



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.

RAFIX
22 FS

Content

RAFIX 22 FS pushbutton	2 - 168
RAFIX 22 FS pushbutton, flush lens, round collar	2 - 169
RAFIX 22 FS pushbutton, protruding lens, round collar	2 - 170
RAFIX 22 FS pushbutton, protruding front ring, round collar	2 - 171
RAFIX 22 FS pushbutton, flush lens, square collar	2 - 172
RAFIX 22 FS pushbutton, protruding lens, square collar	2 - 173
RAFIX 22 FS pushbutton, protruding front ring	2 - 174
RAFIX 22 FS selector switch	2 - 176
RAFIX 22 FS selector switch, round collar	2 - 177
RAFIX 22 FS selector switch, square collar	2 - 178
RAFIX 22 FS keylock switch	2 - 180
RAFIX 22 FS keylock switch, round collar	2 - 181
RAFIX 22 FS keylock switch, square collar	2 - 182
RAFIX 22 FS emergency stop pushbutton	2 - 184
RAFIX 22 FS emergency stop pushbutton, non-illuminated, dupe-proof to EN 418, non-blocking	2 - 185
RAFIX 22 FS emergency stop pushbutton, illuminated, dupe-proof to EN 418, non-blocking	2 - 185
RAFIX 22 FS signal indicator	2 - 186
RAFIX 22 FS signal indicator, round collar	2 - 187
RAFIX 22 FS signal indicator, square collar	2 - 187
RAFIX 22 FS contact block with gold contacts	2 - 188
RAFIX 22 FS contact block with gold contacts	2 - 189
RAFIX 22 FS contact blocks with silver contacts	2 - 190
RAFIX 22 FS contact blocks with silver contacts	2 - 191
RAFIX 22 FS special accessories	2 - 192
Blanking cap	2 - 192
Ring nut	2 - 192
LED base for signal indicators	2 - 193
Plastic frontring with thermoflex protective cap	2 - 193

Control components

Stock items are marked
by bold printed order numbers.

2 - 163

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.**

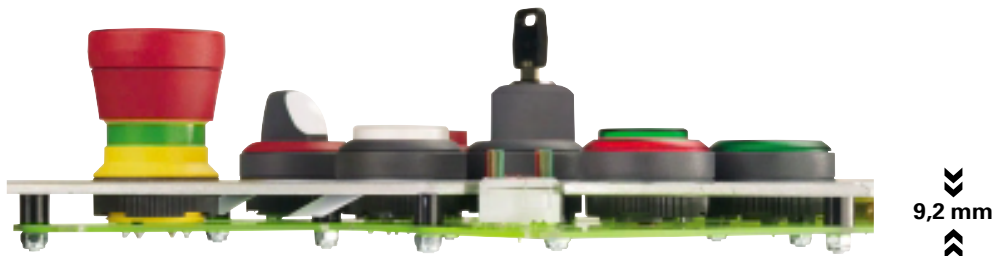
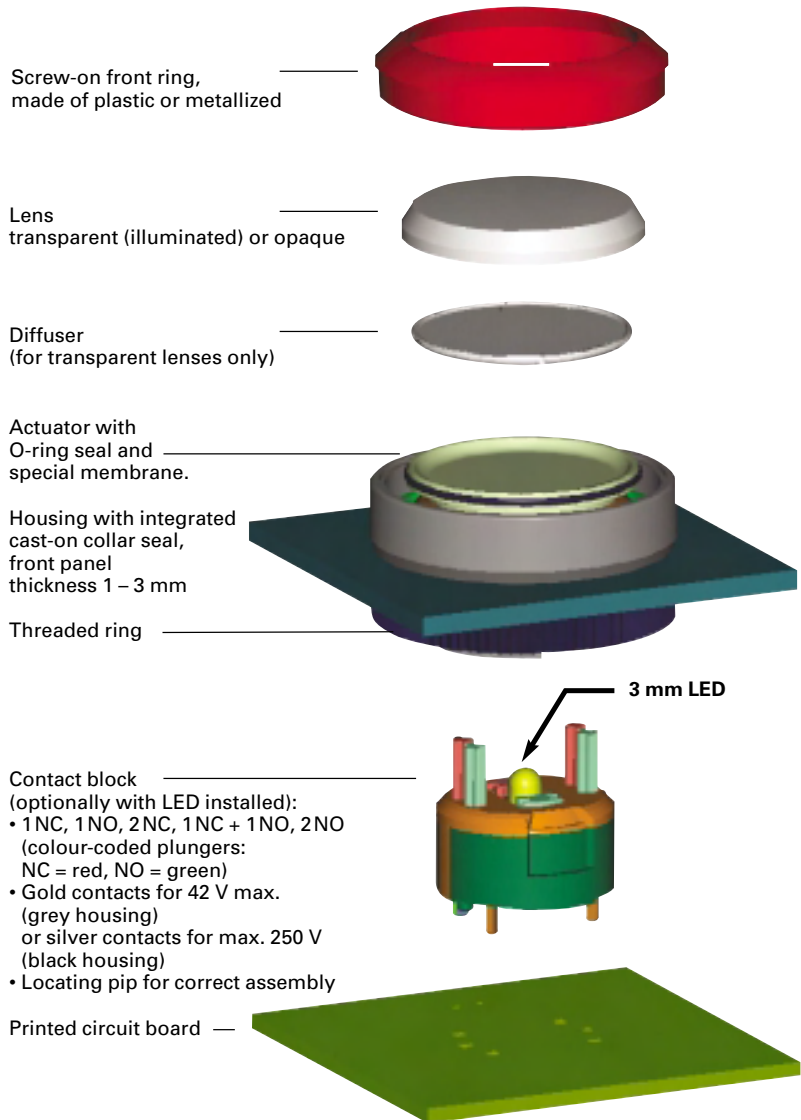
2

