



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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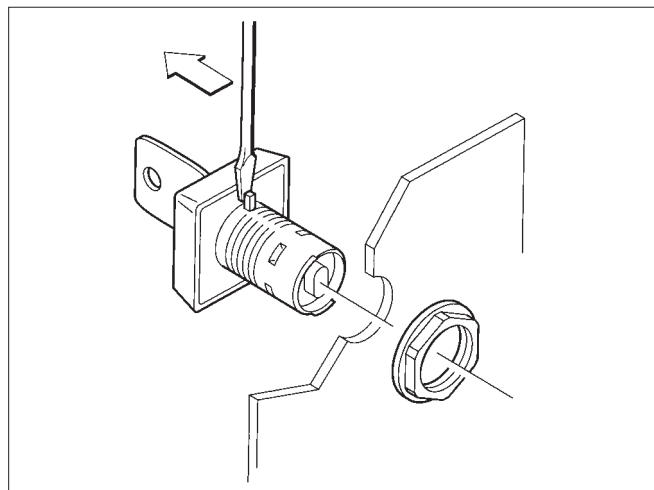
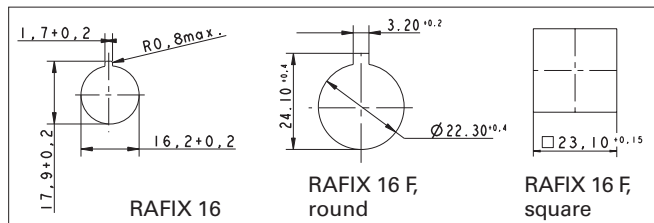
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General information

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.

Actuators

Mounting hole according to IEC 60947



- Locating lug (easily removable).
The locating lug can be easily removed using a screwdriver.
- 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.



RAFIX 16 F,
round

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-effective 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

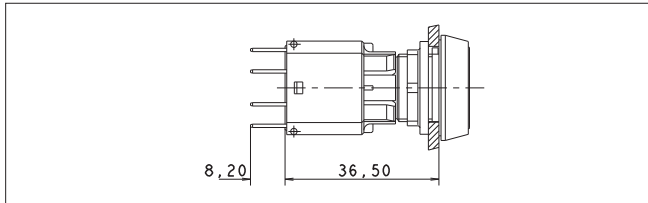
Temperature range

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

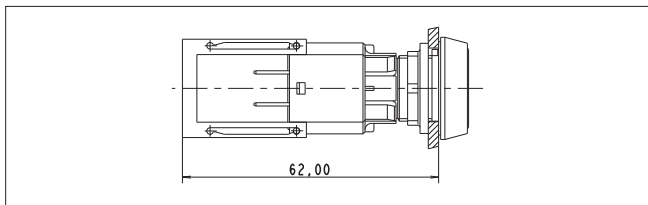
Dimensional Drawings RAFIX 16

Actuator with contact block resp. signal indicator with lamp socket

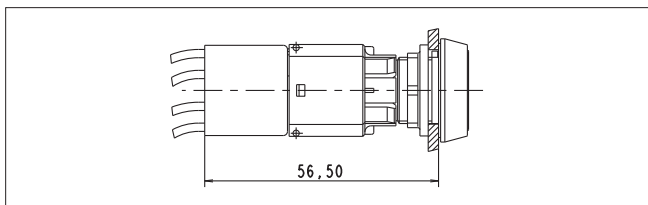
Contact block with quick-connect terminals and RAFIX 16 pushbutton



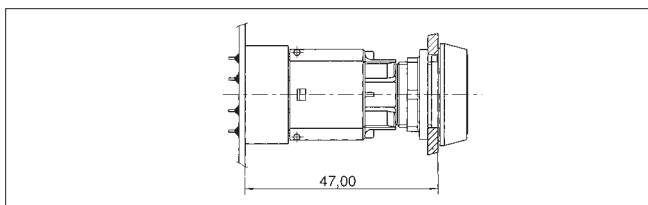
... with protection cage



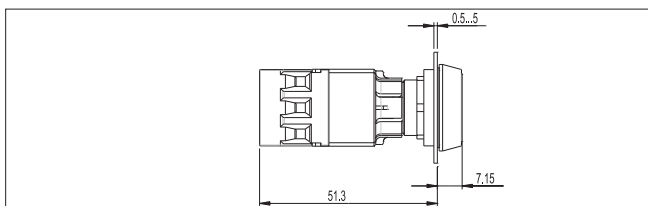
... with multipole connector



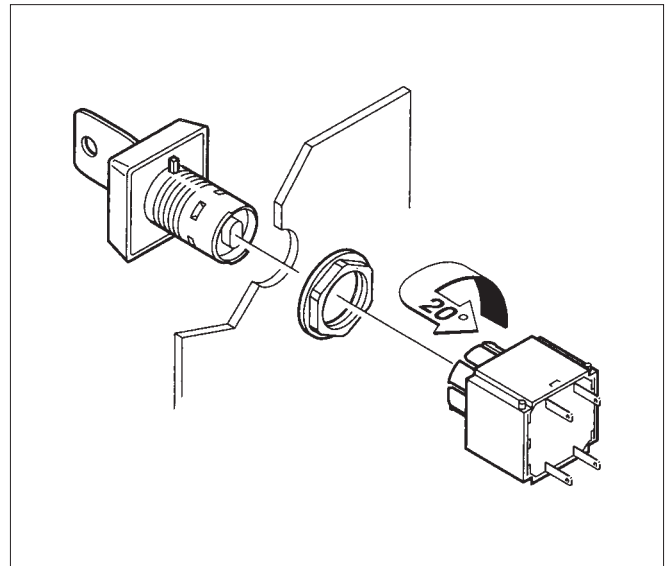
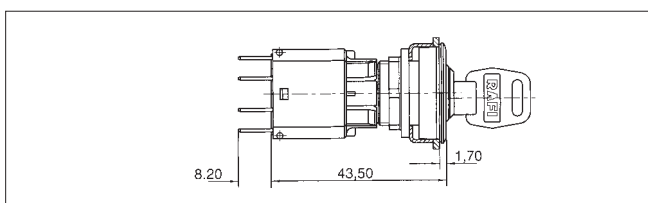
... with PCB plug-in socket



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 screwing

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.

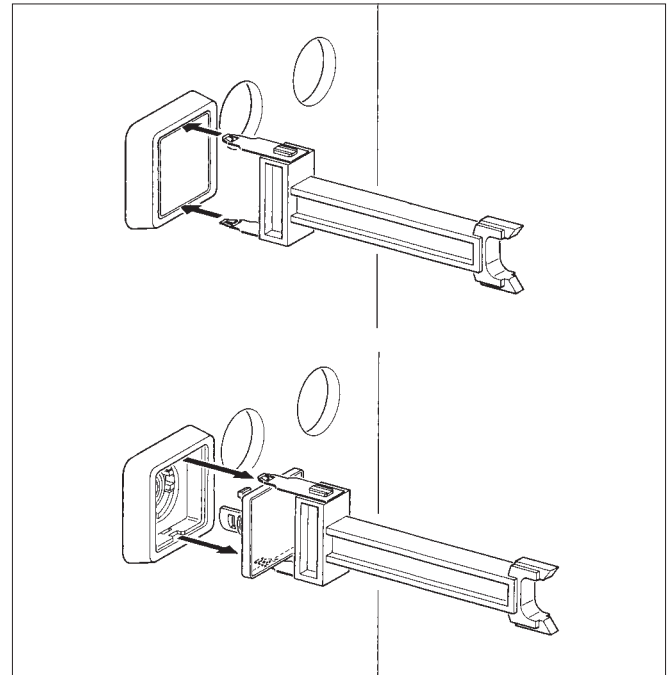
RAFI can also provide you custom legending. Price and delivery on request.

Lamp replacement from front

Use the disassembly tool to grasp the actuator body and pull it towards the front with the lens.

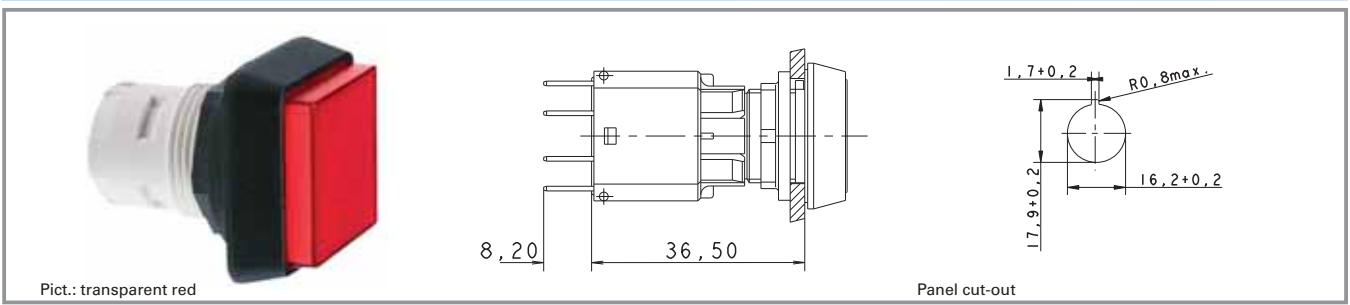
Alternatively, you can use a screwdriver in place of the disassembly tool. In this case, insert the screwdriver between actuator body and collar and carefully raise the actuator body.

Replace the lamp using a lamp extractor or a suitable insulation sleeve.



Lamp replacement from front

RAFIX 16 - Pushbutton



2

RAFIX
16

Technical Data

General information		Mechanical characteristics	
Actuator	see order block	Operating travel	3 mm
Colour of lens	see order block	Robustness min.	100 N
Form of collar	see order block		
Dimensions		Other specifications	
Collar dimensions	see order block	Operating life (operations)	2,000,000
Overall height	see order block	Degree of protection from front side	IP65
Mounting depth	44.7 mm	Operation temperature min.	-25 °C
Mounting hole	16.2 mm	Ambient temp. operating max. without lamp /LED	+70 °C
Key grid	25 x 25 mm	Ambient temp. operating max. with lamp /LED	+55 °C
Mechanical design		Storage temperature min.	-40 °C
Mounting	ring nut	Storage temperature max.	+85 °C
Contact function	according to contact block	Environmental resistance	acc. to IEC 60068-2
Contact arrangement	according to contact block		-14, -30, -33 and -78
Illumination	see order block		

Approvals



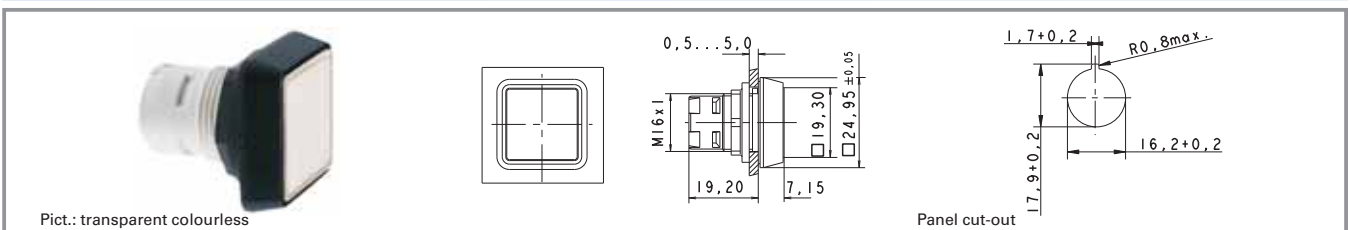
Typical accessories RAFIX 16 - Pushbutton

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

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



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

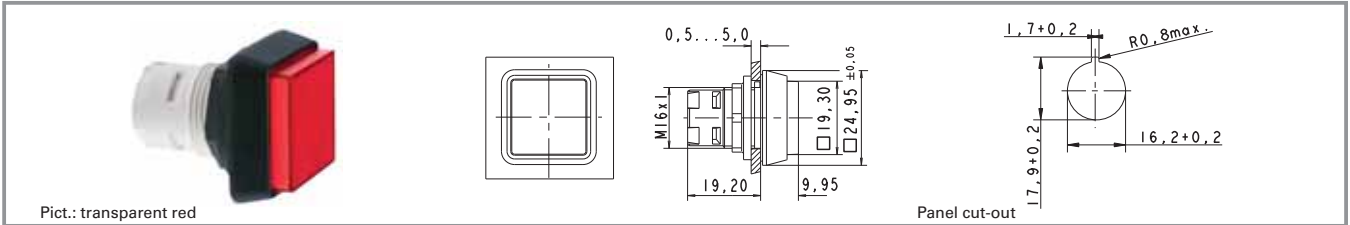
Technical data see page 2 - 8

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.

RAFIX 16 - Pushbutton, protruding lens, square collar



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

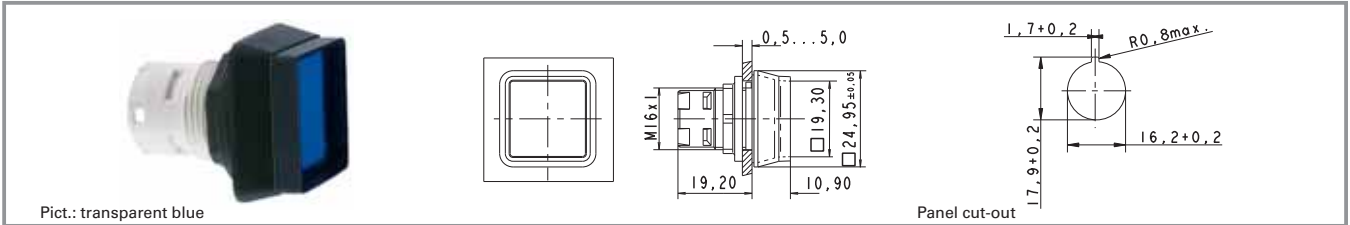
Technical data see page 2 - 8

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.

RAFIX 16 - Pushbutton, protruding collar, square collar



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

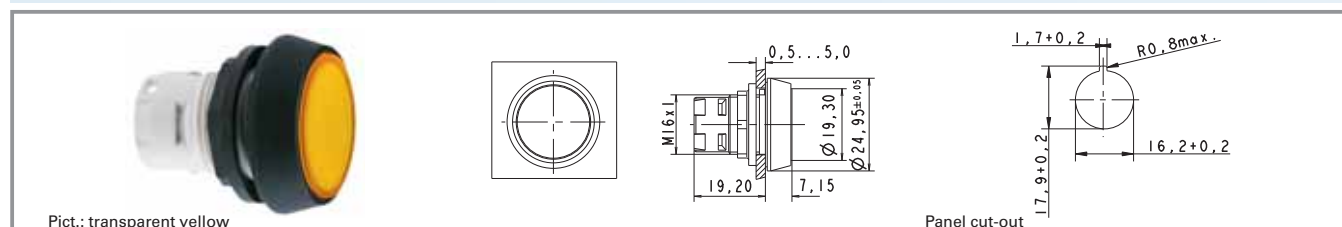
Accessoires:

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.

RAFIX 16 - Pushbutton, flush lens, round collar



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

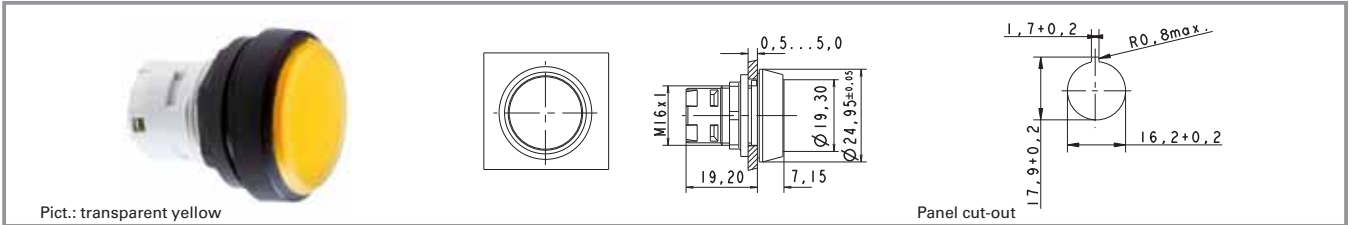
Technical data see page 2 - 8

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.

RAFIX 16 - Pushbutton IP66 with protective cap



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:

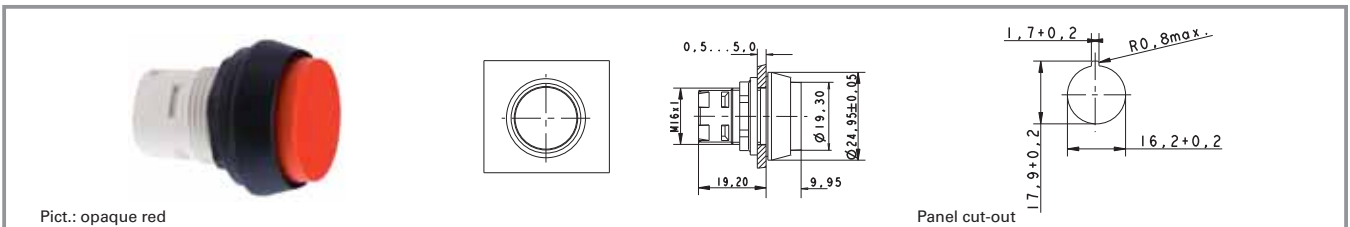
Legend insert, blank, use only for transparent lenses: **5.70.637.000/2000**

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.

RAFIX 16 - Pushbutton, protruding lens, round collar



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	-	-

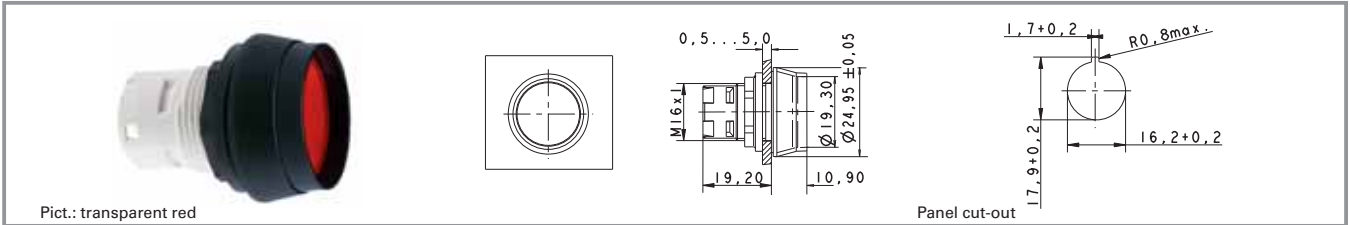
Technical data see page 2 - 8

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.

RAFIX 16 - Pushbutton, protruding collar, round collar



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

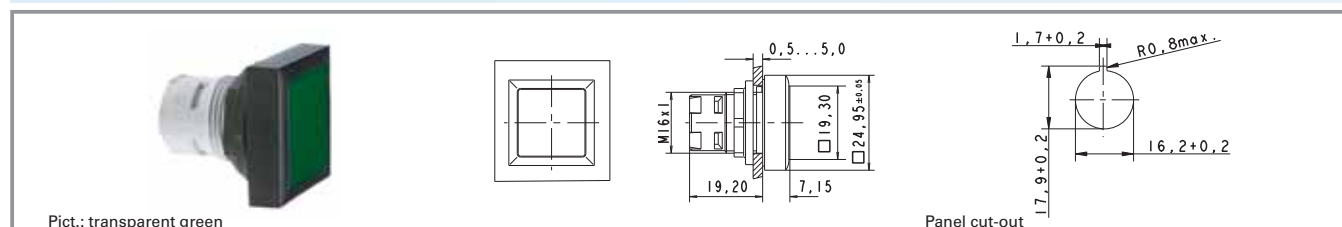
Accessoires:

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.

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



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.

RAFIX 16 - Selector switch



Pict.: Handle marking opaque white

Handle marking opaque white

Panel cut-out

2

General Data

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

RAFIX
16

Technical Data

General information

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

Dimensions

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

Approvals



IEC 61058



C22.2 No. 14-M91

Typical accessories RAFIX 16 - Selector switch

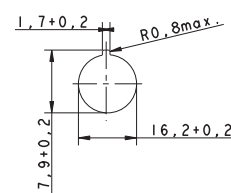
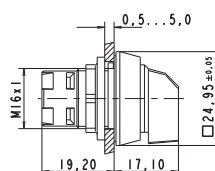
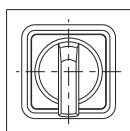
Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Universal contact block, 1 NC + 1 NO, momentary, silver contacts, with lamp socket		1.20.123.001/0000	2 - 84
RAFIX 16 - Universal contact block, 1 NC + 1 NO, momentary, gold contacts, with lamp socket		1.20.123.011/0000	2 - 78
RAFIX 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“.

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

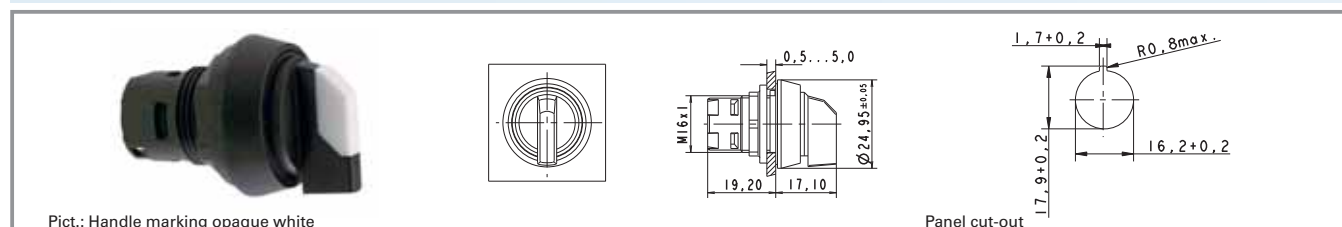
Only use contact blocks with „momentary“ contact function.

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).

RAFIX 16 - Selector switch, round collar



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

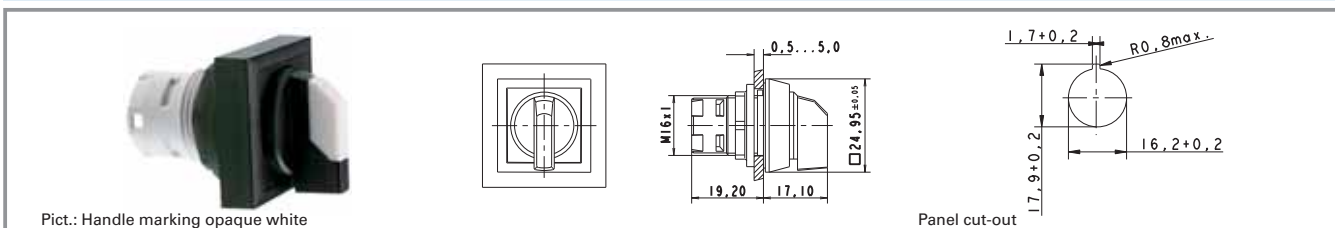
Only use contact blocks with „momentary“ contact function.

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).

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



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

Technical data see page 2 - 18

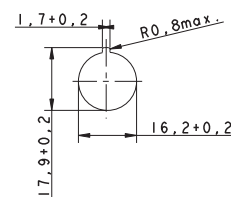
Only use contact blocks with „momentary“ contact function.

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

Other contact functions and handle marking colours available on request.

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

RAFIX 16 - Keylock switch MICROMECC



Panel cut-out

2

RAFIX
16

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. +70 °C
without lamp /LED
Storage temperature min. -40 °C
Storage temperature max. +85 °C
Environmental resistance acc. to IEC 60068-2
-14, -30, -33 and -78

Approvals



IEC 61058



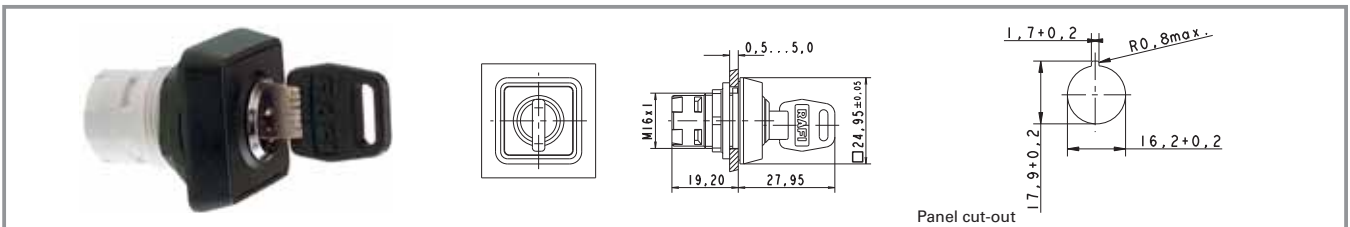
C22.2 No. 14-M91

Typical accessories RAFIX 16 - Keylock switch MICROMECC

Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Universal contact block, 1 NC + 1 NO, momentary, silver contacts, without lamp socket		1.20.123.021/0000	2 - 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 MICROMECC, square collar

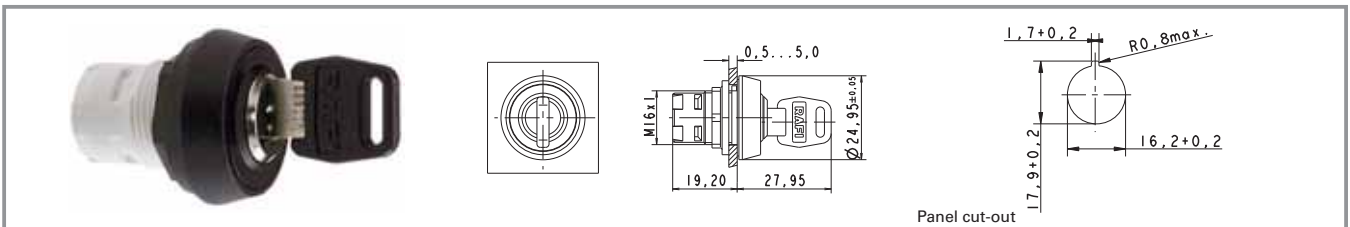


Contact function	Rotating angle	Key removal position	Order no.
momentary	1 x 40°	0	1.30.076.501/0000
momentary	2 x 40°	0	1.30.076.701/0000
latching	1 x 90°, form L	0	1.30.076.001/0000
latching	1 x 90°, form L	0+1	1.30.076.051/0000
latching	1 x 90°, form V	0	1.30.076.101/0000
latching	1 x 90°, form V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

RAFIX 16 - Keylock switch MICROMECC, round collar

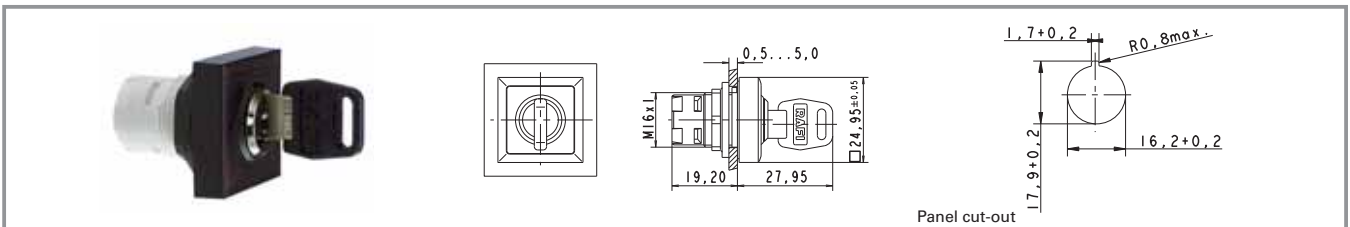


Contact function	Rotating angle	Key removal position	Order no.
momentary	1 x 40°	0	1.30.076.521/0000
momentary	2 x 40°	0	1.30.076.721/0000
latching	1 x 90°, form L	0	1.30.076.021/0000
latching	1 x 90°, form L	0+1	1.30.076.071/0000
latching	1 x 90°, form V	0	1.30.076.121/0000
latching	1 x 90°, form V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

