

RAFIX 22 QR pushbutton, protruding lens, round collar



Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.240.201/10xx	1.30.240.221/1000	1.30.240.211/10xx	1.30.240.231/1000
yes	transparent red	1.30.240.201/13xx	1.30.240.221/1300	1.30.240.211/13xx	1.30.240.231/1300
yes	transparent yellow	1.30.240.201/14xx	1.30.240.221/1400	1.30.240.211/14xx	1.30.240.231/1400
yes	transparent green	1.30.240.201/15xx	1.30.240.221/1500	1.30.240.211/15xx	1.30.240.231/1500
yes	transparent blue	1.30.240.201/16xx	1.30.240.221/1600	1.30.240.211/16xx	1.30.240.231/1600
no	opaque black	1.30.240.301/01xx	1.30.240.321/0100	1.30.240.311/01xx	1.30.240.331/0100
no	opaque white	1.30.240.301/02xx	1.30.240.321/0200	1.30.240.311/02xx	1.30.240.331/0200
no	opaque red	1.30.240.301/03xx	1.30.240.321/0300	1.30.240.311/03xx	1.30.240.331/0300
no	opaque yellow	1.30.240.301/04xx	1.30.240.321/0400	1.30.240.311/04xx	1.30.240.331/0400
no	opaque green	1.30.240.301/05xx	1.30.240.321/0500	1.30.240.311/05xx	1.30.240.331/0500
no	opaque blue	1.30.240.301/06xx	1.30.240.321/0600	1.30.240.311/06xx	1.30.240.331/0600
no	opaque slate-grey	1.30.240.301/07xx	1.30.240.321/0700	1.30.240.311/07xx	1.30.240.331/0700

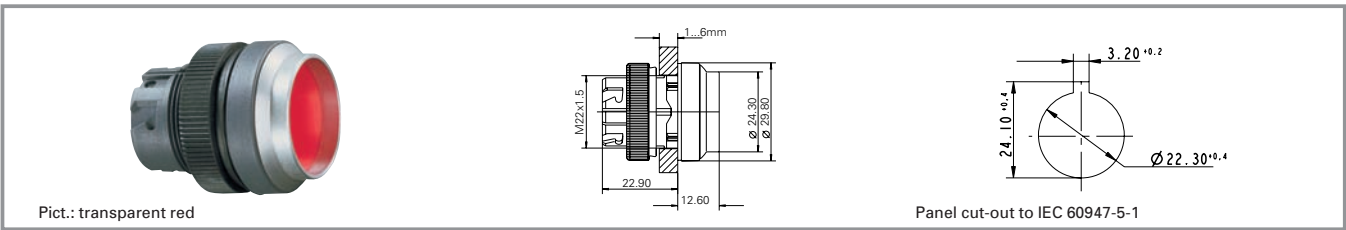
Technical data see page 2 - 90

xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08

Pushbuttons with plastic front ring and white lens are also available with the following front ring colours: red = 03, yellow = 04, green = 05, blue = 06. Other colour combinations on request.

Order numbers **1.30.240.201/—08** and **1.30.240.211/—08** (with silver grey plastic front ring) are **stock items**.

RAFIX 22 QR pushbutton, protruding front ring, round collar



2

Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.240.401/10xx	1.30.240.421/1000	-	-
yes	transparent red	1.30.240.401/13xx	1.30.240.421/1300	-	-
yes	transparent yellow	1.30.240.401/14xx	1.30.240.421/1400	-	-
yes	transparent green	1.30.240.401/15xx	1.30.240.421/1500	-	-
yes	transparent blue	1.30.240.401/16xx	1.30.240.421/1600	-	-
no	opaque black	1.30.240.501/01xx	1.30.240.521/0100	-	-
no	opaque white	1.30.240.501/02xx	1.30.240.521/0200	-	-
no	opaque red	1.30.240.501/03xx	1.30.240.521/0300	-	-
no	opaque yellow	1.30.240.501/04xx	1.30.240.521/0400	-	-
no	opaque green	1.30.240.501/05xx	1.30.240.521/0500	-	-
no	opaque blue	1.30.240.501/06xx	1.30.240.521/0600	-	-
no	opaque slate-grey	1.30.240.501/07xx	1.30.240.521/0700	-	-

Technical data see page 2 - 90

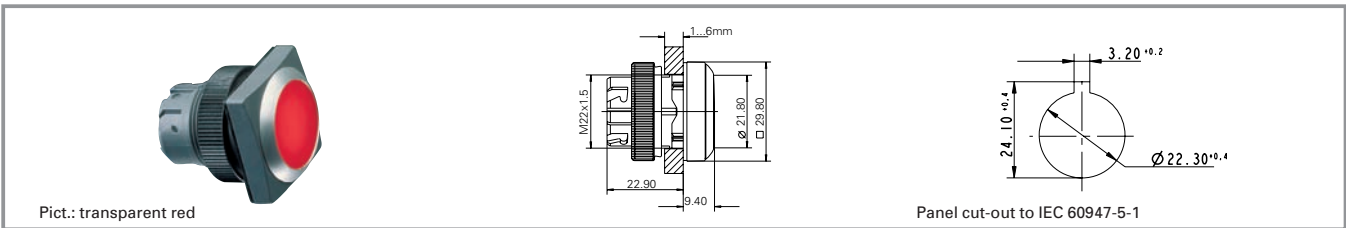
Accessories:

Legend insert without legend: 5.70.800.000/2000

xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08

The protruding collar offers protection against inadvertent operation and thereby fulfils the safety requirements of various machinery manufacturers, particularly from the printing industry.

RAFIX 22 QR pushbutton, flush lens, square collar



Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.240.051/10xx	1.30.240.071/1000	1.30.240.061/10xx	1.30.240.081/1000
yes	transparent red	1.30.240.051/13xx	1.30.240.071/1300	1.30.240.061/13xx	1.30.240.081/1300
yes	transparent yellow	1.30.240.051/14xx	1.30.240.071/1400	1.30.240.061/14xx	1.30.240.081/1400
yes	transparent green	1.30.240.051/15xx	1.30.240.071/1500	1.30.240.061/15xx	1.30.240.081/1500
yes	transparent blue	1.30.240.051/16xx	1.30.240.071/1600	1.30.240.061/16xx	1.30.240.081/1600
no	opaque black	1.30.240.151/01xx	1.30.240.171/0100	1.30.240.161/01xx	1.30.240.181/0100
no	opaque white	1.30.240.151/02xx	1.30.240.171/0200	1.30.240.161/02xx	1.30.240.181/0200
no	opaque red	1.30.240.151/03xx	1.30.240.171/0300	1.30.240.161/03xx	1.30.240.181/0300
no	opaque yellow	1.30.240.151/04xx	1.30.240.171/0400	1.30.240.161/04xx	1.30.240.181/0400
no	opaque green	1.30.240.151/05xx	1.30.240.171/0500	1.30.240.161/05xx	1.30.240.181/0500
no	opaque blue	1.30.240.151/06xx	1.30.240.171/0600	1.30.240.161/06xx	1.30.240.181/0600
no	opaque slate-grey	1.30.240.151/07xx	1.30.240.171/0700	1.30.240.161/07xx	1.30.240.181/0700

Technical data see page 2 - 90

Accessories:

Front ring, plastic with thermoflex protective cap, black: **5.05.004.914/0100**

Front ring, plastic with protective cap, slate grey: **5.05.004.914/0700**

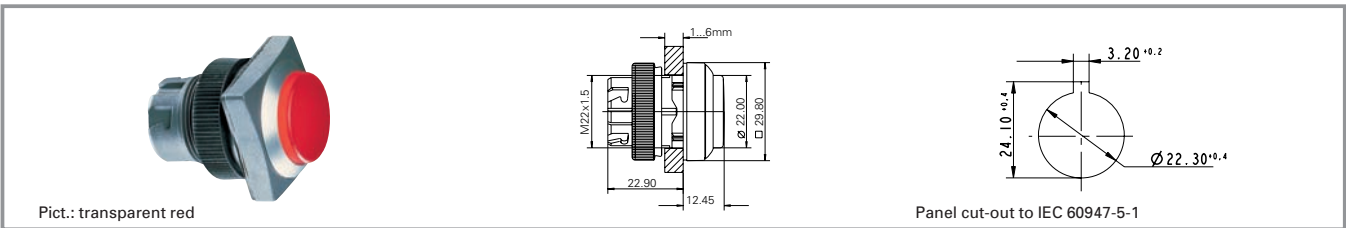
Front ring, plastic with thermoflex protective cap, silver grey: **5.05.004.914/0800**

xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08

Pushbuttons with plastic front ring and white lens are also available with the following front ring colours: red = 03, yellow = 04, green = 05, blue = 06. Other colour combinations on request.

Order numbers **1.30.240.051/—08**, **1.30.240.061/—08** and **1.30.240.151/—08** (with silver grey plastic front ring) are **stock items**.

RAFIX 22 QR pushbutton, protruding lens, square collar



2

Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.240.251/10xx	1.30.240.271/1000	1.30.240.261/10xx	1.30.240.281/1000
yes	transparent red	1.30.240.251/13xx	1.30.240.271/1300	1.30.240.261/13xx	1.30.240.281/1300
yes	transparent yellow	1.30.240.251/14xx	1.30.240.271/1400	1.30.240.261/14xx	1.30.240.281/1400
yes	transparent green	1.30.240.251/15xx	1.30.240.271/1500	1.30.240.261/15xx	1.30.240.281/1500
yes	transparent blue	1.30.240.251/16xx	1.30.240.271/1600	1.30.240.261/16xx	1.30.240.281/1600
no	opaque black	1.30.240.351/01xx	1.30.240.371/0100	1.30.240.361/01xx	1.30.240.381/0100
no	opaque white	1.30.240.351/02xx	1.30.240.371/0200	1.30.240.361/02xx	1.30.240.381/0200
no	opaque red	1.30.240.351/03xx	1.30.240.371/0300	1.30.240.361/03xx	1.30.240.381/0300
no	opaque yellow	1.30.240.351/04xx	1.30.240.371/0400	1.30.240.361/04xx	1.30.240.381/0400
no	opaque green	1.30.240.351/05xx	1.30.240.371/0500	1.30.240.361/05xx	1.30.240.381/0500
no	opaque blue	1.30.240.351/06xx	1.30.240.371/0600	1.30.240.361/06xx	1.30.240.381/0600
no	opaque slate-grey	1.30.240.351/07xx	1.30.240.371/0700	1.30.240.361/07xx	1.30.240.381/0700

Technical data see page 2 - 90

Accessories:

Legend insert without legend: **5.70.802.000/2000**

xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08

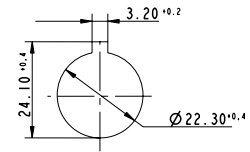
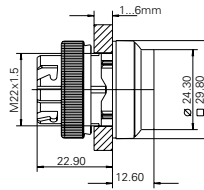
Pushbuttons with plastic front ring and white lens are also available with the following front ring colours: red = 03, yellow = 04, green = 05, blue = 06. Other colour combinations on request.

Order numbers **1.30.240.251/—08** and **1.30.240.261/—08** (with silver grey plastic front ring) are **stock items**.

RAFIX 22 QR pushbutton, protruding front ring, square collar



Pict.: transparent green



Panel cut-out to IEC 60947-5-1

Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.240.451/10xx	1.30.240.471/1000	-	-
yes	transparent red	1.30.240.451/13xx	1.30.240.471/1300	-	-
yes	transparent yellow	1.30.240.451/14xx	1.30.240.471/1400	-	-
yes	transparent green	1.30.240.451/15xx	1.30.240.471/1500	-	-
yes	transparent blue	1.30.240.451/16xx	1.30.240.471/1600	-	-
no	opaque black	1.30.240.551/01xx	1.30.240.571/0100	-	-
no	opaque white	1.30.240.551/02xx	1.30.240.571/0200	-	-
no	opaque red	1.30.240.551/03xx	1.30.240.571/0300	-	-
no	opaque yellow	1.30.240.551/04xx	1.30.240.571/0400	-	-
no	opaque green	1.30.240.551/05xx	1.30.240.571/0500	-	-
no	opaque blue	1.30.240.551/06xx	1.30.240.571/0600	-	-
no	opaque slate-grey	1.30.240.551/07xx	1.30.240.571/0700	-	-

Technical data see page 2 - 90

Accessories:

Legend insert without legend: 5.70.800.000/2000

xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08

The protruding collar offers protection against inadvertent operation and thereby fulfils the safety requirements of various machinery manufacturers, particularly in the industry.

RAFIX 22 QR

RAFIX 22 QR selector switch



Pict.: Front ring, black, non-illuminated

Front ring, metallized, illuminated

Panel cut-out to IEC 60947-5-1

2

General data

The illuminated selector switches are provided with translucent handle markings. These are opaque on the non-illuminated versions.
For the coloured illumination of the translucent handle markings please use the contact blocks with lamp sockets BA 9s in combination with coloured LED (see chapter 5 "Accessories").

Technical data

General information

Actuator	handle
Marking of handle	white
Colour of front ring	see order block
Form of collar	see order block

Dimensions

Length of collar	see order block
Width of collar	see order block
Overall height	22.2 mm
Mounting depth with contact block without cable	56.4 mm
Mounting hole	22.3 mm
Key grid	50 x 30 mm
Diameter of collar	see order block

Mechanical design

Mounting	ring nut
Contact function	see order block
Illuminability	see order block
Rotating angle	see order block

Mechanical characteristics

Operating force max.	approx. 5 N for 1 switching element
Torque max.	2 Nm

Electrical characteristics

Protection class	II
------------------	----

Other specifications

Operating life	0.5 million
Degree of protection from front side	IP65
Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Resistance to constant environment	according to IEC 600 68-2-3 and 2-30
Resistance at variable environment	according to IEC 600 68-2-14 and 2-33


RAFIX 22 QR

Typical accessories RAFIX 22 QR selector switch

Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR contact block with silver contacts, with coupling, without lamp socket, screw terminals, 1 NC + 1 NO		1.20.124.017/0000	2 - 128
RAFIX 22 QR contact block with silver contacts, with coupling and lamp socket, screw terminals, 1 NC + 1 NO		1.20.124.027/0000	2 - 129
RAFIX 22 QR contact block with gold contacts, with coupling and lamp socket, screw terminals, 1 NC + 1 NO, 1 NC + 1 NO		1.20.124.128/0000	2 - 133
Contact block with coupling, gold contacts, RJ 12 connector, 1 NC + 1 NO, white LED		1.20.128.013/0000	2 - 135

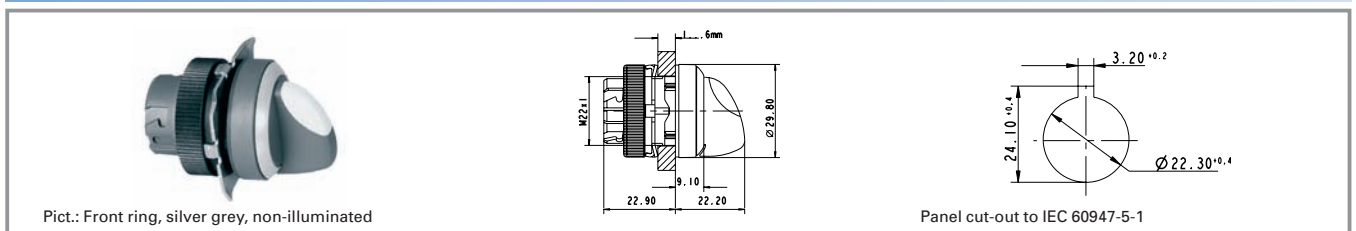
RAFIX 22 QR

Typical accessories RAFIX 22 QR selector switch













Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR contact block, AS-I, standard, white LED		1.20.129.121/0000	2 - 137
Label holder, round collar, with adhesive tape and release liner on back 50 x 30 x 3.6 mm		5.07.620.010/0000	2 - 149

For other contact blocks, refer to the chapter "Contact blocks"; for additional accessories, refer to "RAFIX 22 QR special accessories".

RAFIX 22 QR selector switch, round collar, short handle



2

Illuminability	Contact function	Rotation angle	Rotation angle	Order no.	
				Plastic front ring	Metallized front ring
yes	momentary	1 x 40°		1.30.242.001/22xx	1.30.242.002/2200
yes	momentary	2 x 40°		1.30.242.026/22xx	1.30.242.027/2200
yes	latching	1 x 90°, form L		1.30.242.101/22xx	1.30.242.102/2200
yes	latching	1 x 90°, form V		1.30.242.201/22xx	1.30.242.202/2200
yes	latching	2 x 60°		1.30.242.301/22xx	1.30.242.302/2200
yes	latching	2 x 90°		1.30.242.126/22xx	1.30.242.127/2200
no	momentary	1 x 40°		1.30.242.501/02xx	1.30.242.502/0200
no	momentary	2 x 40°		1.30.242.526/02xx	1.30.242.527/0200
no	latching	1 x 90°, form L		1.30.242.601/02xx	1.30.242.602/0200
no	latching	1 x 90°, form V		1.30.242.701/02xx	1.30.242.702/0200
no	latching	2 x 60°		1.30.242.801/02xx	1.30.242.802/0200
no	latching	2 x 90°		1.30.242.626/02xx	1.30.242.627/0200

RAFIX 22 QR

Technical data see page 2 - 98

xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08; other colours on request.

Included: Ring nut with claw.

Other contact versions on request

On keylock switches with 3 switching positions (e.g. 2 x 90 degrees), either the left-hand or right-hand contact block is activated, depending on the sense of rotation. A third contact block arranged in the centre would be actuated with either sense of rotation.

The following selector switches with silver grey plastic front ring are stock items:

Illuminated: 1.30.242.001/2208, 1.30.242.026/2208, 1.30.242.101/2208, 1.30.242.201/2208, 1.30.242.301/2208

Non-illuminated: 1.30.242.501/0208, 1.30.242.526/0208, 1.30.242.601/0208, 1.30.242.701/0208, 1.30.242.801/0208

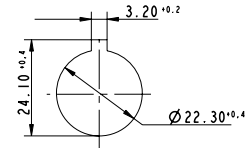
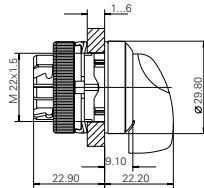
Control components

Stock items are marked by bold printed order numbers.

RAFIX 22 QR selector switch, round collar, long handle



Pict.: Front ring, metallized, illuminated



Panel cut-out to IEC 60947-5-1

2

Illuminability	Contact function	Rotation angle	Rotation angle	Order no.	
				Plastic front ring	Metallized front ring
yes	momentary	1 x 40°		1.30.242.011/22xx	1.30.242.012/2200
yes	momentary	2 x 40°		1.30.242.036/22xx	1.30.242.037/2200
yes	latching	1 x 90°, form L		1.30.242.111/22xx	1.30.242.112/2200
yes	latching	1 x 90°, form V		1.30.242.211/22xx	1.30.242.212/2200
yes	latching	2 x 60°		1.30.242.311/22xx	1.30.242.312/2200
yes	latching	2 x 90°		1.30.242.136/22xx	1.30.242.137/2200
no	momentary	1 x 40°		1.30.242.511/02xx	1.30.242.512/0200
no	momentary	2 x 40°		1.30.242.536/02xx	1.30.242.537/0200
no	latching	1 x 90°, form L		1.30.242.611/02xx	1.30.242.612/0200
no	latching	1 x 90°, form V		1.30.242.711/02xx	1.30.242.712/0200
no	latching	2 x 60°		1.30.242.811/02xx	1.30.242.812/0200
no	latching	2 x 90°		1.30.242.636/02xx	1.30.242.637/0200

Technical data see page 2 - 98

xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08; other colours on request.

Included: Ring nut with claw.

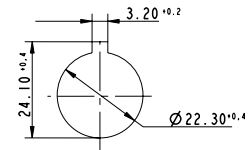
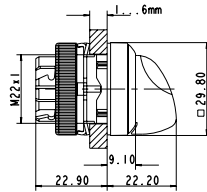
At selector switches with 3 switching positions (e.g. 2 x 90 degrees), either the left-hand or right-hand contact block is activated, depending on the sense of rotation. A third contact block arranged in the centre would be actuated with either sense of rotation. Other contact versions on request.

RAFIX 22 QR

RAFIX 22 QR selector switch, square collar, short handle



Pict.: Frontring rot, nicht beleuchtbar



Panel cut-out to IEC 60947-5-1

Illuminability	Contact function	Rotation angle	Rotation angle	Order no.	
				Plastic front ring	Metallized front ring
yes	momentary	1 x 40°		1.30.242.051/22xx	1.30.242.052/2200
yes	momentary	2 x 40°		1.30.242.076/22xx	1.30.242.077/2200
yes	latching	1 x 90°, form L		1.30.242.151/22xx	1.30.242.152/2200
yes	latching	1 x 90°, form V		1.30.242.251/22xx	1.30.242.252/2200
yes	latching	2 x 60°		1.30.242.351/22xx	1.30.242.352/2200
yes	latching	2 x 90°		1.30.242.176/22xx	1.30.242.177/2200
no	momentary	1 x 40°		1.30.242.551/02xx	1.30.242.552/0200
no	momentary	2 x 40°		1.30.242.576/02xx	1.30.242.577/0200
no	latching	1 x 90°, form L		1.30.242.651/02xx	1.30.242.652/0200
no	latching	1 x 90°, form V		1.30.242.751/02xx	1.30.242.752/0200
no	latching	2 x 60°		1.30.242.851/02xx	1.30.242.852/0200
no	latching	2 x 90°		1.30.242.676/02xx	1.30.242.677/0200

Technical data see page 2 - 98

xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08; other colours on request.

Included: Ring nut with claw.

At selector switches with 3 switching positions (e.g. 2 x 90 degrees), either the left-hand or right-hand contact block is activated, depending on the sense of rotation.

A third contact block arranged in the centre would be actuated with either sense of rotation.

Other contact versions on request.

The following selector switches with silver grey plastic front ring are stock items:

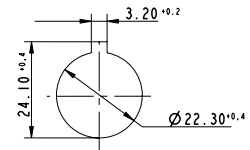
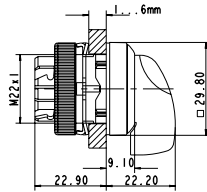
Illuminated: **1.30.242.051/2208, 1.30.242.076/2208, 1.30.242.151/2208, 1.30.242.251/2208, 1.30.242.351/2208**

Non-illuminated: **1.30.242.551/0208, 1.30.242.576/0208, 1.30.242.651/0208, 1.30.242.751/0208, 1.30.242.851/0208**

RAFIX 22 QR selector switch, square collar, long handle



Pict.: Front ring, black, non-illuminated



Panel cut-out to IEC 60947-5-1

2

Illuminability	Contact function	Rotation angle	Rotation angle	Order no.	
				Plastic front ring	Metallized front ring
yes	momentary	1 x 40°		1.30.242.061/22xx	1.30.242.062/2200
yes	momentary	2 x 40°		1.30.242.086/22xx	1.30.242.087/2200
yes	latching	1 x 90°, form L		1.30.242.161/22xx	1.30.242.162/2200
yes	latching	1 x 90°, form V		1.30.242.261/22xx	1.30.242.262/2200
yes	latching	2 x 60°		1.30.242.361/22xx	1.30.242.362/2200
yes	latching	2 x 90°		1.30.242.186/22xx	1.30.242.187/2200
no	momentary	1 x 40°		1.30.242.561/02xx	1.30.242.562/0200
no	momentary	2 x 40°		1.30.242.586/02xx	1.30.242.587/0200
no	latching	1 x 90°, form L		1.30.242.661/02xx	1.30.242.662/0200
no	latching	1 x 90°, form V		1.30.242.761/02xx	1.30.242.762/0200
no	latching	2 x 60°		1.30.242.861/02xx	1.30.242.862/0200
no	latching	2 x 90°		1.30.242.686/02xx	1.30.242.687/0200

Technical data see page 2 - 98

xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08; other colours on request.

Included: Ring nut with claw.

At selector switches with 3 switching positions (e.g. 2 x 90 degrees), either the left-hand or right-hand contact block is activated, depending on the sense of rotation. A third contact block arranged in the centre would be actuated with either sense of rotation. Other contact versions on request.

