


**General data**
**RAFIX 22 FS control component range**

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

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

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

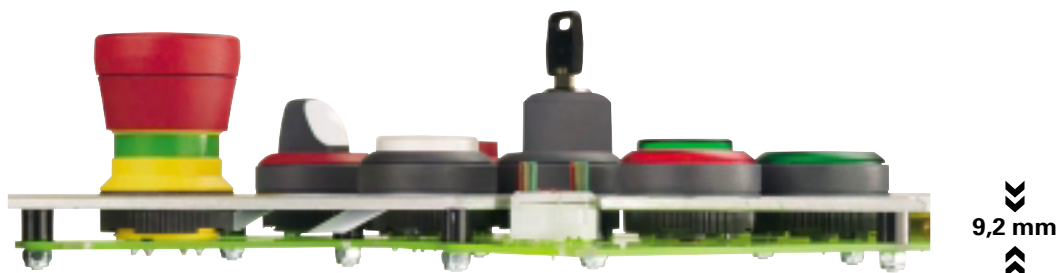
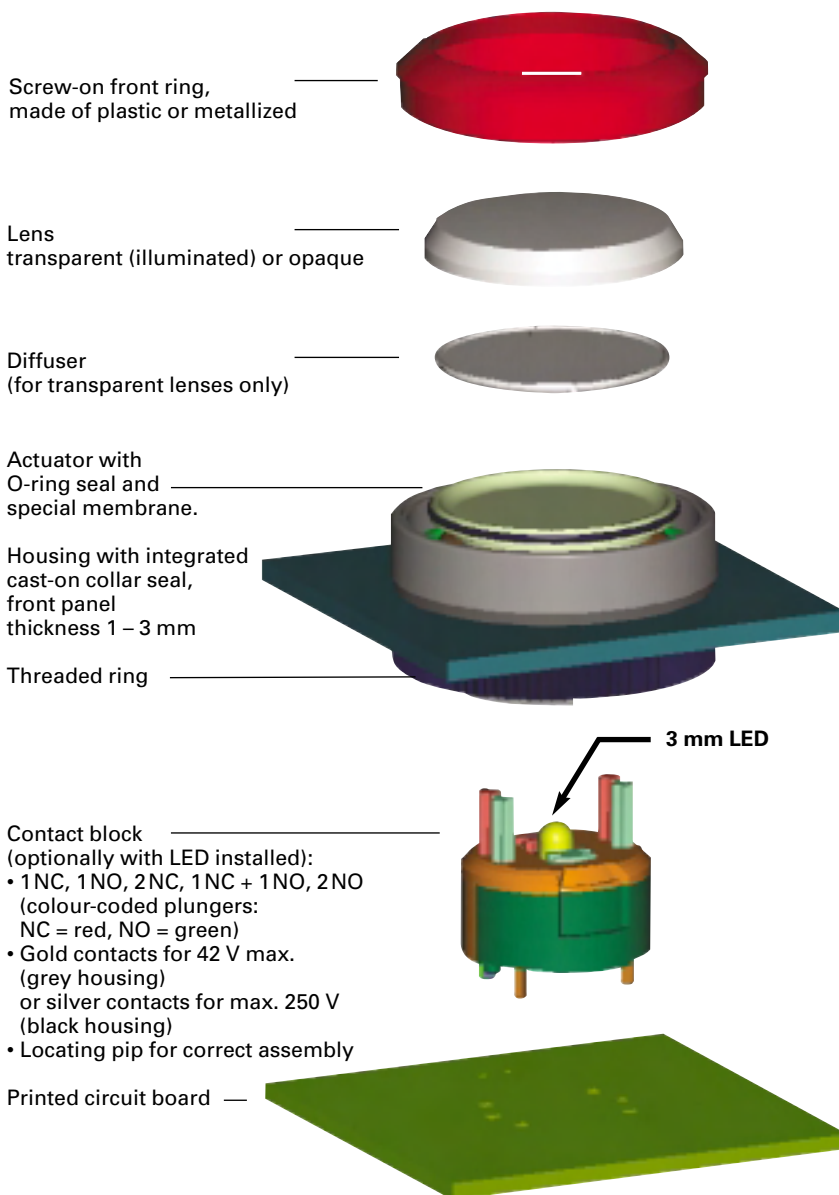
# 2

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

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

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



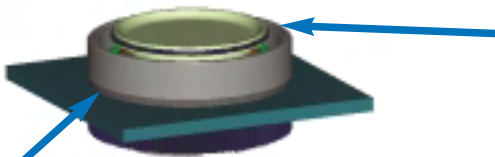


### Combined with short-travel keys

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

### Illumination

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

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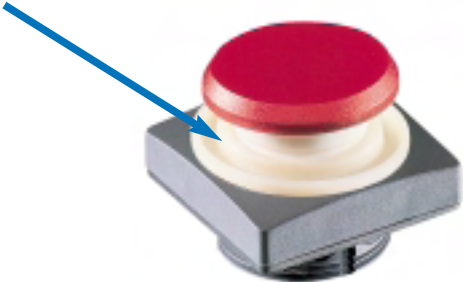
**Cast-on  
collar seal**

### Sealed against moisture and dirt

#### O-ring seal

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

**Special sealing**

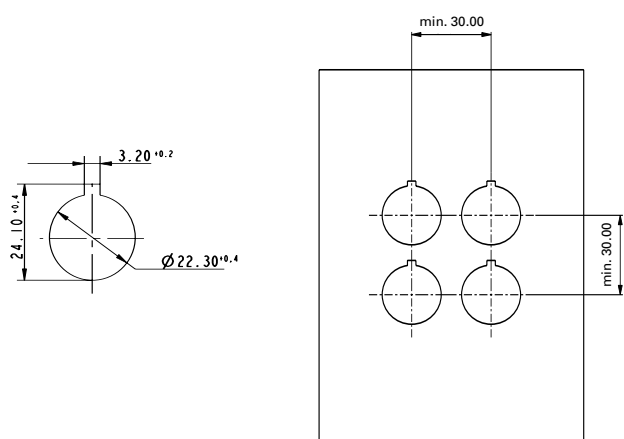


The special membrane seal safely prevents moisture, oil or dust from reaching the contact block. In contrast with seals sliding up and down along the shaft, the special membrane seal is arranged in a fixed position on the housing. In this way, RAFX 22 FS guarantees switching reliability for the full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