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



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

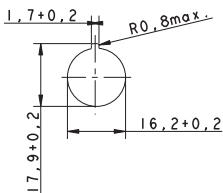
Technical data see page 2 - 24

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

RAFIX 16 - Mushroom-headed pushbutton



Pict.: red



Panel cut-out

2

RAFIX
16

Technical Data

General information		Mechanical characteristics	
Actuator	mushroom	Operating travel	3 mm
Colour of mushroom	see order block	Robustness max.	100 Nm
Form of collar	see order block		
Dimensions		Other specifications	
Collar dimensions	see order block	Operating life (operations)	2,000,000
Overall height	12.1 mm	Degree of protection from front side	IP65
Mounting depth	44.7 mm	Operation temperature min.	-25 °C
Mounting hole	16.2 mm	Ambient temp. operating max. without lamp /LED	+70 °C
Key grid	25 x 25 mm	Storage temperature min.	-40 °C
Mechanical design		Storage temperature max.	+85 °C
Mounting	ring nut	Environmental resistance	acc. to IEC 60068-2
Contact function	according to contact block		-14, -30, -33 and -78
Contact arrangement	according to contact block		
Illumination	no		

Approvals



IEC 61058



C22.2 No. 14-M91

Typical accessories RAFIX 16 - Mushroom-headed pushbutton

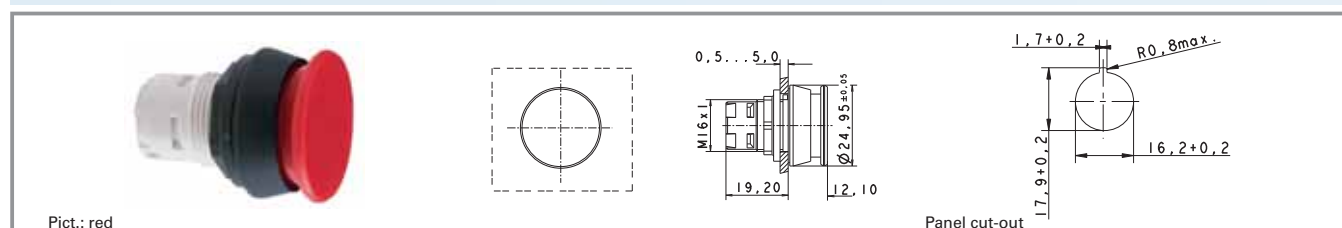
Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Standard contact block, 1 NC + 1 NO, momentary, silver contacts, without lamp socket		1.20.122.021/0000	2 - 82
RAFIX 16 - Standard contact block, 1 NC + 1 NO, momentary, gold contacts, without lamp socket		1.20.122.031/0000	2 - 76
RAFIX 16 - Standard contact block, silver contacts, without lamp socket, screw terminals		1.20.122.121/0000	2 - 83

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

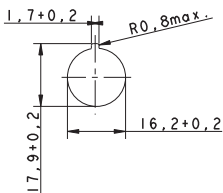


Illumination	Colour of mushroom	Order no.
no	opaque black	1.30.071.021/0100
no	opaque red	1.30.071.021/0300

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

2

RAFIX
16

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 resistance	acc. to IEC 60068-2 -14, -30, -33 and -78 yes
Corresponding to CE Ma-Dir. 89/392	
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

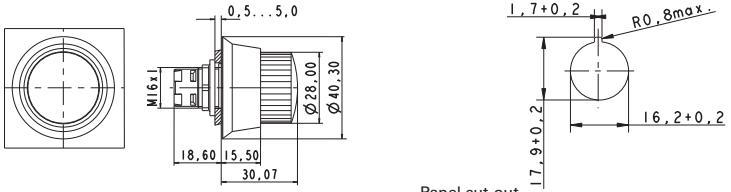
Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Universal contact block, 1 NC, momentary, silver contacts, without lamp socket		1.20.123.022/0000	2 - 84

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

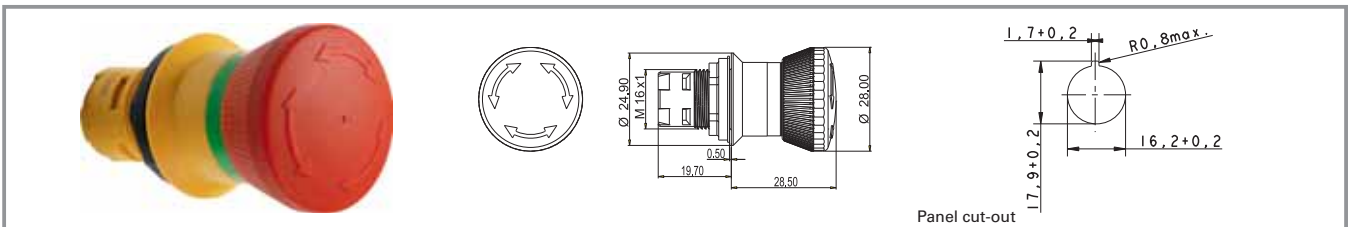
Technical data see page 2 - 32

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.

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



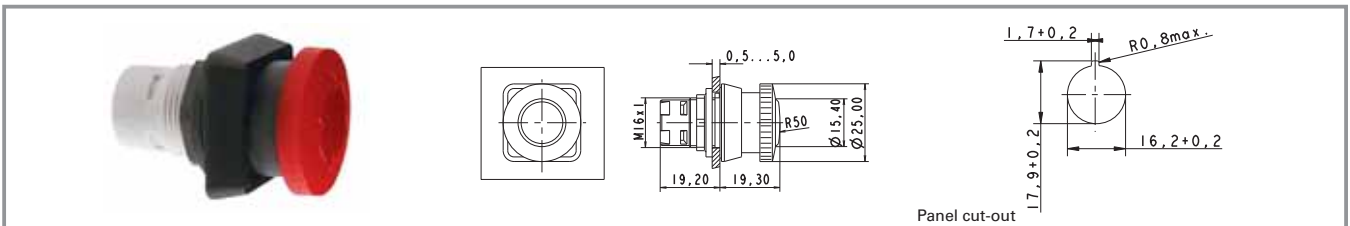
Illumination	Colour of mushroom	Order no.
no	opaque red	1.30.074.281/0300

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

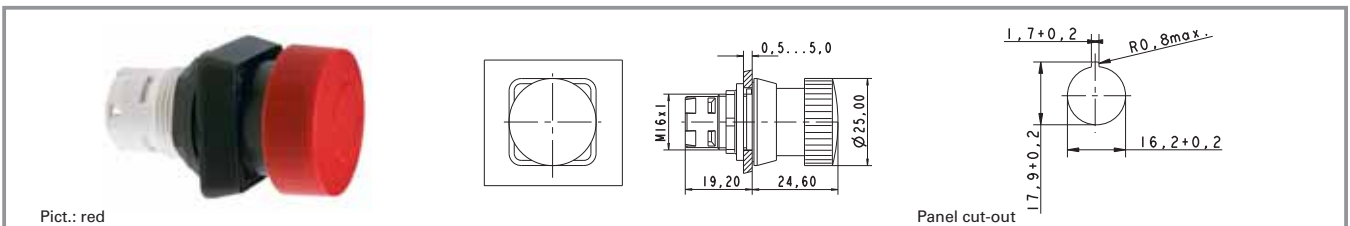


Illumination	Colour of mushroom	Order no.
yes	translucent red	1.30.074.501/0304

Technical data see page 2 - 32

Only use universal contact blocks.

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



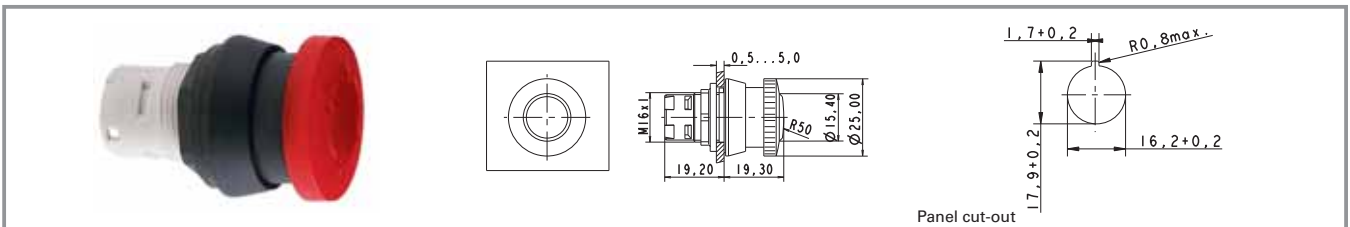
Illumination	Colour of mushroom	Order no.
no	opaque red	1.30.074.101/0301

Technical data see page 2 - 32

Only use universal contact blocks.

The positively driven mechanical arrangement is dupe-proof to DIN EN ISO 13850.

RAFIX 16 - Emergency stop pushbutton, round collar, illuminable

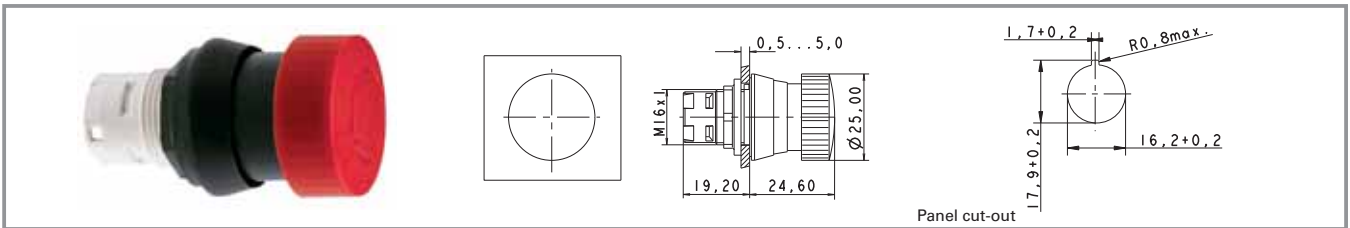


Illumination	Colour of mushroom	Order no.
yes	translucent red	1.30.074.521/0304

Technical data see page 2 - 32

Only use universal contact blocks.

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



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.

RAFIX 16 - Toggle switch



2

RAFIX
16

Technical Data

General information

Form of collar see order block

Dimensions

Collar dimensions see order block
Overall height 18.4 mm
Mounting depth 44.7 mm
Mounting hole 16.2 mm
Key grid 25 x 25 mm

Mechanical design

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

Mechanical characteristics

Robustness min. 100 N

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 resistance acc. to IEC 60068-2 -14, -30, -33 and -78
Operating life (operations) 300,000

Approvals



IEC 61058



C22.2 No. 14-M91

Typical accessories RAFIX 16 - Toggle switch

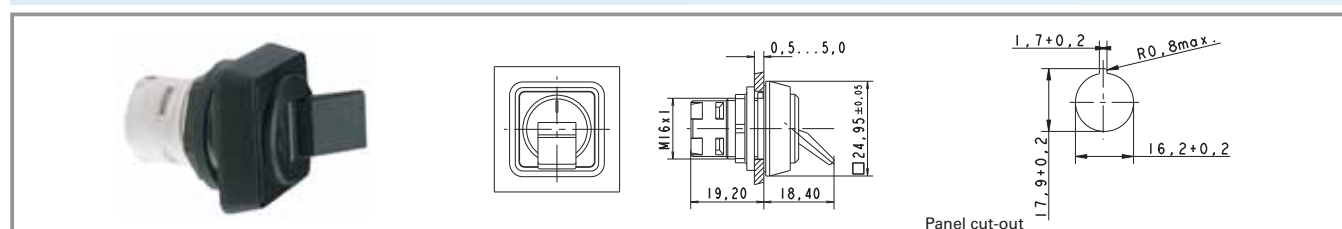
Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Standard contact block, 1 NC + 1 NO, momentary, silver contacts, without lamp socket		1.20.122.021/0000	2 - 82
RAFIX 16 - Standard contact block, 1 NC + 1 NO, momentary, gold contacts, without lamp socket		1.20.122.031/0000	2 - 76
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

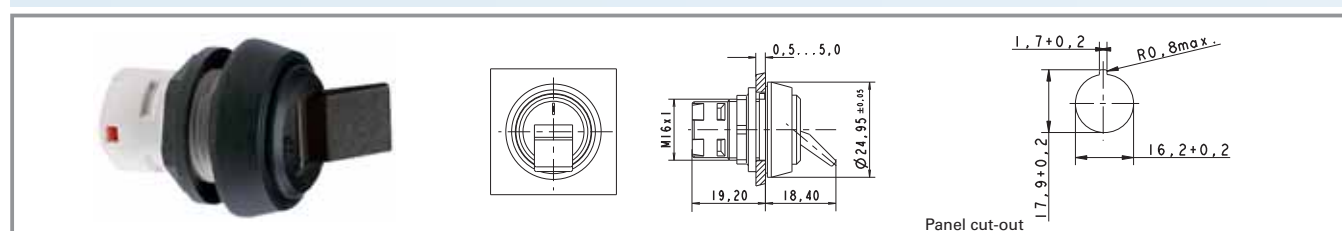


Contact function	Illumination	Order no.
latching	no	1.30.075.001/0104

Technical data see page 2 - 36

Only use contact blocks with „momentary“ contact function.

RAFIX 16 - Toggle switch, round collar

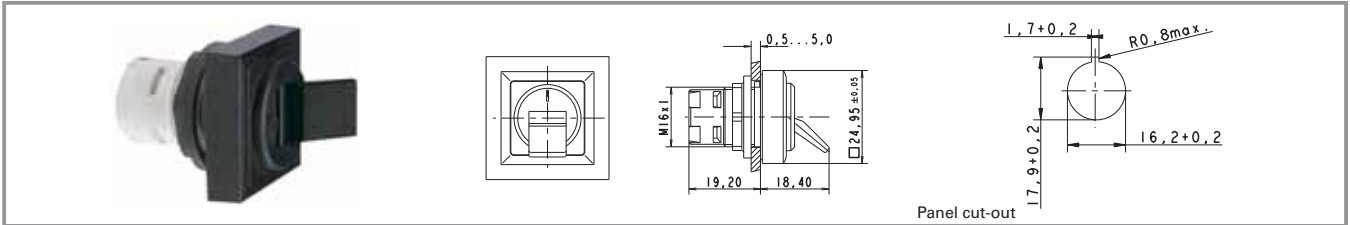


Contact function	Illumination	Order no.
latching	no	1.30.075.021/0104

Technical data see page 2 - 36

Only use contact blocks with „momentary“ contact function.

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



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.

2

RAFIX
 16

RAFIX 16 - Potentiometer drive



Pict.: with potentiometer (not included)

condition as supplied

Panel cut-out

2

General Data

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

RAFIX
16

Technical Data

General information

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

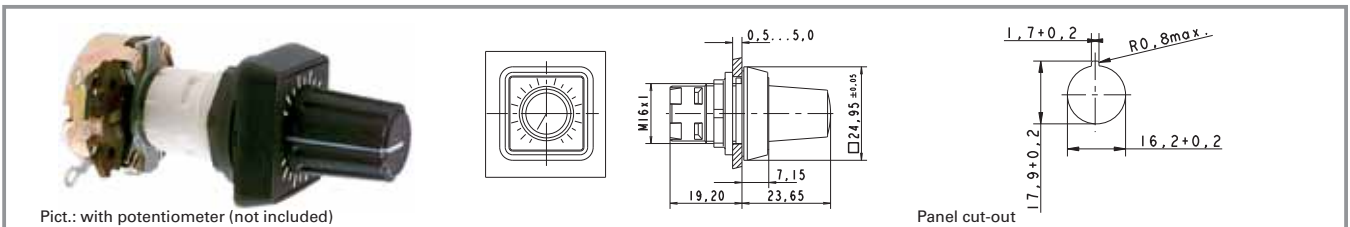
Degree of protection from front side IP65
Operation temperature min. -25 °C
Ambient temp. operating max. +70 °C
Storage temperature min. -40 °C
Storage temperature max. +85 °C
Environmental resistance acc. to IEC 60068-2 -14, -30, -33 and -78

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“

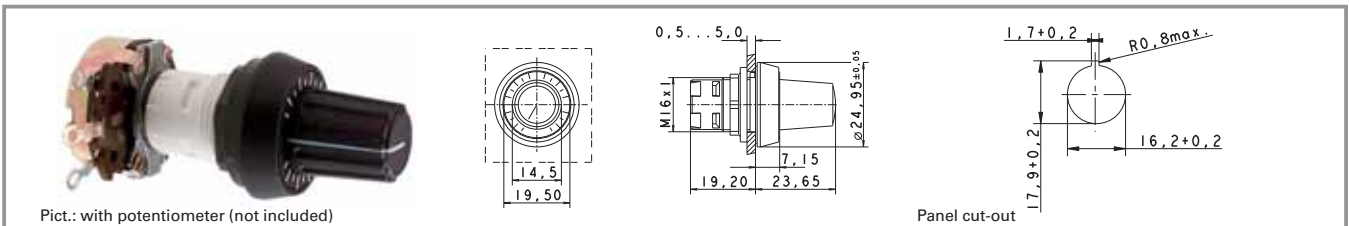
RAFIX 16 - Potentiometer drive, square collar



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

Technical data see page 2 - 40

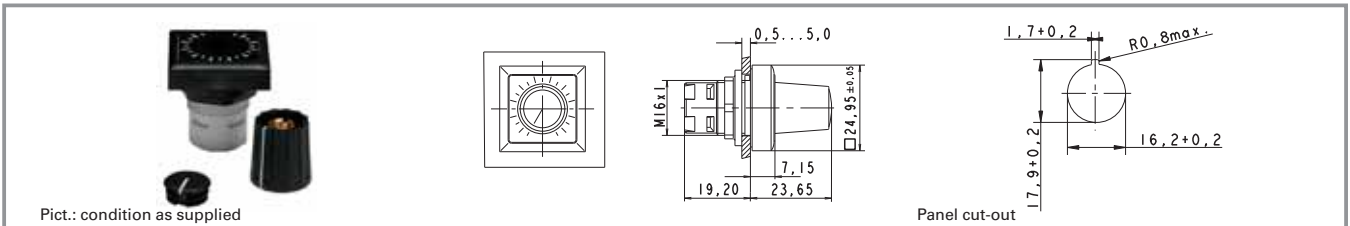
RAFIX 16 - Potentiometer drive, round collar



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

Technical data see page 2 - 40

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



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

Technical data see page 2 - 40

RAFIX 16 - Buzzer



Panel cut-out

2

RAFIX
16

Technical Data

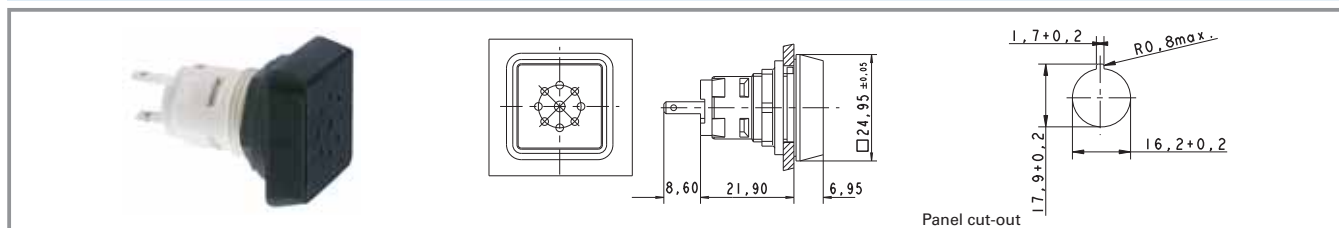
General information		Electrical characteristics	
Form of lens	flat lens	Operating voltage DC	24 V
Colour of lens	opaque black	Input current	see order block
Form of collar	see order block	Acoustic characteristics	
Sound	see order block	Sonic pressure, 1 m distance	see order block
Dimensions		min. Sound frequency	2400 - 3100 Hz
Collar dimensions	see order block	Other specifications	
Overall height	6.95 mm	Degree of protection from front side	IP65
Mounting depth	30.5 mm	Operation temperature min.	-25 °C
Mounting hole	16.2 mm	Ambient temp. operating max.	+70 °C
Key grid	25 x 25 mm	Storage temperature min.	-40 °C
Mechanical design		Storage temperature max.	+85 °C
Mounting	ring nut	Environmental resistance	acc. to IEC 60068-2
Mechanical characteristics			-14, -30, -33 and -78
Robustness min.	100 N		

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“.

RAFIX 16 - Buzzer, square collar



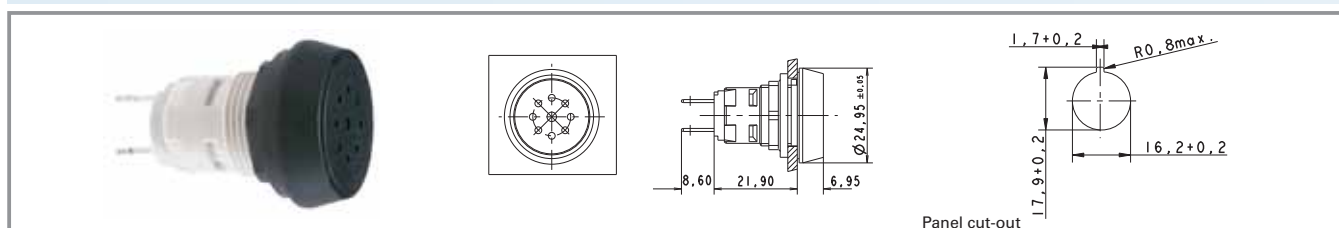
Operating voltage DC	Input current	Sound	Sonic pressure, 1 m distance min.	Order no.
24 V	25 mA	continuos beep	70 dB	1.30.078.001/0100

Technical data see page 2 - 42

12 V DC available on request.

2

RAFIX 16 - Buzzer, round collar



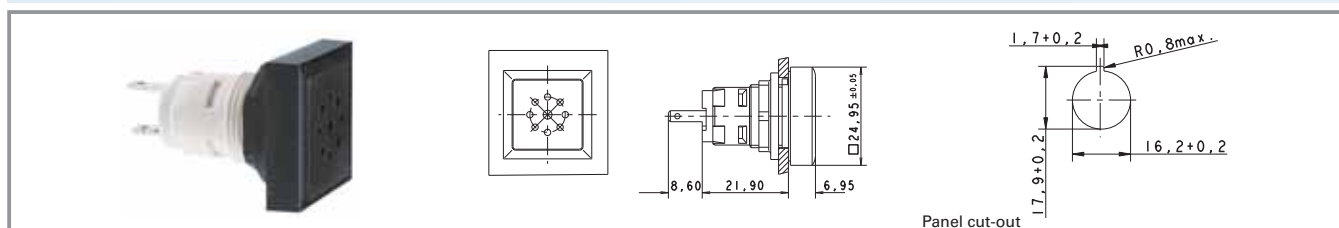
Operating voltage DC	Input current	Sound	Sonic pressure, 1 m distance min.	Order no.
24 V	25 mA	continuos beep	70 dB	1.30.078.021/0100

Technical data see page 2 - 42

12 V DC available on request.

RAFIX
16

RAFIX 16 - Buzzer, square collar, alignable without gaps



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

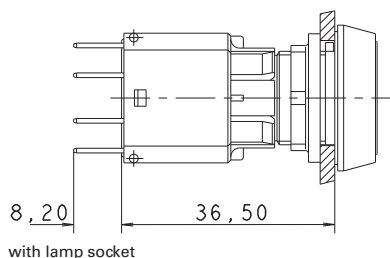
Technical data see page 2 - 42

12 V DC available on request.

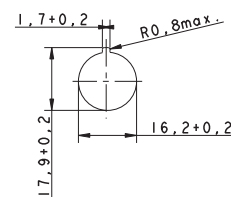
RAFIX 16 - Signal indicator



Pict.: transparent yellow



with lamp socket



Panel cut-out

2

RAFIX
16

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

Approvals



IEC 61058



C22.2 No. 14-M91

Typical accessories RAFIX 16 - Signal indicator

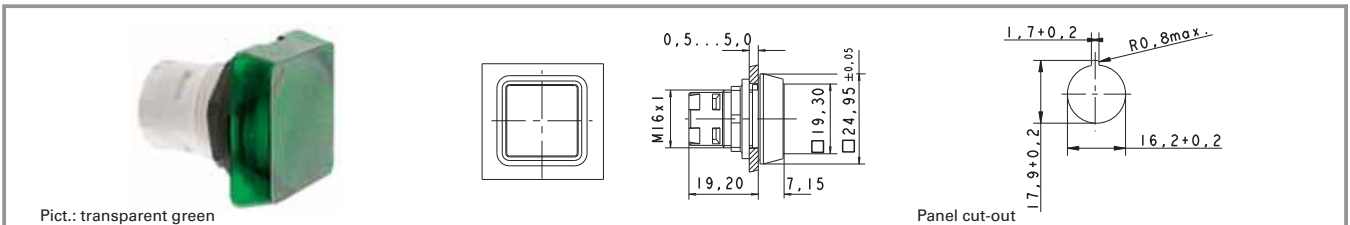
Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Lamp socket W 2 x 4.6 d		1.71.212.001/0000	2 - 91
RAFIX 16 - Lamp socket W 2 x 4.6 d		1.71.212.011/0000	2 - 91
LED W 2 x 4.6d superbright, white, 24 V		1.90.690.365/0000	5 - 14
Disassembly tool for LUMOTAST 25, RAFIX 16		5.05.800.042/0000	2 - 94
Label holder, flush, for square collar		5.07.620.004/0000	2 - 96

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

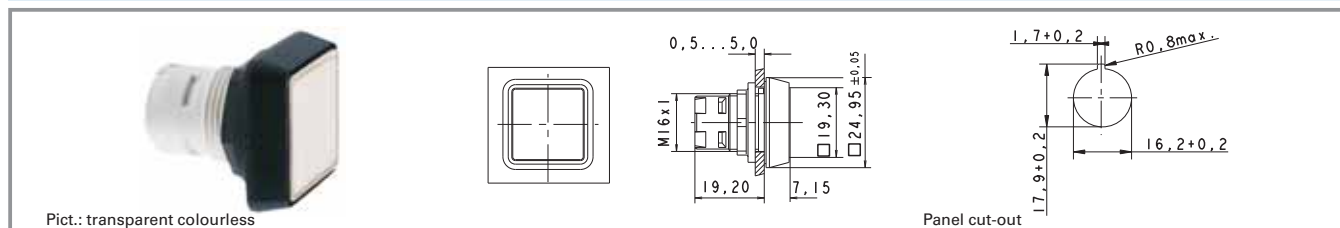


Form of lens	Colour of lens	Order no. complete	Order no. single parts	
			Housing	Lens
lens square	transparent colourless	1.65.124.001/1002	1.65.124.101/0000	5.49.263.006/1002
lens square	transparent red	1.65.124.001/1306	1.65.124.101/0000	5.49.263.006/1306
lens square	transparent yellow	1.65.124.001/1403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

RAFIX 16 - Signal indicator, square collar, flush lens



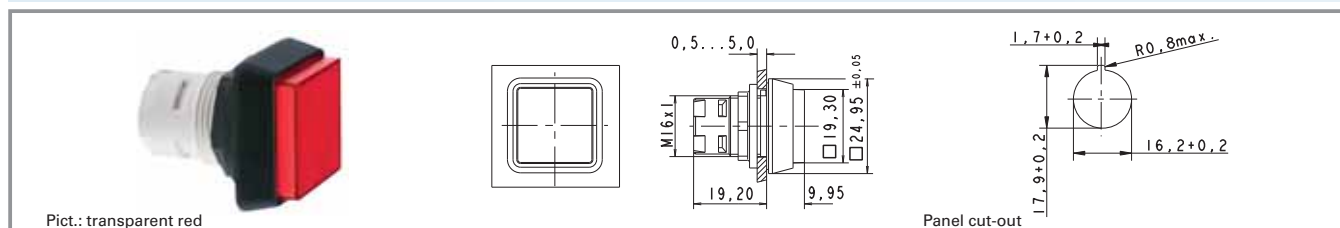
Form of lens	Colour of lens	Order no. complete	Order no. single parts	
			Housing	Lens
flat lens	transparent colourless	1.65.124.301/1002	1.65.124.401/0000	5.49.077.011/1002
flat lens	transparent red	1.65.124.301/1306	1.65.124.401/0000	5.49.077.011/1306
flat lens	transparent yellow	1.65.124.301/1403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



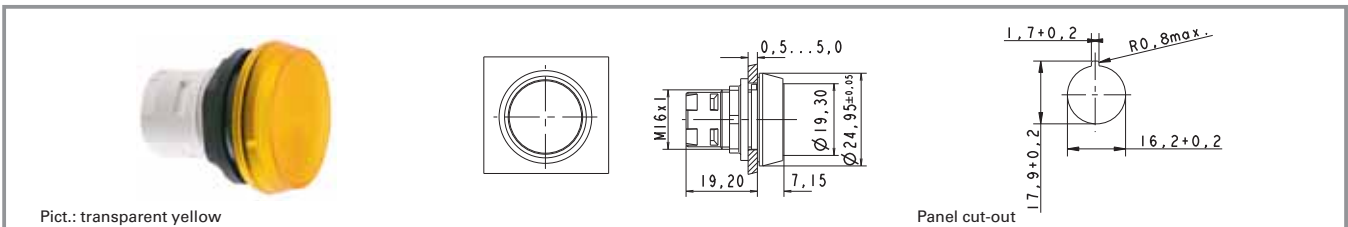
Form of lens	Colour of lens	Order no. complete	Order no. single parts	
			Housing	Lens
protruding lens	transparent colourless	1.65.124.351/1002	1.65.124.451/0000	5.49.077.012/1002
protruding lens	transparent red	1.65.124.351/1306	1.65.124.451/0000	5.49.077.012/1306
protruding lens	transparent yellow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

RAFIX 16 - Signal indicator, round lens



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

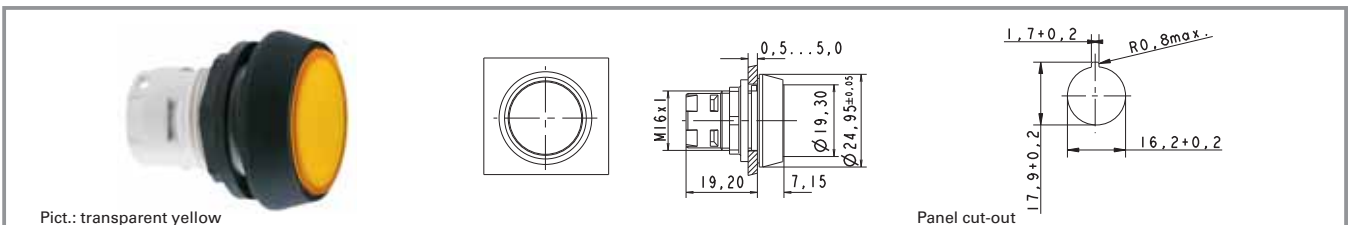
Technical data see page 2 - 44

Legending can only be made externally on a label holder.