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 and an integrated special membrane provide a water-jet proof degree of protection IP 65 to DIN.

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

RAFIX 22 FS

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



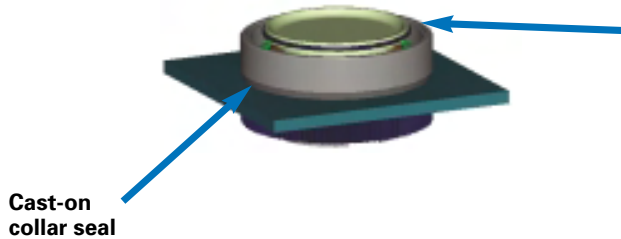


Combined with short-travel keys

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

Illumination

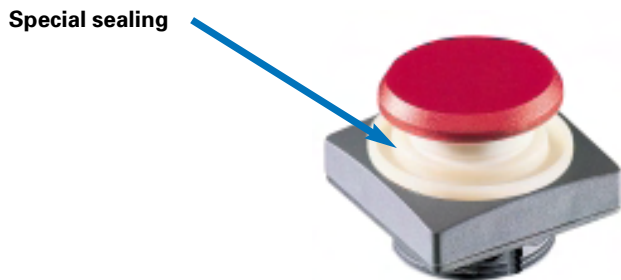
RAFIX 22 FS pushbuttons, selector switches and emergency stop buttons are also available as illuminated versions. For illumination, we recommend to use the superbright 3 mm LEDs in the colour matching the lens. The LEDs are fitted into the contact block and soldered together with it. The signal indicators are als 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.



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.



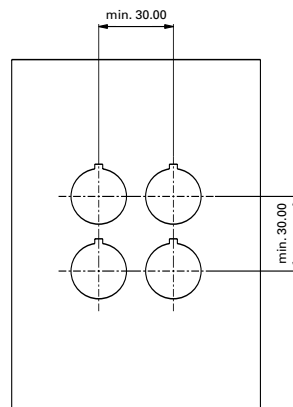
The special membrane seal safely prevents moisture, oil or dust from reaching the contact block. In contrast with seals sliding up and down along the shaft, the special membrane seal is arranged in a fixed position on the housing. In this way, RAFIX 22 FS guarentees switching raliability for the full 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.



2



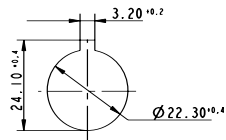
Panel cut-out to IEC 60947

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).