### Numerous design options for individual panels

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



### Panel cut-out to IEC 60947

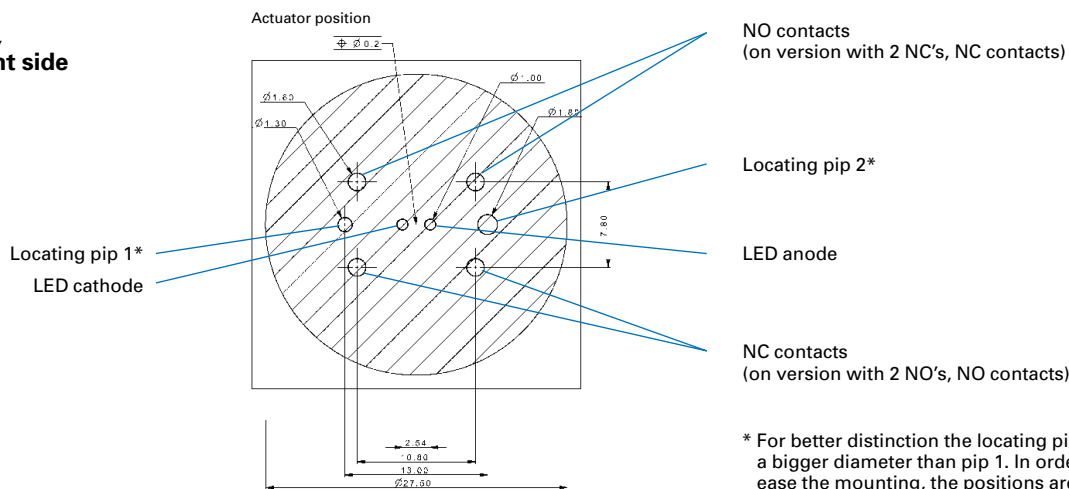
All actuators are provided with a locating pip.

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

### Assembly indication

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

### Hole patterns PCB, view on component side



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

Locating pip 2\*

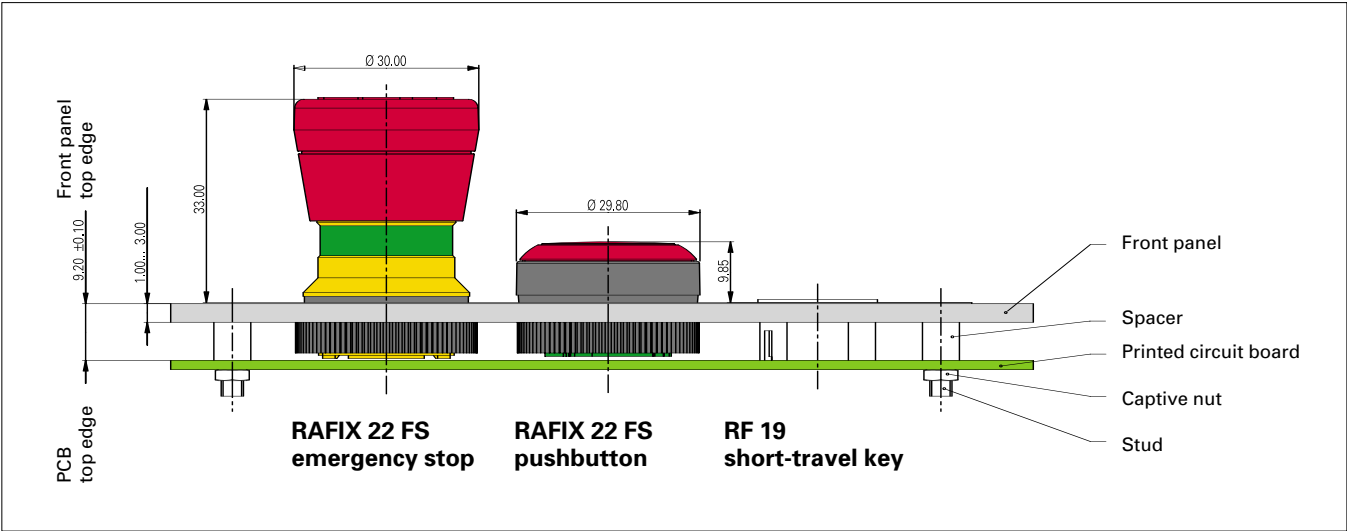
LED anode

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

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



**Installation drawing**



**2**

**RAFIX 22 FS**

### RAFIX 22 FS pushbuttons



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### Technical data

#### General information

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

#### Dimensions

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

#### Mechanical design

Mounting	ring nut
Contact function	see order block
Illuminability	yes

#### Mechanical characteristics

Operating travel	4 mm
Robustness min.	100 N

#### Other specifications

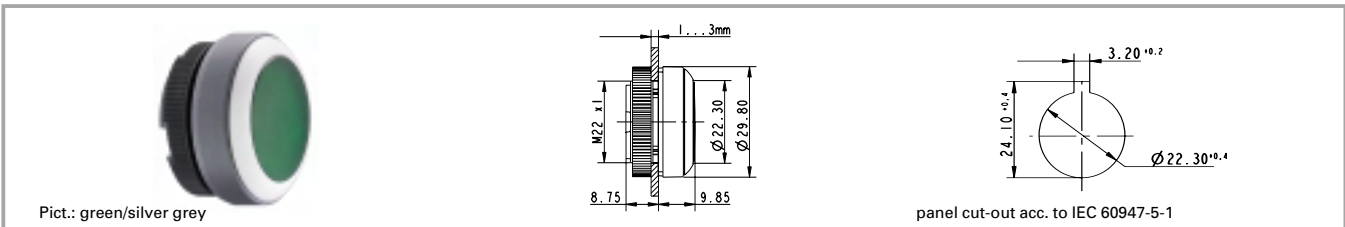
Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Operating life	1 million momentary/ 0,5 million latching
Degree of protection from front side	IP65
Resistance to constant environment	IEC 60068-2-3 and 2-30
Resistance at variable environment	IEC 60068-2-14 and 2-33

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### Accessories RAFIX 22 FS pushbuttons

Description	Photo	Order no.	Page
RAFIX 22 FS universal contact block, 1 NC + 1 NO, gold contacts		<b>1.20.126.003/0000</b>	2 - 189
RAFIX 22 FS universal contact block, silver contacts, 1 NO		<b>1.20.126.202/0000</b>	2 - 191
Fixing spanner for ring nut and front ring		<b>5.05.800.062/0000</b>	5 - 25