RAFIX 22 QR

RAFIX 22 QR keylock switch



Pict.: Front ring, metallized

Front ring, metallized

Panel cut-out to IEC 60947-5-1

2

Technical data

General information

Form of lens see order block
 Colour of front ring see order block
 Form of collar see order block

Dimensions

Length of collar see order block
 Width of collar see order block
 Overall height 30.6 mm
 Mounting depth with contact block without cable 56.4 mm
 Mounting hole 22.3 mm
 Key grid 50 x 30 mm
 Diameter of collar see order block

Mechanical design

Mounting ring nut
 Contact function see order block
 Illuminability no
 Lock Ronis
 Wafers 4
 Lock type 455
 Main key no
 Symmetric key no
 Rotating angle see order block
 Key removal position see order block

Mechanical characteristics

Operating force max. approx. 5 N for 1 switching element
 Torque max. 2 Nm

Electrical characteristics

Protection class II

Other specifications

Operating life 0.3 million momentary / 50000 latching
 Degree of protection from front side IP65
 Ambient temp. operating min. -25 °C
 Ambient temp. operating max. +70 °C
 Storage temperature min. -40 °C
 Storage temperature max. +80 °C
 Resistance to constant environment according to IEC 600 68-2-3 and 2-30
 Resistance at variable environment according to IEC 600 68-2-14 and 2-33

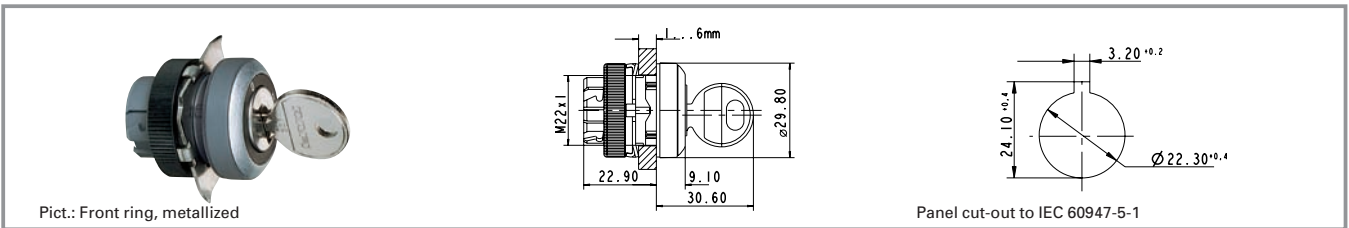
RAFIX 22 QR

Typical accessories RAFIX 22 QR keylock switch

Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR contact block with silver contacts, with coupling, without lamp socket, screw terminals, 1 NC + 1 NO		1.20.124.017/0000	2 - 128
RAFIX 22 QR contact block with silver contacts, with coupling, without lamp socket, spring-type terminals, 1 NO		1.20.125.002/0000	2 - 128
Contact block with coupling, gold contacts, RJ 12 connector, 1 NC + 1 NO, without LED		1.20.128.003/0000	2 - 135
RAFIX 22 QR contact block, AS-I, standard		1.20.129.101/0000	2 - 137
Label holder, round collar, with adhesive tape and release liner on back 50 x 30 x 3.6 mm		5.07.620.010/0000	2 - 149
Spare key for RAFIX 22 QR (delivery content 2 keys)		5.58.017.001/0000	

For other contact blocks, refer to the chapter "Contact blocks"; for additional accessories, refer to "RAFIX 22 QR special accessories".

RAFIX 22 QR keylock switch, round collar



Contact function	Rotation angle	Key removal position	Rotation angle	Order no.	
				Plastic front ring	Metallized front ring
momentary	1 x 40°	0		1.30.245.001/xxxx	1.30.245.002/0000
momentary	2 x 40°	0		1.30.245.101/xxxx	1.30.245.102/0000
latching	1 x 90°, form L	0		1.30.245.201/xxxx	1.30.245.202/0000
latching	1 x 90°, form L	0+1		1.30.245.221/xxxx	1.30.245.222/0000
latching	1 x 90°, form V	0		1.30.245.301/xxxx	1.30.245.302/0000
latching	1 x 90°, form V	0+1		1.30.245.321/xxxx	1.30.245.322/0000
latching	2 x 60°	0+1+2		1.30.245.731/xxxx	1.30.245.732/0000
latching	2 x 90°	0		1.30.245.401/xxxx	1.30.245.402/0000
latching	2 x 90°	0+1+2		1.30.245.431/xxxx	1.30.245.432/0000

Technical data see page 2 - 104

xxxx = Front ring colour: black = 0100, slate grey = 0700, silver grey = 0800. Other versions on request.

Included: Ring nut with claw.

On selector switches with 3 switching positions (e.g. 2 x 90 degrees), either the left-hand or right-hand contact block is activated, depending on the sense of rotation. A third contact block arranged in the centre would be actuated with either sense of rotation.

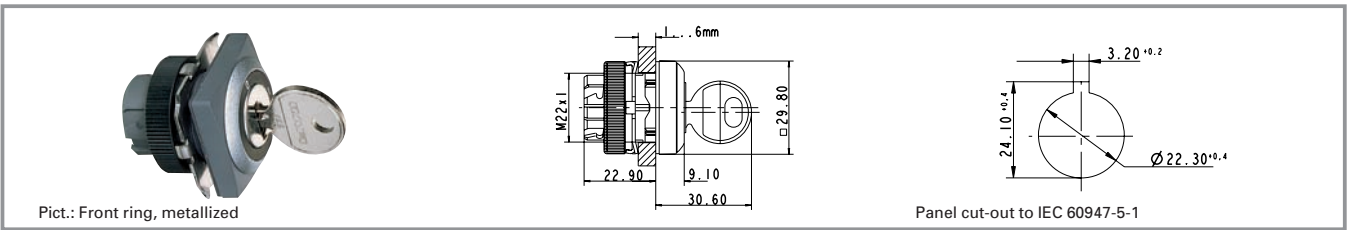
The following keylock switches with silver grey plastic front ring are stock items:

1.30.245.001/0800, 1.30.245.201/0800, 1.30.245.221/0800, 1.30.245.301/0800, 1.30.245.321/0800, 1.30.245.731/0800

2

RAFIX
22 QR

RAFIX 22 QR keylock switch, square collar



2

Contact function	Rotation angle	Key removal position	Rotation angle	Order no.	
				Plastic front ring	Metallized front ring
momentary	1 x 40°	0		1.30.245.051/xxxx	1.30.245.052/0000
momentary	2 x 40°	0		1.30.245.151/xxxx	1.30.245.152/0000
latching	1 x 90°, form L	0		1.30.245.251/xxxx	1.30.245.252/0000
latching	1 x 90°, form L	0+1		1.30.245.271/xxxx	1.30.245.272/0000
latching	1 x 90°, form V	0		1.30.245.351/xxxx	1.30.245.352/0000
latching	1 x 90°, form V	0+1		1.30.245.371/xxxx	1.30.245.372/0000
latching	2 x 60°	0+1+2		1.30.245.781/xxxx	1.30.245.782/0000
latching	2 x 90°	0		1.30.245.451/xxxx	1.30.245.452/0000
latching	2 x 90°	0+1+2		1.30.245.481/xxxx	1.30.245.482/0000

RAFIX
22 QR

Technical data see page 2 - 104

xxxx = Front ring colour: black = 0100, slate grey = 0700, silver grey = 0800. Other versions on request.

Included: Ring nut with claw.

On keylock switches with 3 switching positions (e.g. 2 x 90 degrees), either the left-hand or right-hand contact block is activated, depending on the sense of rotation. A third contact block arranged in the centre would be actuated with either sense of rotation.

The following keylock switches with silver grey plastic front ring are stock items:

1.30.245.051/0800, 1.30.245.251/0800, 1.30.245.271/0800, 1.30.245.351/0800, 1.30.245.371/0800, 1.30.245.781/0800

RAFIX 22 QR mushroom-headed pushbutton



2

Technical data

General information

Actuator	mushroom
Colour of mushroom	see order block
Colour of front ring	see order block
Form of collar	see order block

Dimensions

Length of collar	see order block
Width of collar	see order block
Overall height	20.10 mm
Mounting depth	56.4 mm
Mounting hole	22.3 mm
Key grid	50 x 30 mm
Diameter of collar	see order block

Mechanical design

Mounting	ring nut
Contact function	see order block
Illuminability	see order block

Mechanical characteristics

Operating force max.	approx. 5 N for 1 switching element
Robustness min.	100 N

Electrical characteristics

Protection class	II
------------------	----

Other specifications

Operating life	1000000
Degree of protection from front side	IP65
Storage temperature min.	-40 °C
Storage temperature max.	80 °C
Resistance to constant environment	according to IEC 600 68-2-3 and 2-30
Resistance at variable environment	according to IEC 600 68-2-14 and 2-33

RAFIX 22 QR

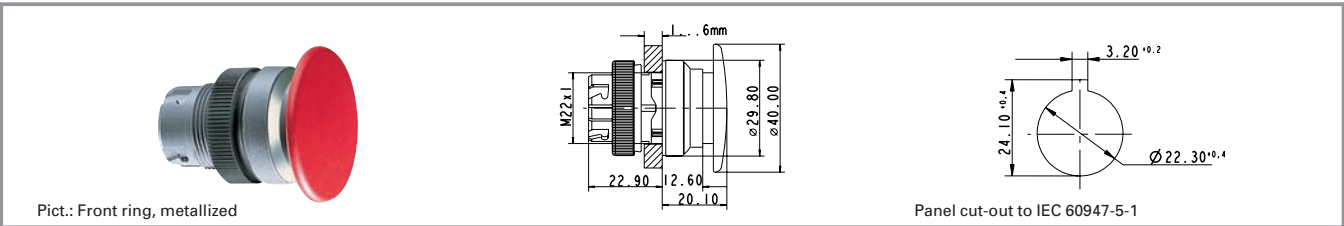
Typical accessories RAFIX 22 QR mushroom-headed pushbutton

Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR contact block with silver contacts, with coupling, without lamp socket, screw terminals, 1 NC + 1 NO		1.20.124.017/0000	2 - 128
RAFIX 22 QR contact block with gold contacts, with coupling, without lamp socket, spring-type terminals, 1 NO		1.20.125.102/0000	2 - 132
Contact block with coupling, gold contacts, RJ 12 connector, 1 NO, without LED		1.20.128.002/0000	2 - 135
Fixing spanner for ring nut and front ring		5.05.800.062/0000	5 - 21

For other contact blocks, refer to the chapter "Contact blocks"; for additional accessories, refer to "RAFIX 22 QR special accessories".

RAFIX 22 QR

RAFIX 22 QR mushroom-headed pushbutton 40 mm, round collar

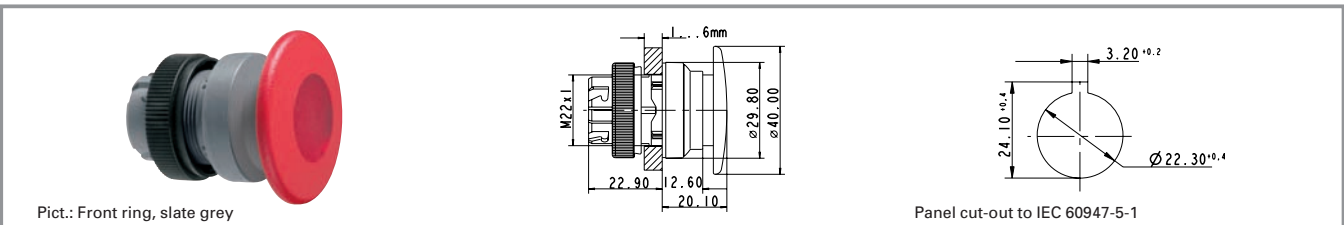


Illuminability	mushroom colour	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
no	opaque black	1.30.246.501/01xx	1.30.246.502/0100	1.30.246.511/01xx	1.30.246.512/0100
no	opaque red	1.30.246.501/03xx	1.30.246.502/0300	1.30.246.511/03xx	1.30.246.512/0300

Technical data see page 2 - 108

xx = Front ring colour: slate grey = 07

RAFIX 22 QR mushroom-headed pushbutton 40 mm, illuminated, round collar

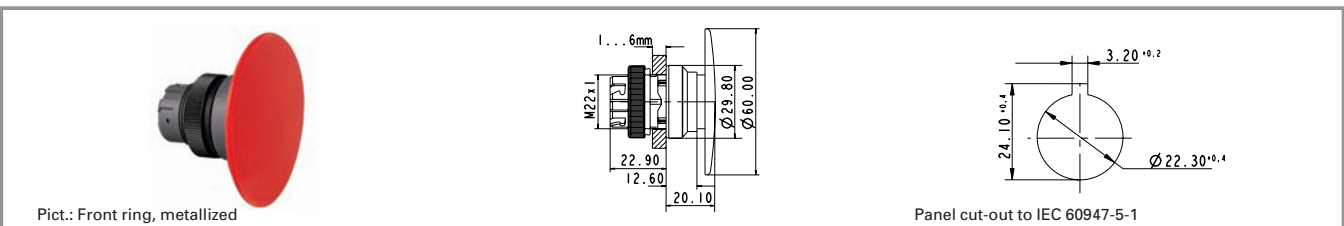


Illuminability	mushroom colour	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	opaque red/ transparent red	1.30.246.001/03xx	1.30.246.002/0300	1.30.246.011/03xx	1.30.246.012/0300

Technical data see page 2 - 108

xx = Front ring colour: slate grey = 07

RAFIX 22 QR mushroom-headed pushbutton 60 mm, round collar



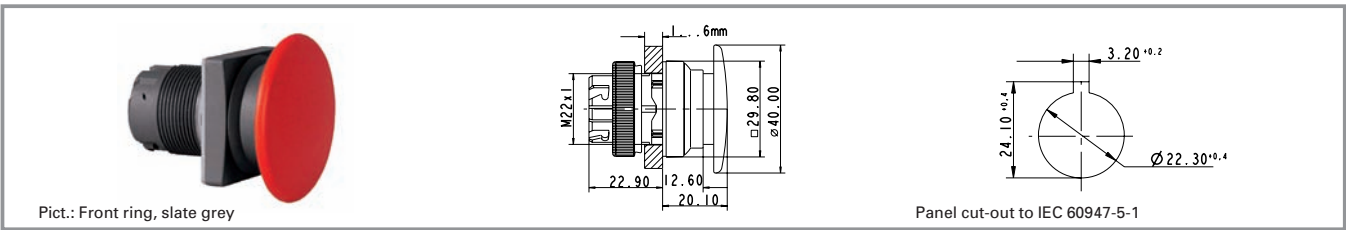
Illuminability	mushroom colour	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
no	opaque red	1.30.246.601/03xx	1.30.246.602/0300	-	-

Technical data see page 2 - 108

xx = Front ring colour: slate grey = 07

RAFIX 22 QR

RAFIX 22 QR mushroom-headed pushbutton 40 mm, square collar



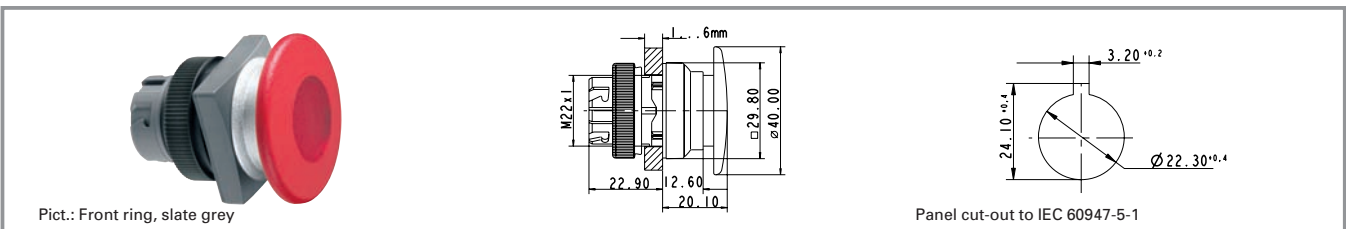
Illuminability	mushroom colour	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
no	opaque black	1.30.246.551/01xx	1.30.246.552/0100	1.30.246.561/01xx	1.30.246.562/0100
no	opaque red	1.30.246.551/03xx	1.30.246.552/0300	1.30.246.561/03xx	1.30.246.562/0300

Technical data see page 2 - 108

xx = Front ring colour: slate grey = 07

2

RAFIX 22 QR mushroom-headed pushbutton 40 mm, illuminated, square collar



Illuminability	mushroom colour	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	opaque red/ transparent red	1.30.246.051/03xx	1.30.246.052/0300	1.30.246.061/03xx	1.30.246.062/0300

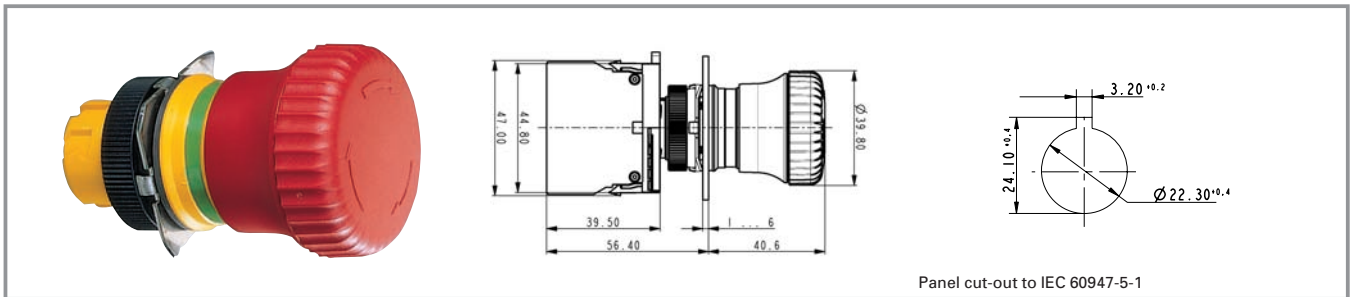
Technical data see page 2 - 108

xx = Front ring colour: slate grey = 07

RAFIX
22 QR

RAFIX 22 QR

RAFIX 22 QR emergency stop pushbutton, dupe-proof to EN 418



2

General data

The emergency stop pushbuttons comply with IEC 60 204, IEC 60 073, IEC 60 947 and VDE 0113 Part 1. They are designed dupe-proof according to EN 418 with a positive mechanical movement sequence. A certain operating force must be exerted at the action point in order to prevent inadvertent operation. The pushbutton latches when pressed. The special shape of the actuator prevents the emergency stop pushbutton from being blocked. This means that the emergency stop process - once initiated - cannot be impeded by any jamming objects.

Technical data

RAFIX 22 QR








General information		Robustness min.	100 N
Actuator	mushroom	Robustness	acc. IEC 60947-5-5
Colour of mushroom	see order block	Other specifications	
Form of collar	round	Operating life	see order block
Dimensions		Degree of protection from front side	see order block
Overall height	see order block	Ambient temp. operating min.	-25 °C
Mounting depth with contact block without cable	see order block	Ambient temp. operating max.	+70 °C
Mounting hole	see order block	Storage temperature min.	-40 °C
Key grid	50 x 30 mm	Storage temperature max.	+80 °C
Diameter of collar	see order block	Resistance to constant environment	according to IEC 600 68-2-3 and 2-30
Mechanical design		Resistance at variable environment	according to IEC 60068-2-14 and 2-33
Mounting	ring nut	Mechanical characteristics	
Contact function	latching	Operating force max.	approx. 5 N for 1 switching element
Illuminability	see order block		
Reset	see order block		

Typical accessories RAFIX 22 QR emergency stop pushbutton, dupe-proof to EN 418

Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR contact block with silver contacts, with coupling, without lamp socket, screw terminals, 1 NC		1.20.124.001/0000	2 - 128
RAFIX 22 QR contact block with silver contacts, with coupling, without lamp socket, screw terminals, 2 NC		1.20.124.019/0000	2 - 128
RAFIX 22 QR contact block AS-I, E-stop, coupling contact, LED		1.20.129.011/0000	2 - 139

RAFIX 22 QR

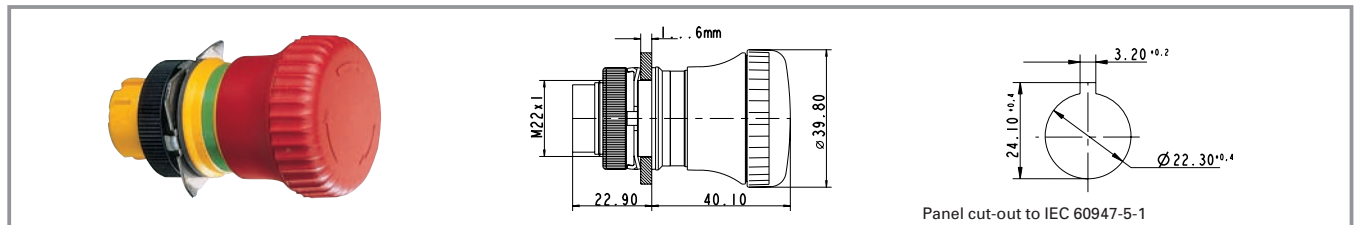
Typical accessories RAFIX 22 QR emergency stop pushbutton, dupe-proof to EN 418

Description	Photo	Order no.	Additional accessories see page
Fixing spanner for ring nut and front ring		5.05.800.062/0000	5 - 21
Emergency stop label, yellow, round 60 mm, PVC adhesive, without legend		5.76.204.100/0400	2 - 153
Emergency stop label, yellow, round 60 mm, PVC adhesive, with legend "NOT-AUS"		5.76.204.101/0400	2 - 153
Emergency stop label, yellow, round 60 mm, PVC adhesive, with legend "ARRET D'URGENCE"		5.76.204.102/0400	2 - 153
Emergency stop label, yellow, round 60 mm, PVC adhesive, with legend "EMERGENCY-STOP"		5.76.204.103/0400	2 - 153
Emergency stop label, yellow 36 x 64 mm, PVC adhesive, without legend		5.76.205.011/0400	2 - 153
Emergency stop label, yellow, round 60 mm, rigid PVC, with legend "EMERGENCY-STOP/ARRET D'URGENCE"		5.76.207.002/0400	2 - 153

For other contact blocks, refer to the chapter "Contact blocks"; for additional accessories, refer to "RAFIX 22 QR special accessories".

RAFIX 22 QR emergency stop pushbutton, dupe-proof to EN 418

RAFIX
22 QR



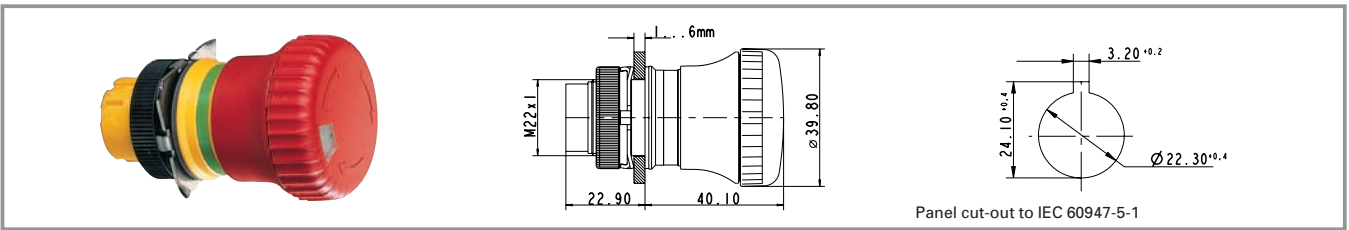
Degree of protection from front side	Reset	Colour of mushroom	Illuminability	Operating life	Order no.
IP65	by clockwise rotation	opaque red	no	100000	1.30.243.501/0300

Technical data see page 2 - 112

Included: Ring nut with claw.

Switching position indication: In the non-operated condition, a green ring is visible on the side.

RAFIX 22 QR emergency stop pushbutton, dupe-proof to EN 418, with indication to EN 60947-1



Degree of protection from front side	Reset	Colour of mushroom	Illuminability	Operating life	Order no.
IP65	by clockwise rotation	opaque red	no	100000	1.30.243.601/0300

Technical data see page 2 - 112

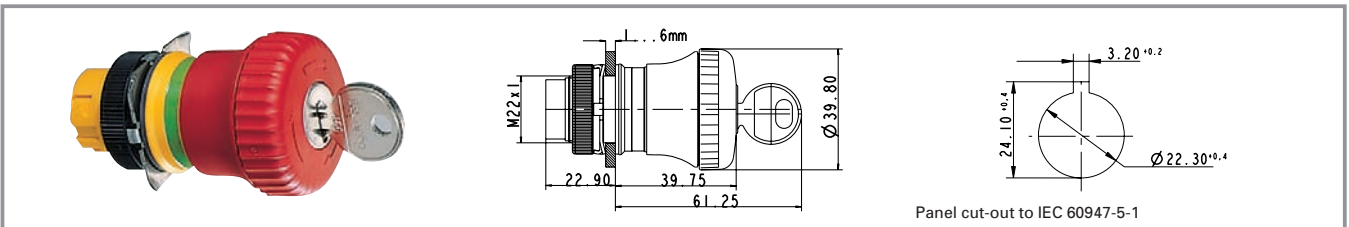
Included: Ring nut with claw.

Switching position indication: In the non-operated condition, a green ring is visible on the side.