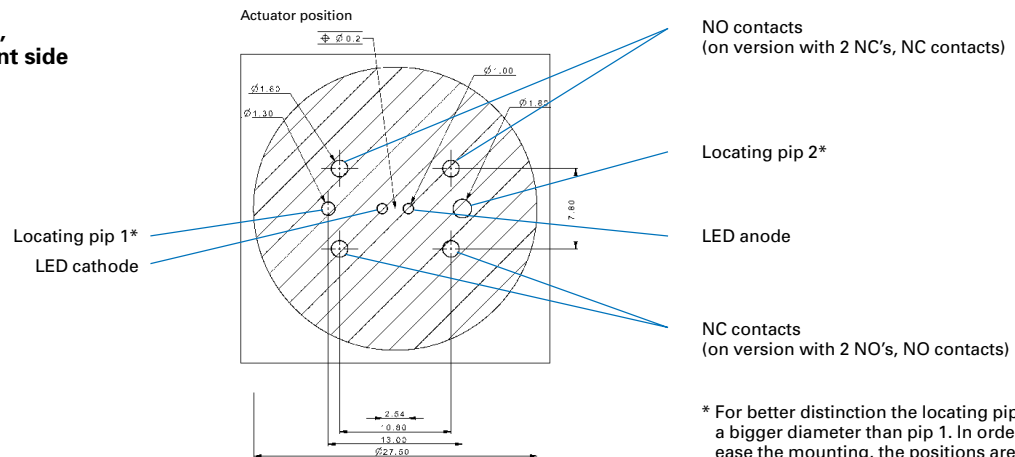
Assembly indication

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



RAFIX 22 FS

Hole patterns PCB, view on component side



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

Locating pip 2*

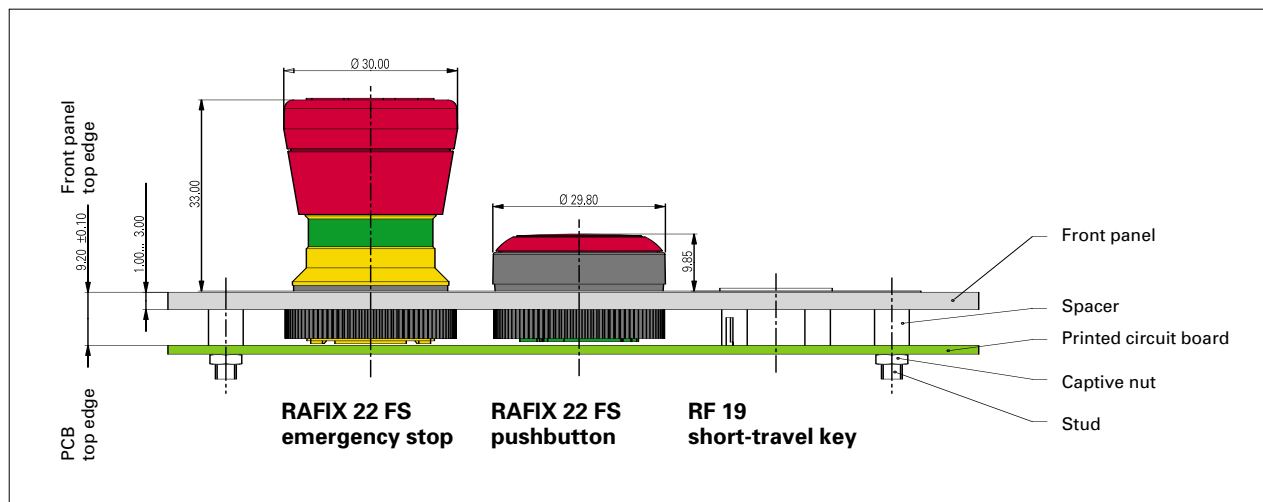
LED anode

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

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



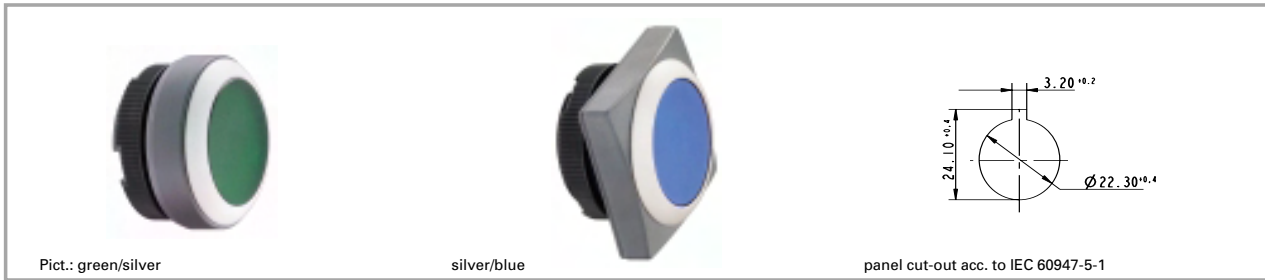
Installation drawing



2

RAFIX 22 FS

RAFIX 22 FS pushbuttons



2

Technical data

General information

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

Dimensions

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

Mechanical design

Mounting	ring nut
Contact function	see order block
Illuminability	yes

Mechanical characteristics

Operating travel	4 mm
Robustness min.	100 N

Other specifications