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	<b>1.30.250.021/1000</b>	1.30.250.011/10xx	<b>1.30.250.031/1000</b>
yes	transparent red	1.30.250.001/13xx	<b>1.30.250.021/1300</b>	1.30.250.011/13xx	<b>1.30.250.031/1300</b>
yes	transparent yellow	1.30.250.001/14xx	<b>1.30.250.021/1400</b>	1.30.250.011/14xx	<b>1.30.250.031/1400</b>
yes	transparent green	1.30.250.001/15xx	<b>1.30.250.021/1500</b>	1.30.250.011/15xx	<b>1.30.250.031/1500</b>
yes	transparent blue	1.30.250.001/16xx	<b>1.30.250.021/1600</b>	1.30.250.011/16xx	<b>1.30.250.031/1600</b>
no	opaque black	1.30.250.101/01xx	<b>1.30.250.121/0100</b>	1.30.250.111/01xx	1.30.250.131/0100
no	opaque white	1.30.250.101/02xx	<b>1.30.250.121/0200</b>	1.30.250.111/02xx	1.30.250.131/0200
no	opaque red	1.30.250.101/03xx	<b>1.30.250.121/0300</b>	1.30.250.111/03xx	1.30.250.131/0300
no	opaque yellow	1.30.250.101/04xx	<b>1.30.250.121/0400</b>	1.30.250.111/04xx	1.30.250.131/0400
no	opaque green	1.30.250.101/05xx	<b>1.30.250.121/0500</b>	1.30.250.111/05xx	1.30.250.131/0500
no	opaque blue	1.30.250.101/06xx	<b>1.30.250.121/0600</b>	1.30.250.111/06xx	1.30.250.131/0600
no	opaque slate-grey	1.30.250.101/07xx	<b>1.30.250.121/0700</b>	1.30.250.111/07xx	1.30.250.131/0700

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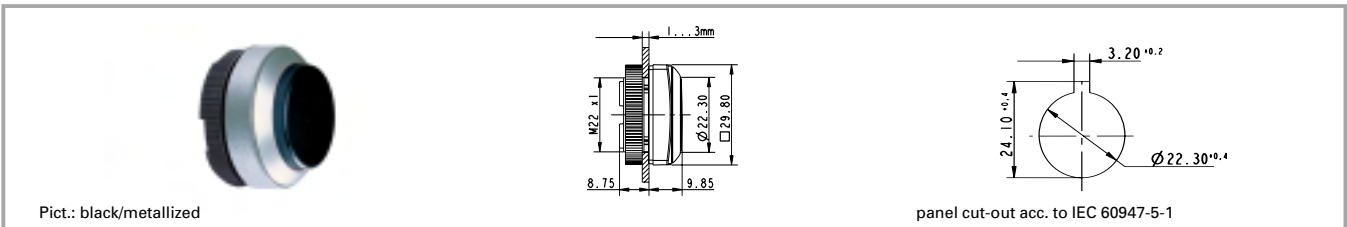
**Accessories:**

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

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

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

### RAFIX 22 FS pushbutton, protruding lens, round collar



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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	<b>1.30.250.221/1000</b>	1.30.250.211/10xx	<b>1.30.250.231/1000</b>
yes	transparent red	1.30.250.201/13xx	<b>1.30.250.221/1300</b>	1.30.250.211/13xx	<b>1.30.250.231/1300</b>
yes	transparent yellow	1.30.250.201/14xx	<b>1.30.250.221/1400</b>	1.30.250.211/14xx	<b>1.30.250.231/1400</b>
yes	transparent green	1.30.250.201/15xx	<b>1.30.250.221/1500</b>	1.30.250.211/15xx	<b>1.30.250.231/1500</b>
yes	transparent blue	1.30.250.201/16xx	<b>1.30.250.221/1600</b>	1.30.250.211/16xx	<b>1.30.250.231/1600</b>
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

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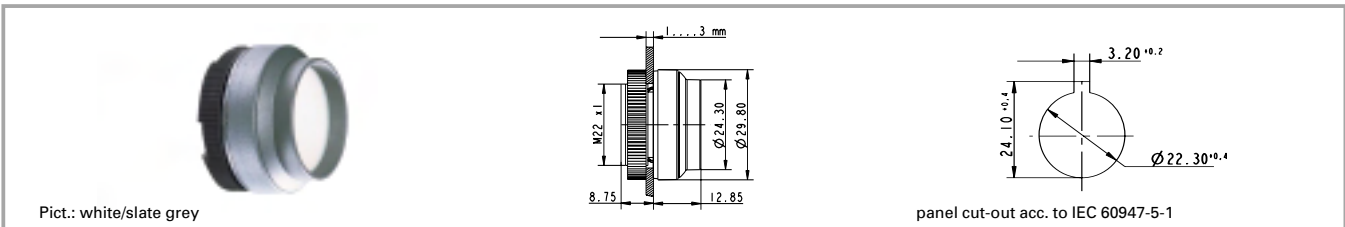
**Accessories:**

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

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

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



**RAFIX 22 FS pushbutton, protruding front ring, round collar**


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

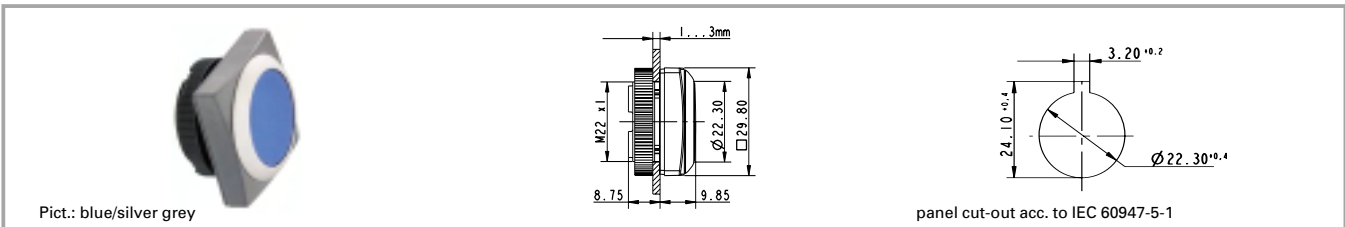
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**Accessories:**