2

RAFIX
16

RAFIX 16 - Signal indicator, round collar, flush lens



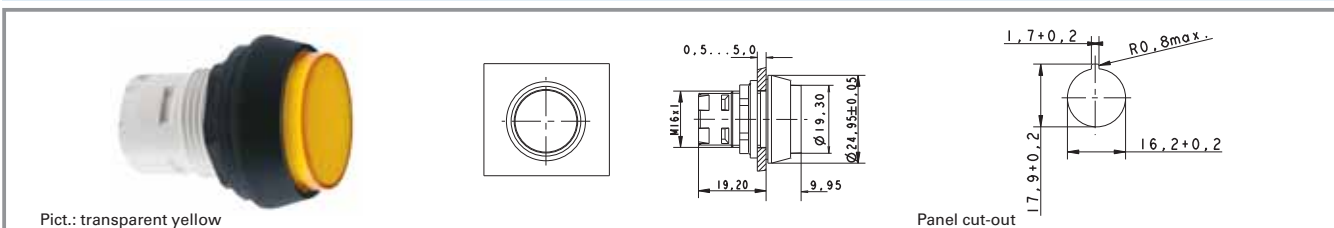
Form of lens	Colour of lens	Order no. complete	Order no. single parts	
			Housing	Lens
flat lens	transparent colourless	1.65.124.321/1002	1.65.124.421/0000	5.49.259.017/1002
flat lens	transparent red	1.65.124.321/1306	1.65.124.421/0000	5.49.259.017/1306
flat lens	transparent yellow	1.65.124.321/1403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

RAFIX 16 - Signal indicator, round collar, protruding lens



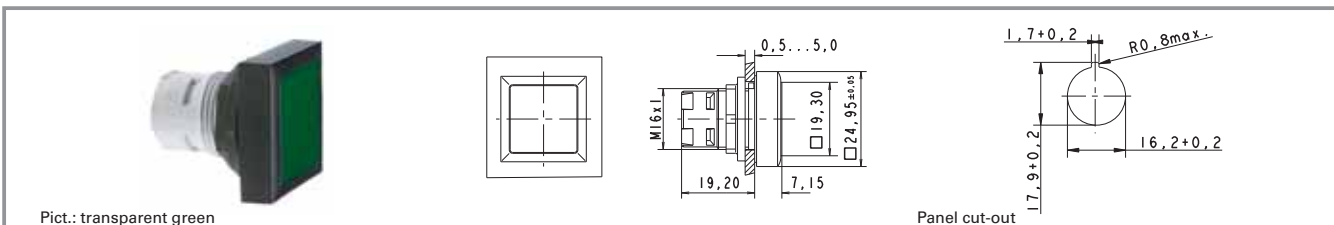
Form of lens	Colour of lens	Order no. complete	Order no. single parts	
			Housing	Lens
protruding lens	transparent colourless	1.65.124.371/1002	1.65.124.471/0000	5.49.259.018/1002
protruding lens	transparent red	1.65.124.371/1306	1.65.124.471/0000	5.49.259.018/1306
protruding lens	transparent yellow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



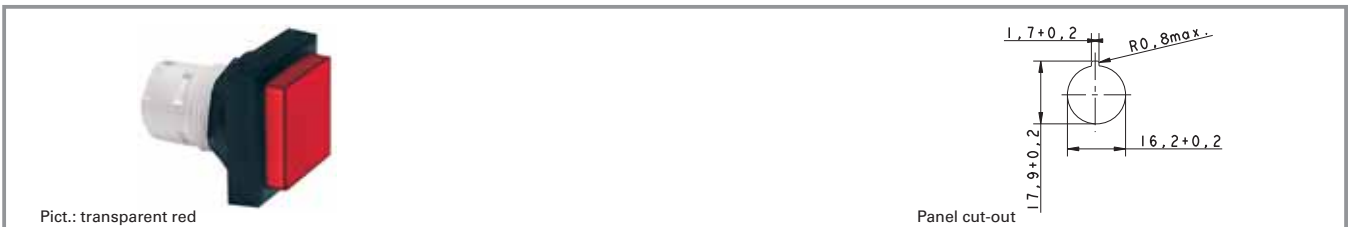
Form of lens	Colour of lens	Order no. complete	Order no. single parts	
			Housing	Lens
flat lens	transparent colourless	1.65.124.551/1002	1.65.124.651/0000	5.49.077.011/1002
flat lens	transparent red	1.65.124.551/1306	1.65.124.651/0000	5.49.077.011/1306
flat lens	transparent yellow	1.65.124.551/1403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



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**

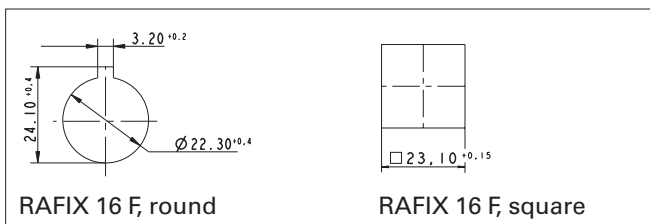
General information



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

Actuators

- Panel cut-out $\varnothing$ 22.3 mm to IEC 60 947-5-1
- Panel cut-out $\square$ 23.1 mm



RAFIX 16 F, round

RAFIX 16 F, square

- Locating lug (easily removable).
The locating lug can be easily removed using a screwdriver.
- 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.



Control components

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



2

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.

RAFIX
16

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

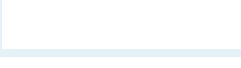
Operating life (operations)	2,000,000
Degree of protection from front side	IP65
Operation temperature min.	-25 °C
Ambient temp. operating max. without lamp /LED	+70 °C
Ambient temp. operating max. with lamp /LED	+55 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Environmental resistance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

Approvals



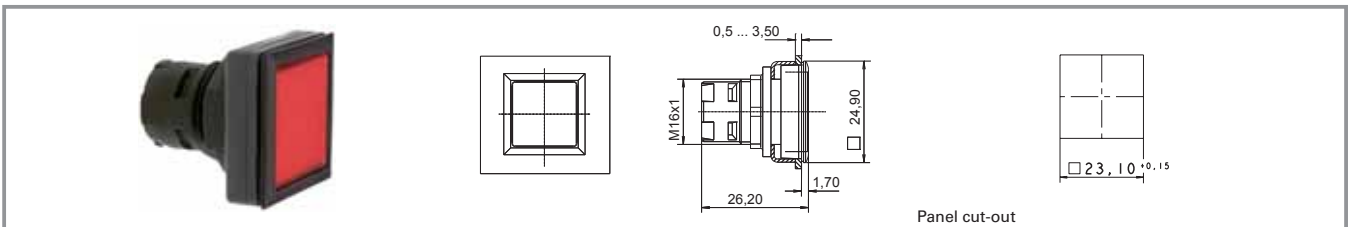
IEC 61058

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

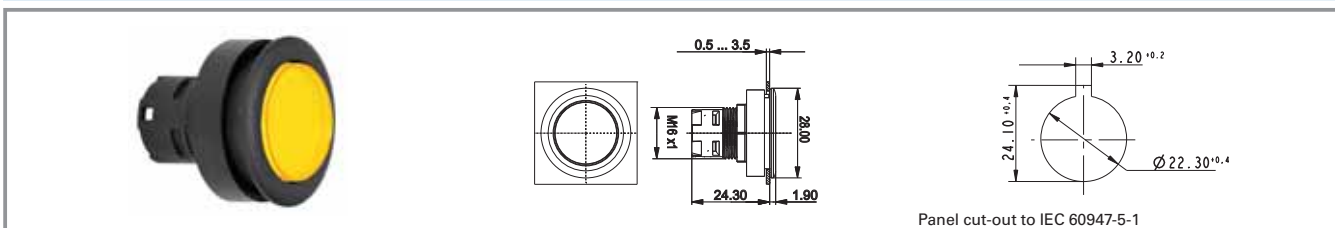


Colour of collar	Illumination	Colour of lens	Order no. complete	Order no. single parts	
				Housing	Lens
black	yes	transparent colourless	1.30.090.001/1000	1.30.090.501/0000	5.49.077.011/1002
black	yes	transparent red	1.30.090.001/1300	1.30.090.501/0000	5.49.077.011/1306
black	yes	transparent yellow	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**

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



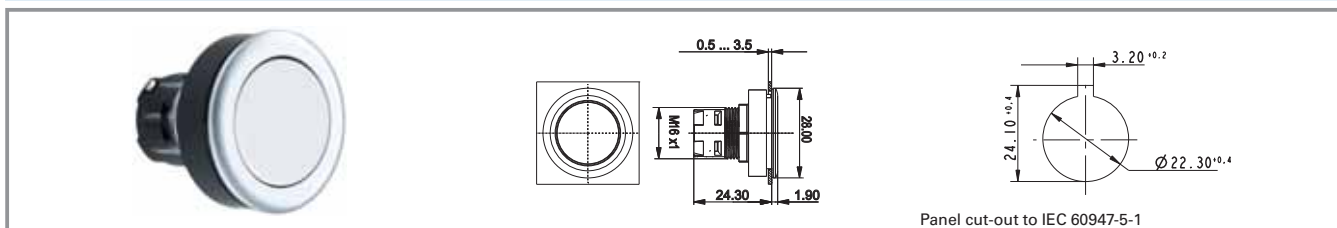
Colour of collar	Illumination	Colour of lens	Order no. complete	Order no. single parts	
				Housing	Lens
black	yes	transparent colourless	1.30.090.011/1000	1.30.090.511/0000	5.49.259.017/1002
black	yes	transparent red	1.30.090.011/1300	1.30.090.511/0000	5.49.259.017/1306
black	yes	transparent yellow	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**

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



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

RAFIX 16 F - Selector switch



Handle marking opaque white

2

General Data

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

RAFIX
16

Technical Data

General information

Actuator	handle
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
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Electrical characteristics

Protection class	-
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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 resistance	acc. to IEC 60068-2 -14, -30, -33 and -78

Approvals



IEC 61058

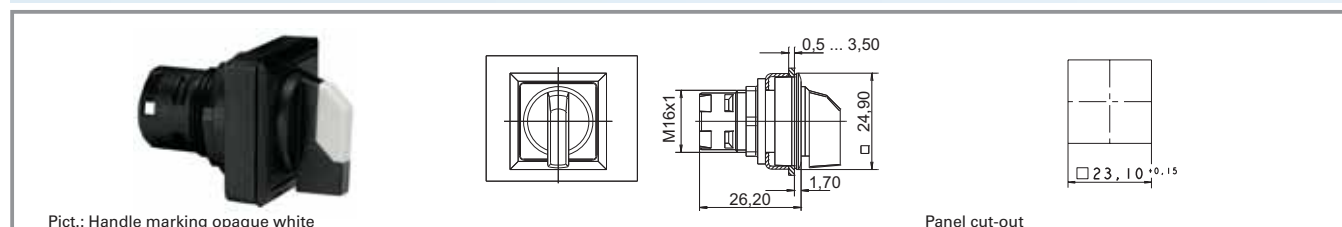
Typical accessories RAFIX 16 F - Selector switch

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

2

RAFIX
16

RAFIX 16 F - Selector switch, square black collar



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

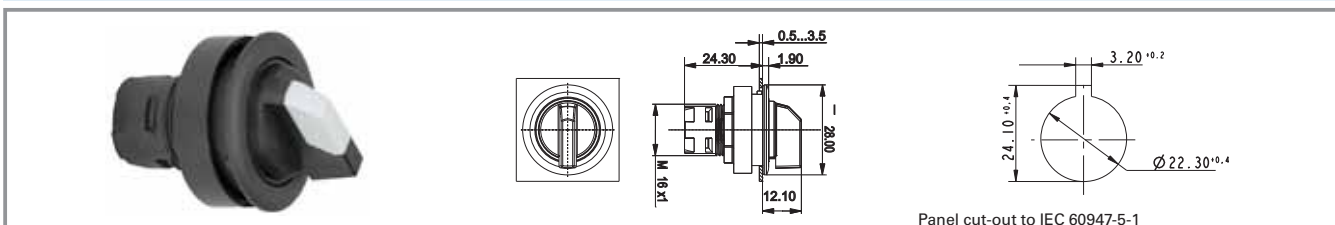
Technical data see page 2 - 58

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

Other contact functions and handle markings available on request.

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

RAFIX 16 F - Selector switch, round black collar

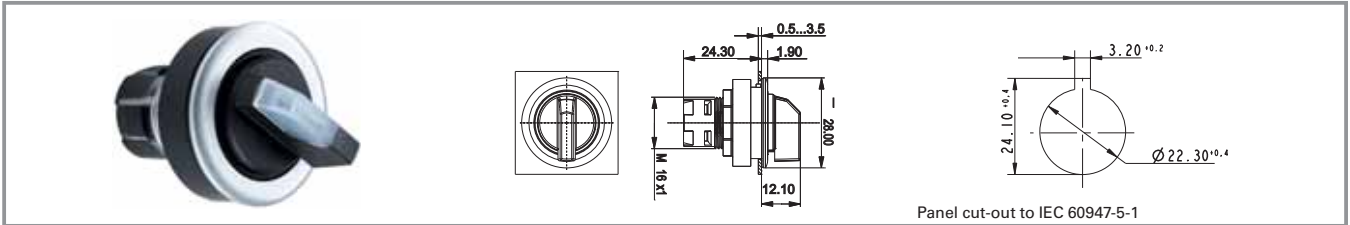


Colour of collar	Illumination	Contact function	Rotating angle	Colour of handle marking	Order no.
black	yes	momentary	1 x 40°	translucent white	1.30.093.561/2000
black	yes	momentary	2 x 40°	translucent white	1.30.093.661/2000
black	yes	latching	1 x 90°, form L	translucent white	1.30.093.511/2000
black	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

NEW

RAFIX 16 F - Selector switch, round metallized collar



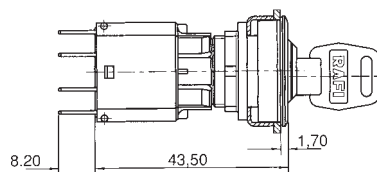
Colour of collar	Illumination	Contact function	Rotating angle		Colour of handle marking	Order no.
metallic	yes	momentary	1 x 40°		translucent white	1.30.093.571/2000
metallic	yes	momentary	2 x 40°		translucent white	1.30.093.671/2000
metallic	yes	latching	1 x 90°, form L		translucent white	1.30.093.521/2000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

Technical data see page 2 - 58

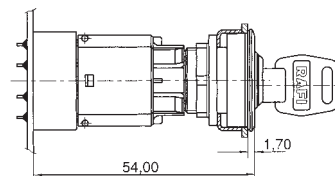
2

RAFIX
16

RAFIX 16 F - Keylock switch MICROMECC



operating element and contact block



with PCB plug-in socket

2

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
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Electrical characteristics

Protection class	II
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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 resistance	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



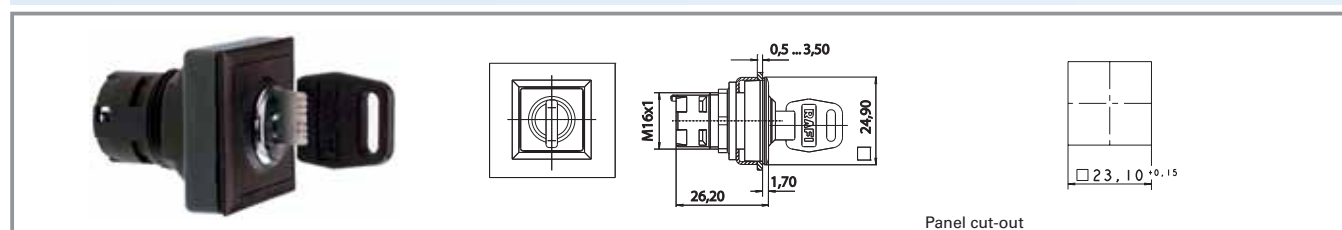
IEC 61058

Typical accessories RAFIX 16 F - Keylock switch MICROMECC

Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Universal contact block, 1 NC + 1 NO, momentary, silver contacts, without lamp socket		1.20.123.021/0000	2 - 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“

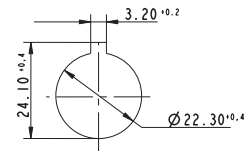
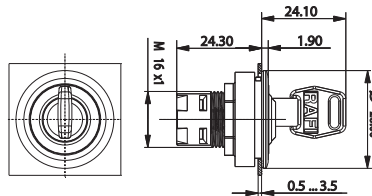
RAFIX 16 F - Keylock switch MICROMECC, square black collar



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

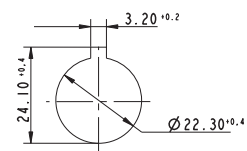
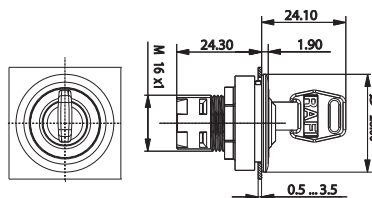
Only use RAFIX 16 contact blocks with „momentary“ contact function. For versions with clockwise and counterclockwise rotation, use universal contact blocks only.



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

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

NEW



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

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 - Emergency stop pushbutton



2

RAFIX 16

Technical Data

General information		Mechanical characteristics	
Actuator	conical mushroom form	Robustness min.	100 N
Colour of mushroom	red, collar yellow	Electrical characteristics	
Form of collar	see order block	Protection class	see order block
Dimensions		Other specifications	
Collar dimensions	see order block	Operating life (operations)	10.000
Key grid	see order block	Degree of protection from front side	IP65
Overall height	24.10 mm	Operation temperature min.	-25 °C
Mounting depth with contact block	50 mm	Ambient temp. operating max. without lamp /LED	+70 °C
Key grid	see order block	Ambient temp. operating max. with lamp /LED	-
Mounting hole	see order block	Storage temperature min.	-40 °C
Mechanical design		Storage temperature max.	+85 °C
Mounting	ring nut	Environmental resistance	acc. to IEC 60068-2
Contact function	latching		-14, -30, -33 and -78
Illumination	no		
Rest	clockwise or counterclockwise rotation		

Approvals



IEC 61058

Typical accessories RAFIX 16 F - Emergency stop pushbutton

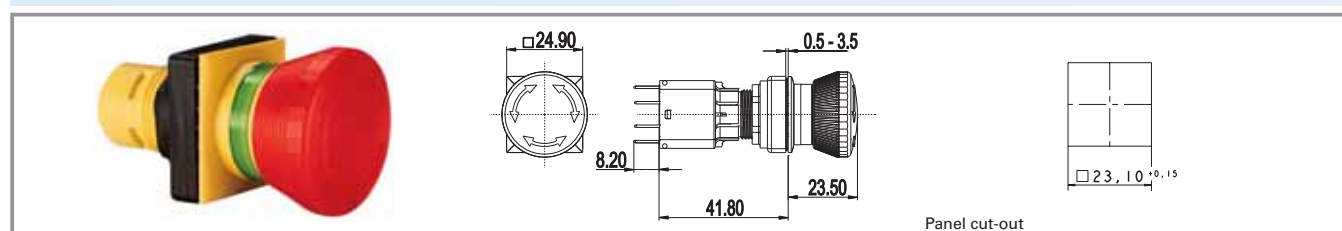
Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Universal contact block, 1 NC, momentary, silver contacts, without lamp socket		1.20.123.022/0000	2 - 84
RAFIX 16 - Universal contact block, 1 NC, momentary, gold contacts, without lamp socket		1.20.123.032/0000	2 - 78

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

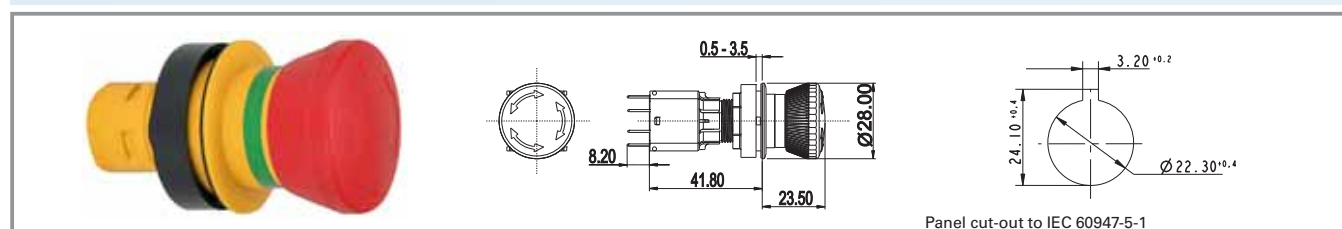


Contact function	Illumination	Colour of mushroom	Mounting hole	Order no.
latching	no	red, collar yellow	23.1 x 23.1	1.30.094.001/0300

Technical data see page 2 - 68

Only use universal contact blocks.

