

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, resp. Ø 23.1 mm for RAFIX 16F
- 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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General information

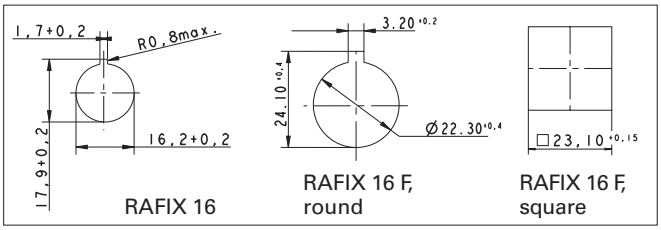
RAFIX 16 is a complete control component series and enables you to design attractive control panels with a minimum of space requirements and at the same time sufficiently large actuating areas.



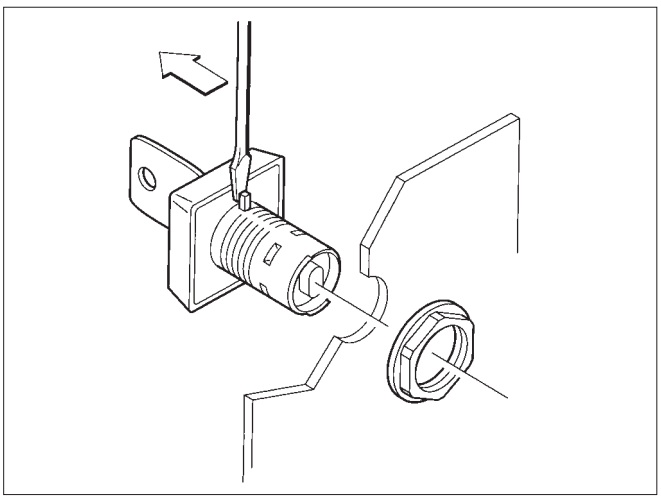
RAFIX 16 F, round

Actuators

Mounting hole according to IEC 60947



RAFIX 16 | RAFIX 16 F, round | RAFIX 16 F, square



– Locating lug (easily removable).
  The locating lug can be easily removed using a screw-driver.

– Degree of protection IP65 on frontside of the panel.
  This is achieved by a reliable, tried and tested special seal.

RAFIX 16 actuators
– Grid spacing 25 x 25 mm (RAFIX 16 F 30 x 30 mm)
– 7 mm height from front panel (RAFIX 16 F 1.9 mm)
– Three collar shapes, in black
  • Square
  • Round
  • Square, alignable in flush fitting rows, which avoids accumulation of dirt between the collars.

.

Contact blocks

– Standard: for actuators with one-way operation
  • latching function
  • momentary function
– Universal: for E-stop pushbuttons and for actuators with two-way operation, e. g. selector switches
  • momentary function
– AS-Interface

Contact material

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

Illumination

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

Assembly

– Single-handed cost-effectiv assembly method
– Panel thickness 0.5 … 5 mm (RAFIX 16 F 0.5 ... 3.5 mm)
– Fixing with hexagon nut
– Starting torque 1.2 Nm max.

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

– Shock amplitude: ≤ 50 g
– Shock time: 11 ms
– Shock type: half sinusoidal

Environment conditions

– acc. to IEC 600 68-2, -14, -30, -33 and -78

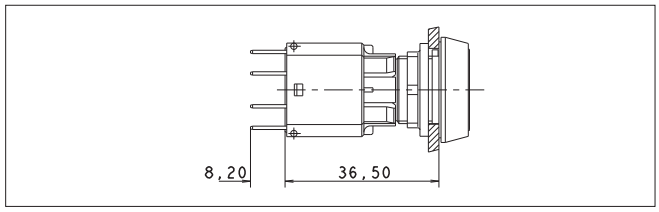
Temperature range

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

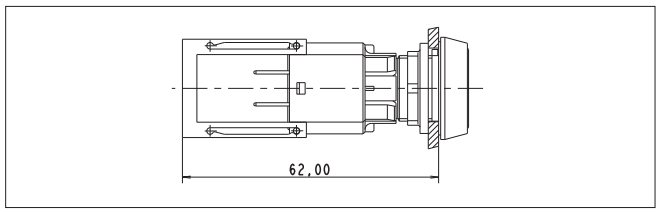
Dimensional Drawings RAFIX 16

Actuator with contact block resp. signal indicator with lamp socket

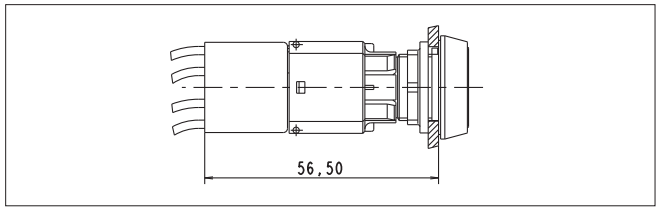
Contact block with quick-connect terminals and RAFIX 16 pushbutton



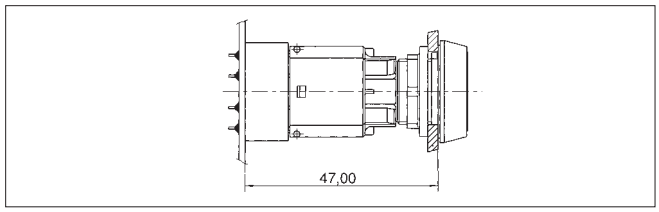
... with protection cage



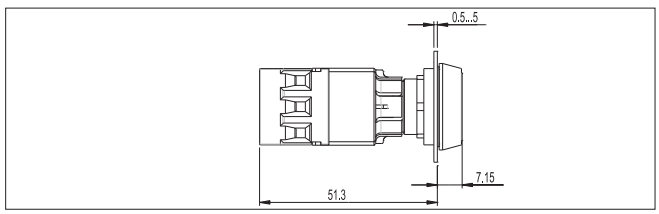
... with multipole connector



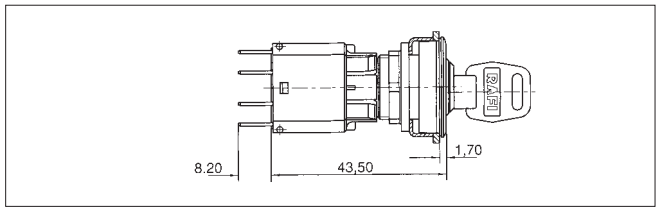
... with PCB plug-in socket

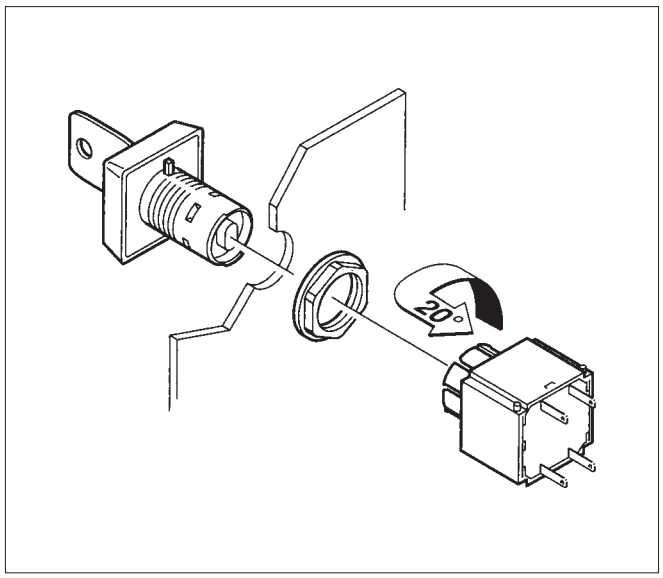


Contact block with screw terminals and RAFIX 16 pushbutton



Contact block with quick-connect terminals and RAFIX 16 F keylock switch





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.
– Click the contact block onto the actuator from the rear.
– Install protection against accidental contact, if applicable.

With quick-connect terminals
Contact cables with quick connector

With screw terminals
Push in cables and fix by srewing

Disassembly

– Turn the contact block by approx. 20° to the left or right – the latches open.
– Pull the contact block off towards the rear.

To dismount a PCB, pull the PCB with the soldered plug-in sockets off the mounted contact blocks.

Legending

- **Label holders**
  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".

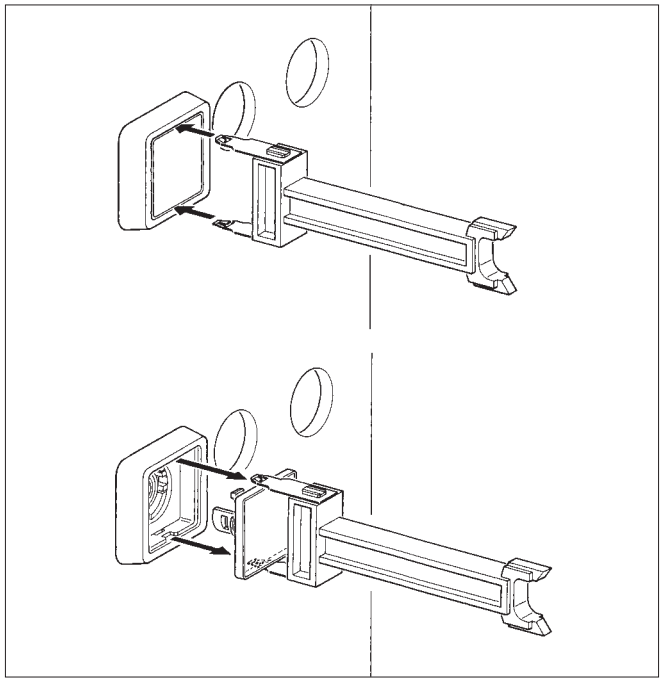
- **Lenses**
  Non-illuminated push-buttons and mushroom-headed pushbuttons can be printed or laser engraved.

- **Legend inserts**
  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.

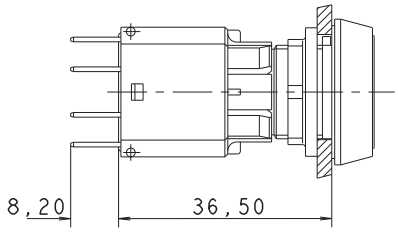


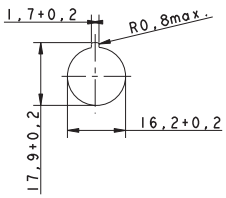
Lamp replacement from front

RAFIX 16 - Pushbutton



Pict.: transparent red





Panel cut-out

Technical Data

General information

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

Dimensions

Collar dimensions	see order block
Overall height	see order block
Mounting depth	44.7 mm
Mounting hole	16.2 mm
Key grid	25 x 25 mm

Mechanical design

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

Mechanical characteristics

Operating travel	3 mm
Robustness min.	100 N

Other specifications

Operating life (operations)	2,000,000
Degree of protection from front side	IP65
Operation temperature min.	-25 °C
Ambient temp. operating max. without lamp /LED	+70 °C
Ambient temp. operating max. with lamp /LED	+55 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

IEC 61058

C22.2 No. 14-M91

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 - 82
RAFIX 16 - Standard contact block, 1 NC + 1 NO, momentary, gold contacts, with lamp socket		**1.20.122.011/0000**	2 - 76
RAFIX 16 - Standard contact block, 1 NC + 1 NO, momentary, silver contacts, without lamp socket		**1.20.122.021/0000**	2 - 82

Stock items are marked by **bold printed order numbers.**

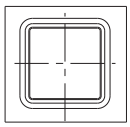
Typical accessories RAFIX 16 - Pushbutton

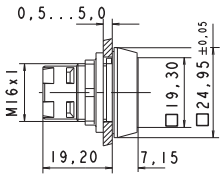
Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Standard contact block, 1 NC + 1 NO, momentary, gold contacts, without lamp socket		**1.20.122.031/0000**	2 - 76
RAFIX 16 - Standard contact block, silver contacts, with lamp socket, screw terminals		**1.20.122.101/0000**	2 - 83
RAFIX 16 - Standard contact block, gold contacts, with lamp socket, screw terminals		**1.20.122.111/0000**	2 - 77
RAFIX 16 - Contact block AS-I, standard		1.20.130.101/0000	2 - 87
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 - 94
Label holder, flush, for square collar		**5.07.620.004/0000**	2 - 96
Fixing spanner for hexagon nut		**5.58.002.034/0000**	2 - 95
Legend insert, blank, use only for transparent lenses		**5.70.635.000/2000**	

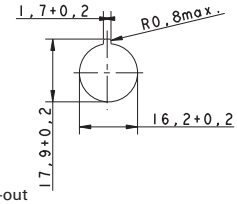
RAFIX 16 - Pushbutton, flush lens, square collar



Pict.: transparent colourless







Panel cut-out

Illumination	Colour of lens	Order no. complete	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

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

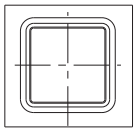
For the „latching“ function, please use the standard contact block with „latching“ function.

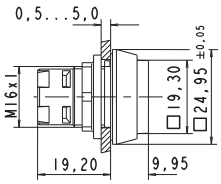
Stock items are marked by **bold printed order numbers.**

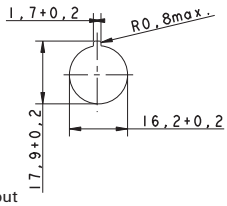
RAFIX 16 - Pushbutton, protruding lens, square collar



Pict.: transparent red







Panel cut-out

Illumination	Colour of lens	Order no. complete	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 black	1.30.070.301/0100	1.30.070.801/0000	5.46.657.442/0100
no	opaque red	1.30.070.301/0300	1.30.070.801/0000	5.46.657.442/0300

Technical data see page 2 - 8

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

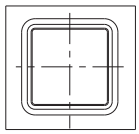
For the „latching“ function, please use the standard contact block with „latching“ function.

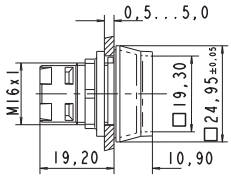
Stock items are marked by **bold printed order numbers.**

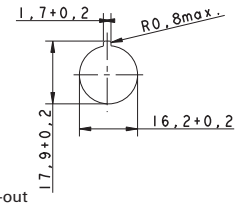
RAFIX 16 - Pushbutton, protruding collar, square collar



Pict.: transparent blue







Panel cut-out

Illumination	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

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

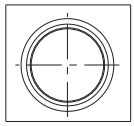
The protruding collar offers protection against inadvertent operation and thereby fulfils the safety requirements of various machinery manufacturers.
For the „latching“ function, please use the standard contact block with „latching“ function.

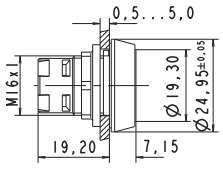
Stock items are marked by **bold printed order numbers.**

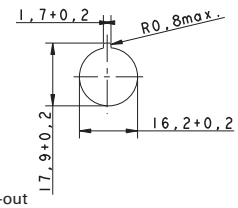
RAFIX 16 - Pushbutton, flush lens, round collar



Pict.: transparent yellow







Panel cut-out

Illumination	Colour of lens	Order no. complete	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

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

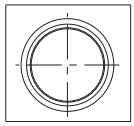
For the „latching“ function, please use the standard contact block with „latching“ function.

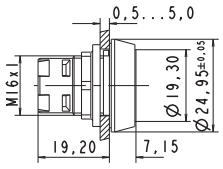
Stock items are marked by **bold printed order numbers.**

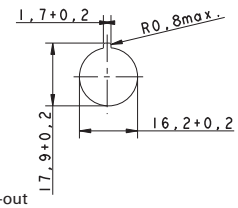
RAFIX 16 - Pushbutton IP66 with protective cap



Pict.: transparent yellow







Panel cut-out

Illumination	Colour of lens	Order no. complete	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

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

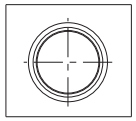
Pushbutton for use in hostile environments. A transparent protective cap ensures a degree of protection of IP 66 to DIN/IEC.
Operating life: 500,000 operations.
For the „latching“ function, please use the standard contact block with „latching“ function.

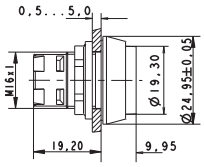
Stock items are marked by **bold printed order numbers.**

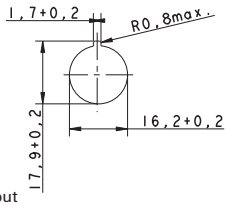
RAFIX 16 - Pushbutton, protruding lens, round collar



Pict.: opaque red







Panel cut-out

Illumination	Colour of lens	Order no. complete	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 black	1.30.070.321/0100	-	-
no	opaque red	1.30.070.321/0300	-	-

Technical data see page 2 - 8

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

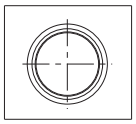
For the „latching“ function, please use the standard contact block with „latching“ function.

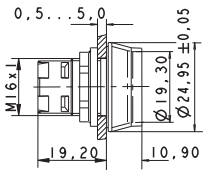
Stock items are marked by **bold printed order numbers.**

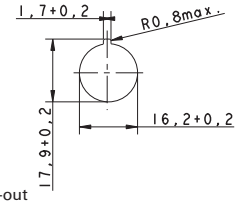
RAFIX 16 - Pushbutton, protruding collar, round collar



Pict.: transparent red







Panel cut-out

Illumination	Colour of lens	Order no. complete	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

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

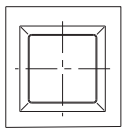
The protruding collar offers protection against inadvertent operation and thereby fulfils the safety requirements of various machinery manufacturers.
For the „latching“ function, please use the standard contact block with „latching“ function.

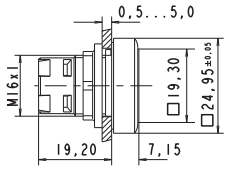
Stock items are marked by **bold printed order numbers.**

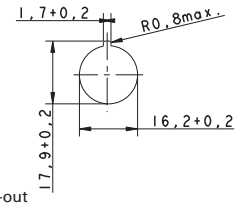
RAFIX 16 - Pushbutton, flush lens, square collar, alignable without gaps



Pict.: transparent green







Panel cut-out

Illumination	Colour of lens	Order no. complete	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

Accessoires:
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.

Stock items are marked by **bold printed order numbers.**

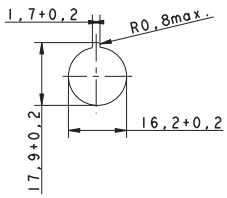
RAFIX 16 - Selector switch



Pict.: Handle marking opaque white



Handle marking opaque white



Panel cut-out

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	see order block
Form of collar	see order block
Dimensions	
Collar dimensions	see order block
Overall height	17.1 mm
Mounting depth	44.7 mm
Mounting hole	16.2 mm
Key grid	25 x 25 mm
Mechanical design	
Mounting	ring nut
Contact function	see order block
Contact arrangement	according to contact block
Illumination	see order block
Rotating angle	see order block

Mechanical characteristics	
Torque max.	1.3 Nm
Other specifications	
Operating life (operations)	30,000
Degree of protection from front side	IP65
Operation temperature min.	-25 °C
Ambient temp. operating max. without lamp /LED	+70 °C
Ambient temp. operating max. with lamp /LED	+55 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

IEC 61058

C22.2 No. 14-M91

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 - 84
RAFIX 16 - Universal contact block, 1 NC + 1 NO, momentary, gold contacts, with lamp socket		**1.20.123.011/0000**	2 - 78
RAFIX 16 - Universal contact block, gold contacts, with lamp socket, screw terminals		**1.20.123.111/0000**	2 - 79
RAFIX 16 - Universal contact block, silver contacts, without lamp socket, screw terminals		**1.20.123.121/0000**	2 - 85
Label holder, flush, for square collar		**5.07.620.004/0000**	2 - 96
Fixing spanner for hexagon nut		**5.58.002.034/0000**	2 - 95

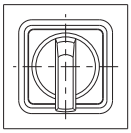
For suitable LEDs, filament lamps and other contact blocks, refer to the chapter „RAFIX 16 contact blocks“; for additional accessories, refer to the chapter „RAFIX 16 special accessories“.

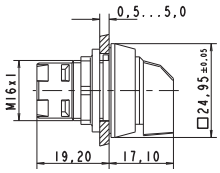
Stock items are marked by **bold printed order numbers.**

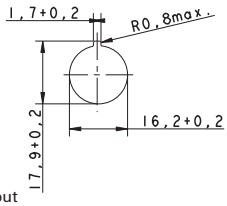
RAFIX 16 - Selector switch, square collar



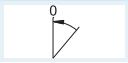
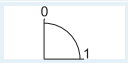
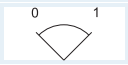
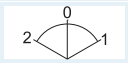
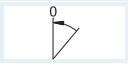
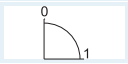
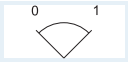
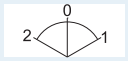
Pict.: Handle marking translucent







Panel cut-out

Illumination	Contact function	Rotating angle		Marking of handle	Order no.
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	1 x 90°, Form L		translucent white	1.30.073.501/2000
yes	latching	1 x 90°, Form V		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	1 x 90°, Form L		opaque white	1.30.073.500/0200
no	latching	1 x 90°, Form V		opaque white	1.30.073.600/0200
no	latching	2 x 60°		opaque white	1.30.073.700/0200

Technical data see page 2 - 18

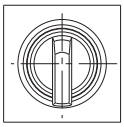
Only use contact blocks with „momentary“ contact function.
For versions with clockwise and counterclockwise rotation, use universal contact blocks only!
Other contact functions and handle marking colours available on request.
For coloured illumination of the handle marking please use contact block with lamp socket and coloured LED W 2 x 4,6d (see chapter 5 accessories).

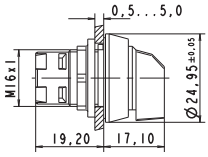
Stock items are marked by **bold printed order numbers.**

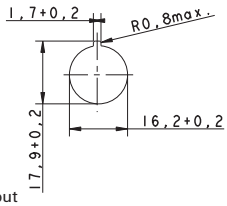
RAFIX 16 - Selector switch, round collar



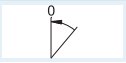
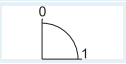
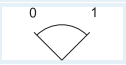
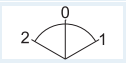
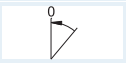
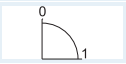
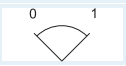
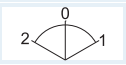
Pict.: Handle marking opaque white







Panel cut-out

Illumination	Contact function	Rotating angle		Marking of handle	Order no.
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	1 x 90°, form L		translucent white	1.30.073.521/2000
yes	latching	1 x 90°, form V		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	1 x 90°, form L		opaque white	1.30.073.520/0200
no	latching	1 x 90°, form V		opaque white	1.30.073.620/0200
no	latching	2 x 60°		opaque white	1.30.073.720/0200

Technical data see page 2 - 18

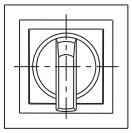
Only use contact blocks with „momentary“ contact function.
For versions with clockwise and counterclockwise rotation, use universal contact blocks only!
Other contact functions and handle marking colours available on request.
For coloured illumination of the handle marking please use contact block with lamp socket and coloured LED W 2 x 4,6d (see chapter 5 accessories).

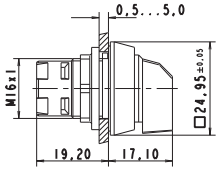
Stock items are marked by **bold printed order numbers.**

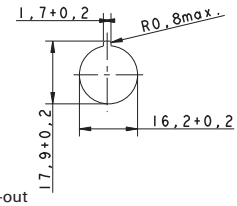
RAFIX 16 - Selector switch, square collar, alignable without gaps



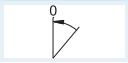
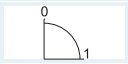
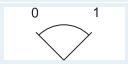
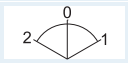
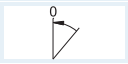
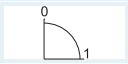
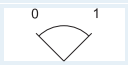
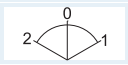
Pict.: Handle marking opaque white







Panel cut-out

Illumination	Contact function	Rotating angle		Marking of handle	Order no.
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	1 x 90°, form L		translucent white	1.30.073.541/2000
yes	latching	1 x 90°, form V		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	1 x 90°, form L		opaque white	1.30.073.540/0200
no	latching	1 x 90°, form V		opaque white	1.30.073.640/0200
no	latching	2 x 60°		opaque white	1.30.073.740/0200

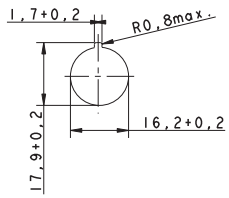
Technical data see page 2 - 18

Only use contact blocks with „momentary“ contact function.
For versions with clockwise and counterclockwise rotation, use universal contact blocks only!
Other contact fuctions 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 - Keylock switch MICROMEC







Panel cut-out

Technical Data

General information

Form of collar	see order block

Dimensions

Collar dimensions	see order block
Overall height	27.95 mm
Mounting depth	44.7 mm
Mounting hole	16.2 mm
Key grid	25 x 25 mm

Mechanical design

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

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 (operations)	65,000
Degree of protection from front side	IP65
Operation temperature min.	-25 °C
Ambient temp. operating max. without lamp /LED	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

IEC 61058

C22.2 No. 14-M91

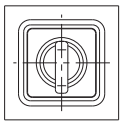
Typical accessories RAFIX 16 - Keylock switch MICROMEC

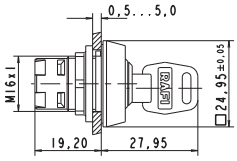
Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Universal contact block, 1 NC + 1 NO, momentary, silver contacts, without lamp socket		**1.20.123.021/0000**	2 - 84
RAFIX 16 - Universal contact block, 1 NC + 1 NO, momentary, gold contacts, without lamp socket		**1.20.123.031/0000**	2 - 78
RAFIX 16 - Universal contact block, gold contacts, with lamp socket, screw terminals		**1.20.123.111/0000**	2 - 79
RAFIX 16 - Universal contact block, silver contacts, without lamp socket, screw terminals		**1.20.123.121/0000**	2 - 85
RAFIX 16 - Contact block AS-I, standard		1.20.130.101/0000	2 - 87
Label holder, flush, for square collar		**5.07.620.004/0000**	2 - 96
Fixing spanner for hexagon nut		**5.58.002.034/0000**	2 - 95
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 1 key)		5.58.008.001/0000	

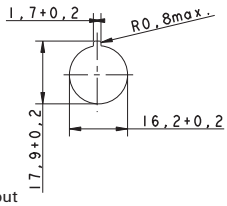
For other contact blocks, refer to the chapter „RAFIX 16 contact blocks“; for additional accessories, refer to the chapter „RAFIX 16 special accessories“.

RAFIX 16 - Keylock switch MICROMEC, square collar

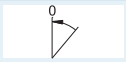
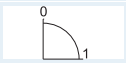
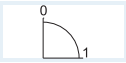
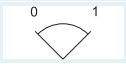
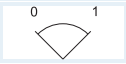
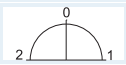
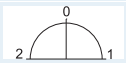








Panel cut-out

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

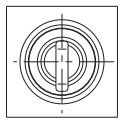
Technical data see page 2 - 24

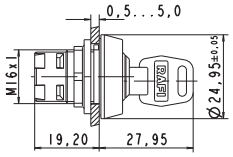
Only use contact blocks with „momentary“ contact function. For versions with clockwise and counterclockwise rotation, use universal contact block only.
Other contact functions on request.
Included: 2 keys

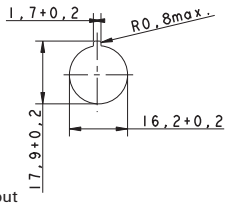
Stock items are marked by **bold printed order numbers.**

RAFIX 16 - Keylock switch MICROMEC, round collar

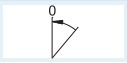
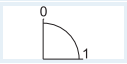
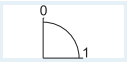
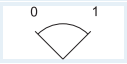
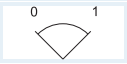
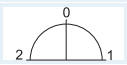
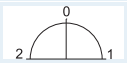








Panel cut-out

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

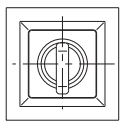
Technical data see page 2 - 24

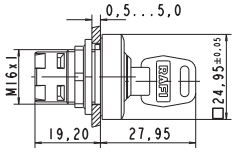
Only use contact blocks with „momentary“ contact function. For versions with clockwise and counterclockwise rotation, use universal contact block only.
Other contact functions on request.
Included: 2 keys

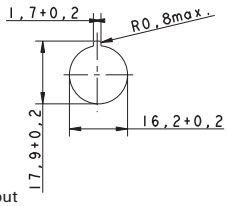
Stock items are marked by **bold printed order numbers.**

RAFIX 16 - Keylock switch MICROMEC, square collar, alignable without gaps

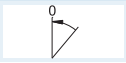
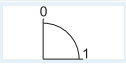
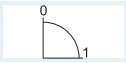
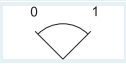
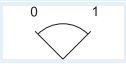
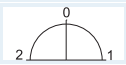
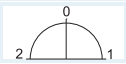








Panel cut-out

Contact function	Rotating angle	Key removal position		Order no.
momentary	1 x 40°	0		1.30.076.541/0000
momentary	2 x 40°	0		1.30.076.741/0000
latching	1 x 90°, form L	0		1.30.076.041/0000
latching	1 x 90°, form L	0+1		1.30.076.091/0000
latching	1 x 90°, form V	0		1.30.076.141/0000
latching	1 x 90°, form V	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 - 24

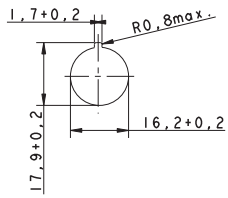
Only use contact blocks with „momentary“ contact function. For versions with clockwise and counterclockwise rotation, use universal contact block only.
Other contact functions on request.
Included: 2 keys

Stock items are marked by **bold printed order numbers.**

RAFIX 16 - Mushroom-headed pushbutton



Pict.: red



Panel cut-out

Technical Data

General information

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

Dimensions

Collar dimensions	see order block
Overall height	12.1 mm
Mounting depth	44.7 mm
Mounting hole	16.2 mm
Key grid	25 x 25 mm

Mechanical design

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

Mechanical characteristics

Operating travel	3 mm
Robustness max.	100 Nm

Other specifications

Operating life (operations)	2,000,000
Degree of protection from front side	IP65
Operation temperature min.	-25 °C
Ambient temp. operating max. without lamp /LED	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

IEC 61058

C22.2 No. 14-M91

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 - 82
RAFIX 16 - Standard contact block, 1 NC + 1 NO, momentary, gold contacts, without lamp socket		**1.20.122.031/0000**	2 - 76
RAFIX 16 - Standard contact block, silver contacts, without lamp socket, screw terminals		**1.20.122.121/0000**	2 - 83

Stock items are marked by **bold printed order numbers.**

Typical accessories RAFIX 16 - Mushroom-headed pushbutton

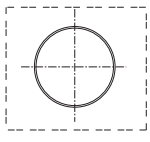
Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Standard contact block, gold contacts, without lamp socket, screw terminals		**1.20.122.131/0000**	2 - 77
RAFIX 16 - Contact block AS-I, standard		1.20.130.101/0000	2 - 87
Label holder, flush, for square collar		**5.07.620.004/0000**	2 - 96
Fixing spanner for hexagon nut		**5.58.002.034/0000**	2 - 95

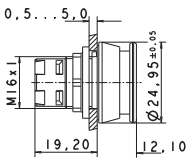
For other contact blocks, refer to the chapter „RAFIX 16 contact blocks“; for additional accessories, refer to the chapter „RAFIX 16 special accessories“.

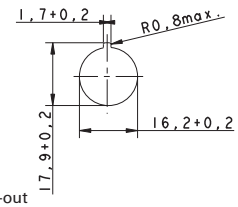
RAFIX 16 - Mushroom-headed pushbutton, round collar



Pict.: red







Panel cut-out

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

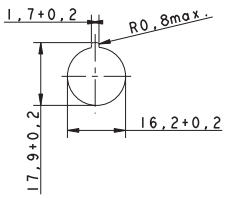
Technical data see page 2 - 30

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

RAFIX 16 - Emergency stop pushbutton







Panel cut-out

Technical Data

General information

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

Dimensions

Collar dimensions	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	latching
Contact arrangement	according to contact block
Illumination	see order block
Reset	counterclockwise or clockwise rotation

Mechanical characteristics

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

Other specifications

Operating life (operations)	30,000
Degree of protection from front side	IP65
Operation temperature min.	-25 °C
Ambient temp. operating max. without lamp /LED	+70 °C
Ambient temp. operating max. with lamp /LED	+55 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Corresponding to CE Ma-Dir. 89/392	yes
Dupe-proof acc. to DIN EN ISO 13850	see order block

Approvals

IEC 61058 C22.2 No. 14-M91 IEC 60204, IEC 73

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 - 84

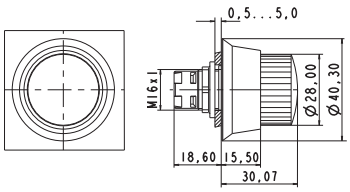
Typical accessories RAFIX 16 - Emergency stop pushbutton

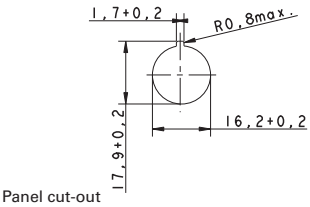
Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Universal contact block, 1 NC, momentary, gold contacts, without lamp socket		**1.20.123.032/0000**	2 - 78
RAFIX 16 - Universal contact block, silver contacts, without lamp socket, screw terminals		**1.20.123.125/0000**	2 - 85
RAFIX 16 - Universal contact block, gold contacts, without lamp socket, screw terminals		**1.20.123.135/0000**	2 - 79
RAFIX 16 - Contact block AS-I, E-stop, coupling contact		1.20.130.001/0000	2 - 89
Fixing spanner for hexagon nut		**5.58.002.034/0000**	2 - 95
Adhesive label yellow, round 16.3 / 60 mm, with legend „NOT-HALT, EMERGENCY STOP, ARRET D´URGENCE, EMERGENZA“		5.76.204.106/0400	2 - 98, 5 - 28
Adhesive label yellow, round 16.3 / 40 mm, with legend „NOT-HALT, EMERGENCY STOP, ARRET D´URGENCE, EMERGENZA“		5.76.204.114/0400	2 - 98, 5 - 28
Adhesive label yellow, round 16.3 / 60 mm, without legend		**5.76.204.400/0400**	2 - 98, 5 - 28

For suitable LEDs, 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 - Safety emergency stop pushbutton, round collar, dupe-proof, non-blocking







Panel cut-out

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

Technical data see page 2 - 32

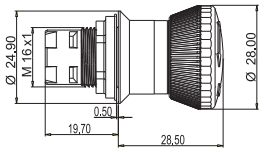
Only use universal contact blocks.
The positively driven mechanical arrangement is dupe-proof to DIN EN ISO 13850.
Special shape prevents blocking: Actuation cannot be interrupted by any jamming objects.

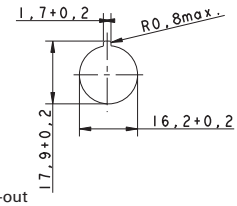
Stock items are marked by **bold printed order numbers.**

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









Panel cut-out

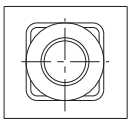
Illumination	Colour of mushroom	Order no.
no	opaque red	**1.30.074.281/0300**

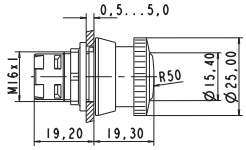
Technical data see page 2 - 32

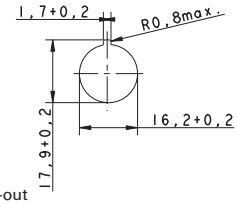
Only use universal contact blocks.
The positively driven mechanical arrangement is dupe-proof to DIN EN ISO 13850.

RAFIX 16 - Emergency stop pushbutton, square collar, illuminable









Panel cut-out

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

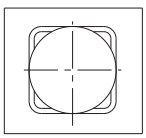
Technical data see page 2 - 32

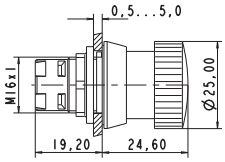
Only use universal contact blocks.

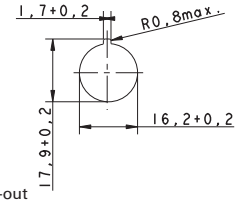
RAFIX 16 - Emergency stop pushbutton, square collar, not illuminable



Pict.: red







Panel cut-out

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

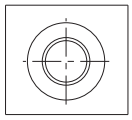
Technical data see page 2 - 32

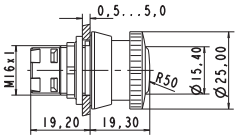
Only use universal contact blocks.
The positively driven mechanical arrangement is dupe-proof to DIN EN ISO 13850.