Legend insert without legend: 5.70.800.000/2000

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

### RAFIX 22 FS 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	<b>1.30.250.071/1000</b>	1.30.250.061/10xx	<b>1.30.250.081/1000</b>
yes	transparent red	1.30.250.051/13xx	<b>1.30.250.071/1300</b>	1.30.250.061/13xx	<b>1.30.250.081/1300</b>
yes	transparent yellow	1.30.250.051/14xx	<b>1.30.250.071/1400</b>	1.30.250.061/14xx	<b>1.30.250.081/1400</b>
yes	transparent green	1.30.250.051/15xx	<b>1.30.250.071/1500</b>	1.30.250.061/15xx	<b>1.30.250.081/1500</b>
yes	transparent blue	1.30.250.051/16xx	<b>1.30.250.071/1600</b>	1.30.250.061/16xx	<b>1.30.250.081/1600</b>
no	opaque black	1.30.250.151/01xx	<b>1.30.250.171/0100</b>	1.30.250.161/01xx	1.30.250.181/0100
no	opaque white	1.30.250.151/02xx	<b>1.30.250.171/0200</b>	1.30.250.161/02xx	1.30.250.181/0200
no	opaque red	1.30.250.151/03xx	<b>1.30.250.171/0300</b>	1.30.250.161/03xx	1.30.250.181/0300
no	opaque yellow	1.30.250.151/04xx	<b>1.30.250.171/0400</b>	1.30.250.161/04xx	1.30.250.181/0400
no	opaque green	1.30.250.151/05xx	<b>1.30.250.171/0500</b>	1.30.250.161/05xx	1.30.250.181/0500
no	opaque blue	1.30.250.151/06xx	<b>1.30.250.171/0600</b>	1.30.250.161/06xx	1.30.250.181/0600
no	opaque slate-grey	1.30.250.151/07xx	<b>1.30.250.171/0700</b>	1.30.250.161/07xx	1.30.250.181/0700

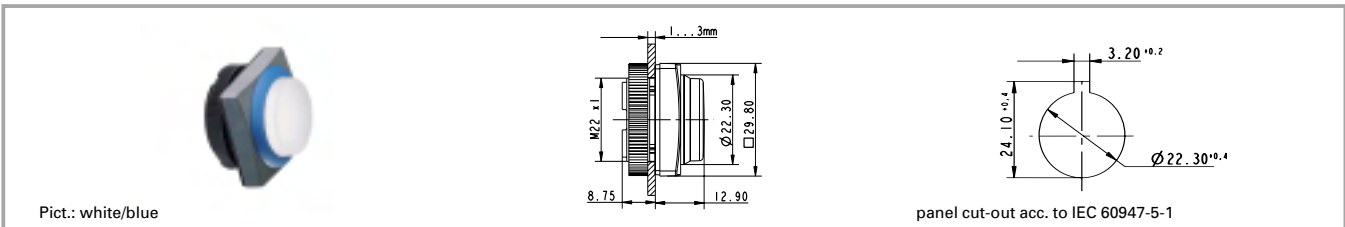
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#### Accessories:

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

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

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

**RAFIX 22 FS pushbutton, protruding lens, square collar**


Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.250.251/10xx	<b>1.30.250.271/1000</b>	1.30.250.261/10xx	<b>1.30.250.281/1000</b>
yes	transparent red	1.30.250.251/13xx	<b>1.30.250.271/1300</b>	1.30.250.261/13xx	<b>1.30.250.281/1300</b>
yes	transparent yellow	1.30.250.251/14xx	<b>1.30.250.271/1400</b>	1.30.250.261/14xx	<b>1.30.250.281/1400</b>
yes	transparent green	1.30.250.251/15xx	<b>1.30.250.271/1500</b>	1.30.250.261/15xx	<b>1.30.250.281/1500</b>
yes	transparent blue	1.30.250.251/16xx	<b>1.30.250.271/1600</b>	1.30.250.261/16xx	<b>1.30.250.281/1600</b>
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

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**Accessories:**

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

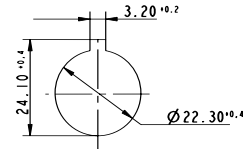
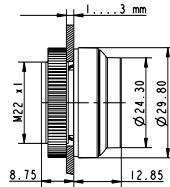
xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

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

### RAFIX 22 FS pushbutton, protruding front ring



Pict.: green/metalized



panel cut-out acc. 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		

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**Accessories:**

Legend insert without legend: 5.70.800.000/2000

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

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RAFIX  
22 FS

### RAFIX 22 FS selector switches



Pict.: Front ring, silver grey, illuminated

non-illuminated

Einbauöffnung nach 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

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

#### Dimensions

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

#### Mechanical design

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

#### Mechanical characteristics

Torque max.	1.5 Nm
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#### Other specifications

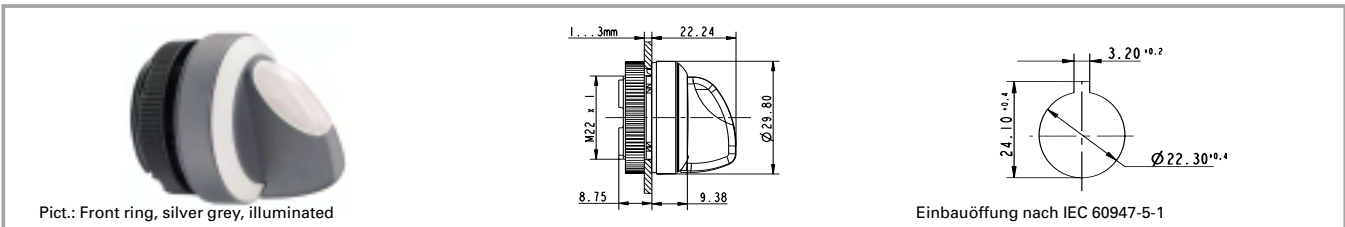
Operating life	0.5 million momentary / 0.5 million latching
Degree of protection from front side	IP65
Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Resistance to constant environment	IEC 600 68-2-3 and 2-30
Resistance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

RAFIX  
22 FS

### Accessories RAFIX 22 FS selector switches

Description	Photo	Order no.	Page
RAFIX 22 FS universal contact block, 1 NO		<b>1.20.126.002/0000</b>	2 - 189
RAFIX 22 FS universal contact block, silver contacts, 1 NC		<b>1.20.126.201/0000</b>	2 - 191

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

**RAFIX 22 FS selector switch, round collar**


Illuminability	Contact function	Rotating angle	Drehwinkel	Order no.	
				Plastic front ring	Metal front ring
yes	momentary	1 x 40°		1.30.252.001/22xx	<b>1.30.252.002/2200</b>
yes	momentary	2 x 40°		1.30.252.026/22xx	<b>1.30.252.027/2200</b>
yes	latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°		1.30.252.426/22xx	1.30.252.427/2200
yes	latching	1 x 90°, form L		1.30.252.101/22xx	<b>1.30.252.102/2200</b>
yes	latching	1 x 90°, form V		1.30.252.201/22xx	<b>1.30.252.202/2200</b>
yes	latching	2 x 60°		1.30.252.301/22xx	<b>1.30.252.302/2200</b>
yes	latching	2 x 90°		1.30.252.126/22xx	1.30.252.127/2200
no	momentary	1 x 40°		1.30.252.501/02xx	<b>1.30.252.502/0200</b>
no	momentary	2 x 40°		1.30.252.526/02xx	<b>1.30.252.527/0200</b>
no	latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°		1.30.252.926/02xx	1.30.252.927/0200
no	latching	1 x 90°, form L		1.30.252.601/02xx	<b>1.30.252.602/0200</b>
no	latching	1 x 90°, form V		1.30.252.701/02xx	<b>1.30.252.702/0200</b>
no	latching	2 x 60°		1.30.252.801/02xx	<b>1.30.252.802/0200</b>
no	latching	2 x 90°		1.30.252.626/02xx	1.30.252.627/0200

Technical data see page 2 - 176

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

Other handle marking colours available on request.