RAFIX 16 F - Emergency stop pushbutton, round collar



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



2

RAFIX
16

Technical Data

General information		Other specifications	
Form of lens	see order block	Operating life (operations)	-
Colour of lens	see order block	Degree of protection from front side	IP65
Form of collar	see order block	Operation temperature min.	-25 °C
Colour of collar	see order block	Ambient temp. operating max. without lamp /LED	-
Dimensions		Ambient temp. operating max. with lamp /LED	+55 °C
Collar dimensions	see order block	Storage temperature min.	-40 °C
Overall height	see order block	Storage temperature max.	+85 °C
Mounting depth with contact block	50 mm	Environmental resistance	acc. to IEC 60068-2
Key grid	see order block		-14, -30, -33 and -78
Mounting hole	see order block		
Mechanical design			
Mounting	ring nut		
Contact function	-		
Illumination	yes		

Approvals

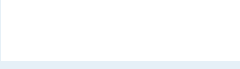


IEC 61058

Typical accessories RAFIX 16 F - Signal indicator

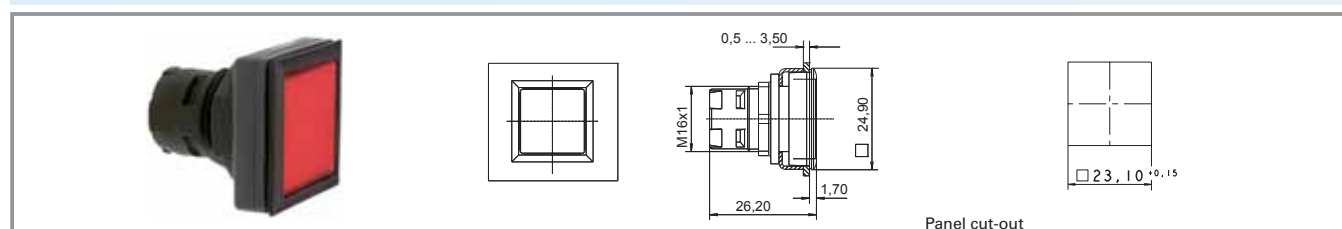
Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Lamp socket W 2 x 4.6 d		1.71.212.001/0000	2 - 91
RAFIX 16 - Lamp socket W 2 x 4.6 d		1.71.212.011/0000	2 - 91
LED W 2 x 4.6d superbright, white, 24 V		1.90.690.365/0000	5 - 14

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



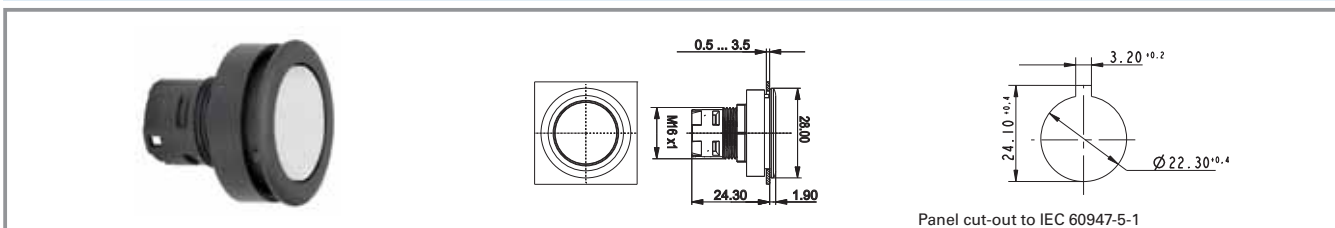
Colour of collar	Form of lens	Overall height	Colour of lens	Order no. complete	Order no. single parts	
					Housing	Lens
black	flat lens	1.7 mm	transparent colourless	1.65.126.301/1000	1.65.126.401/0000	5.49.077.011/1002
black	flat lens	1.7 mm	transparent red	1.65.126.301/1300	1.65.126.401/0000	5.49.077.011/1306
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**

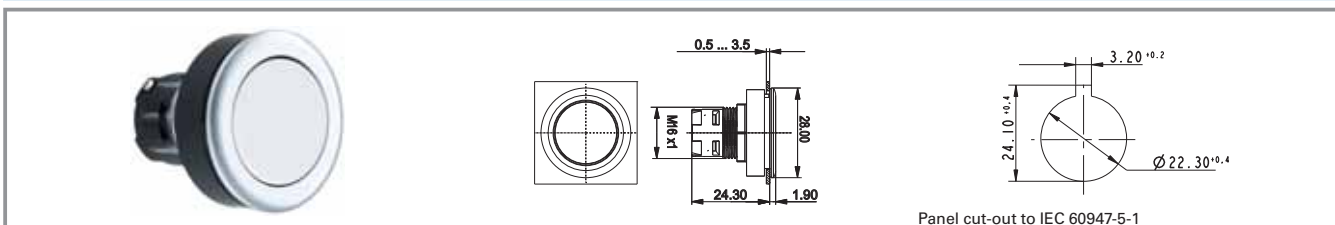
RAFIX 16 F - Signal indicator, flush lens, round black collar



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

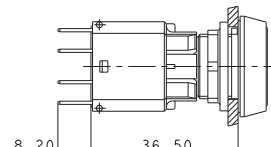
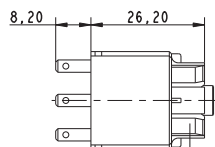
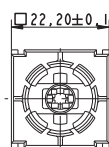
NEW RAFIX 16 F - Signal indicator, flush lens, round metallized collar



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

RAFIX 16 - Contact blocks with gold contacts



2

RAFIX
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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
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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 resistance	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
yes

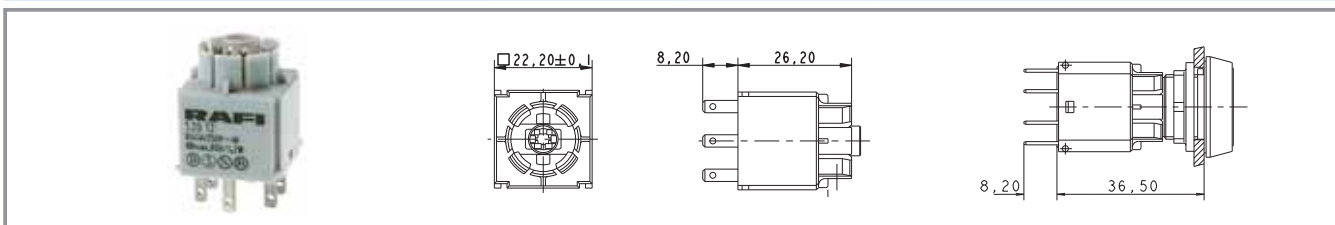
Typical accessories RAFIX 16 - Contact blocks with gold contacts

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

Typical accessories RAFIX 16 - Contact blocks with gold contacts

Description	Photo	Order no.	Additional accessories see page
Filament lamp, W 2 x 4.6d base, 24 V		1.90.120.011/0000	5 - 4
Filament lamp, W 2 x 4.6d base, 12 V		1.90.120.012/0000	5 - 4
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

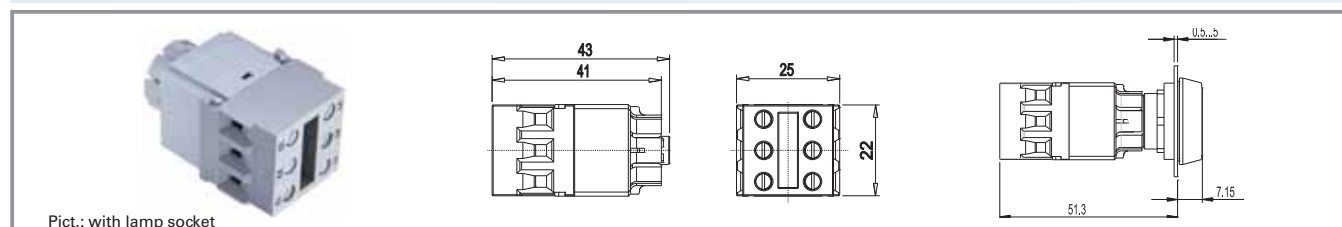
Technical data see page 2 - 74

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.

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

NEW



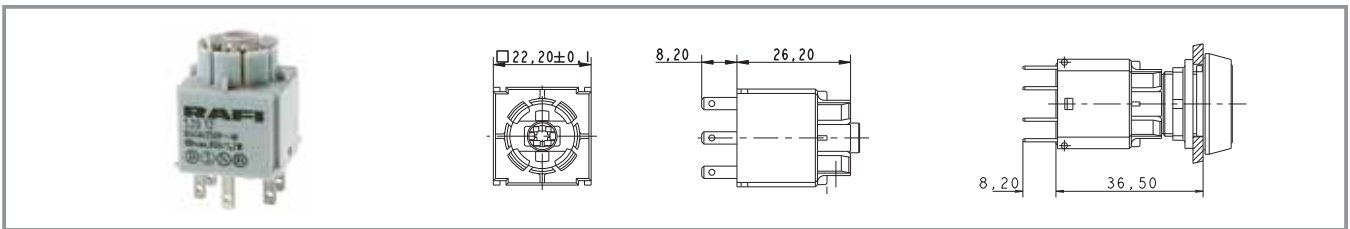
Contact function	Contact arrangement	Lamp socket	Rated voltage AC/DC max.	Rated current max.	Order no.
momentary	1 NC + 1 NO	W 2 x 4.6d	35 V	0.25 A	1.20.122.111/0000
momentary	2 NO	W 2 x 4.6d	35 V	0.25 A	1.20.122.112/0000
momentary	2 NC	W 2 x 4.6d	35 V	0.25 A	1.20.122.113/0000
latching	1 NC + 1 NO	W 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

2

RAFIX
16

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



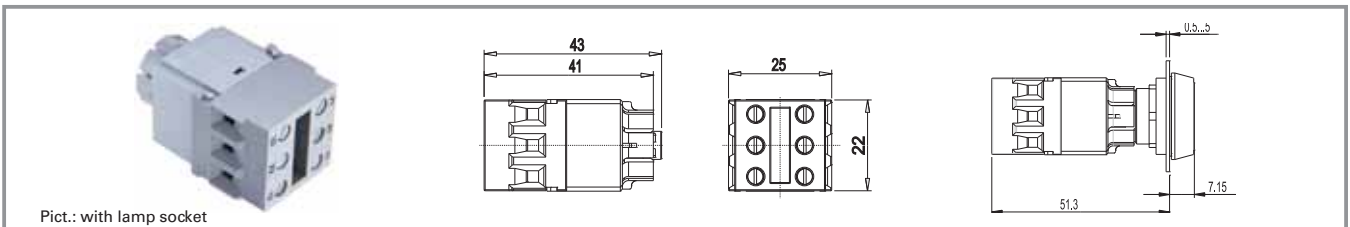
Contact function	Contact arrangement	Lamp socket	Rated voltage AC/DC max.	Rated current max.	Order no.
momentary	1 NC + 1 NO	W 2 x 4.6d	35 V	0.25 A	1.20.123.011/0000
momentary	1 NO	W 2 x 4.6d	35 V	0.25 A	1.20.123.013/0000
momentary	2 NC	W 2 x 4.6d	35 V	0.25 A	1.20.123.014/0000
momentary	2 NO	W 2 x 4.6d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

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

NEW



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

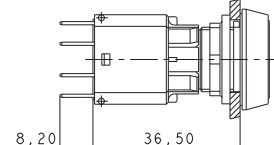
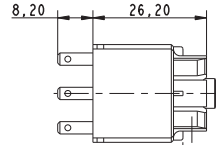
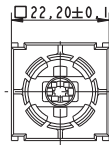
Technical data see page 2 - 74

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.

2

RAFIX
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RAFIX 16 - Contact blocks with silver contacts



2

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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
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Electrical characteristics

Rated insulation voltage acc. to VDE 0110, AC	250 V
Rated insulation voltage acc. to VDE 0110, DC	300 V
Ohmic rated current I_R	6 A
Rated motor current $I_{M\text{ nenn}}$	4 A
Application category acc. to VDE 0660 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 /	250 V/1.5 A,
Rated current I_E , AC	120 V/3.0 A V
Rated voltage U_E /	250 V/0.27 A,
Rated current I_E , DC	125 V/0.55 A, 60 V/1 A, 24 V/2 A V
Thermic rated current I_{ther} , AC	5 A
Thermic rated current I_{ther} , 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	$10 \times I_E$
Rated power AC	$1.1 \times I_E$
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 resistance	acc. to IEC 60068-2-14, -30, -33 and -78 100,000
Mechanical operating life latching (operations)	
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

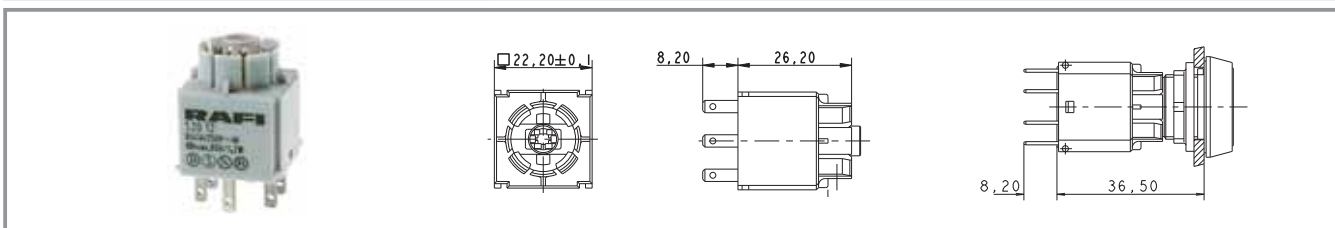


C22.2 No. 14-M91

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



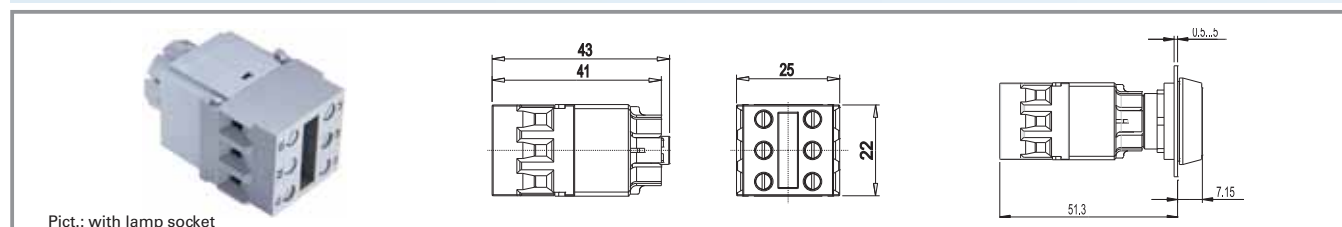
Contact function	Contact arrangement	Lamp socket	Rated insulation voltage U_i , AC	Ohmic rated current I_R	Order no.
momentary	1 NC + 1 NO	W 2 x 4.6d	250 V	6 A	1.20.122.001/0000
momentary	2 NO	W 2 x 4.6d	250 V	6 A	1.20.122.002/0000
momentary	2 NC	W 2 x 4.6d	250 V	6 A	1.20.122.003/0000
latching	1 NC +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

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

NEW



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

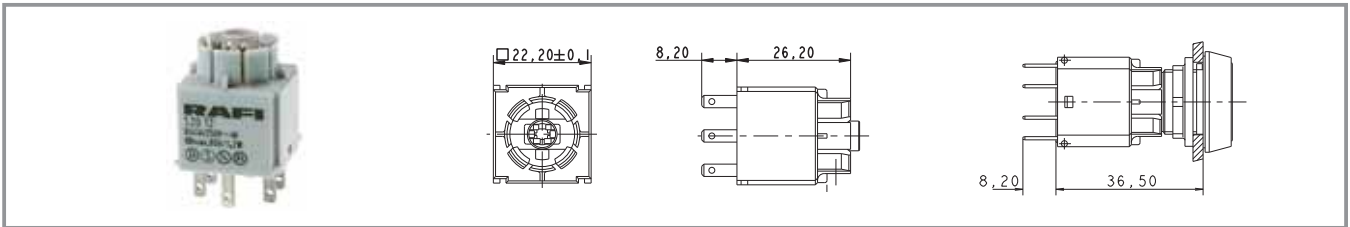
Technical data see page 2 - 80

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.

2

RAFIX
16

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



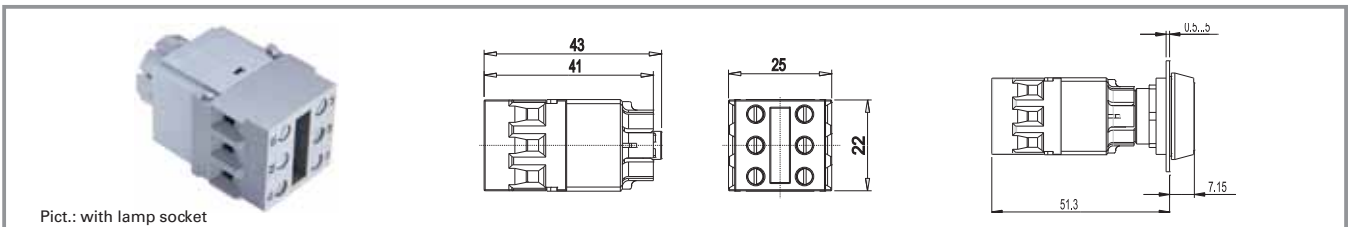
Contact function	Contact arrangement	Lamp socket	Rated insulation voltage U_i , AC	Ohmic rated current I_R	Order no.
momentary	1 NC + 1 NO	W 2 x 4.6d	250 V	6 A	1.20.123.001/0000
momentary	1 NO	W 2 x 4.6d	250 V	6 A	1.20.123.003/0000
momentary	2 NC	W 2 x 4.6d	250 V	6 A	1.20.123.004/0000
momentary	2 NO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

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

NEW



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.

2

RAFIX
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RAFIX 16 - Contact blocks AS-Interface, standard



2

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 detailed manual on request.

RAFIX
16

Technical Data

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

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

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



2

RAFIX
16

General Data

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

The coupling contact is an additional safety feature. It supervises the coupling between E-stop actuator and contact block and informs 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
AS-Interface specification
AS-Interface certificate
Probability to failure acc. to IEC 61508

A²SI
V3.0
ZU 63001, 63701
PFD total: 2.2×10^{-4} ,
operation period
10 years,
PFH/h: 2.5×10^{-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

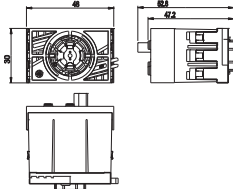
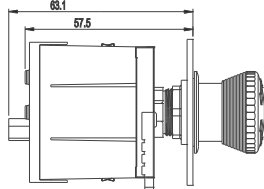
Typical accessories RAFIX 16 - Contact blocks AS-Interface, E-stop, Safety at Work

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

2

RAFIX
16

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

  					
Contact arrangement	Illumination	2-pole digital output, 24V / 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



2

RAFIX
16

Technical Data

Dimensions		Other specifications	
Size not mounted	see order block	Shock resistance acc. to IEC 60068-2-27	amplitude < 50g, 11ms, half sinusoidal
Mounting depth	see order block	Ambient temp. operating min.	-25 °C
Mechanical design		Ambient temp. operating max. with lamp /LED	+55 °C
Mounting	see order block	Storage temperature min.	-40 °C
Lamp socket	wedge-base W 2 x 4.6d	Storage temperature max.	+85 °C
Terminals	quick connector 2.8 x 0.8 mm	Environmental resistance	acc. to IEC 60068-2-14, -30, -33 and -78
Terminal marking	X1 = anode, X2 = cathode	Flame class acc. to UL 94	V 0
Robustness	100 N	Hot wire ignition acc. to IEC 60695-2-1	yes
Electrical characteristics		Resistance to vibrations acc. to IEC 60068-2-6	10 g at 20 ... 500 Hz
Rated voltage	60 V		
Rated power	1.2 W		

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

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.

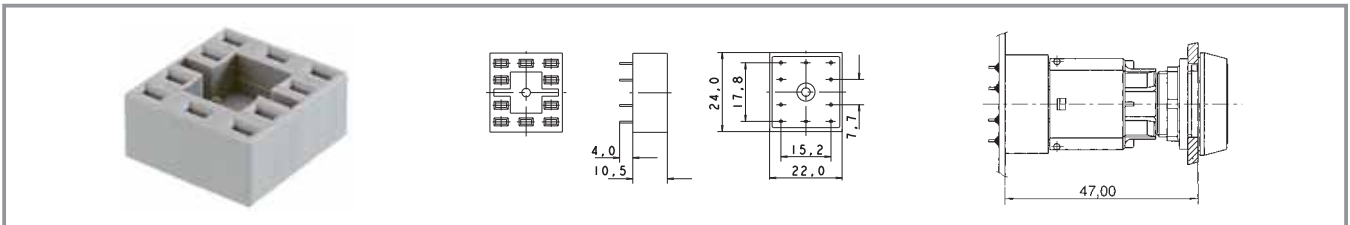
RAFIX 16 - Special accessories



3-module

2

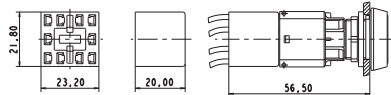
PCB plug-in socket



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.

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	-	-	5.37540.024/8622

With latching detent for mating with a multipole connector.

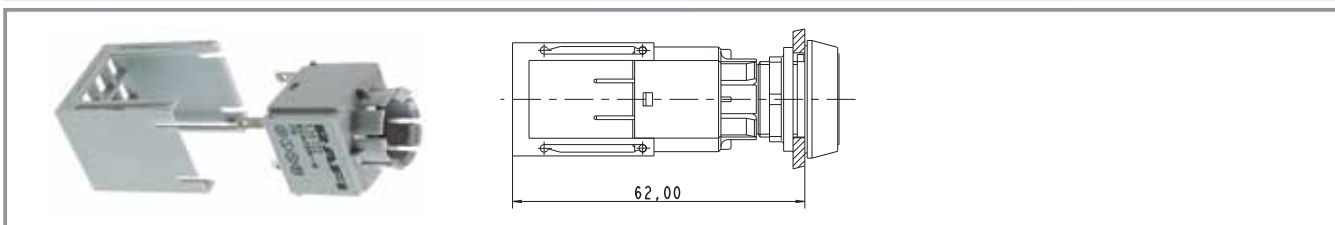
Plug distributor



short text	Feature 1	Feature 2	Order no.
Plug distributor	-	-	5.37540.029/6000

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

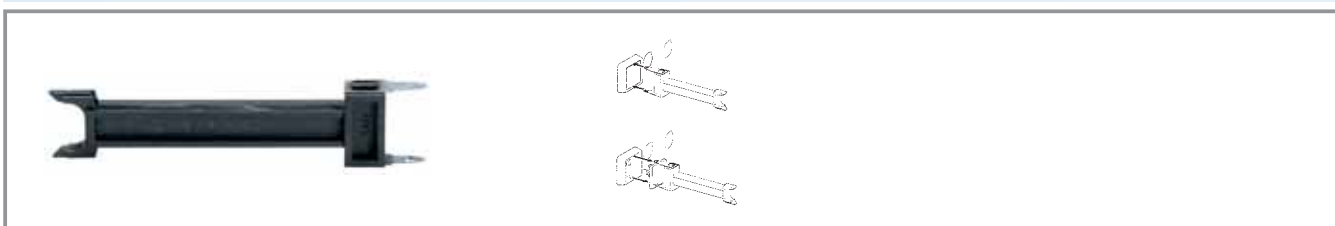
Protection against contact



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.

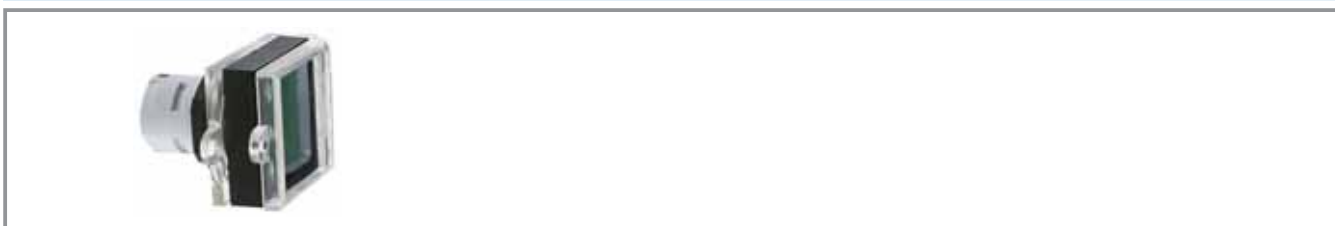
Disassembly tool



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

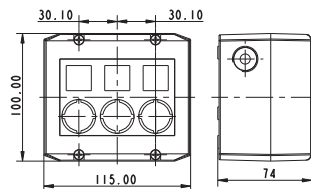


short text	Feature 1	Feature 2	Order no.
Fixing spanner for hexagon nut	-	-	5.58.002.034/0000

RAFIX - Insulating housing, Ø 16.2 mm

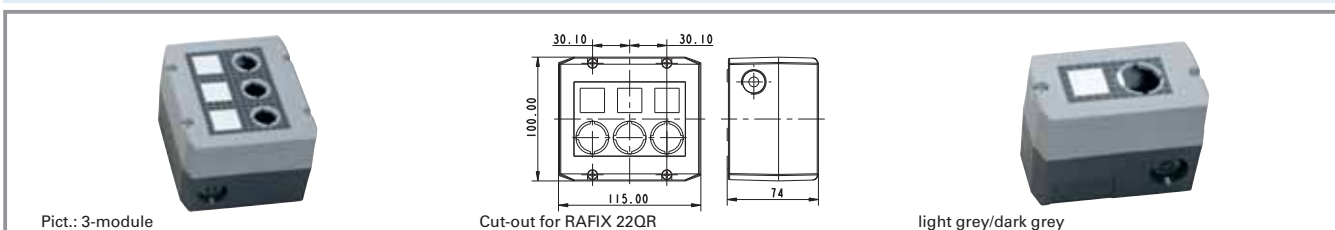


Pict.: 3-module



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

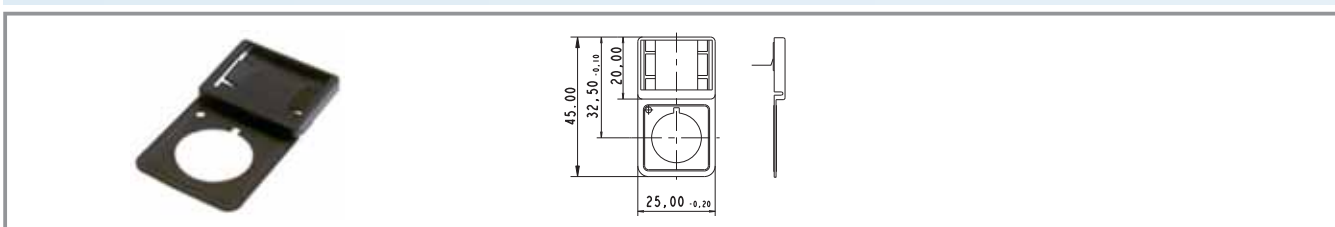
RAFIX 22 QR - Insulating housing IP65, Ø 22.3 mm


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

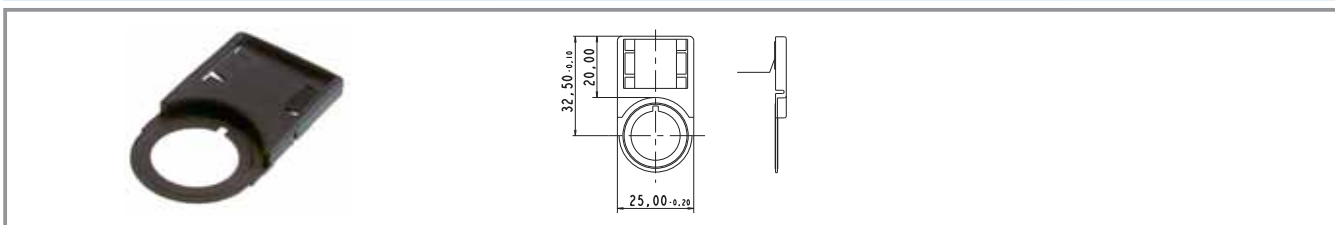
RAFIX 16 - Label holder, flush, for square collar


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.

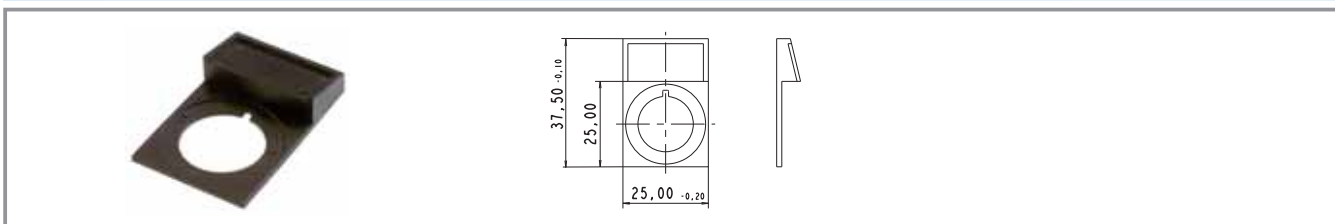
RAFIX 16 - Label holder, flush, for round collar


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:

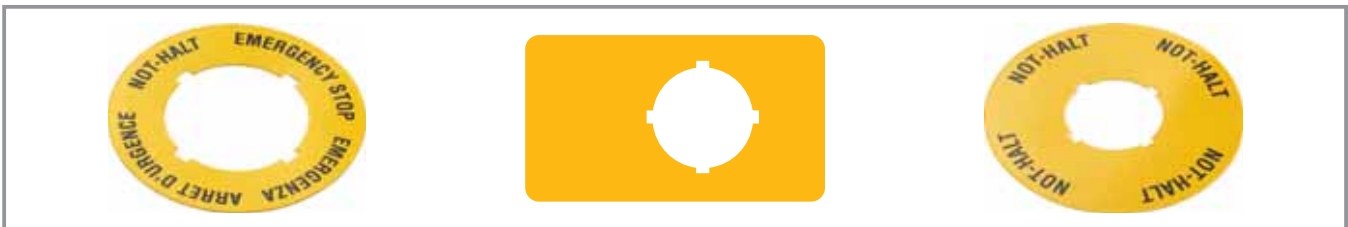
Legend label 23 x 16, without legend: **5.73.112.000/0000**

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

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

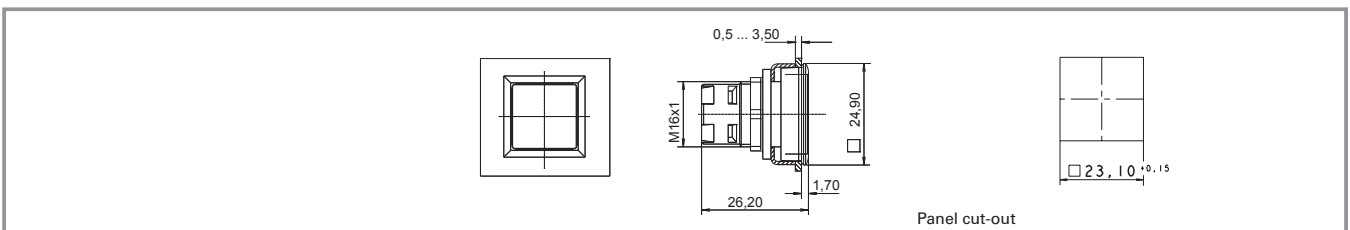


short text	Feature 1	Feature 2	Order no.
Blanking cap complete with sealing disc and ring nut, square	-	-	5.05.800.049/0100
Blanking cap complete with sealing disc and ring nut, round	-	-	5.05.800.050/0100
Blanking cap complete with sealing disc and ring nut, square, alignable without gaps	-	-	5.05.800.051/0100

2

RAFIX
16

RAFIX 16 F - Blanking cap



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



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.