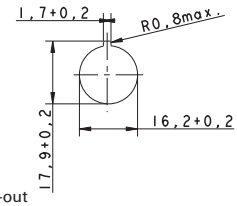
Stock items are marked by **bold printed order numbers.**

RAFIX 16 - Emergency stop pushbutton, round collar, illuminable









Panel cut-out

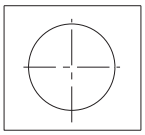
Illumination	Colour of mushroom	Order no.
yes	translucent red	**1.30.074.521/0304**

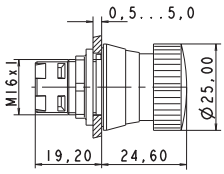
Technical data see page 2 - 32

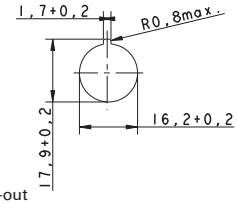
Only use universal contact blocks.

RAFIX 16 - Emergency stop pushbutton, round collar, not illuminable









Panel cut-out

Illumination	Colour of mushroom	Order no.
no	opaque red	**1.30.074.121/0301**

Technical data see page 2 - 32

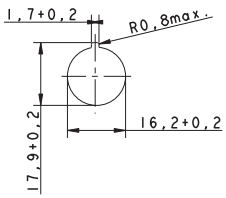
Only use universal contact blocks.
The positively driven mechanical arrangement is dupe-proof to DIN EN ISO 13850.

Stock items are marked by **bold printed order numbers.**

RAFIX 16 - Toggle switch







Panel cut-out

Technical Data

General information		**Mechanical characteristics**	
Form of collar	see order block	Robustness min.	100 N
Dimensions		**Other specifications**	
Collar dimensions	see order block	Degree of protection from front side	IP65
Overall height	18.4 mm	Operation temperature min.	-25 °C
Mounting depth	44.7 mm	Ambient temp. operating max. without lamp /LED	+70 °C
Mounting hole	16.2 mm	Ambient temp. operating max. with lamp /LED	+55 °C
Key grid	25 x 25 mm	Storage temperature min.	-40 °C
Mechanical design		Storage temperature max.	+85 °C
Mounting	ring nut	Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Contact function	latching	Operating life (operations)	300,000
Contact arrangement	according to contact block		
Illumination	no		

Approvals

IEC 61058

C22.2 No. 14-M91

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 - 82
RAFIX 16 - Standard contact block, 1 NC + 1 NO, momentary, gold contacts, without lamp socket		**1.20.122.031/0000**	2 - 76
RAFIX 16 - Standard contact block, silver contacts, without lamp socket, screw terminals		**1.20.122.121/0000**	2 - 83
RAFIX 16 - Standard contact block, gold contacts, without lamp socket, screw terminals		**1.20.122.131/0000**	2 - 77

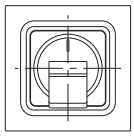
Typical accessories RAFIX 16 - Toggle switch

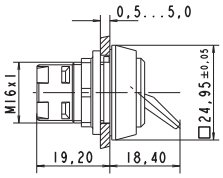
Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Contact block AS-I, standard		1.20.130.101/0000	2 - 87
Label holder, flush, for square collar		**5.07.620.004/0000**	2 - 96
Fixing spanner for hexagon nut		**5.58.002.034/0000**	2 - 95

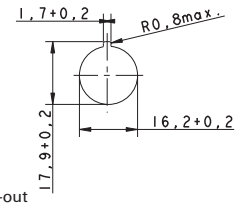
For other contact blocks, refer to the chapter „RAFIX 16 contact blocks“; for additional accessories, refer to the chapter „RAFIX 16 special accessories“.

RAFIX 16 - Toggle switch, square collar









Panel cut-out

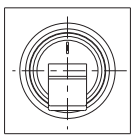
Contact function	Illumination	Order no.
latching	no	1.30.075.001/0104

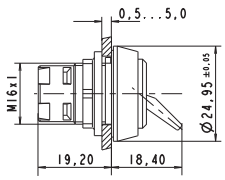
Technical data see page 2 - 36

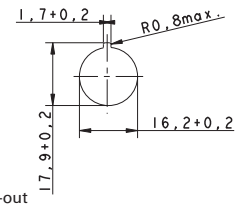
Only use contact blocks with „momentary“ contact function.

RAFIX 16 - Toggle switch, round collar









Panel cut-out

Contact function	Illumination	Order no.
latching	no	1.30.075.021/0104

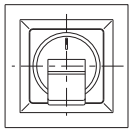
Technical data see page 2 - 36

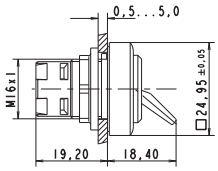
Only use contact blocks with „momentary“ contact function.

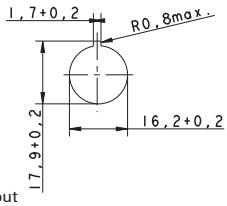
Stock items are marked by **bold printed order numbers.**

RAFIX 16 - Toggle switch, square collar, alignable without gaps









Panel cut-out

Contact function	Illumination	Order no.
latching	no	1.30.075.041/0104

Technical data see page 2 - 36

Only use contact blocks with „momentary“ contact function.

Stock items are marked by **bold printed order numbers.**

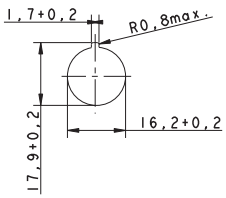
RAFIX 16 - Potentiometer drive



Pict.: with potentiometer (not included)



condition as supplied



Panel cut-out

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.

Technical Data

General information

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

Dimensions

Collar dimensions	see order block
Overall height	23.65 mm
Mounting depth	19.2 mm
Mounting hole	16.2 mm
Key grid	25 x 25 mm

Mechanical design

Mounting	ring nut
Thread nut	M10 x 0,75

Other specifications

Degree of protection from front side	IP65
Operation temperature min.	-25 °C
Ambient temp. operating max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

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 - 96
Fixing spanner for hexagon nut		**5.58.002.034/0000**	2 - 95

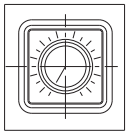
For additional accessories, refer to the chapter „RAFIX 16 special accessories".

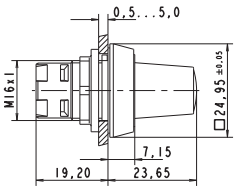
Stock items are marked by **bold printed order numbers.**

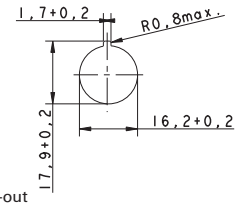
RAFIX 16 - Potentiometer drive, square collar



Pict.: with potentiometer (not included)







Panel cut-out

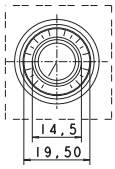
Form of lens	Form of collar	Colour of handle	Order no.
handle	square	black	1.30.077.001/0000

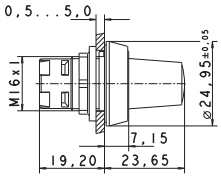
Technical data see page 2 - 40

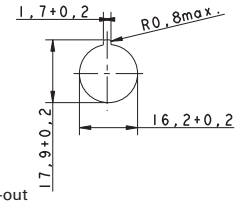
RAFIX 16 - Potentiometer drive, round collar



Pict.: with potentiometer (not included)







Panel cut-out

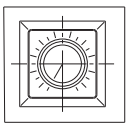
Form of lens	Form of collar	Colour of handle	Order no.
handle	round	black	1.30.077.021/0000

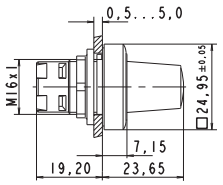
Technical data see page 2 - 40

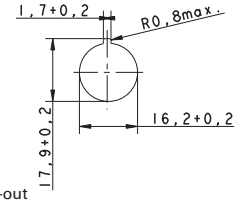
RAFIX 16 - Potentiometer drive, square collar, alignable without gaps



Pict.: condition as supplied







Panel cut-out

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

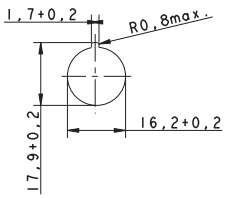
Technical data see page 2 - 40

Stock items are marked by **bold printed order numbers.**

RAFIX 16 - Buzzer







Panel cut-out

Technical Data

General information

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

Dimensions

Collar dimensions	see order block
Overall height	6.95 mm
Mounting depth	30.5 mm
Mounting hole	16.2 mm
Key grid	25 x 25 mm

Mechanical design

Mounting	ring nut

Mechanical characteristics

Robustness min.	100 N

Electrical characteristics

Operating voltage DC	24 V
Input current	see order block

Acoustic characteristics

Sonic pressure, 1 m distance	see order block
min. Sound frequency	2400 - 3100 Hz

Other specifications

Degree of protection from front side	IP65
Operation temperature min.	-25 °C
Ambient temp. operating max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Typical accessories RAFIX 16 - Buzzer

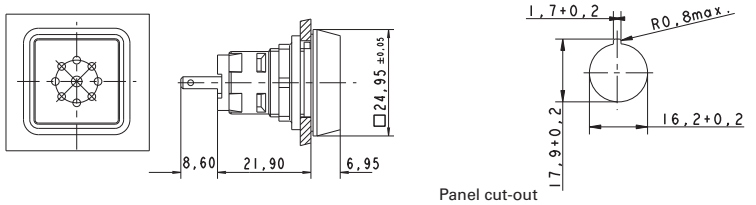
Description	Photo	Order no.	Additional accessories see page
Fixing spanner for hexagon nut		**5.58.002.034/0000**	2 - 95

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

Stock items are marked by **bold printed order numbers.**

RAFIX 16 - Buzzer, square collar





Panel cut-out

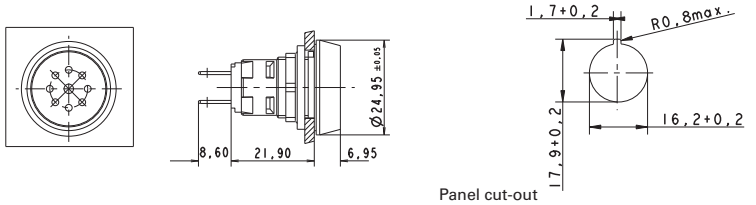
Operating voltage DC	Input current	Sound	Sonic pressure, 1 m distance min.	Order no.
24 V	25 mA	continuos beep	70 dB	1.30.078.001/0100

Technical data see page 2 - 42

12 V DC available on request.

RAFIX 16 - Buzzer, round collar





Panel cut-out

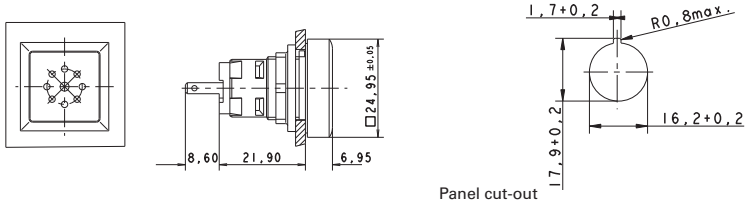
Operating voltage DC	Input current	Sound	Sonic pressure, 1 m distance min.	Order no.
24 V	25 mA	continuos beep	70 dB	1.30.078.021/0100

Technical data see page 2 - 42

12 V DC available on request.

RAFIX 16 - Buzzer, square collar, alignable without gaps





Panel cut-out

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

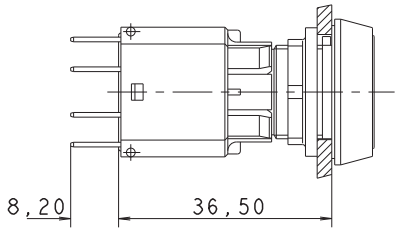
Technical data see page 2 - 42

12 V DC available on request.

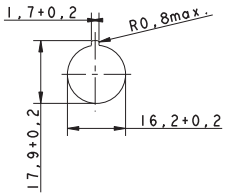
RAFIX 16 - Signal indicator



Pict.: transparent yellow



with lamp socket



Panel cut-out

Technical Data

General information

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

Dimensions

Collar dimensions	see order block
Overall height	see order block
Mounting depth	30.5 / 44.7 mm
Mounting hole	16.2 mm
Key grid	25 x 25 mm

Mechanical design

Mounting	ring nut

Other specifications

Degree of protection from front side	IP65
Operation temperature min.	-25 °C
Ambient temp. operating max. without lamp /LED	+70 °C
Ambient temp. operating max. with lamp /LED	+55 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

IEC 61058

C22.2 No. 14-M91

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 - 91
RAFIX 16 - Lamp socket W 2 x 4.6 d		**1.71.212.011/0000**	2 - 91
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 - 94
Label holder, flush, for square collar		**5.07.620.004/0000**	2 - 96

Stock items are marked by **bold printed order numbers.**

Typical accessories RAFIX 16 - Signal indicator

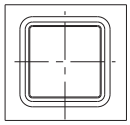
Description	Photo	Order no.	Additional accessories see page
Fixing spanner for hexagon nut		**5.58.002.034/0000**	2 - 95

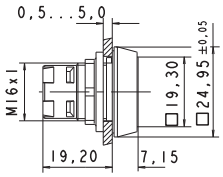
For suitable LEDs and filament lamps, refer to the chapter „RAFIX 16 lamp sockets“; for additional accessories, refer to the chapter „RAFIX 16 special accessories“.

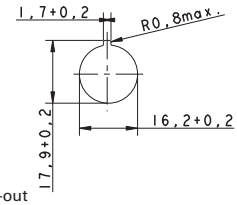
RAFIX 16 - Signal indicator, square lens



Pict.: transparent green







Panel cut-out

Form of lens	Colour of lens	Order no. complete	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 - 44

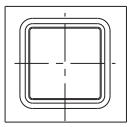
Legending can only be made externally on a label holder.

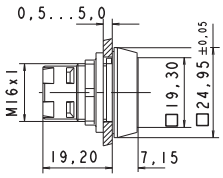
Stock items are marked by **bold printed order numbers.**

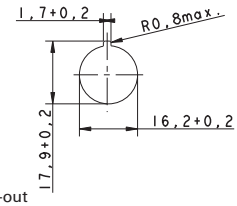
RAFIX 16 - Signal indicator, square collar, flush lens



Pict.: transparent colourless







Panel cut-out

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

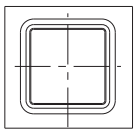
Technical data see page 2 - 44

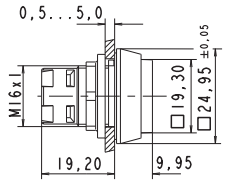
Accessoires:
Legend insert, blank, use only for transparent lenses: **5.70.635.000/2000**

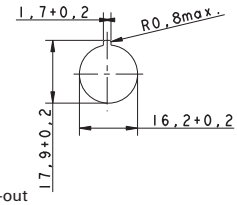
RAFIX 16 - Signal indicator, square collar, protruding lens



Pict.: transparent red







Panel cut-out

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

Technical data see page 2 - 44

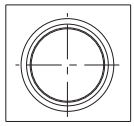
Accessoires:
Legend insert, blank, use only for transparent lenses: **5.70.635.000/2000**

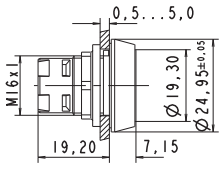
Stock items are marked by **bold printed order numbers.**

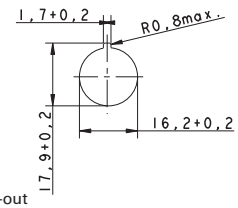
RAFIX 16 - Signal indicator, round lens



Pict.: transparent yellow







Panel cut-out

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

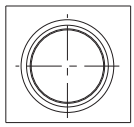
Technical data see page 2 - 44

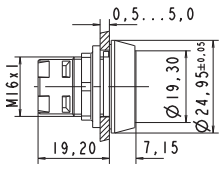
Legending can only be made externally on a label holder.

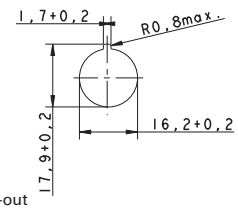
RAFIX 16 - Signal indicator, round collar, flush lens



Pict.: transparent yellow







Panel cut-out

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

Technical data see page 2 - 44

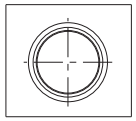
Accessoires:
Legend insert, blank, use only for transparent lenses: **5.70.637.000/2000**

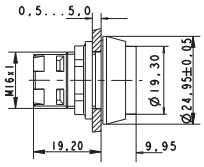
Stock items are marked by **bold printed order numbers.**

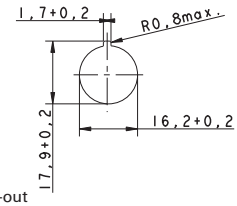
RAFIX 16 - Signal indicator, round collar, protruding lens



Pict.: transparent yellow







Panel cut-out

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

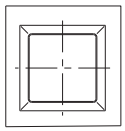
Technical data see page 2 - 44

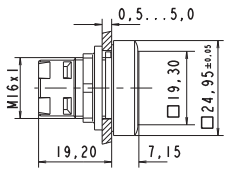
Accessoires:
Legend insert, blank, use only for transparent lenses: **5.70.637.000/2000**

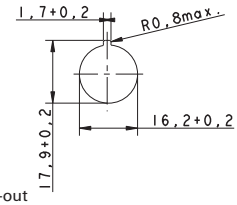
RAFIX 16 - Signal indicator, square collar, alignable without gaps, flush lens



Pict.: transparent green







Panel cut-out

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

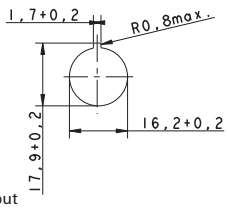
Technical data see page 2 - 44

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

RAFIX 16 - Signal indicator, square collar, alignable without gaps, protruding lens



Pict.: transparent red



Panel cut-out

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

Technical data see page 2 - 44

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

General information

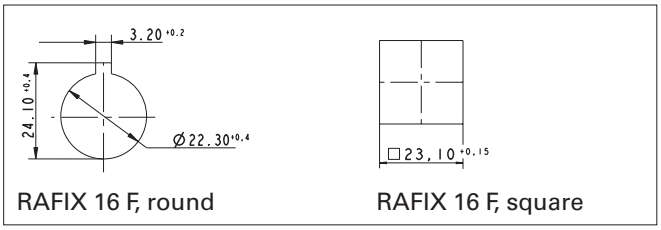




RAFIX 16 is a complete control component series with low profile design.

Actuators

– Panel cut-out ø 22.3 mm to IEC 60 947-5-1
– Panel cut-out □ 23.1 mmm



RAFIX 16 F, round

RAFIX 16 F, square

– Locating lug (easily removable).
  The locating lug can be easily removed using a screw-driver.

– Degree of protection IP65 on panel.
  This is achieved by a reliable, tried and tested special seal.

– Grid spacing 25 x 25 mm
– Low profile, only 1.9 mm in front of the front panel
– Thickness of front panel 0.5 ... 3.5 mm
– Fixing with hexagon nut
– Fixing torque 1.2 Nm max.



Contact blocks

– Standard: for actuators with one-way operation
  • latching function
  • momentary function
– Universal: for E-stop pushbuttons and for actuators with two-way operation, e. g. selector switches
  • momentary function
– AS-Interface

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: ≤ 50 g
– Shock time: 11 ms
– Shock type: half sinusoidal

Environment conditions

– acc. to IEC 600 68-2, -14, -30, -33 and -78

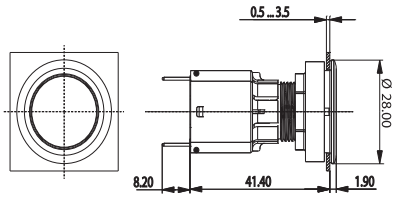
Temperature range

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

RAFIX 16 F - Pushbutton







General Data

RAFIX 16 F pushbuttons provide with less than 2 mm height above the front-panel an extremely low-profile design. The versions with square collars can be placed side by side so that a completely closed keyboard survey is possible.

Technical Data

General information	
Form of lens	see order block
Colour of lens	see order block
Form of collar	see order block
Colour of collar	see order block
Dimensions	
Collar dimensions	see order block
Overall height	see order block
Mounting depth with contact block	50 mm
Key grid	see order block
Mounting hole	see order block
Mechanical design	
Mounting	ring nut
Contact function	je nach Schaltelement
Illumination	see order block

Mechanical characteristics	
Robustness min.	100 N
Electrical characteristics	
Protection class	see order block
Other specifications	
Operating life (operations)	2,000,000
Degree of protection from front side	IP65
Operation temperature min.	-25 °C
Ambient temp. operating max. without lamp /LED	+70 °C
Ambient temp. operating max. with lamp /LED	+55 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

IEC 61058

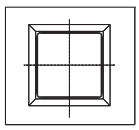
Typical accessories RAFIX 16 F - Pushbutton

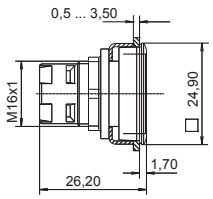
Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Standard contact block, 1 NC + 1 NO, momentary, silver contacts, with lamp socket		**1.20.122.001/0000**	2 - 82
RAFIX 16 - Standard contact block, 1 NC + 1 NO, momentary, gold contacts, with lamp socket		**1.20.122.011/0000**	2 - 76
RAFIX 16 - Standard contact block, 1 NC + 1 NO, momentary, silver contacts, without lamp socket		**1.20.122.021/0000**	2 - 82
RAFIX 16 - Standard contact block, 1 NC + 1 NO, momentary, gold contacts, without lamp socket		**1.20.122.031/0000**	2 - 76
RAFIX 16 - Standard contact block, silver contacts, with lamp socket, screw terminals		**1.20.122.101/0000**	2 - 83
RAFIX 16 - Standard contact block, gold contacts, with lamp socket, screw terminals		**1.20.122.111/0000**	2 - 77
RAFIX 16 - Contact block AS-I, standard		1.20.130.101/0000	2 - 87
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 - 94
Fixing spanner for hexagon nut		**5.58.002.034/0000**	2 - 95
Legend insert, blank, use only for transparent lenses		**5.70.635.000/2000**	

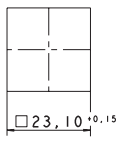
For other contact blocks, refer to the chapter „RAFIX 16 contact blocks“; for additional accessories, refer to the chapter „RAFIX 16 special accessories“.

RAFIX 16 F - Pushbutton, flush lens, square black collar









Panel cut-out

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

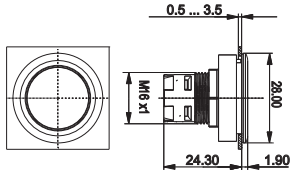
Technical data see page 2 - 52

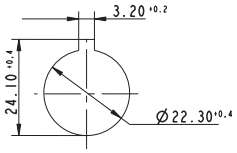
Accessoires:
Legend insert, blank, use only for transparent lenses: **5.70.635.000/2000**

Stock items are marked by **bold printed order numbers.**

RAFIX 16 F - Pushbutton, flush lens, round black collar







Panel cut-out to IEC 60947-5-1

Colour of collar	Illumination	Colour of lens	Order no. complete	Order no. single parts	
				Housing	Lens
black	yes	transparent colourless	**1.30.090.011/1000**	1.30.090.511/0000	5.49.259.017/1002
black	yes	transparent red	**1.30.090.011/1300**	1.30.090.511/0000	5.49.259.017/1306
black	yes	transparent yellow	**1.30.090.011/1400**	1.30.090.511/0000	5.49.259.017/1403
black	yes	transparent green	**1.30.090.011/1500**	1.30.090.511/0000	5.49.259.017/1505
black	yes	transparent blue	**1.30.090.011/1600**	1.30.090.511/0000	5.49.259.017/1607
black	no	opaque black	**1.30.090.261/0100**	-	-
black	no	opaque white	**1.30.090.261/0200**	-	-
black	no	opaque red	**1.30.090.261/0300**	-	-
black	no	opaque yellow	**1.30.090.261/0400**	-	-
black	no	opaque green	**1.30.090.261/0500**	-	-
black	no	opaque blue	**1.30.090.261/0600**	-	-
black	ring illumination	opaque black	**1.30.090.011/6030**	-	-

Technical data see page 2 - 52

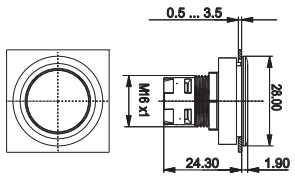
Accessoires:
Legend insert, blank, use only for transparent lenses: **5.70.637.000/2000**

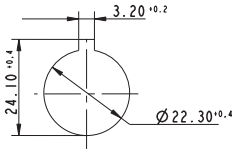
Stock items are marked by **bold printed order numbers.**

NEW

RAFIX 16 F - Pushbutton, flush lens, round metallized collar







Panel cut-out to IEC 60947-5-1

Colour of collar	Illumination	Colour of lens	Order no. complete	Order no. single parts	
				Housing	Lens
metalic	ring illumination	silver grey	**1.30.090.082/0000**	-	-
metalic	yes	transparent colourless	**1.30.090.012/1000**	-	-
metalic	yes	transparent red	**1.30.090.012/1300**	-	-
metalic	yes	transparent yellow	**1.30.090.012/1400**	-	-
metalic	yes	transparent green	**1.30.090.012/1500**	-	-
metalic	yes	transparent blue	**1.30.090.012/1600**	-	-
metalic	no	opaque black	**1.30.090.262/0100**	-	-
metalic	no	opaque white	**1.30.090.262/0200**	-	-
metalic	no	opaque red	**1.30.090.262/0300**	-	-
metalic	no	opaque yellow	**1.30.090.262/0400**	-	-
metalic	no	opaque green	**1.30.090.262/0500**	-	-
metalic	no	opaque blue	**1.30.090.262/0600**	-	-

Technical data see page 2 - 52

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

Stock items are marked by **bold printed order numbers.**

RAFIX 16 F - Selector switch



Handle marking opaque white

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

Dimensions

Collar dimensions	see order block
Overall height	12.1 mm
Mounting depth with contact block	50 mm
Key grid	see order block
Mounting hole	see order block

Mechanical design

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

Mechanical characteristics

Torque max.	1.3 Nm

Electrical characteristics

Protection class	-

Other specifications

Operating life (operations)	30.000
Degree of protection from front side	IP65
Operation temperature min.	-25 °C
Ambient temp. operating max. without lamp /LED	+70 °C
Ambient temp. operating max. with lamp /LED	+55 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

IEC 61058

Typical accessories RAFIX 16 F - Selector switch

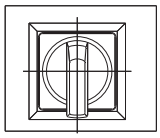
Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Universal contact block, 1 NC + 1 NO, momentary, silver contacts, with lamp socket		**1.20.123.001/0000**	2 - 84
RAFIX 16 - Universal contact block, 1 NC + 1 NO, momentary, gold contacts, with lamp socket		**1.20.123.011/0000**	2 - 78
RAFIX 16 - Universal contact block, gold contacts, with lamp socket, screw terminals		**1.20.123.111/0000**	2 - 79
RAFIX 16 - Universal contact block, silver contacts, without lamp socket, screw terminals		**1.20.123.121/0000**	2 - 85
RAFIX 16 - Contact block AS-I, standard		1.20.130.101/0000	2 - 87
Fixing spanner for hexagon nut		**5.58.002.034/0000**	2 - 95

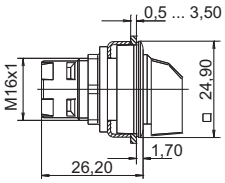
Stock items are marked by **bold printed order numbers.**

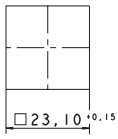
RAFIX 16 F - Selector switch, square black collar



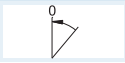
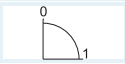
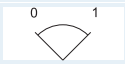
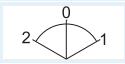
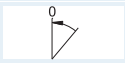
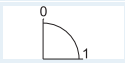
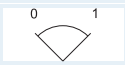
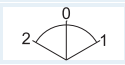
Pict.: Handle marking opaque white







Panel cut-out

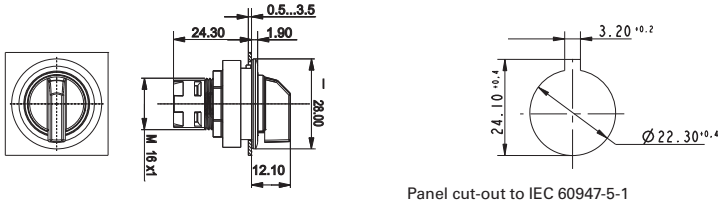
Colour of collar	Illumination	Contact function	Rotating angle		Colour of handle marking	Order no.
black	yes	momentary	1 x 40°		translucent white	1.30.093.551/2000
black	yes	momentary	2 x 40°		translucent white	1.30.093.651/2000
black	yes	latching	1 x 90°, form L		translucent white	1.30.093.501/2000
black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

Technical data see page 2 - 58

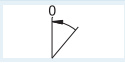
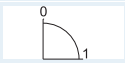
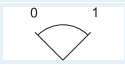
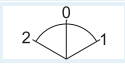
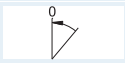
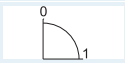
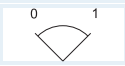
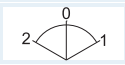
Only use RAFIX 16 contact blocks with „momentary“ contact function. For versions with clockwise and counterclockwise rotation, use universal contact blocks only.
Other contact funcions and handle markings available on request.
For coloured illumination of the handle marking please use contact block with lamp socket and coloured LED W 2 x 4,6d (see chapter 5 accessories).

RAFIX 16 F - Selector switch, round black collar





Panel cut-out to IEC 60947-5-1

Colour of collar	Illumination	Contact function	Rotating angle		Colour of handle marking	Order no.
black	yes	momentary	1 x 40°		translucent white	1.30.093.561/2000
black	yes	momentary	2 x 40°		translucent white	1.30.093.661/2000
black	yes	latching	1 x 90°, form L		translucent white	1.30.093.511/2000
black	yes	latching	1 x 90°, form V		translucent white	1.30.093.611/2000
black	yes	latching	2 x 60°		translucent white	1.30.093.711/2000
black	no	momentary	1 x 40°		opaque white	1.30.093.560/0200
black	no	momentary	2 x 40°		opaque white	1.30.093.660/0200
black	no	latching	1 x 90°, form L		opaque white	1.30.093.510/0200
black	no	latching	1 x 90°, form V		opaque white	1.30.093.610/0200
black	no	latching	2 x 60°		opaque white	1.30.093.710/0200

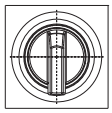
Technical data see page 2 - 58

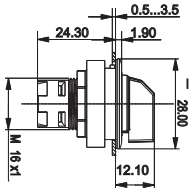
Stock items are marked by **bold printed order numbers.**

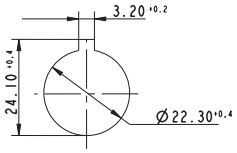
NEW

RAFIX 16 F - Selector switch, round metallized collar

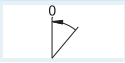
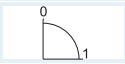
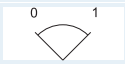
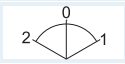
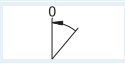
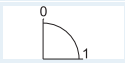
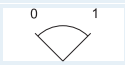
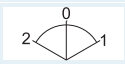








Panel cut-out to IEC 60947-5-1

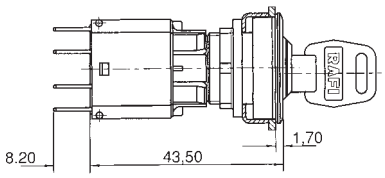
Colour of collar	Illumination	Contact function	Rotating angle		Colour of handle marking	Order no.
metalic	yes	momentary	1 x 40°		translucent white	**1.30.093.571/2000**
metalic	yes	momentary	2 x 40°		translucent white	**1.30.093.671/2000**
metalic	yes	latching	1 x 90°, form L		translucent white	**1.30.093.521/2000**
metalic	yes	latching	1 x 90°, form V		translucent white	**1.30.093.621/2000**
metalic	yes	latching	2 x 60°		translucent white	**1.30.093.721/2000**
metalic	no	momentary	1 x 40°		opaque white	**1.30.093.570/0200**
metalic	no	momentary	2 x 40°		opaque white	**1.30.093.670/0200**
metalic	no	latching	1 x 90°, form L		opaque white	**1.30.093.520/0200**
metalic	no	latching	1 x 90°, form V		opaque white	**1.30.093.620/0200**
metalic	no	latching	2 x 60°		opaque white	**1.30.093.720/0200**

Technical data see page 2 - 58

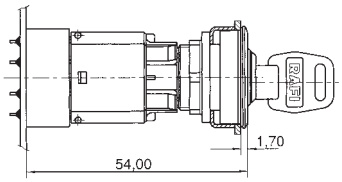
Stock items are marked by **bold printed order numbers.**

RAFIX 16 F - Keylock switch MICROMEC





operating element and contact block



with PCB plug-in socket

2

RAFIX 16

Technical Data

General information

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

Dimensions

Collar dimensions	see order block
Overall height	24.10 mm
Mounting depth with contact block	50 mm
Key grid	see order block
Mounting hole	see order block

Mechanical design

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

Mechanical characteristics

Torque max.	1.3 Nm

Electrical characteristics

Protection class	II

Other specifications

Operating life (operations)	65.000
Degree of protection from front side	IP65
Operation temperature min.	-25 °C
Ambient temp. operating max. without lamp /LED	+70 °C
Ambient temp. operating max. with lamp /LED	-
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Ambient temp. operating max.	+70 °C
ESD-strength lock / contact	15 kV
ESD-strength key/ front panel	4 kV

Approvals

IEC 61058

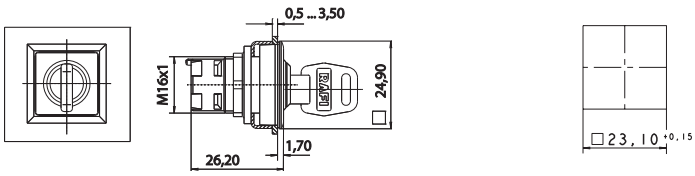
Typical accessories RAFIX 16 F - Keylock switch MICROMEC

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 - 84
RAFIX 16 - Universal contact block, 1 NC + 1 NO, momentary, gold contacts, without lamp socket		**1.20.123.031/0000**	2 - 78
RAFIX 16 - Universal contact block, gold contacts, with lamp socket, screw terminals		**1.20.123.111/0000**	2 - 79
RAFIX 16 - Universal contact block, silver contacts, without lamp socket, screw terminals		**1.20.123.121/0000**	2 - 85
RAFIX 16 - Contact block AS-I, standard		1.20.130.101/0000	2 - 87
Fixing spanner for hexagon nut		**5.58.002.034/0000**	2 - 95
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 1 key)		5.58.008.001/0000	

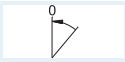
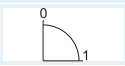
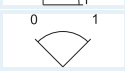
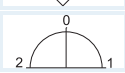
For additional accessories, refer to the chapter „RAFIX 16 special accessories“.

RAFIX 16 F - Keylock switch MICROMEC, square black collar





Panel cut-out

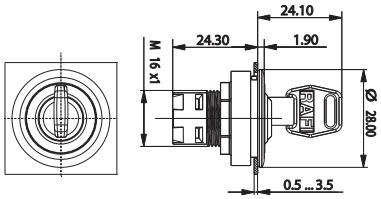
Colour of collar	Contact function	Colour of lens	Rotating angle		Key removal position	Order no.
black	momentary	opaque black	1 x 40°		0	1.30.096.501/0000
black	momentary	opaque black	2 x 40°		0	1.30.096.701/0000
black	latching	opaque black	1 x 90°, Form L		0+1	1.30.096.051/0000
black	latching	opaque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

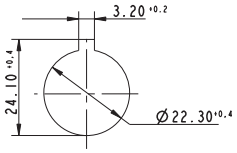
Technical data see page 2 - 64

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

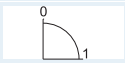
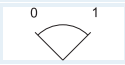
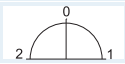
RAFIX 16 F - Keylock switch MICROMEC, round black collar







Panel cut-out to IEC 60947-5-1

Colour of collar	Contact function	Colour of lens	Rotating angle		Key removal position	Order no.
black	momentary	opaque black	1 x 40°		0	1.30.096.511/0000
black	momentary	opaque black	2 x 40°		0	1.30.096.711/0000
black	latching	opaque black	1 x 90°, Form L		0+1	1.30.096.061/0000
black	latching	opaque black	1 x 90°, Form V		0+1	1.30.096.161/0000
black	latching	opaque black	2 x 90°		0+1+2	1.30.096.411/0000

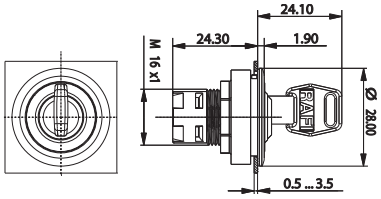
Technical data see page 2 - 64

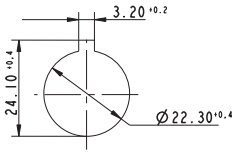
Only use RAFIX 16 contact blocks with „momentary“ contact function. For versions with clockwise and counterclockwise rotation, use universal contact blocks only.