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

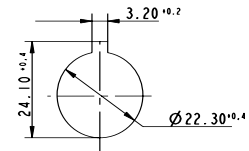
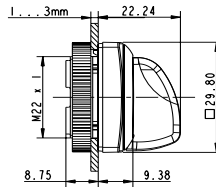
 Illuminated: **1.30.242.001/2208, 1.30.242.026/2208, 1.30.242.101/2208, 1.30.242.201/2208, 1.30.242.301/2208**

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

### RAFIX 22 FS selector switch, square collar



Pict.: Front ring, metallized, illuminated



Einbauöffnung nach IEC 60947-5-1

Illuminability	Contact function	Rotating angle	Drehwinkel	Order no.	
				Plastic front ring	Metal front ring
yes	momentary	1 x 40°		1.30.252.051/22xx	<b>1.30.252.052/2200</b>
yes	momentary	2 x 40°		1.30.252.076/22xx	<b>1.30.252.077/2200</b>
yes	latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°		1.30.252.476/22xx	1.30.252.477/2200
yes	latching	1 x 90°, form L		1.30.252.151/22xx	<b>1.30.252.152/2200</b>
yes	latching	1 x 90°, form V		1.30.252.251/22xx	<b>1.30.252.252/2200</b>
yes	latching	2 x 60°		1.30.252.351/22xx	<b>1.30.252.352/2200</b>
yes	latching	2 x 90°		1.30.252.176/22xx	1.30.252.177/2200
no	momentary	1 x 40°		1.30.252.551/02xx	<b>1.30.252.552/0200</b>
no	momentary	2 x 40°		1.30.252.576/02xx	<b>1.30.252.577/0200</b>
no	latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°		1.30.252.976/02xx	1.30.252.977/0200
no	latching	1 x 90°, form L		1.30.252.651/02xx	<b>1.30.252.652/0200</b>
no	latching	1 x 90°, form V		1.30.252.751/02xx	<b>1.30.252.752/0200</b>
no	latching	2 x 60°		1.30.252.851/02xx	<b>1.30.252.852/0200</b>
no	latching	2 x 90°		1.30.252.676/02xx	1.30.252.677/0200

Technical data see page 2 - 176

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

Other handle marking colours available on request.

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

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

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

### RAFIX 22 FS keylock switch



# 2

### Technical data

#### General information

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

#### Dimensions

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

#### Mechanical design

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

#### Mechanical characteristics

Torque max. 1.3 Nm

#### Other specifications

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

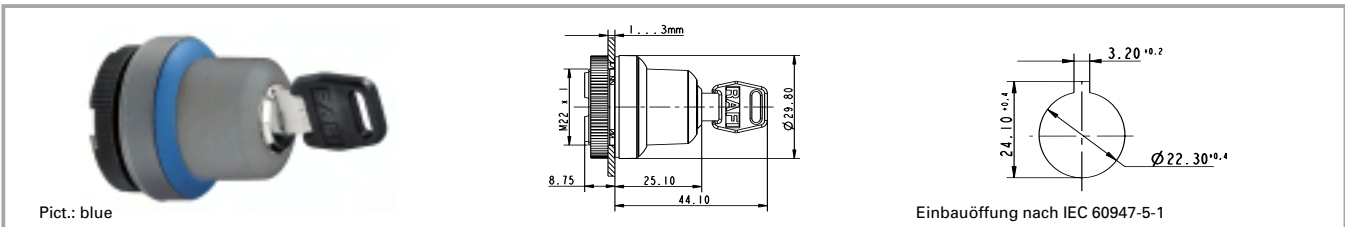
RAFIX  
22 FS

### Accessories RAFIX 22 FS keylock switch

Description	Photo	Order no.	Page
RAFIX 22 FS universal contact block, 1 NC		<b>1.20.126.001/0000</b>	2 - 189
RAFIX 22 FS universal contact block, silver contacts, 1 NC, 1 NO		<b>1.20.126.203/0000</b>	2 - 191
Fixing spanner for ring nut and front ring		<b>5.05.800.062/0000</b>	5 - 25

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



**RAFIX 22 FS keylock switch, round collar**


Contact function	Rotating angle	Key removal position	Drehwinkel	Order no.	
				Plastic front ring	Metal front ring
momentary	1 x 40°	0		1.30.255.001/xxxx	<b>1.30.255.002/0000</b>
momentary	2 x 40°	0		1.30.255.101/xxxx	1.30.255.102/0000
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
latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°	0+2		1.30.255.521/xxxx	1.30.255.522/0000
latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°	2		1.30.255.511/xxxx	1.30.255.512/0000
latching	1 x 90°, form L	0		1.30.255.201/xxxx	<b>1.30.255.202/0000</b>
latching	1 x 90°, form L	0+1		1.30.255.221/xxxx	<b>1.30.255.222/0000</b>
latching	1 x 90°, form L	1		1.30.255.211/xxxx	1.30.255.212/0000
latching	1 x 90°, form V	0		1.30.255.301/xxxx	<b>1.30.255.302/0000</b>
latching	1 x 90°, form V	0+1		1.30.255.321/xxxx	<b>1.30.255.322/0000</b>
latching	1 x 90°, form V	1		1.30.255.311/xxxx	1.30.255.312/0000
latching	2 x 90°	0		1.30.255.401/xxxx	1.30.255.402/0000
latching	2 x 90°	0+1		1.30.255.411/xxxx	1.30.255.412/0000
latching	2 x 90°	0+1+2		1.30.255.431/xxxx	<b>1.30.255.432/0000</b>
latching	2 x 90°	0+2		1.30.255.421/xxxx	1.30.255.422/0000

Technical data see page 2 - 180

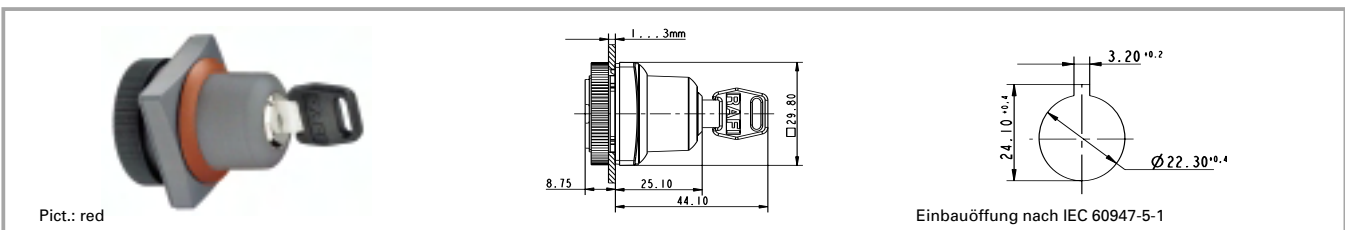
xxxx = Front ring colour: black = 0100, red = 0300, yellow = 0400, green = 0500, blue = 0600, slate grey = 0700, silver grey = 0800

Other lock variants available on request.