RAFIX
22 QR

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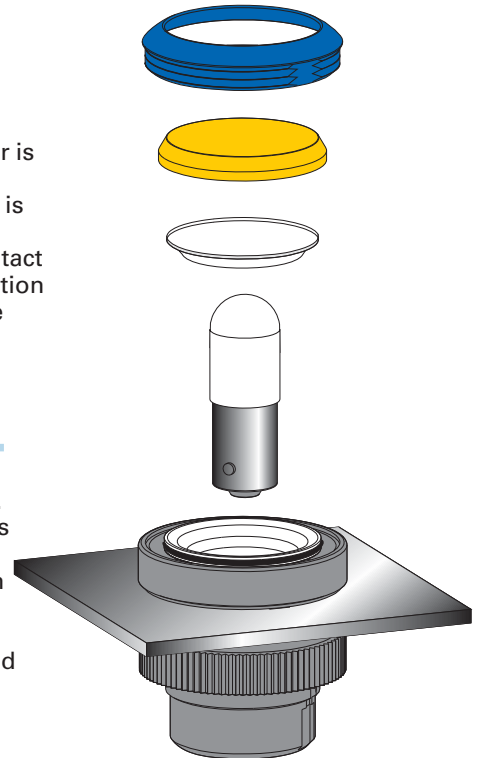
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Contact blocks marked with different colours for ease of identification in stock and when connecting.

- 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.

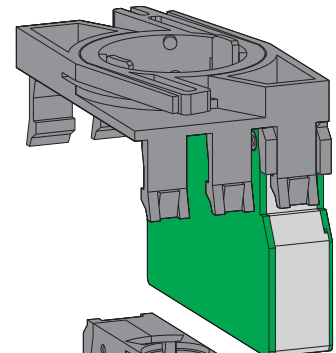


2

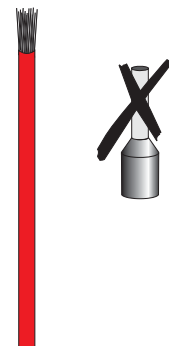
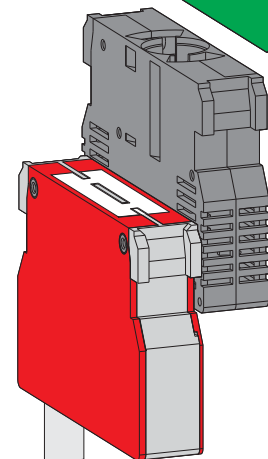
RAFIX
22 QR



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**

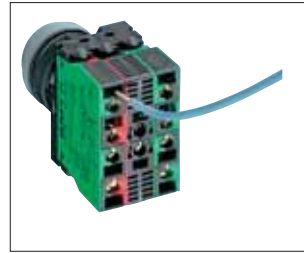
Your advantage:

This offers your savings in three ways:

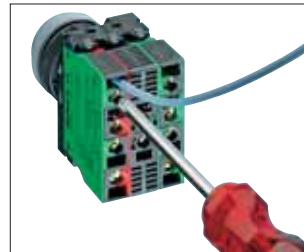
- Drastically reduced assembly time thanks to wire insertion from the rear, i. e. no more bending and lateral insertion of the wires required.
- You save material: No wire end sleeves are required.
- You save the time previously required for mounting the wire end sleeves.

Assembly

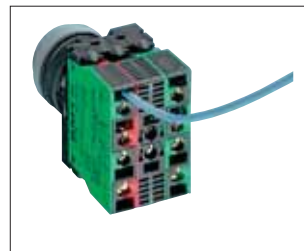
Screw terminals



Insert the wire

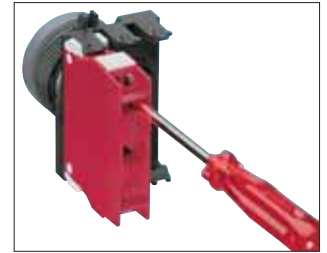


Tighten the screw

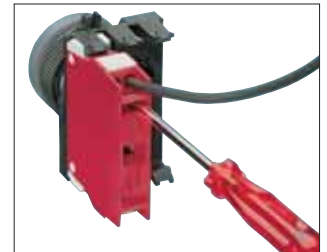


Done

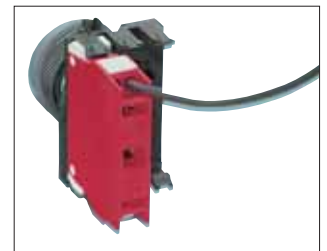
Spring-type terminals



Open the terminal



Insert the wire



Remove the screwdriver



Versatility of design for customized panels

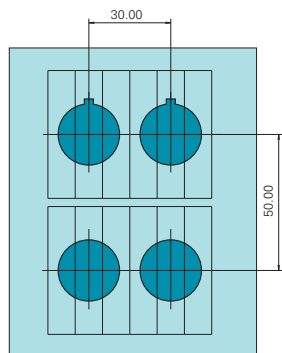
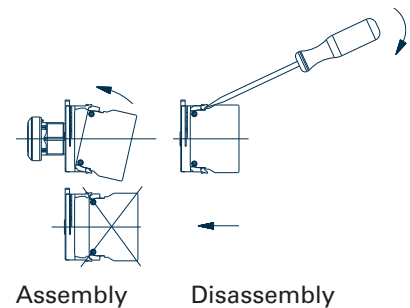
The RAFIX 22 QR system does not only have a particularly low profile and is also available in many different versions. Your design options for your customized panels are nearly unlimited thanks to the interchangeable front rings and lenses. In this way you can achieve an attractive design while ensuring 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

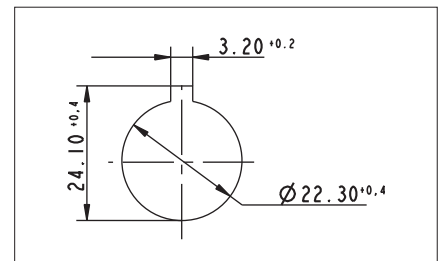
- Fix the actuator in the front panel with the ring nut.
- Snap the individual elements (a maximum three contact blocks or two contact blocks together with a lamp socket) in the coupling. You can install them on any assembling axis.
- Insert the lamp or LED into the lamp socket.
- Snap the coupling with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



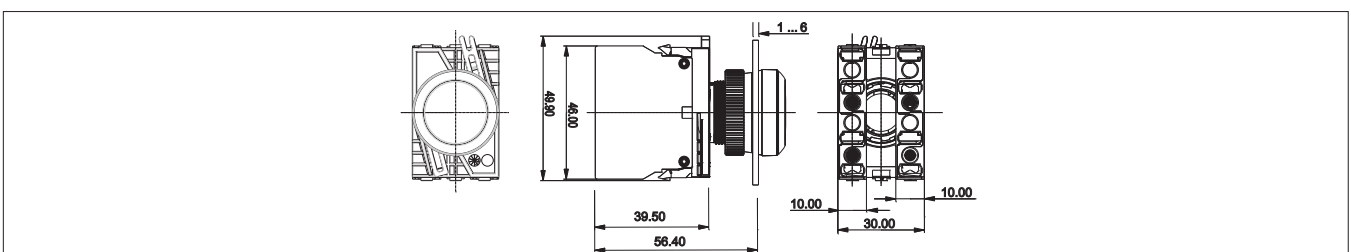
Panel cut-out according to IEC 60947-5-1

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).



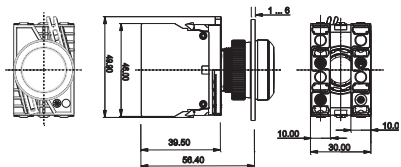
Dimensional drawing



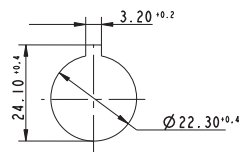
RAFIX 22 QR - Pushbutton



Pict.: transparent green



with contact block



Panel cut-out to IEC 60947-5-1

2

Technical Data

General information

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

Dimensions

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

RAFIX
22 QR

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

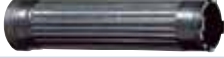


German Lloyd's
type approval

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	

Typical accessories RAFIX 22 QR - Pushbutton

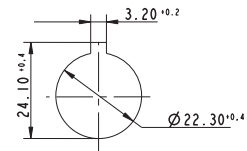
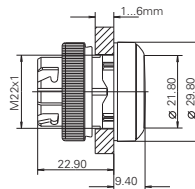
Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR - Contact block with silver contacts, with coupling and lamp socket, spring-type terminals, 1 NO, 1 NC		1.20.125.025/0000	
RAFIX 22 QR - Contact block with RJ 12 connector, 2 NO, white LED		1.20.128.015/0000	2 - 155
RAFIX 22 QR - 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“.

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

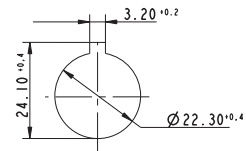
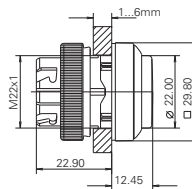
xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08

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.

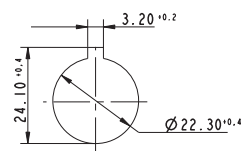
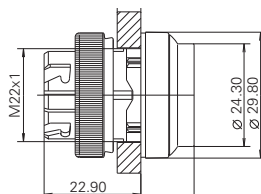
2

RAFIX
22 QR

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:

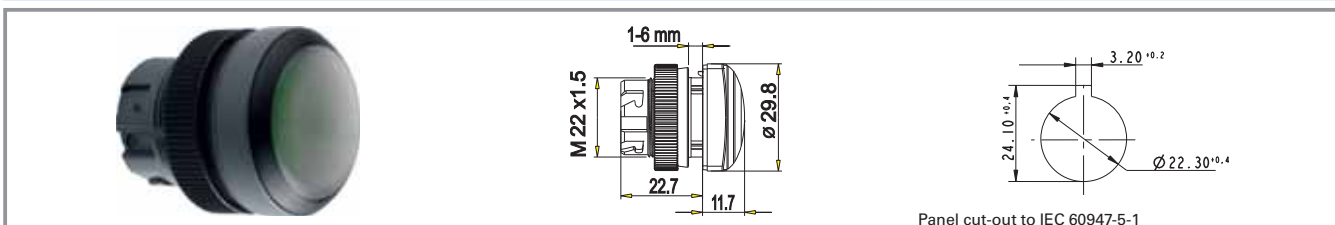
Legend insert without legend, use only in combination with transparent lenses.: **5.70.800.000/2000**

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



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

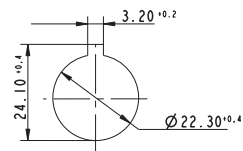
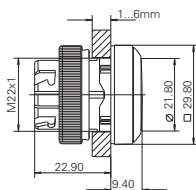
2

RAFIX
22 QR

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

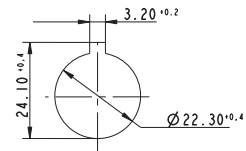
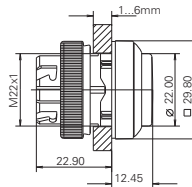
xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08

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

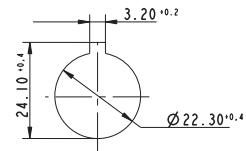
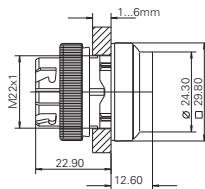
xx = Front ring colour: black = 01, slate grey = 07, silver grey = 08

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:

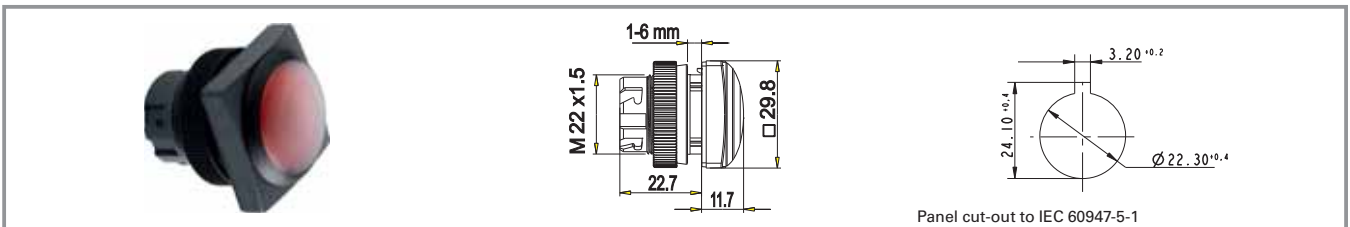
Legend insert without legend, use only in combination with transparent lenses.: **5.70.800.000/2000**

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.

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

NEW



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

2

RAFIX
22 QR

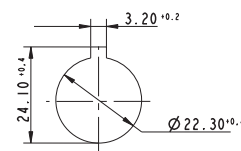
RAFIX 22 QR - Selector switch



Pict.: Front ring, black, non-illuminated



Front ring, metallized, illuminated



Panel cut-out to IEC 60947-5-1

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 resistance	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 Lloyd's
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“.

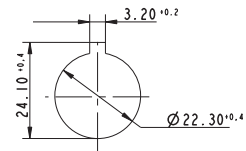
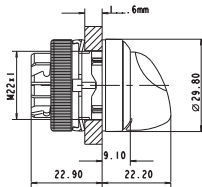
2

RAFIX
22 QR

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.

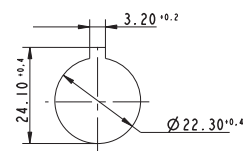
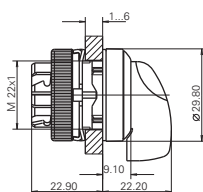
On keylock switches with 3 switching positions (e.g. 2 x 90 degrees), either the left-hand or right-hand contact block is activated, depending on the sense of rotation.

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.

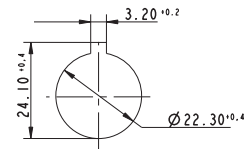
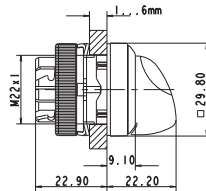
At selector switches with 3 switching positions (e.g. 2 x 90 degrees), either the left-hand or right-hand contact block is activated, depending on the sense of rotation.

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.

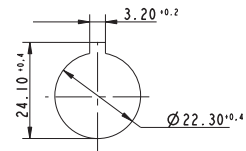
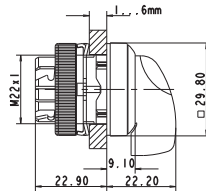
At selector switches with 3 switching positions (e.g. 2 x 90 degrees), either the left-hand or right-hand contact block is activated, depending on the sense of rotation.

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.

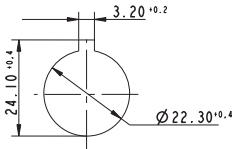
RAFIX 22 QR - Keylock switch



Pict.: Front ring, metallized



Front ring, metallized



Panel cut-out to IEC 60947-5-1

2

RAFIX
22 QR

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
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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 resistance	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

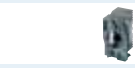


Type approval

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

Typical accessories RAFIX 22 QR - Keylock switch

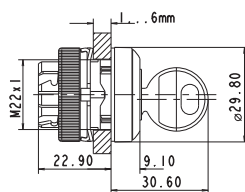
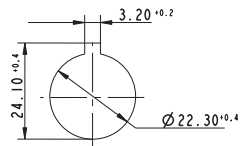
Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR - Contact block with silver contacts, with coupling, without lamp socket, spring-type terminals, 1 NO		1.20.125.002/0000	2 - 149
RAFIX 22 QR - Contact block with coupling, gold RAFIX 22 QR - Contacts, RJ 12 connector, 1 NC + 1 NO, 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“.

2

RAFIX
22 QR

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

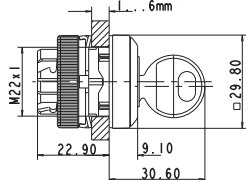
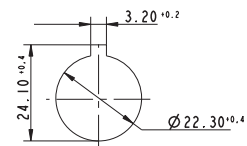
Technical data see page 2 - 122

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

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.

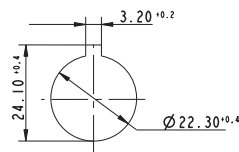
RAFIX 22 QR - Mushroom-headed pushbutton



Pict.: Front ring, metallized



Front ring, slate grey



Panel cut-out to IEC 60947-5-1

2

RAFIX
22 QR

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

Approvals



IEC 61058



UL 508, C22.2 No.
14-M91



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Classification of
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Marine, offshore
and industrial use



German Lloyds
type approval

Typical accessories RAFIX 22 QR - Mushroom-headed pushbutton

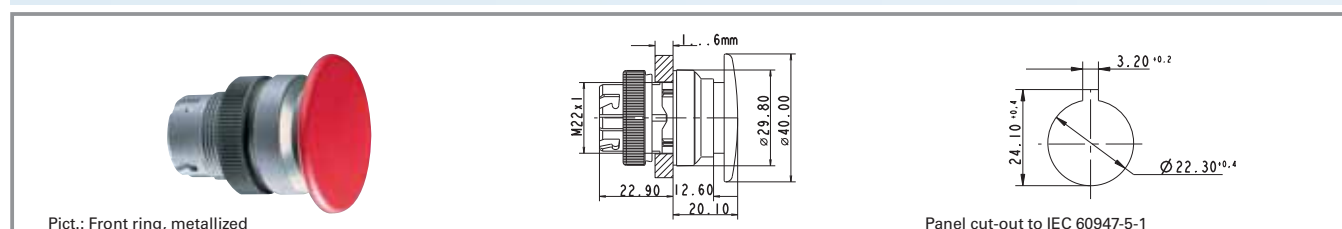
Description	Photo	Order no.	Additional accessories see page
RAFIX 22 QR - Contact block with silver contacts, with coupling, without lamp socket, screw terminals, 1 NC + 1 NO		1.20.124.017/0000	2 - 149

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

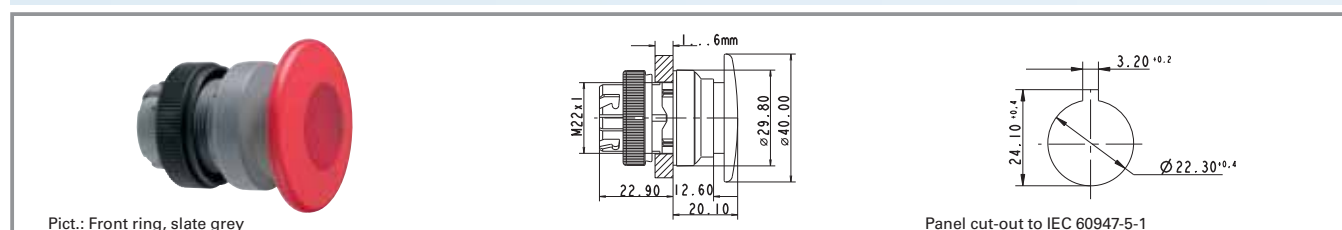


Illuminability	mushroom colour	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
no	opaque black	1.30.246.501/01xx	1.30.246.502/0100	-	-
no	opaque red	1.30.246.501/03xx	1.30.246.502/0300	-	-

Technical data see page 2 - 126

xx = Front ring colour: slate grey = 07

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

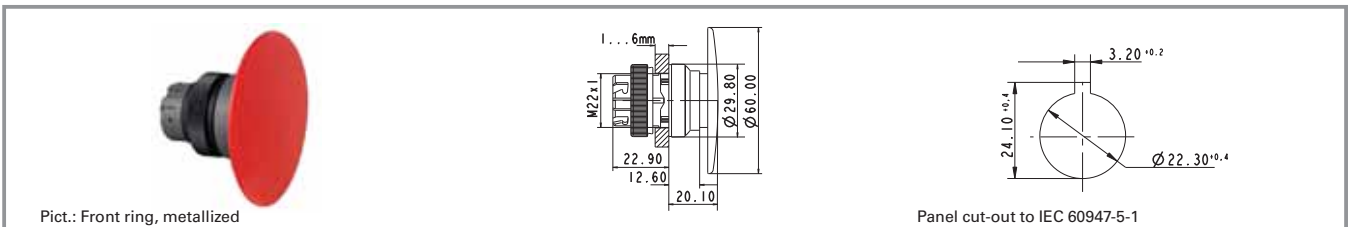


Illuminability	mushroom colour	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	opaque red/ transparent red	1.30.246.001/03xx	1.30.246.002/0300	-	-

Technical data see page 2 - 126

xx = Front ring colour: slate grey = 07

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

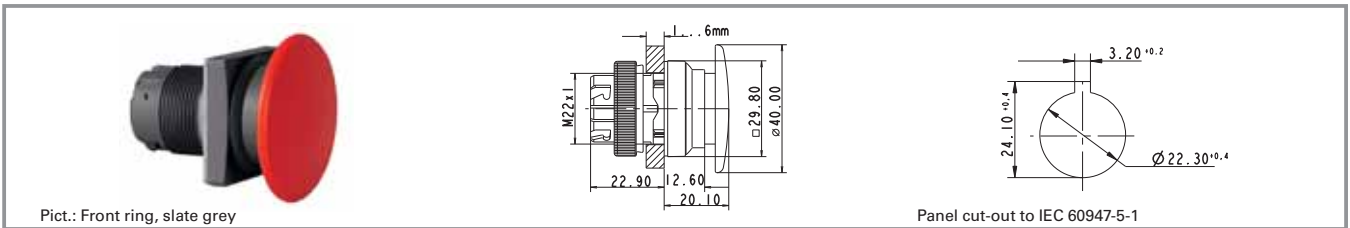


Illuminability	mushroom colour	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
no	opaque red	1.30.246.601/03xx	1.30.246.602/0300	-	-

Technical data see page 2 - 126

xx = Front ring colour: slate grey = 07

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

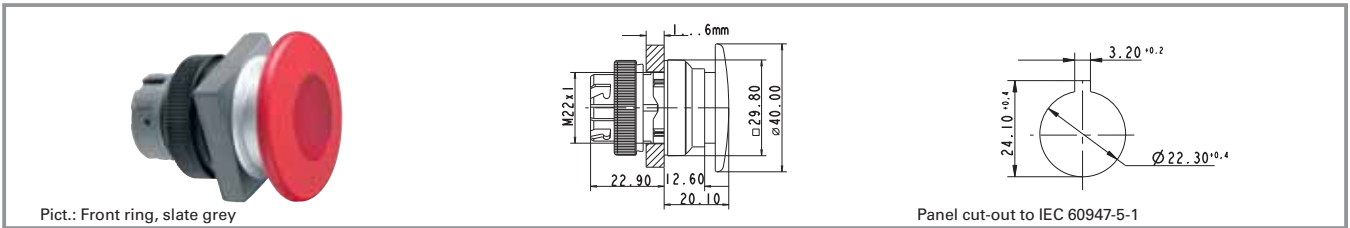


Illuminability	mushroom colour	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
no	opaque red	1.30.246.551/03xx	1.30.246.552/0300	-	-

Technical data see page 2 - 126

xx = Front ring colour: slate grey = 07

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

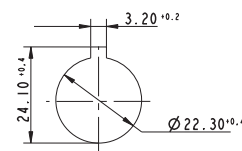
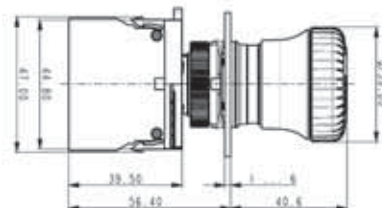


Illuminability	mushroom colour	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	opaque red/ transparent red	1.30.246.051/03xx	1.30.246.052/0300	-	-

Technical data see page 2 - 126

xx = Front ring colour: slate grey = 07

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



Panel cut-out to IEC 60947-5-1

2

General Data

The emergency stop pushbuttons comply with IEC 60 204, IEC 60 073, IEC 60 947 and VDE 0113 Part 1. They are designed dupe-proof according to EN 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.

RAFIX
22 QR

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

Approvals



IEC 60947-5-x,
60904, 60073



IEC 61058



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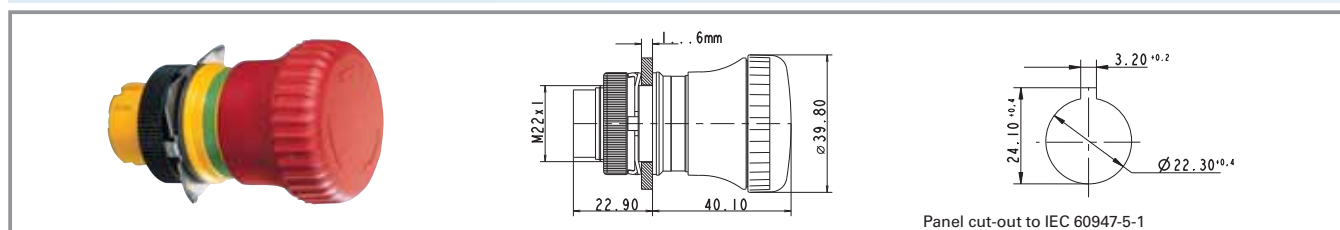
German Lloyd's
type approval

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



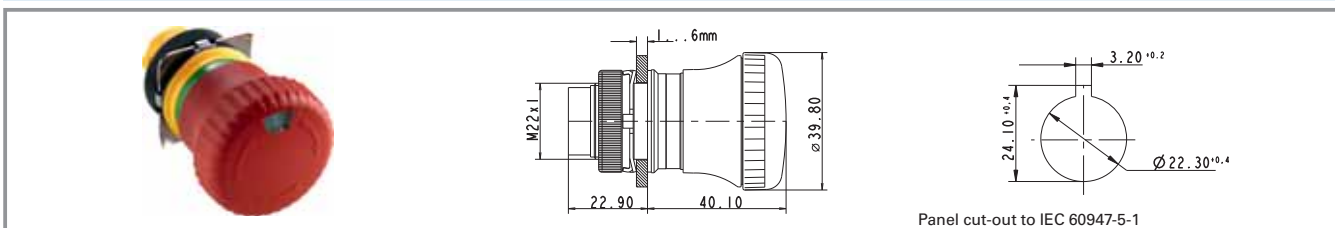
Degree of protection from front side	Reset	Illuminability	Operating life (operations)	Lock type	Order no.
IP65	by clockwise rotation	no	100,000	-	1.30.243.501/0300

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

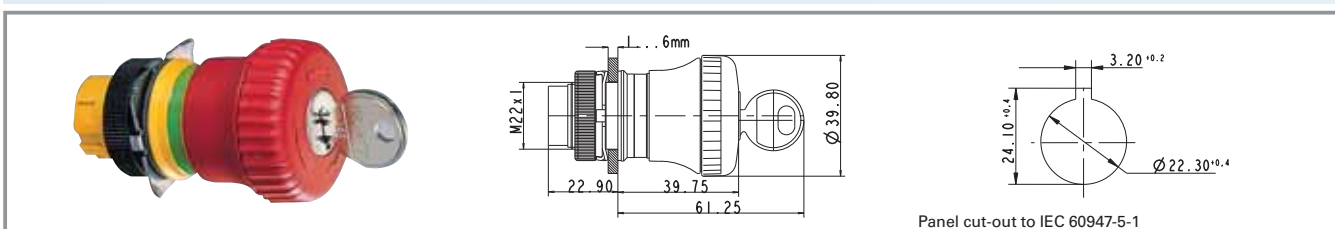
Included: Ring nut with claw.