This switching position is visible in addition from the front; a mechanical indicator integrated into the mushroom head changes from green to red when actuated.

2

RAFIX 22 QR emergency stop pushbutton, dupe-proof to EN 418, with keylock



Degree of protection from front side	Reset	Colour of mushroom	Illuminability	Operating life	Order no.
IP40	by clockwise rotation	opaque red	no	50000	1.30.243.701/0300

Technical data see page 2 - 112

Accessories:

Spare key for RAFIX 22 QR (delivery content 2 keys): 5.58.017.001/0000

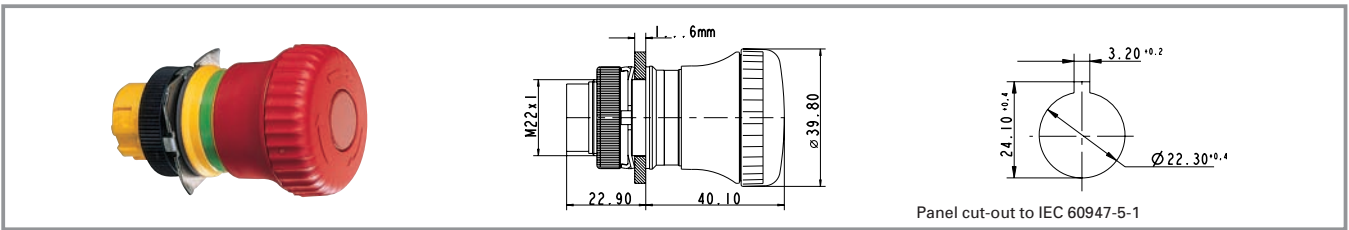
Included: Ring nut with claw, 2 keys.

Switching position indication: In the non-operated condition, a green ring is visible on the side.

Once actuated, the emergency stop pushbutton can only be reset with the key.

RAFIX
22 QR

RAFIX 22 QR emergency stop pushbutton, dupe-proof to EN 418, illuminated



Degree of protection from front side	Reset	Colour of mushroom	Illuminability	Operating life	Order no.
IP65	by clockwise rotation	opaque red/ translucent red	yes	100000	1.30.243.001/0300

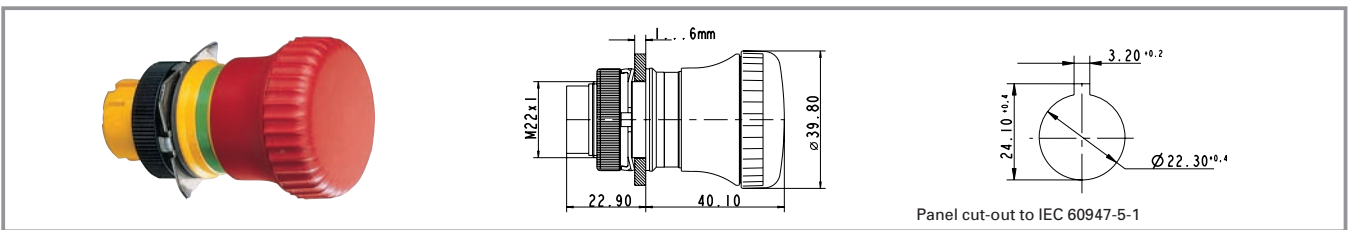
Technical data see page 2 - 112

Included: Ring nut with claw.

Switching position indication: In the non-operated condition, a green ring is visible on the side.

2

RAFIX 22 QR emergency stop pushbutton, dupe-proof to EN 418, reset by pulling



Degree of protection from front side	Reset	Colour of mushroom	Illuminability	Operating life	Order no.
IP65	by pulling	opaque red	no	100000	1.30.243.901/0300

Technical data see page 2 - 112

Included: Ring nut with claw.

Switching position indication: In the non-operated condition, a green ring is visible on the side.

RAFIX
22 QR

RAFIX 22 QR

RAFIX 22 QR toggle switch



Pict.: Front ring, metallized

Front ring, slate grey

Panel cut-out to IEC 60947-5-1

2

Technical data

General information

Form of lens	toggle
Colour of toggle	opaque white
Front ring	see order block
Form of collar	see order block

Dimensions

Length of collar	see order block
Width of collar	see order block
Overall height	22 mm
Mounting depth	56.4 mm
Mounting hole	22.3 mm

Mechanical design

Mounting	ring nut
----------	----------

Dimensions

Key grid	50 x 30 mm
Diameter of collar	see order block

Mechanical design

Contact function	latching
Immunity	no

Mechanical characteristics

Robustness min.	100 N
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Electrical characteristics

Protection class	II
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Other specifications

Operating life	100000
Degree of protection	IP54
Storage temperature min.	-40 °C
Storage temperature max.	80 °C
Resistance to constant environment	according to IEC 60068-2-3 and 2-30
Resistance at variable environment	according to IEC 60068-2-14 und 2-33

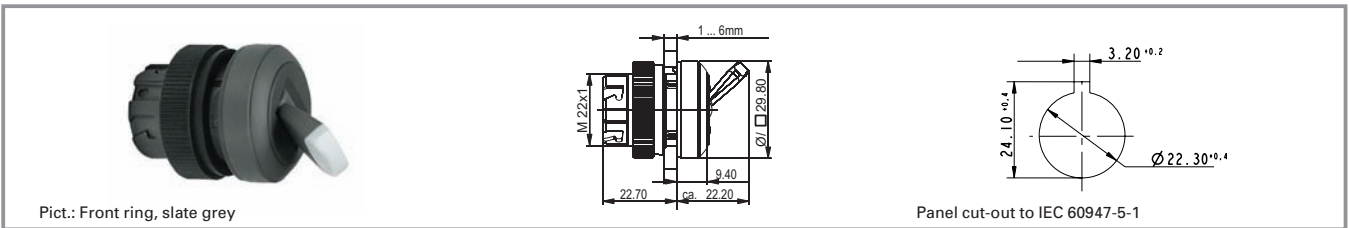
RAFIX 22 QR

Typical accessories RAFIX 22 QR toggle switch

Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR contact block with gold contacts, with coupling, without lamp socket, screw terminals, 1 NC + 1 NO		1.20.124.117/0000	2 - 132
RAFIX 22 QR contact block with gold contacts, with coupling, without lamp socket, spring-type terminals, 1 NO		1.20.125.102/0000	2 - 132
Contact block with coupling, gold contacts, RJ 12 connector, 1 NO, without LED		1.20.128.002/0000	2 - 135
Fixing spanner for ring nut and front ring		5.05.800.062/0000	5 - 21

RAFIX 22 QR

RAFIX 22 QR, toggle switch, round collar

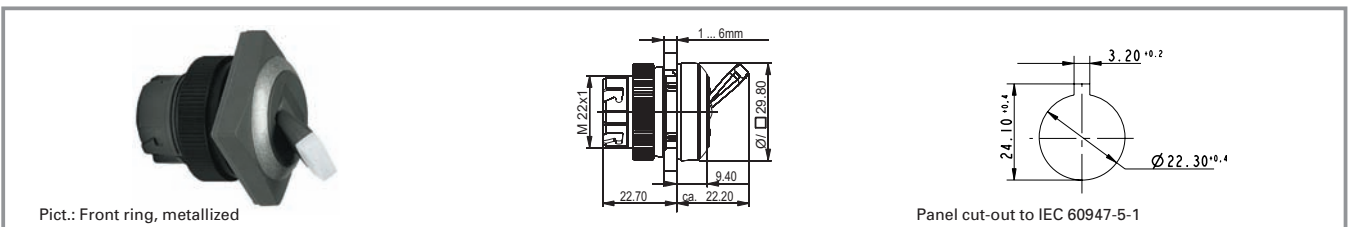


Illuminability	Colour of toggle marking	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
no	opaque white	-	-	1.30.247.501/02xx	1.30.247.502/0200

Technical data see page 2 - 116

xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08

RAFIX 22 QR, toggle switch, square collar



Illuminability	Colour of toggle marking	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
no	opaque white	-	-	1.30.247.551/02xx	1.30.247.552/0200

Technical data see page 2 - 116

xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08

RAFIX 22 QR

RAFIX 22 QR twin pushbutton



2

General data

Lens legends are oriented for vertical installation of the twin pushbutton. Only the signal indicator is illuminated on twin pushbuttons prepared for illumination. This area is opaque slate grey on versions which cannot be illuminated.

Technical data

General information

Legending see order block
 Colour of lens opaque green/opaque red
 Colour of front ring see order block
 Form of collar see order block

Dimensions

Length of collar 59.6 mm
 Width of collar 29.8 mm
 Overall height 9.1 mm
 Mounting depth with contact block without cable 56.4 mm
 Mounting hole 22.3 mm
 Key grid 50 x 30 mm

Mechanical design

Mounting ring nut
 Contact function momentary
 Illuminability see order block

Mechanical characteristics

Operating force max. approx. 5 N for 1 switching element
 Robustness min. 100 N

Other specifications

Degree of protection from front side IP65
 Ambient temp. operating min. -25 °C
 Ambient temp. operating max. +70 °C
 Storage temperature max. +80 °C
 Resistance to constant environment according to IEC 600 68-2-3 and 2-30
 Resistance at variable environment according to IEC 60068-2-14 and 2-33

RAFIX 22 QR

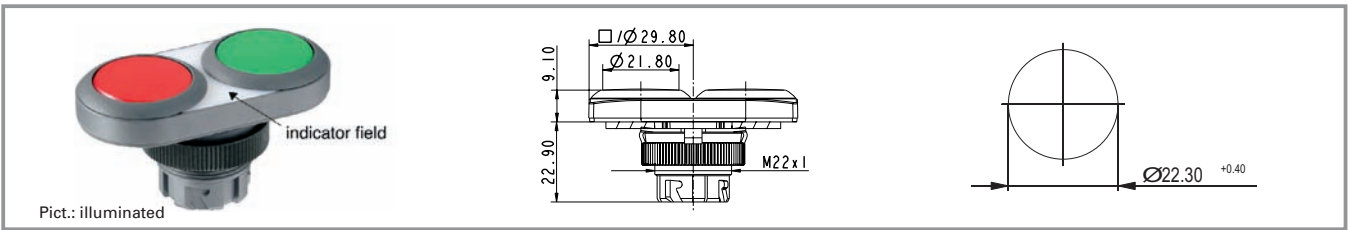
Typical accessories RAFIX 22 QR twin pushbutton

Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR contact block with silver contacts, with coupling and lamp socket, screw terminals, 1 NO, 1 NC		1.20.124.025/0000	2 - 129
RAFIX 22 QR contact block with gold contacts, with coupling and lamp socket, spring-type terminals, 1 NO, 1 NC		1.20.125.125/0000	2 - 133
RAFIX 22 QR contact block, AS-I, standard, white LED		1.20.129.121/0000	2 - 137
Fixing spanner for ring nut and front ring		5.05.800.062/0000	5 - 21

For other contact blocks, refer to the chapter "Contact blocks"; for additional accessories, refer to "RAFIX 22 QR special accessories".

RAFIX 22 QR

RAFIX 22 QR twin pushbutton, oval collar



Illuminability	Colour of lens	Legending	Colour of front ring	Order no.
yes	opaque green/ opaque red	none	slate-grey	1.30.241.001/2207
yes	opaque green/ opaque red	red 0, green I	slate-grey	1.30.241.002/2207
no	opaque green/ opaque red	none	slate-grey	1.30.241.101/0707
no	opaque green/ opaque red	red 0, green I	slate-grey	1.30.241.102/0707

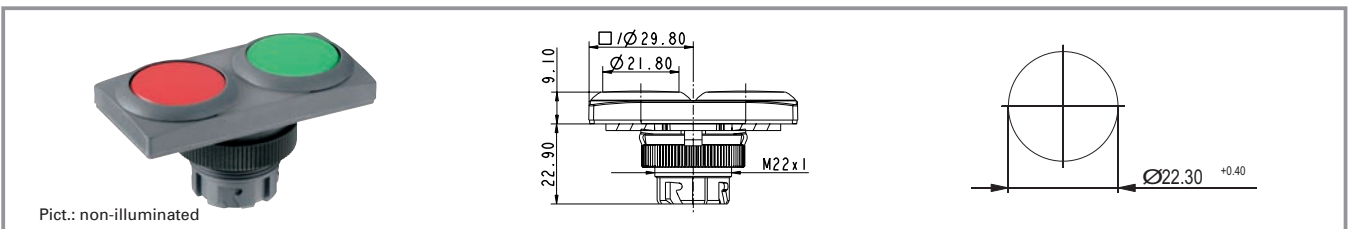
Technical data see page 2 - 118

Either the left-hand or right-hand contact block is actuated, depending on the button pressed. For illuminated versions the centre position of the coupling is reserved for the lamp socket. A third contact block arranged in the centre would be actuated by either button.

2

RAFIX
22 QR

RAFIX 22 QR twin pushbutton, rectangular collar



Illuminability	Colour of lens	Legending	Colour of front ring	Order no.
yes	opaque green/ opaque red	none	slate-grey	1.30.241.051/2207
yes	opaque green/ opaque red	red 0, green I	slate-grey	1.30.241.052/2207
no	opaque green/ opaque red	none	slate-grey	1.30.241.151/0707
no	opaque green/ opaque red	red 0, green I	slate-grey	1.30.241.152/0707

Technical data see page 2 - 118

Either the left-hand or right-hand contact block is actuated, depending on the button pressed. For illuminated versions the centre position of the coupling is reserved for the lamp socket. A third contact block arranged in the centre would be actuated by either button.

RAFIX 22 QR potentiometer drive



Pict.: slate grey with potentiometer

state grey, delivery content

Panel cut-out to IEC 60947-5-1

2

Technical data

General information

Actuator	knob
Colour of knob	see order block
Front ring	see order block
Form of collar	see order block

Dimensions

Length of collar	see order block
Width of collar	see order block
Overall height	26 mm
Mounting depth	according to potentiometer
Mounting hole	22.3 mm
Key grid	50 x 30 mm
Diameter of collar	see order block

Mechanical design

Mounting	ring nut
----------	----------

Mechanical characteristics

Robustness min.	100 N
-----------------	-------

Other specifications

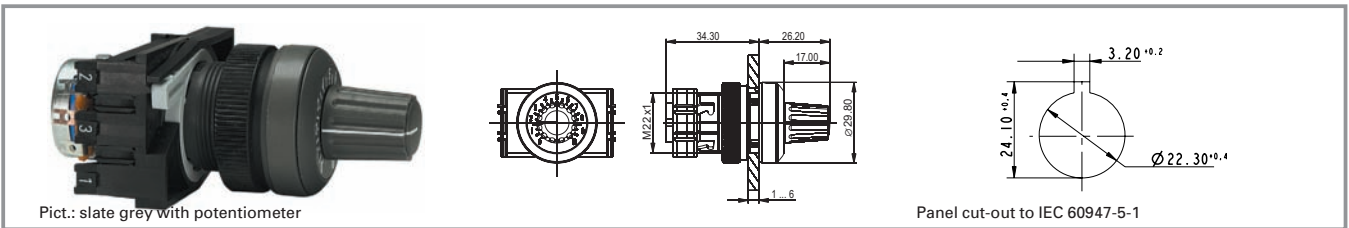
Degree of protection from front side	IP65
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Resistance to constant environment	according to IEC 600 68-2-3 and 2-30
Resistance at variable environment	according to IEC 60068-2-14 and 2-33

RAFIX 22 QR

Typical accessories RAFIX 22 QR potentiometer drive

Description	Photo	Order no.	Additional accessories see page
Fixing spanner for ring nut and front ring		5.05.800.062/0000	5 - 21

RAFIX 22 QR potentiometer drive, round collar

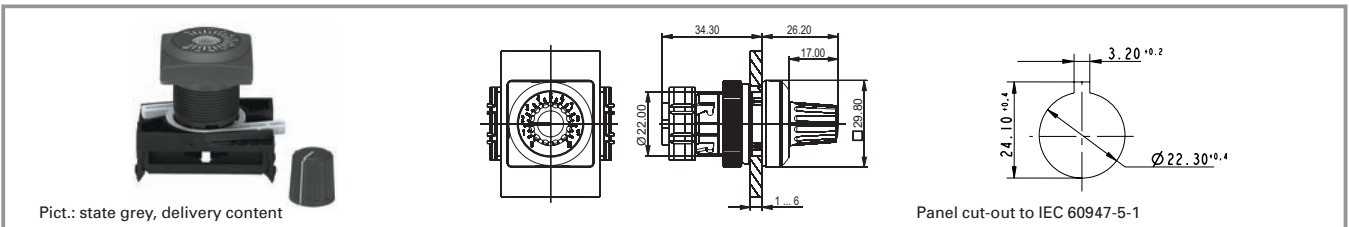


Front ring	Colour of knob	Order no.
plastic slate-grey	opaque slate-grey	1.30.248.001/0700

Technical data see page 2 - 120

For potentiometers with 6 mm shaft diameter and 50 mm shaft length. Potentiometer not included.

RAFIX 22 QR potentiometer drive, square collar



Front ring	Colour of knob	Order no.
plastic slate-grey	opaque slate-grey	1.30.248.021/0700

Technical data see page 2 - 120

For potentiometers with 6 mm shaft diameter and 50 mm shaft length. Potentiometer not included.

RAFIX 22 QR buzzer



2

Technical data

General information

Form of lens flat lens
 Colour of lens opaque slate-grey
 Form of collar see order block
 Sound see order block

Dimensions

Length of collar see order block
 Width of collar see order block
 Overall height 9.8 mm
 Mounting depth 56.4 mm
 Mounting hole 22.3 mm
 Key grid 50 x 30 mm
 Diameter of collar see order block

Mechanical design

Mounting ring nut

Acoustic characteristics

Sonic pressure, 1 m distance min. see order block

Electrical characteristics

Operating voltage DC see order block
 Input current see order block
 Sound frequency see order block

Mechanical characteristics

Robustness min. 100 N

Other specifications

Degree of protection from front side IP65
 Storage temperature min. -40 °C
 Storage temperature max. +80 °C
 Resistance to constant environment according to IEC 600 68-2-3 and 2-30
 Resistance at variable environment according to IEC 60068-2-14 and 2-33

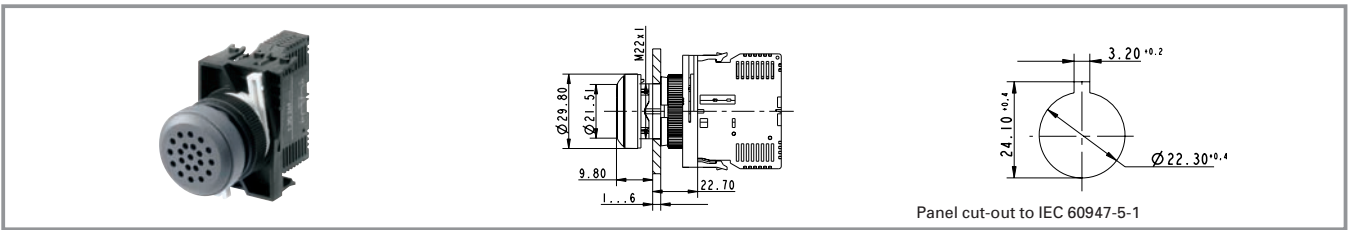
RAFIX
22 QR

Typical accessories RAFIX 22 QR buzzer

Description	Photo	Order no.	Additional accessories see page
Fixing spanner for ring nut and front ring		5.05.800.062/0000	5 - 21

RAFIX 22 QR

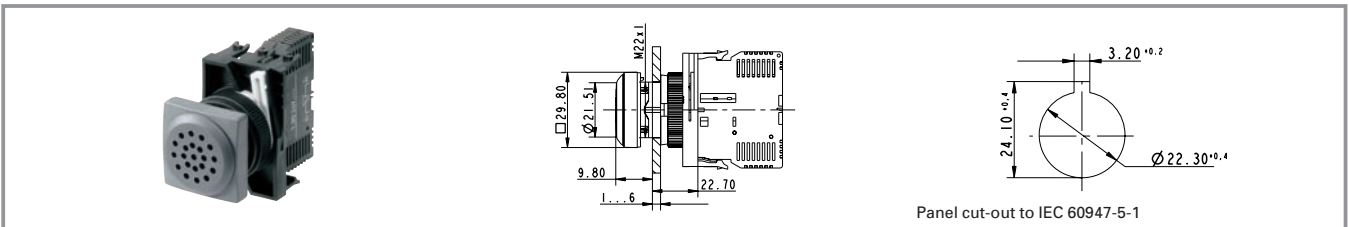
RAFIX 22 QR buzzer, round collar



Operating voltage DC	Input current	Sound	Sonic pressure, 1 m distance min.	Sound frequency	Order no.
12 V	25 mA	continuous beep	70 dB	2.400 - 3.100 Hz	1.30.249.002/0000
24 V	25 mA	continuous beep	70 dB	2.400 - 3.100 Hz	1.30.249.001/0000

Technical data see page 2 - 122

RAFIX 22 QR buzzer, square collar



Operating voltage DC	Input current	Sound	Sonic pressure, 1 m distance min.	Sound frequency	Order no.
12 V	25 mA	continuous beep	70 dB	2.400 - 3.100 Hz	1.30.249.022/0000
24 V	25 mA	continuous beep	70 dB	2.400 - 3.100 Hz	1.30.249.021/0000

Technical data see page 2 - 122

2

RAFIX 22 QR

RAFIX 22 QR

RAFIX 22 QR signal indicator



2

Technical data

General information

Form of lens flat lens
Colour of lens see order block
Form of collar see order block

Dimensions

Length of collar see order block
Width of collar see order block
Overall height 9.4 mm
Mounting depth 56.4 mm
Mounting hole 22.3 mm
Key grid 50 x 30 mm
Diameter of collar see order block

Mechanical design

Mounting ring nut
Illuminability yes

Electrical characteristics

Protection class II

Other specifications

Degree of protection from front side IP65
Ambient temp. operating min. -25 °C
Ambient temp. operating max. +70 °C
Storage temperature min. -40 °C
Storage temperature max. +80 °C
Resistance to constant environment according to IEC 600 68-2-3 and 2-30
Resistance at variable environment according to IEC 60068-2-14 and 2-33

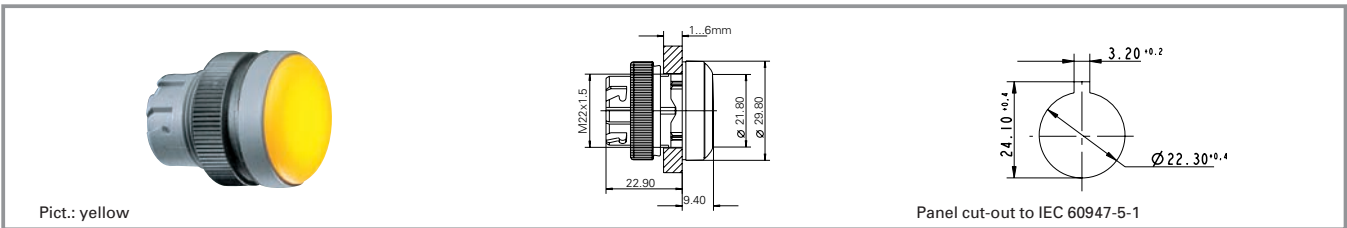
RAFIX
22 QR

Typical accessories RAFIX 22 QR signal indicator

Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR contact block, AS-I, standard, white LED		1.20.129.121/0000	2 - 137
RAFIX 22 QR lamp socket assembly, screw terminals, with coupling		1.71.213.001/0000	2 - 142
RAFIX 22 QR lamp socket assembly, screw terminals, with coupling, diode and series resistor 130 V		1.71.213.004/0000	2 - 142
RAFIX 22 QR lamp socket assembly, spring-type terminals, with coupling		1.71.214.001/0000	2 - 142
Fixing spanner for ring nut and front ring		5.05.800.062/0000	5 - 21
Legend insert without legend, use only in combination with transparent lenses.		5.70.803.000/2000	

RAFIX 22 QR

RAFIX 22 QR signal indicator, round collar



Colour of lens	Form of collar	Order no.
transparent colourless	round	1.74.505.501/1000
transparent red	round	1.74.505.501/1300
transparent yellow	round	1.74.505.501/1400
transparent green	round	1.74.505.501/1500
transparent blue	round	1.74.505.501/1600

Technical data see page 2 - 124

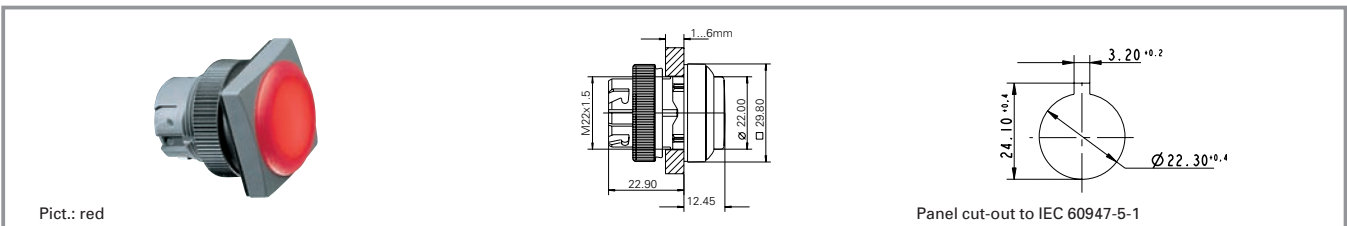
Accessories:

Legend insert without legend: 5.70.803.000/2000

2

RAFIX
22 QR

RAFIX 22 QR signal indicator, square collar



Colour of lens	Form of collar	Order no.
transparent colourless	square	1.74.505.551/1000
transparent red	square	1.74.505.551/1300
transparent yellow	square	1.74.505.551/1400
transparent green	square	1.74.505.551/1500
transparent blue	square	1.74.505.551/1600

Technical data see page 2 - 124

Accessories:

Legend insert without legend: 5.70.803.000/2000

RAFIX 22 QR contact blocks with silver contacts



2

General data

Most of the values specified apply to all terminal versions. Any deviating values specific to the spring-type or quick-connect version are given in parentheses ().