Included: 2 keys.

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

### RAFIX 22 FS keylock switch, square collar



2

Contact function	Rotating angle	Key removal position	Drehwinkel	Order no.	
				Plastic front ring	Metal front ring
momentary	1 x 40°	0		1.30.255.051/xxxx	<b>1.30.255.052/0000</b>
momentary	2 x 40°	0		1.30.255.151/xxxx	1.30.255.152/0000
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
latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°	0+2		1.30.255.571/xxxx	1.30.255.572/0000
latching 1 x 90° and momentary 1 x 40°	1 x 90° and 1 x 40°	2		1.30.255.561/xxxx	1.30.255.562/0000
latching	1 x 90°, form L	0		1.30.255.251/xxxx	<b>1.30.255.252/0000</b>
latching	1 x 90°, form L	0+1		1.30.255.271/xxxx	<b>1.30.255.272/0000</b>
latching	1 x 90°, form L	1		1.30.255.261/xxxx	1.30.255.262/0000
latching	1 x 90°, form V	0		1.30.255.351/xxxx	<b>1.30.255.352/0000</b>
latching	1 x 90°, form V	0+1		1.30.255.371/xxxx	<b>1.30.255.372/0000</b>
latching	1 x 90°, form V	1		1.30.255.361/xxxx	1.30.255.362/0000
latching	2 x 90°	0		1.30.255.451/xxxx	1.30.255.452/0000
latching	2 x 90°	0+1		1.30.255.461/xxxx	1.30.255.462/0000
latching	2 x 90°	0+1+2		1.30.255.481/xxxx	<b>1.30.255.482/0000</b>
latching	2 x 90°	0+2		1.30.255.471/xxxx	1.30.255.472/0000

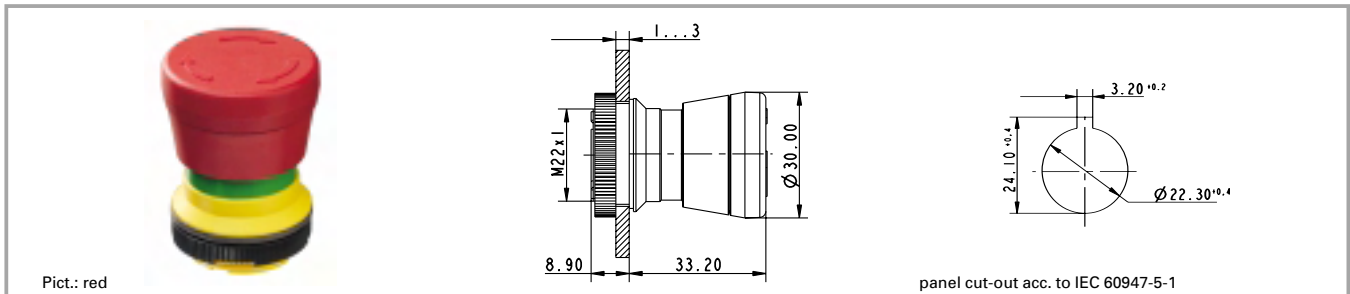
Technical data see page 2 - 180

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

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

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

## RAFIX 22 FS emergency stop pushbutton



# 2

### General data

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

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

Only use contact block 1.20.126.4xx.

### Technical data

RAFIX  
22 FS

#### General information

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

#### Dimensions

Mushroom Diameter	30 mm
Overall height	33.2 mm
Mounting depth	9.2 mm
Mounting hole	22.3 mm
Key grid	30 x 30 mm
Diameter of collar	29.8 mm

#### Mechanical design

Mounting	ring nut
Contact function	latching
Illuminability	see order block

#### Mechanical characteristics

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

#### Other specifications

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

### Accessories RAFIX 22 FS emergency stop pushbutton

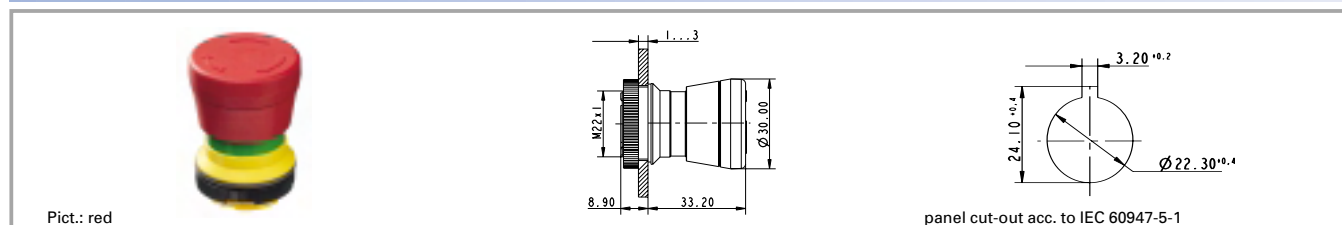
Description	Photo	Order no.	Page
RAFIX 22 FS emergency stop contact block, 1 NC, gold contacts		<b>1.20.126.401/0000</b>	2 - 189
RAFIX 22 FS emergency stop contact block, 2 NC, gold contacts		<b>1.20.126.404/0000</b>	2 - 189

## Accessories RAFIX 22 FS emergency stop pushbutton

Description	Photo	Order no.	Page
RAFIX 22 FS emergency stop contact block, silver contacts, 1 NC		<b>1.20.126.601/0000</b>	2 - 191
Fixing spanner for ring nut and front ring		<b>5.05.800.062/0000</b>	5 - 25
Emergency stop label, yellow, round 60 mm, PVC adhesive, without legend		5.76.204.100/0400	2 - 161
Emergency stop label, yellow, round 60 mm, PVC adhesive, with legend "NOT-AUS"		5.76.204.101/0400	2 - 161
Emergency stop label, yellow, round 60 mm, PVC adhesive, with legend "ARRET D'URGENCE"		5.76.204.102/0400	2 - 161
Emergency stop label, yellow, round 60 mm, PVC adhesive, with legend "EMERGENCY-STOP"		5.76.204.103/0400	2 - 161
Emergency stop label, yellow 36 x 64 mm, PVC adhesive, without legend		5.76.205.011/0400	2 - 161