NEW

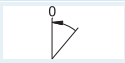
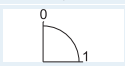
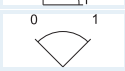
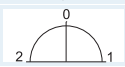
RAFIX 16 F - Keylock switch MICROMEC, round metallized collar







Panel cut-out to IEC 60947-5-1

Colour of collar	Contact function	Colour of lens	Rotating angle		Key removal position	Order no.
metallic	momentary	opaque black	1 x 40°		0	**1.30.096.521/0000**
metallic	momentary	opaque black	2 x 40°		0	**1.30.096.721/0000**
metallic	latching	opaque black	1 x 90°, Form L		0+1	**1.30.096.071/0000**
metallic	latching	opaque black	1 x 90°, Form V		0+1	**1.30.096.171/0000**
metallic	latching	opaque black	2 x 90°		0+1+2	**1.30.096.421/0000**

Technical data see page 2 - 64

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

Stock items are marked by **bold printed order numbers.**

RAFIX 16 F - Emergency stop pushbutton



Technical Data

General information	
Actuator	conical mushroom form
Colour of mushroom	red, collar yellow
Form of collar	see order block
Dimensions	
Collar dimensions	see order block
Key grid	see order block
Overall height	24.10 mm
Mounting depth with contact block	50 mm
Key grid	see order block
Mounting hole	see order block
Mechanical design	
Mounting	ring nut
Contact function	latching
Illumination	no
Rest	clockwise or counterclockwise rotation

Mechanical characteristics	
Robustness min.	100 N
Electrical characteristics	
Protection class	see order block
Other specifications	
Operating life (operations)	10.000
Degree of protection from front side	IP65
Operation temperature min.	-25 °C
Ambient temp. operating max. without lamp /LED	+70 °C
Ambient temp. operating max. with lamp /LED	-
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

IEC 61058

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 - 84
RAFIX 16 - Universal contact block, 1 NC, momentary, gold contacts, without lamp socket		**1.20.123.032/0000**	2 - 78

Stock items are marked by **bold printed order numbers.**

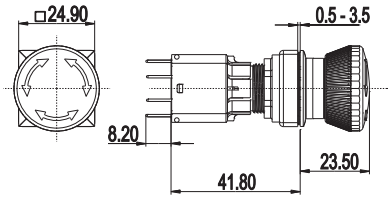
Typical accessories RAFIX 16 F - Emergency stop pushbutton

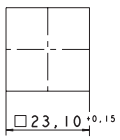
Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Universal contact block, silver contacts, without lamp socket, screw terminals		**1.20.123.125/0000**	2 - 85
RAFIX 16 - Universal contact block, gold contacts, without lamp socket, screw terminals		**1.20.123.135/0000**	2 - 79
RAFIX 16 - Contact block AS-I, E-stop, coupling contact		1.20.130.001/0000	2 - 89
Fixing spanner for hexagon nut		**5.58.002.034/0000**	2 - 95
Adhesive label yellow, round 22.3 / 60 mm, with legend 1 x „Not-Aus“		**5.76.204.101/0400**	2 - 99, 2 - 172, 2 - 238, 5 - 29

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 - Emergency stop pushbutton, square collar







Panel cut-out

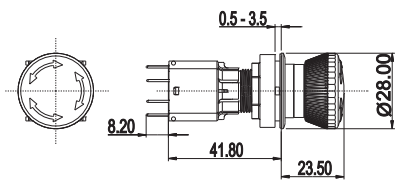
Contact function	Illumination	Colour of mushroom	Mounting hole	Order no.
latching	no	red, collar yellow	23.1 x 23.1	**1.30.094.001/0300**

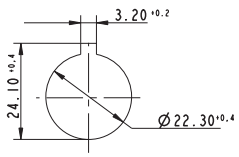
Technical data see page 2 - 68

Only use universal contact blocks.

RAFIX 16 F - Emergency stop pushbutton, round collar







Panel cut-out to IEC 60947-5-1

Contact function	Illumination	Colour of mushroom	Mounting hole	Order no.
latching	no	red, collar yellow	Ø 22.3	**1.30.094.011/0300**

Technical data see page 2 - 68

Only use universal contact blocks.

RAFIX 16 F - Signal indicator





Technical Data

General information

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

Dimensions

Collar dimensions	see order block
Overall height	see order block
Mounting depth with contact block	50 mm
Key grid	see order block
Mounting hole	see order block

Mechanical design

Mounting	ring nut
Contact function	-
Illumination	yes

Other specifications

Operating life (operations)	-
Degree of protection from front side	IP65
Operation temperature min.	-25 °C
Ambient temp. operating max. without lamp /LED	-
Ambient temp. operating max. with lamp /LED	+55 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

IEC 61058

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 - 91
RAFIX 16 - Lamp socket W 2 x 4.6 d		**1.71.212.011/0000**	2 - 91
LED W 2 x 4.6d superbright, white, 24 V		**1.90.690.365/0000**	5 - 14

Stock items are marked by **bold printed order numbers.**

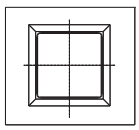
Typical accessories RAFIX 16 F - Signal indicator

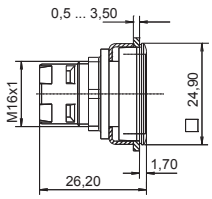
Description	Photo	Order no.	Additional accessories see page
Disassembly tool for LUMOTAST 25, RAFIX 16		**5.05.800.042/0000**	2 - 94
Fixing spanner for hexagon nut		**5.58.002.034/0000**	2 - 95
Legend insert, blank, use only for transparent lenses		**5.70.635.000/2000**	

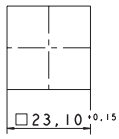
For additional accessories, refer to the chapter „RAFIX 16 special accessories".

RAFIX 16 F - Signal indicator, flush lens, square black collar









Panel cut-out

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

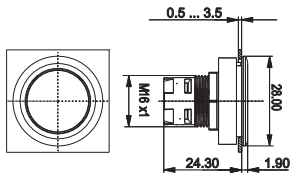
Technical data see page 2 - 70

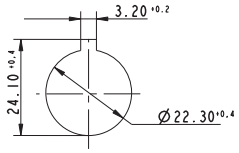
Accessoires:
Legend insert, blank, use only for transparent lenses: **5.70.635.000/2000**

Stock items are marked by **bold printed order numbers.**

RAFIX 16 F - Signal indicator, flush lens, round black collar







Panel cut-out to IEC 60947-5-1

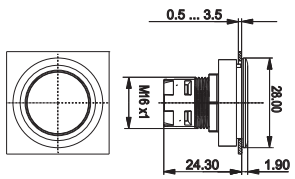
Colour of collar	Form of lens	Overall height	Colour of lens	Order no. complete	Order no. single parts	
					Housing	Lens
black	flat lens	1.9 mm	transparent colourless	**1.65.126.001/1000**	1.65.126.101/0000	5.49.259.017/1002
black	flat lens	1.9 mm	transparent red	**1.65.126.001/1300**	1.65.126.101/0000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

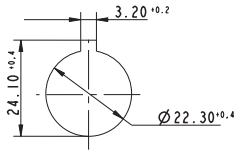
Technical data see page 2 - 70

NEW

RAFIX 16 F - Signal indicator, flush lens, round metallized collar







Panel cut-out to IEC 60947-5-1

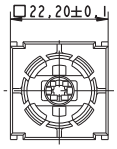
Colour of collar	Form of lens	Overall height	Colour of lens	Order no. complete	Order no. single parts	
					Housing	Lens
metallic	flat lens	1.9 mm	transparent colourless	**1.65.126.011/1000**	-	-
metallic	flat lens	1.9 mm	transparent red	**1.65.126.011/1300**	-	-
metallic	flat lens	1.9 mm	transparent yellow	**1.65.126.011/1400**	-	-
metallic	flat lens	1.9 mm	transparent green	**1.65.126.011/1500**	-	-
metallic	flat lens	1.9 mm	transparent blue	**1.65.126.011/1600**	-	-

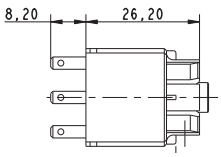
Technical data see page 2 - 70

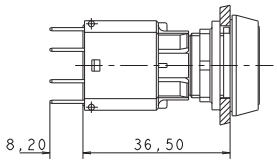
Stock items are marked by **bold printed order numbers.**

RAFIX 16 - Contact blocks with gold contacts









Technical Data

Dimensions

Size not mounted	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	see order block
Terminal marking	according to DIN 50013, X1 = +, X2 = -
Operating travel	3 mm
Robustness	100 N

Mechanical characteristics

Robustness	acc. to IEC 60947-5-5

Electrical characteristics

Rated voltage min.	0.02 V
Rated voltage AC/DC max.	35 V
Rated current min.	0.001 A
Rated current max.	0.25 A
Operating life switching element (momentary)	2,000,000
Contact resistance when new max.	50 mΩ

Other specifications

Protection class	II
Shock resistance acc. to IEC 60068-2-27	amplitude < 50g, 11ms, half sinusoidal
Operation temperature min.	-25 °C
Ambient temp. operating max. without lamp /LED	+70 °C
Ambient temp. operating max. with lamp /LED	+55 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Colour code	white bottom
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Mechanical operating life latching (operations)	2,000,000
Resistance to vibrations acc. to IEC 60068-2-6	10 g at 20 ... 500 Hz
Flame class acc. to UL 94	yes
	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

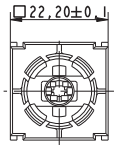
Stock items are marked by **bold printed order numbers.**

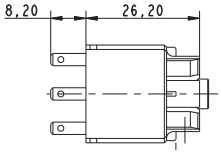
Typical accessories RAFIX 16 - Contact blocks with gold contacts

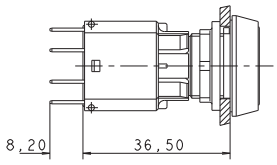
Description	Photo	Order no.	Additional accessories see page
Filament lamp, W 2 x 4.6d base, 24 V		**1.90.120.011/0000**	5 - 4
Filament lamp, W 2 x 4.6d base, 12 V		**1.90.120.012/0000**	5 - 4
LED W 2 x 4.6d superbright, red, 24 V		**1.90.690.361/0000**	5 - 14
LED W 2 x 4.6d superbright, green, 24 V		**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 - 93
PCB plug-in socket, 10 contacts (universal application)		**5.05.510.644/0000**	2 - 92
Female quick-connect terminal DIN 46340-B 2.8-1-MS		**5.37.540.024/8622**	2 - 93, 2 - 236
Plug distributor		**5.37.540.029/6000**	2 - 93
Protection against contact		**5.55.103.105/0100**	2 - 94

RAFIX 16 - Standard contact block, gold contacts, with quick-connect terminals









Contact function	Contact arrangement	Lamp socket	Rated voltage AC/DC max.	Rated current max.	Order no.
momentary	1 NC + 1 NO	W 2 x 4.6d	35 V	0.25 A	**1.20.122.011/0000**
momentary	2 NO	W 2 x 4.6d	35 V	0.25 A	**1.20.122.012/0000**
momentary	2 NC	W 2 x 4.6d	35 V	0.25 A	**1.20.122.013/0000**
latching	1 NC + 1 NO	W 2 x 4.6d	35 V	0.25 A	**1.20.122.051/0000**
latching	2 NO	W 2 x 4.6d	35 V	0.25 A	**1.20.122.052/0000**
momentary	1 NC + 1 NO	-	35 V	0.25 A	**1.20.122.031/0000**
momentary	2 NO	-	35 V	0.25 A	**1.20.122.032/0000**
momentary	2 NC	-	35 V	0.25 A	**1.20.122.033/0000**

Technical data see page 2 - 74

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.

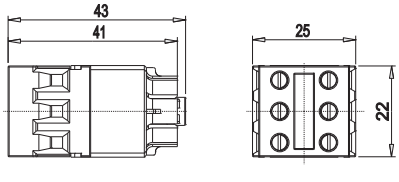
Stock items are marked by **bold printed order numbers.**

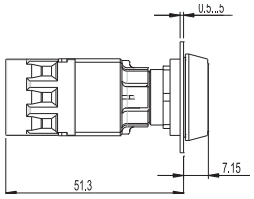
RAFIX 16 - Standard contact block, gold contacts, with screw terminals

NEW



Pict.: with lamp socket



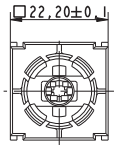


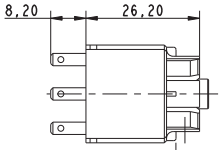
Contact function	Contact arrangement	Lamp socket	Rated voltage AC/DC max.	Rated current max.	Order no.
momentary	1 NC + 1 NO	W 2 x 4.6d	35 V	0.25 A	**1.20.122.111/0000**
momentary	2 NO	W 2 x 4.6d	35 V	0.25 A	**1.20.122.112/0000**
momentary	2 NC	W 2 x 4.6d	35 V	0.25 A	**1.20.122.113/0000**
latching	1 NC + 1 NO	W 2 x 4.6d	35 V	0.25 A	**1.20.122.151/0000**
latching	2 NO	W 2 x 4.6d	35 V	0.25 A	**1.20.122.152/0000**
latching	2 NC	W 2 x 4.6d	35 V	0.25 A	**1.20.122.153/0000**
momentary	1 NC + 1 NO	-	35 V	0.25 A	**1.20.122.131/0000**
momentary	2 NO	-	35 V	0.25 A	**1.20.122.132/0000**
momentary	2 NC	-	35 V	0.25 A	**1.20.122.133/0000**
latching	1 NC + 1 NO	-	35 V	0.25 A	**1.20.122.171/0000**
latching	2 NO	-	35 V	0.25 A	**1.20.122.172/0000**
latching	2 NC	-	35 V	0.25 A	**1.20.122.173/0000**

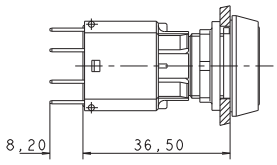
Technical data see page 2 - 74

RAFIX 16 - Universal contact block, gold contacts, with quick-connect terminals









Contact function	Contact arrangement	Lamp socket	Rated voltage AC/DC max.	Rated current max.	Order no.
momentary	1 NC + 1 NO	W 2 x 4.6d	35 V	0.25 A	**1.20.123.011/0000**
momentary	1 NO	W 2 x 4.6d	35 V	0.25 A	**1.20.123.013/0000**
momentary	2 NC	W 2 x 4.6d	35 V	0.25 A	**1.20.123.014/0000**
momentary	2 NO	W 2 x 4.6d	35 V	0.25 A	**1.20.123.015/0000**
momentary	1 NC + 1 NO	-	35 V	0.25 A	**1.20.123.031/0000**
momentary	1 NC	-	35 V	0.25 A	**1.20.123.032/0000**
momentary	1 NO	-	35 V	0.25 A	**1.20.123.033/0000**
momentary	2 NC	-	35 V	0.25 A	**1.20.123.034/0000**
momentary	2 NO	-	35 V	0.25 A	**1.20.123.035/0000**

Technical data see page 2 - 74

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.

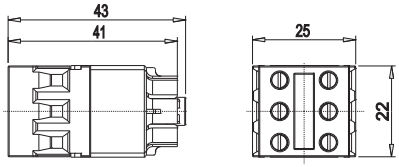
Stock items are marked by **bold printed order numbers.**

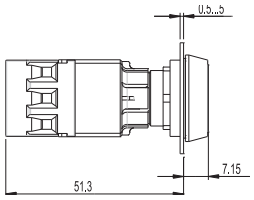
RAFIX 16 - Universal contact block, gold contacts, with screw terminals

NEW



Pict.: with lamp socket





Contact function	Contact arrangement	Lamp socket	Rated voltage AC/DC max.	Rated current max.	Order no.
momentary	1 NC + 1 NO	W 2 x 4.6d	35 V	0.25 A	**1.20.123.111/0000**
momentary	1 NC	W 2 x 4.6d	35 V	0.25 A	**1.20.123.112/0000**
momentary	1 NO	W 2 x 4.6d	35 V	0.25 A	**1.20.123.113/0000**
momentary	2 NC	W 2 x 4.6d	35 V	0.25 A	**1.20.123.114/0000**
momentary	2 NO	W 2 x 4.6d	35 V	0.25 A	**1.20.123.115/0000**
momentary	1 NC + 1 NO	-	35 V	0.25 A	**1.20.123.131/0000**
momentary	1 NC	-	35 V	0.25 A	**1.20.123.132/0000**
momentary	1 NO	-	35 V	0.25 A	**1.20.123.133/0000**
momentary	2 NC	-	35 V	0.25 A	**1.20.123.134/0000**
momentary	2 NO	-	35 V	0.25 A	**1.20.123.135/0000**

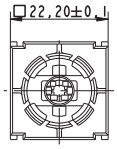
Technical data see page 2 - 74

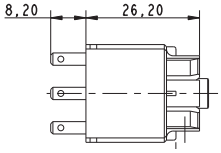
Universal contact blocks have two separate contact chambers and two actuator plungers for alternating actuation directions. Two different polarities can be switched. The NC contacts are positive opening contacts to IEC 60947-5-1.

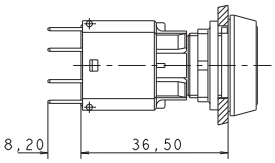
Stock items are marked by **bold printed order numbers.**

RAFIX 16 - Contact blocks with silver contacts









2

RAFIX 16

Technical Data

Dimensions	
Size not mounted	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	Ag
Contact arrangement	see order block
Contact function	see order block
Lamp socket	see order block
Terminals	see order block
Terminal marking	according to DIN 50013, X1 = +, X2 = -
Operating travel	3 mm
Robustness	100 N
Mechanical characteristics	
Robustness	acc. to IEC 60947-5-5
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 $I_{M\ nenn}$	4 A
Application category acc. to VDE 0660 Teil 200	AC 15B 300
Application category acc. to VDE 0660 Teil 200	DC 13Q 300
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,DC	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	100,000 at 6A, 800.000 at 2A
Operating life switching element DC	250,000 at 220 V/0.2 A, 1,000,000 at 24 V/2 A
Rated power DC	10 x I_E
Rated power AC	1.1 x I_E
Contact resistance when new max.	20 mΩ
Other specifications	
Protection class	II
Corresponding to EU directive NSR 72/73	yes
Shock resistance acc. to IEC 60068-2-27	amplitude < 50g, 11ms, half sinusoidal
Operation temperature min.	-25 °C
Ambient temp. operating max. without lamp /LED	+70 °C
Ambient temp. operating max. with lamp /LED	+55 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Colour code	grey bottom
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Mechanical operating life latching (operations)	100,000
Resistance to vibrations acc. to IEC 60068-2-6	10 g at 20 ... 500 Hz
Flame class acc. to UL 94	V 0
Hot wire ignition acc. to IEC 60695-2-1	yes

Approvals

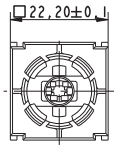
IEC 61058 C22.2 No. 14-M91

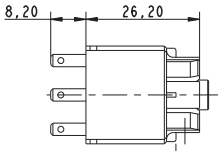
Typical accessories RAFIX 16 - Contact blocks with silver contacts

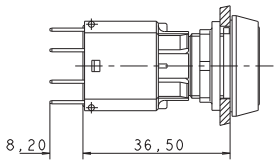
Description	Photo	Order no.	Additional accessories see page
Filament lamp, W 2 x 4.6d base, 24 - 30 V		**1.90.120.005/0000**	5 - 4
Filament lamp, W 2 x 4.6d base, 60 V		**1.90.120.009/0000**	5 - 4
Filament lamp, W 2 x 4.6d base, 48 V		**1.90.120.010/0000**	5 - 4
Filament lamp, W 2 x 4.6d base, 24 V		**1.90.120.011/0000**	5 - 4
Filament lamp, W 2 x 4.6d base, 12 V		**1.90.120.012/0000**	5 - 4
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 - 93
PCB plug-in socket, 10 contacts (universal application)		**5.05.510.644/0000**	2 - 92
Female quick-connect terminal DIN 46340-B 2.8-1-MS		**5.37.540.024/8622**	2 - 93, 2 - 236
Plug distributor		**5.37.540.029/6000**	2 - 93
Protection against contact		**5.55.103.105/0100**	2 - 94

RAFIX 16 - Standard contact block, silver contacts, with quick-connect terminals









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**
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 - 80

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.

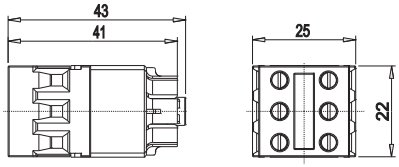
Stock items are marked by **bold printed order numbers.**

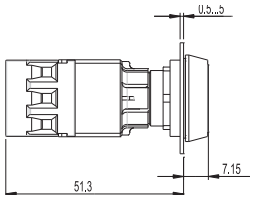
RAFIX 16 - Standard contact block, silver contacts, with screw terminals

NEW



Pict.: with lamp socket





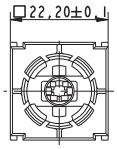
Contact function	Contact arrangement	Lamp socket	Rated insulation voltage U_i, AC	Ohmic rated current I_R	Order no.
momentary	1 NC + 1 NO	W 2 x 4.6d	250 V	6 A	**1.20.122.101/0000**
momentary	2 NO	W 2 x 4.6d	250 V	6 A	**1.20.122.102/0000**
momentary	2 NC	W 2 x 4.6d	250 V	6 A	**1.20.122.103/0000**
latching	1 NC + 1 NO	W 2 x 4.6d	250 V	6 A	**1.20.122.141/0000**
latching	2 NO	W 2 x 4.6d	250 V	6 A	**1.20.122.142/0000**
latching	2 NC	W 2 x 4.6d	250 V	6 A	**1.20.122.143/0000**
momentary	1 NC + 1 NO	-	250 V	6 A	**1.20.122.121/0000**
momentary	2 NO	-	250 V	6 A	**1.20.122.122/0000**
momentary	2 NC	-	250 V	6 A	**1.20.122.123/0000**
latching	1 NC + 1 NO	-	250 V	6 A	**1.20.122.161/0000**
latching	2 NO	-	250 V	6 A	**1.20.122.162/0000**
latching	2 NC	-	250 V	6 A	**1.20.122.163/0000**

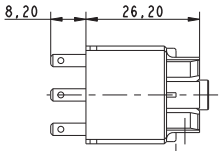
Technical data see page 2 - 80

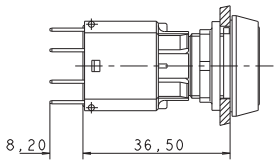
Standard contact blocks have one common contact chamber and one actuator plunger.
Contact blocks with „latching“ contact function are used as switches. When combined with pushbuttons and mushroom actuators, the switching position is visible, releasing is effected by actuating again.

RAFIX 16 - Universal contact block, silver contacts, with quick-connect terminals









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**
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 - 80

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.

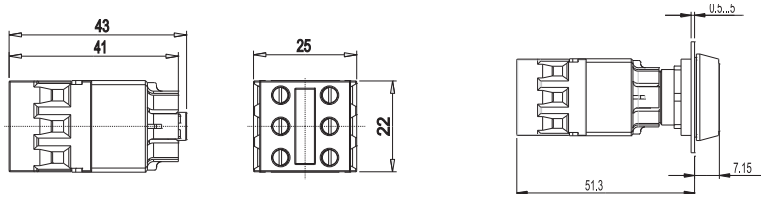
Stock items are marked by **bold printed order numbers.**

RAFIX 16 - universal contact block, silver contacts, with screw terminals

NEW



Pict.: 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	**1.20.123.101/0000**
momentary	1 NC	W 2 x 4.6d	250 V	6 A	**1.20.123.102/0000**
momentary	1 NO	W 2 x 4.6d	250 V	6 A	**1.20.123.103/0000**
momentary	2 NO	W 2 x 4.6d	250 V	6 A	**1.20.123.104/0000**
momentary	2 NC	W 2 x 4.6d	250 V	6 A	**1.20.123.105/0000**
momentary	1 NC + 1 NO	-	250 V	6 A	**1.20.123.121/0000**
momentary	1 NC	-	250 V	6 A	**1.20.123.122/0000**
momentary	1 NO	-	250 V	6 A	**1.20.123.123/0000**
momentary	2 NO	-	250 V	6 A	**1.20.123.124/0000**
momentary	2 NC	-	250 V	6 A	**1.20.123.125/0000**

Technical data see page 2 - 80

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.

RAFIX 16 - Contact blocks AS-Interface, standard





General Data

The AS-Interface standard contact block can be combined with all RAFIX 16 and 16 F actuators and indicators. It 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 and detailled manual on request.

Technical Data

Dimensions	
Size not mounted	22.2 x 22.2 x 37.5 mm
Mounting depth with RAFIX 16	48 mm
Key grid	25 x 25 mm
Mechanical design	
Mounting	snap on actuator
Contact system	bridge-contact self cleaning
Contact materials	Au
Contact arrangement	2 NO
Illumination	see order block
Mounting position	variable
Terminals	supplied connector
Coupling contact	no
2-pole digital output, 24 V /15 mA	no
Robustness	100 N
Electrical characteristics	
Rated voltage AC/DC	24 V
Operating current AC/DC	1 .. 250 mA
AS-I Schnittstelle	
AS-Interface profile	S-B.A.E
Terminal code	yes
Operating voltage	26.5 ... 31.6 V
Rated current max.	30 mA
Deceleration time for readiness	1
AS-Interface IC	AS-I-SW
AS-Interface specification	V3.0
AS-Interface certificate	65001
Other specifications	
Operating life (operations)	1,000,000 operations at 24 V/50 mA DC
Switching reliability	$< 10 \times 10^{-6}$ at 24 V/5 mA DC
Operation temperature min.	-25 °C
Operating temperature max.:	70 °C
Storage temperature min.	-40 °C
Storage temperature max.:	80 °C
Resistance to constant environment:	IEC 60068-2-78
Resistance to vibrations acc. to IEC 60068-2-6	10 g at 40...500 Hz
Shock resistance acc. to IEC 60068-2-27	50 g at 11 ms amplitude, half sinusoidal

Approvals

IEC 60947-5-x, 60904, 60073

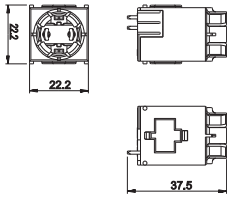
65001

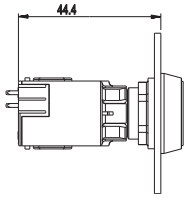
Typical accessories RAFIX 16 - Contact blocks AS-Interface, standard

Description	Photo	Order no.	Additional accessories see page
RAFIX 16 F - Pushbutton, illuminated, flush lens, housing		1.30.090.501/0000	2 - 54
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, white, 24 V		**1.90.690.365/0000**	5 - 14

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





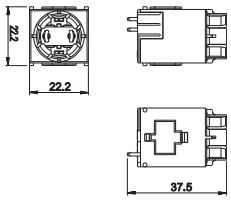


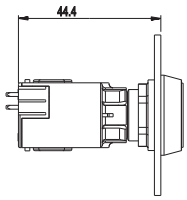
Contact arrangement	Illumination	2-pole digital output, 24 V / 15 mA	Coupling contact	Order no.
2 NO	Lamp socket W 2 x 4,6 d	no	no	1.20.130.111/0000

Technical data see page 2 - 86

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







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

Technical data see page 2 - 86

Stock items are marked by **bold printed order numbers.**

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





General Data

The AS-Interface E-stop contact block is a slave for the AS-I fieldbus system. It is designed for the standart 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 to the AS-I bus, when this connection is interrupted.

Technical Data

Dimensions

Dimensions not mounted	30 x 48 x 52.8 mm
Mounting depth with RAFIX 16	57.8 mm
Key grid	50 x 30 mm

Mechanical design

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

Electrical characteristics

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

AS-I Schnittstelle

AS-Interface profile	S-0.B.E / S-7.B.E
Terminal code	yes
Operating voltage	26.5 ... 31.6 V
Rated current max.	< 50 mA (S-0.B.E), resp. 60 mA (S-7.B.E)
Deceleration time for readiness	1
AS-Interface IC	A²SI
AS-Interface specification	V3.0
AS-Interface certificate	ZU 63001, 63701
Probability to failure acc. to IEC 61508	PFD total: 2.2 x 10^{-4}, operation period 10 years, PFH/h: 2.5 x 10^{-9}

Other specifications

Operating life (operations)	1,000,000 operations at 24 V/50 mA DC
Operation temperature min.	-25 °C
Operating temperature max.:	70 °C
Storage temperature min.:	-40 °C
Storage temperature max.:	80 °C
Resistance to constant environment:	IEC 60068-2-78
Resistance to vibrations acc. to IEC 60068-2-6	10 g at 40...500 Hz
Shock resistance acc. to IEC 60068-2-27	50 g at 11 ms amplitude, half sinusoidal

Approvals

IEC 60947-5-x, 60904, 60073

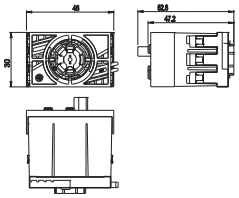
ZU 63001, 63701

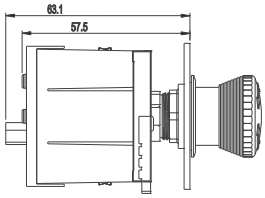
Typical accessories RAFIX 16 - Contact blocks AS-Interface, E-stop, Safety at Work

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 - 34
RAFIX 16 - Safety emergency stop pushbutton, round collar, dupe-proof, non-blocking		**1.30.074.821/0000**	2 - 33
RAFIX 16 F - Emergency stop pushbutton, non-blocking, dupe-proof		**1.30.094.001/0300**	2 - 69
RAFIX 16 F - Emergency stop pushbutton, non-blocking, dupe-proof		**1.30.094.011/0300**	2 - 69
Adhesive label yellow, round 22.3 / 40 mm, with legend „NOT-HALT, EMERGENCY STOP, ARRET D´URGENCE, EMERGENZA“		5.76.204.115/0400	2 - 99, 2 - 172, 2 - 238, 5 - 29

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







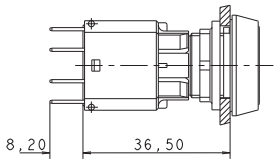
Contact arrangement	Illumination	2-pole digital output, 24 V / 15 mA	Coupling contact	Separate address plug	Order no.
2 NC	1 x LED red	yes (max. length of cable 10 cm)	yes	yes	1.20.130.001/0000
2 NC	1 x LED red	no	no	no	1.20.130.002/0000
2 NC	1 x LED red	no	yes	yes	1.20.130.011/0000

Technical data see page 2 - 88

RAFIX 16 - Lamp socket







Technical Data

Dimensions

Size not mounted	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 mm
Terminal marking	X1 = anode, X2 = cathode
Robustness	100 N

Electrical characteristics

Rated voltage	60 V
Rated power	1.2 W

Other specifications

Shock resistance acc. to IEC 60068-2-27	amplitude < 50g, 11ms, half sinusoidal
Ambient temp. operating min.	-25 °C
Ambient temp. operating max. with lamp /LED	+55 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Flame class acc. to UL 94	V 0
Hot wire ignition acc. to IEC 60695-2-1	yes
Resistance to vibrations acc. to IEC 60068-2-6	10 g at 20 ... 500 Hz

Approvals

IEC 61058

C22.2 No. 14-M91

Typical accessories 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, 48 V		**1.90.120.010/0000**	5 - 4
Filament lamp, W 2 x 4.6d base, 12 V		**1.90.120.012/0000**	5 - 4
LED W 2 x 4.6d superbright, red, 24 V		**1.90.690.361/0000**	5 - 14

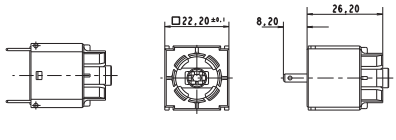
Stock items are marked by **bold printed order numbers.**

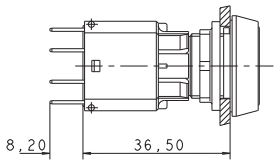
Typical accessories RAFIX 16 - Lamp socket

Description	Photo	Order no.	Additional accessories see page
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, white, 24 V		**1.90.690.365/0000**	5 - 14
PCB plug-in socket, 2 contacts (lamp socket)		**5.05.510.649/0000**	2 - 92
Protection against contact		**5.55.103.105/0100**	2 - 94

RAFIX 16 - Lamp socket W 2 x 4.6 d







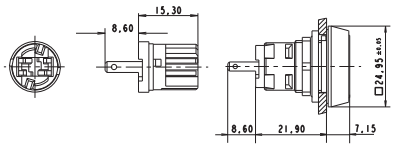
Rated voltage	Rated power	Lamp socket	Mounting	Mounting depth	Order no.
60 V	1.2 W	wedge-base W 2 x 4.6d	click on signal indicator	44.7 mm	**1.71.212.001/0000**

Technical data see page 2 - 90

A notch on the lamp socket identifies the cathode side.

RAFIX 16 - Lamp socket W 2 x 4.6 d





Rated voltage	Rated power	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 - 90

A notch on the lamp socket identifies the cathode side.

RAFIX 16 - Special accessories





3-module

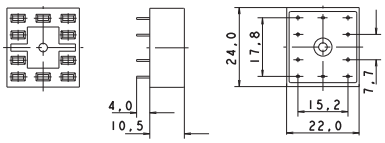


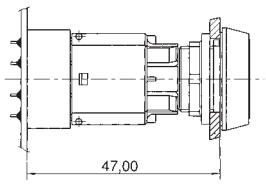
2

RAFIX 16

PCB plug-in socket







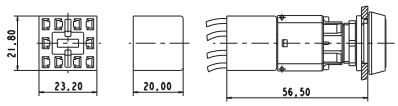
short text	Feature 1	Feature 2	Order no.
PCB plug-in socket, 10 contacts (universal application)	22 mm	24 mm	**5.05.510.644/0000**
PCB plug-in socket, 6 contacts (2 NO, lamp socket)	22 mm	24 mm	**5.05.510.645/0000**
PCB plug-in socket, 6 contacts (1 NC, 1 NO, lamp socket)	22 mm	24 mm	**5.05.510.646/0000**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

Stock items are marked by **bold printed order numbers.**

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

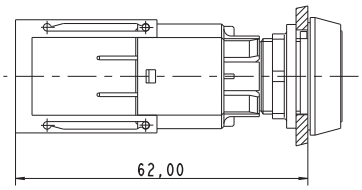


short text	Feature 1	Feature 2	Order no.
Plug distributor	-	-	**5.37.540.029/6000**

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

Protection against contact



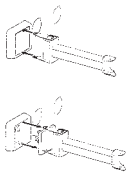


short text	Feature 1	Feature 2	Order no.
Protection against contact	-	-	**5.55.103.105/0100**

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.

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.

Fixing spanner for hexagon nut

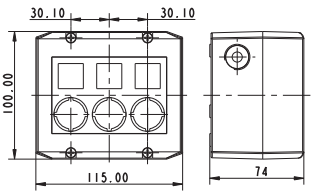


short text	Feature 1	Feature 2	Order no.
Fixing spanner for hexagon nut	-	-	**5.58.002.034/0000**

RAFIX - Insulating housing, Ø 16.2 mm



Pict.: 3-module





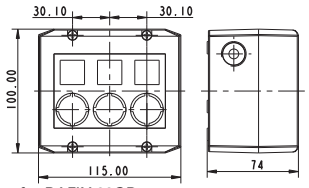
short text	Feature 1	Feature 2	Order no.
RAFIX - Insulating housing, Ø 16.2 mm, IP65, 1-module, light grey/dark grey	55 mm	100 mm	**1.20.810.001/0000**
RAFIX - Insulating housing, Ø 16.2 mm, IP65, 1-module, yellow/yellow	55 mm	100 mm	**1.20.810.002/0000**
RAFIX - Insulating housing, Ø 16.2 mm, IP65, 2-module, light grey/dark grey	115 mm	100 mm	**1.20.820.001/0000**
RAFIX - Insulating housing, Ø 16.2 mm, IP65, 3-module, light grey/dark grey	115 mm	100 mm	**1.20.830.001/0000**
RAFIX - Insulating housing, Ø 16.2 mm, IP65, 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 IP65 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

RAFIX 22 QR - Insulating housing IP65, Ø 22.3 mm



Pict.: 3-module



Cut-out for RAFIX 22QR



light grey/dark grey

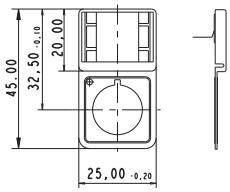
short text	Feature 1	Feature 2	Order no.
RAFIX - Insulating housing, Ø 22.3 mm, IP65, 1-module, light grey/dark grey	-	-	**1.20.810.201/0000**
RAFIX - Insulating housing, Ø 22.3 mm, IP65, 1-module, yellow/yellow	-	-	**1.20.810.202/0000**
RAFIX - Insulating housing, Ø 22.3 mm, IP65, 2-module, light grey/dark grey	-	-	**1.20.820.201/0000**
RAFIX - Insulating housing, Ø 22.3 mm, IP65, 3-module, light grey/dark grey	-	-	**1.20.830.201/0000**
RAFIX - Insulating housing, Ø 22.3 mm, IP65, 4-module, light grey/dark grey	-	-	**1.20.840.201/0000**

Accessoires:
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 IP65 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

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**

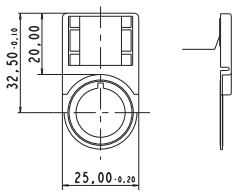
Accessoires:
Legend label 23 x 16 for label holder, without legend: **5.73.111.000/0000**

Legending available on request.