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

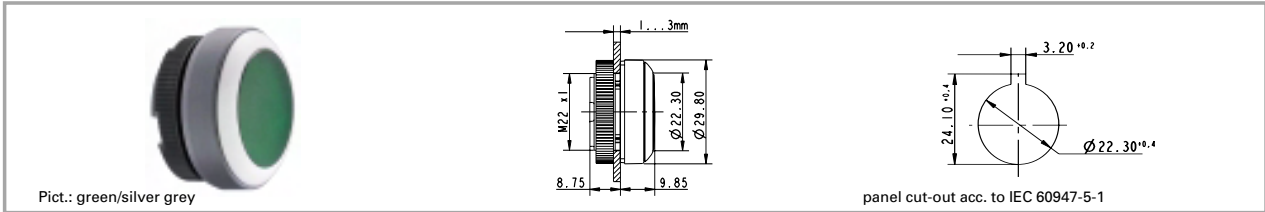
RAFIX
22 FS

Accessories RAFIX 22 FS pushbuttons

Description	Photo	Order no.	Page
RAFIX 22 FS universal contact block, 1 NC + 1 NO, gold contacts		1.20.126.003/0000	2 - 189
RAFIX 22 FS universal contact block, silver contacts, 1 NO		1.20.126.202/0000	2 - 191
Fixing spanner for ring nut and front ring		5.05.800.062/0000	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	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 - 168

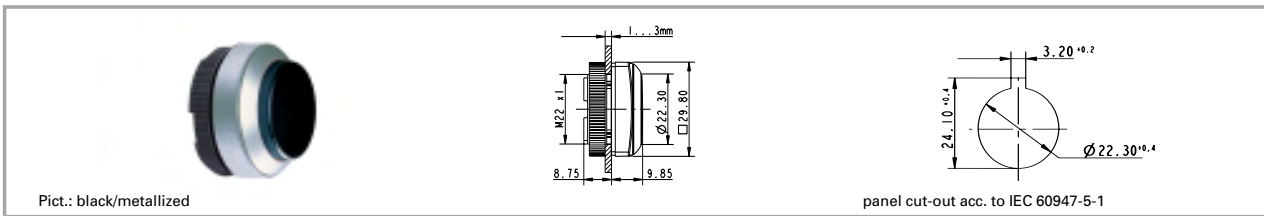
Accessories:

- 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



Pict.: black/metalized

panel cut-out acc. to IEC 60947-5-1

2

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

Technical data see page 2 - 168

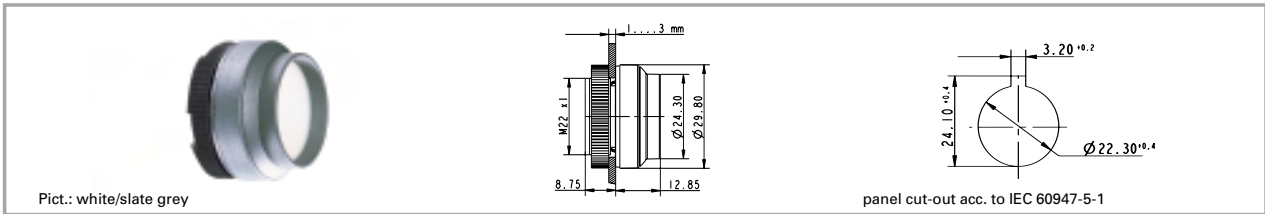
Accessories:

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



Pict.: white/slate grey

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	1.30.250.401/10xx	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		

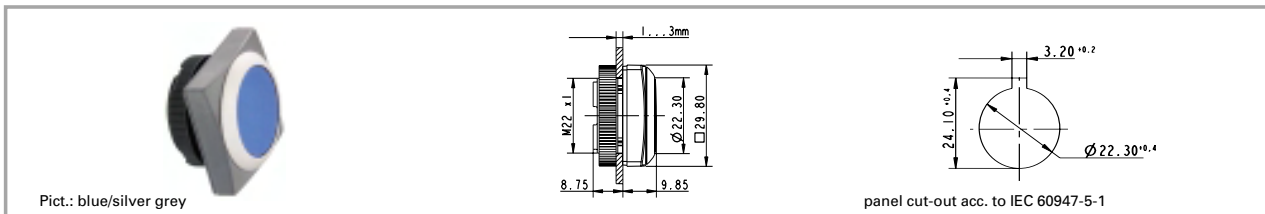
Technical data see page 2 - 168

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



Pict.: blue/silver grey

panel cut-out acc. to IEC 60947-5-1

2

Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.250.051/10xx	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 - 168

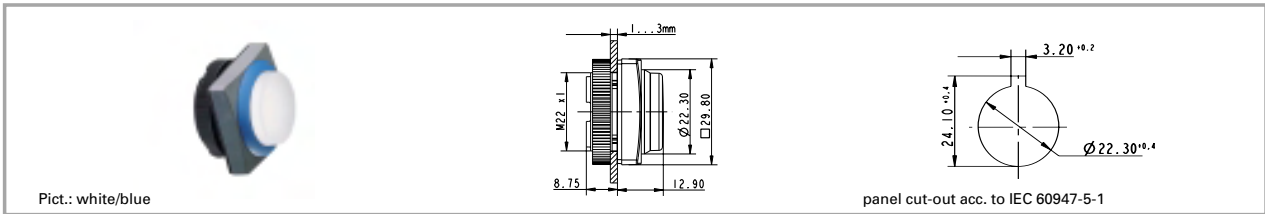
Accessories:

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	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 - 168

Accessories:

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

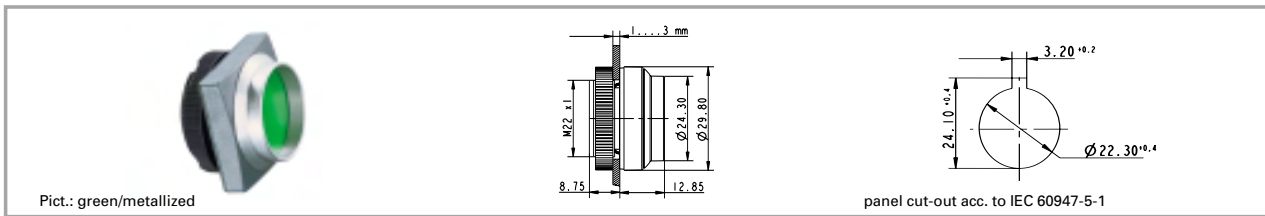
xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

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

2

RAFIX
22 FS

RAFIX 22 FS pushbutton, protruding front ring



Pict.: green/metallized

panel cut-out acc. to IEC 60947-5-1

2

Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.250.451/10xx	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 - 168

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

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

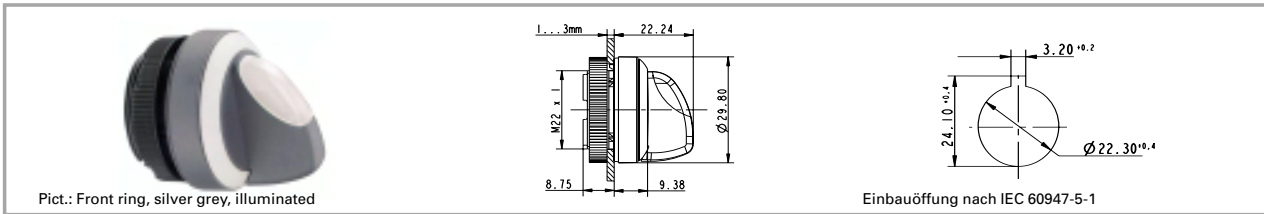
RAFIX
22 FS

Accessories RAFIX 22 FS selector switches

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

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

RAFIX 22 FS selector switch, round collar



Pict.: Front ring, silver grey, illuminated

Illuminability	Contact function	Rotating angle	Drehwinkel	Order no.	
				Plastic front ring	Metal 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° 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	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
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° 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	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