Technical data

Dimensions

Length	39.5 mm
Width	10 mm
Height	46 mm
Mounting depth without cable	56.4 mm

Mechanical design

Mounting	snap on coupling and actuator
Contact system	bridgecontact self cleaning
Contact materials	Ag
Contact arrangement	see order block
NC contact forcibly actuated acc. to IEC 60947-5-1	yes
Terminals	see order block
Terminal marking	colour encoded
Robustness	100 N
Operating force	approx. 5 N for 1 contact element

Wire range solid wires without wire end sleeves	2 x 0,75 ... 2,5 mm ²
Wire range stranded wires without end sleeves	2 x 1,0 ... 1,5 (2 x 0,08 ... 2,5) mm ²
Stripping length, solid or stranded	8 mm
Wire range with wire end sleeves	2 x 0,75 ... 1,5 mm ²

Electric characteristics acc. to IEC 60947

Rated insulation voltage AC/DC	400 V
Rated peak voltage	6000 V
Rated operating current I _e AC 12	10 A
Rated operating current I _e AC-15	125 V/10 A, 250 V/6 A, 400 V/3.5 A
Rated operating current I _e DC-13 Q300	24V/2.75A, 60V/1.1A, 125V/0.55A, 250V/0.275A

Degree of pollution	3
Positive opening travel	3 mm
Operating speed	5 ... 1000 mm/s

Electric characteristics acc. to IEC 61058

Resistive load AC	10 A/250 V; 7,5 A/400 V
Motor load AC	6 A/250 V; 4 A/400 V (5 A/250 V)

Peak input current filament lamp AC	36 A
Peak capacity input current AC	100 A
Protection class	II




Lamp characteristics

Lamp characteristics	BA 9 s
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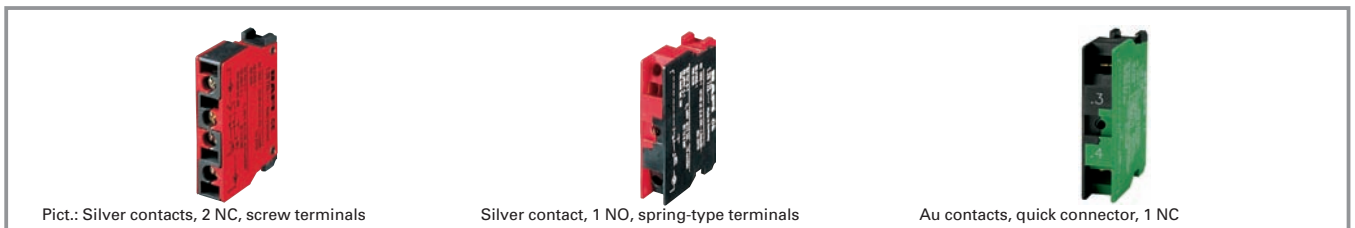
Other specifications

Operating life at 10 A/250 V AC	70.000 (10A), 200.000 (5A)
Switching reliability at 24V/5mA DC	10 x 10 ⁶
Approvals	ENEC, cURus (UL + CSA) acc. IEC 60947-5-5
Robustness	acc. EU-guideline N 72/73
Corresponding to CE	
Shock resistance acc. to IEC 600 68-2-27	50 g at 11 ms, amplitude half sinusoidal
Resistance to vibrations acc. to IEC 600 68-2-6	10 g at 40 ... 500 Hz
Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70°C (+50°C)
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Flame class acc. to UL 94	V 0
Hot wire ignition acc. to IEC 60695-2-1	yes
Resistance to constant environment	IEC 600 68-2-3 and 2-30
Resistance at variable environment	IEC 600 68-2-14 and 2-33

Typical accessories RAFIX 22 QR contact blocks with silver contacts

Description	Photo	Order no.	Additional accessories see page
Coupling with reference numbers 1-3-2, for contact blocks with single contacts		5.05.510.935/0000	2 - 150
Coupling with reference numbers 1/2-5/6-3/4, for contact blocks with double contacts		5.05.510.936/0000	2 - 150
Marking tag for contact blocks/lamp sockets with screw terminals		5.40.010.131/0000	2 - 151

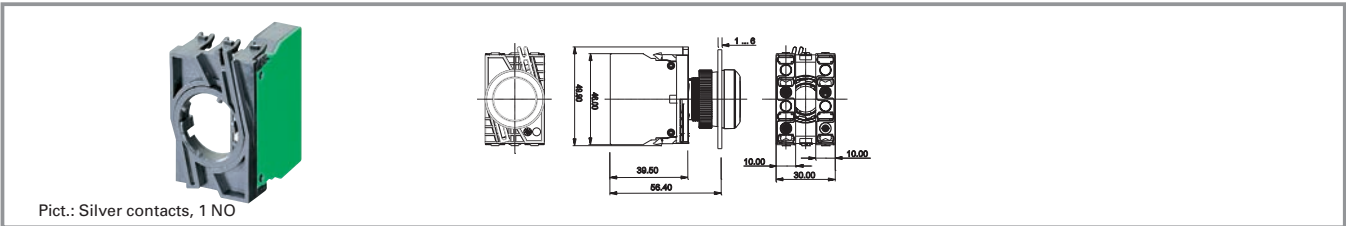
RAFIX 22 QR contact block with silver contacts



Terminals	Contact arrangement	Contact materials	Lamp characteristics	Order no.
screw terminals	1 NC	Ag		5.00.100.139/0000
screw terminals	1 NO	Ag		5.00.100.140/0000
screw terminals	2 NC	Ag		5.00.100.141/0000
screw terminals	2 NO	Ag		5.00.100.142/0000
screw terminals	1 NC + 1 NO	Ag		5.00.100.143/0000
spring-type	1 NC	Ag		5.00.100.144/0000
spring-type	1 NO	Ag		5.00.100.145/0000
solder/quick connector 6.3 x 0.8 mm	1 NC	Ag		5.00.100.194/0000
solder/quick connector 6.3 x 0.8 mm	1 NO	Ag		5.00.100.196/0000

Technical data see page 2 - 126

RAFIX 22 QR contact block assembly, with coupling, without lamp socket, silver contacts



2

Terminals	Contact arrangement	Contact materials	Lamp characteristics	Order no.
screw terminals	1 NC	Ag		1.20.124.001/0000
screw terminals	1 NO	Ag		1.20.124.002/0000
screw terminals	1 NC, 1 NC	Ag		1.20.124.003/0000
screw terminals	1 NO , 1 NO	Ag		1.20.124.004/0000
screw terminals	1 NO , 1 NC	Ag		1.20.124.005/0000
screw terminals	1 NC + 1 NO	Ag		1.20.124.017/0000
screw terminals	1 NC + 1 NO , 1 NC + 1 NO	Ag		1.20.124.018/0000
screw terminals	2 NC	Ag		1.20.124.019/0000
screw terminals	2 NO	Ag		1.20.124.020/0000
spring-type	1 NC	Ag		1.20.125.001/0000
spring-type	1 NO	Ag		1.20.125.002/0000
spring-type	1 NC, 1 NC	Ag		1.20.125.003/0000
spring-type	1 NO , 1 NO	Ag		1.20.125.004/0000
spring-type	1 NO , 1 NC	Ag		1.20.125.005/0000

RAFIX
22 QR

Technical data see page 2 - 126

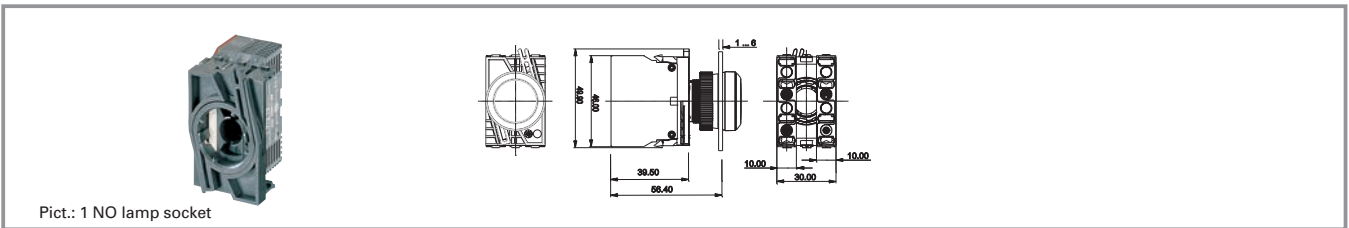
Contact arrangement example (1 NO = 1 normally open contact, 1 NC = 1 normally closed contact)

1 NO, 1 NC = **Two separate contact blocks** are mounted on the coupling: One with a normally open contact and one with a normally closed contact

1 NC + 1 NO = **One contact block with double contacts** (1 normally closed and 1 normally open) is mounted on the coupling.

RAFIX 22 QR

RAFIX 22 QR contact block assembly, with coupling and lamp socket, silver contacts



Terminals	Contact arrangement	Contact materials	Lamp characteristics	Order no.
screw terminals	1 NC	Ag	BA 9 s	1.20.124.021/0000
screw terminals	1 NO	Ag	BA 9 s	1.20.124.022/0000
screw terminals	1 NC, 1 NC	Ag	BA 9 s	1.20.124.023/0000
screw terminals	1 NO , 1 NO	Ag	BA 9 s	1.20.124.024/0000
screw terminals	1 NO , 1 NC	Ag	BA 9 s	1.20.124.025/0000
screw terminals	1 NC + 1 NO	Ag	BA 9 s	1.20.124.027/0000
screw terminals	1 NC + 1 NO , 1 NC + 1 NO	Ag	BA 9 s	1.20.124.028/0000
screw terminals	2 NC	Ag	BA 9 s	1.20.124.029/0000
screw terminals	2 NO	Ag	BA 9 s	1.20.124.030/0000
spring-type	1 NC	Ag	BA 9 s	1.20.125.021/0000
spring-type	1 NO	Ag	BA 9 s	1.20.125.022/0000
spring-type	1 NC, 1 NC	Ag	BA 9 s	1.20.125.023/0000
spring-type	1 NO , 1 NO	Ag	BA 9 s	1.20.125.024/0000
spring-type	1 NO , 1 NC	Ag	BA 9 s	1.20.125.025/0000

Technical data see page 2 - 126

Accessories:

- Filament lamp, BA 9s base (MBC/MCC), 12 - 15 V: **1.90.060.132/0000**
- Filament lamp, BA 9s base (MBC/MCC), 24 - 30 V: **1.90.060.133/0000**
- Filament lamp, BA 9s base (MBC/MCC), 110 - 130 V: **1.90.060.137/0000**
- LED BA 9s (MBC/MCC) superbright, red, 24 V: **1.90.690.341/0000**
- LED BA 9s (MBC/MCC) superbright, green, 24 V: **1.90.690.342/0000**
- LED BA 9s (MBC/MCC) superbright, yellow, 24 V: **1.90.690.343/0000**
- LED BA 9s (MBC/MCC) superbright, blue, 24 V: **1.90.690.344/0000**
- LED BA 9s (MBC/MCC) superbright, white, 24 V: **1.90.690.345/0000**

Contact arrangement example (1 NO = 1 normally open contact, 1 NC = 1 normally closed contact)

1 NO, 1 NC = **Two separate contact blocks** are mounted on the coupling: One with a normally open contact and one with a normally closed contact

1 NC + 1 NO = **One contact block with double contacts** (1 normally closed and 1 normally open) is mounted on the coupling.

BA 9s (MBC/MCC) = Lamp socket snaps onto coupling centre. More technical data see "Lamp sockets".

RAFIX 22 QR

RAFIX 22 QR contact blocks with gold contacts



2

General data

Most of the values specified apply to all terminal and spring-type terminal versions. Any deviating values specific to the spring-type or quick connect version are given in parentheses ().

Technical data





Dimensions		Electrical characteristics	
Length	39.5 mm	Operating voltage AC/DC	1 ... 42 V
Width	10 mm	Operating current AC/DC	0,01 ... 100 mA
Height	46 mm	Rated power max.	1W (ohmic load)
Mounting depth without cable	56.4 mm	Lamp characteristics	
Mechanical design		Lamp socket	BA 9 s
Mounting	snap on coupling and actuator	Other specifications	
Contact system	bridgecontact self cleaning	Operating life	1 million at 10 mA/ 24 V DC
Contact materials	Au	Switching reliability at 24V/5mA DC	10 x 10 ⁻⁶
Contact arrangement	see order block	Robustness	acc. IEC 60947-5-5
NC contact forcibly actuated acc. to IEC 60947-5-1	yes	Corresponding to CE	acc. EU-guideline N 72/73
Terminals	see order block	Shock resistance acc. to IEC 600 68-2-27	50 g at 11 ms, amplitude half sinusoidal
Terminal marking	colour encoded	Resistance to vibrations acc. to IEC 600 68-2-6	10 g at 40 ... 500 Hz
Robustness	100 N	Ambient temp. operating min.	-25 °C
Operating force	approx. 5 N for 1 contact element	Ambient temp. operating max.	+70 °C
Wire range solid wires without wire end sleeves	2 x 0,75 ... 2,5 mm ²	Storage temperature min.	-40 °C
Wire range stranded wires without wire end sleeves	2 x 1,0 ... 1,5 mm ²	Storage temperature max.	+80 °C
Stripping length, solid or stranded	8 mm	Resistance to constant environment	IEC 600 68-2-3 and 2-30
Wire range with wire end sleeves	2 x 0,75 ... 1,5 mm ²	Resistance at variable environment	IEC 600 68-2-14 and 2-33

Typical accessories RAFIX 22 QR contact blocks with gold contacts

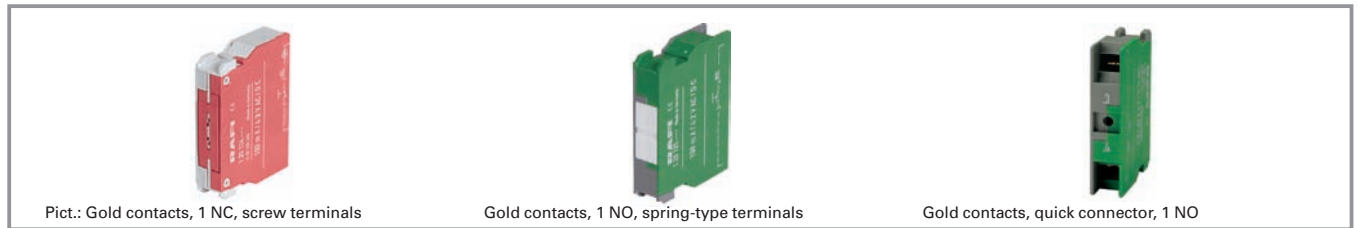
Description	Photo	Order no.	Additional accessories see page
Filament lamp, BA 9s base (MBC/MCC), 24 - 30 V		1.90.060.133/0000	5 - 7
Neon lamp BA 9s (MBC/MCC), 220 V AC		1.90.560.102/0000	5 - 8

RAFIX 22 QR

Typical accessories RAFIX 22 QR contact blocks with gold contacts

Description	Photo	Order no.	Additional accessories see page
LED BA 9s (MBC/MCC) superbright, white, 24 V		1.90.690.345/0000	5 - 17
Coupling with reference numbers 1-3-2, for contact blocks with single contacts		5.05.510.935/0000	2 - 150
Coupling with reference numbers 1/2-5/6-3/4, for contact blocks with double contacts		5.05.510.936/0000	2 - 150
Marking tag for contact blocks/lamp sockets with screw terminals		5.40.010.131/0000	2 - 151

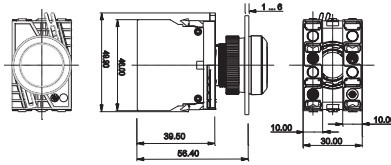
RAFIX 22 QR contact block with gold contacts



Terminals	Contact arrangement	Contact materials	Lamp socket	Order no.
screw terminals	2 NC	Au		5.00.100.161/0000
screw terminals	2 NO	Au		5.00.100.162/0000
screw terminals	1 NC + 1 NO	Au		5.00.100.163/0000
screw terminals	1 NC	Au		5.00.100.164/0000
screw terminals	1 NO	Au		5.00.100.165/0000
spring-type	1 NC	Au		5.00.100.159/0000
spring-type	1 NO	Au		5.00.100.160/0000
solder/quick connector 6.3 x 0.8 mm	1 NC	Au		5.00.100.193/0000
solder/quick connector 6.3 x 0.8 mm	1 NO	Au		5.00.100.195/0000

Technical data see page 2 - 130

RAFIX 22 QR contact block assembly, with coupling, without lamp socket, gold contacts



Pict.: Gold contacts, 1 NC + 1 NO

Terminals	Contact arrangement	Contact materials	Lamp socket	Order no.
screw terminals	1 NC	Au		1.20.124.101/0000
screw terminals	1 NO	Au		1.20.124.102/0000
screw terminals	1 NC, 1 NC	Au		1.20.124.103/0000
screw terminals	1 NO , 1 NO	Au		1.20.124.104/0000
screw terminals	1 NO , 1 NC	Au		1.20.124.105/0000
screw terminals	1 NC + 1 NO	Au		1.20.124.117/0000
screw terminals	1 NC + 1 NO , 1 NC + 1 NO	Au		1.20.124.118/0000
screw terminals	2 NC	Au		1.20.124.119/0000
screw terminals	2 NO	Au		1.20.124.120/0000
spring-type	1 NC	Au		1.20.125.101/0000
spring-type	1 NO	Au		1.20.125.102/0000
spring-type	1 NC, 1 NC	Au		1.20.125.103/0000
spring-type	1 NO , 1 NO	Au		1.20.125.104/0000
spring-type	1 NO , 1 NC	Au		1.20.125.105/0000

Technical data see page 2 - 130

Contact arrangement example (1 NO = 1 normally open contact, 1 NC = 1 normally closed contact)

1 NO, 1 NC = **Two separate contact blocks** are mounted on the coupling: One with a normally open contact and one with a normally closed contact

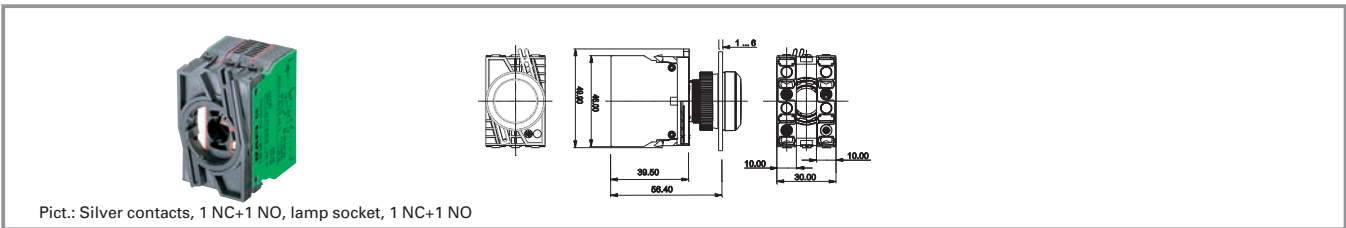
1 NC + 1 NO = **One contact block with double contacts** (1 normally closed and 1 normally open) are mounted on the coupling.

2

RAFIX
22 QR

RAFIX 22 QR

RAFIX 22 QR contact block assembly, with coupling and lamp socket, gold contacts



Terminals	Contact arrangement	Contact materials	Lamp socket	Order no.
screw terminals	1 NC	Au	BA 9 s	1.20.124.121/0000
screw terminals	1 NO	Au	BA 9 s	1.20.124.122/0000
screw terminals	1 NC, 1 NC	Au	BA 9 s	1.20.124.123/0000
screw terminals	1 NO , 1 NO	Au	BA 9 s	1.20.124.124/0000
screw terminals	1 NO , 1 NC	Au	BA 9 s	1.20.124.125/0000
screw terminals	1 NC + 1 NO	Au	BA 9 s	1.20.124.127/0000
screw terminals	1 NC + 1 NO , 1 NC + 1 NO	Au	BA 9 s	1.20.124.128/0000
screw terminals	2 NC	Au	BA 9 s	1.20.124.129/0000
screw terminals	2 NO	Au	BA 9 s	1.20.124.130/0000
spring-type	1 NC	Au	BA 9 s	1.20.125.121/0000
spring-type	1 NO	Au	BA 9 s	1.20.125.122/0000
spring-type	1 NC, 1 NC	Au	BA 9 s	1.20.125.123/0000
spring-type	1 NO , 1 NO	Au	BA 9 s	1.20.125.124/0000
spring-type	1 NO , 1 NC	Au	BA 9 s	1.20.125.125/0000

Technical data see page 2 - 130

Accessories:

- Filament lamp, BA 9s base (MBC/MCC), 12 - 15 V: **1.90.060.132/0000**
- Filament lamp, BA 9s base (MBC/MCC), 24 - 30 V: **1.90.060.133/0000**
- Filament lamp, BA 9s base (MBC/MCC), 110 - 130 V: **1.90.060.137/0000**
- LED BA 9s (MBC/MCC) superbright, red, 24 V: **1.90.690.341/0000**
- LED BA 9s (MBC/MCC) superbright, green, 24 V: **1.90.690.342/0000**
- LED BA 9s (MBC/MCC) superbright, yellow, 24 V: **1.90.690.343/0000**
- LED BA 9s (MBC/MCC) superbright, blue, 24 V: **1.90.690.344/0000**
- LED BA 9s (MBC/MCC) superbright, white, 24 V: **1.90.690.345/0000**

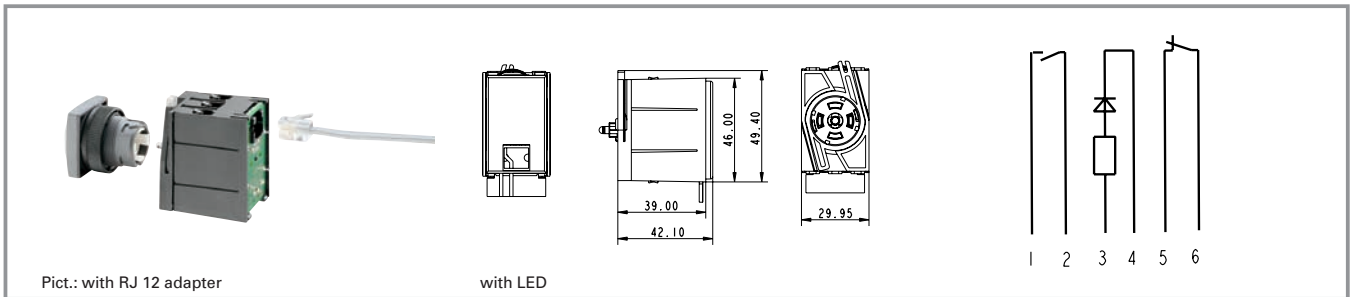
Contact arrangement example (1 NO = 1 normally open contact, 1 NC = 1 normally closed contact)

1 NO, 1 NC = **Two separate contact blocks** are mounted on the coupling: One with a normally open contact and one with a normally closed contact

1 NC + 1 NO = **One contact block with double contacts** (1 normally closed and 1 normally open) is mounted on the coupling.

BA 9s (MBC/MCC) = Lamp socket snaps onto coupling centre. Technical data see "Lamp sockets".