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

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

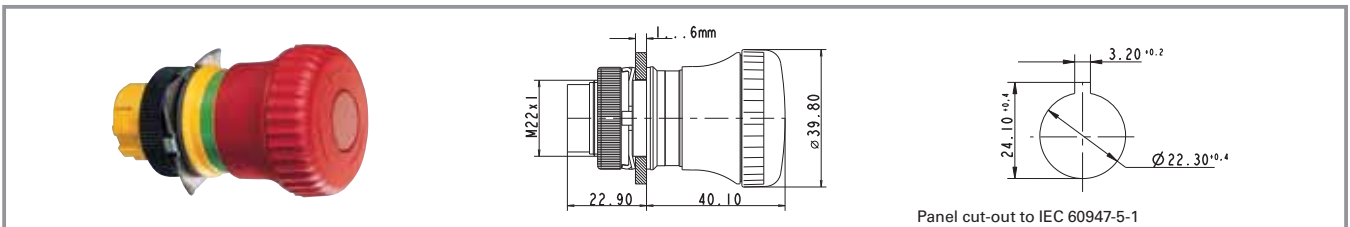
Spare key RONIS 1122E, delivery content 2 keys: 5.58.017.403/0000

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



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

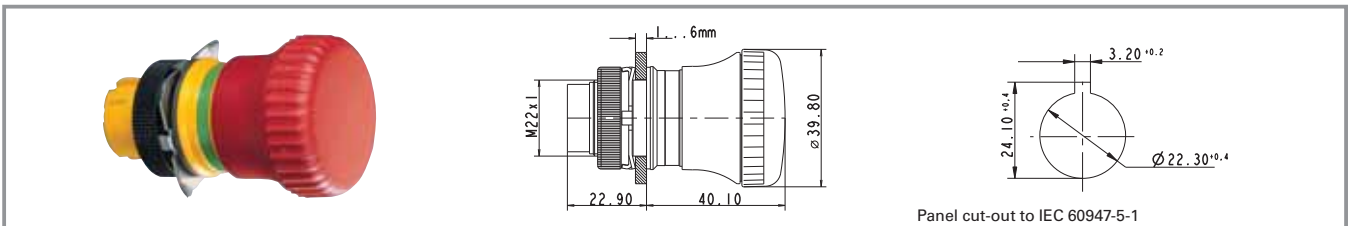
Technical data see page 2 - 130

Included: Ring nut with claw.

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

2

RAFIX 22 QR - Emergency stop pushbutton, reset by pulling



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.

RAFIX
22 QR

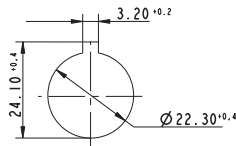
RAFIX 22 QR - Toggle switch



Pict.: Front ring, metallized



Front ring, slate grey



Panel cut-out to IEC 60947-5-1

2

Technical Data

General information

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
Immunity	no

Mechanical characteristics

Robustness min.	100 N
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Electrical characteristics

Protection class	-
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Other specifications

Operating life (operations)	100,000
Degree of protection	IP54
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Environmental resistance	acc. to IEC 60068-2 -14, -30, -33 and -78

RAFIX
22 QR

Approvals



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German Lloyd's
type approval

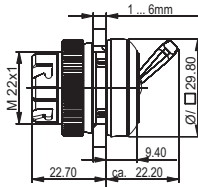
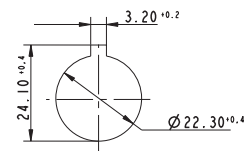
Typical accessories RAFIX 22 QR - Toggle switch

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

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

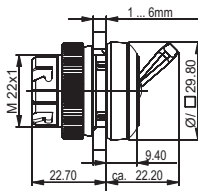
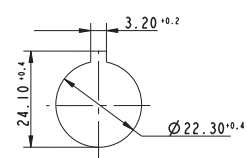
RAFIX 22 QR - Toggle switch, round collar

 Pict.: Front ring, slate grey		 Panel cut-out to IEC 60947-5-1		 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		 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



2

General Data

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

Technical Data

General information

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

Dimensions

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

Approvals



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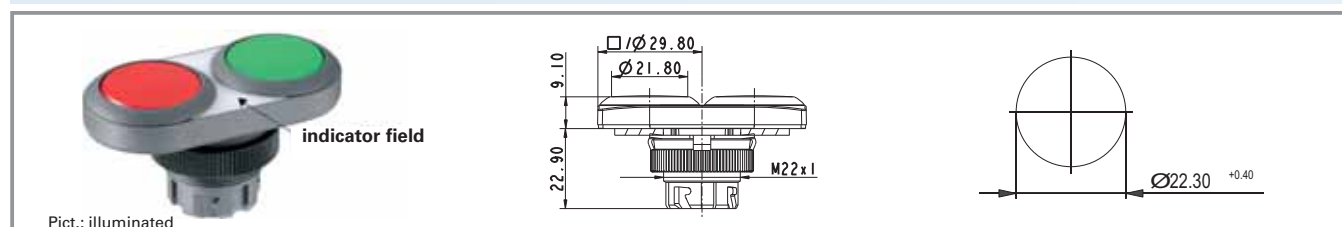
German Lloyds
type approval

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

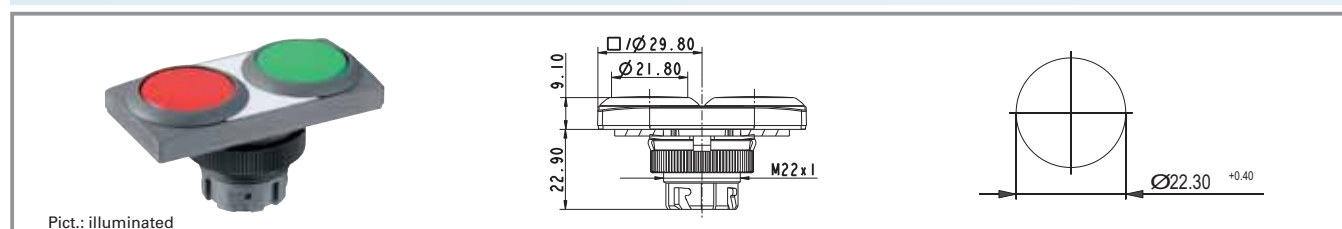


Illuminability	Colour of lens	Legending	Colour of front ring	Order no.
yes	opaque green/ opaque red	none	slate-grey	1.30.241.001/2207
yes	opaque green/ opaque red	red 0, green I	slate-grey	1.30.241.002/2207

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



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

2

Technical Data

General information

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

Dimensions

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

RAFIX
22 QR

Approvals



2004 Steel Vessel Rules



Rules for the Classification of Steel Ships



Classification of Ships....Rules



Marine, offshore and industrial use

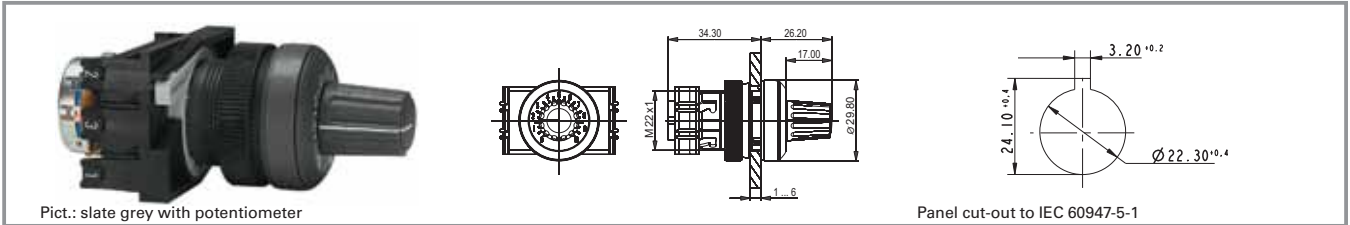


German Lloyd's type approval

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

RAFIX 22 QR - Potentiometer drive, round collar

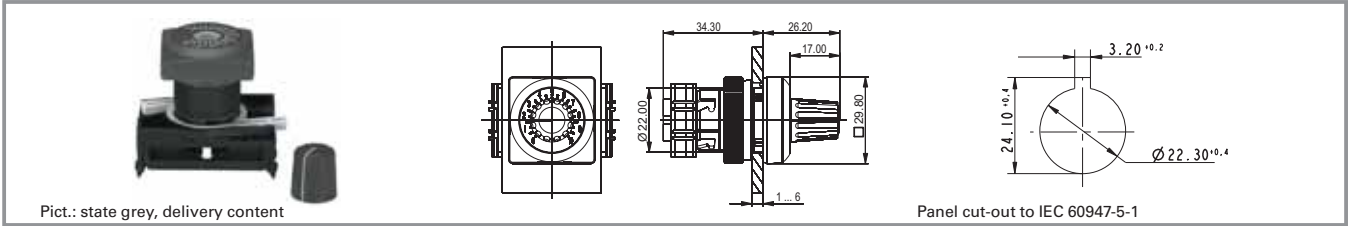


Front ring	Colour of knob	Order no.
plastic slate-grey	opaque slate-grey	1.30.248.001/0700

Technical data see page 2 - 138

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

RAFIX 22 QR - Potentiometer drive, square collar

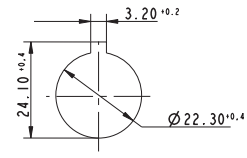


Front ring	Colour of knob	Order no.
plastic slate-grey	opaque slate-grey	1.30.248.021/0700

Technical data see page 2 - 138

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

RAFIX 22 QR - Buzzer



Panel cut-out to IEC 60947-5-1

2

Technical Data

General information

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

Dimensions

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

RAFIX
22 QR

Approvals



2004 Steel Vessel
Rules



Rules for the
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Classification of
Ships....Rules

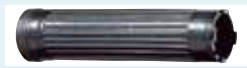


Marine, offshore
and industrial use

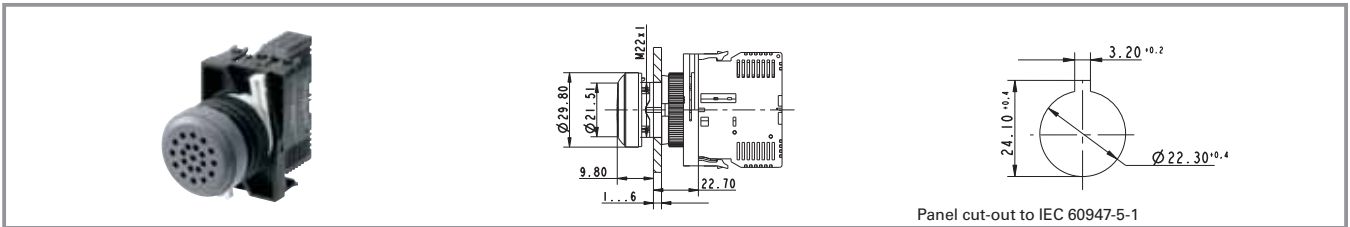


German Lloyd's
type approval

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

RAFIX 22 QR - Buzzer, round collar

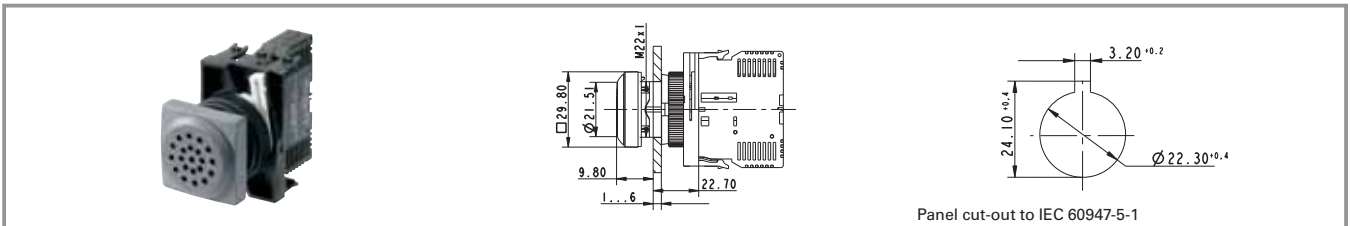


Operating voltage DC	Input current	Sound	Sonic pressure, 1 m distance min.	Sound frequency	Order no.
12 V	25 mA	continuos beep	70 dB	2,400 - 3,100 Hz	1.30.249.002/0000
24 V	25 mA	continuos beep	70 dB	2,400 - 3,100 Hz	1.30.249.001/0000

Technical data see page 2 - 140

2

RAFIX 22 QR - Buzzer, square collar



Operating voltage DC	Input current	Sound	Sonic pressure, 1 m distance min.	Sound frequency	Order no.
12 V	25 mA	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

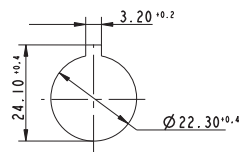
Technical data see page 2 - 140

RAFIX
22 QR

RAFIX 22 QR - Signal indicator



Pict.: yellow



Panel cut-out to IEC 60947-5-1

2

RAFIX
22 QR

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

Approvals



IEC 61058



UL 508, C22.2 No.
14-M91



2004 Steel Vessel
Rules



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Classification of
Ships....Rules



Marine, offshore
and industrial use

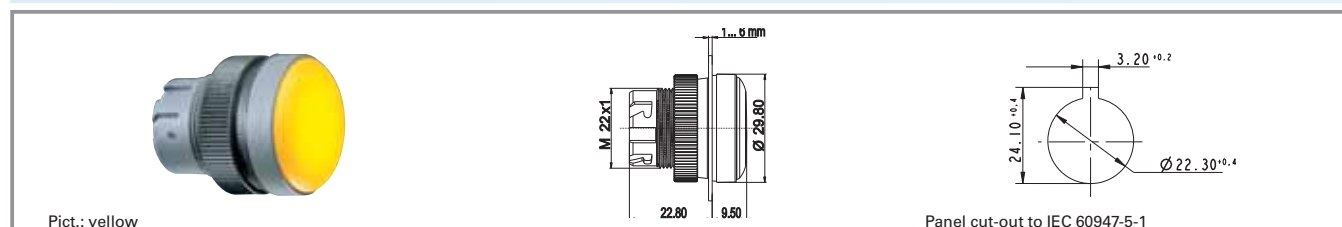


German Lloyds
type approval

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

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



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:

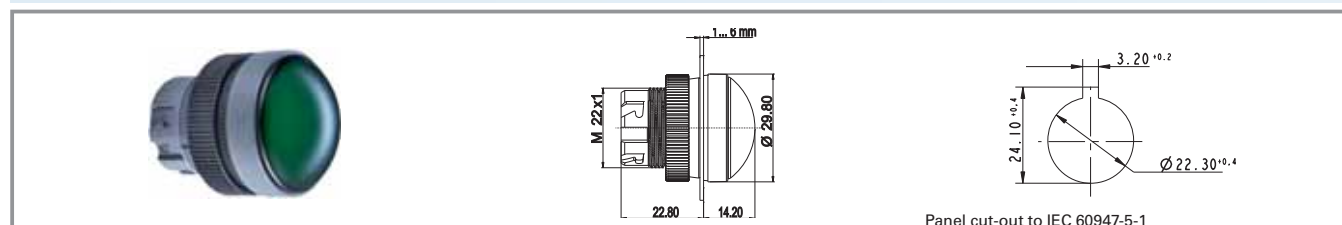
Legend insert without legend, use only in combination with transparent lenses.: **5.70.803.000/2000**

2

RAFIX
22 QR

RAFIX 22 QR - Signal indicator, high, round collar

NEW

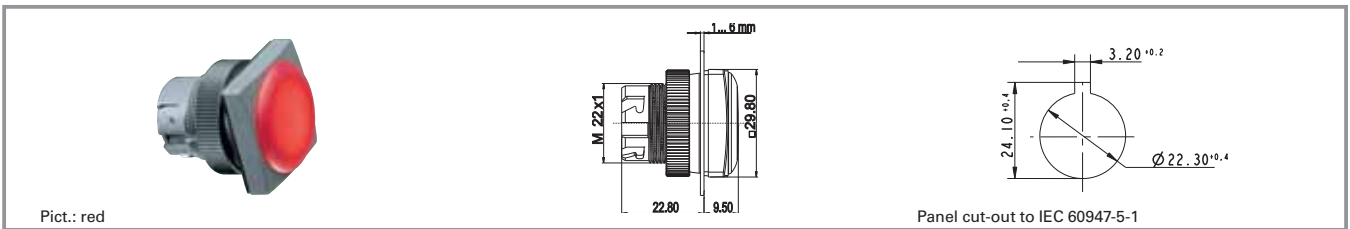


Colour of lens	form of collar	Order no.
transparent colourless	round	1.74.505.511/1000
transparent red	round	1.74.505.511/1300
transparent yellow	round	1.74.505.511/1400
transparent green	round	1.74.505.511/1500
transparent blue	round	1.74.505.511/1600

Technical data see page 2 - 142

Legend insert on request

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



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

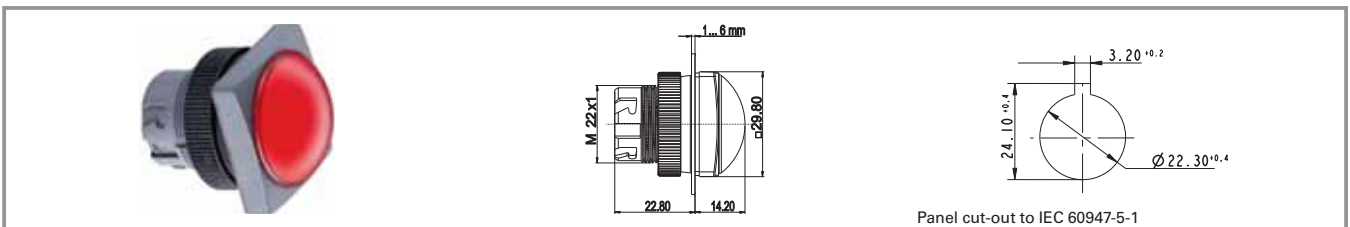
Technical data see page 2 - 142

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



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

2

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

RAFIX
22 QR

Dimensions		Degree of pollution	3
Dimensions with coupling	39.5 x 49.9 x 30 mm	Positive opening travel	3 mm
Mounting depth without cable	56.4 mm	Operating speed	5 ... 1000 mm/c
Mechanical design		Electrice characteristics acc. to IEC 61058	
Mounting	snap on coupling and actuator	Resistive load AC	10 A / 250 V; 7.5 A / 400 V
Contact system	bridge-contact self cleaning	Motor load AC	6 A / 250 V; 4 A / 400 V (5 A / 250 V)
Contact materials	Ag	Peak input current filament lamp AC	36 A
Contact arrangement	see order block	Peak capacity input current AC	100 A
Coupling position 1 (1/2)	see order block	Protection class	II
Coupling position 3 (5/6), centre	see order block	Other specifications	
Coupling position 2 (3/4)	see order block	Operating life at 10 A/250 V AC	70,000 (10A), 200,000 (5A)
NC contact forcibly actuated acc. to IEC 60947-5-1	yes	Switching reliability at 24V/5mA DC	10 x 10 ⁻⁶
Terminals	see order block	Robustness	acc. to IEC 60947-5-5
Terminal marking	colour encoded	Corresponding to CE	acc. EU-guideline NSR 72/73
Robustness	100 N	Shock resistance acc. to IEC 60068-2-27	15 g at 11 ms, amplitude half sinusoidal
Wire range solid wires without wire end sleeves	2 x 0.75 ... 2.5 mm ²	Resistance to vibrations acc. to IEC 60068-2-6	5 g at 10 ... 500 Hz
Wire range stranded wires without end sleeves	2 x 1.0...1.5 (2 x 0.08 ... 2.5) mm ²	Ambient temp. operating min.	-25 °C
Stripping length, solid or stranded	8 mm	Ambient temp. operating max.	+70°C (+50° C)
Wire range with wire end sleeves	2 x 0.75 ... 1.5 mm ²	Storage temperature min.	-40 °C
Electrice characteristics acc. to IEC 60947		Storage temperature max.	+80 °C
Rated insulation voltage AC/DC	400 V	Flame class acc. to UL 94	V 0
Rated peak voltage	6,000 V	Hot wire ignition acc. to IEC 60695-2-1	yes
Rated operating current I ₀ AC 12 / DC 12	10 A	Environmental resistance	acc. to IEC 60068-2
Rated operating current I ₀ AC-15	125 V/10 A, 250 V/6 A, 400 V/3.5 A		-14, -30, -33 and -78
Rated operating current I ₀ DC-13 Q300	24V/2.75A, 60V/1.1A, 125V/0.55A, 250V/0.275A		

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

2

RAFIX
22 QR

RAFIX 22 QR - Contact block with silver contacts



Pict.: Silver contacts, 2 NC, screw terminals



Silver contacts, 1 NC, spring-type terminals

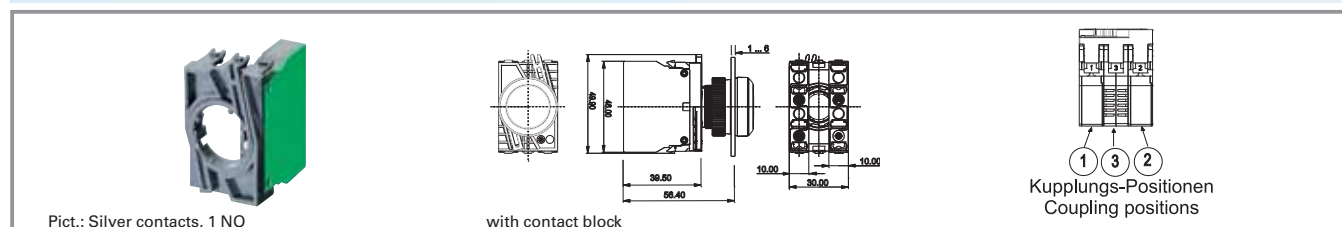


Au contacts, quick connector, 1S

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

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



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

2

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

RAFIX
22 QR

Dimensions		Electrical characteristics	
Dimensions with coupling	39.5 x 49.9 x 30 mm	Operating voltage AC/DC	1 ... 35 V
Mounting depth without cable	56.4 mm	Operating current AC/DC	0.01 ... 100 mA
		Rated power max.	1 W (ohmic load)
Mechanical design		Other specifications	
Mounting	snap on coupling and actuator	Operating life (operations)	1,000,000
Contact system	bridge-contact self cleaning		(24 V DC 10 mA)
Contact materials	Au	Switching reliability at 24V/5mA DC	10 x 10 ⁻⁶
Contact arrangement	see order block	Robustness	acc. to IEC 60947-5-5
Coupling position 1 (1/2)	see order block	Corresponding to CE	acc. EU-guideline
Coupling position 3 (5/6), centre	see order block		NSR 72/73
Coupling position 2 (3/4)	see order block	Shock resistance acc. to IEC 60068-2-27	15 g at 11 ms, amplitude half sinusoidal
NC contact forcibly actuated acc. to IEC 60947-5-1	yes		5 g at 10 ... 500 Hz
Terminals	see order block	Resistance to vibrations acc. to IEC 60068-2-6	
Terminal marking	colour encoded	Ambient temp. operating min.	-25 °C
Robustness	100 N	Ambient temp. operating max.	+70 °C
Operating force	-	Storage temperature min.	-40 °C
Wire range solid wires without wire end sleeves	2 x 0.75 ... 2.5 mm ²	Storage temperature max.	+80 °C
Wire range stranded wires without wire end sleeves	2 x 1.0 ... 1.5 mm ²	Environmental resistance	acc. to IEC 60068-2
Stripping length, solid or stranded	8 mm		-14, -30, -33 and -78
Wire range with wire end sleeves	2 x 0.75 ... 1.5 mm ²		

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

RAFIX 22 QR - Contact block with gold contacts



Pict.: Gold contacts, 1 NC, screw terminals



Gold contacts, 1 NO, spring-type terminals

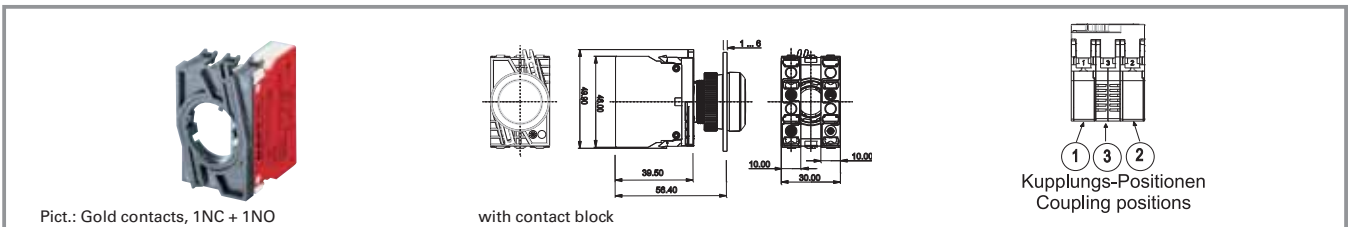


Gold contacts, quick connector, 1NO

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

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



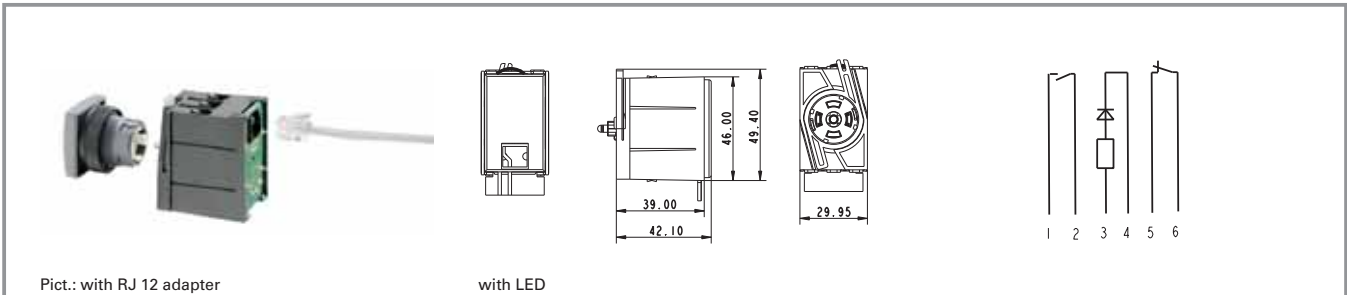
Terminals	Contact arrangement	Coupling position 1 (1/2)	Coupling position 3 (5/6), centre	Coupling position 2 (3/4)	Order no.
screw terminals	1 NC	-	-	1 NC	1.20.124.101/0000
screw terminals	1 NO	1 NO	-	-	1.20.124.102/0000
screw terminals	1 NC, 1 NC	1 NC	-	1 NC	1.20.124.103/0000
screw terminals	1 NO , 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

2

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

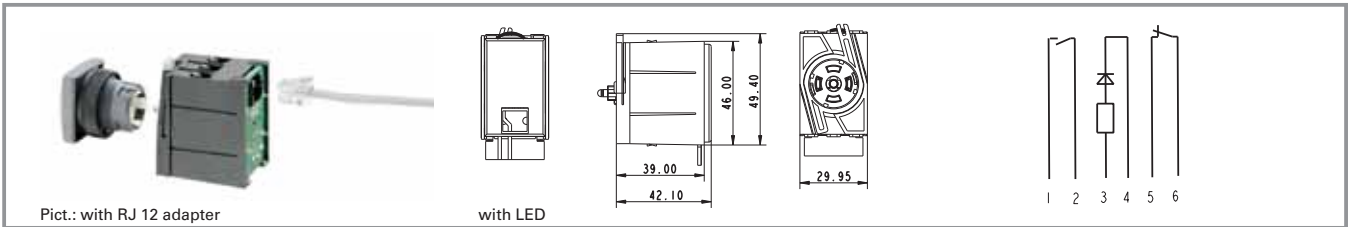
Other specifications

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 resistance	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

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

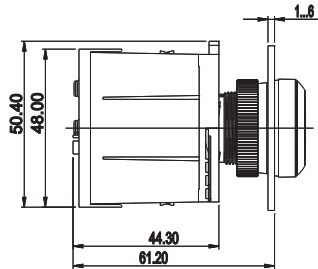


Contact arrangement	Operating voltage AC/DC	Integrated LED	LED colour	Order no.
1 NC	24 V	no	-	1.20.128.002/0000
1 NC	24 V	yes	white	1.20.128.012/0000
1 NC	24 V	yes	green	1.20.128.042/0000
1 NC + 1 NO	24 V	no	-	1.20.128.003/0000
1 NC + 1 NO	24 V	yes	white	1.20.128.013/0000
1 NC + 1 NO	24 V	yes	red	1.20.128.023/0000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



2

General Data

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

RAFIX
22 QR

Technical Data

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

Approvals

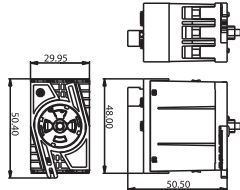


IEC 60947-5-x,
60904, 60073



62901

RAFIX 22 QR - Contact block AS-I, standard



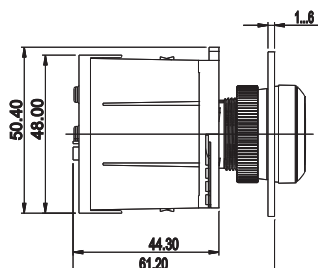
Contact arrangement	Illumination	Coupling contact (S3)	2-pole digital output, 24 V / 15 mA	Order no.
2 NO	no	no	yes	1.20.129.101/0000
2 NO	1 LED red	no	yes	1.20.129.111/0000
2 NO	1 LED white	no	yes	1.20.129.121/0000
2 NO	1 LED yellow	no	yes	1.20.129.131/0000
2 NO	1 LED green	no	yes	1.20.129.141/0000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

2

RAFIX
22 QR

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

2
General Data

The AS-Interface E-stop contact block is a slave for the AS-I fieldbus system. It is designed for the standard address range and meets the AS-I profile S-7.B.E (safety slave with max. 4 input / 4 output lines). Up to 30 of these contact blocks can be linked to one AS-I line, the 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.