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

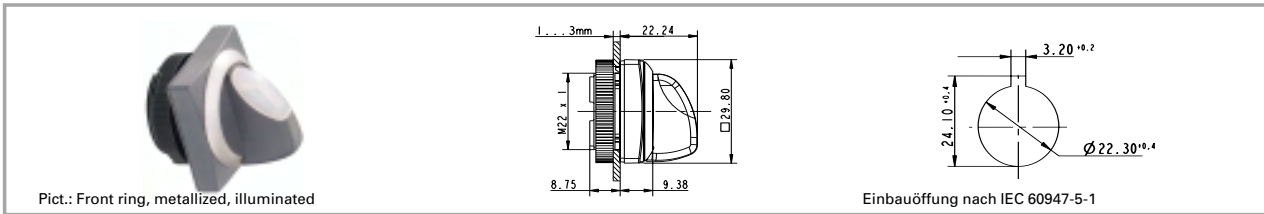
Other handle marking colours available on request.

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

2

Illuminability	Contact function	Rotating angle	Drehwinkel	Order no.	
				Plastic front ring	Metal 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° 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	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
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° 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	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

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

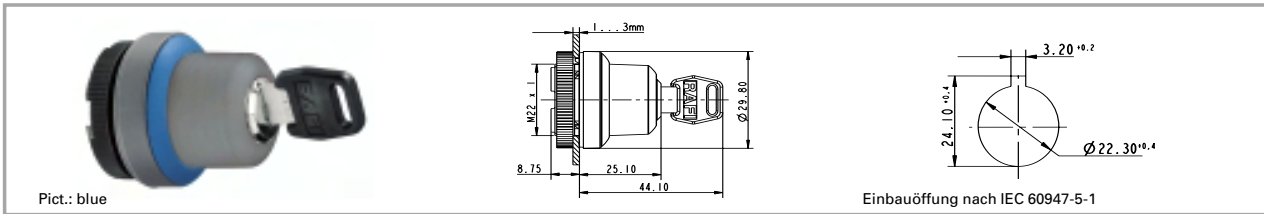
RAFIX
22 FS

Accessories RAFIX 22 FS keylock switch

Description	Photo	Order no.	Page
RAFIX 22 FS universal contact block, 1 NC		1.20.126.001/0000	2 - 189
RAFIX 22 FS universal contact block, silver contacts, 1 NC, 1 NO		1.20.126.203/0000	2 - 191
Fixing spanner for ring nut and front ring		5.05.800.062/0000	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	1.30.255.002/0000
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	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 L	1		1.30.255.211/xxxx	1.30.255.212/0000
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	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	1.30.255.432/0000
latching	2 x 90°	0+2		1.30.255.421/xxxx	1.30.255.422/0000

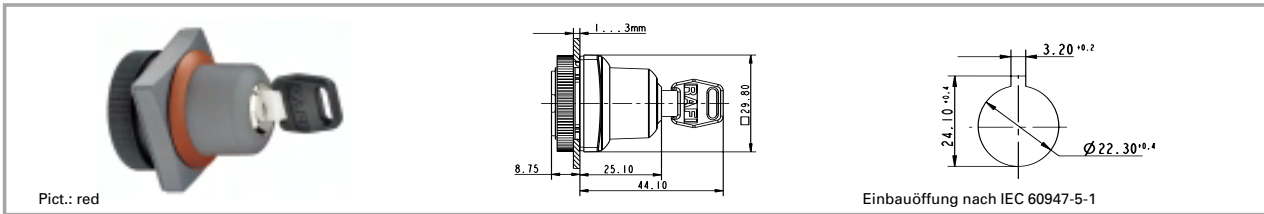
Technical data see page 2 - 180

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

RAFIX
22 FS

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	1.30.255.052/0000
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	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 L	1		1.30.255.261/xxxx	1.30.255.262/0000
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	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	1.30.255.482/0000
latching	2 x 90°	0+2		1.30.255.471/xxxx	1.30.255.472/0000