RAFIX 22 QR contact blocks with coupling, gold contacts, RJ 12 connector, integrated LED



2

Technical data

Dimensions

Length	49.4 mm
Width	29.95 mm
Height	42.1 mm
Mounting depth	62 mm

Mechanical design

Mounting	snap on actuator
Contact system	bridgecontact self cleaning
Contact materials	Au
Contact arrangement	see order block
NC contact forcibly actuated acc. to IEC 60947-5-1	yes
Terminals	RJ-12
Terminal marking	RJ-12 plug
Mounting grid	30 x 50
Robustness	100 N

Other specifications

Operating life	1000000 at 50 mA/24 V DC
Switching reliability at 24V/5mA DC	10 x 10 ⁻⁶
Ambient temp. operating min.	-25 °C
Ambient temp. operating without LED max.	+70 °C
Ambient temp. operating with LED max.	+50 °C
Storage temperature min.	-30 °C
Storage temperature max.	+80 °C
Integrated LED	see order block
LED colour	see order block
Resistance to constant environment	IEC 600 68-2-3 and 2-30
Resistance at variable environment	IEC 600 68-2-14 and 2-33

Electrical characteristics

Operating voltage AC/DC	24 V
Operating current AC/DC	0,01 ... 50 mA

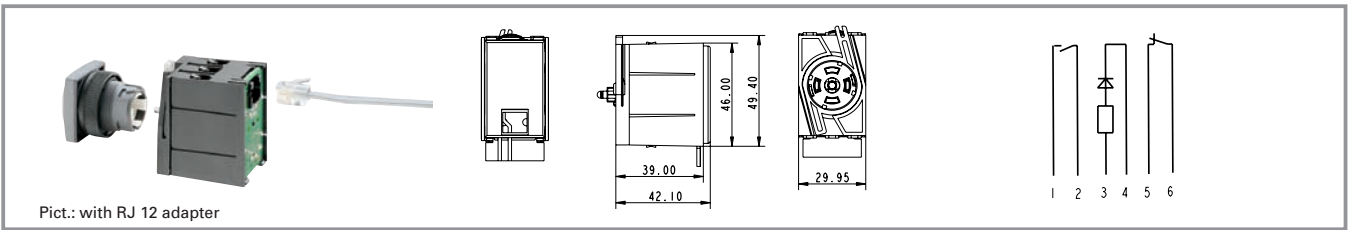
RAFIX 22 QR

Typical accessories Contact blocks with coupling, gold contacts, RJ 12 connector, integrated LED

Description	Photo	Order no.	Additional accessories see page
CONTACT module for CANopen bus		3.60.101.148/0000	2 - 147
CONTACT module for Profibus		3.60.101.149/0000	2 - 147

RAFIX 22 QR

RAFIX 22 QR contact block with coupling, gold contacts, RJ 12 connector, integrated LED



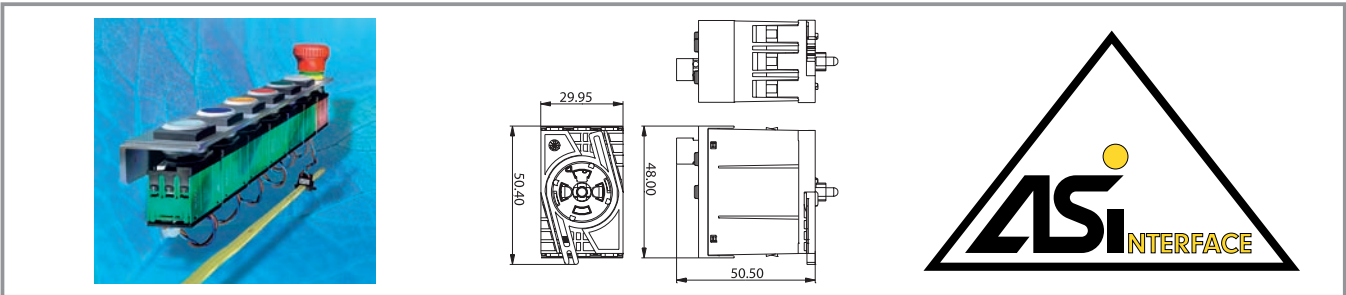
Contact arrangement	Operating voltage AC/DC	Integrated LED	LED colour	Order no.
1 NO	24 V	no		1.20.128.002/0000
1 NO	24 V	yes	white	1.20.128.012/0000
1 NO	24 V	yes	green	1.20.128.042/0000
1 NC + 1 NO	24 V	no		1.20.128.003/0000
1 NC + 1 NO	24 V	yes	white	1.20.128.013/0000
1 NC + 1 NO	24 V	yes	red	1.20.128.023/0000
2 NC	24 V	no		1.20.128.004/0000
2 NC	24 V	yes	white	1.20.128.014/0000
2 NC	24 V	yes	red	1.20.128.024/0000
2 NO	24 V	no		1.20.128.005/0000
2 NO	24 V	yes	white	1.20.128.015/0000
2 NO	24 V	yes	green	1.20.128.045/0000

Technical data see page 2 - 134

Other LED colours and contact arrangement versions available on request.

NEW

RAFIX 22 QR contact blocks AS-Interface, standard



2

General data

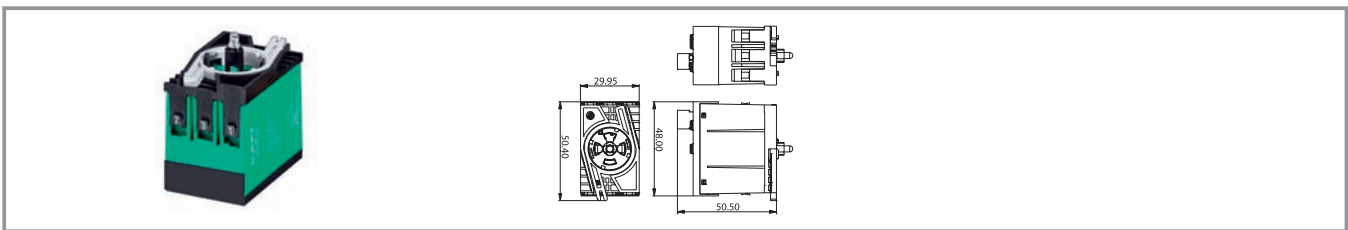
The AS-Interface standard contact block is a slave with 2 input / 1 output lines for the AS-I fieldbus system. It is designed for the extended address range and meets the AS-I profile S-B.A.B.E (2 inputs / 2 outputs). Some versions offer an additional overload- and short-circuit-proof output for connection and control of an external LED or buzzer. Both outputs can reduce the rated current to 50%, 25% or 12.5%, so a dimming function can be realized. More information / detailed manual on request.

Technical data

RAFIX
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Dimensions		Switching reliability	
Length	50.4 mm	24V/5mA DC	< 10 x 10 ⁻⁶ bei 24 V/5 mA DC
Width	29.95 mm	Approvals / CE	
Height	50.5 mm	according to 89/336/EWG	
Mounting depth	68 mm	Operating temperature min.:	
Key grid	50 x 30 mm	-25 °C	
Mechanical design		Operating temperature max.:	
Mounting	snap on coupling actuator	70 °C	
Contact system	bridge-contact self cleaning	Storage temperature min.:	
Contact materials	Au	-40 °C	
Contact arrangement	2 NC	Storage temperature max.:	
Lamp socket	see order block	70 °C	
Mounting position	variable	Resistance to constant environment:	
Terminals	supplied connector	IEC 60068-2-78	
Contact function	momentary	Vibration resistance:	
2-pole digital output, 24 V / 15 mA	yes	10 g at 40 ... 500 Hz	
Robustness	100 N	Shock resistance acc. to IEC 60068-2-27	
Coupling contact	no	50 g at 11 ms, amplitude half sinusoidal	
Electrical characteristics		AS-Interface	
Rated voltage AC / DC	24 V	AS-Interface profile	
Rated current AC / DC	1 .. 250 mA	S-B.A.E	
Other specifications		Terminal code	
Operating life	1 Mio. operations at 24 V / 50 mA DC	yes	
		Rated voltage	
		26.5 ... 31.6 V	
		Rated current	
		30 mA	
		Deceleration time for readiness	
		1 sec	
		AS-Interface IC	
		AS-I-SW	
		AS-Interface specification	
		V3.0	
		AS-Interface certificate	
		62901	

RAFIX 22 QR contact blocks AS-I, standard

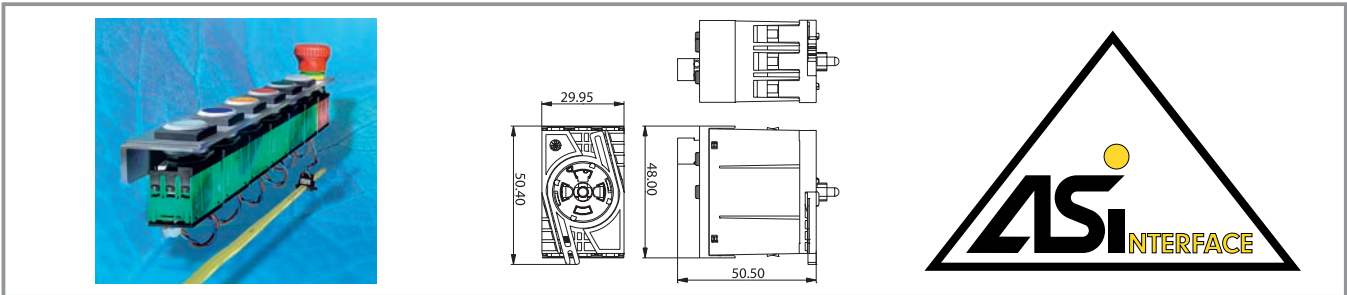


Contact arrangement	Lamp socket	Coupling contact	2-pole digital output, 24 V / 15mA	Order no.
2 NO	no	no	yes	1.20.129.101/0000
2 NO	1 LED red	no	yes	1.20.129.111/0000
2 NO	1 LED white	no	yes	1.20.129.121/0000
2 NO	1 LED yellow	no	yes	1.20.129.131/0000
2 NO	1 LED green	no	yes	1.20.129.141/0000
2 NO	1 LED blue	no	yes	1.20.129.151/0000

Technical data see page 2 - 136

Digital output: cable length max. 10 cm

NEW RAFX 22 QR contact blocks AS-Interface, E-stop, Safety at Work



2

General data

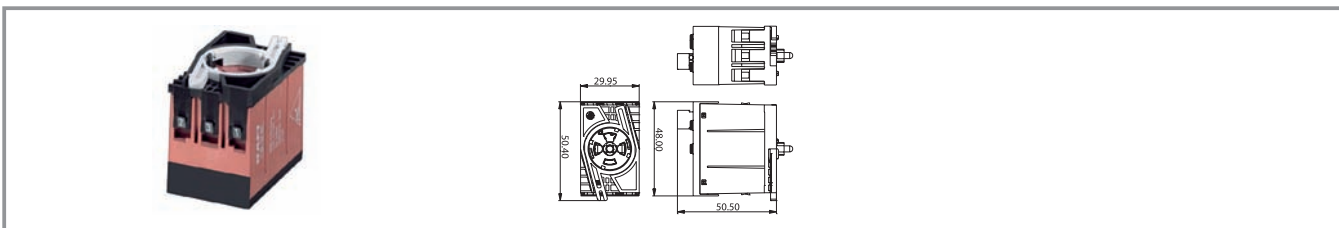
The AS-Interface E-stop contact block is a slave for the AS-I fieldbus system. It is designed for the standard address range and meets the AS-I profile S-7.B.E (safety slave with max. 4 input / 4 output lines). Up to 30 of these contact blocks can be linked to one AS-I line, the 31. member is a safety monitor. The four (safe) input lines are used for the safe transfer of the E-stop switching position signal. The (not safe) output line is used to control the lamp in the E-stop or for an external signal lamp (option). The coupling contact is an additional safety feature. It supervises the coupling between E-stop actuator and contact block and informs the AS-I bus, when this connection is interrupted.

RAFIX 22 QR

Technical data

Dimensions		Other specifications	
Length	50.4 mm	Operating life	1 Mio. operations at 24 V / 50 mA DC
Width	29.95 mm	Approvals / CE	acc. to 89/336/EWG
Height	50.5 mm	Operating temperature min.:	-25 °C
Mounting depth	68 mm	Operating temperature max.:	70 °C
Key grid	see order block	Storage temperature min.:	-40 °C
Mechanical design		Storage temperature max.:	70 °C
Mounting	snap on coupling actuator	Resistance to constant environment:	IEC 60068-2-78
Contact system	bridge-contact self cleaning	Vibration resistance:	10 g at 40 ... 500 Hz
Contact materials	Au	Shock resistance acc. to IEC 60068-2-27	50 g at 11 ms, amplitude half sinusoidal
Contact arrangement	2 NO	AS-Interface	
Lamp socket	see order block	AS-Interface profile	S-7.B.E
Mounting position	variable	Terminal code	yes
Terminals	supplied connector	Rated voltage	26.5 ... 31.6 V
Contact function	momentary	Rated current	see order block
2-pole digital output, 24 V / 15 mA	yes	Deceleration time for readiness	1 sec
Robustness	100 N	AS-Interface IC	A ² SI
Coupling contact	see order block	AS-Interface specification	V3.0
Electrical characteristics		AS-Interface certificate	63001, 63701
Rated voltage AC / DC	24 V	Probability of failure, acc. to IEC 61508	PFD total: 2.2 x 10 ⁻⁴ , operation period: 10 years PFH/h: 2.5 x 10 ⁻⁹
Rated current AC / DC	0.01 .. 50 mA		

RAFIX 22 QR contact blocks AS-I, E-stop, Safety at Work



Contact arrangement	Lamp socket	Coupling contact	2-pole digital output, 24 V / 15mA	Order no.
2 NC	no	yes	yes	1.20.129.001/0000
2 NC	no	no	yes	1.20.129.002/0000
2 NC	1 LED red	yes	yes	1.20.129.011/0000

Technical data see page 2 - 138

2

RAFIX
22 QR

RAFIX 22 QR

RAFIX 22 QR lamp sockets BA 9s (MBC/MCC)



2

Technical data

Dimensions

Length	46 mm
Width	10 mm
Height	39.5 mm
Mounting depth without cable	56.4 mm

Mechanical design

Mounting	snap on coupling and actuator
Terminals	see order block
Terminal marking	X1 = anode, X2 = cathode

Lamp characteristics

Lamp socket	BA 9 s
Operating voltage AC/DC	see order block
Lamp power max.	2 W
Lamp voltage	see order block

Other specifications

Approvals	see order block
Robustness	acc. IEC 60947-5-5
Shock resistance acc. to IEC 600 68-2-27	50 g at 11 ms, amplitude half sinusoidal
Resistance to vibrations acc. to IEC 600 68-2-6	10 g at 40 ... 500 Hz
Resistance to constant environment	IEC 600 68-2-3 and 2-30
Resistance at variable environment	IEC 600 68-2-14 and 2-33
Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Flame class acc. to UL 94	V 0
Hot wire ignition acc. to IEC 60695-2-1	yes





RAFIX 22 QR

Typical accessories RAFIX 22 QR lamp sockets BA 9s (MBC/MCC)

Description	Photo	Order no.	Additional accessories see page
Filament lamp, BA 9s base (MBC/MCC), 12 - 15 V		1.90.060.132/0000	5 - 7
Filament lamp, BA 9s base (MBC/MCC), 24 - 30 V		1.90.060.133/0000	5 - 7
Filament lamp, BA 9s base (MBC/MCC), 110 - 130 V		1.90.060.137/0000	5 - 7
Neon lamp BA 9s (MBC/MCC), 220 V AC		1.90.560.102/0000	5 - 8
LED BA 9s (MBC/MCC) superbright, red, 24 V		1.90.690.341/0000	5 - 17
LED BA 9s (MBC/MCC) superbright, green, 24 V		1.90.690.342/0000	5 - 17
LED BA 9s (MBC/MCC) superbright, yellow, 24 V		1.90.690.343/0000	5 - 17
LED BA 9s (MBC/MCC) superbright, blue, 24 V		1.90.690.344/0000	5 - 17

RAFIX 22 QR

Typical accessories RAFIX 22 QR lamp sockets BA 9s (MBC/MCC)

Description	Photo	Order no.	Additional accessories see page
LED BA 9s (MBC/MCC) superbright, white, 24 V		1.90.690.345/0000	5 - 17
Coupling with reference numbers 1-3-2, for contact blocks with single contacts		5.05.510.935/0000	2 - 150
Coupling with reference numbers 1/2-5/6-3/4, for contact blocks with double contacts		5.05.510.936/0000	2 - 150
Marking tag for contact blocks/lamp sockets with screw terminals		5.40.010.131/0000	2 - 151

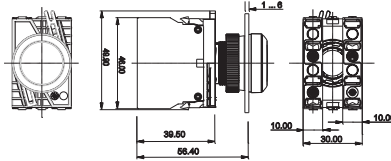
RAFIX 22 QR lamp socket, without coupling



Terminals	Diode and resistor	Approvals	Lamp socket	Operating voltage AC/DC	Lamp voltage	Order no.
screw terminals	no	ENEC 10/15; ULc	BA 9 s	6 ... 250 V	6 ... 250 V	5.00.070.074/0000
screw terminals	yes	ENEC 10/15; ULc	BA 9 s	250 V	130 V	5.00.070.080/0000
spring-type terminal	no	ENEC 10/15; ULc	BA 9 sBA 9 s	6 ... 250 V	6 ... 250 V	5.00.070.078/0000
solder/quick connector 6.3 x 0.8 mm	no	ENEC 10/15; ULc	BA 9 s	6 ... 250 V	6 ... 250 V	5.00.070.087/0000

Technical data see page 2 - 140

RAFIX 22 QR lamp socket assembly, with coupling



Pict.: Lamp socket with spring-type terminals

Terminals	Diode and resistor	Approvals	Lamp socket	Operating voltage AC/DC	Lamp voltage	Order no.
screw terminals	no	ENEC 10/15; ULc	BA 9 s	6 ... 250 V	6 ... 250 V	1.71.213.001/0000
screw terminals	yes	ENEC 10/15; ULc	BA 9 s	250 V	130 V	1.71.213.004/0000
spring-type	no	ENEC 10/15; ULc	BA 9 s	6 ... 250 V	6 ... 250 V	1.71.214.001/0000

Technical data see page 2 - 140

2

RAFIX
22 QR

RAFIX 22 QR lamp sockets with integrated LED



2

Technical data

Dimensions

Length	46 mm
Width	10 mm
Height	39.5 mm
Mounting depth without cable	56.4 mm

Mechanical design

Mounting	snap on coupling and actuator
Diode and resistor	see order block
LED colour	see order block
Terminals	screw terminals
Terminal marking	X1 = anode, X2 = cathode

Lamp characteristics

Operating voltage	see order block
Max. current, I _F	see order block

Other specifications

Approvals	ENEC 10/15; ULc
Robustness	acc. IEC 60947-5-5
Shock resistance acc. to IEC 600 68-2-7	50 g at 11 ms, amplitude half sinusoidal
Resistance to vibrations acc. to IEC 600 68-2-6	10 g at 40 ... 500 Hz
Resistance to constant environment	IEC 600 68-2-3 and 2-30
Resistance at variable environment	IEC 600 68-2-14 and 2-33
Ambient temp. operating min.	-20 °C
Ambient temp. operating max.	+65 °C
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Flame class acc. to UL 94	V 0
Hot wire ignition acc. to IEC 60695-2-1	yes

RAFIX 22 QR

Typical accessories RAFIX 22 QR lamp sockets with integrated LED

Description	Photo	Order no.	Additional accessories see page
Coupling with reference numbers 1-3-2, for contact blocks with single contacts		5.05.510.935/0000	2 - 150
Coupling with reference numbers 1/2-5/6-3/4, for contact blocks with double contacts		5.05.510.936/0000	2 - 150
Marking tag for contact blocks/lamp sockets with screw terminals		5.40.010.131/0000	2 - 151

RAFIX 22 QR

RAFIX 22 QR lamp socket with integrated LED, without coupling



Terminals	Diode and resistor	LED colour	Max. current, I _F	Operating voltage	Order no.
screw terminals		white	15 mA	AC/DC 24 V	5.00.070.083/0200
screw terminals		red	15 mA	AC/DC 24 V	5.00.070.083/0300
screw terminals		yellow	15 mA	AC/DC 24 V	5.00.070.083/0400
screw terminals		green	15 mA	AC/DC 24 V	5.00.070.083/0500
screw terminals		blue	15 mA	AC/DC 24 V	5.00.070.083/0600
screw terminals		white	16 mA	AC 115 V	5.00.070.085/0200
screw terminals		red	16 mA	AC 115 V	5.00.070.085/0300
screw terminals		yellow	16 mA	AC 115 V	5.00.070.085/0400
screw terminals		green	16 mA	AC 115 V	5.00.070.085/0500
screw terminals		blue	16 mA	AC 115 V	5.00.070.085/0600
screw terminals		white	16 mA	AC 230 V	5.00.070.086/0200
screw terminals		red	16 mA	AC 230 V	5.00.070.086/0300
screw terminals		yellow	16 mA	AC 230 V	5.00.070.086/0400
screw terminals		green	16 mA	AC 230 V	5.00.070.086/0500
screw terminals		blue	16 mA	AC 230 V	5.00.070.086/0600

Technical data see page 2 - 144

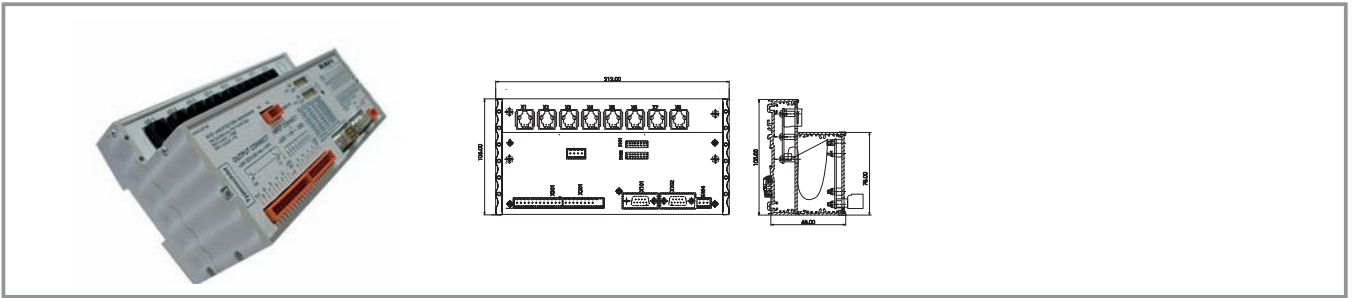
2

RAFIX
22 QR

RAFIX 22 QR

NEW

CONTACT-Modul



2

General data

Highly flexible bus gateway for systematic connection of RAFIX control components to CANopen and Profibus with additional inputs and outputs.