Stock items are marked by **bold printed order numbers.**

RAFIX 16 - Label holder, flush, for round collar





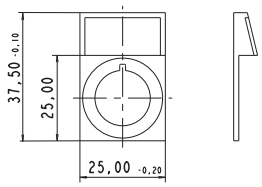
short text	Feature 1	Feature 2	Order no.
Label holder, flush, for round collar	-	-	**5.07.620.006/0000**

Accessoires:
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**

Accessoires:
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





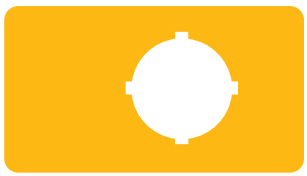


short text	Feature 1 Ø outward	Feature 2 Ø inward	Order no.
Adhesive label yellow, round 16.3 / 60 mm, without legend	60 mm	16.3 mm	**5.76.204.400/0400**
Adhesive label yellow, round 16.3 / 60 mm, with legend „Not-Aus“	60 mm	16.3 mm	**5.76.204.401/0400**
Adhesive label yellow, round 16.3 / 60 mm, with legend „EMERGENCY STOP“	60 mm	16.3 mm	**5.76.204.403/0400**
Adhesive label yellow, round 16.3 / 60 mm, with legend „NOT-HALT, EMERGENCY STOP, ARRET D´URGENCE, EMERGENZA“	60 mm	16.3 mm	5.76.204.106/0400
Adhesive label yellow, round 16.3 / 60 mm, with legend 4 x „NOT-HALT“	60 mm	16.3 mm	5.76.204.108/0400
Adhesive label yellow, round 16.3 / 60 mm, with legend 4 x „NOT-AUS“	60 mm	16.3 mm	5.76.204.110/0400
Adhesive label yellow, round 16.3 / 60 mm, with legend 4 x „EMERGENCY STOP“	60 mm	16.3 mm	5.76.204.112/0400
Adhesive label yellow, round 16.3 / 40 mm, with legend „NOT-HALT, EMERGENCY STOP, ARRET D´URGENCE, EMERGENZA“	40 mm	16.3 mm	5.76.204.114/0400
Adhesive label yellow, round 16.3 / 40 mm, with legend 4 x „NOT-HALT“	40 mm	16.3 mm	5.76.204.116/0400
Adhesive label yellow, round 16.3 / 40 mm, with legend 4 x „NOT-AUS“	40 mm	16.3 mm	5.76.204.118/0400
Adhesive label yellow, round 16.3 / 40 mm, with legend 4 x „EMERGENCY STOP“	40 mm	16.3 mm	5.76.204.120/0400

Stock items are marked by **bold printed order numbers.**

Emergency stop label, Ø 22.3 mm







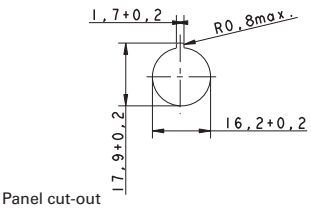
Short text	Feature 1 Ø outward	Feature 2 Ø inward	Order no.
Emergency stop label, yellow, round 60 mm, rigid PVC, with legend „Not-Aus“	60 mm	22.3 mm	**5.76.207.001/0400**
Emergency stop label, yellow, round 60 mm, rigid PVC, with legend „EMERGENCY-STOP/ARRET D'URGENCE“	60 mm	22.3 mm	**5.76.207.002/0400**
Adhesive label yellow, round 22.3 / 60 mm, without legend	60 mm	22.3 mm	**5.76.204.100/0400**
Adhesive label yellow, round 22.3 / 60 mm, with legend 1 x „Not-Aus“	60 mm	22.3 mm	**5.76.204.101/0400**
Adhesive label yellow, round 22.3 / 60 mm, with legend 1 x „ARRET D'URGENCE“	60 mm	22.3 mm	5.76.204.102/0400
Adhesive label yellow, round 22.3 / 60 mm, with legend 1 x „EMERGENCY-STOP“	60 mm	22.3 mm	**5.76.204.103/0400**
Emergency stop label, yellow rectangular 36 x 64 mm, without legend	36 x 64 mm	22.3 mm	5.76.205.011/0400
Adhesive label yellow, round 22.3 / 60 mm, with legend „NOT-HALT, EMERGENCY STOP, ARRET D´URGENCE, EMERGENZA“	60 mm	22.3 mm	5.76.204.107/0400
Adhesive label yellow, round 22.3 / 60 mm, with legend 4 x „NOT-HALT“	60 mm	22.3 mm	5.76.204.109/0400
Adhesive label yellow, round 22.3 / 60 mm, with legend 4 x „NOT-AUS“	60 mm	22.3 mm	5.76.204.111/0400
Adhesive label yellow, round 22.3 / 60 mm, with legend 4 x „EMERGENCY STOP“	60 mm	22.3 mm	5.76.204.113/0400
Adhesive label yellow, round 22.3 / 40 mm, with legend „NOT-HALT, EMERGENCY STOP, ARRET D´URGENCE, EMERGENZA“	40 mm	22.3 mm	5.76.204.115/0400
Adhesive label yellow, round 22.3 / 40 mm, with legend 4 x „NOT-HALT“	40 mm	22.3 mm	5.76.204.117/0400
Adhesive label yellow, round 22.3 / 40 mm, with legend 4 x „NOT-AUS“	40 mm	22.3 mm	5.76.204.119/0400
Adhesive label yellow, round 22.3 / 40 mm, with legend 4 x „EMERGENCY STOP“	40 mm	22.3 mm	5.76.204.121/0400

Degree of protection: Rigid PVC: IP40, adhesive foil: IP65

Blanking cap with sealing and threaded ring, Ø 16.2 mm



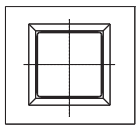


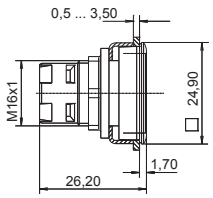


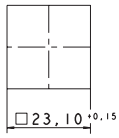
Panel cut-out

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**

RAFIX 16 F - Blanking cap







Panel cut-out

short text	Feature 1	Feature 2	Order no.
RAFIX 16 F - Blanking cap, black	opak black	23.1 x 23.1 mm	**5.05.800.063/0000**

Stock items are marked by **bold printed order numbers.**



General Data

RAFIX 22QR control component range
- For a mounting hole diameter of 22.3 mm to IEC 60947-5-1
- 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.
- 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.

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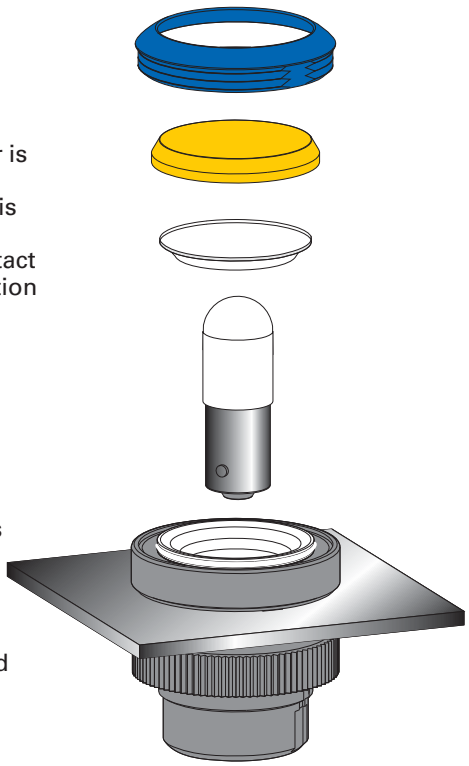
Contact blocks marked with different colours for ease of identification in stock and when connecting.

- NC contacts: red cover
- NO contacts: green cover
- NC/NO contacts: one cover red, one cover 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:
  1, 2 = NC
  3, 4 = NO



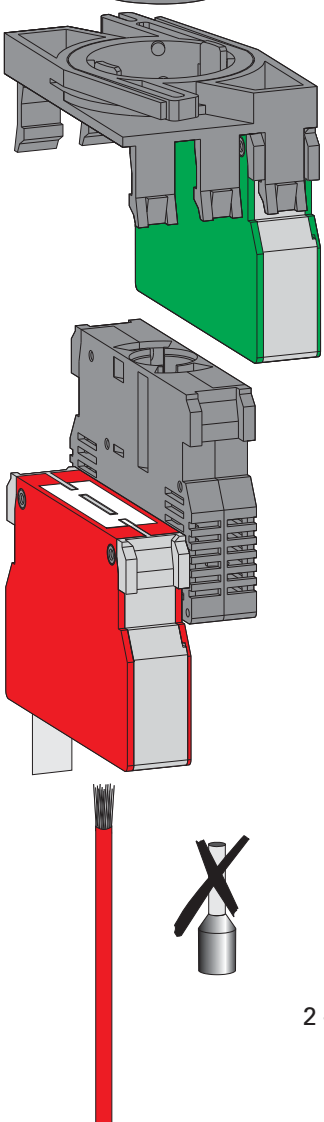
The lamps of pushbuttons and signal lamps can be replaced from the front. This method saves time and increases safety since it eliminates the need for accessing the machine/control station interior and handling live cables for lamp replacement. After unscrewing the front ring, the lens can be removed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



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).



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**

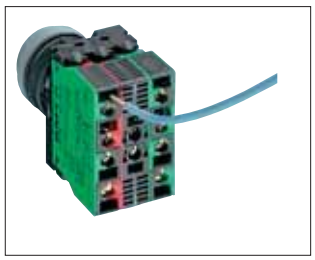
Your advantage:

This offers your savings in three ways:

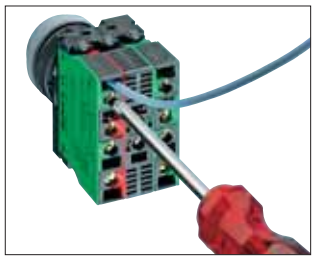
- Drastically reduced assembly time thanks to wire insertion from the rear, i. e. no more bending and lateral insertion of the wires required.
- You save material: No wire end sleeves are required.
- You save the time previously required for mounting the wire end sleeves.

Assembly

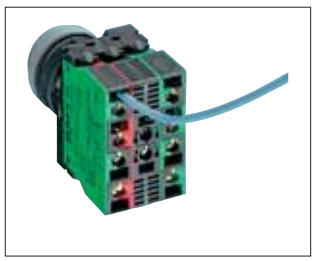
Screw terminals



Insert the wire

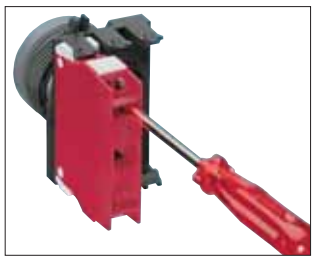


Tighten the screw

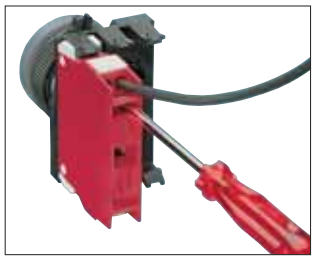


Done

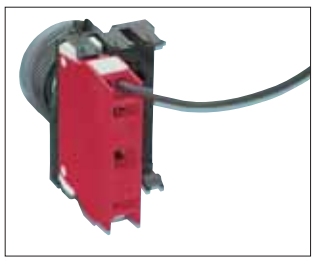
Spring-type terminals



Open the terminal



Insert the wire



Remove the screwdriver



Versatility of design for customized panels

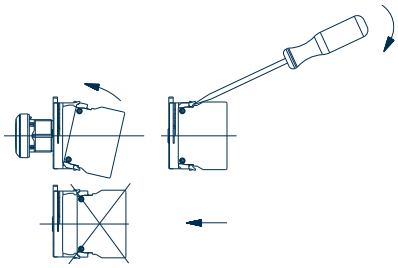
The RAFIX 22 QR system does not only have a particularly low profile and is also available in many different versions. Your design options for your customized panels are nearly unlimited thanks to the interchangeable front rings and lenses. In this way you can achieve an attractive design while ensuring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

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.

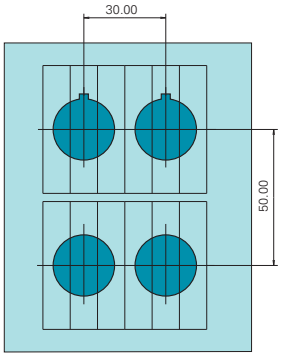


Sequence of assembly/disassembly at screw, spring-type and quick connect terminal

- Fix the actuator in the front panel with the ring nut.
- Snap the individual elements (amaximum 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).

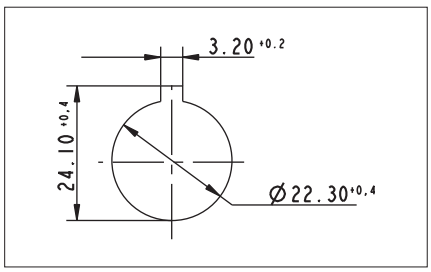


Assembly Disassembly

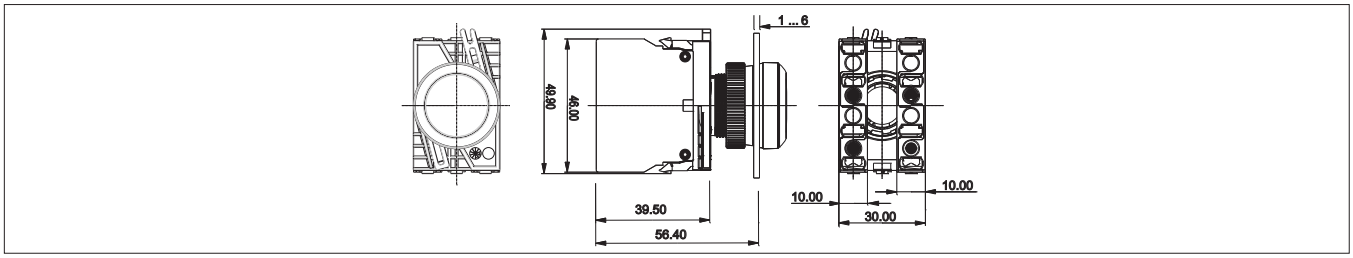


Panel cut-out according to IEC 60947-5-1
All actuators are provided with a locating lug which may be removed using a screwdriver for installation into mounting holes if required.

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 60947-5-1).



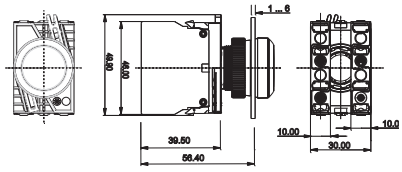
Dimensional drawing



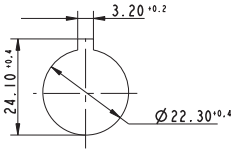
RAFIX 22 QR - Pushbutton



Pict.: transparent green



with contact block



Panel cut-out to IEC 60947-5-1

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

Dimensions of collar	see order block
Overall height	see order block
Mounting depth with contact block without cable	56.4 mm
Mounting hole	Ø 22.3 mm
Mounting grid	50 x 30 mm

Mechanical design

Mounting	ring nut
Contact function	see order block
Illumination	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)	1,000,000 momentary/ 500,000 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
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

IEC 61058

UL 508,C22.2 No. 14-M91

2004 Steel Vessel Rules

Rules for the Classification of Steel Ships

Classification of Ships....Rules

Marine, offshore and industrial use

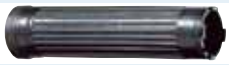
German Lloyds type approval

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 - 149
RAFIX 22 QR - Contact block with silver contacts, with coupling and lamp socket, screw terminals, 1 NC + 1 NO		**1.20.124.027/0000**	
RAFIX 22 QR - Contact block with gold contacts, with coupling and lamp socket, screw terminals, 1 NO		**1.20.124.122/0000**	

Stock items are marked by **bold printed order numbers.**

Typical accessories RAFIX 22 QR - Pushbutton

Description	Photo	Order no.	Additional accessories see page
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**	
RAFIX 22 QR - Contact block with RJ 12 connector, 2 NO, white LED		1.20.128.015/0000	2 - 155
RAFIX 22 QR - Contact block AS-I, standard		1.20.129.101/0000	2 - 157
RAFIX 22 QR - Contact block AS-I, standard, white LED		1.20.129.121/0000	2 - 157
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 - 168

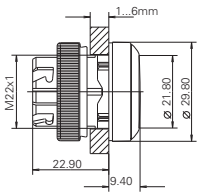
For other contact blocks, refer to the chapter „Contact blocks“; for additional accessories, refer to „RAFIX 22 QR special accessories“.

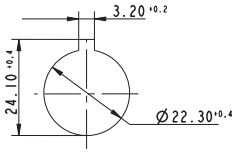
Stock items are marked by **bold printed order numbers.**

RAFIX 22 QR - Pushbutton, flush lens, round collar



Pict.: transparent green





Panel cut-out to IEC 60947-5-1

Lamp socket	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 - 106

Accessoires:
Protective cover, auto-closing: 5.05.511.194/0000
Protective cover, latching: 5.05.511.195/0000

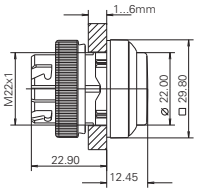
xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08

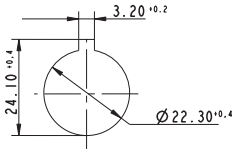
Pushbuttons with plastic front ring and white lens are also available with the following front ring colours: red = 03, yellow = 04, green = 05, blue = 06. Other colour combinations on request.

RAFIX 22 QR - Pushbutton, protruding lens, round collar



Pict.: transparent red





Panel cut-out to IEC 60947-5-1

Lamp socket	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 - 106

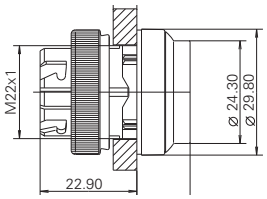
xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08

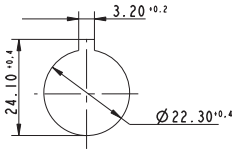
Pushbuttons with plastic front ring and white lens are also available with the following front ring colours: red = 03, yellow = 04, green = 05, blue = 06. Other colour combinations on request.

RAFIX 22 QR - Pushbutton, protruding front ring, round collar



Pict.: transparent red





Panel cut-out to IEC 60947-5-1

Lamp socket	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 - 106

Accessoires:
Legend insert without legend, use only in combination with transparent lenses.: **5.70.800.000/2000**

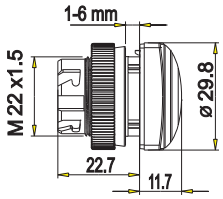
xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08

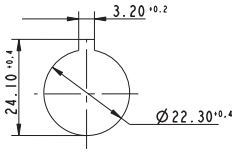
The protruding collar offers protection against inadvertent operation and thereby fulfils the safety requirements of various machinery manufacturers, particularly from the printing industry.

RAFIX 22 QR - Pushbutton with protective cap, flush lens, round collar

NEW







Panel cut-out to IEC 60947-5-1

Lamp socket	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	**1.30.240.005/10xx**	-	-	-
yes	transparent red	**1.30.240.005/13xx**	-	-	-
yes	transparent yellow	**1.30.240.005/14xx**	-	-	-
yes	transparent green	**1.30.240.005/15xx**	-	-	-
yes	transparent blue	**1.30.240.005/16xx**	-	-	-
no	opaque black	**1.30.240.105/01xx**	-	-	-
no	opaque white	**1.30.240.105/02xx**	-	-	-
no	opaque red	**1.30.240.105/03xx**	-	-	-
no	opaque yellow	**1.30.240.105/04xx**	-	-	-
no	opaque green	**1.30.240.105/05xx**	-	-	-
no	opaque blue	**1.30.240.105/06xx**	-	-	-
no	opaque slate-grey	**1.30.240.105/07xx**	-	-	-

Technical data see page 2 - 106

Pushbutton with protective cap for use under rugged conditions.

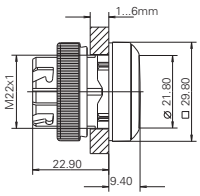
Legending on request.
xx = colour of front ring: black = 01, silver grey = 08

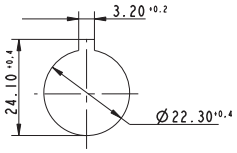
Stock items are marked by **bold printed order numbers.**

RAFIX 22 QR - Pushbutton, flush lens, square collar



Pict.: transparent red





Panel cut-out to IEC 60947-5-1

Lamp socket	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 - 106

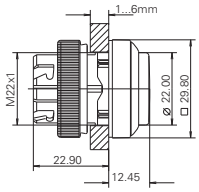
xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08

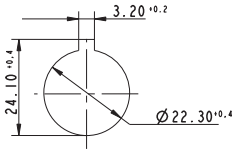
Pushbuttons with plastic front ring and white lens are also available with the following front ring colours: red = 03, yellow = 04, green = 05, blue = 06. Other colour combinations on request.

RAFIX 22 QR - Pushbutton, protruding lens, square collar



Pict.: transparent red





Panel cut-out to IEC 60947-5-1

Lamp socket	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 - 106

Accessoires:
Legend insert without legend, use only in combination with transparent lenses.: 5.70.800.000/2000

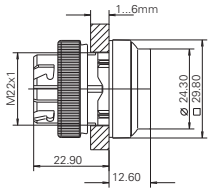
xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08

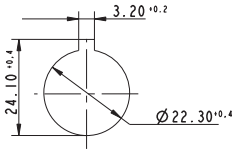
Pushbuttons with plastic front ring and white lens are also available with the following front ring colours: red = 03, yellow = 04, green = 05, blue = 06. Other colour combinations on request.

RAFIX 22 QR - Pushbutton, protruding front ring, square collar



Pict.: transparent green





Panel cut-out to IEC 60947-5-1

Lamp socket	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 - 106

Accessoires:
Legend insert without legend, use only in combination with transparent lenses.: **5.70.800.000/2000**

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

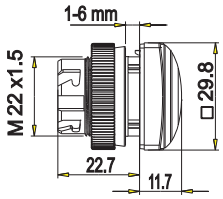
The protruding collar offers protection against inadvertent operation and thereby fulfils the safety requirements of various machinery manufacturers, particularly in the industry.

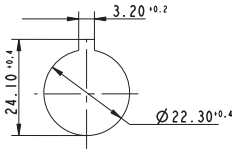
Stock items are marked by **bold printed order numbers.**

RAFIX 22 QR - Pushbutton with protective cap, flush lens, square collar

NEW







Panel cut-out to IEC 60947-5-1

Lamp socket	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	**1.30.240.055/10xx**	-	-	-
yes	transparent red	**1.30.240.055/13xx**	-	-	-
yes	transparent yellow	**1.30.240.055/14xx**	-	-	-
yes	transparent green	**1.30.240.055/15xx**	-	-	-
yes	transparent blue	**1.30.240.055/16xx**	-	-	-
no	opaque black	**1.30.240.155/01xx**	-	-	-
no	opaque white	**1.30.240.155/02xx**	-	-	-
no	opaque red	**1.30.240.155/03xx**	-	-	-
no	opaque yellow	**1.30.240.155/04xx**	-	-	-
no	opaque green	**1.30.240.155/05xx**	-	-	-
no	opaque blue	**1.30.240.155/06xx**	-	-	-
no	opaque slate-grey	**1.30.240.155/07xx**	-	-	-

Technical data see page 2 - 106

Pushbutton with protective cap for use under rugged conditions.

Legending on request.
xx = colour of front ring: black = 01, silver grey = 08

Stock items are marked by **bold printed order numbers.**

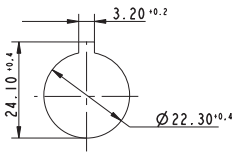
RAFIX 22 QR - Selector switch



Pict.: Front ring, black, non-illuminated



Front ring, metallized, illuminated



Panel cut-out to IEC 60947-5-1

General Data

The illuminated selector switches are provided with translucent handle markings. These are opaque on the non-illuminated versions. For coloured illumination of the translucent handle marking please use contact blocks with lamp sockets and coloured LED BA9s (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

Dimensions of collar	see order block
Overall height	22.2 mm
Mounting depth with contact block without cable	56.4 mm
Mounting hole	Ø 22.3 mm
Mounting grid	50 x 30 mm

Mechanical design

Mounting	ring nut
Contact function	see order block
Illumination	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 (operations)	500,000
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
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

IEC 61058

UL 508,C22.2 No. 14-M91

2004 Steel Vessel Rules

Rules for the Classification of Steel Ships

Classification of Ships....Rules

Marine, offshore and industrial use

German Lloyds type approval

Typical accessories RAFIX 22 QR - Selector switch

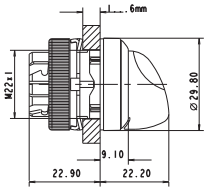
Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR - Contact block with silver contacts, with coupling, without lamp socket, screw terminals, 1 NC + 1 NO		**1.20.124.017/0000**	2 - 149
RAFIX 22 QR - Contact block with silver contacts, with coupling and lamp socket, screw terminals, 1 NC + 1 NO		**1.20.124.027/0000**	
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**	
RAFIX 22 QR - Contact block with coupling, gold RAFIX 22 QR - Contacts, RJ 12 connector, 1 NC + 1 NO, white LED		1.20.128.013/0000	2 - 155
RAFIX 22 QR - Contact block AS-I, standard, white LED		1.20.129.121/0000	2 - 157
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 - 168

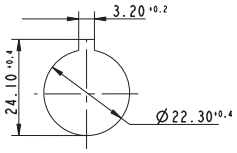
For other contact blocks, refer to the chapter „Contact blocks“; for additional accessories, refer to „RAFIX 22 QR special accessories“.

RAFIX 22 QR - Selector switch, round collar, short handle

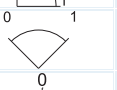
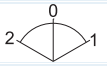
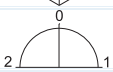
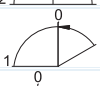
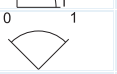
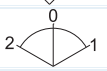
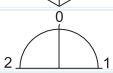
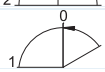


Pict.: Front ring, silver grey, non-illuminated





Panel cut-out to IEC 60947-5-1

Lamp socket	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**
yes	latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°		1.30.242.426/22xx	**1.30.242.427/2200**
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**
no	latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°		1.30.242.926/02xx	**1.30.242.927/0200**

Technical data see page 2 - 116

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

Included: Ring nut with claw.

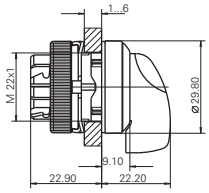
On keylock switches with 3 switching positions (e.g. 2 x 90 degrees), either the left-hand or right-hand contact block is activated, depending on the sense of rotation.

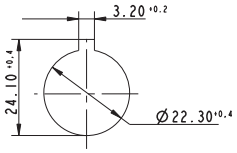
Other contact versions on request

RAFIX 22 QR - Selector switch, round collar, long handle

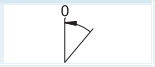
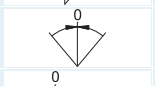
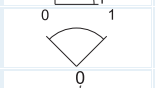
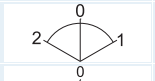
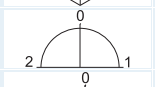
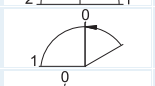
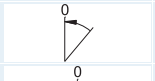
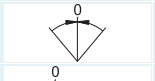
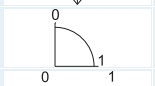
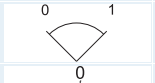
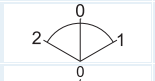
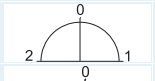
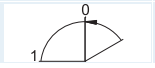


Pict.: Front ring, metallized, illuminated





Panel cut-out to IEC 60947-5-1

Lamp socket	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
yes	latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°		1.30.242.436/22xx	1.30.242.437/2200
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
no	latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°		1.30.242.936/02xx	1.30.242.937/0200

Technical data see page 2 - 116

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

Included: Ring nut with claw.

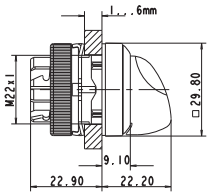
At selector switches with 3 switching positions (e.g. 2 x 90 degrees), either the left-hand or right-hand contact block is activated, depending on the sense of rotation.

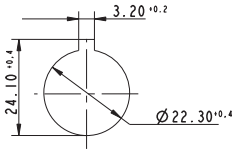
Other contact versions on request.

RAFIX 22 QR - Selector switch, square collar, short handle

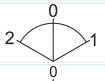
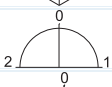
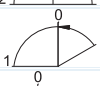
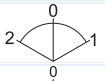
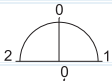
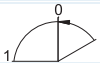


Pict.: Frontring rot, nicht beleuchtbar





Panel cut-out to IEC 60947-5-1

Lamp socket	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**
yes	latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°		1.30.242.476/22xx	**1.30.242.477/2200**
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**
no	latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°		1.30.242.976/02xx	**1.30.242.977/0200**

Technical data see page 2 - 116

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

Included: Ring nut with claw.

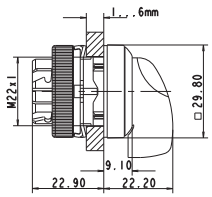
At selector switches with 3 switching positions (e.g. 2 x 90 degrees), either the left-hand or right-hand contact block is activated, depending on the sense of rotation.

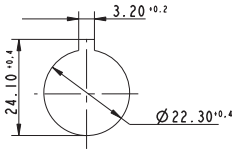
Other contact versions on request.

RAFIX 22 QR - Selector switch, square collar, long handle

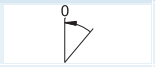
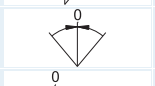
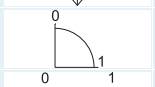
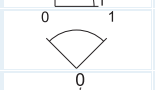
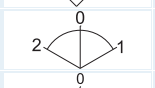
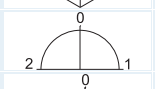
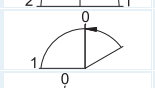
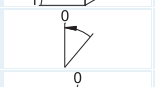
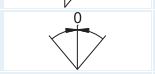
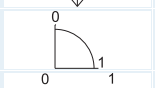
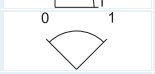
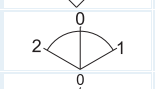
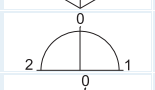
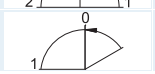


Pict.: Front ring, black, non-illuminated





Panel cut-out to IEC 60947-5-1

Lamp socket	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
yes	latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°		1.30.242.486/22xx	1.30.242.487/2200
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
no	latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°		1.30.242.986/02xx	1.30.242.987/0200

Technical data see page 2 - 116

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.

Other contact versions on request.

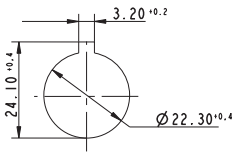
RAFIX 22 QR - Keylock switch



Pict.: Front ring, metallized



Front ring, metallized



Panel cut-out to IEC 60947-5-1

Technical Data

General information

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

Dimensions

Dimensions of collar	see order block
Overall height	30.6 mm
Mounting depth with contact block without cable	56.4 mm
Mounting hole	Ø 22.3 mm
Mounting grid	50 x 30 mm

Mechanical design

Mounting	ring nut
Contact function	see order block
Illumination	no
Lock	RONIS
Wafers	4
Lock type	see order block
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 (operations)	300,000 momentary / 50,000 latching
Degree of protection from front side	IP65
Ambient temp. operating min.	-25 °C
Storage temperature min.	-40 °C
Ambient temp. operating max.	+70 °C
Storage temperature max.	+80 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

IEC 61058

UL 508,C22.2 No. 14-M91

2004 Steel Vessel Rules

Rules for the Classification of Steel Ships

Classification of Ships....Rules

Marine, offshore and industrial use

Type approval

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 - 149

Stock items are marked by **bold printed order numbers.**

Typical accessories RAFIX 22 QR - Keylock switch

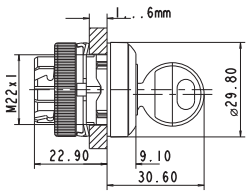
Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR - Contact block with silver contacts, with coupling, without lamp socket, spring-type terminals, 1 NO		**1.20.125.002/0000**	2 - 149
RAFIX 22 QR - Contact block with coupling, gold RAFIX 22 QR - Contacts, RJ 12 connector, 1 NC + 1 NO, without LED		1.20.128.003/0000	2 - 155
RAFIX 22 QR - Contact block AS-I, standard		1.20.129.101/0000	2 - 157
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 - 168
Spare key RONIS 455, delivery content 2 keys		5.58.017.001/0000	
Spare key RONIS 1122E, delivery content 2 keys		5.58.017.403/0000	
Spare key RONIS 421, delivery content 2 keys		5.58.017.421/0000	

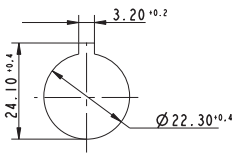
For other contact blocks, refer to the chapter „Contact blocks“; for additional accessories, refer to „RAFIX 22 QR special accessories“.

RAFIX 22 QR - Keylock switch, round collar

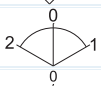
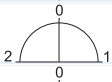
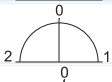
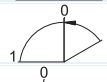


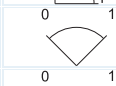
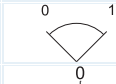
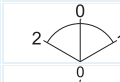
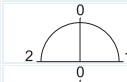
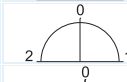
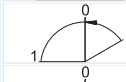
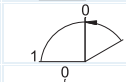
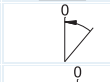
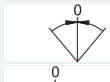
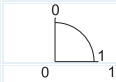
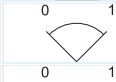
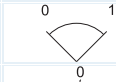
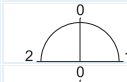
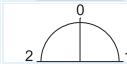
Pict.: Front ring, metallized





Panel cut-out to IEC 60947-5-1

Lock type	Rotation angle	Contact function	Key removal position	Rotation angle	Order no.	
					Plastic front ring	Metallized front ring
421	1 x 40°	momentary	0		1.30.245.003/xxxx	1.30.245.004/0000
421	2 x 40°	momentary	0		1.30.245.103/xxxx	1.30.245.104/0000
421	1 x 90°, form L	latching	0		1.30.245.203/xxxx	1.30.245.204/0000
421	1 x 90°, form V	latching	0		1.30.245.303/xxxx	1.30.245.304/0000
421	1 x 90°, form V	latching	0+1		1.30.245.323/xxxx	1.30.245.324/0000
421	2 x 60°	latching	0+1+2		-	**1.30.245.734/0000**
421	2 x 90°	latching	0		1.30.245.403/xxxx	1.30.245.404/0000
421	2 x 90°	latching	0+1+2		1.30.245.433/xxxx	1.30.245.434/0000
421	1 x 90° and 1 x 40°	latching 1 x 90° and momentary 1 x 40°	0+2		-	**1.30.245.524/0000**
455	1 x 40°	momentary	0		1.30.245.001/xxxx	**1.30.245.002/0000**

Lock type	Rotation angle	Contact function	Key removal position	Rotation angle	Order no.	
					Plastic front ring	Metallized front ring
455	2 x 40°	momentary	0		1.30.245.101/xxxx	**1.30.245.102/0000**
455	1 x 90°, form L	latching	0		1.30.245.201/xxxx	**1.30.245.202/0000**
455	1 x 90°, form L	latching	0+1		1.30.245.221/xxxx	**1.30.245.222/0000**
455	1 x 90°, form V	latching	0		1.30.245.301/xxxx	**1.30.245.302/0000**
455	1 x 90°, form V	latching	0+1		1.30.245.321/xxxx	**1.30.245.322/0000**
455	2 x 60°	latching	0+1+2		1.30.245.731/xxxx	**1.30.245.732/0000**
455	2 x 90°	latching	0		1.30.245.401/xxxx	**1.30.245.402/0000**
455	2 x 90°	latching	0+1+2		1.30.245.431/xxxx	**1.30.245.432/0000**
455	1 x 90° and 1 x 40°	latching 1 x 90° and momentary 1 x 40°	0		-	**1.30.245.502/0000**
455	1 x 90° and 1 x 40°	latching 1 x 90° and momentary 1 x 40°	0+2		-	**1.30.245.522/0000**
1122E	1 x 40°	momentary	0		1.30.245.005/xxxx	1.30.245.006/0000
1122E	2 x 40°	momentary	0		1.30.245.105/xxxx	1.30.245.106/0000
1122E	1 x 90°, form L	latching	0		1.30.245.205/xxxx	1.30.245.206/0000
1122E	1 x 90°, form V	latching	0		1.30.245.305/xxxx	1.30.245.306/0000
1122E	1 x 90°, form V	latching	0+1		1.30.245.325/xxxx	1.30.245.326/0000
1122E	2 x 90°	latching	0		1.30.245.405/xxxx	1.30.245.406/0000
1122E	2 x 90°	latching	0+1+2		1.30.245.435/xxxx	1.30.245.436/0000

Technical data see page 2 - 122

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

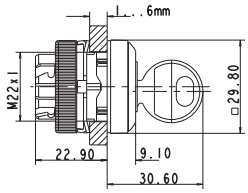
Included: Ring nut with claw.