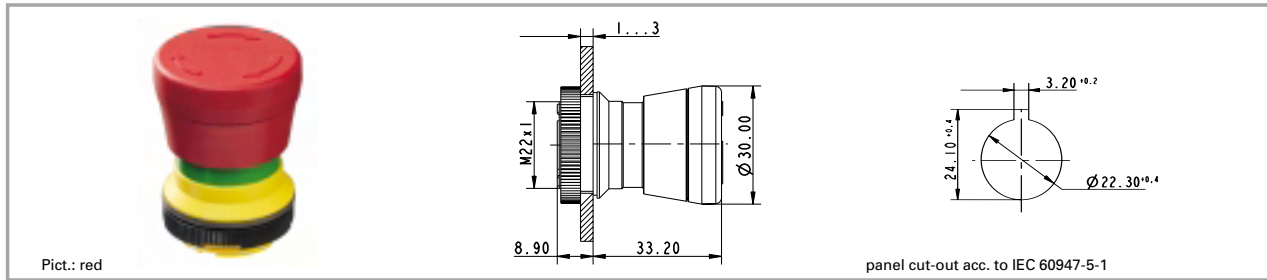
Technical data see page 2 - 180

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
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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		1.20.126.401/0000	2 - 189
RAFIX 22 FS emergency stop contact block, 2 NC, gold contacts		1.20.126.404/0000	2 - 189

Accessories RAFIX 22 FS emergency stop pushbutton

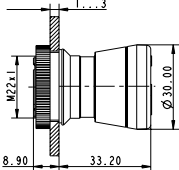
Description	Photo	Order no.	Page
RAFIX 22 FS emergency stop contact block, silver contacts, 1 NC		1.20.126.601/0000	2 - 191
Fixing spanner for ring nut and front ring		5.05.800.062/0000	5 - 25
Emergency stop label, yellow, round 60 mm, PVC adhesive, without legend		5.76.204.100/0400	2 - 161
Emergency 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

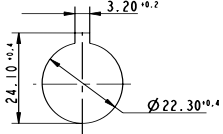
2

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



Pict.: red






panel cut-out acc. to IEC 60947-5-1

RAFIX
22 FS

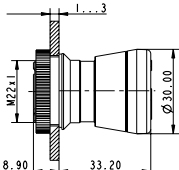
Illuminability	Approvals acc. to IEC	Order no. complete
no	60947-5-x, 60204, 60073, 601058	1.30.253.501/0300

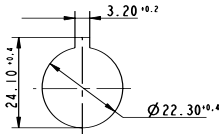
Technical data see page 2 - 184

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



Pict.: red



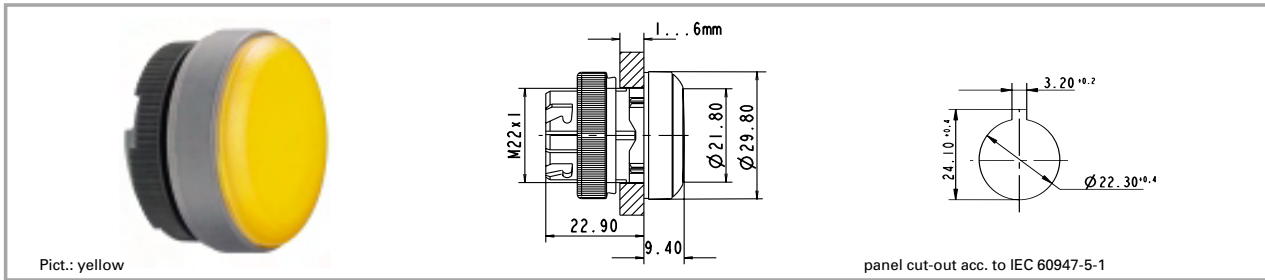


panel cut-out acc. to IEC 60947-5-1

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

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
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Other specifications