Technical data

Dimensions

Length	212 mm
Width	106 mm
Height	68 mm

Electrical characteristics

Bus-Interface	see order block
Rated voltage DC	24 +-20% V
Rated power max.	10 W

Mechanical design

Mounting	quick mounting on DIN rails and back panels
Contact system	bridge-contact self cleaning
Terminals	8 x RJ 12 e.g for RAFIX 22 QR contact block
Digital inputs 24 V, electrically isolated	9
Digital outputs 24 V / 100 mA	9

Other specifications

Degree of protection	IP 20
Approvals	acc. to 89/336/EWG
Operating temperature min.	-10 °C
Operating temperature max.	+60 °C
Storage temperature min.	-25 °C
Storage temperature max.	+60 °C

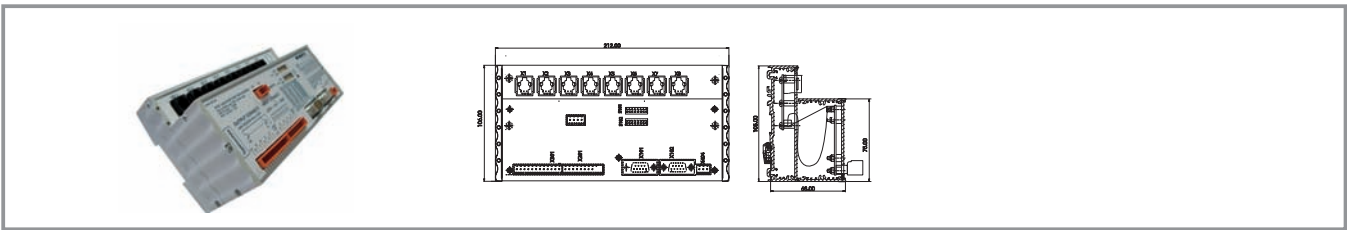
RAFIX 22 QR

Typical accessories CONTACT-Modul

Description	Photo	Order no.	Additional accessories see page
LUMOTAST FK pushbutton with flush lens, square collar, housing		1.15.114.906/0000	1 - 13
Contact block with coupling, gold contacts, RJ 12 connector, 1 NO, without LED		1.20.128.002/0000	2 - 135
Contact block with coupling, gold contacts, RJ 12 connector, 1 NO, white LED		1.20.128.012/0000	2 - 135
RAFIX 16 pushbutton, illuminated, flush lens, square collar		1.30.070.001/1002	2 - 9

RAFIX 22 QR

CONTACT-Modul



Bus interface	Digital inputs 24 V, electrically isolated	Digital outputs 24 V, 100 mA	Order no.
CANopen	9	9	3.60.101.148/0000
Profibus	9	9	3.60.101.149/0000

Technical data see page 2 - 146

RAFIX 22 QR

RAFIX 22 QR special accessories



2

Typical accessories RAFIX 22 QR special accessories

Description	Photo	Order no.	Additional accessories see page
Fixing spanner for ring nut and front ring		5.05.800.062/0000	5 - 21

Front ring

RAFIX
22 QR



Short text	Feature 1	Feature 2	Order no.
Front ring, metal			5.45.638.015/6030
Front ring, plastic, black			5.45.639.020/0100
Front ring, plastic, red			5.45.639.020/0300
Front ring, plastic, yellow			5.45.639.020/0400
Front ring, plastic, green			5.45.639.020/0500
Front ring, plastic, blue			5.45.639.020/0600
Front ring, plastic, slate grey			5.45.639.020/0700
Front ring, plastic, silver grey			5.45.639.020/0800

RAFIX 22 QR

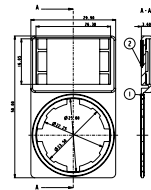
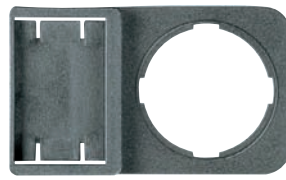
RAFIX 22 QR plastic front ring with thermoflex protective cap



Pict.: slate-grey

Short text	Feature 1	Feature 2	Order no.
Front ring, plastic with protective cap, slate grey	slate-grey		5.05.004.914/0700
Front ring, plastic with thermoflex protective cap, silver grey	silver-grey		5.05.004.914/0800
Front ring, plastic with thermoflex protective cap, black	black		5.05.004.914/0100

Label holder



Short text	Feature 1	Feature 2	Order no.
Label holder, round collar, with adhesive tape and release liner on back 50 x 30 x 3.6 mm			5.07.620.010/0000
Label holder, square collar, with adhesive tape and release liner on back 50 x 30 x 3.6 mm			5.07.620.011/0000

Legend label to clip into label holder 5.07.620.xxx



Short text	Feature 1	Feature 2	Order no.
Label for label holder, without legend, 16 x 28 x 0,9 mm			5.73.110.000/0000

Legending available on request.

Coupling



Short text	Feature 1	Feature 2	Order no.
Coupling with reference numbers 1-3-2, for contact blocks with single contacts			5.05.510.935/0000
Coupling with reference numbers 1/2-5/6-3/4, for contact blocks with double contacts			5.05.510.936/0000

Blanking cap



Short text	Feature 1	Feature 2	Order no.
Blanking cap IP65, ring nut, square			5.05.800.065/0000
Blanking cap IP65, ring nut, round			5.05.800.064/0000

Ring nut



Short text	Feature 1	Feature 2	Order no.
Ring nut (spare part)			5.24.279.012/0100
Ring nut with claw (spare part)			5.02.420.001/0000

RAFIX 22 QR

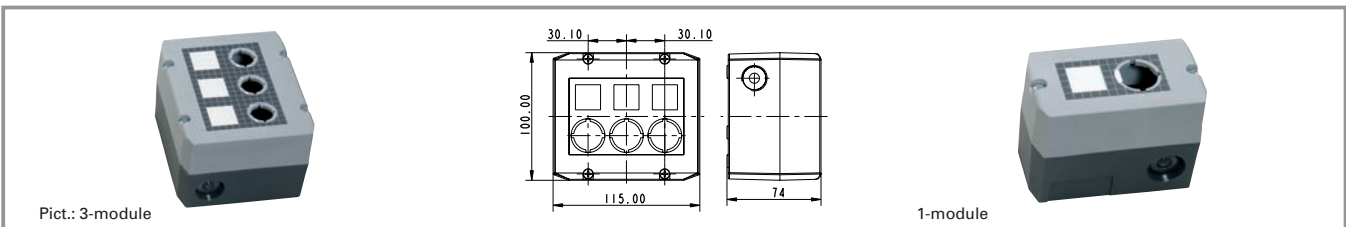
Protective cover, suitable for pushbuttons with flush lens



Pict.: Protective cover

Short text	Feature 1	Feature 2	Order no.
Protective cover, latching			5.05.511.195/0000
Protective cover, auto-closing			5.05.511.194/0000

Insulating housing IP65 for RAFIX 22 QR



Pict.: 3-module

1-module

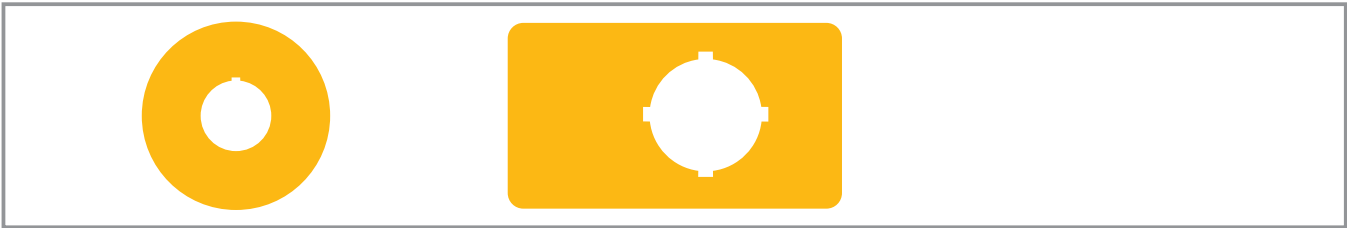
Short text	Feature 1	Feature 2	Order no.
Insulating housing IP65 for 22 QR, 1-module, light grey/dark grey	100 mm	55 mm	1.20.810.201/0000
Insulating housing IP65 for 22 QR, 1-module, yellow/yellow	100 mm	55 mm	1.20.810.202/0000
Insulating housing IP65 for 22 QR, 2-module, light grey/dark grey	100 mm	115 mm	1.20.820.201/0000
Insulating housing IP65 for 22 QR, 3-module, light grey/dark grey	100 mm	115 mm	1.20.830.201/0000
Insulating housing IP65 for 22 QR, 4-module, light grey/dark grey	100 mm	145 mm	1.20.840.201/0000

Accessories:

Label sheet for housings: **5.40.451.283/0000**

- Attractive plastic housing to accommodate up to 4 control components
- 2 cable entries prepared: 1-,2-,3-part: M20x1,5, 4-part: M25x1,5
- Degree of protection IP 65 to DIN
- All grey housings with overlay, legending possible with legend inserts
- Wall mounting with 2 screws through housing bottom prepared
- Dimensions: (feature 2) x 100 mm x 74 mm
- Accessories: 50 pre-perforated legend inserts on a DIN A4 sheet for printing with a PC printer

Emergency stop label plate



2

Short text	Feature 1	Feature 2	Order no.
Emergency stop label, yellow, round 60 mm, rigid PVC, with legend "NOT-AUS"		60 mm	5.76.207.001/0400
Emergency stop label, yellow, round 60 mm, rigid PVC, with legend "EMERGENCY-STOP/ARRET D'URGENCE"		60 mm	5.76.207.002/0400
Emergency stop label, yellow, round 60 mm, PVC adhesive, without legend		60 mm	5.76.204.100/0400
Emergency stop label, yellow, round 60 mm, PVC adhesive, with legend "NOT-AUS"		60 mm	5.76.204.101/0400
Emergency stop label, yellow, round 60 mm, PVC adhesive, with legend "ARRET D'URGENCE"		60 mm	5.76.204.102/0400
Emergency stop label, yellow, round 60 mm, PVC adhesive, with legend "EMERGENCY-STOP"		60 mm	5.76.204.103/0400
Emergency stop label, yellow 36 x 64 mm, PVC adhesive, without legend	64 mm	36 mm	5.76.205.011/0400

RAFIX
22 QR

Degree of protection: Rigid PVC: IP 40, adhesive foil: IP65.



General data

RAFIX 22 FS control component range

- For a mounting hole diameter of 22.3 mm to IEC 60947
- Contact blocks with gold or silver contacts
- Depth behind panel only 9.2 mm
- Water-jet proof IP65
- 2 collar shapes
- The contact blocks can be combined with other components on the same PCB.
- Contact blocks with quick connectors on request

The specified data apply only if actuators/signal indicators are combined with contact blocks and lamp sockets within the same product range.

Content

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RAFIX 22 FS pushbutton, flush lens, square collar	2 - 162
RAFIX 22 FS pushbutton, protruding lens, square collar	2 - 163
RAFIX 22 FS pushbutton, protruding front ring	2 - 164
RAFIX 22 FS selector switches	2 - 166
RAFIX 22 FS selector switch, round collar	2 - 167
RAFIX 22 FS selector switch, square collar	2 - 168
RAFIX 22 FS keylock switch	2 - 170
RAFIX 22 FS keylock switch, round collar	2 - 171
RAFIX 22 FS keylock switch, square collar	2 - 172
RAFIX 22 FS emergency stop pushbutton	2 - 174
RAFIX 22 FS emergency stop pushbutton, non-illuminated, dupe-proof to EN 418, non-blocking	2 - 175
RAFIX 22 FS emergency stop pushbutton, illuminated, dupe-proof to EN 418, non-blocking	2 - 175
RAFIX 22 FS signal indicator	2 - 176
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LED base for signal indicators	2 - 183
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RAFIX 22 FS

The new RAFIX 22 FS control component range **can be combined on a common printed circuit board together with short-travel keys and other components** thanks to its **extremely small mounting depth of 9.2 mm.**

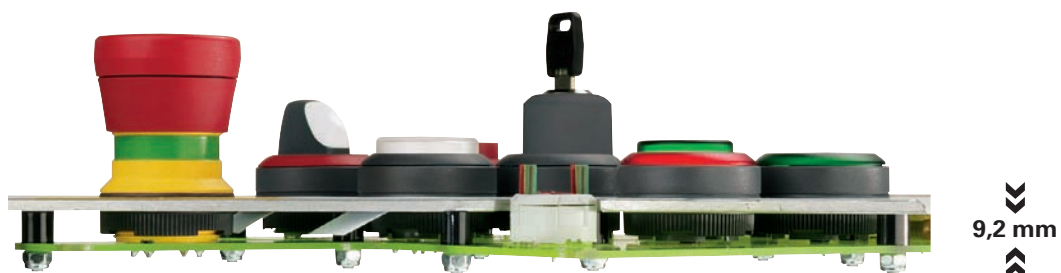
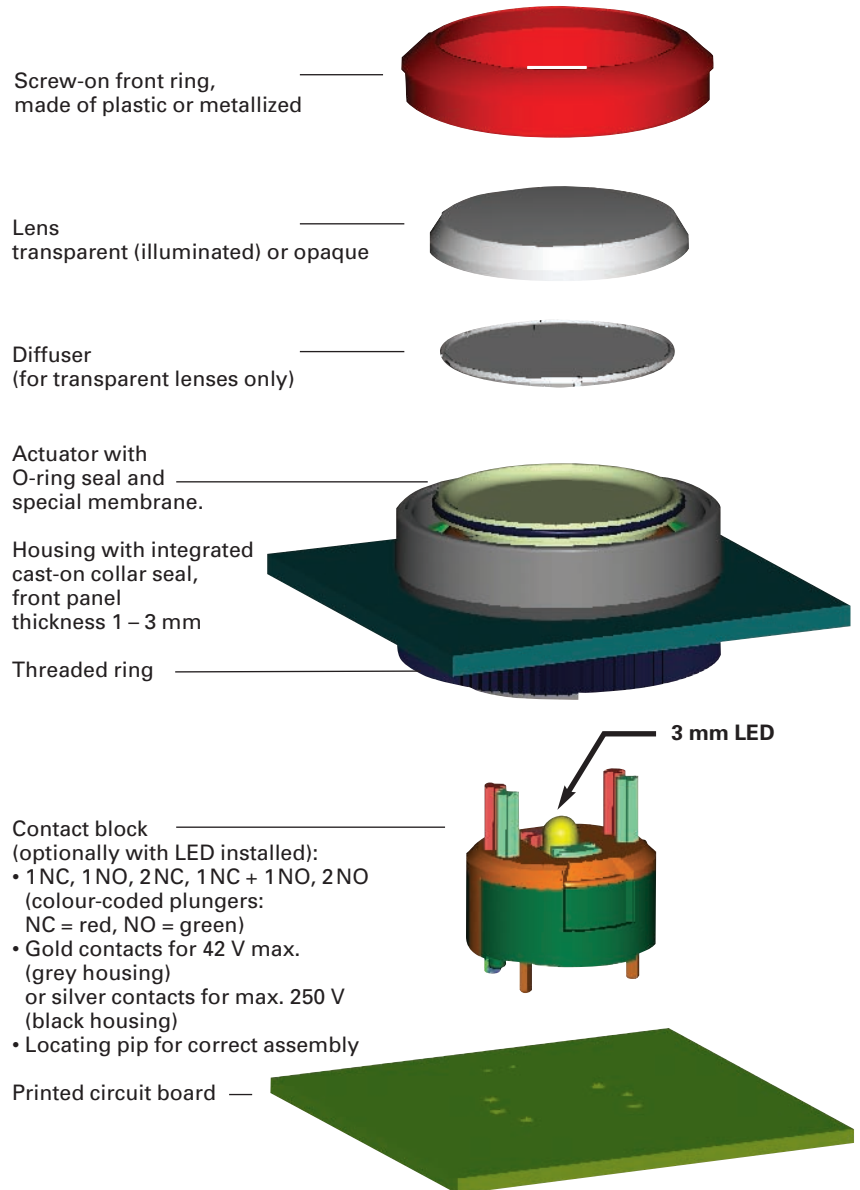
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The actuators and signal indicators are fastened to the front panel with a threaded ring in a 22.3 mm panel cut-out to IEC 60947. The cast-on collar seal made of thermoflex and an integrated special membrane provide a water-jet proof degree of protection IP 65 to DIN.

The contact blocks are soldered onto the PCB. Illumination of the actuator is provided by a 3 mm LED inserted into the base of the contact block and soldered to the PCB together with the contact block.

RAFIX
22 FS

The printed circuit board is fastened to the front panel with bolts, with the contact blocks sliding almost completely into the actuators. In this way an extremely low profile is achieved. Additional advantages: Individual wiring is made unnecessary and there is no more need for a cut-out in the PCB in the control component areas.





Combined with short-travel keys

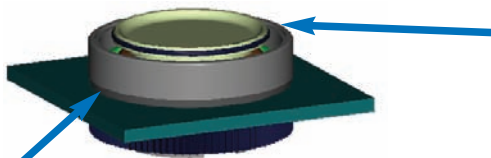
The actuators of the RAFIX 22FS system are suited for integration into low-profile data entry systems. The small mounting depth and the PCB solder terminals make it possible to combine the contact blocks with RAFI short-travel keys RACON 8 an 12, RF 15 and RF 19 as well as KN 19 on one and the same printed circuit board.

Illumination

RAFIX 22 FS pushbuttons, selector switches and emergency stop buttons are also available as illuminated versions. For illumination, we recommend to use the superbright 3 mm LED in the colour matching the lens. The LED are fitted into the contact block and soldered together with it. The signal indicators are als illuminated with superbright LED soldered directly onto the printed circuit board. In order to ensure full illumination, the LED must be mounted on a base. Bases are available as accessories.

2

RAFIX
22 FS



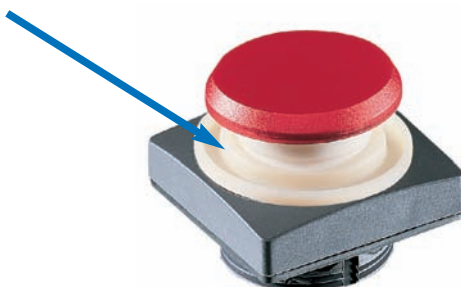
Cast-on collar seal

Sealed against moisture and dirt

O-ring seal

The O-ring seals the space between the lens and the actuator. The cast-on collar seal cannot be lost or distorted during assembly. During assembly, the actuator is held in the mounting hole by the cast-on seal and can then be fixed by screwing from the rear.

Special sealing



The special membrane seal safely prevents moisture, oil or dust from reaching the contact block. In contrast with seals sliding up and down along the shaft, the special membrane seal is arranged in a fixed position on the housing. In this way, RAFIX 22 FS guarantees switching reliability for the full service life (degree of protection IP65 to DIN).

RAFIX 22 FS

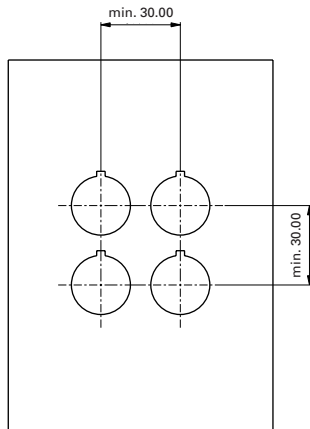
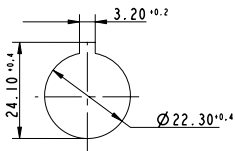
2



Numerous design options for individual panels

RAFIX 22 FS is available with many options. Various lens and frontring combinations offer nearly unlimited design options for your panels. RAFIX 22 FS ist available both with a round or a square collar. The square version can be arranged one collar to the next just as an integral keypad.

View on front side of front panel



Panel cut-out to IEC 60947

All actuators are provided with a locating pip.

With a grid spacing of 30 mm, the collars of the square actuators are arranged next to each other without a space in between. We recommend to use this grid spacing also for the round collar shapes (IEC 60947).

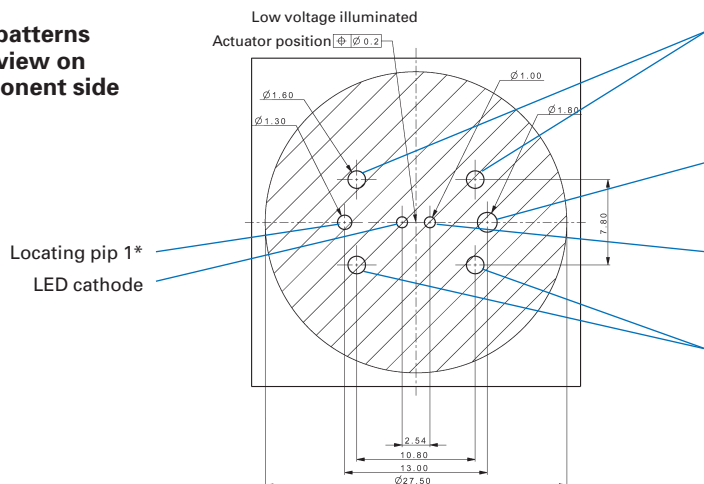
Assembly indication

The mismatch of actuators and contact blocks must be in a range of $\varnothing 0.2$ mm.

Please note: The placements of the contact blocks on the PCB are always conform to the placements of the actuators on the front panel. The drawings beside are showing upright locating pips of the actuators. If the actuators shall be rotated, the contact blocks have to be rotated similarly.

RAFIX 22 FS

Hole patterns PCB, view on component side



NO contacts
(on version with 2 NC's, NC contacts)

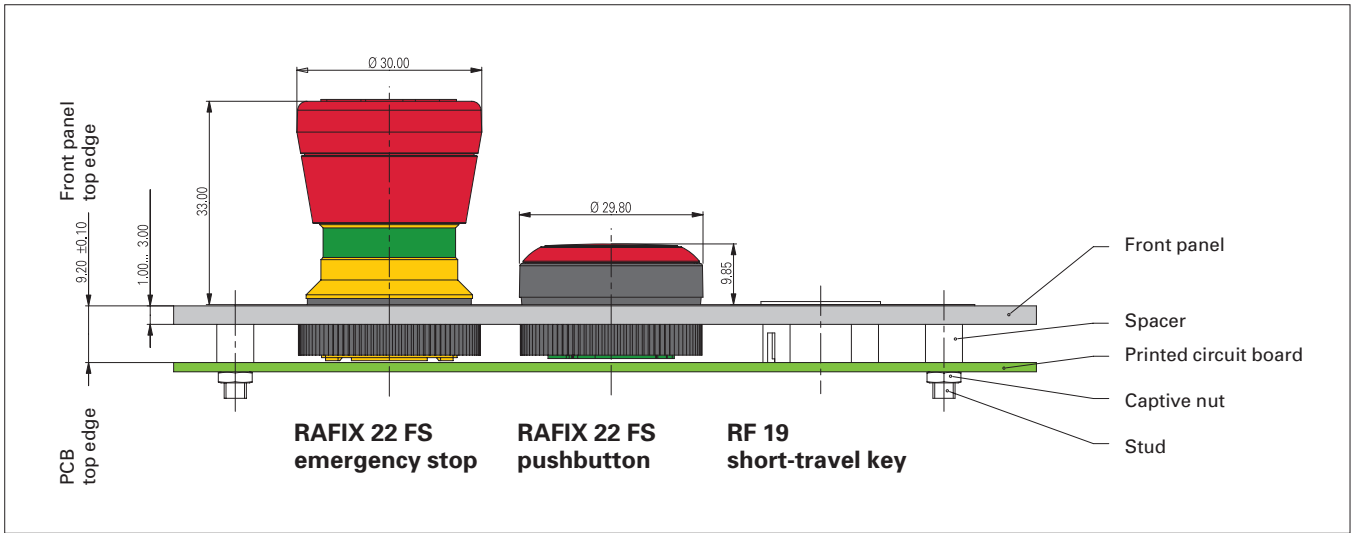
Locating pip 2*

LED anode

NC contacts
(on version with 2 NO's, NO contacts)

* For better distinction the locating pip 2 has a bigger diameter than pip 1. In order to ease the mounting, the positions are additionally marked on the upper side of the housing.

Installation drawing

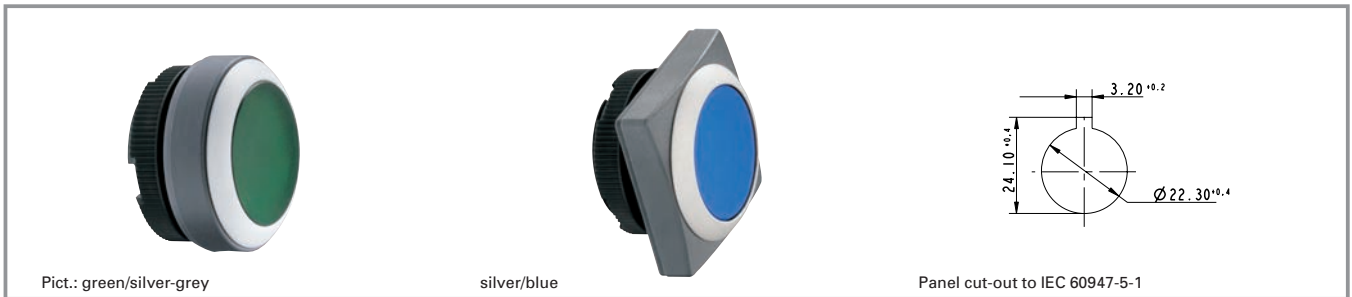


2

RAFIX 22 FS

RAFIX 22 FS

RAFIX 22 FS pushbuttons



2

Technical data

General information

Form of lens	see order block
Colour of lens	see order block
Colour of front ring	see order block
Form of collar	see order block

Dimensions

Length of collar	see order block
Width of collar	see order block
Overall height	see order block
Mounting depth	9.2 mm
Mounting hole	22.3 mm
Key grid	30 x 30 mm
Diameter of collar	see order block

Mechanical design

Mounting	ring nut
Contact function	see order block
Illuminability	yes

Mechanical characteristics

Operating travel	4 mm
Robustness min.	100 N

Other specifications

Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Operating life	1 million momentary/ 0.5 million latching
Degree of protection from front side	IP65
Resistance to constant environment	IEC 600 68-2-3 and 2-30
Resistance at variable environment	IEC 600 68-2-14 and 2-33

RAFIX
22 FS

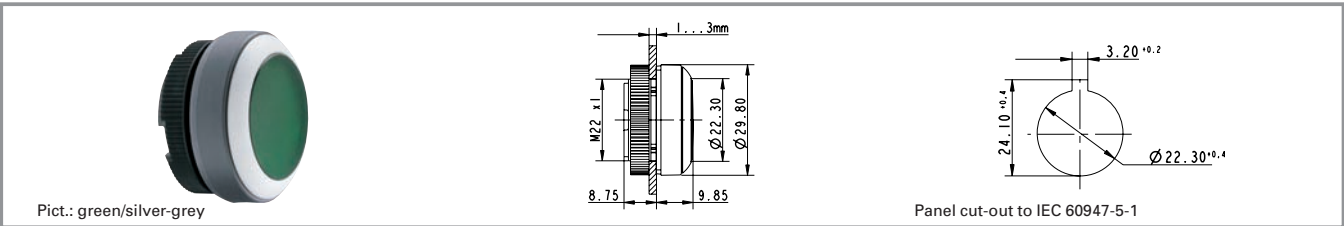
Typical accessories RAFIX 22 FS pushbuttons

Description	Photo	Order no.	Additional accessories see page
RAFIX 22 FS universal contact block, 1 NC + 1 NO, gold contacts		1.20.126.003/0000	2 - 179
RAFIX 22 FS universal contact block, silver contacts, 1 NO		1.20.126.202/0000	2 - 181
Fixing spanner for ring nut and front ring		5.05.800.062/0000	5 - 21

For additional accessories, refer to the chapter "Special accessories".