2

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

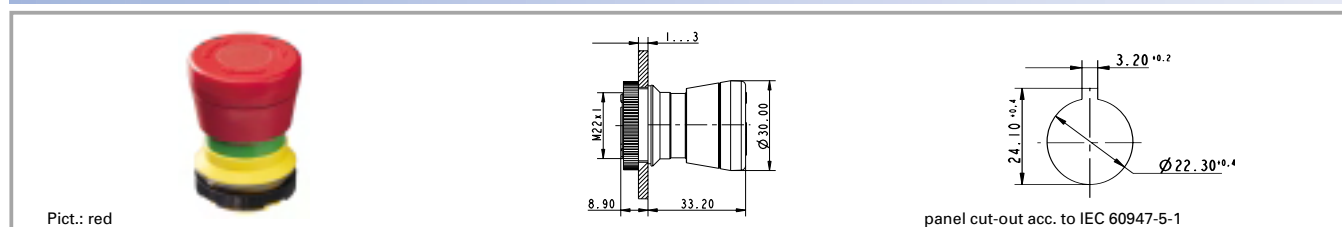


RAFIX 22 FS

Illuminability	Approvals acc. to IEC	Order no. complete
no	60947-5-x, 60204, 60073, 601058	<b>1.30.253.501/0300</b>

Technical data see page 2 - 184

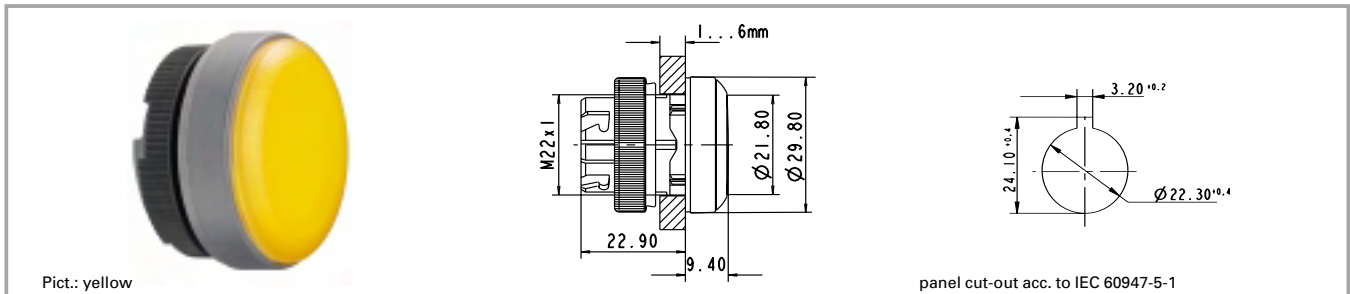
## RAFIX 22 FS emergency stop pushbutton, illuminated, dupe-proof to EN 418, non-blocking



Illuminability	Approvals acc. to IEC	Order no. complete
yes	60947-5-x, 60204, 60073, 601058	<b>1.30.253.001/0300</b>

Technical data see page 2 - 184

### RAFIX 22 FS signal indicator



# 2

### Technical data

#### General information

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

#### Dimensions

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

#### Mechanical design

Mounting: ring nut  
 Illuminability: yes

#### Mechanical characteristics

Robustness min.: 100 N

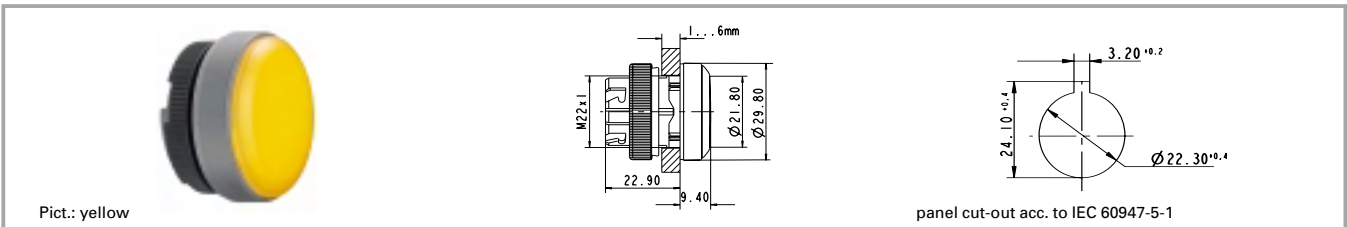
#### Other specifications

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

RAFIX  
22 FS

### Accessories RAFX 22 FS signal indicator

Description	Photo	Order no.	Page
3 mm LED superbright red		1.90.690.269/0000	5 - 21
Fixing spanner for ring nut and front ring		<b>5.05.800.062/0000</b>	5 - 25
LED base for signal indicators		5.30.109.020/0756	2 - 193
Legend insert blank		5.70.806.000/2000	

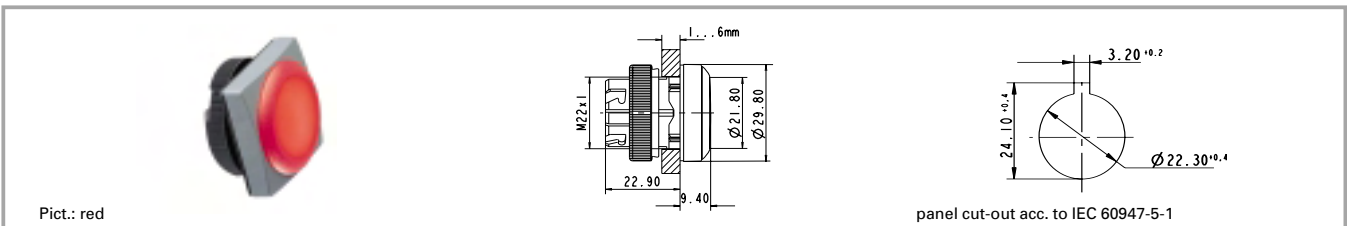
**RAFIX 22 FS signal indicator, round collar**


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

Technical data see page 2 - 186

**Accessories:**

Legend insert blank: 5.70.806.000/2000

**2**
**RAFIX 22 FS signal indicator, square collar**


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

Technical data see page 2 - 186

**Accessories:**

Legend insert blank: 5.70.806.000/2000

**RAFIX  
22 FS**

### RAFIX 22 FS contact blocks with gold contacts



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

# 2

### General data

#### Illumination information:

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

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

### Technical data

#### General information

Lamp LED

Approvals acc. to IEC

60947-5-x, 60204, 60073, 601058

Approvals, other

UL 508, CSA, cURus (UL + CSA)

#### Dimensions

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

Ambient temp. operating min.  
Ambient temp. operating max.