**RAFIX
22 QR**
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	A ² SI
AS-Interface specification	V3.0
AS-Interface certificate	63001, 63701
Probability to failure acc. to IEC 61508	PFD Total: 2.2×10^{-4} , PFH/h: 2.5×10^{-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

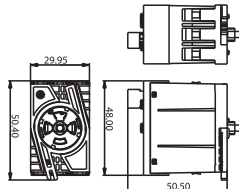


IEC 60947-5-x,
60904, 60073



63001, 63701

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



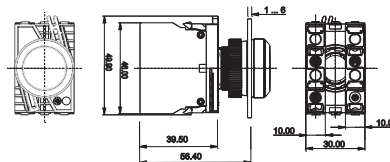
Contact arrangement	Illumination	Coupling contact (S3)	Additional addressing plug	Order no.
2NC	no	yes	yes	1.20.129.001/0000
2NC	no	no	no	1.20.129.002/0000
2NC	1 x LED red	yes	yes	1.20.129.011/0000

Technical data see page 2 - 158

2

RAFIX
22 QR

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



with contact block

2

RAFIX
22 QR

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 resistance	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

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

2

RAFIX
22 QR

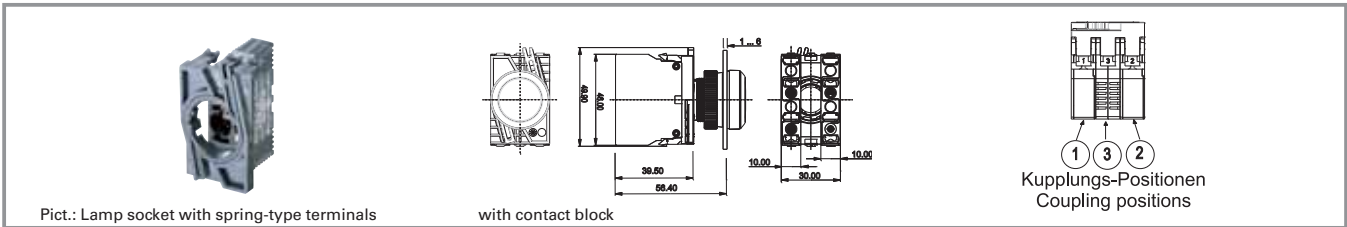
RAFIX 22 QR - Lamp socket BA 9s, without coupling



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

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



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).

2

RAFIX
 22 QR

RAFIX 22 QR - LED unit



2

RAFIX
22 QR

Technical Data

Dimensions		Other specifications	
Dimensions without coupling	46 x 10 x 39.5 mm	Robustness	acc. to IEC 60947-5-1
Mounting depth without cable	56.4 mm	Shock resistance acc. to IEC 60068-2-27	50 g at 11 ms, amplitude half sinusoidal
Mechanical design		Resistance to vibrations acc. to IEC 60068-2-6	10 g at 40 ... 500 Hz
Mounting	snap on coupling and actuator	Environmental resistance	acc. to IEC 60068-2
Diode and resistor	see order block	Ambient temp. operating min.	-14, -30, -33 and -78
LED colour	see order block	Ambient temp. operating max.	-20 °C
Terminals	screw terminals	Storage temperature min.	+65 °C
Terminal marking	X1 = anode, X2 = cathode	Storage temperature max.	-40 °C
Lamp characteristics		Flame class acc. to UL 94	+80 °C
Operating voltage	see order block	Hot wire ignition acc. to IEC 60695-2-1	V 0
Max. current, I _F	see order block		yes

Approvals



2004 Steel Vessel Rules



Rules for the Classification of Steel Ships



Classification of Ships....Rules



Marine, offshore and industrial use



German Lloyd's 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

RAFIX 22 QR - LED unit, without coupling



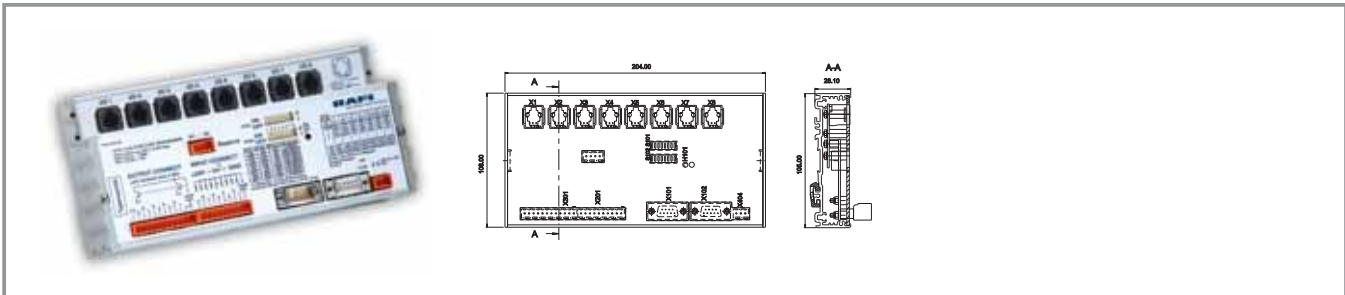
Terminals	LED colour	Max. current, I _F	Operating voltage	Order no.
screw terminals	white	15 mA	AC/DC 24 V	5.00.070.083/0200
screw terminals	red	15 mA	AC/DC 24 V	5.00.070.083/0300
screw terminals	yellow	15 mA	AC/DC 24 V	5.00.070.083/0400
screw terminals	green	15 mA	AC/DC 24 V	5.00.070.083/0500
screw 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

2

RAFIX
22 QR

RAFIX 22 QR - Contact module for field buses



2

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

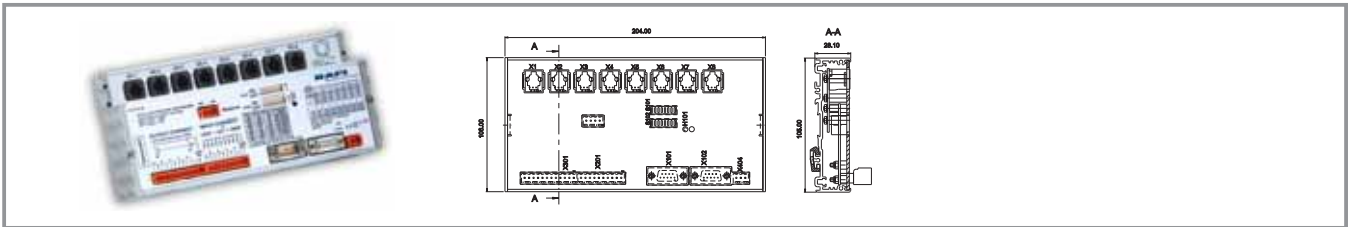
Other specifications

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

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

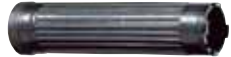
Technical data see page 2 - 166

RAFIX 22 QR - Special accessories



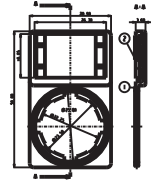
2

Typical accessories RAFIX 22 QR - Special accessories

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

RAFIX
22 QR

Label holder



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

Legend label to clip into label holder 5.07.620.xxx



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

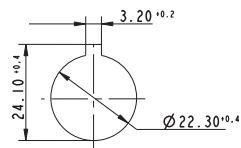


Short text	Feature 1	Feature 2	Order no.
Coupling with reference numbers 1-3-2, for contact blocks with single contacts	-	-	5.05.510.935/0000
Coupling with reference numbers 1/2-5/6-3/4, for contact blocks with double contacts	-	-	5.05.510.936/0000

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



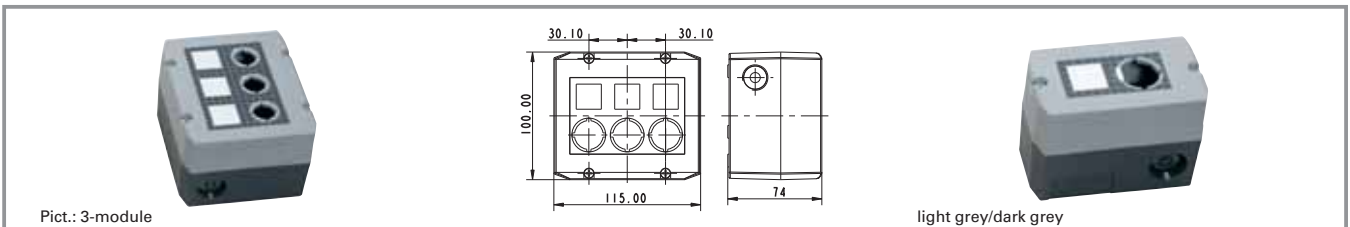
Pict.: Protective cover



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

RAFIX 22 QR - Insulating housing IP65, Ø 22.3 mm

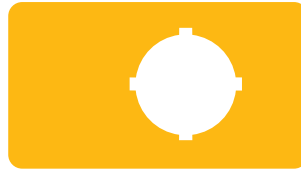


Short text	Feature 1	Feature 2	Order no.
RAFIX - Insulating housing, Ø 22.3 mm, IP65, 1-module, light grey/dark grey	100 mm	55 mm	1.20.810.201/0000
RAFIX - Insulating housing, Ø 22.3 mm, IP65, 1-module, yellow/yellow	100 mm	55 mm	1.20.810.202/0000
RAFIX - Insulating housing, Ø 22.3 mm, IP65, 2-module, 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

2

RAFIX
22 QR



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.

RAFIX
22 FS

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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.



2

RAFIX
22 FS

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

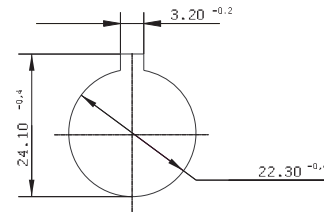
- IEC 60947-5-1/5
- UL

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.

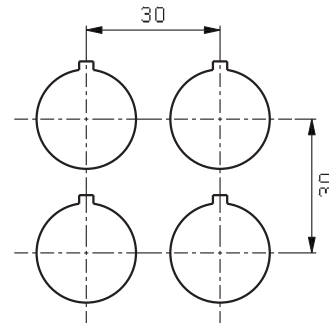
This locating pip ensures the perfect fit of actuators with contact blocks for PCB-mounted components and is therefore critical for a design built with these contact blocks.



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).

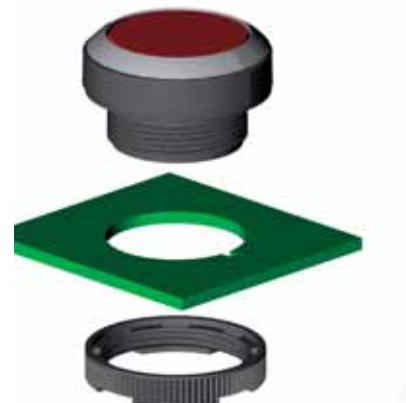


Assembly of the front actuators

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.

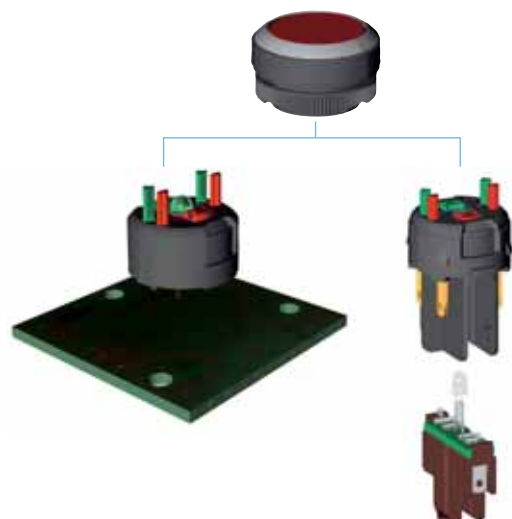


RAFIX 22 FS for any application

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



2

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.

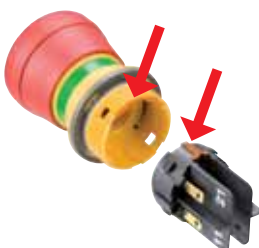
Concept

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

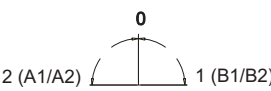
- Mounting depth only 27 mm including LED clip and cable lugs
- Quick-connect/solder terminals 2.8 x 0.8 mm
- The contact block engages permanently with the actuator only at the time of final assembly
- Compatible with all RAFIX 22 FS actuators: Pushbuttons, selector switches, keylock switches, emergency 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)

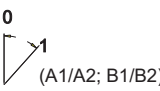
	Contact block with LED-Clip (sight from below)		Contact block "Plus 1" (sight from below)			
Contact arrangement	1NO	1NC	2NO	2NC	1NC + 1NO	Plus 1
Contact A1/A2 Terminal legending	1NO 13 - 14	-	1NO 13 - 14	1NC 11 - 12	1NO 13 - 14	1NC 11 - 12
Contact B1/B2 Terminal legending	-	1NC 21 - 22	1NO 23 - 24	1NC 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

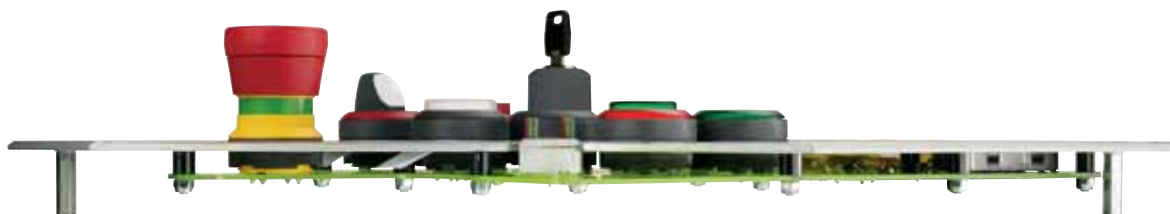
All actuators with 3 positions



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.

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.

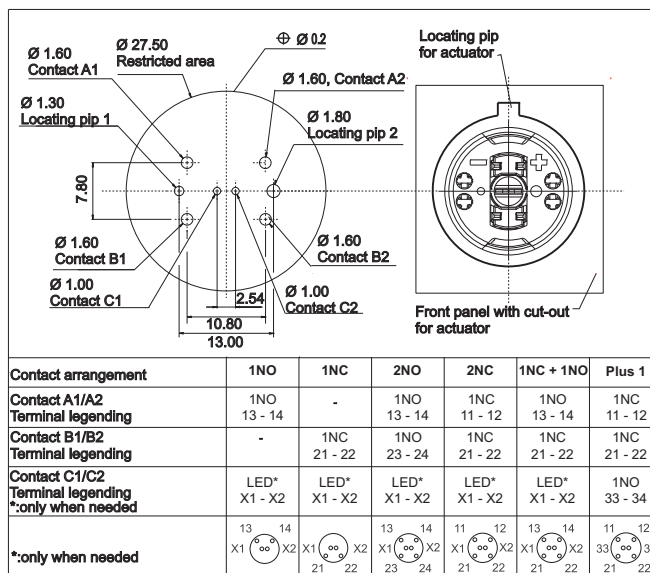
In addition to the panel cut-outs for the actuators, thread studs for fixing the printed circuit board must be designed on the rear. Legending by insertion of label strips can also be considered here, if necessary.



Printed circuit board

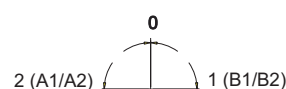
The contact blocks are fitted onto the printed circuit board and subsequently soldered, e.g. by wave soldering. On request, RAFI can also offer you complete systems with a completely assembled PCB.

PCB hole patterns (view on component side)

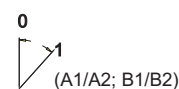


Contact scheme for selector and keylock switches

All actuators with 3 positions

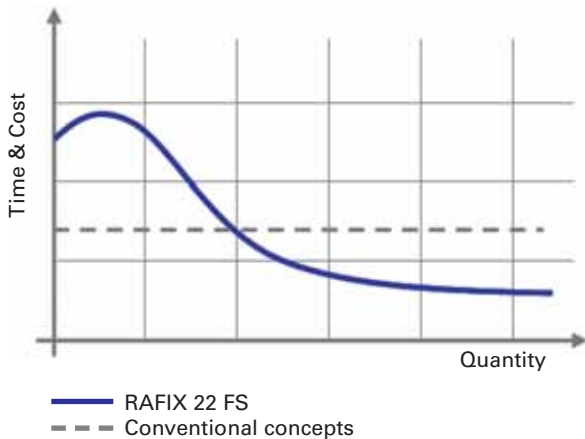


All actuators with 2 positions



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

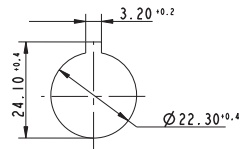
E-Box



The RAFIX 22 FS E-Box is an elegant, extremely well-designed housing for control components. It can be used wherever 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.

RAFIX 22 FS - Pushbuttons



Panel cut-out to IEC 60947-5-1

2

Technical Data

General information

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

Dimensions

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 resistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Salt spray	IEC 600 68-2-11

RAFIX
22 FS

Approvals



IEC 60947-5-x,
60904, 60073



UL 508, C22.2 No.
14-M91

Typical accessories RAFIX 22 FS - Pushbuttons

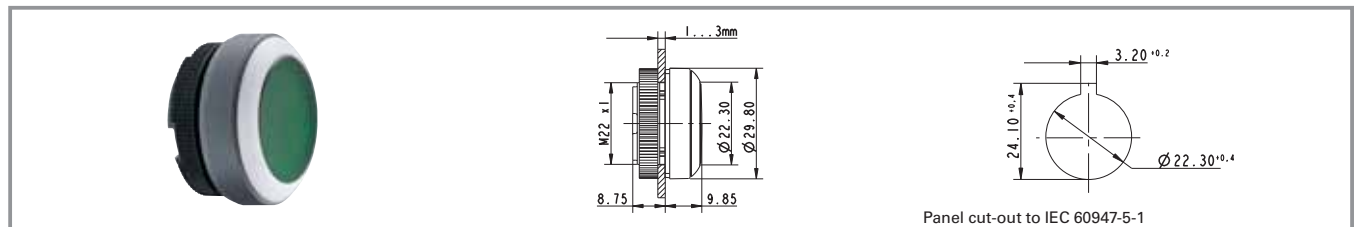
Description	Photo	Order no.	Additional accessories see page
RAFIX 22 FS - Universal contact block, 1 NC + 1 NO, gold contacts		1.20.126.003/0000	2 - 220
RAFIX 22 FS - Universal contact block, silver contacts, 1 NO		1.20.126.202/0000	2 - 224
RAFIX 22 FS - Contact block with quick-connect terminals, silver contacts		1.20.126.303/0000	2 - 217

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



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

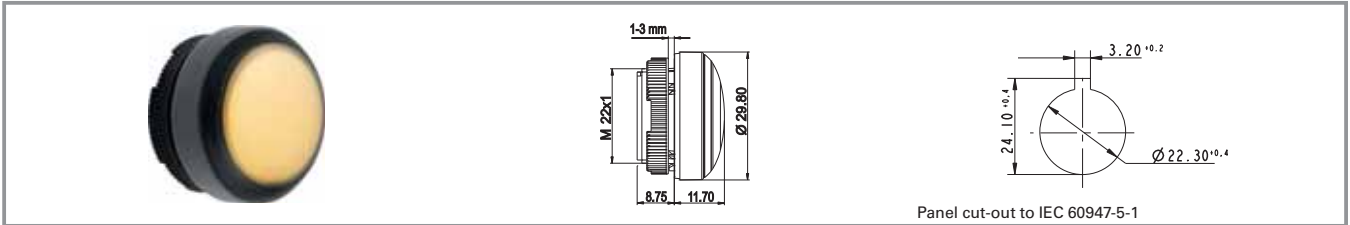
Technical data see page 2 - 184

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



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.

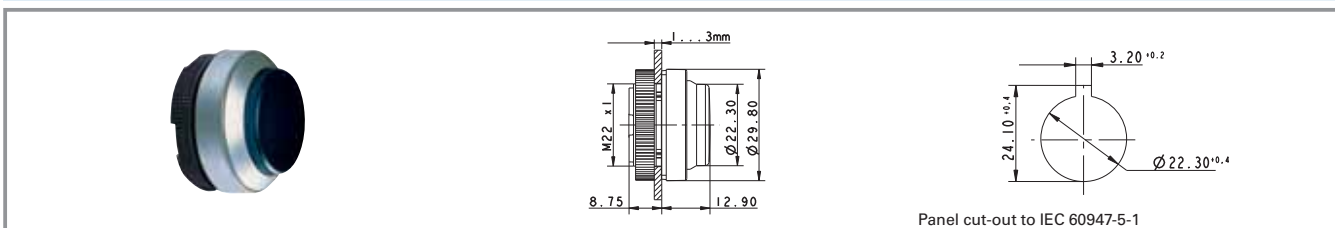
xx = colour of front ring: black = 01, silver grey = 08

Legending on request.

2

RAFIX
22 FS

RAFIX 22 FS - Pushbutton, protruding lens, round collar



Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.250.201/10xx	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

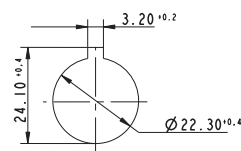
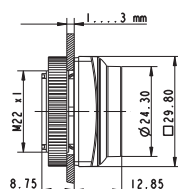
xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

Legending on request.

2

RAFIX
22 FS

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



Panel cut-out to IEC 60947-5-1

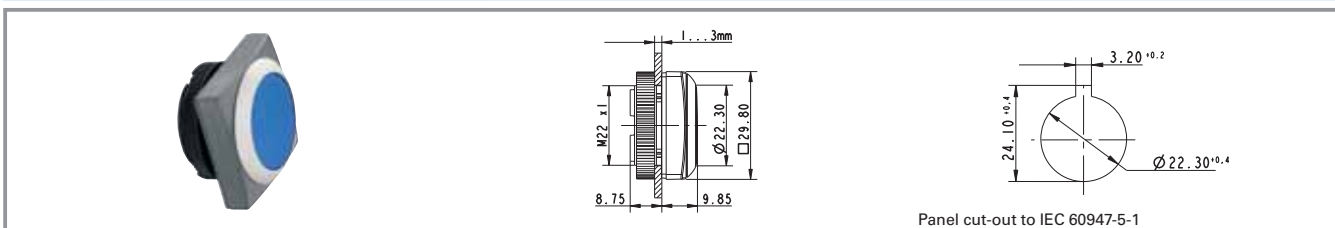
Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.250.401/10xx	1.30.250.421/1000	-	-
yes	transparent red	1.30.250.401/13xx	1.30.250.421/1300	-	-
yes	transparent yellow	1.30.250.401/14xx	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.

RAFIX 22 FS - Pushbutton, flush lens, square collar



Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.250.051/10xx	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

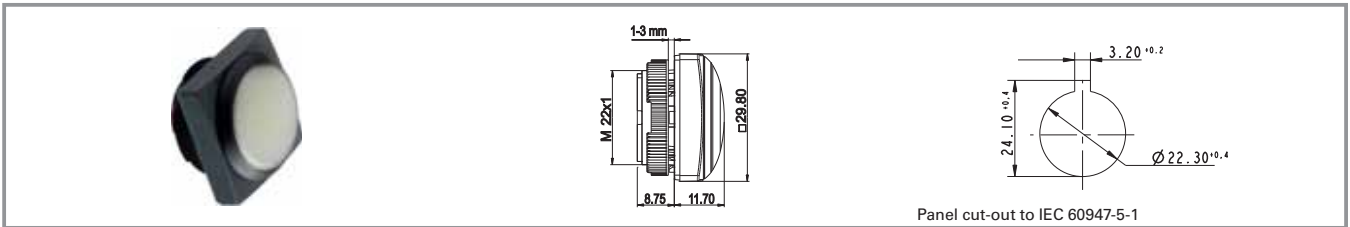
Legending on request.

2

RAFIX
22 FS

NEW

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



Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.250.055/10xx	-	-	-
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	-	-	-

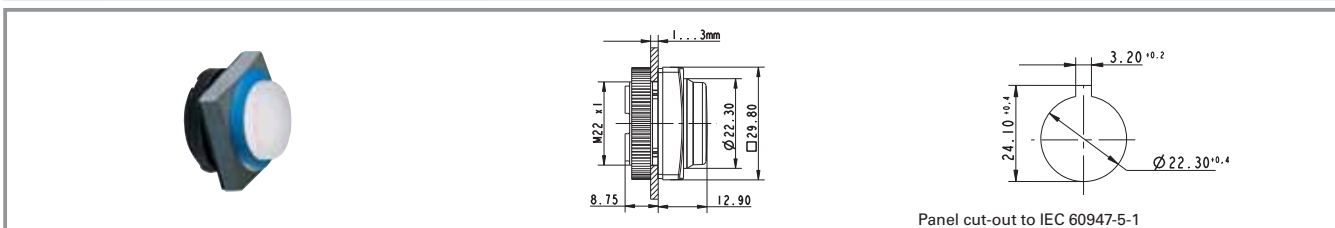
Technical data see page 2 - 184

Pushbutton with protectice cap for use under rugged conditions.