RAFIX 22 FS

RAFIX 22 FS pushbutton, flush lens, round collar



Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.250.001/10xx	1.30.250.021/1000	1.30.250.011/10xx	1.30.250.031/1000
yes	transparent red	1.30.250.001/13xx	1.30.250.021/1300	1.30.250.011/13xx	1.30.250.031/1300
yes	transparent yellow	1.30.250.001/14xx	1.30.250.021/1400	1.30.250.011/14xx	1.30.250.031/1400
yes	transparent green	1.30.250.001/15xx	1.30.250.021/1500	1.30.250.011/15xx	1.30.250.031/1500
yes	transparent blue	1.30.250.001/16xx	1.30.250.021/1600	1.30.250.011/16xx	1.30.250.031/1600
no	opaque black	1.30.250.101/01xx	1.30.250.121/0100	1.30.250.111/01xx	1.30.250.131/0100
no	opaque white	1.30.250.101/02xx	1.30.250.121/0200	1.30.250.111/02xx	1.30.250.131/0200
no	opaque red	1.30.250.101/03xx	1.30.250.121/0300	1.30.250.111/03xx	1.30.250.131/0300
no	opaque yellow	1.30.250.101/04xx	1.30.250.121/0400	1.30.250.111/04xx	1.30.250.131/0400
no	opaque green	1.30.250.101/05xx	1.30.250.121/0500	1.30.250.111/05xx	1.30.250.131/0500
no	opaque blue	1.30.250.101/06xx	1.30.250.121/0600	1.30.250.111/06xx	1.30.250.131/0600
no	opaque slate-grey	1.30.250.101/07xx	1.30.250.121/0700	1.30.250.111/07xx	1.30.250.131/0700

Technical data see page 2 - 158

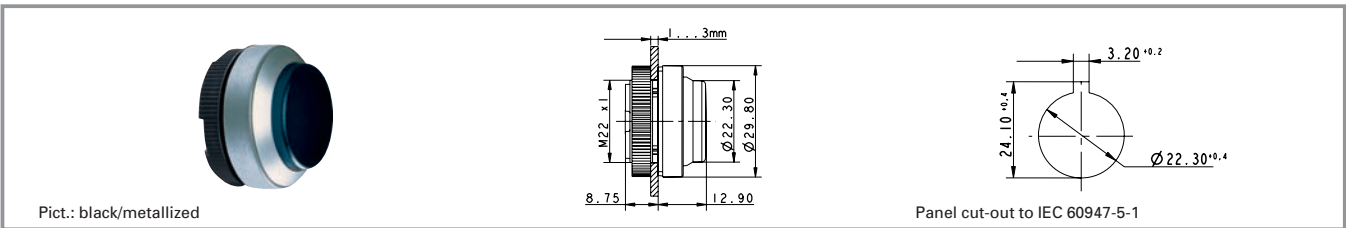
Accessories:

- Plastic frontring black protection cap: 5.05.004.986/0100
- Plastic frontring red protection cap: 5.05.004.986/0300
- Plastic frontring yellow protection cap: 5.05.004.986/0400
- Plastic frontring green protection cap: 5.05.004.986/0500
- Plastic frontring blue protection cap: 5.05.004.986/0600
- Plastic frontring slate grey protection cap: 5.05.004.986/0700
- Plastic frontring silver grey protection cap: 5.05.004.986/0800
- Legend insert without legend: 5.70.800.000/2000

xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

Order numbers **1.30.250.001/—08** and **1.30.250.011/—08** (with silver grey plastic front ring) are **stock items**.

RAFIX 22 FS pushbutton, protruding lens, round collar



2

Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.250.201/10xx	1.30.250.221/1000	1.30.250.211/10xx	1.30.250.231/1000
yes	transparent red	1.30.250.201/13xx	1.30.250.221/1300	1.30.250.211/13xx	1.30.250.231/1300
yes	transparent yellow	1.30.250.201/14xx	1.30.250.221/1400	1.30.250.211/14xx	1.30.250.231/1400
yes	transparent green	1.30.250.201/15xx	1.30.250.221/1500	1.30.250.211/15xx	1.30.250.231/1500
yes	transparent blue	1.30.250.201/16xx	1.30.250.221/1600	1.30.250.211/16xx	1.30.250.231/1600
no	opaque black	1.30.250.301/01xx	1.30.250.321/0100	1.30.250.311/01xx	1.30.250.331/0100
no	opaque white	1.30.250.301/02xx	1.30.250.321/0200	1.30.250.311/02xx	1.30.250.331/0200
no	opaque red	1.30.250.301/03xx	1.30.250.321/0300	1.30.250.311/03xx	1.30.250.331/0300
no	opaque yellow	1.30.250.301/04xx	1.30.250.321/0400	1.30.250.311/04xx	1.30.250.331/0400
no	opaque green	1.30.250.301/05xx	1.30.250.321/0500	1.30.250.311/05xx	1.30.250.331/0500
no	opaque blue	1.30.250.301/06xx	1.30.250.321/0600	1.30.250.311/06xx	1.30.250.331/0600
no	opaque slate-grey	1.30.250.301/07xx	1.30.250.321/0700	1.30.250.311/07xx	1.30.250.331/0700

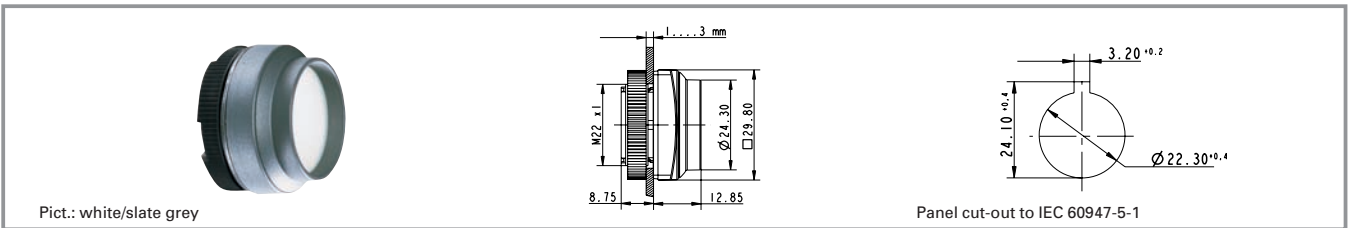
Technical data see page 2 - 158

Accessories:
Legend insert without legend: **5.70.802.000/2000**

xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

Order numbers **1.30.250.201/—08** and **1.30.250.211/—08** (with silver grey plastic front ring) are **stock items**.

RAFIX 22 FS pushbutton, protruding front ring, round collar



Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.250.401/10xx	1.30.250.421/1000	-	-
yes	transparent red	1.30.250.401/13xx	1.30.250.421/1300	-	-
yes	transparent yellow	1.30.250.401/14xx	1.30.250.421/1400	-	-
yes	transparent green	1.30.250.401/15xx	1.30.250.421/1500	-	-
yes	transparent blue	1.30.250.401/16xx	1.30.250.421/1600	-	-
no	opaque black	1.30.250.501/01xx	1.30.250.521/0100	-	-
no	opaque white	1.30.250.501/02xx	1.30.250.521/0200	-	-
no	opaque red	1.30.250.501/03xx	1.30.250.521/0300	-	-
no	opaque yellow	1.30.250.501/04xx	1.30.250.521/0400	-	-
no	opaque green	1.30.250.501/05xx	1.30.250.521/0500	-	-
no	opaque blue	1.30.250.501/06xx	1.30.250.521/0600	-	-
no	opaque slate-grey	1.30.250.501/07xx	1.30.250.521/0700	-	-

Technical data see page 2 - 158

Accessories:

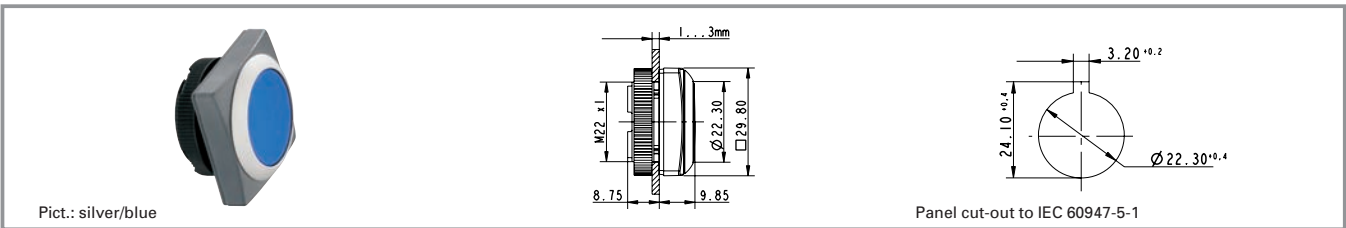
Legend insert without legend: 5.70.800.000/2000

xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

2

RAFIX 22 FS

RAFIX 22 FS pushbutton, flush lens, square collar



2

RAFIX
22 FS

Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.250.051/10xx	1.30.250.071/1000	1.30.250.061/10xx	1.30.250.081/1000
yes	transparent red	1.30.250.051/13xx	1.30.250.071/1300	1.30.250.061/13xx	1.30.250.081/1300
yes	transparent yellow	1.30.250.051/14xx	1.30.250.071/1400	1.30.250.061/14xx	1.30.250.081/1400
yes	transparent green	1.30.250.051/15xx	1.30.250.071/1500	1.30.250.061/15xx	1.30.250.081/1500
yes	transparent blue	1.30.250.051/16xx	1.30.250.071/1600	1.30.250.061/16xx	1.30.250.081/1600
no	opaque black	1.30.250.151/01xx	1.30.250.171/0100	1.30.250.161/01xx	1.30.250.181/0100
no	opaque white	1.30.250.151/02xx	1.30.250.171/0200	1.30.250.161/02xx	1.30.250.181/0200
no	opaque red	1.30.250.151/03xx	1.30.250.171/0300	1.30.250.161/03xx	1.30.250.181/0300
no	opaque yellow	1.30.250.151/04xx	1.30.250.171/0400	1.30.250.161/04xx	1.30.250.181/0400
no	opaque green	1.30.250.151/05xx	1.30.250.171/0500	1.30.250.161/05xx	1.30.250.181/0500
no	opaque blue	1.30.250.151/06xx	1.30.250.171/0600	1.30.250.161/06xx	1.30.250.181/0600
no	opaque slate-grey	1.30.250.151/07xx	1.30.250.171/0700	1.30.250.161/07xx	1.30.250.181/0700

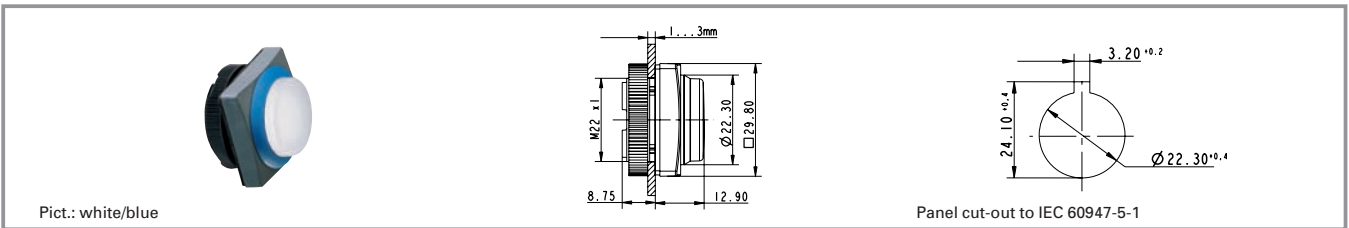
Technical data see page 2 - 158

- Accessories:**
 Plastic frontring black protection cap: 5.05.004.986/0100
 Plastic frontring red protection cap: 5.05.004.986/0300
 Plastic frontring yellow protection cap: 5.05.004.986/0400
 Plastic frontring green protection cap: 5.05.004.986/0500
 Plastic frontring blue protection cap: 5.05.004.986/0600
 Plastic frontring slate grey protection cap: 5.05.004.986/0700
 Plastic frontring silver grey protection cap: 5.05.004.986/0800
 Legend insert without legend: 5.70.800.000/2000

xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

Order numbers **1.30.250.051/—08** and **1.30.250.061/—08** (with silver grey plastic front ring) are **stock items**.

RAFIX 22 FS pushbutton, protruding lens, square collar



Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.250.251/10xx	1.30.250.271/1000	1.30.250.261/10xx	1.30.250.281/1000
yes	transparent red	1.30.250.251/13xx	1.30.250.271/1300	1.30.250.261/13xx	1.30.250.281/1300
yes	transparent yellow	1.30.250.251/14xx	1.30.250.271/1400	1.30.250.261/14xx	1.30.250.281/1400
yes	transparent green	1.30.250.251/15xx	1.30.250.271/1500	1.30.250.261/15xx	1.30.250.281/1500
yes	transparent blue	1.30.250.251/16xx	1.30.250.271/1600	1.30.250.261/16xx	1.30.250.281/1600
no	opaque black	1.30.250.351/01xx	1.30.250.371/0100	1.30.250.361/01xx	1.30.250.381/0100
no	opaque white	1.30.250.351/02xx	1.30.250.371/0200	1.30.250.361/02xx	1.30.250.381/0200
no	opaque red	1.30.250.351/03xx	1.30.250.371/0300	1.30.250.361/03xx	1.30.250.381/0300
no	opaque yellow	1.30.250.351/04xx	1.30.250.371/0400	1.30.250.361/04xx	1.30.250.381/0400
no	opaque green	1.30.250.351/05xx	1.30.250.371/0500	1.30.250.361/05xx	1.30.250.381/0500
no	opaque blue	1.30.250.351/06xx	1.30.250.371/0600	1.30.250.361/06xx	1.30.250.381/0600
no	opaque slate-grey	1.30.250.351/07xx	1.30.250.371/0700	1.30.250.361/07xx	1.30.250.381/0700

Technical data see page 2 - 158

Accessories:

Legend insert without legend: **5.70.802.000/2000**

xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

Order numbers **1.30.250.251/—08** and **1.30.250.261/—08** (with silver grey plastic front ring) are **stock items**.

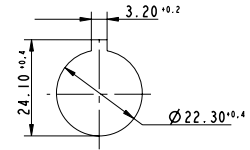
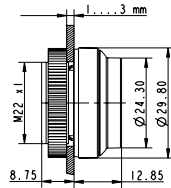
2

RAFIX
22 FS

RAFIX 22 FS pushbutton, protruding front ring



Pict.: green/metallized



Panel cut-out to IEC 60947-5-1

Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.250.451/10xx	1.30.250.471/1000	-	-
yes	transparent red	1.30.250.451/13xx	1.30.250.471/1300	-	-
yes	transparent yellow	1.30.250.451/14xx	1.30.250.471/1400	-	-
yes	transparent green	1.30.250.451/15xx	1.30.250.471/1500	-	-
yes	transparent blue	1.30.250.451/16xx	1.30.250.471/1600	-	-
no	opaque black	1.30.250.551/01xx	1.30.250.571/0100	-	-
no	opaque white	1.30.250.551/02xx	1.30.250.571/0200	-	-
no	opaque red	1.30.250.551/03xx	1.30.250.571/0300	-	-
no	opaque yellow	1.30.250.551/04xx	1.30.250.571/0400	-	-
no	opaque green	1.30.250.551/05xx	1.30.250.571/0500	-	-
no	opaque blue	1.30.250.551/06xx	1.30.250.571/0600	-	-
no	opaque slate-grey	1.30.250.551/07xx	1.30.250.571/0700	-	-

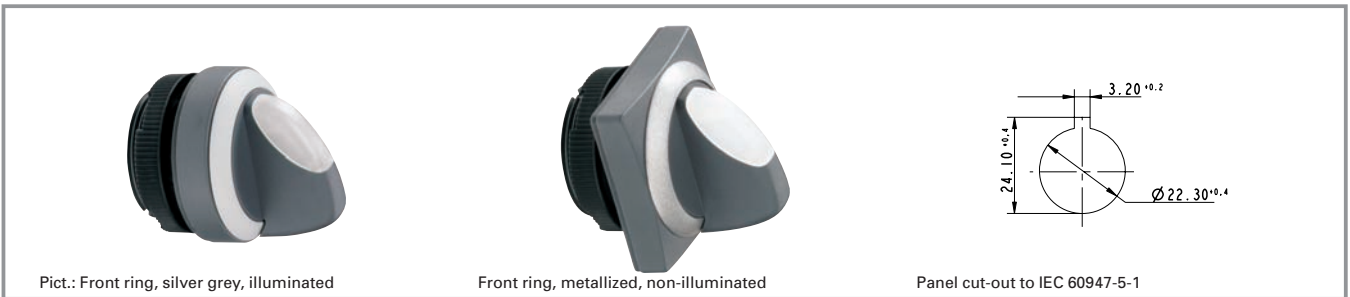
Technical data see page 2 - 158

Accessories:

Legend insert without legend: 5.70.800.000/2000

xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

RAFIX 22 FS selector switches



Pict.: Front ring, silver grey, illuminated

Front ring, metallized, non-illuminated

Panel cut-out to IEC 60947-5-1

2

General data

The illuminated selector switches are provided with translucent handle markings. These are opaque on the non-illuminated versions.

Technical data

General information

Actuator	handle
Marking of handle	translucent/opaque white
Colour of front ring	see order block
Form of collar	see order block

Dimensions

Length of collar	see order block
Width of collar	see order block
Overall height	22.24 mm
Mounting depth	9.2 mm
Mounting hole	22.3 mm
Key grid	30 x 30 mm
Diameter of collar	see order block

Mechanical design

Mounting	ring nut
Contact function	see order block
Illuminability	yes
Rotating angle	see order block

Mechanical characteristics

Torque max.	1.5 Nm
-------------	--------

Other specifications

Operating life	0.5 million momentary/ 0.5 million latching
Degree of protection from front side	IP65
Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Resistance to constant environment	IEC 600 68-2-3 and 2-30
Resistance at variable environment	IEC 600 68-2-14 and 2-33

RAFIX 22 FS

Typical accessories RAFIX 22 FS selector switches

Description	Photo	Order no.	Additional accessories see page
RAFIX 22 FS universal contact block, 1 NO		1.20.126.002/0000	2 - 179
RAFIX 22 FS universal contact block, silver contacts, 1 NC		1.20.126.201/0000	2 - 181

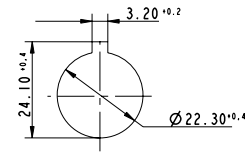
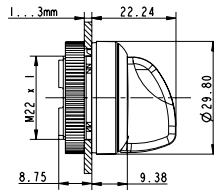
For additional accessories, refer to the chapter "Special accessories".

RAFIX 22 FS

RAFIX 22 FS selector switch, round collar



Pict.: Front ring, silver grey, illuminated



Panel cut-out to IEC 60947-5-1

Illuminability	Contact function	Rotating angle	Rotating angle	Order no.	
				Plastic front ring	Metallized front ring
yes	momentary	1 x 40°		1.30.252.001/22xx	1.30.252.002/2200
yes	momentary	2 x 40°		1.30.252.026/22xx	1.30.252.027/2200
yes	latching	1 x 90°, form L		1.30.252.101/22xx	1.30.252.102/2200
yes	latching	2 x 90°		1.30.252.126/22xx	1.30.252.127/2200
yes	latching	1 x 90°, form V		1.30.252.201/22xx	1.30.252.202/2200
yes	latching	2 x 60°		1.30.252.301/22xx	1.30.252.302/2200
no	momentary	1 x 40°		1.30.252.501/02xx	1.30.252.502/0200
no	momentary	2 x 40°		1.30.252.526/02xx	1.30.252.527/0200
no	latching	1 x 90°, form L		1.30.252.601/02xx	1.30.252.602/0200
no	latching	2 x 90°		1.30.252.626/02xx	1.30.252.627/0200
no	latching	1 x 90°, form V		1.30.252.701/02xx	1.30.252.702/0200
no	latching	2 x 60°		1.30.252.801/02xx	1.30.252.802/0200

Technical data see page 2 - 166

xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

Other contact functions and handle marking colours available on request.

For coloured illumination of the handle marking please use coloured LED (see chapter 5 accessories).

The following selector switches with silver grey plastic front ring are stock items:

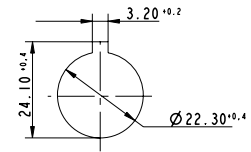
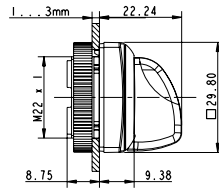
Illuminated: **1.30.242.001/2208, 1.30.242.026/2208, 1.30.242.101/2208, 1.30.242.201/2208, 1.30.242.301/2208**

Non-illuminated: **1.30.242.501/0208, 1.30.242.526/0208, 1.30.242.601/0208, 1.30.242.701/0208, 1.30.242.801/0208**

RAFIX 22 FS selector switch, square collar



Pict.: Front ring, metallized, illuminated



Panel cut-out to IEC 60947-5-1

Illuminability	Contact function	Rotating angle	Rotating angle	Order no.	
				Plastic front ring	Metallized front ring
yes	momentary	1 x 40°		1.30.252.051/22xx	1.30.252.052/2200
yes	momentary	2 x 40°		1.30.252.076/22xx	1.30.252.077/2200
yes	latching	1 x 90°, form L		1.30.252.151/22xx	1.30.252.152/2200
yes	latching	2 x 90°		1.30.252.176/22xx	1.30.252.177/2200
yes	latching	1 x 90°, form V		1.30.252.251/22xx	1.30.252.252/2200
yes	latching	2 x 60°		1.30.252.351/22xx	1.30.252.352/2200
no	momentary	1 x 40°		1.30.252.551/02xx	1.30.252.552/0200
no	momentary	2 x 40°		1.30.252.576/02xx	1.30.252.577/0200
no	latching	1 x 90°, form L		1.30.252.651/02xx	1.30.252.652/0200
no	latching	2 x 90°		1.30.252.676/02xx	1.30.252.677/0200
no	latching	1 x 90°, form V		1.30.252.751/02xx	1.30.252.752/0200
no	latching	2 x 60°		1.30.252.851/02xx	1.30.252.852/0200

Technical data see page 2 - 166

xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

Other contact functions and handle marking colours available on request.

For coloured illumination of the handle marking please use coloured LED (see chapter 5 accessories).