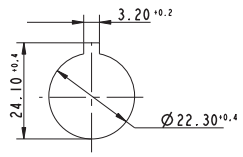
On selector switches with 3 switching positions (e.g. 2 x 90 degrees), either the left-hand or right-hand contact block is activated, depending on the sense of rotation.

RAFIX 22 QR - Keylock switch, square collar

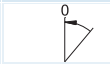


Pict.: Front ring, metallized

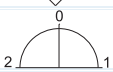
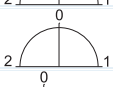
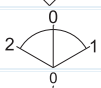
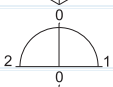
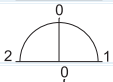
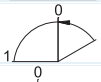
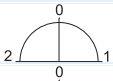
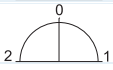




Panel cut-out to IEC 60947-5-1

Lock type	Rotation angle	Contact function	Key removal position	Rotation angle	Order no.	
					Plastic front ring	Metallized front ring
421	1 x 40°	momentary	0		1.30.245.053/xxxx	1.30.245.054/0000

Stock items are marked by **bold printed order numbers.**

Lock type	Rotation angle	Contact function	Key removal position	Rotation angle	Order no.	
					Plastic front ring	Metallized front ring
421	2 x 40°	momentary	0		1.30.245.153/xxxx	1.30.245.154/0000
421	1 x 90°, form L	latching	0		1.30.245.253/xxxx	1.30.245.254/0000
421	1 x 90°, form V	latching	0		1.30.245.353/xxxx	1.30.245.354/0000
421	1 x 90°, form V	latching	0+1		-	1.30.245.374/0000
421	2 x 90°	latching	0		1.30.245.453/xxxx	1.30.245.454/0000
421	2 x 90°	latching	0+1+2		1.30.245.483/xxxx	1.30.245.484/0000
455	1 x 40°	momentary	0		1.30.245.051/xxxx	**1.30.245.052/0000**
455	2 x 40°	momentary	0		1.30.245.151/xxxx	**1.30.245.152/0000**
455	1 x 90°, form L	latching	0		1.30.245.251/xxxx	**1.30.245.252/0000**
455	1 x 90°, form L	latching	0+1		1.30.245.271/xxxx	**1.30.245.272/0000**
455	1 x 90°, form V	latching	0		1.30.245.351/xxxx	**1.30.245.352/0000**
455	1 x 90°, form V	latching	0+1		1.30.245.371/xxxx	**1.30.245.372/0000**
455	2 x 60°	latching	0+1+2		1.30.245.781/xxxx	**1.30.245.782/0000**
455	2 x 90°	latching	0		1.30.245.451/xxxx	**1.30.245.452/0000**
455	2 x 90°	latching	0+1+2		1.30.245.481/xxxx	**1.30.245.482/0000**
455	1 x 90° and 1 x 40°	latching 1 x 90° and momentary 1 x 40°	0+2		-	**1.30.245.572/0000**
1122E	1 x 40°	momentary	0		1.30.245.055/xxxx	1.30.245.056/0000
1122E	2 x 40°	momentary	0		1.30.245.155/xxxx	1.30.245.156/0000
1122E	1 x 90°, form L	latching	0		1.30.245.255/xxxx	1.30.245.256/0000
1122E	1 x 90°, form V	latching	0		1.30.245.355/xxxx	1.30.245.356/0000
1122E	1 x 90°, form V	latching	0+1		1.30.245.375/xxxx	1.30.245.376/0000
1122E	2 x 90°	latching	0		1.30.245.455/xxxx	1.30.245.456/0000
1122E	2 x 90°	latching	0+1+2		1.30.245.485/xxxx	1.30.245.486/0000

Technical data see page 2 - 122

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.

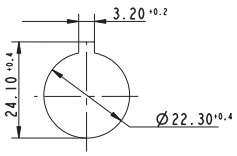
RAFIX 22 QR - Mushroom-headed pushbutton



Pict.: Front ring, metallized



Front ring, slate grey



Panel cut-out to IEC 60947-5-1

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

Dimensions of collar	see order block
Overall height	20.1 mm
Mounting depth	56.4 mm
Mounting hole	Ø 22.3 mm
Mounting grid	50 x 30 mm

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	-

Other specifications

Operating life (operations)	1,000,000
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
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

IEC 61058

UL 508,C22.2 No. 14-M91

2004 Steel Vessel Rules

Rules for the Classification of Steel Ships

Classification of Ships....Rules

Marine, offshore and industrial use

German Lloyds type approval

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 - 149

Stock items are marked by **bold printed order numbers.**

Typical accessories RAFIX 22 QR - Mushroom-headed pushbutton

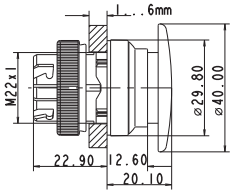
Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR - Contact block with gold contacts, with coupling, without lamp socket, spring-type terminals, 1 NO		**1.20.125.102/0000**	2 - 153
RAFIX 22 QR - Contact block with coupling, gold RAFIX 22 QR - Contacts, RJ 12 connector, 1 NO, without LED		1.20.128.002/0000	2 - 155
Fixing spanner for ring nut and front ring		**5.05.800.062/0000**	5 - 21

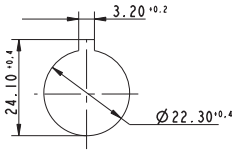
For other contact blocks, refer to the chapter „Contact blocks“; for additional accessories, refer to „RAFIX 22 QR special accessories“.

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



Pict.: Front ring, metallized





Panel cut-out to IEC 60947-5-1

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	-	-
no	opaque red	1.30.246.501/03xx	1.30.246.502/0300	-	-

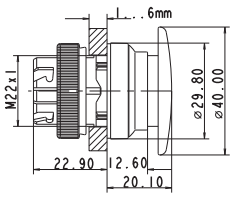
Technical data see page 2 - 126

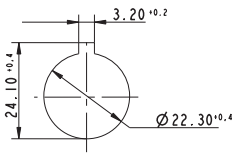
xx = Front ring colour: slate grey = 07

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



Pict.: Front ring, slate grey





Panel cut-out to IEC 60947-5-1

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	-	-

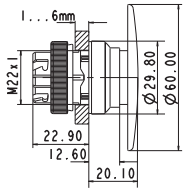
Technical data see page 2 - 126

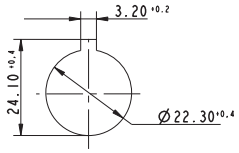
xx = Front ring colour: slate grey = 07

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



Pict.: Front ring, metallized





Panel cut-out to IEC 60947-5-1

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	-	-

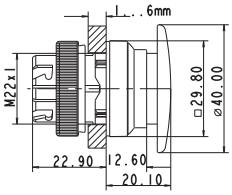
Technical data see page 2 - 126

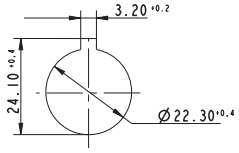
xx = Front ring colour: slate grey = 07

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



Pict.: Front ring, slate grey





Panel cut-out to IEC 60947-5-1

Illuminability	mushroom colour	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
no	opaque red	1.30.246.551/03xx	1.30.246.552/0300	-	-

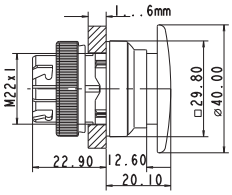
Technical data see page 2 - 126

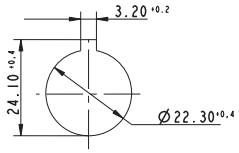
xx = Front ring colour: slate grey = 07

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



Pict.: Front ring, slate grey





Panel cut-out to IEC 60947-5-1

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	-	-

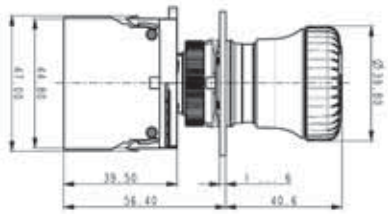
Technical data see page 2 - 126

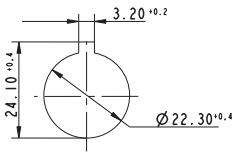
xx = Front ring colour: slate grey = 07

Stock items are marked by **bold printed order numbers.**

RAFIX 22 QR - Emergency stop pushbutton, dupe-proof to EN ISO 13850







Panel cut-out to IEC 60947-5-1

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 ISO 13850 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

General information

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

Dimensions

Dimensions of collar	Ø 29.8 mm
Overall height	see order block
Mounting depth with contact block without cable	56.4 mm
Mounting hole	Ø 22.3 mm
Mounting grid	50 x 50 mm

Mechanical design

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

Mechanical characteristics

Operating force max.	approx. 5 N for 1 switching element
Entsperr-Kraft	see order block
Robustness min.	100 N
Robustness	acc. to IEC 60947-5-5

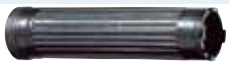
Other specifications

Operating life (operations)	see order block
Degree of protection from front side	see order block
Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

IEC 60947-5-x, 60904, 60073	IEC 61058	UL 508,C22.2 No. 14-M91	2004 Steel Vessel Rules	Rules for the Classification of Steel Ships	Classification of Ships....Rules	Marine, offshore and industrial use	German Lloyds type approval

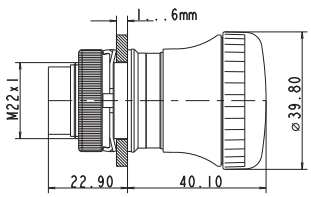
Typical accessories RAFIX 22 QR - Emergency stop pushbutton, dupe-proof to EN ISO 13850

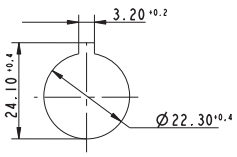
Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR - Contact block with silver contacts, with coupling, without lamp socket, screw terminals, 1 NC		**1.20.124.001/0000**	2 - 149
RAFIX 22 QR - Contact block with silver contacts, with coupling, without lamp socket, screw terminals, 2 NC		**1.20.124.019/0000**	2 - 149
RAFIX 22 QR - Contact block AS-I, E-stop, coupling contact, LED		1.20.129.011/0000	2 - 159
Fixing spanner for ring nut and front ring		**5.05.800.062/0000**	5 - 21
Adhesive label yellow, round 22.3 / 60 mm, without legend		**5.76.204.100/0400**	2 - 99, 2 - 172, 2 - 238, 5 - 29
Adhesive label yellow, round 22.3 / 60 mm, with legend 1 x „Not-Aus“		**5.76.204.101/0400**	2 - 99, 2 - 172, 2 - 238, 5 - 29
Adhesive label yellow, round 22.3 / 60 mm, with legend „NOT-HALT, EMERGENCY STOP, ARRET D´URGENCE, EMERGENZA“		5.76.204.107/0400	2 - 99, 2 - 172, 2 - 238, 5 - 29
Adhesive label yellow, round 22.3 / 60 mm, with legend 4 x „NOT-HALT“		5.76.204.109/0400	2 - 99, 2 - 172, 2 - 238, 5 - 29
Adhesive label yellow, round 22.3 / 40 mm, with legend 4 x „EMERGENCY STOP“		5.76.204.121/0400	2 - 99, 2 - 172, 2 - 238, 5 - 29
Emergency stop label, yellow rectangular 36 x 64 mm, without legend		5.76.205.011/0400	2 - 99, 2 - 172, 2 - 238, 5 - 29

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







Panel cut-out to IEC 60947-5-1

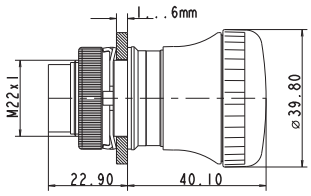
Degree of protection from front side	Reset	Illuminability	Operating life (operations)	Lock type	Order no.
IP65	by clockwise rotation	no	100,000	-	**1.30.243.501/0300**

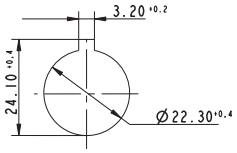
Technical data see page 2 - 130

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, with indication







Panel cut-out to IEC 60947-5-1

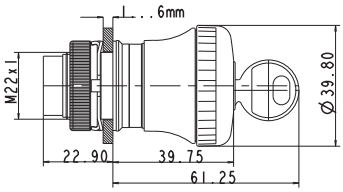
Degree of protection from front side	Reset	Illuminability	Operating life (operations)	Lock type	Order no.
IP65	by clockwise rotation	no	100,000	-	**1.30.243.601/0300**

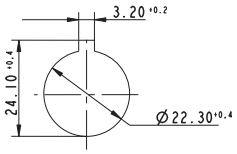
Technical data see page 2 - 130

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.

RAFIX 22 QR - Emergency stop pushbutton, with keylock







Panel cut-out to IEC 60947-5-1

Degree of protection from front side	Reset	Illuminability	Operating life (operations)	Lock type	Order no.
IP40	by clockwise rotation	no	50,000	455	**1.30.243.701/0300**
IP40	by clockwise rotation	no	50,000	421	**1.30.243.702/0300**
IP40	by clockwise rotation	no	50,000	1122E	1.30.243.703/0300

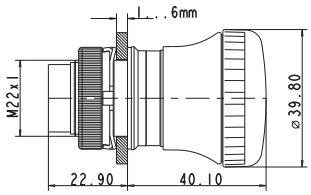
Technical data see page 2 - 130

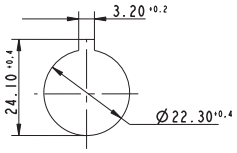
Accessoires:
Spare key RONIS 455, delivery content 2 keys: 5.58.017.001/0000
Spare key RONIS 421, delivery content 2 keys: 5.58.017.421/0000
Spare key RONIS 1122E, delivery content 2 keys: 5.58.017.403/0000

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 - Emergency stop pushbutton, illuminable







Panel cut-out to IEC 60947-5-1

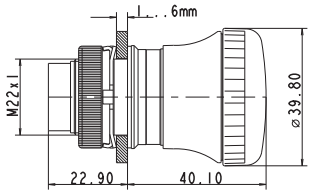
Degree of protection from front side	Reset	Illuminability	Operating life (operations)	Lock type	Order no.
IP65	by clockwise rotation	yes	100,000	-	**1.30.243.001/0300**

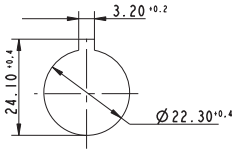
Technical data see page 2 - 130

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, reset by pulling







Panel cut-out to IEC 60947-5-1

Degree of protection from front side	Reset	Illuminability	Operating life (operations)	Lock type	Order no.
IP65	by pulling	no	100,000	-	**1.30.243.901/0300**

Technical data see page 2 - 130

Included: Ring nut with claw.
Switching position indication: In the non-operated condition, a green ring is visible on the side.

Stock items are marked by **bold printed order numbers.**

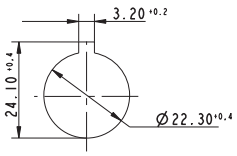
RAFIX 22 QR - Toggle switch



Pict.: Front ring, metallized



Front ring, slate grey



Panel cut-out to IEC 60947-5-1

Technical Data

General information	
Actuator	toggle
Colour of toggle	opaque white
Colour of front ring	see order block
Form of collar	see order block
Dimensions	
Dimensions of collar	see order block
Overall height	22.2 mm
Mounting depth	56.4 mm
Mounting hole	Ø 22.3 mm
Mounting grid	50 x 30 mm
Mechanical design	
Mounting	ring nut
Contact function	latching
Illmuniabilitiy	no

Mechanical characteristics	
Robustness min.	100 N
Electrical characteristics	
Protection class	-
Other specifications	
Operating life (operations)	100,000
Degree of protection	IP54
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

IEC 61058

UL 508,C22.2 No. 14-M91

2004 Steel Vessel Rules

Rules for the Classification of Steel Ships

Classification of Ships....Rules

Marine, offshore and industrial use

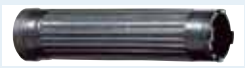
German Lloyds type approval

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 - 153
RAFIX 22 QR - Contact block with gold contacts, with coupling, without lamp socket, spring-type terminals, 1 NO		**1.20.125.102/0000**	2 - 153
RAFIX 22 QR - Contact block with coupling, gold RAFIX 22 QR - Contacts, RJ 12 connector, 1 NO, without LED		1.20.128.002/0000	2 - 155

Stock items are marked by **bold printed order numbers.**

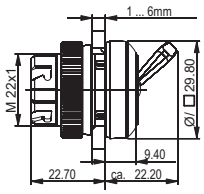
Typical accessories RAFIX 22 QR - Toggle switch

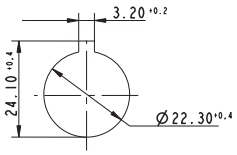
Description	Photo	Order no.	Additional accessories see page
Fixing spanner for ring nut and front ring		**5.05.800.062/0000**	5 - 21

RAFIX 22 QR - Toggle switch, round collar



Pict.: Front ring, slate grey





Panel cut-out to IEC 60947-5-1

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

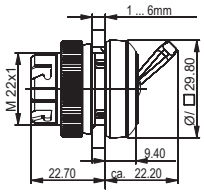
Technical data see page 2 - 134

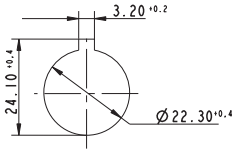
xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08

RAFIX 22 QR - Toggle switch, square collar



Pict.: Front ring, metallized





Panel cut-out to IEC 60947-5-1

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 - 134

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

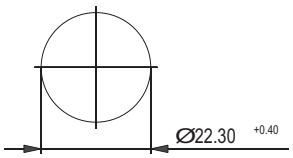
RAFIX 22 QR - Twin pushbutton



Pict.: illuminated



illuminated



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

Dimensions of collar	59.6 x 29.8 mm
Overall height	9.1 mm
Mounting depth with contact block without cable	56.4 mm
Mounting hole	Ø 22.3 mm
Mounting grid	-

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 min.	-40 °C
Storage temperature max.	+80 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

IEC 61058

UL 508,C22.2 No. 14-M91

2004 Steel Vessel Rules

Rules for the Classification of Steel Ships

Classification of Ships....Rules

Marine, offshore and industrial use

German Lloyds type approval

Typical accessories RAFIX 22 QR - Twin pushbutton

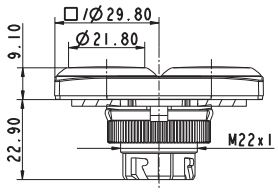
Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR - Contact block with silver contacts, with coupling and lamp socket, screw terminals, 1 NO, 1 NC		**1.20.124.025/0000**	
RAFIX 22 QR - Contact block with gold contacts, with coupling and lamp socket, spring-type terminals, 1 NO, 1 NC		**1.20.125.125/0000**	

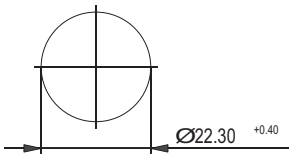
For other contact blocks, refer to the chapter „Contact blocks“; for additional accessories, refer to „RAFIX 22 QR special accessories“.

RAFIX 22 QR - Twin pushbutton, oval collar



Pict.: illuminated





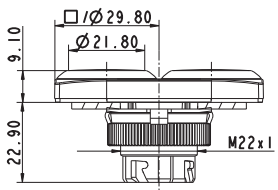
Illuminability	Colour of lens	Legending	Colour of front ring	Order no.
yes	opaque green/ opaque red	none	slate-grey	1.30.241.001/2207
yes	opaque green/ opaque red	red 0, green I	slate-grey	1.30.241.002/2207

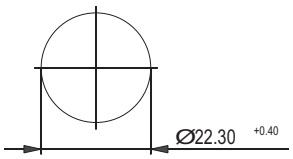
Technical data see page 2 - 136

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 - Twin pushbutton, rectangular collar


Pict.: illuminated





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

Technical data see page 2 - 136

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.

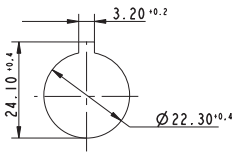
RAFIX 22 QR - Potentiometer drive



Pict.: slate grey with potentiometer



state grey, delivery content



Panel cut-out to IEC 60947-5-1

Technical Data

General information

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

Dimensions

Dimensions of collar	see order block
Overall height	26.2 mm
Mounting depth	according to potentiometer
Mounting hole	Ø 22.3 mm
Mounting grid	50 x 30 mm

Mechanical design

Mounting	ring nut

Mechanical characteristics

Robustness min.	100 N

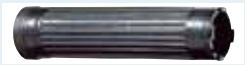
Other specifications

Degree of protection from front side	IP65
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

2004 Steel Vessel Rules	Rules for the Classification of Steel Ships	Classification of Ships....Rules	Marine, offshore and industrial use	German Lloyds type approval

Typical accessories RAFIX 22 QR - Potentiometer drive

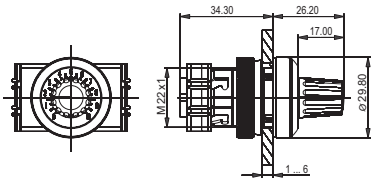
Description	Photo	Order no.	Additional accessories see page
Fixing spanner for ring nut and front ring		**5.05.800.062/0000**	5 - 21

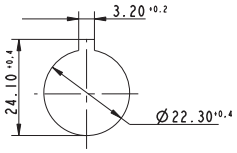
Stock items are marked by **bold printed order numbers.**

RAFIX 22 QR - Potentiometer drive, round collar



Pict.: slate grey with potentiometer





Panel cut-out to IEC 60947-5-1

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

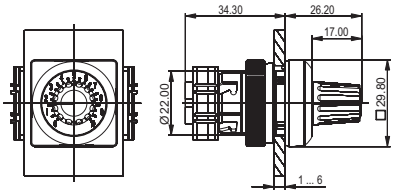
Technical data see page 2 - 138

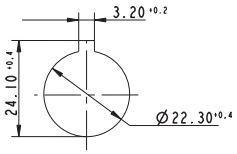
For potentiometers with 6 mm shaft diameter and 50 mm shaft length. Potentiometer not included.

RAFIX 22 QR - Potentiometer drive, square collar



Pict.: state grey, delivery content





Panel cut-out to IEC 60947-5-1

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

Technical data see page 2 - 138

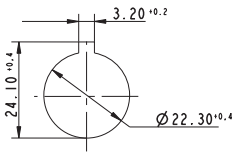
For potentiometers with 6 mm shaft diameter and 50 mm shaft length. Potentiometer not included.

Stock items are marked by **bold printed order numbers.**

RAFIX 22 QR - Buzzer







Panel cut-out to IEC 60947-5-1

Technical Data

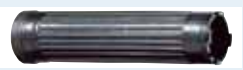
General information	
Form of lens	flat lens
Colour of lens	opaque slate-grey
Form of collar	see order block
Sound	see order block
Dimensions	
Dimensions of collar	see order block
Overall height	9.8 mm
Mounting depth	56.4 mm
Mounting hole	Ø 22.3 mm
Mounting grid	50 x 30 mm
Mechanical design	
Mounting	ring nut
Mechanical characteristics	
Robustness min.	-

Electrical characteristics	
Operating voltage DC	see order block
Input current	see order block
Acoustic characteristics	
Sonic pressure, 1 m distance min.	see order block
Sound frequency	see order block
Other specifications	
Degree of protection from front side	IP65
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

ABS	BUREAU VERITAS	DNV	Lloyd's Register TYPE APPROVAL	
2004 Steel Vessel Rules	Rules for the Classification of Steel Ships	Classification of Ships....Rules	Marine, offshore and industrial use	German Lloyds type approval

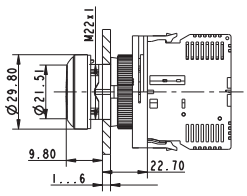
Typical accessories RAFIX 22 QR - Buzzer

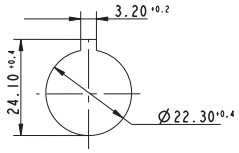
Description	Photo	Order no.	Additional accessories see page
Fixing spanner for ring nut and front ring		**5.05.800.062/0000**	5 - 21

Stock items are marked by **bold printed order numbers.**

RAFIX 22 QR - Buzzer, round collar







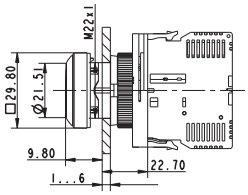
Panel cut-out to IEC 60947-5-1

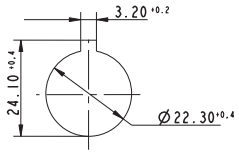
Operating voltage DC	Input current	Sound	Sonic pressure, 1 m distance min.	Sound frequency	Order no.
12 V	25 mA	continuos beep	70 dB	2,400 - 3,100 Hz	1.30.249.002/0000
24 V	25 mA	continuos beep	70 dB	2,400 - 3,100 Hz	1.30.249.001/0000

Technical data see page 2 - 140

RAFIX 22 QR - Buzzer, square collar







Panel cut-out to IEC 60947-5-1

Operating voltage DC	Input current	Sound	Sonic pressure, 1 m distance min.	Sound frequency	Order no.
12 V	25 mA	continuos beep	70 dB	2,400 - 3,100 Hz	1.30.249.022/0000
24 V	25 mA	continuos beep	70 dB	2,400 - 3,100 Hz	1.30.249.021/0000

Technical data see page 2 - 140

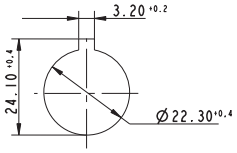
Stock items are marked by **bold printed order numbers.**

RAFIX 22 QR - Signal indicator



Pict.: yellow





Panel cut-out to IEC 60947-5-1

Technical Data

General information

Form of lens	see order block
Colour of lens	see order block
Legend insert accomodation	see order block
Form of collar	see order block

Dimensions

Dimensions of collar	see order block
Overall height	see order block
Mounting depth	56.4 mm
Mounting hole	Ø 22.3 mm
Mounting grid	50 x 30 mm

Mechanical design

Mounting	ring nut
Illuminability	yes

Electrical characteristics

Protection class	-

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
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

IEC 61058

UL 508,C22.2 No. 14-M91

2004 Steel Vessel Rules

Rules for the Classification of Steel Ships

Classification of Ships....Rules

Marine, offshore and industrial use

German Lloyds type approval

Typical accessories RAFIX 22 QR - Signal indicator

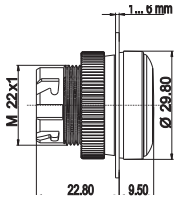
Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR - Lamp socket assembly, screw terminals, with coupling		**1.71.213.001/0000**	2 - 162
RAFIX 22 QR - Lamp socket assembly, screw terminals, with coupling, diode and series resistor 130 V		**1.71.213.004/0000**	2 - 162
RAFIX 22 QR - Lamp socket assembly, spring-type terminals, with coupling		**1.71.214.001/0000**	2 - 162

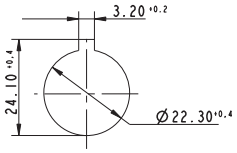
Stock items are marked by **bold printed order numbers.**

RAFIX 22 QR - Signal indicator, flat, round collar, for legend inserts



Pict.: yellow





Panel cut-out to IEC 60947-5-1

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**

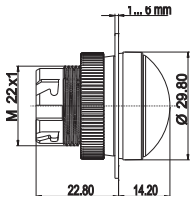
Technical data see page 2 - 142

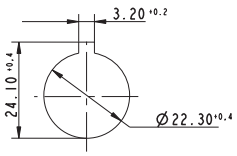
Accessoires:
Legend insert without legend, use only in combination with transparent lenses.: **5.70.803.000/2000**

RAFIX 22 QR - Signal indicator, high, round collar

NEW







Panel cut-out to IEC 60947-5-1

Colour of lens	form of collar	Order no.
transparent colourless	round	**1.74.505.511/1000**
transparent red	round	**1.74.505.511/1300**
transparent yellow	round	**1.74.505.511/1400**
transparent green	round	**1.74.505.511/1500**
transparent blue	round	**1.74.505.511/1600**

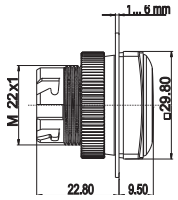
Technical data see page 2 - 142

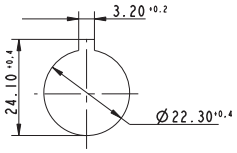
Legend insert on request

RAFIX 22 QR - Signal indicator, flat, square collar, for legend inserts



Pict.: red





Panel cut-out to IEC 60947-5-1

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**

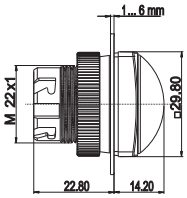
Technical data see page 2 - 142

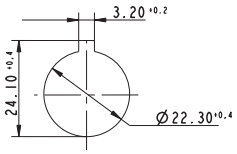
Accessoires:
Legend insert without legend, use only in combination with transparent lenses.: **5.70.803.000/2000**

NEW

RAFIX 22 QR - Signal indicator, high, square collar







Panel cut-out to IEC 60947-5-1

Colour of lens	form of collar	Order no.
transparent colourless	square	**1.74.505.561/1000**
transparent blue	square	**1.74.505.561/1600**
transparent red	square	**1.74.505.561/1300**
transparent yellow	square	**1.74.505.561/1400**
transparent green	square	**1.74.505.561/1500**

Technical data see page 2 - 142

Legend insert on request

RAFIX 22 QR - Contact blocks with silver contacts



Pict.: Silver contacts, 1 NC, spring-type terminals



Silver contacts, 2 NC, screw terminals



1NC+1NO, lamp socket, 1NC+1NO

General Data

Most of the values specified apply to all terminal versions.

Any deviating values specific to the cage clamp or quick-connect version are given in parentheses ( ).

Technical Data

Dimensions	
Dimensions with coupling	39.5 x 49.9 x 30 mm
Mounting depth without cable	56.4 mm
Mechanical design	
Mounting	snap on coupling and actuator
Contact system	bridge-contact self cleaning
Contact materials	Ag
Contact arrangement	see order block
Coupling position 1 (1/2)	see order block
Coupling position 3 (5/6), centre	see order block
Coupling position 2 (3/4)	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
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
Electrice characteristics acc. to IEC 60947	
Rated insulation voltage AC/DC	400 V
Rated peak voltage	6,000 V
Rated operating current I_e AC 12 / DC 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/c
Electrice 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
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}
Robustness	acc. to IEC 60947-5-5
Corresponding to CE	acc. EU-guideline NSR 72/73
Shock resistance acc. to IEC 60068-2-27	15 g at 11 ms, amplitude half sinusoidal
Resistance to vibrations acc. to IEC 60068-2-6	5 g at 10 ... 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
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals

IEC 61058 only for versions with spring-type terminal

UL 508,C22.2 No. 14-M91

2004 Steel Vessel Rules

Rules for the Classification of Steel Ships

Classification of Ships....Rules

Marine, offshore and industrial use

German Lloyds type approval only valid for version with screw terminals

Typical accessories RAFIX 22 QR - Contact blocks with silver contacts

Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR - Lamp socket, screw terminals, without coupling		**5.00.070.074/0000**	2 - 161
RAFIX 22 QR - Lamp socket, screw terminals, without coupling, minus switching		**5.00.070.081/0000**	2 - 161
RAFIX 22 QR - Lamp socket, screw terminals, without coupling, plus switching		**5.00.070.082/0000**	2 - 161
RAFIX 22 QR - LED unit, white LED, 230 V, without coupling		**5.00.070.086/0200**	2 - 165
Coupling with reference numbers 1-3-2, for contact blocks with single contacts		**5.05.510.935/0000**	2 - 169
Coupling with reference numbers 1/2-5/6-3/4, for contact blocks with double contacts		**5.05.510.936/0000**	2 - 169

RAFIX 22 QR - Contact block with silver contacts



Pict.: Silver contacts, 2 NC, screw terminals



Silver contacts, 1 NC, spring-type terminals



Au contacts, quick connector, 1S

Terminals	Contact arrangement	Coupling position 1 (1/2)	Coupling position 3 (5/6), centre	Coupling position 2 (3/4)	Order no.
screw terminals	1 NC	-	-	-	**5.00.100.139/0000**
screw terminals	1 NO	-	-	-	**5.00.100.140/0000**
screw terminals	2 NC	-	-	-	**5.00.100.141/0000**
screw terminals	2 NO	-	-	-	**5.00.100.142/0000**
screw terminals	1 NC + 1 NO	-	-	-	**5.00.100.143/0000**
spring type	1 NC	-	-	-	**5.00.100.144/0000**
spring type	1 NO	-	-	-	**5.00.100.145/0000**
solder/quick connector 6.3 x 0.8 mm	1 NC	-	-	-	**5.00.100.194/0000**
solder/quick connector 6.3 x 0.8 mm	1 NO	-	-	-	**5.00.100.196/0000**

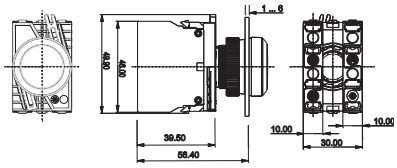
Technical data see page 2 - 146

Stock items are marked by **bold printed order numbers.**

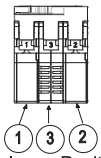
RAFIX 22 QR - Contact block assembly, with coupling, silver contacts



Pict.: Silver contacts, 1 NO



with contact block



Kupplungs-Positionen
Coupling positions

Terminals	Contact arrangement	Coupling position 1 (1/2)	Coupling position 3 (5/6), centre	Coupling position 2 (3/4)	Order no.
screw terminals	1 NC	-	-	1 NC	**1.20.124.001/0000**
screw terminals	1 NO	1 NO	-	-	**1.20.124.002/0000**
screw terminals	1 NC, 1 NC	1 NC	-	1 NC	**1.20.124.003/0000**
screw terminals	1 NO , 1 NO	1 NO	-	1 NO	**1.20.124.004/0000**
screw terminals	1 NO , 1 NC	1 NO	-	1 NC	**1.20.124.005/0000**
screw terminals	1 NC + 1 NO	1 NC + 1 NO	-	-	**1.20.124.017/0000**
screw terminals	1 NC + 1 NO , 1 NC + 1 NO	1 NC + 1 NO	-	1 NC + 1 NO	**1.20.124.018/0000**
screw terminals	2 NC	-	-	2 NC	**1.20.124.019/0000**
screw terminals	2 NO	2 NO	-	-	**1.20.124.020/0000**
spring type	1 NC	-	-	1 NC	**1.20.125.001/0000**
spring type	1 NO	1 NO	-	-	**1.20.125.002/0000**
spring type	1 NC, 1 NC	1 NC	-	1 NC	**1.20.125.003/0000**
spring type	1 NO , 1 NO	1 NO	-	1 NO	**1.20.125.004/0000**
spring type	1 NO , 1 NC	1 NO	-	1 NC	**1.20.125.005/0000**

Technical data see page 2 - 146

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

The centre coupling position 3 (5/6) is provided for the LED element resp. the lamp socket element. As an alternative you can use a third contact block here.