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

Legending on request.

RAFIX 22 FS - Pushbutton, protruding lens, square collar



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

Technical data see page 2 - 184

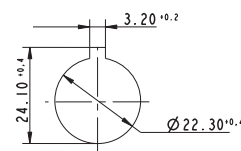
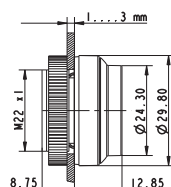
xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

Legending on request.

2

RAFIX
22 FS

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.

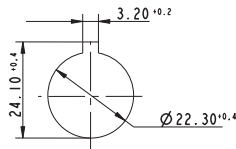
RAFIX 22 FS - Selector switches



Pict.: Front ring, silver grey, illuminated



Front ring, metallized, non-illuminated



Panel cut-out to IEC 60947-5-1

2

General Data

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

Technical Data

General information

Actuator	handle
Marking of handle	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
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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 resistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Salt spray	IEC 600 68-2-11

RAFIX
22 FS

Approvals



IEC 60947-5-x,
60904, 60073



UL 508, C22.2 No.
14-M91

Typical accessories RAFIX 22 FS - Selector switches

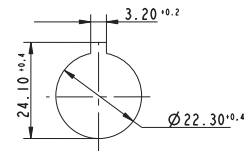
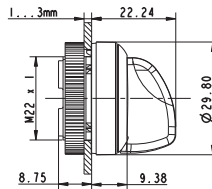
Description	Photo	Order no.	Additional accessories see page
RAFIX 22 FS - Universal contact block, 1 NO		1.20.126.002/0000	2 - 220
RAFIX 22 FS - Contact block with quick-connect terminals, gold contacts		1.20.126.103/0000	2 - 215
RAFIX 22 FS - Universal contact block, silver contacts, 1 NC		1.20.126.201/0000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

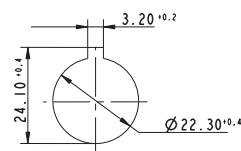
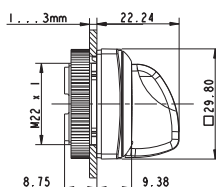
Other contact functions and handle marking colours available on request.

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

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

2

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
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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 resistance	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

RAFIX
22 FS

Approvals



IEC 60947-5-x,
60904, 60073



UL 508, C22.2 No.
14-M91

Typical accessories RAFIX 22 FS - Keylock switch

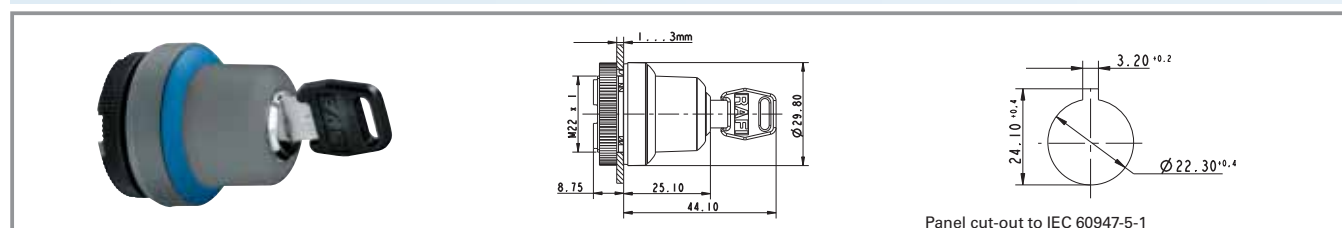
Description	Photo	Order no.	Additional accessories see page
RAFIX 22 FS - Universal contact block, 1 NC		1.20.126.001/0000	2 - 220

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



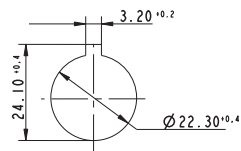
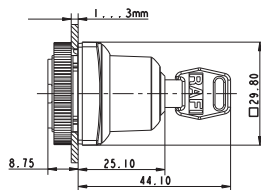
Contact function	Rotating angle	Key removal position	Rotating angle	Order no.	
				Plastic front ring	Metallized front ring
momentary	1 x 40°	0		1.30.255.001/xxxx	1.30.255.002/0000
momentary	2 x 40°	0		1.30.255.101/xxxx	1.30.255.102/0000
latching	1 x 90°, form L	0		1.30.255.201/xxxx	1.30.255.202/0000
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

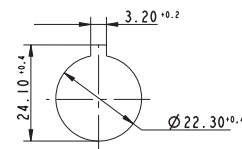
Contact function	Rotating angle	Key removal position	Rotating angle	Order no.	
				Plastic front ring	Metallized front ring
momentary	1 x 40°	0		1.30.255.051/xxxx	1.30.255.052/0000
momentary	2 x 40°	0		1.30.255.151/xxxx	1.30.255.152/0000
latching	1 x 90°, form L	0		1.30.255.251/xxxx	1.30.255.252/0000
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.

RAFIX 22 FS - Emergency stop pushbutton



Panel cut-out to IEC 60947-5-1

2

General Data

The emergency stop pushbuttons comply with IEC 60 204, IEC 60 073, IEC 60 947 and VDE 0113 Part 1. They are designed dupe-proof according to EN 418 with a positive mechanical movement sequence. A certain operating force must be exerted at the action point in order to prevent inadvertent operation. The pushbutton latches when pressed.

The special shape of the actuator prevents the emergency stop pushbutton from being blocked. This means that the emergency stop process - once initiated - cannot be impeded by any jamming objects. Please only combine „emergency stop“ contact block.

RAFIX
22 FS

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
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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 resistance	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

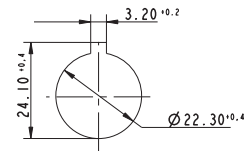
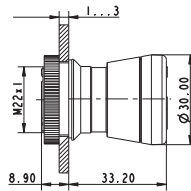
Typical accessories RAFIX 22 FS - Emergency stop pushbutton

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

2

RAFIX
22 FS

RAFIX 22 FS - Emergency stop pushbutton, reset by rotation

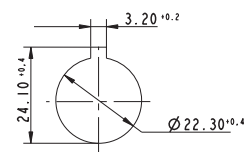
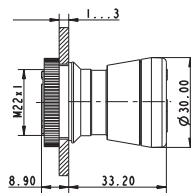


Panel cut-out to IEC 60947-5-1

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



An Attractive Hit

E-Box – the Attractive Emergency Stop Unit

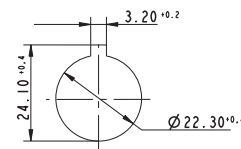
Better slim than chunky! This attractive emergency stop unit is an enhancement for any application: An elegant flat housing, suitable for 40 mm DIN rails with integrated RAFIX 22 FS emergency stop switch.

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

RAFI GmbH & Co. KG
D-88276 Berg/Ravensburg
Phone: +49 751 89-0, Fax: +49 751 89-13 00
www.rafi.de, info@rafi.de

RAFI
SOLUTIONS WITH PASSION

NEW RAFIX 22 FS - Emergency stop pushbutton „Plus 1“



Panel cut-out to IEC 60947-5-1

2

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 resistance	acc. to IEC 60068-2-14, -30, -33 and -78
Salt spray	IEC 600 68-2-11

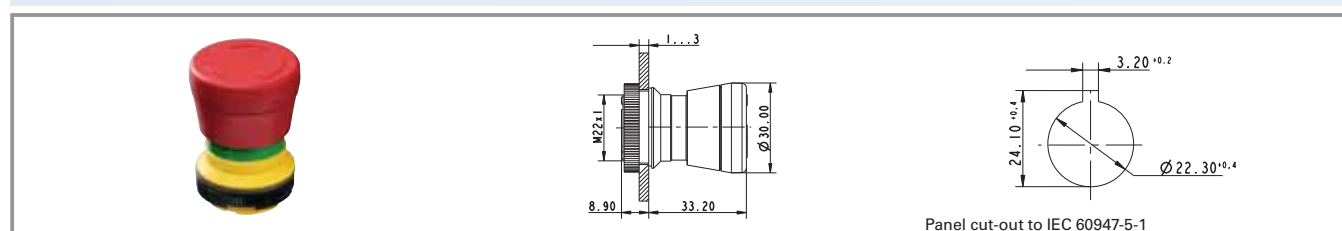
Typical accessories RAFIX 22 FS emergency stop pushbutton „Plus 1“

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

NEW



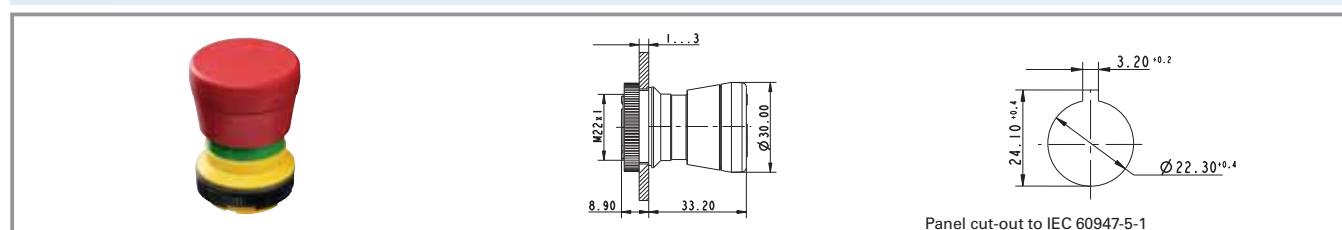
RAFIX
22 FS

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



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

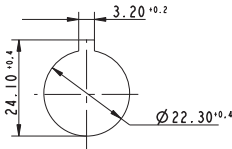
RAFIX 22 FS - Potentiometer drive



Pict.: mounted



delivery content



Panel cut-out to IEC 60947-5-1

2

Technical Data

General information

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

Dimensions

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 resistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Salt spray	IEC 600 68-2-11

RAFIX 22 FS

Approvals



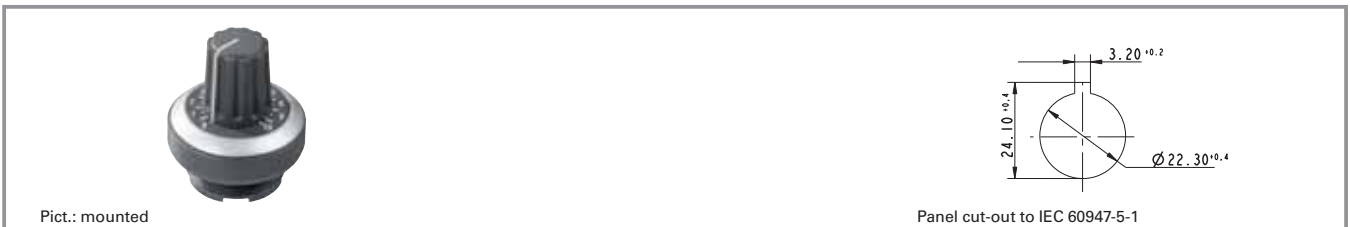
IEC 60947-5-x,
60904, 60073

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

RAFIX 22 FS - Potentiometer drive, round collar

NEW



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

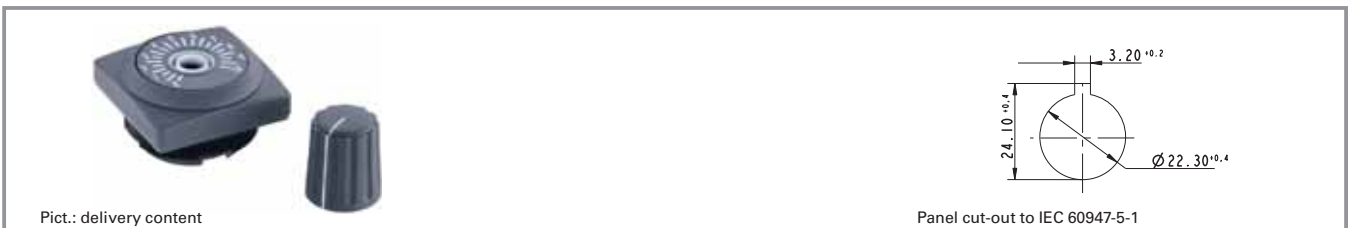
Technical data see page 2 - 208

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

2

RAFIX 22 FS - Potentiometer drive, square collar

NEW



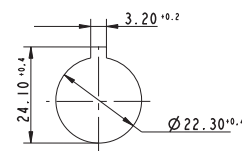
Front ring	Colour of knob	Order no.
plastic slate-grey	opaque slate-grey	1.30.258.021/0700

Technical data see page 2 - 208

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

RAFIX
22 FS

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 resistance	acc. to IEC 60068-2-14, -30, -33 and -78
Salt spray	IEC 600 68-2-11

Approvals



IEC 60947-5-x,
60904, 60073

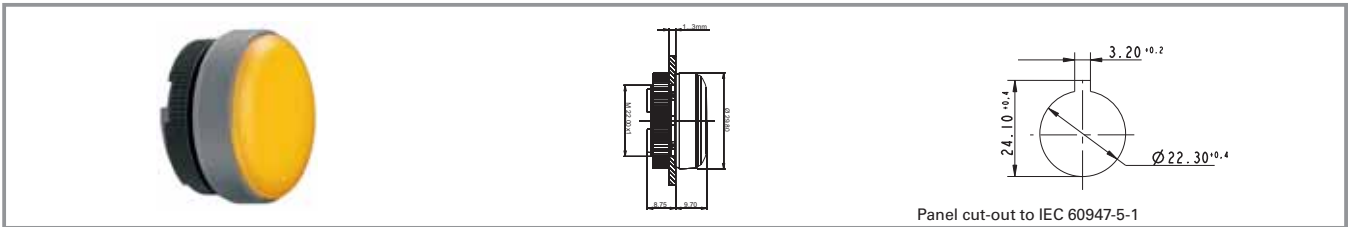


UL 508, C22.2 No.
14-M91

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

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



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

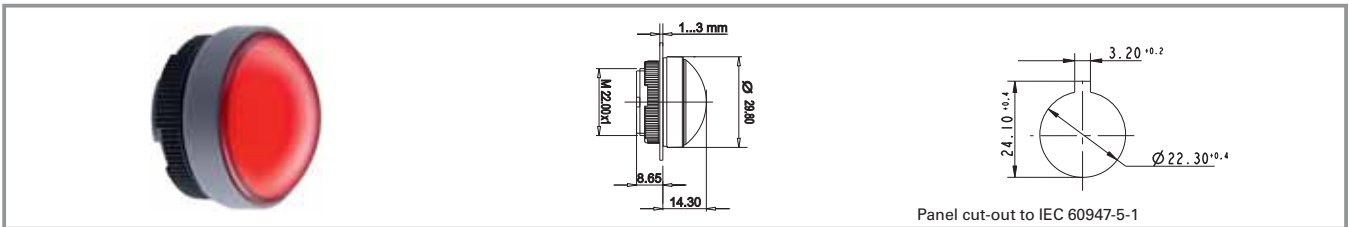
Legending on request.

2

RAFIX
22 FS

NEW

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

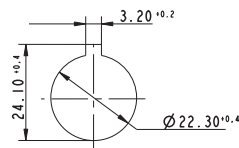
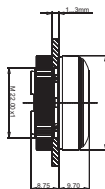


form of collar	Colour of lens	Order no.
round	transparent colourless	1.74.506.011/1000
round	transparent red	1.74.506.011/1300
round	transparent yellow	1.74.506.011/1400
round	transparent green	1.74.506.011/1500
round	transparent blue	1.74.506.011/1600

Technical data see page 2 - 210

Legending on request

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

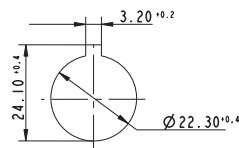
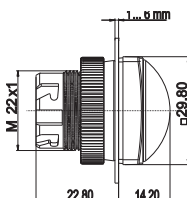
Technical data see page 2 - 210

Legending on request.

RAFIX
22 FS

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.

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



2

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

RAFIX
22 FS

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 yes
acc. to IEC 60947-5-1
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 10×10^{-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 resistance 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

2

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

NEW

RAFIX
22 FS



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



2

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 yes
acc. to IEC 60947-5-1
Terminals quick connect terminals
2.8 x 0.5 mm

Robustness 100 N

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

Rated insulation voltage 250 V
AC/DC
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

Resistance to vibrations 5 g at 10 ... 500 Hz
acc. to IEC 60068-2-6

Environmental resistance acc. to IEC 60068-2 -14, -30, -33 and -78 V 0
yes

Flame class acc. to UL 94

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

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



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

2

General Data

Illumination information:

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

We recommend using superbright LED since this ensures homogeneous illumination.

Technical Data

RAFIX
22 FS

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 yes

acc. to IEC 60947-5-1
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 10×10^{-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 5 g at 10 ... 500 Hz

acc. to IEC 60068-2-6

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

Solderability / solder heat resistance IEC 600 68-2-20

Solder techniques

see order block

grey

Colour of housing

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.

RAFIX 22 FS - Contact block for PCB with silver contacts



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

Universal, Ag contacts, 1 NC

2

General Data

Illumination information:

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

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

Technical Data

RAFIX
22 FS

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 yes
Terminals THT solder terminals with locating lug
Robustness 100 N

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

Rated insulation voltage 250 V
AC/DC
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 resistance 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 contacts, 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.

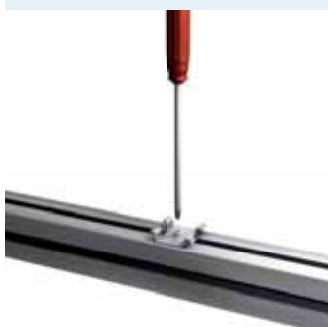


The RAFIX 22 FS E-Box is an elegant, extremely well-designed housing for control components. It can be used wherever individual control component units are required in remote places. Very typical, for example, for Emergency-Stop applications along a production line or on the safety fence.

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.

2

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



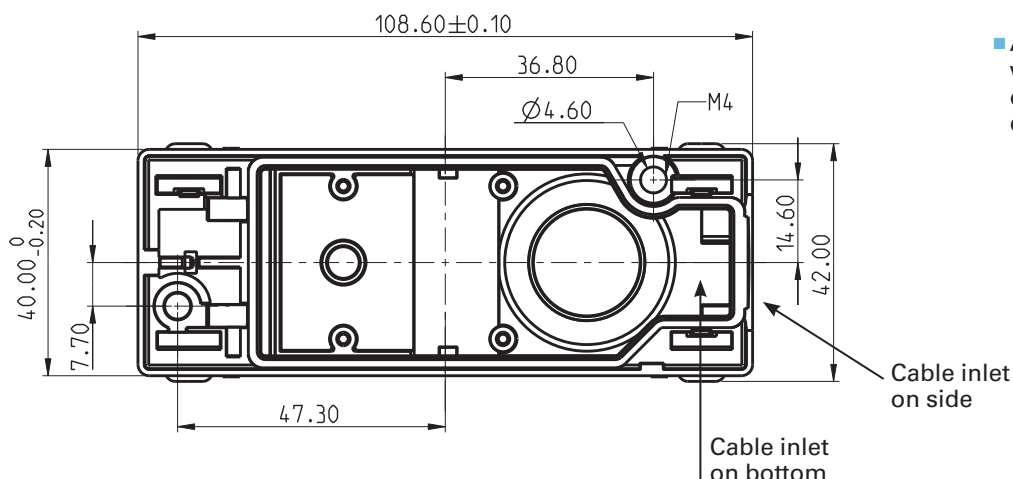
- Insert RAFIX 22 FS actuator (e.g. Emergency-Stop) into housing top part
- Fix actuator with a ring nut



- Snap housing top part onto bottom part. Done!

RAFIX
 22 FS

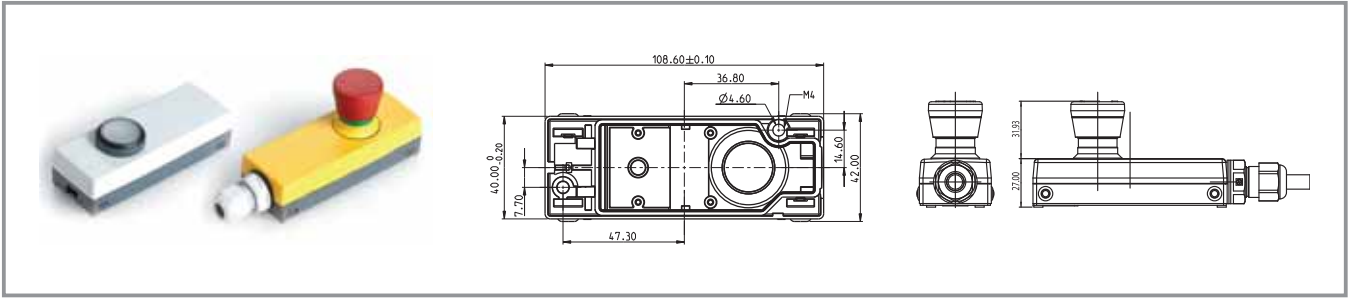
Drilling pattern for direct mounting with screws



- 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



2

General Data

- Extremely compact (dimensions 109 x 40 x 27 mm)
- Suitable for actuator from the RAFIX 22 FS control unit range (mounting hole $\varnothing 22.3$ 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		Other specifications	
Colour of housing cap	see order block	Protection as per EN 60529	IP 65
Dimensions		Protection class	II
Dimensions	109 x 40 x 27 mm	Temperature range	as per IEC 60947-5-1, depending on actuators used
Mounting hole	22.3 mm		
Mechanical design			
Cable attachment	see order block		

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

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

2

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

RAFIX
22 FS

NEW

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



2

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

RAFIX
22 FS

General information		Ambient temp. operating min.		-25 °C
Lamp optional		Ambient temp. operating max.		+70 °C
		Storage temperature min.		-40 °C
		Storage temperature max.		+80
Mechanical design		Colour of plunger		see order block
Contact system		Robustness		acc. to IEC 60947-5-5 (TÜV)
Contact materials		Shock resistance acc. to IEC 60068-2-27		50 g at 11 ms, amplitude half sinusoidal
Contact arrangement		Resistance to vibrations acc. to IEC 60068-2-6		5 g at 10 ... 500 Hz
NC contact forcibly actuated acc. to IEC 60947-5-1		Environmental resistance		acc. to IEC 60068-2 -14, -30, -33 and -78
Robustness		Type		see order block
Electrical characteristics		Colour of housing		grey
Operating voltage AC/DC min.	5 V	LED / colour		see order block
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			

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

2

NEW

RAFIX
22 FS

NEW RAFX 22 FS - E-Box contact modules for standard applications



2

RAFIX
22 FS

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



2

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

RAFIX
22 FS

General information		Operating life at 250V / 4A	30,000
Lamp optional	LED	Switching reliability at 24V/5mA DC	10 x 10 ⁻⁶
Mechanical design		Ambient temp. operating min.	-25 °C
Contact system	bridge-contact self cleaning	Ambient temp. operating max.	+70 °C
Contact materials	Ag	Storage temperature min.	-40 °C
Contact arrangement	see order block	Storage temperature max.	+80 °C
NC contact forcibly actuated acc. to IEC 60947-5-1	yes	Colour of plunger	see order block
Robustness	100 N	Marine classifications	on request
Electrical characteristics acc. to IEC 60947, AC-15, DC-13		Robustness	acc. to IEC 60947-5-5 (TÜV)
Rated insulation voltage AC/DC	250 V	Shock resistance acc. to IEC 60068-2-27	50 g at 11 ms, amplitude half sinusoidal
Rated peak voltage	2500 V	Resistance to vibrations acc. to IEC 60068-2-6	5 g at 10 ... 500 Hz
Rated operating current I _E , AC15 B300	3 A/120 V; 1.5 A/240 V; I _{the} : 5 A	Environmental resistance	acc. to IEC 60068-2 -14, -30, -33 and -78
Rated operating current I _E , DC13 Q300	550 mA/120 V; 270mA/240 V; I _{the} : 2.5 A	Flame class acc. to UL 94	V 0
Other specifications		Hot wire ignition acc. to IEC 60695-2-1	yes
Operating life at 250V / 1A	1,000,000	Type	see order block
Operating life at 250V / 2A	100,000	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



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

2

NEW

RAFIX
22 FS

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



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

NEW

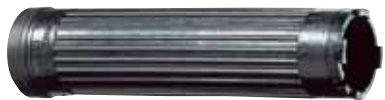
RAFIX 22 FS - Special accessories



Pict.: square

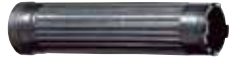


LED yellow



2

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

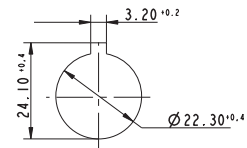
Blanking cap Ø 22.3 mm



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

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

NEW

 RAFIX
22 FS

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

2

RAFIX
22 FS

LED 3 mm, without base



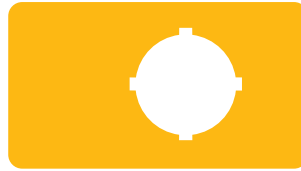
Socket	Colour	Forward voltage typ. U_F at I_F	Max. current, I_F	Light intensity	Order no.	Accessoires lamp extractor
without socket	red	1,6 V/1 mA	30 mA	-	1.90.690.228/0000	-
without socket	yellow	1,9 V/20 mA	50 mA	-	1.90.690.267/0000	-
without socket	red	1,9 V/20 mA	50 mA	-	1.90.690.269/0000	-
without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

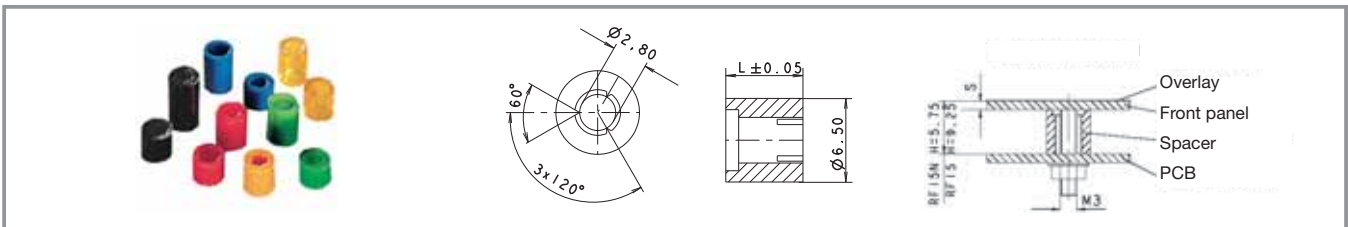
2

RAFIX
22 FS

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

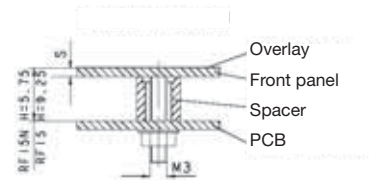
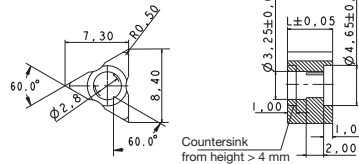
Degree of protection: Rigid PVC: IP40, adhesive foil: IP65

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

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).