The following selector switches with silver grey plastic front ring are stock items:

Illuminated: 1.30.252.051/2205, 1.30.252.076/2208, 1.30.252.151/2208, 1.30.252.251/2208, 1.30.252.351/2208

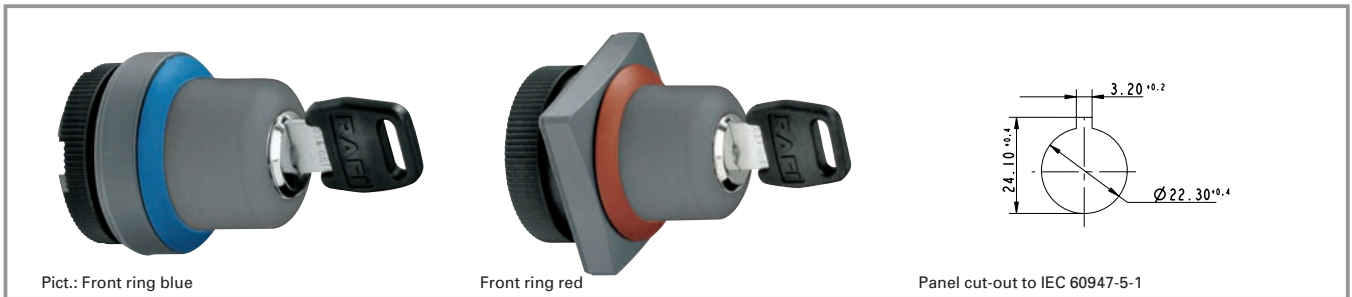
Non-illuminated: 1.30.252.551/0208, 1.30.252.576/0208, 1.30.252.651/0208, 1.30.252.751/0208, 1.30.252.851/0208

2

RAFIX
22 FS

RAFIX 22 FS

RAFIX 22 FS keylock switch



2

Technical data

General information

Colour of front ring see order block
Form of collar see order block

Dimensions

Length of collar see order block
Width of collar see order block
Overall height 44.1 mm
Mounting depth 9.2 mm
Mounting hole 22.3 mm
Key grid 30 x 30 mm
Diameter of collar see order block

Mechanical design

Mounting ring nut
Contact function see order block
Lock Micromec
Wafers 5
Illuminability no
Lock type 001
Number of locking positions 500
Main key no
Symmetric key no
Rotating angle see order block
Key removal position see order block

Mechanical characteristics

Torque max. 1.3 Nm

Other specifications

Operating life 0.3 million momentary / 50000 latching
Degree of protection from front side IP65
Ambient temp. operating min. -25 °C
Ambient temp. operating max. +70 °C
Storage temperature min. -40 °C
Storage temperature max. +80 °C
Resistance to constant environment IEC 600 68-2-3 and 2-30
Resistance to variable environment IEC 600 68-2-14 and 2-33
ESD-strength lock / contact 15 kV
ESD-strength key/ front panel 15 kV

RAFIX 22 FS

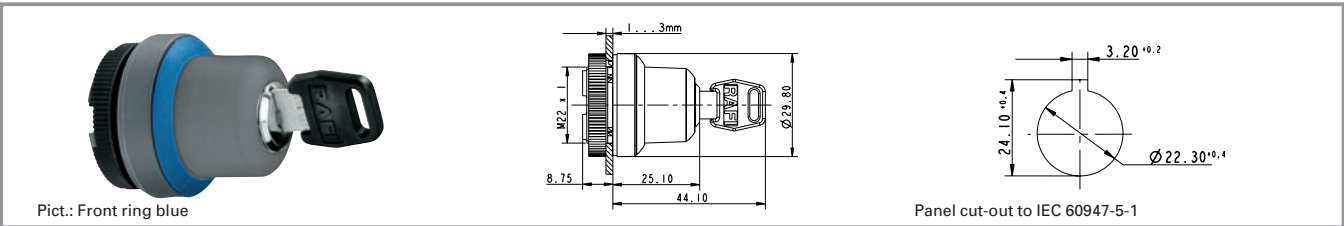
Typical accessories RAFIX 22 FS keylock switch

Description	Photo	Order no.	Additional accessories see page
RAFIX 22 FS universal contact block, 1 NC		1.20.126.001/0000	2 - 179
RAFIX 22 FS universal contact block, silver contacts, 1 NC, 1 NO		1.20.126.203/0000	2 - 181
Spare key, for single action, e.g. 1 x 90° (delivery content 1 key)		5.58.007.001/0000	
Spare key, for double action, e.g. 2 x 90° (delivery content 2 keys)		5.58.008.001/0000	

For additional accessories, refer to the chapter "Special accessories".

RAFIX 22 FS

RAFIX 22 FS keylock switch, round collar



Contact function	Rotating angle	Key removal position	Rotating angle	Order no.	
				Plastic front ring	Metallized front ring
momentary	1 x 40°	0		1.30.255.001/xxxx	1.30.255.002/0000
momentary	2 x 40°	0		1.30.255.101/xxxx	1.30.255.102/0000
latching	1 x 90°, form L	0		1.30.255.201/xxxx	1.30.255.202/0000
latching	1 x 90°, form L	0+1		1.30.255.221/xxxx	1.30.255.222/0000
latching	1 x 90°, form V	0		1.30.255.301/xxxx	1.30.255.302/0000
latching	1 x 90°, form V	0+1		1.30.255.321/xxxx	1.30.255.322/0000
latching	2 x 90°	0		1.30.255.401/xxxx	1.30.255.402/0000
latching	2 x 90°	0+1+2		1.30.255.431/xxxx	1.30.255.432/0000

Technical data see page 2 - 170

xxxx = Front ring colour: black = 0100, red = 0300, yellow = 0400, green = 0500, blue = 0600, slate grey = 0700, silver grey = 0800

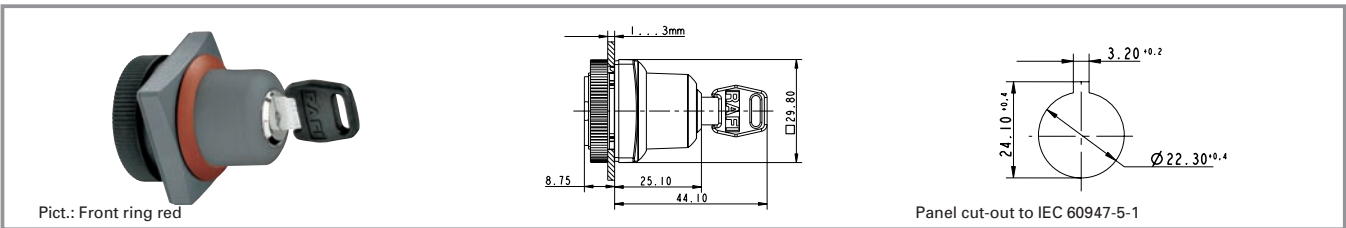
Other lock variants available on request.
Included: 2 keys.

The following keylock switches with silver grey plastic front ring are stock items: **1.30.255.001/0800, 1.30.255.201/0800, 1.30.255.221/0800, 1.30.255.301/0800, 1.30.255.321/0800, 1.30.255.431/0800**

2

RAFIX 22 FS

RAFIX 22 FS keylock switch, square collar



2

Contact function	Rotating angle	Key removal position	Rotating angle	Order no.	
				Plastic front ring	Metallized front ring
momentary	1 x 40°	0		1.30.255.051/xxxx	1.30.255.052/0000
momentary	2 x 40°	0		1.30.255.151/xxxx	1.30.255.152/0000
latching	1 x 90°, form L	0		1.30.255.251/xxxx	1.30.255.252/0000
latching	1 x 90°, form L	0+1		1.30.255.271/xxxx	1.30.255.272/0000
latching	1 x 90°, form V	0		1.30.255.351/xxxx	1.30.255.352/0000
latching	1 x 90°, form V	0+1		1.30.255.371/xxxx	1.30.255.372/0000
latching	2 x 90°	0		1.30.255.451/xxxx	1.30.255.452/0000
latching	2 x 90°	0+1+2		1.30.255.481/xxxx	1.30.255.482/0000

RAFIX
22 FS

Technical data see page 2 - 170

xxxx = Front ring colour: black = 0100, red = 0300, yellow = 0400, green = 0500, blue = 0600, slate grey = 0700, silver grey = 0800

Other lock variants available on request.
Included: 2 keys.

The following keylock switches with silver grey plastic front ring are stock items: **1.30.255.051/0800, 1.30.255.251/0800, 1.30.255.271/0800, 1.30.255.351/0800, 1.30.255.371/0800, 1.30.255.481/0800**

RAFIX 22 FS emergency stop pushbutton



2

General data

The emergency stop pushbuttons comply with IEC 60 204, IEC 60 073, IEC 60 947 and VDE 0113 Part 1. They are designed dupe-proof according to EN 418 with a positive mechanical movement sequence. A certain operating force must be exerted at the action point in order to prevent inadvertent operation. The pushbutton latches when pressed. The special shape of the actuator prevents the emergency stop pushbutton from being blocked. This means that the emergency stop process - once initiated - cannot be impeded by any jamming objects. Only use contact block 1.20.126.4xx.

Technical data

General information

Form of lens conical mushroom form
 Colour of lens red
 Form of collar round

Dimensions

Mushroom Diameter 30 mm
 Overall height see order block
 Mounting depth see order block
 Mounting hole see order block
 Key grid 30 x 30 mm
 Diameter of collar see order block

Mechanical design

Mounting ring nut
 Contact function latching
 Illuminability see order block
 Reset see order block

Mechanical characteristics

Robustness min. 100 N

Other specifications

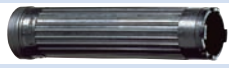





Ambient temp. operating min. -25 °C
 Ambient temp. operating max. +70 °C
 Approvals acc. to IEC 60947-5-x, 60204, 60073, 601058
 Approvals, other pending: UL 508, CSA, cURus (UL + CSA)
 Robustness according to IEC 600 68-2-3 and 2-30 50000
 Operating life
 Degree of protection from front side IP65
 Storage temperature min. -40 °C
 Storage temperature max. +80 °C
 Resistance to constant environment IEC 600 68-2-3 and 2-30
 Resistance at variable environment IEC 600 68-2-14 and 2-33

RAFIX 22 FS

Typical accessories RAFIX 22 FS emergency stop pushbutton


Description	Photo	Order no.	Additional accessories see page
RAFIX 22 FS emergency stop contact block, 1 NC, gold contacts		1.20.126.401/0000	2 - 179
RAFIX 22 FS emergency stop contact block, 2 NC, gold contacts		1.20.126.404/0000	2 - 179
RAFIX 22 FS emergency stop contact block, silver contacts, 1 NC		1.20.126.601/0000	2 - 181

Typical accessories RAFIX 22 FS emergency stop pushbutton

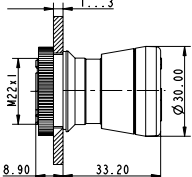
Description	Photo	Order no.	Additional accessories see page
Fixing spanner for ring nut and front ring		5.05.800.062/0000	5 - 21
Emergency stop label, yellow, round 60 mm, PVC adhesive, without legend		5.76.204.100/0400	2 - 152
Emergency stop label, yellow, round 60 mm, PVC adhesive, with legend "NOT-AUS"		5.76.204.101/0400	2 - 152
Emergency stop label, yellow, round 60 mm, PVC adhesive, with legend "ARRET D'URGENCE"		5.76.204.102/0400	2 - 152
Emergency stop label, yellow, round 60 mm, PVC adhesive, with legend "EMERGENCY-STOP"		5.76.204.103/0400	2 - 152
Emergency stop label, yellow 36 x 64 mm, PVC adhesive, without legend		5.76.205.011/0400	2 - 152

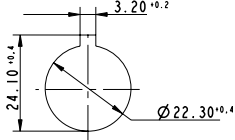
2

RAFIX 22 FS emergency stop pushbutton, non-illuminated, dupe-proof to EN 418, non-blocking



Pict.: non-illuminated






Panel cut-out to IEC 60947-5-1

RAFIX
22 FS

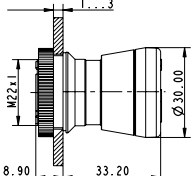
Reset	Illuminability	Approvals acc. to IEC	Order no.
by clockwise rotation	no	60947-5-x, 60204, 60073, 601058	1.30.253.501/0300

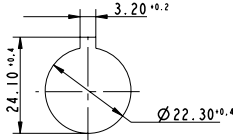
Technical data see page 2 - 174

RAFIX 22 FS emergency stop pushbutton, illuminated, dupe-proof to EN 418, non-blocking



Pict.: illuminated





Panel cut-out to IEC 60947-5-1

Reset	Illuminability	Approvals acc. to IEC	Order no.
by clockwise rotation	yes	60947-5-x, 60204, 60073, 601058	1.30.253.001/0300

Technical data see page 2 - 174

RAFIX 22 FS

RAFIX 22 FS signal indicator



2

Technical data

General information

Form of lens flat lens
Colour of lens see order block
Form of collar see order block

Dimensions

Length of collar see order block
Width of collar see order block
Overall height 9.7 mm
Mounting depth 9.2 mm
Mounting hole 22.3 mm
Key grid 30 x 30 mm
Diameter of collar see order block

Mechanical design

Mounting ring nut
Illuminability yes

Mechanical characteristics

Robustness min. 100 N

Other specifications

Degree of protection from front side IP65
Ambient temp. operating min. -25 °C
Ambient temp. operating max. +70 °C
Storage temperature min. -40 °C
Storage temperature max. +80 °C
Resistance to constant environment IEC 600 68-2-3 and 2-30
Resistance at variable environment IEC 600 68-2-14 and 2-33

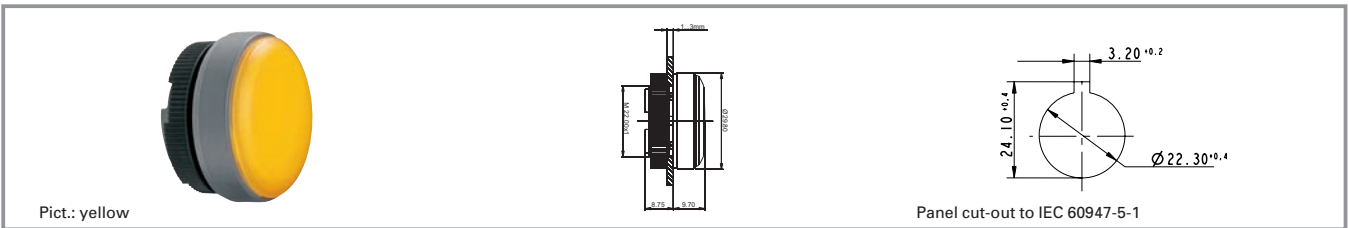
RAFIX
22 FS

Typical accessories RAFIX 22 FS signal indicator

Description	Photo	Order no.	Additional accessories see page
3 mm LED superbright red		1.90.690.269/0000	5 - 17
Fixing spanner for ring nut and front ring		5.05.800.062/0000	5 - 21
LED base for signal indicators		5.30.109.020/0765	2 - 183
Legend insert, blank		5.70.806.000/2000	

RAFIX 22 FS

RAFIX 22 FS signal indicator, round collar



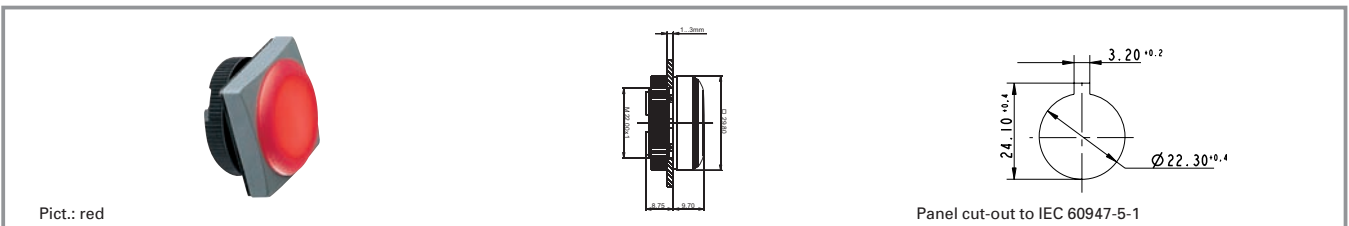
Form of collar	Colour of lens	Order no.
round	transparent colourless	1.74.506.001/1000
round	transparent red	1.74.506.001/1300
round	transparent yellow	1.74.506.001/1400
round	transparent green	1.74.506.001/1500
round	transparent blue	1.74.506.001/1600

Technical data see page 2 - 176

Accessories:

Legend insert, blank, use only for transparent lenses: 5.70.806.000/2000

RAFIX 22 FS signal indicator, square collar



Form of collar	Colour of lens	Order no.
square	transparent colourless	1.74.506.051/1000
square	transparent red	1.74.506.051/1300
square	transparent yellow	1.74.506.051/1400
square	transparent green	1.74.506.051/1500
square	transparent blue	1.74.506.051/1600

Technical data see page 2 - 176

Accessories:

Legend insert, blank, use only for transparent lenses: 5.70.806.000/2000

2

RAFIX
22 FS

RAFIX 22 FS

RAFIX 22 FS contact blocks with gold contacts



Pict.: Universal contact block, 1 NC + 1 NO, gold contacts Emergency stop contact block, gold contacts, 2 NC

2

General data

Illumination information:

The contact blocks are suitable for use with illuminated actuators: Insert the desired LED into the integrated LED base and subsequently solder it together with the contact block.

We strongly recommend using the Rafi superbright LED since this ensures homogeneous illumination.

Technical data

General information		Approvals acc. to IEC	60947-5-x, 60204, 60073, 601058
Lamp	LED	Approvals, other	pending: UL 508, CSA, cURus (UL + CSA)
Dimensions		Ambient temp. operating min.	-25 °C
Diameter	17.3 mm	Ambient temp. operating max.	+70 °C
Recommended key grid	30 mm	Storage temperature min.	-40 °C
Mounting depth	9.2 mm	Storage temperature max.	+80
Mechanical design		Colour of plunger	see order block
Mounting	soldering in PCB	Robustness	acc. to IEC 60947-5-5 (TÜV)
Contact system	bridgecontact self cleaning	Shock resistance acc. to IEC 600 68-2-27	50 g at 11 ms, amplitude half sinusoidal
Contact materials	Au	Resistance to vibrations acc. to IEC 600 68-2-6	5 g at 10 ... 500 Hz
Contact arrangement	see order block	Resistance to constant environment	IEC 600 68-2-3 and 2-30
NC contact forcibly actuated acc. to IEC 60947-5-1	yes	Resistance at variable environment	IEC 600 68-2-14 and 2-33
Terminals	solder terminal with locating lug	Salt spray	IEC 600 68-2-11
Robustness	100 N	Solderability / solder heat resistance	IEC 600 68-2-20
Electrice characteristics acc. to IEC 60947, AC-15, DC-13		Solder techniques	wave solder bath / manual soldering
Operating voltage AC/DC	42 V	Colour of housing	see order block
Operating current AC/DC	100 mA		grey
Rated power max.	250 mW		
Other specifications			
Operating life	1 million at 10 mA/ 24 V DC		
Switching reliability at 24V/5mA DC	10 x 10 ⁻⁶		

Typical accessories RAFIX 22 FS contact blocks with gold contacts

Description	Photo	Order no.	Additional accessories see page
3 mm LED superbright yellow		1.90.690.267/0000	5 - 17

RAFIX 22 FS

Typical accessories RAFIX 22 FS contact blocks with gold contacts

Description	Photo	Order no.	Additional accessories see page
3 mm LED superbright red		1.90.690.269/0000	5 - 17
3 mm LED superbright blue		1.90.690.282/0000	5 - 17
3 mm LED superbright green		1.90.690.285/0000	5 - 17
3 mm LED superbright white		1.90.690.295/0000	5 - 17

For additional accessories, refer to the chapter "RAFIX 22 FS special accessories".

RAFIX 22 FS contact block with gold contacts



Contact arrangement	Type	Colour of housing	Colour of plunger	Order no.
1 NC	Universal	grey	red	1.20.126.001/0000
1 NO	Universal	grey	green	1.20.126.002/0000
1 NC + 1 NO	Universal	grey	red and green	1.20.126.003/0000
2 NC	Universal	grey	red	1.20.126.004/0000
2 NO	Universal	grey	green	1.20.126.005/0000
1 NC	emergency stop	grey	red	1.20.126.401/0000
1 NC + 1 NO	emergency stop	grey	yellow	1.20.126.403/0000
2 NC	emergency stop	grey	red	1.20.126.404/0000

Technical data see page 2 - 178

Caution: Emergency stop contact blocks can only be used with emergency stop pushbuttons. Universal contact blocks are not suitable for emergency stop pushbuttons.

RAFIX 22 FS

RAFIX 22 FS contact blocks with silver contacts



2

General data

Illumination information:

The contact blocks are suitable for use with illuminated actuators: Insert the desired LED into the integrated LED base and subsequently solder it together with the contact block.

We strongly recommend using the Rafi superbright LED since this ensures homogeneous illumination.

Technical data

General information

Lamp LED

Dimensions

Diameter 17.3 mm
Recommended key grid 30 mm
Mounting depth 9.2 mm

Mechanical design

Mounting soldering in PCB
Contact system bridgecontact self cleaning
Contact materials Ag
Contact arrangement see order block
NC contact forcibly actuated acc. to IEC 60947-5-1 yes
Terminals solder terminal with locating lug
Robustness 100 N

Electric characteristics acc. to IEC 60947, AC-15, DC-13

Rated insulation voltage AC/DC 250 V
Rated peak voltage 2500 V
Rated operating current I_E, AC15 B300 3 A/120 V; 1.5 A/240 V; I_{the}: 5 A
Rated operating current I_E, DC13 Q300 550 mA/120 V; 270 mA/240 V; I_{the}: 2.5 A

Other specifications

Operating life at 250V / 1A 1000000
Operating life at 250V / 2A 100000
Operating life at 250V / 4A 70000

Switching reliability at 24V/5mA DC 10 x 10⁻⁶
Ambient temp. operating min. -25 °C
Ambient temp. operating max. +70 °C
Storage temperature min. -40 °C
Storage temperature max. +80 °C
Colour of plunger see order block
Approvals acc. to IEC 60947-5-x, 60204, 60073, 601058
Approvals, other pending: UL 508, CSA, cURus (UL + CSA)
Marine approvals on request
Robustness acc. to IEC 60947-5-5 (TÜV)
Shock resistance acc. to IEC 600 68-2-27 50 g at 11 ms, amplitude half sinusoidal
Resistance to vibrations acc. to IEC 600 68-2-6 5 g at 10 ... 500 Hz
Resistance to constant environment IEC 600 68-2-3 and 2-30
Resistance at variable environment IEC 600 68-2-14 and 2-33
Salt spray IEC 600 68-2-11
Solderability / solder heat resistance IEC 600 68-2-20
Solder techniques wave solder bath / manual soldering V 0
Flame class acc. to UL 94
Hot wire ignition acc. to IEC 60695-2-1 yes
Type see order block
Colour of housing black

RAFIX 22 FS

RAFIX 22 FS

Typical accessories RAFIX 22 FS contact blocks with silver contacts

Description	Photo	Order no.	Additional accessories see page
3 mm LED superbright yellow		1.90.690.267/0000	5 - 17
3 mm LED superbright red		1.90.690.269/0000	5 - 17
3 mm LED superbright blue		1.90.690.282/0000	5 - 17
3 mm LED superbright green		1.90.690.285/0000	5 - 17
3 mm LED superbright white		1.90.690.295/0000	5 - 17

For additional accessories, refer to the chapter "RAFIX 22 FS special accessories".

RAFIX 22 FS contact blocks with silver contacts



Contact arrangement	Type	Colour of housing	Colour of plunger	Order no.
1 NC	Universal	black	red	1.20.126.201/0000
1 NO	Universal	black	green	1.20.126.202/0000
1 NC + 1 NO	Universal	black	red and green	1.20.126.203/0000
2 NC	Universal	black	red	1.20.126.204/0000
2 NO	Universal	black	green	1.20.126.205/0000
1 NC	emergency stop	black	red	1.20.126.601/0000
1 NC + 1 NO	emergency stop	black	yellow	1.20.126.603/0000
2 NC	emergency stop	black	red	1.20.126.604/0000

Technical data see page 2 - 180

Caution: Emergency stop contact blocks can only be used with emergency stop pushbuttons. Universal contact blocks are not suitable for emergency stop pushbuttons.

RAFIX 22 FS

RAFIX 22 FS special accessories



2

Typical accessories RAFIX 22 FS special accessories

Description	Photo	Order no.	Additional accessories see page
3 mm LED superbright yellow		1.90.690.267/0000	5 - 17
3 mm LED superbright red		1.90.690.269/0000	5 - 17
3 mm LED superbright blue		1.90.690.282/0000	5 - 17
3 mm LED superbright green		1.90.690.285/0000	5 - 17
3 mm LED superbright white		1.90.690.295/0000	5 - 17
Fixing spanner for ring nut and front ring		5.05.800.062/0000	5 - 21

RAFIX
22 FS

Blanking cap



Short text	Feature 1	Feature 2	Order no.
Blanking cap IP65, ring nut, square			5.05.800.068/0000
Blanking cap IP65, ring nut, round			5.05.800.067/0000
Blanking cap IP65, ring nut, square, high version			5.05.200.025/0000
Blanking cap IP65, ring nut, round, high version			5.05.200.026/0000

RAFIX 22 FS

Ring nut



Pict.: black

Short text	Feature 1	Feature 2	Order no.
Ring nut (spare part)			5.24.279.014/0100

LED base for signal indicators



Pict.: opaque light grey

Short text	Feature 1	Feature 2	Order no.
LED base for signal indicators			5.30.109.020/0765

2

RAFIX
22 FS

Plastic frontring protection cap



Pict.: slate-grey

2

Short text	Feature 1	Feature 2	Order no.
Plastic frontring black protection cap	black		5.05.004.986/0100
Plastic frontring red protection cap	red		5.05.004.986/0300
Plastic frontring yellow protection cap	yellow		5.05.004.986/0400
Plastic frontring green protection cap	green		5.05.004.986/0500
Plastic frontring blue protection cap	blue		5.05.004.986/0600
Plastic frontring slate grey protection cap	slate-grey		5.05.004.986/0700
Plastic frontring silver grey protection cap	silver-grey		5.05.004.986/0800

RAFIX
22 FS