RAFIX 22 QR - Contact blocks with gold contacts



Pict.: Gold contacts, 1 NC, screw terminals



Gold contacts, 1 NO, spring-type terminals



Assembly: Gold contacts, 1NC + 1NO

General Data

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

Technical Data

Dimensions

Dimensions with coupling	39.5 x 49.9 x 30 mm
Mounting depth without cable	56.4 mm

Mechanical design

Mounting	snap on coupling and actuator
Contact system	bridge-contact self cleaning
Contact materials	Au
Contact arrangement	see order block
Coupling position 1 (1/2)	see order block
Coupling position 3 (5/6), centre	see order block
Coupling position 2 (3/4)	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	-
Wire range solid wires without wire end sleeves	2 x 0.75 ... 2.5 mm²
Wire range stranded wires without wire end sleeves	2 x 1.0 ... 1.5 mm²
Stripping length, solid or stranded	8 mm
Wire range with wire end sleeves	2 x 0.75 ... 1.5 mm²

Electrical characteristics

Operating voltage AC/DC	1 ... 35 V
Operating current AC/DC	0.01 ... 100 mA
Rated power max.	1 W (ohmic load)

Other specifications

Operating life (operations)	1,000,000 (24 V DC 10 mA)
Switching reliability at 24V/5mA DC	10 x 10^{-6}
Robustness	acc. to IEC 60947-5-5
Corresponding to CE	acc. EU-guideline NSR 72/73
Shock resistance acc. to IEC 60068-2-27	15 g at 11 ms, amplitude half sinusoidal
Resistance to vibrations acc. to IEC 60068-2-6	5 g at 10 ... 500 Hz
Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

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
LED BA 9s (MBC/MCC) superbright, white, 24 V		**1.90.690.345/0000**	5 - 17
RAFIX 22 QR - Lamp socket, screw terminals, without coupling		**5.00.070.074/0000**	2 - 161
RAFIX 22 QR - Lamp socket, screw terminals, without coupling, minus switching		**5.00.070.081/0000**	2 - 161
RAFIX 22 QR - Lamp socket, screw terminals, without coupling, plus switching		**5.00.070.082/0000**	2 - 161
RAFIX 22 QR - LED unit, white LED, 24 V, without coupling		**5.00.070.083/0200**	2 - 165
Coupling with reference numbers 1-3-2, for contact blocks with single contacts		**5.05.510.935/0000**	2 - 169
Coupling with reference numbers 1/2-5/6-3/4, for contact blocks with double contacts		**5.05.510.936/0000**	2 - 169

Stock items are marked by **bold printed order numbers.**

RAFIX 22 QR - Contact block with gold contacts



Pict.: Gold contacts, 1 NC, screw terminals



Gold contacts, 1 NO, spring-type terminals



Gold contacts, quick connector, 1NO

Terminals	Contact arrangement	Coupling position 1 (1/2)	Coupling position 3 (5/6), centre	Coupling position 2 (3/4)	Order no.
screw terminals	2 NC	-	-	-	**5.00.100.161/0000**
screw terminals	2 NO	-	-	-	**5.00.100.162/0000**
screw terminals	1 NC + 1 NO	-	-	-	**5.00.100.163/0000**
screw terminals	1 NC	-	-	-	**5.00.100.164/0000**
screw terminals	1 NO	-	-	-	**5.00.100.165/0000**
spring type	1 NC	-	-	-	**5.00.100.159/0000**
spring type	1 NO	-	-	-	**5.00.100.160/0000**
solder/quick connector 6.3 x 0.8 mm	1 NC	-	-	-	**5.00.100.193/0000**
solder/quick connector 6.3 x 0.8 mm	1 NO	-	-	-	**5.00.100.195/0000**

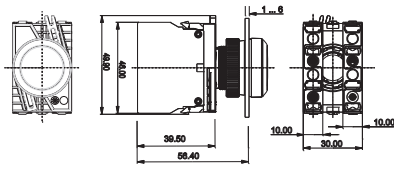
Technical data see page 2 - 150

Stock items are marked by **bold printed order numbers.**

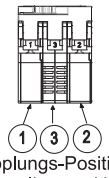
RAFIX 22 QR - Contact block assembly, with coupling, gold contacts



Pict.: Gold contacts, 1NC + 1NO



with contact block



Kupplungs-Positionen
Coupling positions

Terminals	Contact arrangement	Coupling position 1 (1/2)	Coupling position 3 (5/6), centre	Coupling position 2 (3/4)	Order no.
screw terminals	1 NC	-	-	1 NC	**1.20.124.101/0000**
screw terminals	1 NO	1 NO	-	-	**1.20.124.102/0000**
screw terminals	1 NC, 1 NC	1 NC	-	1 NC	**1.20.124.103/0000**
screw terminals	1 NO , 1 NO	1 NO	-	1 NO	**1.20.124.104/0000**
screw terminals	1 NO , 1 NC	1 NO	-	1 NC	**1.20.124.105/0000**
screw terminals	1 NC + 1 NO	1 NC + 1 NO	-	-	**1.20.124.117/0000**
screw terminals	1 NC + 1 NO , 1 NC + 1 NO	1 NC + 1 NO	-	1 NC + 1 NO	**1.20.124.118/0000**
screw terminals	2 NC	-	-	2 NC	**1.20.124.119/0000**
screw terminals	2 NO	2 NO	-	-	**1.20.124.120/0000**
spring type	1 NC	-	-	1 NC	**1.20.125.101/0000**
spring type	1 NO	1 NO	-	-	**1.20.125.102/0000**
spring type	1 NC, 1 NC	1 NC	-	1 NC	**1.20.125.103/0000**
spring type	1 NO , 1 NO	1 NO	-	1 NO	**1.20.125.104/0000**
spring type	1 NO , 1 NC	1 NO	-	1 NC	**1.20.125.105/0000**

Technical data see page 2 - 150

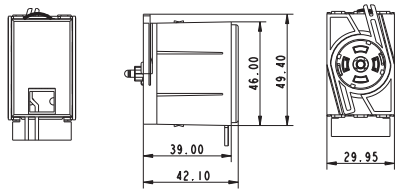
Contact arrangement example (1 NO = 1 normally open contact, 1 NC = 1 normally closed contact)

The centre coupling position 3 (5/6) is provided for the LED element resp. the lamp socket element. As an alternative you can use a third contact block here.

RAFIX 22 QR - Contact blocks with gold contacts, RJ 12 connector, integrated LED



Pict.: with RJ 12 adapter



with LED

Technical Data

Dimensions

Dimensions with coupling	49.4 x 42.1 x 29.95 mm
Mounting depth	62 mm

Mechanical design

Mounting	snap on actuator
Contact system	bridge-contact 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 min.	30 x 50
Robustness	100 N

Electrical characteristics

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

Other specifications

Operating life (operations)	1,000,000 (24 V DC50 mA)
Switching reliability at 24V/5mA DC	10 x 10^{-6}
Ambient temp. operating min.	-25 °C
Ambient temp. operating max. without lamp /LED	+70 °C
Ambient temp. operating max. with lamp /LED	+50 °C
Storage temperature min.	-30 °C
Storage temperature max.	+80 °C
Integrated LED	see order block
LED colour	see order block
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Typical accessories RAFIX 22 QR - Contact blocks with gold contacts, RJ 12 connector, integrated LED

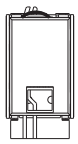
Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR - Contact module for CANopen bus		3.60.101.148/0000	2 - 167

Stock items are marked by **bold printed order numbers.**

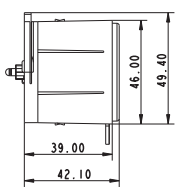
RAFIX 22 QR - Contact block with gold contacts, RJ 12 connector, integrated LED

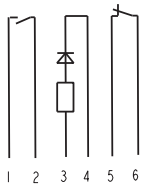


Pict.: with RJ 12 adapter



with LED





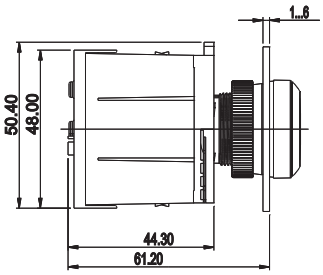
Contact arrangement	Operating voltage AC/DC	Integrated LED	LED colour	Order no.
1 NC	24 V	no	-	1.20.128.002/0000
1 NC	24 V	yes	white	1.20.128.012/0000
1 NC	24 V	yes	green	1.20.128.042/0000
1 NC + 1 NO	24 V	no	-	1.20.128.003/0000
1 NC + 1 NO	24 V	yes	white	1.20.128.013/0000
1 NC + 1 NO	24 V	yes	red	1.20.128.023/0000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

Technical data see page 2 - 154

Other LED colours and contact arrangement versions available on request.

RAFIX 22 QR - Contact blocks AS-Interface, standard





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

Dimensions	
Dimensions with coupling	50.4 x 50.5 x 29.95 mm
Mounting depth	68 mm
Key grid	50 x 30 mm
Mechanical design	
Mounting	snap on coupling actuator
Contact system	bridge-contact self cleaning
Contact materials	Au
Contact arrangement	2 NO
Illumination	see order block
Mounting position	variable
Terminals	supplied connector
Contact function	momentary
2-pole digital output, 24 V/15 mA	yes
Robustness	100 N
Coupling contact (S3)	no
Electrical characteristics	
Rated voltage AC / DC	24 V
Operating current AC/DC	1 .. 250 mA
AS-I Schnittstelle	
AS-Interface profile	S-B.A.E
Terminal code	yes
Operating voltage	26.5 ... 31.6 V
Rated current max.	30 mA
Deceleration time for readiness	1
AS-Interface IC	AS-I-SW
AS-Interface specification	V3.0
AS-Interface certificate	62901
Other specifications	
Operating life (operations)	1,000,000 (24 V DC 50 mA)
Switching reliability	$< 10 \times 10^{-6}$ at 24 V/5 mA DC
Approvals / CE	acc. to 89/336/EWG
Operating temperature min.:	-25 °C
Operating temperature max.:	70 °C
Storage temperature min.:	-40 °C
Storage temperature max.:	70 °C
Resistance to constant environment:	IEC 60068-2-78
Resistance to vibrations acc. to IEC 60068-2-6	10 g at 40...500 Hz
Shock resistance acc. to IEC 60068-2-27	50 g at 11 ms amplitude, half sinusoidal

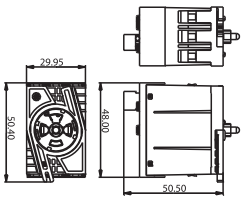
Approvals

IEC 60947-5-x, 60904, 60073

62901

RAFIX 22 QR - Contact block AS-I, standard





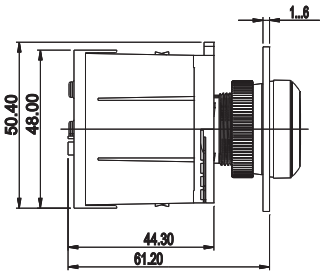
Contact arrangement	Illumination	Coupling contact (S3)	2-pole digital output, 24 V / 15 mA	Order no.
2 NO	no	no	yes	1.20.129.101/0000
2 NO	1 LED red	no	yes	1.20.129.111/0000
2 NO	1 LED white	no	yes	1.20.129.121/0000
2 NO	1 LED yellow	no	yes	1.20.129.131/0000
2 NO	1 LED green	no	yes	1.20.129.141/0000
2 NO	1 LED blue	no	yes	1.20.129.151/0000

Technical data see page 2 - 156

Digital output: cable length max. 10 cm

RAFIX 22 QR - Contact blocks AS-Interface, E-stop, Safety at Work





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-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.

Technical Data

Dimensions	
Dimensions with coupling	50.4 x 50.5 x 29.95 mm
Mounting depth	68 mm
Key grid	-
Mechanical design	
Mounting	snap on coupling actuator
Contact system	bridge-contact self cleaning
Contact materials	Au
Contact arrangement	2 NC
Illumination	see order block
Mounting position	variable
Terminals	supplied connector
Contact function	momentary
2-pole digital output, 24 V/15 mA	yes
Additional addressing plug	see order block
Robustness	100 N
Coupling contact (S3)	see order block
Electrical characteristics	
Rated voltage AC / DC	24 V
Operating current AC/DC	0.01 ... 50 mA
AS-I Schnittstelle	
AS-Interface profile	S-0.B.E / S-7.B.E
Terminal code	yes
Operating voltage	26.5 ... 31.6 V
Rated current max.	< 50 mA (S-0.B.E.) / 60 mA (S-7.B.E.) mA
Deceleration time for readiness	1
AS-Interface IC	A²SI
AS-Interface specification	V3.0
AS-Interface certificate	63001, 63701
Probability to failure acc. to IEC 61508	PFD Total: 2.2 x 10^{-4}, PFH/h: 2.5 x 10^{-9}
Other specifications	
Operating life (operations)	1,000,000 (24 V DC 50 mA)
Operating temperature min.:	-25 °C
Operating temperature max.:	70 °C
Storage temperature min.:	-40 °C
Storage temperature max.:	70 °C
Resistance to constant environment:	IEC 60068-2-78
Resistance to vibrations acc. to IEC 60068-2-6	10 g at 40...500 Hz
Shock resistance acc. to IEC 60068-2-27	50 g at 11 ms amplitude, half sinusoidal

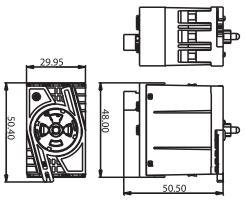
Approvals

IEC 60947-5-x, 60904, 60073

63001, 63701

RAFIX 22 QR - Contact blocks AS-Interface, E-stop, Safety at Work





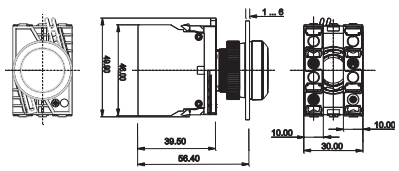
Contact arrangement	Illumination	Coupling contact (S3)	Additional addressing plug	Order no.
2NC	no	yes	yes	1.20.129.001/0000
2NC	no	no	no	1.20.129.002/0000
2NC	1 x LED red	yes	yes	1.20.129.011/0000

Technical data see page 2 - 158

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







with contact block

Technical Data

Dimensions

Dimensions with coupling	39.5 x 49.9 x 30 mm
Mounting depth without cable	56.4 mm

Mechanical design

Mounting	snap on coupling and actuator
Diode and resistor	see order block
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 sinusoidal

Other specifications

Approvals	see order block
Robustness	acc. to IEC 60947-5-5
Shock resistance acc. to IEC 60068-2-27	50 g at 11 ms, amplitude half
Resistance to vibrations acc. to IEC 60068-2-6	10 g at 40 ... 500 Hz
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
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

Approvals

IEC 61058

UL 508,C22.2 No. 14-M91

2004 Steel Vessel Rules

Rules for the Classification of Steel Ships

Classification of Ships....Rules

Marine, offshore and industrial use

Type approval only valid for version with screw terminals

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

Stock items are marked by **bold printed order numbers.**

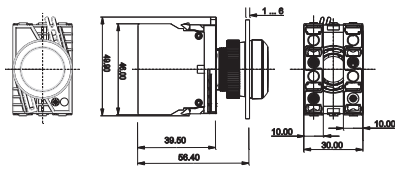
Typical accessories RAFIX 22 QR - Lamp sockets BA 9s (MBC/MCC)

Description	Photo	Order no.	Additional accessories see page
Filament lamp, BA 9s base (MBC/MCC), 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
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 - 169
Coupling with reference numbers 1/2-5/6-3/4, for contact blocks with double contacts		**5.05.510.936/0000**	2 - 169

RAFIX 22 QR - Lamp socket BA 9s, without coupling







Terminals	Operating voltage AC/DC	Lamp voltage	Diode and resistor	Order no.
screw terminals	6 ... 250 V	6 ... 250 V	no	**5.00.070.074/0000**
screw terminals	minus switching 250 V	6 ... 250 V	no	**5.00.070.081/0000**
screw terminals	plus switching 250 V	6 ... 250 V	no	**5.00.070.082/0000**
screw terminals	250 V	130 V	yes	**5.00.070.080/0000**
spring type	6 ... 250 V	6 ... 250 V	no	**5.00.070.078/0000**
solder/quick connector 6.3 x 0.8 mm	6 ... 250 V	6 ... 250 V	no	**5.00.070.087/0000**

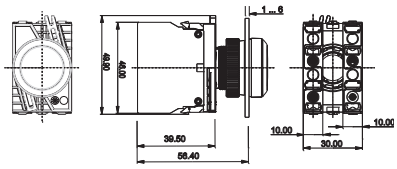
Technical data see page 2 - 160

Stock items are marked by **bold printed order numbers.**

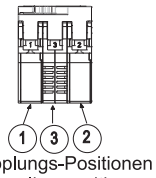
RAFIX 22 QR - Lamp socket BA 9s, assembly with coupling



Pict.: Lamp socket with spring-type terminals



with contact block



Kupplungs-Positionen
Coupling positions

Terminals	Operating voltage AC/DC	Lamp voltage	Diode and resistor	Order no.
screw terminals	6 ... 250 V	6 ... 250 V	no	**1.71.213.001/0000**
screw terminals	with diode and series resistor 250 V	130 V	yes	**1.71.213.004/0000**
spring type	6 ... 250 V	6 ... 250 V	no	**1.71.214.001/0000**

Technical data see page 2 - 160

The lamp socket ist mounted in the middle coupling position 3 (5/6).

Stock items are marked by **bold printed order numbers.**

RAFIX 22 QR - LED unit



Technical Data

Dimensions

Dimensions without coupling	46 x 10 x 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

Robustness	acc. to IEC 60947-5-1
Shock resistance acc. to IEC 60068-2-27	50 g at 11 ms, amplitude half sinusoidal
Resistance to vibrations acc. to IEC 60068-2-6	10 g at 40 ... 500 Hz
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
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

Approvals

ABS — 2004 Steel Vessel Rules

Bureau Veritas — Rules for the Classification of Steel Ships

DNV — Classification of Ships....Rules

Lloyd's Register TYPE APPROVAL — Marine, offshore and industrial use

German Lloyds type approval

Typical accessories RAFIX 22 QR - LED unit

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 - 169
Coupling with reference numbers 1/2-5/6-3/4, for contact blocks with double contacts		**5.05.510.936/0000**	2 - 169

Stock items are marked by **bold printed order numbers.**

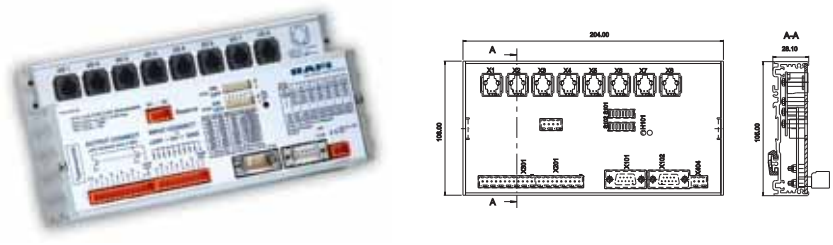
RAFIX 22 QR - LED unit, without coupling



Terminals	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 - 164

RAFIX 22 QR - Contact module for field buses



General Data

Highly flexible bus gateway for structured connection of RAFIX control components. The RAFIX contact blocks with RJ 12 connectors can be plugged directly into the eight RJ 12 female connectors. In addition, you can connect further control components or other sensors or actuators via a male quick connector, e.g. limit switches or proximity switches, solenoid valves or luminous elements. The bus parameters can be set directly on the module to facilitate quick and easy start-up.

Technical Data

Dimensions	
Length	204 mm
Width	106 mm
Height	28 mm
Mechanical design	
Mounting	quick mounting on rails or back panels
Terminals	8 x RJ 12 e.g. for RAFIX 22 QR contact block
Digital inputs 24 V, electrically isolated	9
Digital outputs 24 V, 500 mA	see order block

Electrical characteristics	
Bus interface	see order block
Rated voltage DC	24 V +/-20%
Rated power max.	10
Other specifications	
Degree of protection	IP 20
Operation temperature min.	-10 °C
Operation temperature max.	+60 °C
Storage temperature min.	-25 °C
Storage temperature max.	+60 °C

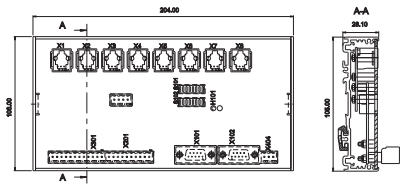
Typical accessories RAFIX 22 QR - Contact module for field buses

Description	Photo	Order no.	Additional accessories see page
LUMOTAST FK - Pushbutton with flush lens, square collar, housing		**1.15.114.906/0000**	1 - 13
RAFIX 22 QR - Contact block with coupling, gold RAFIX 22 QR - Contacts, RJ 12 connector, 1 NO, without LED		1.20.128.002/0000	2 - 155
RAFIX 22 QR - Contact block with coupling, gold RAFIX 22 QR - Contacts, RJ 12 connector, 1 NO, white LED		1.20.128.012/0000	2 - 155
RAFIX 16 - Pushbutton, illuminated, flush lens, square collar		**1.30.070.001/1002**	2 - 10

Stock items are marked by **bold printed order numbers.**

RAFIX 22 QR - Contact module





Bus interface	Digital inputs 24 V, electrically isolated	Digital outputs 24 V, 500 mA	Order no.
CANopen	9	9	3.60.101.148/0000

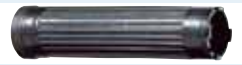
Technical data see page 2 - 166

Stock items are marked by **bold printed order numbers.**

RAFIX 22 QR - Special accessories

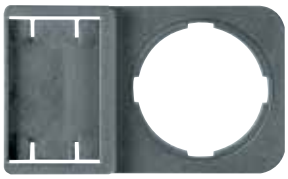


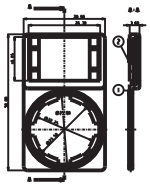
Typical accessories RAFIX 22 QR - Special accessories

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

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**

Stock items are marked by **bold printed order numbers.**

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
Label for label holder, legend „EIN“	-	-	5.73.110.004/0000
Label for label holder, legend „AUS“	-	-	5.73.110.005/0000
Label for label holder, legend „HAND AUTO“	-	-	5.73.110.021/0000
Label for label holder, legend „AUTO HAND“	-	-	5.73.110.022/0000
Label for label holder, legend „HAND 0 AUTO“	-	-	5.73.110.023/0000
Label for label holder, legend „0 I“	-	-	5.73.110.026/0000
Label for label holder, legend „I 0 II“	-	-	5.73.110.027/0000
Label for label holder, legend „EIN AUS“	-	-	5.73.110.028/0000
Label for label holder, legend „AUS EIN“	-	-	5.73.110.029/0000

Legending available on request.

Coupling





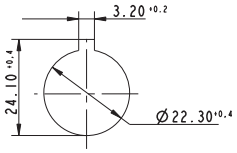
Short text	Feature 1	Feature 2	Order no.
Coupling with reference numbers 1-3-2, for contact blocks with single contacts	-	-	**5.05.510.935/0000**
Coupling with reference numbers 1/2-5/6-3/4, for contact blocks with double contacts	-	-	**5.05.510.936/0000**

Blanking cap



Pict.: square





Panel cut-out to IEC 60947-5-1

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

Protective cover, suitable for pushbuttons with flush lens



Pict.: Protective cover



Protective cover, mounted

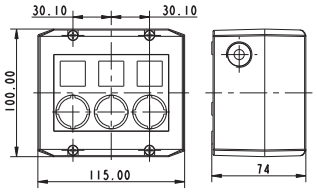
Short text	Feature 1	Feature 2	Order no.
Protective cover, latching	-	-	5.05.511.195/0000
Protective cover, auto-closing	-	-	5.05.511.194/0000

Stock items are marked by **bold printed order numbers.**

RAFIX 22 QR - Insulating housing IP65, Ø 22.3 mm



Pict.: 3-module





light grey/dark grey

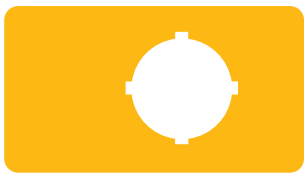
Short text	Feature 1	Feature 2	Order no.
RAFIX - Insulating housing, Ø 22.3 mm, IP65, 1-module, light grey/dark grey	100 mm	55 mm	**1.20.810.201/0000**
RAFIX - Insulating housing, Ø 22.3 mm, IP65, 1-module, yellow/yellow	100 mm	55 mm	**1.20.810.202/0000**
RAFIX - Insulating housing, Ø 22.3 mm, IP65, 2-module, light grey/dark grey	100 mm	115 mm	**1.20.820.201/0000**
RAFIX - Insulating housing, Ø 22.3 mm, IP65, 3-module, light grey/dark grey	100 mm	115 mm	**1.20.830.201/0000**
RAFIX - Insulating housing, Ø 22.3 mm, IP65, 4-module, light grey/dark grey	100 mm	145 mm	**1.20.840.201/0000**

Accessoires:
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 IP65 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, Ø 22.3 mm







Short text	Feature 1 Ø outward	Feature 2 Ø inward	Order no.
Emergency stop label, yellow, round 60 mm, rigid PVC, with legend „Not-Aus“	60 mm	22.3 mm	**5.76.207.001/0400**
Emergency stop label, yellow, round 60 mm, rigid PVC, with legend „EMERGENCY-STOP/ARRET D'URGENCE“	60 mm	22.3 mm	**5.76.207.002/0400**
Adhesive label yellow, round 22.3 / 60 mm, without legend	60 mm	22.3 mm	**5.76.204.100/0400**
Adhesive label yellow, round 22.3 / 60 mm, with legend 1 x „Not-Aus“	60 mm	22.3 mm	**5.76.204.101/0400**
Adhesive label yellow, round 22.3 / 60 mm, with legend 1 x „ARRET D'URGENCE“	60 mm	22.3 mm	5.76.204.102/0400
Adhesive label yellow, round 22.3 / 60 mm, with legend 1 x „EMERGENCY-STOP“	60 mm	22.3 mm	**5.76.204.103/0400**
Emergency stop label, yellow rectangular 36 x 64 mm, without legend	36 x 64 mm	22.3 mm	5.76.205.011/0400
Adhesive label yellow, round 22.3 / 60 mm, with legend „NOT-HALT, EMERGENCY STOP, ARRET D´URGENCE, EMERGENZA“	60 mm	22.3 mm	5.76.204.107/0400
Adhesive label yellow, round 22.3 / 60 mm, with legend 4 x „NOT-HALT“	60 mm	22.3 mm	5.76.204.109/0400
Adhesive label yellow, round 22.3 / 60 mm, with legend 4 x „NOT-AUS“	60 mm	22.3 mm	5.76.204.111/0400
Adhesive label yellow, round 22.3 / 60 mm, with legend 4 x „EMERGENCY STOP“	60 mm	22.3 mm	5.76.204.113/0400
Adhesive label yellow, round 22.3 / 40 mm, with legend „NOT-HALT, EMERGENCY STOP, ARRET D´URGENCE, EMERGENZA“	40 mm	22.3 mm	5.76.204.115/0400
Adhesive label yellow, round 22.3 / 40 mm, with legend 4 x „NOT-HALT“	40 mm	22.3 mm	5.76.204.117/0400
Adhesive label yellow, round 22.3 / 40 mm, with legend 4 x „NOT-AUS“	40 mm	22.3 mm	5.76.204.119/0400
Adhesive label yellow, round 22.3 / 40 mm, with legend 4 x „EMERGENCY STOP“	40 mm	22.3 mm	5.76.204.121/0400

Degree of protection: Rigid PVC: IP40, adhesive foil: IP65

Accessories AS-i - Bus





Short text	Feature 1	Feature 2	Order no.
Female connector with cover, 10 pieces	-	-	5.30.159.158/0000
Crimping tool	-	-	5.55.104.656/0000
Stranded wire, 2 x 1.0 mm², 50 m	-	-	5.03.772.620/0002
2-pole stranded wire with crimped connector	-	-	5.03.772.619/0002



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 resp. 27 mm
- Protection class min. IP65
- 2 collar shapes, round or square
- The PCB contact blocks can be combined with other components on the same PCB.
- Contact blocks with quick connectors and LED clips

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

Content

RAFIX 22 FS - Pushbuttons **2 - 184**
RAFIX 22 FS - Pushbutton, flush lens, round collar 2 - 185
RAFIX 22 FS - Pushbutton, with protective cap, flush lens, round collar NEW 2 - 186
RAFIX 22 FS - Pushbutton, protruding lens, round collar 2 - 187
RAFIX 22 FS - Pushbutton, protruding front ring, round collar 2 - 188
RAFIX 22 FS - Pushbutton, flush lens, square collar 2 - 189
RAFIX 22 FS - Pushbutton, with protective cap, flush lens, square collar NEW 2 - 190
RAFIX 22 FS - Pushbutton, protruding lens, square collar 2 - 191
RAFIX 22 FS - Pushbutton, protruding front ring 2 - 192

RAFIX 22 FS - Selector switches **2 - 194**
RAFIX 22 FS - Selector switch, round collar 2 - 196
RAFIX 22 FS - Selector switch, square collar 2 - 197

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RAFIX 22 FS - Keylock switch, round collar 2 - 199
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Control components re-invented?

The RAFIX 22 FS series literally sets new standards in the domain of control components. The extremely low mounting depth provides entirely new opportunities in the design of machines and housings. This offers the possibility of combining functionality and design in an increasingly design-oriented industrial sector..

In addition to the low mounting depth, the design of the front elements offers numerous advantages to the user. All actuators are available with either square or round housing collar. Combined with the various front rings, this makes it possible to arrange the actuators in such a way that they are easily and individually recognised. For example, you can associate a defined colour with a specific command.

Moreover, the large number of colour options of the front ring makes it easy to customize it to the corporate colours of the various OEMs.



Actuators

The actuators of the RAFIX 22 FS series have at least a degree of protection to IP65 and are therefore suitable for nearly every application. If you need to cope with even more severe environments, some actuators are also available with a degree of protection of IP69.

The mechanical operating life of most of the actuators is as high as one million operations and therefore fully sufficient for years of use with frequent input operations.



The RAFIX 22 FS series offers numerous actuators with a round or square collar shape:

- **Pushbuttons**
  - Optionally illuminated and opaque
  - With flush or raised lens
  - With flush or raised front ring
- **Selector switches**
  - Angle between positions 40°, 60° or 90°
  - Latching or momentary
  - Illuminated or non-illuminated
- **Keylock switches**
  - Angle between positions 40° or 90°
  - Latching or momentary
- **Signal indicators**
  - White, yellow, green, red or blue
- **Emergency stop pushbuttons to DIN EN ISO 13850**

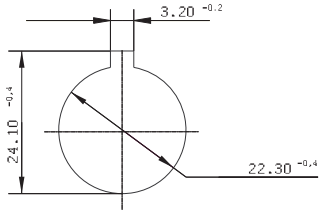
Approvals
- **IEC 60947-5-1/5**
- **UL**

Front panel

Panel cut-out

The actuators of the RAFIX 22 FS series are suitable for 22.3 mm panel cut-outs according to IEC 60947-5-1. All actuators are provided with a locating pip.

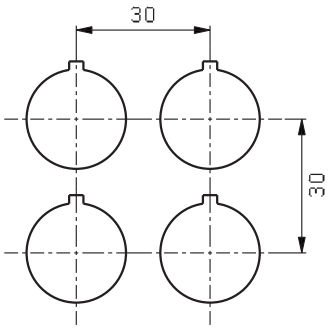
This locating pip ensures the perfect fit of actuators with contact blocks for PCB-mounted components and is therefore critical for a design built with these contact blocks.



Grid spacing

The design principle makes it possible to use a minimum grid spacing of 30 mm x 30 mm. In such an arrangement, actuators with square collars can be aligned directly without any gaps.

When designing the grid spacing, it is recommended to consider any external legending required (for example, using label strips inserted into the front panel).

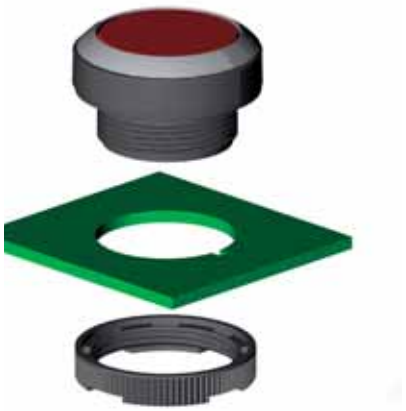


Assembly of the front actuators

Single-handed assembly method

For assembly, insert the actuator into the mounting hole from the front side. It is kept in the mounting hole by the cast-on seal. Subsequently you can screw on the actuator from the rear using the ring nut. You can perform these steps one after the other with one hand!

Even better: You can start by inserting all actuators from the front side first and subsequently fasten the threaded rings from the rear in one go. We recommend using the RAFIX fixing spanner to ensure proper tightening.

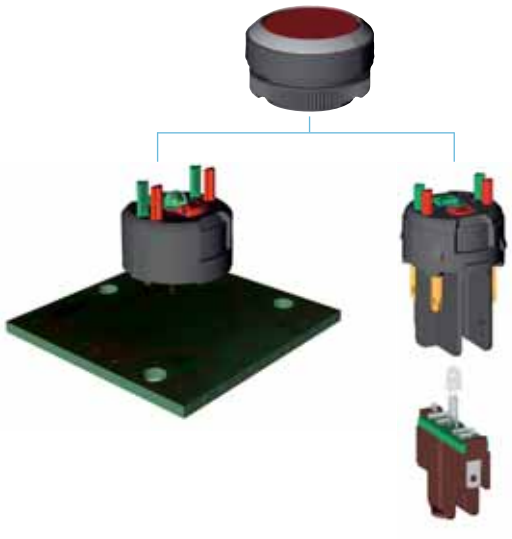


RAFIX 22 FS for any application

You can use different contact blocks as necessary for the application or mounting location. The actuators are suitable for both contact blocks with PCB solder terminals and contact blocks with quick-connect terminals.

The **contact blocks with quick-connect terminals** are mounted directly and permanently to the actuator. **Mounting depth: 27 mm**

The **contact blocks with PCB solder terminals** are mounted on the printed circuit board and subsequently soldered. The mechanical connection with the actuators on the front side is established by thread studs. **Mounting depth: 9.2 mm**



Contact blocks with quick-connect terminals / direct mounting



System

RAFI offers contact blocks with quick-connect terminals for the tried and tested RAFIX 22 FS actuator series. The contact block snaps into the actuator with a gentle "click" and is thereby fitted permanently.

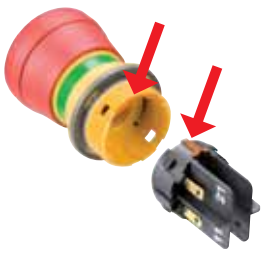
Concept

For those applications where designing a PCB layout is economically inefficient or not possible at all, the contact blocks with quick-connect terminals offer an economic alternative. Catch noses provided on the contact block snap precisely into the actuator. The screw neck of the actuator is provided with indents safeguarding a reliable union. The connection to the contact block is made with simple conventional quick-connect terminals. A fin arranged at the centre of the contact block helps to ensure good insulation and serves as a guide for the LED clip at the same time.

The new contact block with quick-connect terminals completes the RAFIX 22 FS series and makes it perfectly suitable for all customer requirements. Control components installed at detached locations can be integrated into the system **easily** and **without needing any tools**, thereby saving space, effort and material.

Assembly

The colour marks on the screw neck of the actuator and on the contact block prevent incorrect assembly and facilitate the assembly process. Gentle pressure on the contact block is sufficient to ensure reliable latching with the actuator. "Click to fit".



Please notice colour marking!

Advantages

- The speedy and straightforward mounting method for the contact blocks with quick-connect terminals saves valuable assembly time.
- The rigid connection between the contact block and the actuator is suitable for applications where shocks and vibrations occur.
- Cable harnesses can be pre-terminated with the contact blocks.

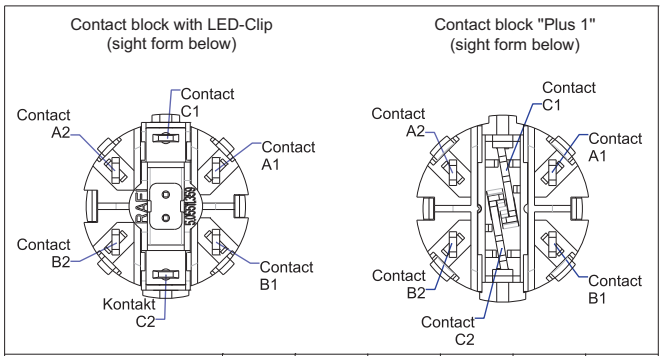
Specific fields of application are those ...

- where using a printed circuit board is economically inefficient, for example, at a distance from the main operating stations (e.g. emergency stop in a hazardous area).
- where standard control components need to be installed quickly. The time it takes to install RAFIX 22 FS contact blocks with quick-connect terminals is substantially shorter than with previous control component concepts.
- where severe vibrations and shocks occur. All the parts are firmly joined.
- where other components occupy much of the available space.

Essential features

- Mounting depth only 27 mm including LED clip and cable lugs
- Quick-connect/solder terminals 2.8 x 0.8 mm
- The contact block engages permanently with the actuator only at the time of final assembly
- Compatible with all RAFIX 22 FS actuators: Pushbuttons, selector switches, keylock switches, emergency stop buttons and signal indicators, with all advantages this series offers:
  - Large actuating and indicating areas
  - Round or square collar shapes
  - Panel cut-out to IEC 60947: 22.3 mm with locating indent
  - Degree of protection IP65 (water-jet proof)
- Protection against contact for quick-connect terminals and cable lugs: Short-circuit proof even when the connection wires are under tensile strain
- Gold contacts for 100% reliable switching of low voltages (5 V/1 mA min.) or:
- Silver contacts (250 V/4 A max.) for mains voltage
- Contact arrangements: 1 NC, 1 NO, 2 NC, 2 NO, 1 NC + 1 NO or, for safety-critical applications, 2 NC + 1 NO (E-stop "Plus 1")
- Illumination with replaceable superbright LED clips in various LED colours, with quick-connect terminals 2.8 x 0.8 mm
- Actuators / contact blocks, signal indicators / lamp sockets and LED clips can be stocked separately and are not assembled until final assembly. This ensures utmost flexibility and most economic stockkeeping for this product range.