-25 °C  
+70 °C

#### Mechanical design

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

Storage temperature min.  
Storage temperature max.  
Colour of plunger  
Robustness

-40 °C  
+80  
see order block acc. to IEC 60947-5-5 (TÜV)

Shock resistance acc. to IEC 60068-2-27

50 g at 11 ms, amplitude half sinusoidal

#### Electrical characteristics acc. to IEC 60947, AC-15

Operating voltage AC/DC 42 V  
Operating current AC/DC 100 mA  
Rated power max. 250 mW

Resistance to vibrations acc. to IEC 60068-2-6  
Resistance to constant environment  
Resistance at variable environment  
Salt spray  
Solderability / solder heat resistance  
Solder techniques

5 g at 10 ... 500 Hz

IEC 600 68-2-3 and 2-30

IEC 600 68-2-14 and 2-33  
IEC 600 68-2-11

#### Other specifications

Operating life 1 million at 10 mA/ 24 V DC  
Switching reliability at 24V/5mA DC 10 x 10<sup>-6</sup>

Type  
Colour of housing

IEC 600 68-2-20 wave solder bath / manual soldering  
see order block grey

**Accessories RAFIX 22 FS contact blocks with gold contacts**

Description	Photo	Order no.	Page
3 mm LED superbright yellow		1.90.690.267/0000	5 - 21
3 mm LED superbright red		1.90.690.269/0000	5 - 21
3 mm LED superbright blue		1.90.690.282/0000	5 - 21
3 mm LED superbright green		1.90.690.285/0000	5 - 21
3 mm LED superbright white		1.90.690.295/0000	5 - 21

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

**RAFIX 22 FS contact block with gold contacts**


Contact arrangement	Type	Colour of housing	Colour of plunger	Order no. complete
1 NC	Universal	grey	red	<b>1.20.126.001/0000</b>
1 NO	Universal	grey	green	<b>1.20.126.002/0000</b>
1 NC + 1 NO	Universal	grey	red and green	<b>1.20.126.003/0000</b>
2 NC	Universal	grey	red	<b>1.20.126.004/0000</b>
2 NO	Universal	grey	green	<b>1.20.126.005/0000</b>
1 NC	emergency stop	grey	red	<b>1.20.126.401/0000</b>
1 NO	emergency stop	grey	green	1.20.126.402/0000
1 NC + 1 NO	emergency stop	grey	yellow	<b>1.20.126.403/0000</b>
2 NC	emergency stop	grey	red	<b>1.20.126.404/0000</b>
2 NO	emergency stop	grey	green	1.20.126.405/0000

Technical data see page 2 - 188

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



## RAFIX 22 FS contact blocks with silver contacts



Pict.: Silver contacts, 1 NC + 1 NO



Silver contacts, universal type, 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

### General information

Lamp LED

Operating life at 250V / 4A 70000

### Dimensions

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

Switching reliability at 24V/5mA DC  $10 \times 10^{-6}$

Ambient temp. operating min. -25 °C

Ambient temp. operating max. +70 °C

Storage temperature min. -40 °C

Storage temperature max. +80 °C

### Mechanical design

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

Colour of plunger see order block

Approvals acc. to IEC

60947-5-x, 60204, 60073, 601058

Approvals, other UL 508, CSA, cURus (UL + CSA)

Robustness acc. to IEC 60947-5-5 (TÜV)

Shock resistance acc. to IEC 60068-2-27 50 g at 11 ms, amplitude half sinusoidal

### Electrical characteristics acc. to IEC 60947, AC-15

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

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

Resistance to constant environment IEC 600 68-2-3 and 2-30

Resistance at variable environment IEC 600 68-2-14 and 2-33  
Salt spray IEC 600 68-2-11

Solderability / solder heat resistance IEC 600 68-2-20  
Solder techniques wave solder bath / manual soldering V 0

### Other specifications

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

Flame class acc. to UL 94

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

Type see order block  
Colour of housing black

## Accessories RAFIX 22 FS contact blocks with silver contacts

Description	Photo	Order no.	Page
3 mm LED superbright yellow		1.90.690.267/0000	5 - 21
3 mm LED superbright red		1.90.690.269/0000	5 - 21
3 mm LED superbright blue		1.90.690.282/0000	5 - 21
3 mm LED superbright green		1.90.690.285/0000	5 - 21
3 mm LED superbright white		1.90.690.295/0000	5 - 21

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

## RAFIX 22 FS contact blocks with silver contacts



Contact arrangement	Type	Colour of housing	Colour of plunger	Order no. complete
1 NC	Universal	black	red	<b>1.20.126.201/0000</b>
1 NO	Universal	black	green	<b>1.20.126.202/0000</b>
1 NC + 1 NO	Universal	black	red and green	<b>1.20.126.203/0000</b>
2 NC	Universal	black	red	<b>1.20.126.204/0000</b>
2 NO	Universal	black	green	<b>1.20.126.205/0000</b>
1 NC	emergency stop	black	red	<b>1.20.126.601/0000</b>
1 NO	emergency stop	black	green	<b>1.20.126.602/0000</b>
1 NC + 1 NO	emergency stop	black	yellow	<b>1.20.126.603/0000</b>
2 NC	emergency stop	black	red	<b>1.20.126.604/0000</b>
2 NO	emergency stop	black	green	<b>1.20.126.605/0000</b>

Technical data see page 2 - 190

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

### RAFIX 22 FS special accessories



2

### Accessories RAFIX 22 QR special accessories

Description	Photo	Order no.	Page
Fixing spanner for ring nut and front ring		<b>5.05.800.062/0000</b>	5 - 25

### Blanking cap



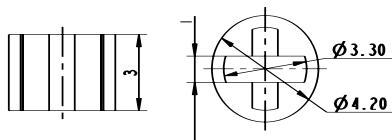
RAFIX  
22 FS

Short text	Feature 1	Feature 2	Order no.
Blanking cap IP65, ring nut, square			<b>5.05.800.068/0000</b>
Blanking cap IP65, ring nut, round			<b>5.05.800.067/0000</b>

### Ring nut



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

**LED base for signal indicators**


Short text	Feature 1	Feature 2	Order no.
LED base for signal indicators			5.30.109.020/0756

**Plastic frontring with protective cap**


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