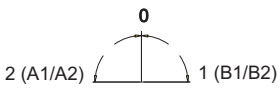
Terminals (sight from below)



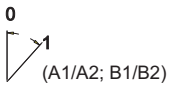
Contact arrangement	1NO	1NC	2NO	2NC	1NC + 1NO	Plus 1
Contact A1/A2 Terminal legending	1NO 13 - 14	-	1NO 13 - 14	1NC 11 - 12	1NO 13 - 14	1NC 11 - 12
Contact B1/B2 Terminal legending	-	1NC 21 - 22	1NO 23 - 24	1NC 21 - 22	1NC 21 - 22	1NC 21 - 22
Contact C1/C2 Terminal legending *:only when needed	LED* X1 - X2	LED* X1 - X2	LED* X1 - X2	LED* X1 - X2	LED* X1 - X2	1NO 33 - 34

Contact scheme for selector and keylock switches

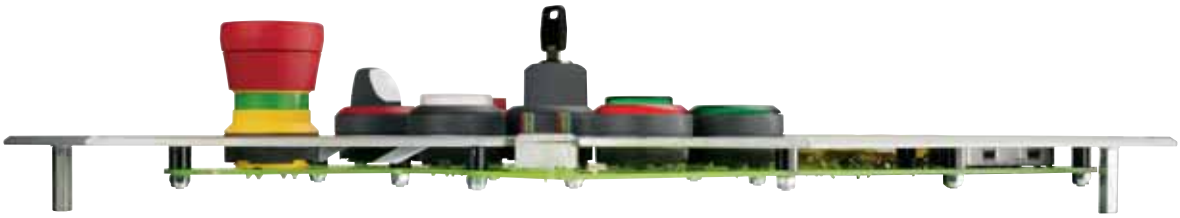
All actuators with 3 positions



All actuators with 2 positions



Contact block with solder terminals for PCB mounting



System

The extremely low mounting depth enables you to use the control component as an integral building block of your system solution.

Concept

You can include the RAFIX 22 FS contact blocks into your PCB layout and arrange them next to other components. The contact blocks are located directly behind the actuators on the printed circuit board at a distance of only 9.2 mm behind the front panel, leaving a lot of space for other components. A 3 mm LED can be inserted into the central duct of the contact block, which makes it easy to implement an illumination. With the RAFIX 22 FS concept, you save space, effort and material.



Printed circuit board

The contact blocks are fitted onto the printed circuit board and subsequently soldered, e.g. by wave soldering. On request, RAFI can also offer you complete systems with a completely assembled PCB.

Assembly

When developing a system, the operating unit needs to be designed once. This process involves designing the front panel and the printed circuit board behind it. Any assembly problems should be avoided as early as at this stage.

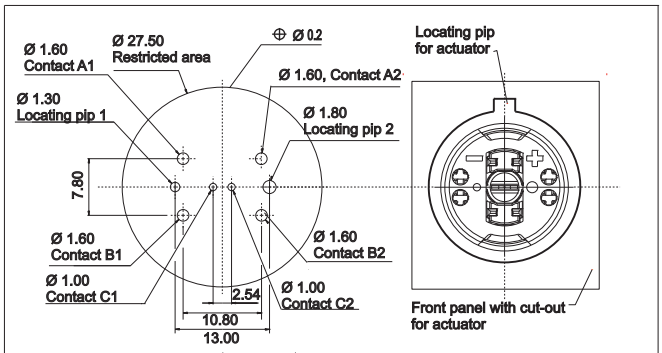
Front panel

The actuators (22.3 mm with locating pip, grid spacing 30 x 30 mm min.) are suitable for mounting in 1 to 3 mm thick front panels.

In addition to the panel cut-outs for the actuators, thread studs for fixing the printed circuit board must be designed on the rear. Legending by insertion of label strips can also be considered here, if necessary.



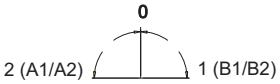
PCB hole patterns (view on component side)



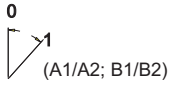
Contact arrangement	1NO	1NC	2NO	2NC	1NC + 1NO	Plus 1
Contact A1/A2 Terminal legending	1NO 13 - 14	-	1NO 13 - 14	1NC 11 - 12	1NO 13 - 14	1NC 11 - 12
Contact B1/B2 Terminal legending	-	1NC 21 - 22	1NO 23 - 24	1NC 21 - 22	1NC 21 - 22	1NC 21 - 22
Contact C1/C2 Terminal legending *:only when needed	LED* X1 - X2	LED* X1 - X2	LED* X1 - X2	LED* X1 - X2	LED* X1 - X2	1NO 33 - 34
*:only when needed	13 14 X1 X2	X1 X2 21 22	13 14 X1 X2 23 24	11 12 X1 X2 21 22	13 14 X1 X2 21 22	11 12 33 34 21 22

Contact scheme for selector and keylock switches

All actuators with 3 positions

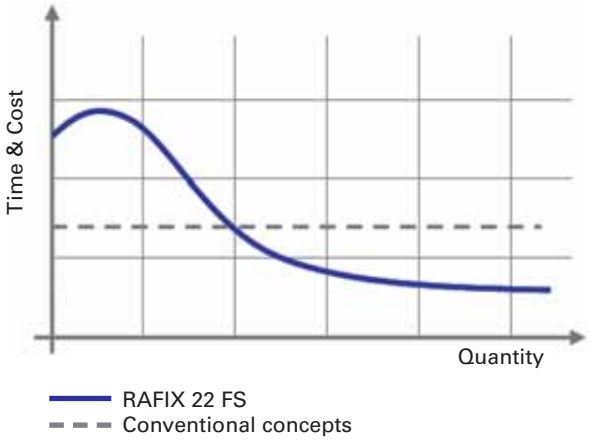


All actuators with 2 positions



Assembly:

The printed circuit board is fastened to the front panel by means of thread studs. The one-time effort in the design phase ensures that assembly problems involving tedious troubleshooting procedures are avoided. This is economically very efficient for large production volumes.



The dimension of 9.2 mm behind the front panel is a mandatory requirement. Any spacers you may need for this purpose are available as RAFI accessories.

Formula for determining the spacer length:
9.2 mm less the front panel thickness equals the spacer height required.

Advantages

- The extremely low mounting depth is unique and makes it possible to develop applications with entirely new housing and machine designs.
- The series can be combined with RAFI short-travel keyswitches and provides an operating concept tailored to the customer application.
- Standardised production with printed circuit boards is profitable with large production volumes and saves assembly costs.

Specific fields of application are those ...

- where a printed circuit board is already envisaged in the design. Printed circuit boards are economically efficient for high production volumes because of the standardised production processes.
- where short-travel keyswitches are also used. RAFIX 22 FS PCB contact blocks can be combined, for example, with RAFI short-travel keyswitches of the MICON 5, RACON 8/12, RF 15/19 and KN 19 series.
- where only limited space is available; RAFIX 22 FS can be used to implement smaller housing formats. This results in savings of material and even tooling costs.

Essential features

- Mounting depth only 9.2 mm
- Solder terminals for PCB
- Compatible with all RAFIX 22 FS actuators:
- Pushbuttons, selector switches, keylock switches, emergency stop buttons and signal indicators, with all advantages this series offers:
  - Large actuating and indicating areas
  - Round or square collar shapes
  - Panel cut-out to IEC 60947: 22.3 mm with locating indent
  - Degree of protection IP65 (water-jet proof)
- Gold contacts for 100% reliable switching of low voltages (5 V/1 mA min.) or
- Silver contacts (250 V/4 A max.) for mains voltage
- Contact arrangements: 1 NC, 1 NO, 2 NC, 2 NO, 1 NC + 1 NO, 2 NC + 1 NO
- Illumination with LED's in various LED colours

E-Box



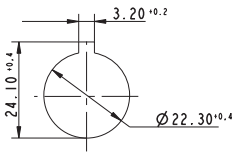
The RAFIX 22 FS E-Box is an elegant, extremely well-designed housing for control components. It can be used wherever indiviual control component units are required in remote places. Very typical, for example, for Emergency-Stop applications along a production line or on the safety fence.

The dimensions of the RAFIX 22 FS E-Box and also the assembly concept are based on the edge dimension of a 40 mm profile rail.

RAFIX 22 FS - Pushbuttons







Panel cut-out to IEC 60947-5-1

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

Dimensions of collar	see order block
Overall height	see order block
Mounting depth	see order block
Mounting hole	22.3 mm
Key grid	30 x 30 mm

Mechanical design

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

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 (operations)	1,000,000 momentary/ 500,000 latching
Degree of protection from front side	IP65
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Salt spray	IEC 600 68-2-11

Approvals

IEC 60947-5-x, 60904, 60073

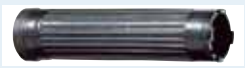
UL 508,C22.2 No. 14-M91

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 - 220
RAFIX 22 FS - Universal contact block, silver contacts, 1 NO		**1.20.126.202/0000**	2 - 224
RAFIX 22 FS - Contact block with quick-connect terminals, silver contacts		**1.20.126.303/0000**	2 - 217

Stock items are marked by **bold printed order numbers.**

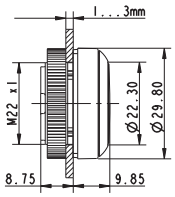
Typical accessories RAFIX 22 FS - Pushbuttons

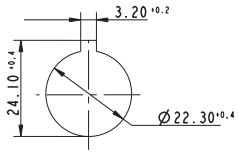
Description	Photo	Order no.	Additional accessories see page
Fixing spanner for ring nut and front ring		**5.05.800.062/0000**	5 - 21

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

RAFIX 22 FS - Pushbutton, flush lens, round collar







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	1.30.250.001/10xx	**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 - 184

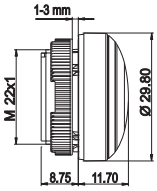
xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

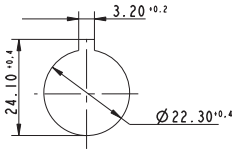
Legending on request.

NEW

RAFIX 22 FS - Pushbutton, with protective cap, flush lens, round collar







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	1.30.250.005/10xx	-	-	-
yes	transparent red	1.30.250.005/13xx	-	-	-
yes	transparent yellow	1.30.250.005/14xx	-	-	-
yes	transparent green	1.30.250.005/15xx	-	-	-
yes	transparent blue	1.30.250.005/16xx	-	-	-
no	opaque black	1.30.250.105/01xx	-	-	-
no	opaque white	1.30.250.105/02xx	-	-	-
no	opaque red	1.30.250.105/03xx	-	-	-
no	opaque yellow	1.30.250.105/04xx	-	-	-
no	opaque green	1.30.250.105/05xx	-	-	-
no	opaque blue	1.30.250.105/06xx	-	-	-
no	opaque slate-grey	1.30.250.105/07xx	-	-	-

Technical data see page 2 - 184

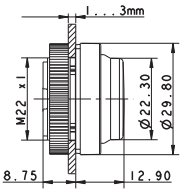
Pushbutton with protectice cap for use under rugged conditions.

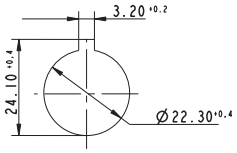
xx = colour of front ring: black = 01, silver grey = 08

Legending on request.

RAFIX 22 FS - Pushbutton, protruding lens, round collar







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	1.30.250.201/10xx	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

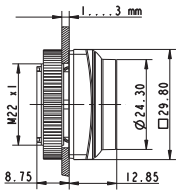
Technical data see page 2 - 184

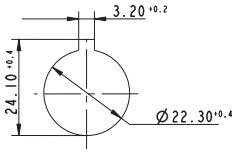
xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

Legending on request.

RAFIX 22 FS - Pushbutton, protruding front ring, round collar







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	1.30.250.401/10xx	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 - 184

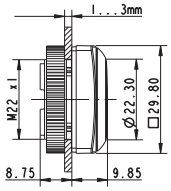
xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

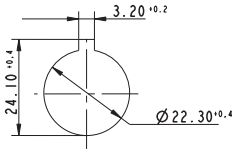
Legending on request.

Stock items are marked by **bold printed order numbers.**

RAFIX 22 FS - Pushbutton, flush lens, square collar







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	1.30.250.051/10xx	**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 - 184

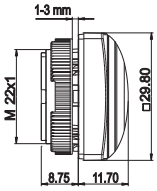
xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

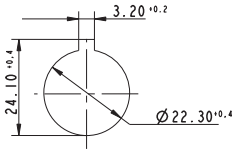
Legending on request.

NEW

RAFIX 22 FS - Pushbutton, with protective cap, flush lens, square collar







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	1.30.250.055/10xx	-	-	-
yes	transparent red	1.30.250.055/13xx	-	-	-
yes	transparent yellow	1.30.250.055/14xx	-	-	-
yes	transparent green	1.30.250.055/15xx	-	-	-
yes	transparent blue	1.30.250.055/16xx	-	-	-
no	opaque black	1.30.250.155/01xx	-	-	-
no	opaque white	1.30.250.155/02xx	-	-	-
no	opaque red	1.30.250.155/03xx	-	-	-
no	opaque yellow	1.30.250.155/04xx	-	-	-
no	opaque green	1.30.250.155/05xx	-	-	-
no	opaque blue	1.30.250.155/06xx	-	-	-
no	opaque slate-grey	1.30.250.155/07xx	-	-	-

Technical data see page 2 - 184

Pushbutton with protectice cap for use under rugged conditions.

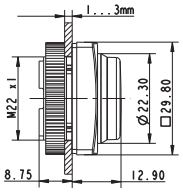
xx = colour of front ring: black = 01, silver grey = 08

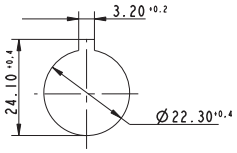
Legending on request.

Stock items are marked by **bold printed order numbers.**

RAFIX 22 FS - Pushbutton, protruding lens, square collar







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	1.30.250.251/10xx	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

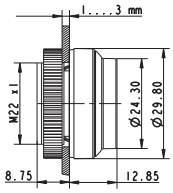
Technical data see page 2 - 184

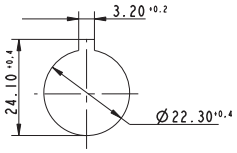
xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

Legending on request.

RAFIX 22 FS - Pushbutton, protruding front ring







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 - 184

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

Legending on request.

Stock items are marked by **bold printed order numbers.**

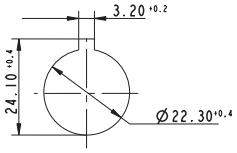
RAFIX 22 FS - Selector switches



Pict.: Front ring, silver grey, illuminated



Front ring, metallized, non-illuminated



Panel cut-out to IEC 60947-5-1

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

Dimensions

Dimensions of collar	see order block
Overall height	22.24 mm
Mounting depth	see order block
Mounting hole	22.3 mm
Key grid	30 x 30 mm

Mechanical design

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

Mechanical characteristics

Torque max.	1.5 Nm

Other specifications

Operating life (operations)	500,000 momentary/ 300,000 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
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Salt spray	IEC 600 68-2-11

Approvals

IEC 60947-5-x, 60904, 60073

UL 508,C22.2 No. 14-M91

Typical accessories RAFIX 22 FS - Selector switches

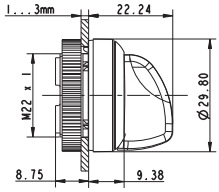
Description	Photo	Order no.	Additional accessories see page
RAFIX 22 FS - Universal contact block, 1 NO		**1.20.126.002/0000**	2 - 220
RAFIX 22 FS - Contact block with quick-connect terminals, gold contacts		**1.20.126.103/0000**	2 - 215
RAFIX 22 FS - Universal contact block, silver contacts, 1 NC		**1.20.126.201/0000**	2 - 224

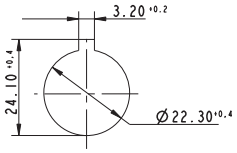
For additional accessories, refer to the chapter „Special accessories".

RAFIX 22 FS - Selector switch, round collar

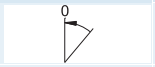
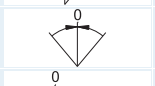
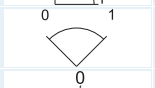
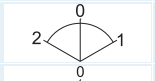
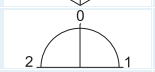
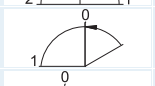
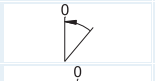
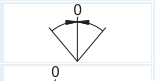
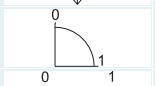
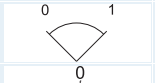
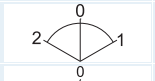
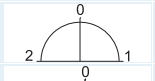
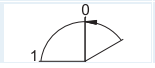


Pict.: Front ring, silver grey, illuminated





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	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**
yes	latching	2 x 90°		1.30.252.126/22xx	**1.30.252.127/2200**
yes	latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°		1.30.252.926/22xx	1.30.252.927/2200
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	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**
no	latching	2 x 90°		1.30.252.626/02xx	**1.30.252.627/0200**
no	latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°		1.30.252.426/02xx	1.30.252.427/0200

Technical data see page 2 - 194

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.

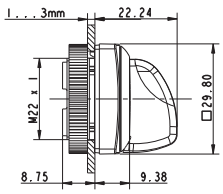
For coloured illumination of the handle marking please use coloured LED (see chapter 5 accessories).

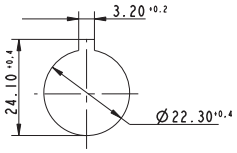
Stock items are marked by **bold printed order numbers.**

RAFIX 22 FS - Selector switch, square collar

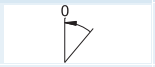
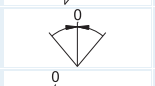
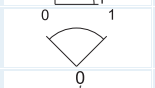
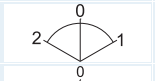
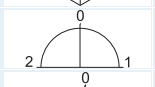
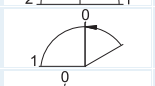
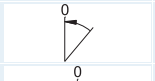
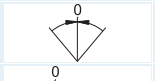
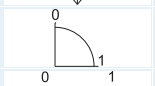
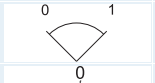
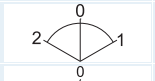
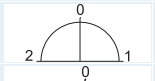
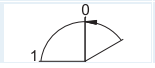


Pict.: Front ring, metallized, illuminated





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	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**
yes	latching	2 x 90°		1.30.252.176/22xx	**1.30.252.177/2200**
yes	latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°		1.30.252.976/22xx	1.30.252.977/2200
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	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**
no	latching	2 x 90°		1.30.252.676/02xx	**1.30.252.677/0200**
no	latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°		1.30.252.476/02xx	1.30.252.477/0200

Technical data see page 2 - 194

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

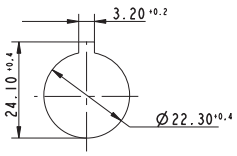
Other contact functions and handle marking colours available on request.

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

RAFIX 22 FS - Keylock switch







Panel cut-out to IEC 60947-5-1

Technical Data

General information	
Colour of front ring	see order block
Form of collar	see order block
Dimensions	
Dimensions of collar	see order block
Overall height	44.1 mm
Mounting depth	see order block
Mounting hole	22.3 mm
Key grid	30 x 30 mm
Mechanical design	
Mounting	ring nut
Contact function	see order block
Lock	Micromec
Illuminability	see order block
Wafers	5
Lock type	001
Number of locking positions	500
Main key	on request
Rotating angle	see order block
Key removal position	see order block

Mechanical characteristics	
Torque max.	1.3 Nm
Other specifications	
Operating life (operations)	300,000 momentary/ 50,000 latching / 30,000 with key removal
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
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
ESD-strength lock / contact	15 kV
ESD-strength key/ front panel	15 kV
Salt spray	IEC 600 68-2-11

Approvals

IEC 60947-5-x, 60904, 60073

UL 508,C22.2 No. 14-M91

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 - 220

Stock items are marked by **bold printed order numbers.**

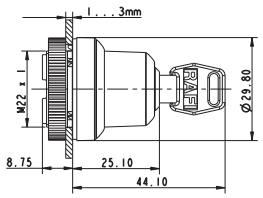
Typical accessories RAFIX 22 FS - Keylock switch

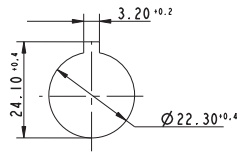
Description	Photo	Order no.	Additional accessories see page
RAFIX 22 FS - Contact block with quick-connect terminals, gold contacts		**1.20.126.103/0000**	2 - 215
RAFIX 22 FS - Universal contact block, silver contacts, +1 NC, 1 NO		**1.20.126.203/0000**	2 - 224
RAFIX 22 FS - Contact block with quick-connect terminals, silver contacts		**1.20.126.303/0000**	2 - 217
Spare key, for single action, e.g. 1 x 90° (delivery content 2 key)		5.58.007.001/0000	
Spare key, for double action, e.g. 2 x 90° (delivery content 1 key)		5.58.008.001/0000	

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

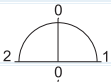
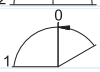
RAFIX 22 FS - Keylock switch, round collar







Panel cut-out to IEC 60947-5-1

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**
latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°	0		1.30.255.501/xxxx	1.30.255.502/0000

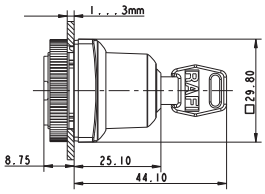
Technical data see page 2 - 198

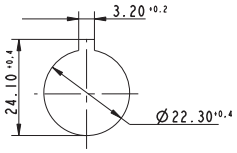
xxxx = Front ring colour: black = 0100, red = 0300, yellow = 0400, green = 0500, blue = 0600, slate grey = 0700, silver grey = 0800

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

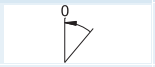
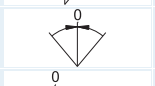
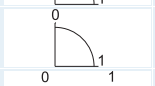
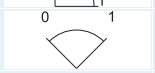
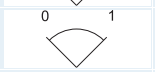
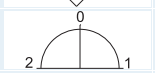
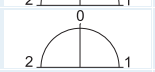
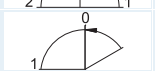
RAFIX 22 FS - Keylock switch, square collar







Panel cut-out to IEC 60947-5-1

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**
latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°	0		1.30.255.551/xxxx	1.30.255.552/0000

Technical data see page 2 - 198

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

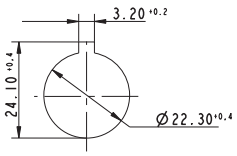
Other lock variants available on request.
Included: 2 keys.

Stock items are marked by **bold printed order numbers.**

RAFIX 22 FS - Emergency stop pushbutton







Panel cut-out to IEC 60947-5-1

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.
Please only combine „emergency stop“ contact block.

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	33.2 mm
Key grid	22.3 mm
Diameter of collar	see order block
Mechanical design	
Mounting	ring nut
Contact function	latching
Illuminability	see order block
Reset	see order block

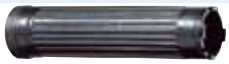
Mechanical characteristics	
Robustness min.	100 N
Other specifications	
Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Robustness	acc. to IEC 600 68-2-3 and 2-30
Operating life (operations)	50,000
Degree of protection from front side	see order block
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Salt spray	IEC 600 68-2-11

Approvals

IEC 60947-5-x, 60904, 60073

UL 508,C22.2 No. 14-M91

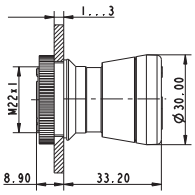
Typical accessories RAFIX 22 FS - Emergency stop pushbutton

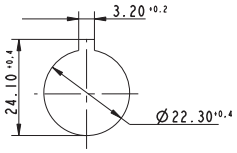
Description	Photo	Order no.	Additional accessories see page
RAFIX 22 FS - Emergency stop contact block, 1 NC, gold contacts		**1.20.126.401/0000**	2 - 220
RAFIX 22 FS - Emergency stop contact block, 2 NC, gold contacts		**1.20.126.404/0000**	2 - 220
RAFIX 22 FS - Contact block with quick-connect terminal and gold contacts		**1.20.126.501/0000**	2 - 215
RAFIX 22 FS - Emergency stop contact block, silver contacts, 1 NC		**1.20.126.601/0000**	2 - 224
RAFIX 22 FS - Contact block with quick-connect terminals, silver contacts		**1.20.126.701/0000**	2 - 217
Fixing spanner for ring nut and front ring		**5.05.800.062/0000**	5 - 21
Adhesive label yellow, round 22.3 / 60 mm, with legend „NOT-HALT, EMERGENCY STOP, ARRET D´URGENCE, EMERGENZA“		5.76.204.107/0400	2 - 99, 2 - 172, 2 - 238, 5 - 29
Adhesive label yellow, round 22.3 / 60 mm, with legend 4 x „NOT-HALT“		5.76.204.109/0400	2 - 99, 2 - 172, 2 - 238, 5 - 29
Adhesive label yellow, round 22.3 / 60 mm, with legend 4 x „NOT-AUS“		5.76.204.111/0400	2 - 99, 2 - 172, 2 - 238, 5 - 29
Adhesive label yellow, round 22.3 / 60 mm, with legend 4 x „EMERGENCY STOP“		5.76.204.113/0400	2 - 99, 2 - 172, 2 - 238, 5 - 29
Adhesive label yellow, round 22.3 / 40 mm, with legend „NOT-HALT, EMERGENCY STOP, ARRET D´URGENCE, EMERGENZA“		5.76.204.115/0400	2 - 99, 2 - 172, 2 - 238, 5 - 29
Adhesive label yellow, round 22.3 / 40 mm, with legend 4 x „NOT-HALT“		5.76.204.117/0400	2 - 99, 2 - 172, 2 - 238, 5 - 29
Adhesive label yellow, round 22.3 / 40 mm, with legend 4 x „NOT-AUS“		5.76.204.119/0400	2 - 99, 2 - 172, 2 - 238, 5 - 29
Adhesive label yellow, round 22.3 / 40 mm, with legend 4 x „EMERGENCY STOP“		5.76.204.121/0400	2 - 99, 2 - 172, 2 - 238, 5 - 29

Stock items are marked by **bold printed order numbers.**

RAFIX 22 FS - Emergency stop pushbutton, reset by rotation







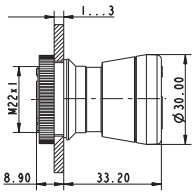
Panel cut-out to IEC 60947-5-1

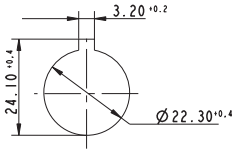
Reset	Illuminability	Degree of protection from front side	Order no.
by clockwise rotation	yes, lens transparent	IP65	**1.30.253.001/1000**
by clockwise rotation	yes, lens red	IP65	**1.30.253.001/0300**
by clockwise rotation	no	IP65	**1.30.253.501/0300**

Technical data see page 2 - 202

RAFIX 22 FS - Emergency stop pushbutton, reset by pulling (IP69K)







Panel cut-out to IEC 60947-5-1

Reset	Illuminability	Degree of protection from front side	Order no.
by pulling	yes, lens transparent	IP69K	**1.30.253.101/1000**
by pulling	yes, lens red	IP69K	**1.30.253.101/0300**
by pulling	no	IP69K	**1.30.253.601/0300**

Technical data see page 2 - 202

Stock items are marked by **bold printed order numbers.**



E-Box – the Attractive Emergency Stop Unit

Better slim than chunky! This attractive emergency stop unit is an enhancement for any application: An elegant flat housing, suitable for 40 mm DIN rails with integrated RAFIX 22 FS emergency stop switch.

Look and see! Download the brochure at www.rafi.de, or send your inquiry to e-box@rafi.de.

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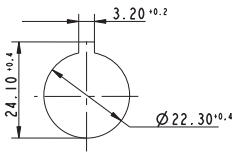
SOLUTIONS WITH PASSION

NEW

RAFIX 22 FS - Emergency stop pushbutton „Plus 1“







Panel cut-out to IEC 60947-5-1

General Data

RAFIX 22 FS “Plus1”
Emergency stop pushbutton with 2 NC and 1 NO contacts
This special emergency stop pushbutton offers two redundant normally-closed contacts for the emergency off / emergency stop function and an additional signal contact. Unique design: 3 contacts accommodated in very compact dimensions (mounting depth 9.2 or 27 mm).

2 normally-closed (NC) contacts
Redundancy is more and more often a requirement for safety applications in mechanical engineering and control system development and helps to minimise the probability of failure of a system.

1 normally-open (NO) contact
The third contact – a normally-open contact – may be used, for example, for sending an information signal to a monitoring unit or master safety controller. The safety controller may then initiate a controlled shutdown, depending on the location and type of the hazard indicated.

The emergency stop pushbutton complies with the current standards. The positively guided mechanical movement of the pushbutton makes it dupe-proof according to DIN EN ISO 13850.

A RAFIX 22 FS “Plus1” emergency stop unit consists of a special emergency stop pushbutton and a suitable emergency stop contact block which can either be mounted directly (quick-connect terminals) or placed on a printed circuit board (THT version).

Approbations: IEC 60947-5-5 and UL 508 in preparation.

Only use with emergency stop “Plus1” contact blocks.

Technical Data

General information	
form of lens	conical mushroom form
Colour of lens	red
form of collar	round
Dimensions	
Mushroom Diameter	30
Overall height	see order block
Mounting depth	see order block
Mounting hole	see order block
Key grid	30 x 30
Diameter of collar	see order block
Mechanical design	
Mounting	ring nut
Contact function	latching
Illuminability	no
Reset	see order block

Mechanical characteristics	
Robustness min.	100 N
Other specifications	
Ambient temp. operating min.	-25
Ambient temp. operating max.	+70
Robustness	acc. to IEC 600 68-2-3 and 2-30
Operating life (operations)	50,000
Degree of protection from front side	see order block
Storage temperature min.	-40
Storage temperature max.	+80
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Salt spray	IEC 600 68-2-11

Typical accessories RAFIX 22 FS emergency stop pushbutton „Plus 1“

Description	Photo	Order no.	Additional accessories see page
RAFIX 22 FS - Emergency stop contact block, 2 NC, gold contacts		**1.20.126.414/0000**	2 - 220
RAFIX 22 FS - Contact block emergency stop, 2NC + 1 NO, with quick-connect terminals, gold contacts		**1.20.126.514/0000**	2 - 215
Adhesive label yellow, round 22.3 / 60 mm, with legend „NOT-HALT, EMERGENCY STOP, ARRET D´URGENCE, EMERGENZA“		5.76.204.107/0400	2 - 99, 2 - 172, 2 - 238, 5 - 29
Adhesive label yellow, round 22.3 / 60 mm, with legend 4 x „NOT-HALT“		5.76.204.109/0400	2 - 99, 2 - 172, 2 - 238, 5 - 29
Adhesive label yellow, round 22.3 / 40 mm, with legend „NOT-HALT, EMERGENCY STOP, ARRET D´URGENCE, EMERGENZA“		5.76.204.115/0400	2 - 99, 2 - 172, 2 - 238, 5 - 29
Adhesive label yellow, round 22.3 / 40 mm, with legend 4 x „EMERGENCY STOP“		5.76.204.121/0400	2 - 99, 2 - 172, 2 - 238, 5 - 29

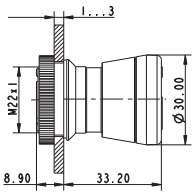
2

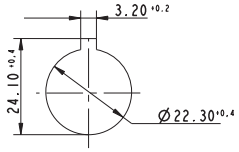
RAFIX 22 FS

RAFIX 22 FS - Emergency stop pushbutton „Plus 1“, reset by rotation

NEW







Panel cut-out to IEC 60947-5-1

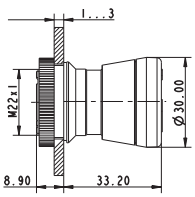
Reset	Illuminability	Degree of protection from front side	Order no.
by clockwise rotation	no	IP65	**1.30.253.502/0300**

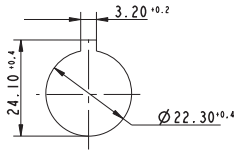
Technical data see page 2 - 206

RAFIX 22 FS - Emergency stop pushbutton „Plus 1“, reset by pulling (IP69K)

NEW







Panel cut-out to IEC 60947-5-1

Reset	Illuminability	Degree of protection from front side	Order no.
by pulling	no	IP69K	**1.30.253.602/0300**

Technical data see page 2 - 206

NEW

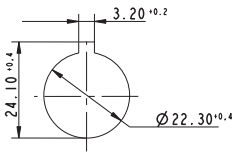
RAFIX 22 FS - Potentiometer drive



Pict.: mounted



delivery content



Panel cut-out to IEC 60947-5-1

Technical Data

General information

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

Dimensions

Dimensions of collar	see order block
Overall height	26 mm
Mounting depth	according to potentiometer
Mounting hole	22.3 mm
Key grid	according to potentiometer

Mechanical design

Mounting	ring nut

Mechanical characteristics

Robustness min.	100 N

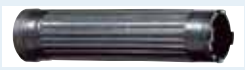
Other specifications

Degree of protection from front side	IP65
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Salt spray	IEC 600 68-2-11

Approvals

IEC 60947-5-x, 60904, 60073

Typical accessories RAFIX 22 FS - 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

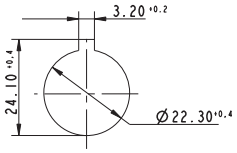
Stock items are marked by **bold printed order numbers.**

RAFIX 22 FS - Potentiometer drive, round collar

NEW



Pict.: mounted



Panel cut-out to IEC 60947-5-1

Front ring	Colour of knob	Order no.
plastic slate-grey	opaque slate-grey	1.30.258.001/0700

Technical data see page 2 - 208

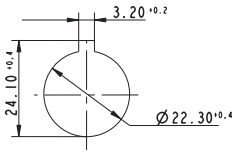
For potentiometers with 6 mm shaft diameter and 50 mm shaft length. Potentiometer not included.

RAFIX 22 FS - Potentiometer drive, square collar

NEW



Pict.: delivery content



Panel cut-out to IEC 60947-5-1

Front ring	Colour of knob	Order no.
plastic slate-grey	opaque slate-grey	1.30.258.021/0700

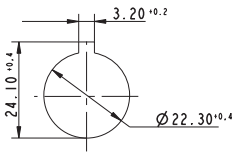
Technical data see page 2 - 208

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

RAFIX 22 FS - Signal indicator







Panel cut-out to IEC 60947-5-1

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
Overall height	see order block
Mounting depth	see order block
Mounting hole	22.3 mm
Key grid	30 x 30 mm
Mechanical design	
Mounting	ring nut
Illuminability	yes

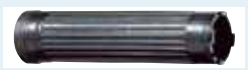
Mechanical characteristics	
Robustness min.	100 N
Other specifications	
Degree of protection from front side	IP65
Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Approvals	see order block
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Salt spray	IEC 600 68-2-11

Approvals

IEC 60947-5-x, 60904, 60073

UL 508,C22.2 No. 14-M91

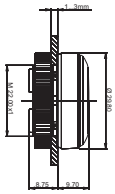
Typical accessories RAFIX 22 FS - Signal indicator

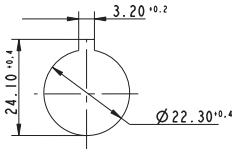
Description	Photo	Order no.	Additional accessories see page
3 mm LED superbright red		**1.90.690.269/0000**	2 - 237, 5 - 17
Fixing spanner for ring nut and front ring		**5.05.800.062/0000**	5 - 21
LED base for signal indicators, height 5 mm		**5.30.109.020/0756**	2 - 236
RAFIX 22 FS - Socket for LED-Clip, quick-connect terminals		**5.55.104.419/0700**	2 - 235

Stock items are marked by **bold printed order numbers.**

RAFIX 22 FS - Signal indicator, round collar, flat version







Panel cut-out to IEC 60947-5-1

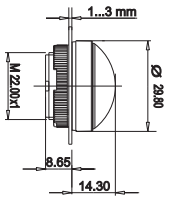
form of collar	Colour of lens	Order no.
round	transparent colourless	**1.74.506.001/1000**
round	transparent red	**1.74.506.001/1300**
round	transparent yellow	**1.74.506.001/1400**
round	transparent green	**1.74.506.001/1500**
round	transparent blue	**1.74.506.001/1600**

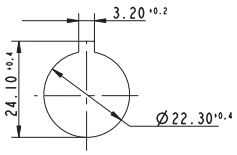
Technical data see page 2 - 210

Legending on request.

RAFIX 22 FS - Signal indicator, round collar, high version







Panel cut-out to IEC 60947-5-1

form of collar	Colour of lens	Order no.
round	transparent colourless	1.74.506.011/1000
round	transparent red	1.74.506.011/1300
round	transparent yellow	1.74.506.011/1400
round	transparent green	1.74.506.011/1500
round	transparent blue	1.74.506.011/1600

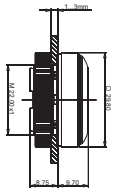
Technical data see page 2 - 210

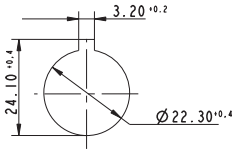
Legending on request

Stock items are marked by **bold printed order numbers.**

RAFIX 22 FS - Signal indicator, square collar, flat version







Panel cut-out to IEC 60947-5-1

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**

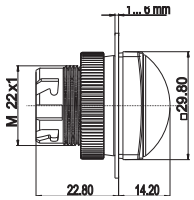
Technical data see page 2 - 210

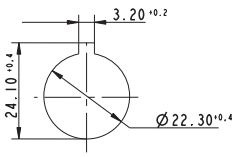
Legending on request.

NEW

RAFIX 22 FS - Signal indicator, square collar, high version







Panel cut-out to IEC 60947-5-1

form of collar	Colour of lens	Order no.
square	transparent colourless	1.74.506.061/1000
square	transparent red	1.74.506.061/1300
square	transparent yellow	1.74.506.061/1400
square	transparent green	1.74.506.061/1500
square	transparent blue	1.74.506.061/1600

Technical data see page 2 - 210

Legending on request.

Stock items are marked by **bold printed order numbers.**

NEW

RAFIX 22 FS - Contact block with quick-connect terminal and gold contacts



Pict.: Universal, Au contacts, 1 NC + 1 NO



E-stop, Au contacts, 2 NC



General Data

The contact blocks are inserted into the actuators and latch there permanently. Emergency stop pushbuttons require special contact blocks which you can recognise by the plungers being in the interior. In addition, the emergency stop contact blocks and actuators feature two assembly guides which prevent rotation during assembly.
We recommend to choose the LED colour in the same colour as the lens of the actuator in order to ensure satisfactory illumination.

Technical Data

General information	
Lamp optional	LED-Clip
Dimensions	
Diameter	17.3 mm
Recommended key grid	30 mm
Mounting depth	27 mm
Mechanical design	
Mounting	snap on actuator
Contact system	bridge-contact self cleaning
Contact materials	Au
Contact arrangement	see order block
NC contact forcibly actuated acc. to IEC 60947-5-1	yes
Terminals	quick connect terminals 2.8 x 0.5 mm mm
Robustness	100 N
Electrical characteristics	
Operating voltage min.	5 V
Operating voltage max.	35 V
Operating current min.	1 mA
Operating current max.	100 mA
Rated power max.	250 mW

Other specifications	
Operating life at 10 mA/24 V DC	see order block
Switching reliability at 24V/5mA DC	10 x 10^{-6}
Ambient temp. operating min.	-25 °C
Storage temperature max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Colour of plunger	see order block
Robustness	acc. to IEC 60947-5-5 (TÜV)
Shock resistance acc. to IEC 60068-2-27	15 g at 11 ms, amplitude half sinusoidal
Resistance to vibrations acc. to IEC 60068-2-6	5 g at 10 ... 500 Hz
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Colour of housing	grey
Type	see order block

Approvals

IEC 60947-5-x, 60904, 60073

UL 508,C22.2 No. 14-M91

Typical accessories RAFIX 22 FS - Contact block with quick-connect terminal and gold contacts

Description	Photo	Order no.	Additional accessories see page
LED-Clip, LED red, 24 V DC		**5.05.511.359/0300**	2 - 235

RAFIX 22 FS - Contact block with quick-connect terminal and gold contacts

NEW



Pict.: Universal, Au contacts, 2 NC



Universal, Au contacts, 1 NC + 1 NO



E-stop, Au contacts, 2 NC

Contact arrangement	Type	Lamp optional	Operating life at 10 mA/24 V DC	Colour of plunger	Order no.
1 NC	Universal	LED-Clip	1,000,000	red	**1.20.126.101/0000**
1 NO	Universal	LED-Clip	1,000,000	green	**1.20.126.102/0000**
1 NC + 1 NO	Universal	LED-Clip	1,000,000	red and green	**1.20.126.103/0000**
2 NC	Universal	LED-Clip	1,000,000	red	**1.20.126.104/0000**
2 NO	Universal	LED-Clip	1,000,000	green	**1.20.126.105/0000**
1 NC	emergency stop	LED-Clip	1,000,000	red	**1.20.126.501/0000**
1 NC + 1 NO	emergency stop	LED-Clip	1,000,000	yellow	**1.20.126.503/0000**
2 NC	emergency stop	LED-Clip	1,000,000	red	**1.20.126.504/0000**
2 NC + 1 NO	emergency stop „Plus 1“	LED-Clip	50,000	red	**1.20.126.514/0000**

Technical data see page 2 - 214

Caution: Emergency stop contact blocks can only be used with emergency stop pushbuttons.
Caution: Emergency stop contact blocks „Plus 1“ can only be used with emergency stop pushbuttons „Plus 1“.

NEW

RAFIX 22 FS - Contact block with quick-connect terminals, silver contacts



Pict.: Universal, Ag contacts, 1 NC + 1 NO



E-stop, Ag contacts, 2 NC



Technical Data

General information

Lamp optional	LED-Clip

Dimensions

Diameter	17.3 mm
Recommended key grid	30 mm
Mounting depth	27 mm

Mechanical design

Mounting	snap on actuator
Contact system	bridge-contact self cleaning
Contact materials	Ag
Contact arrangement	see order block
NC contact forcibly actuated acc. to IEC 60947-5-1	yes
Terminals	quick connect terminals 2.8 x 0.5 mm
Robustness	100 N

Electrice 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	1,000,000
Operating life at 250V / 2A	100,000
Operating life at 250V / 4A	30,000
Switching reliability at 24V/5mA DC	10×10^{-6}
Ambient temp. operating min.	-25
Ambient temp. operating max.	+70
Storage temperature min.	-40
Storage temperature max.	+80
Colour of plunger	see order block
Schiffszulassungen	see order block
Robustness	acc. to IEC 60947-5-5 (TÜV)
Shock resistance acc. to IEC 60068-2-27	15 g at 11 ms, amplitude half sinusoidal
Resistance to vibrations acc. to IEC 60068-2-6	5 g at 10 ... 500 Hz
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Flame class acc. to UL 94	V 0
Hot wire ignition acc. to IEC 60695-2-1	yes
Type	see order block
Colour of housing	black

Approvals

IEC 60947-5-x, 60904, 60073

UL 508,C22.2 No. 14-M91

Typical accessories RAFIX 22 FS - Contact block with quick-connect terminals, silver contacts

Description	Photo	Order no.	Additional accessories see page
LED-Clip, LED red, 24 V DC		**5.05.511.359/0300**	2 - 235
LED-Clip, LED yellow, 24 V DC		**5.05.511.359/0400**	2 - 235
LED-Clip, LED green, 24 V DC		**5.05.511.359/0500**	2 - 235

RAFIX 22 FS - Contact block with quick-connect terminals, silver contacts



Pict.: Universal, Ag contacts, 2 NC



Universal, Ag contacts, 2 NO



E-stop, Ag contacts, 1 NC + 1 NO

NEW

Contact arrangement	Type	Lamp optional	Colour of plunger	Order no.
1 NC	Universal	LED-Clip	red	**1.20.126.301/0000**
1 NO	Universal	LED-Clip	green	**1.20.126.302/0000**
1 NC + 1 NO	Universal	LED-Clip	red and green	**1.20.126.303/0000**
2 NC	Universal	LED-Clip	red	**1.20.126.304/0000**
2 NO	Universal	LED-Clip	green	**1.20.126.305/0000**
1 NC	emergency stop	LED-Clip	red	**1.20.126.701/0000**
1 NC + 1 NO	emergency stop	LED-Clip	yellow	**1.20.126.703/0000**
2 NC	emergency stop	LED-Clip	red	**1.20.126.704/0000**

Technical data see page 2 - 216

Please note: E-stop contact blocks can only be combined with E-stop actuators.

RAFIX 22 FS - Contact block for PCB with gold contacts



Pict.: Universal, Au contacts, 1 NC + 1 NO



E-stop, Au contacts, 2 NC



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 recommend using superbright LED since this ensures homogeneous illumination.

Technical Data

General information	
Lamp optional	LED
Dimensions	
Diameter	17.3 mm
Recommended key grid	30 mm
Mounting depth	9.2 mm
Mechanical design	
Mounting	soldering in PCB
Contact system	bridge-contact self cleaning
Contact materials	Au
Contact arrangement	see order block
NC contact forcibly actuated acc. to IEC 60947-5-1	yes
Terminals	THT solder terminals with locating lug
Robustness	100 N
Electrical characteristics	
Operating voltage AC/DC min.	5 V
Operating voltage AC/DC max.	35 V
Operating current AC/DC min.	1 mA
Operating current AC/DC max.	100 mA
Rated power max.	250 mW

Other specifications	
Operating life at 10 mA/24 V DC	see order block
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
Colour of plunger	see order block
Robustness	acc. to IEC 60947-5-5 (TÜV)
Shock resistance acc. to IEC 60068-2-27	50 g at 11 ms, amplitude half sinusoidal
Resistance to vibrations acc. to IEC 60068-2-6	5 g at 10 ... 500 Hz
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Solderability / solder heat resistance	IEC 600 68-2-20
Solder techniques	wave solder bath / manual soldering
Type	see order block
Colour of housing	grey

Approvals

IEC 60947-5-x, 60904, 60073

UL 508,C22.2 No. 14-M91

Typical accessories RAFIX 22 FS - Contact block for PCB with gold contacts

Description	Photo	Order no.	Additional accessories see page
3 mm LED superbright yellow		**1.90.690.267/0000**	2 - 237, 5 - 17
3 mm LED superbright red		**1.90.690.269/0000**	2 - 237, 5 - 17
3 mm LED superbright blue		**1.90.690.282/0000**	2 - 237, 5 - 17
3 mm LED superbright green		**1.90.690.285/0000**	2 - 237, 5 - 17
3 mm LED superbright white		**1.90.690.295/0000**	2 - 237, 5 - 17
LED base for signal indicators, height 5 mm		**5.30.109.020/0756**	2 - 236
Spacer, round, length 7.25 mm, yellow		**5.30.759.038/0000**	2 - 239, 4 - 82, 5 - 30
Spacer, round, length 8.25 mm, transparent blue		**5.30.759.042/0000**	2 - 239, 4 - 82, 5 - 30
Spacer triangular, M3		5.30.759.251/0000	2 - 239, 4 - 82, 5 - 30

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

RAFIX 22 FS - Contact block for PCB with gold contacts



Pict.: Universal, Au contacts, 1 NC + 1 NO



E-stop, Au contacts, 2 NC



Contact arrangement	Type	Lamp	Operating life at 10 mA/24 V DC	Colour of plunger	Order no.
1 NC	Universal	-	1,000,000	red	**1.20.126.001/0000**
1 NO	Universal	-	1,000,000	green	**1.20.126.002/0000**
1 NC + 1 NO	Universal	-	1,000,000	red and green	**1.20.126.003/0000**
2 NC	Universal	-	1,000,000	red	**1.20.126.004/0000**
2 NO	Universal	-	1,000,000	green	**1.20.126.005/0000**
1 NC	emergency stop	-	1,000,000	red	**1.20.126.401/0000**
1 NC + 1 NO	emergency stop	-	1,000,000	yellow	**1.20.126.403/0000**
2 NC	emergency stop	-	1,000,000	red	**1.20.126.404/0000**
2 NC + 1 NO	emergency stop „Plus 1“	-	50,000	red	**1.20.126.414/0000**

Technical data see page 2 - 218

Caution: Emergency stop contact blocks can only be used with emergency stop pushbuttons.
„E-Stop „Plus 1“ contact blocks can only be combined with E-stop „plus 1“ actuators.

Stock items are marked by **bold printed order numbers.**

RAFIX 22 FS - Contact block for PCB with silver contacts



Pict.: Universal, Ag contacs, 1 NC + 1 NO



Universal, Ag contacts, 1 NC



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 optional	LED
Dimensions	
Diameter	17.3 mm
Recommended key grid	30 mm
Mounting depth	9.2 mm
Mechanical design	
Mounting	soldering in PCB
Contact system	bridge-contact self cleaning
Contact materials	Ag
Contact arrangement	see order block
NC contact forcibly actuated acc. to IEC 60947-5-1	yes
Terminals	THT solder terminals with locating lug
Robustness	100 N
Electrice 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	1,000,000
Operating life at 250V / 2A	100,000
Operating life at 250V / 4A	30,000
Switching reliability at 24V/5mA DC	10×10^{-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
Schiffszulassungen	on request
Robustness	acc. to IEC 60947-5-5 (TÜV)
Shock resistance acc. to IEC 60068-2-27	50 g at 11 ms, amplitude half sinusoidal
Resistance to vibrations acc. to IEC 60068-2-6	5 g at 10 ... 500 Hz
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Solderability / solder heat resistance	IEC 600 68-2-20
Solder techniques	wave solder bath / manual soldering
Flame class acc. to UL 94	V 0
Hot wire ignition acc. to IEC 60695-2-1	yes
Type	see order block
Colour of housing	black

Approvals

IEC 60947-5-x, 60904, 60073

UL 508,C22.2 No. 14-M91

Typical accessories RAFIX 22 FS - Contact block for PCB with silver contacts

Description	Photo	Order no.	Additional accessories see page
3 mm LED superbright yellow		**1.90.690.267/0000**	2 - 237, 5 - 17
3 mm LED superbright red		**1.90.690.269/0000**	2 - 237, 5 - 17
3 mm LED superbright blue		**1.90.690.282/0000**	2 - 237, 5 - 17
3 mm LED superbright green		**1.90.690.285/0000**	2 - 237, 5 - 17
3 mm LED superbright white		**1.90.690.295/0000**	2 - 237, 5 - 17
LED base for signal indicators, height 5 mm		**5.30.109.020/0756**	2 - 236
Spacer, round, length 7.25 mm, yellow		**5.30.759.038/0000**	2 - 239, 4 - 82, 5 - 30
Spacer, round, length 8.25 mm, transparent blue		**5.30.759.042/0000**	2 - 239, 4 - 82, 5 - 30
Spacer triangular, M3		5.30.759.251/0000	2 - 239, 4 - 82, 5 - 30

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

RAFIX 22 FS - Contact block for PCB with silver contacts



Pict.: Universal, Ag contacts, 1 NO



E-stop, Ag contacts, 1 NC



Universal, Ag contacs, 1 NC + 1 NO

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 - 222

Caution: Emergency stop contact blocks can only be used with emergency stop pushbuttons.

Stock items are marked by **bold printed order numbers.**



The RAFIX 22 FS E-Box is an elegant, extremely well-designed housing for control components. It can be used wherever individual control component units are required in remote places. Very typical, for example, for Emergency-Stop applications along a production line or on the safety fence.

The dimensions of the RAFIX 22 FS E-BOX and also the assembly concept are based on the edge dimension of a 40 mm profile rail.

Simple assembly concept, based on 40 mm profile rails



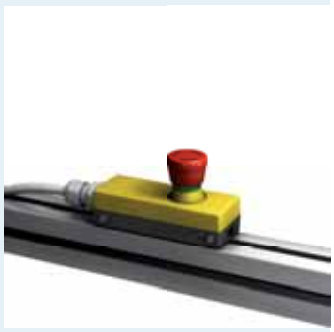
- Insert metal clip in profile rail slot (locating noses on the clip ensure precise adjustment, fix with only one screw)
- The metal clip can also be screwed onto other surfaces.



- Mount housing bottom part
- Attach contact module
- Insert the wires
- Connect the terminals

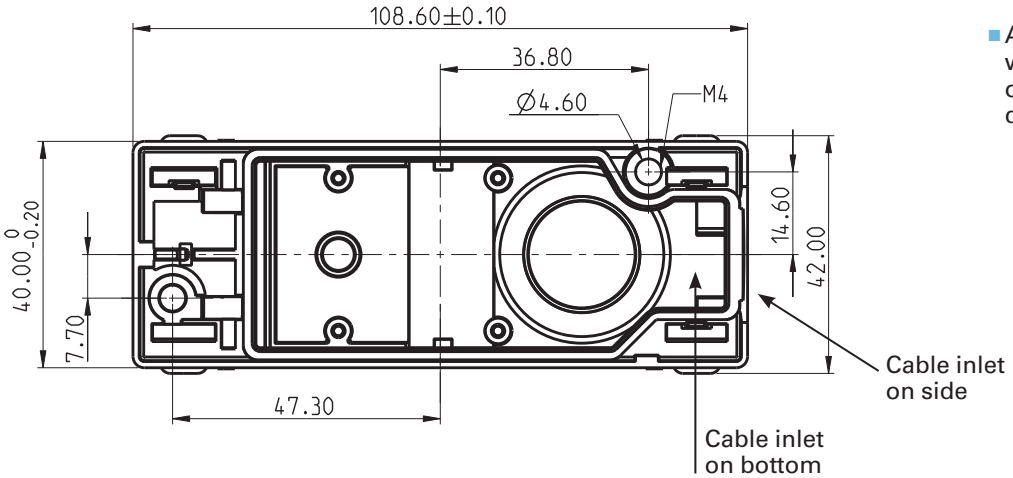


- Insert RAFIX 22 FS actuator (e.g. Emergency-Stop) into housing top part
- Fix actuator with a ring nut



- Snap housing top part onto bottom part. Done!

Drilling pattern for direct mounting with screws

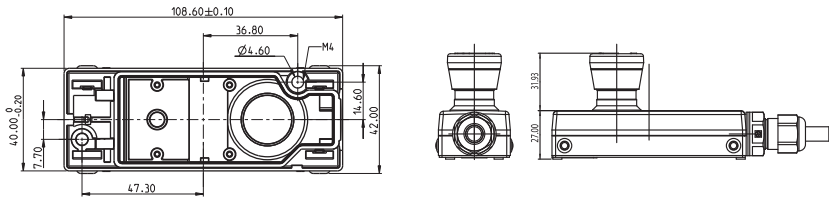


- As an alternative to mounting with the metal clip, the bottom of the housing can be attached directly with M4 screws.

NEW

RAFIX 22 FS - E-Box Housing





General Data

- Extremely compact (dimensions 109 x 40 x 27 mm)
- Suitable for actuator from the RAFIX 22 FS control unit range (mounting hole ø22.3 mm)
- With yellow housing cap for Emergency-Stop actuator
- With grey housing cap for standard actuators, such as pushbuttons
  - Fixing with the timesaving one-hole screw attachment method, particularly suitable for aluminium profile rails
  - or alternatively by direct attachment with M4 screws
- Includes respective cable lead-in for direct cabling: side M16 or bottom: M20

Technical Data

General information
Colour of housing cap — see order block

Dimensions
Dimensions — 109 x 40 x 27 mm
Mounting hole — 22.3 mm

Mechanical design
Cable attachment — see order block

Other specifications
Protection as per EN 60529 — IP 65
Protection class — II
Temperature range — as per IEC 60947-5-1, depending on actuators used

Typical accessories RAFIX 22 FS - E-Box Housing

Description	Photo	Order no.	Additional accessories see page
RAFIX 22 FS - Pushbutton, illuminated, flush lens, round collar, metal front ring, latching		1.30.250.031/1000	2 - 185
RAFIX 22 FS - Emergency stop pushbutton, not illuminable, reset by pulling, IP 69K		**1.30.253.601/0300**	2 - 204
E-Box contact modules for Emergency-stop applications		5.00.100.221/0000	2 - 229
E-Box contact modules for standard applications		5.00.100.234/0000	2 - 230

Stock items are marked by **bold printed order numbers.**

RAFIX 22 FS - E-Box, yellow, for Emergency-stop pushbuttons

NEW



Cable attachment	Colour of housing cap	Order no.
side M16	yellow	1.20.810.302/0000
bottom M20	yellow	1.20.810.304/0000

Technical data see page 2 - 226

RAFIX 22 FS - E-Box, grey, for pushbuttons

NEW



Cable attachment	Colour of housing cap	Order no.
side M16	grey	1.20.810.303/0000
bottom M20	grey	1.20.810.305/0000

Technical data see page 2 - 226

NEW

RAFIX 22 FS - E-Box contact module with gold contacts



General Data

- With RAFIX 22 FS contact block for Emergency-Stop actuator or standard actuator
- Contact block with 2 contact cavities (for Emergency-Stop „PLUS1“ with 3 contacts)
- Option with LED for illuminated actuator components
- Line connection (max. 1.5mm²)
  - in bottom of housing
  - with spring clamp (rigid wire, wire with or without cable end sleeve)

Technical Data

General information	
Lamp optional	LED
Mechanical design	
Contact system	bridge-contact self cleaning
Contact materials	Au
Contact arrangement	see order block
NC contact forcibly actuated acc. to IEC 60947-5-1	yes
Robustness	100 N
Electrical characteristics	
Operating voltage AC/DC min.	5 V
Operating voltage AC/DC max.	35 V
Operating current AC/DC min.	1 mA
Operating current AC/DC max.	100 mA
Rated power max.	250 mW
Other specifications	
Operating life at 10 mA/24 V DC	see order block
Switching reliability at 24V/5mA DC	10×10^{-6}
Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+80
Colour of plunger	see order block
Robustness	acc. to IEC 60947-5-5 (TÜV)
Shock resistance acc. to IEC 60068-2-27	50 g at 11 ms, amplitude half sinusoidal
Resistance to vibrations acc. to IEC 60068-2-6	5 g at 10 ... 500 Hz
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Type	see order block
Colour of housing	grey
LED / colour	see order block

Approvals

IEC 60947-5-x, 60904, 60073

RAFIX 22 FS - E-Box contact modules for Emergency-stop applications

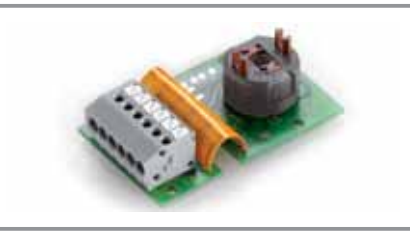


Contact materials	Contact arrangement	Type	LED / Colour	Operating life at 10 mA/24 V DC	Colour of plunger	Order no.
Au	2 NC	Emergency stop	-	1,000,000	red	5.00.100.221/0000
Au	2 NC	Emergency stop	LED red	1,000,000	red	5.00.100.222/0000
Au	2 NC	Emergency stop	LED white	1,000,000	red	5.00.100.224/0000
Au	2 NC	Emergency stop	LED green	1,000,000	red	5.00.100.225/0000
Au	2 NC + 1 NO	Emergency stop „Plus 1“	-	50,000	red	5.00.100.226/0000

Technical data see page 2 - 228

NEW

RAFIX 22 FS - E-Box contact modules for standard applications



Contact materials	Contact arrangement	Type	LED / Colour	Operating life at 10 mA/24 V DC	Colour of plunger	Order no.
Au	2 NC	Universal	-	1,000,000	red	5.00.100.228/0000
Au	2 NC	Universal	LED red	1,000,000	red	5.00.100.229/0000
Au	2 NC	Universal	LED yellow	1,000,000	red	5.00.100.230/0000
Au	2 NC	Universal	LED green	1,000,000	red	5.00.100.231/0000
Au	2 NC	Universal	LED blue	1,000,000	red	5.00.100.232/0000
Au	2 NC	Universal	LED white	1,000,000	red	5.00.100.233/0000
Au	1 NC + 1 NO	Universal	-	1,000,000	red and green	5.00.100.234/0000
Au	1 NC + 1 NO	Universal	LED red	1,000,000	red and green	5.00.100.235/0000
Au	1 NC + 1 NO	Universal	LED yellow	1,000,000	red and green	5.00.100.236/0000
Au	1 NC + 1 NO	Universal	LED green	1,000,000	red and green	5.00.100.237/0000
Au	1 NC + 1 NO	Universal	LED blue	1,000,000	red and green	5.00.100.238/0000
Au	1 NC + 1 NO	Universal	LED white	1,000,000	red and green	5.00.100.239/0000
Au	2 NO	Universal	-	1,000,000	green	5.00.100.240/0000
Au	2 NO	Universal	LED red	1,000,000	green	5.00.100.241/0000
Au	2 NO	Universal	LED yellow	1,000,000	green	5.00.100.242/0000
Au	2 NO	Universal	LED green	1,000,000	green	5.00.100.243/0000
Au	2 NO	Universal	LED blue	1,000,000	green	5.00.100.244/0000
Au	2 NO	Universal	LED white	1,000,000	green	5.00.100.245/0000

Technical data see page 2 - 228

NEW

RAFIX 22 FS - E-Box contact module with silver contacts



General Data

- With RAFIX 22 FS contact block for Emergency-Stop actuator or standard actuator
- Contact block with 2 contact cavities (for Emergency-Stop „PLUS1“ with 3 contacts)
- Option with LED for illuminated actuator components
- Line connection (max. 1.5mm²)
  - in bottom of housing
  - with spring clamp (rigid wire, wire with or without cable end sleeve)

Technical Data

General information	
Lamp optional	LED
Mechanical design	
Contact system	bridge-contact self cleaning
Contact materials	Ag
Contact arrangement	see order block
NC contact forcibly actuated acc. to IEC 60947-5-1	yes
Robustness	100 N
Electrice 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; 270mA/ 240 V; I_{the}: 2.5 A
Other specifications	
Operating life at 250V / 1A	1,000,000
Operating life at 250V / 2A	100,000
Operating life at 250V / 4A	30,000
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
Marine classifications	on request
Robustness	acc. to IEC 60947-5-5 (TÜV)
Shock resistance acc. to IEC 60068-2-27	50 g at 11 ms, amplitude half sinusoidal
Resistance to vibrations acc. to IEC 60068-2-6	5 g at 10 ... 500 Hz
Environmental restistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Flame class acc. to UL 94	V 0
Hot wire ignition acc. to IEC 60695-2-1	yes
Type	see order block
Colour of housing	black
LED / colour	see order block

Approvals

IEC 60947-5-x, 60904, 60073

RAFIX 22 FS - E-Box contact modules for Emergency-stop applications

NEW



Contact material	Contact arrangement	Type	LED / colour	Operating life at 250V / 4A	Colour of plunger	Order no.
Ag	2 NO	Emergency stop	-	30,000	green	5.00.100.227/0000

Technical data see page 2 - 232

RAFIX 22 FS - E-Box contact modules for standard applications

NEW



Contact material	Contact arrangement	Type	LED / colour	Operating life at 250V / 4A	Colour of plunger	Order no.
Ag	2 NO	Universal	-	30,000	green	5.00.100.246/0000
Ag	1 NC + 1 NO	Universal	-	30,000	red and green	5.00.100.247/0000
Ag	2 NC	Universal	-	30,000	red	5.00.100.248/0000

Technical data see page 2 - 232

RAFIX 22 FS - Special accessories



Pict.: square



LED yellow



Typical accessories RAFIX 22 FS - 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

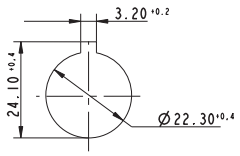
Blanking cap Ø 22.3 mm



Pict.: square



round, high version



Panel cut-out to IEC 60947-5-1

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, round, high version, can be used for covering mounted PCB contact blocks.	-	-	5.05.200.025/0000
Blanking cap IP65, ring nut, square, high version, can be used for covering mounted PCB contact blocks.	-	-	5.05.200.026/0000

Stock items are marked by **bold printed order numbers.**

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.: LED green



LED white



LED red

Short text	Feature 1	Feature 2	Order no.
LED-Clip, LED red, 24 V DC	-	-	**5.05.511.359/0300**
LED-Clip, LED yellow, 24 V DC	-	-	**5.05.511.359/0400**
LED-Clip, LED green, 24 V DC	-	-	**5.05.511.359/0500**
LED-Clip, LED blue, 24 V DC	-	-	**5.05.511.359/0600**
LED-Clip, LED white, 24 V DC	-	-	**5.05.511.359/0200**

LED base for signal indicators



Pict.: with clicked-in LED clip

Short text	Feature 1	Feature 2	Order no.
RAFIX 22 FS - Socket for LED-Clip, quick-connect terminals	-	-	**5.55.104.419/0700**

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.

LED base for signal indicators



Pict.: opaque light grey

Short text	Feature 1	Feature 2	Order no.
LED base for signal indicators, height 5 mm	-	-	**5.30.109.020/0756**

LED 3 mm, without base

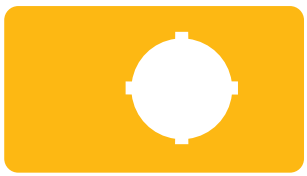


Socket	Colour	Forward voltage typ. U_F at I_F	Max. current, I_F	Light intensity	Order no.	Accessoires lamp extractor
without socket	red	1,6 V/1 mA	30 mA	-	1.90.690.228/0000	-
without socket	yellow	1,9 V/20 mA	50 mA	-	**1.90.690.267/0000**	-
without socket	red	1,9 V/20 mA	50 mA	-	**1.90.690.269/0000**	-
without socket	blue	3,6 V/20 mA	30 mA	-	**1.90.690.282/0000**	-
without socket	green	3,5 V/20 mA	30 mA	-	**1.90.690.285/0000**	-
without socket	white	3,6 V/20 mA	30 mA	-	**1.90.690.295/0000**	-

Processing information for 1.90.690.267/0000 and 1.90.690.269/0000
The qualifications for the higher soldering temperatures on lead free soldering processes are as follows:
Temperature stability according J-STD 020 C for reflow soldering 245°C and for wave soldering 245°C/10s.

Emergency stop label, Ø 22,3 mm







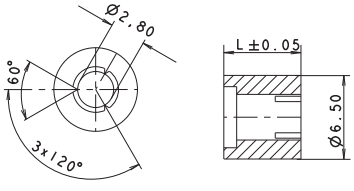
Short text	Feature 1 Ø outward	Feature 2 Ø inward	Order no.
Emergency stop label, yellow, round 60 mm, rigid PVC, with legend „Not-Aus“	60 mm	22.3 mm	**5.76.207.001/0400**
Emergency stop label, yellow, round 60 mm, rigid PVC, with legend „EMERGENCY-STOP/ARRET D'URGENCE“	60 mm	22.3 mm	**5.76.207.002/0400**
Adhesive label yellow, round 22.3 / 60 mm, without legend	60 mm	22.3 mm	**5.76.204.100/0400**
Adhesive label yellow, round 22.3 / 60 mm, with legend 1 x „Not-Aus“	60 mm	22.3 mm	**5.76.204.101/0400**
Adhesive label yellow, round 22.3 / 60 mm, with legend 1 x „ARRET D'URGENCE“	60 mm	22.3 mm	5.76.204.102/0400
Adhesive label yellow, round 22.3 / 60 mm, with legend 1 x „EMERGENCY-STOP“	60 mm	22.3 mm	**5.76.204.103/0400**
Emergency stop label, yellow rectangular 36 x 64 mm, without legend	36 x 64 mm	22.3 mm	5.76.205.011/0400
Adhesive label yellow, round 22.3 / 60 mm, with legend „NOT-HALT, EMERGENCY STOP, ARRET D´URGENCE, EMERGENZA“	60 mm	22.3 mm	5.76.204.107/0400
Adhesive label yellow, round 22.3 / 60 mm, with legend 4 x „NOT-HALT“	60 mm	22.3 mm	5.76.204.109/0400
Adhesive label yellow, round 22.3 / 60 mm, with legend 4 x „NOT-AUS“	60 mm	22.3 mm	5.76.204.111/0400
Adhesive label yellow, round 22.3 / 60 mm, with legend 4 x „EMERGENCY STOP“	60 mm	22.3 mm	5.76.204.113/0400
Adhesive label yellow, round 22.3 / 40 mm, with legend „NOT-HALT, EMERGENCY STOP, ARRET D´URGENCE, EMERGENZA“	40 mm	22.3 mm	5.76.204.115/0400
Adhesive label yellow, round 22.3 / 40 mm, with legend 4 x „NOT-HALT“	40 mm	22.3 mm	5.76.204.117/0400
Adhesive label yellow, round 22.3 / 40 mm, with legend 4 x „NOT-AUS“	40 mm	22.3 mm	5.76.204.119/0400
Adhesive label yellow, round 22.3 / 40 mm, with legend 4 x „EMERGENCY STOP“	40 mm	22.3 mm	5.76.204.121/0400

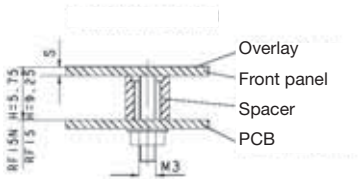
Degree of protection: Rigid PVC: IP40, adhesive foil: IP65

Stock items are marked by **bold printed order numbers.**

Spacers, round





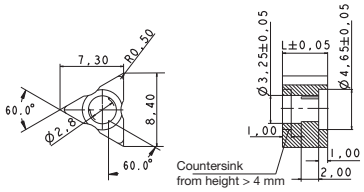


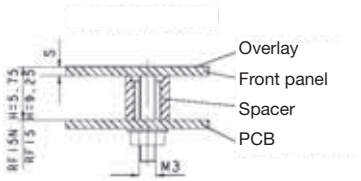
Length	Width	Overall height	Diameter	Colour	Order no.
3.50 mm	-	-	-	blue transparent	5.30.759.023/0000
4 mm	-	-	-	green	5.30.759.025/0000
4.25 mm	-	-	-	blue	5.30.759.026/0000
4.50 mm	-	-	-	red	5.30.759.027/0000
4.75 mm	-	-	-	blue transparent	5.30.759.028/0000
5 mm	-	-	-	black	5.30.759.029/0000
5.25 mm	-	-	-	yellow orange transparent	5.30.759.030/0000
5.50 mm	-	-	-	yellow	5.30.759.031/0000
5.75 mm	-	-	-	green	**5.30.759.032/0000**
6 mm	-	-	-	blue	**5.30.759.033/0000**
6.2 mm	-	-	-	blue	5.30.759.251/0000
6.25 mm	-	-	-	red	**5.30.759.034/0000**
6.50 mm	-	-	-	blue transparent	**5.30.759.035/0000**
6.75 mm	-	-	-	black	**5.30.759.036/0000**
7 mm	-	-	-	yellow orange transparent	**5.30.759.037/0000**
7.25 mm	-	-	-	yellow	**5.30.759.038/0000**
7.50 mm	-	-	-	green	**5.30.759.039/0000**
7.75 mm	-	-	-	blue	**5.30.759.040/0000**
8 mm	-	-	-	red	**5.30.759.041/0000**
8.25 mm	-	-	-	blue transparent	**5.30.759.042/0000**
10.00 mm	-	-	-	black	**5.30.759.043/0104**

Required spacer length = Overall height of key - front panel thickness - 0.5 mm (area embossing).

Spacers, triangular







Length	Width	Overall height	Diameter	Colour	Order no.
2.50 mm	-	-	-	blue	5.30.759.094/0000
2.75 mm	-	-	-	red	5.30.759.095/0000
3 mm	-	-	-	blue transparent	5.30.759.096/0000
3.25 mm	-	-	-	black	5.30.759.097/0000
3.50 mm	-	-	-	yellow orange transparent	5.30.759.098/0000
3.75 mm	-	-	-	yellow	5.30.759.099/0000
4 mm	-	-	-	green	5.30.759.100/0000
4.25 mm	-	-	-	blue	5.30.759.101/0000
4.50 mm	-	-	-	red	5.30.759.102/0000
4.75 mm	-	-	-	blue transparent	5.30.759.103/0000
5 mm	-	-	-	black	5.30.759.104/0000
5.25 mm	-	-	-	yellow orange transparent	5.30.759.105/0000
5.50 mm	-	-	-	yellow	5.30.759.106/0000
5.75 mm	-	-	-	green	5.30.759.107/0000
6 mm	-	-	-	blue	5.30.759.108/0000
6.2 mm	-	-	-	blue	5.30.759.253/0000
6.25 mm	-	-	-	red	5.30.759.109/0000
6.50 mm	-	-	-	blue transparent	5.30.759.110/0000
6.75 mm	-	-	-	black	5.30.759.111/0000
7 mm	-	-	-	yellow orange transparent	5.30.759.112/0000
7.25 mm	-	-	-	yellow	5.30.759.113/0000
7.50 mm	-	-	-	green	5.30.759.114/0000
7.75 mm	-	-	-	blue	5.30.759.115/0000

Stock items are marked by **bold printed order numbers.**

Length	Width	Overall height	Diameter	Colour	Order no.
8 mm	-	-	-	red	5.30.759.116/0000
8.25 mm	-	-	-	blue transparent	5.30.759.117/0000
9 mm	-	-	-	blue	5.30.759.254/0000
10.00 mm	-	-	-	black	5.30.759.124/0000
10.25 mm	-	-	-	yellow orange transparent	5.30.759.125/0000

Required spacer length = Overall height of key - front panel thickness - 0.5 mm (area embossing).