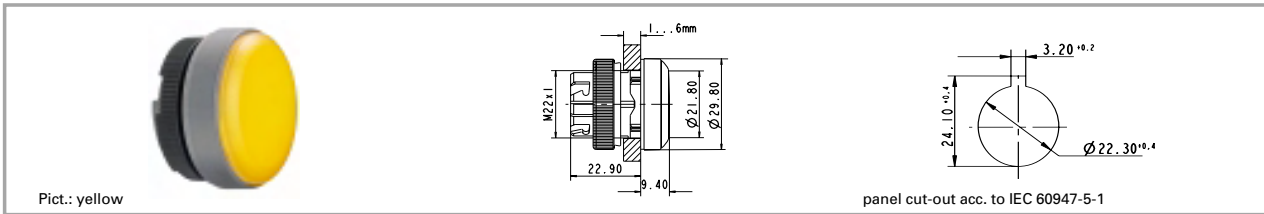
Degree of protection from front side	IP65
Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Resistance to constant environment	IEC 600 68-2-3 and 2-30
Resistance at variable environment	IEC 600 68-2-14 and 2-33

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		5.05.800.062/0000	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	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

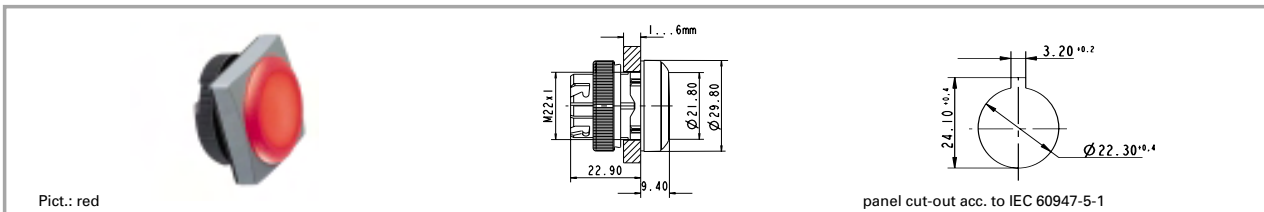
Technical data see page 2 - 186

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	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 - 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

Storage temperature min.
Storage temperature max.

-40 °C

+80

Contact materials Au
Contact arrangement see order block

Colour of plunger
Robustness

see order block
acc. to IEC 60947-5-5 (TÜV)

NC contact forcibly actuated acc. to IEC 60947-5-1 yes
Terminals solder terminal with locating lug

Shock resistance acc. to IEC 60068-2-27

50 g at 11 ms, amplitude half sinusoidal

Robustness 100 N

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

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 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

Other specifications

Operating life 1 million at 10 mA/ 24 V DC

Type

see order block

Switching reliability at 24V/5mA DC 10 x 10⁻⁶

Colour of housing

grey

RAFIX
22 FS

Accessories RAFX 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	1.20.126.001/0000
1 NO	Universal	grey	green	1.20.126.002/0000
1 NC + 1 NO	Universal	grey	red and green	1.20.126.003/0000
2 NC	Universal	grey	red	1.20.126.004/0000
2 NO	Universal	grey	green	1.20.126.005/0000
1 NC	emergency stop	grey	red	1.20.126.401/0000
1 NO	emergency stop	grey	green	1.20.126.402/0000
1 NC + 1 NO	emergency stop	grey	yellow	1.20.126.403/0000
2 NC	emergency stop	grey	red	1.20.126.404/0000
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



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		Switching reliability at 24V/5mA DC	10 x 10 ⁻⁶
Diameter	17.3 mm	Ambient temp. operating min.	-25 °C
Recommended key grid	30 mm	Ambient temp. operating max.	+70 °C
Mounting depth	9.2 mm	Storage temperature min.	-40 °C
Mechanical design		Storage temperature max.	+80 °C
Mounting	soldering in PCB	Colour of plunger	see order block
Contact system	bridgecontact self cleaning	Approvals acc. to IEC	60947-5-x, 60204, 60073, 601058
Contact materials	Ag	Approvals, other	UL 508, CSA, cURus (UL + CSA)
Contact arrangement	see order block	Robustness	acc. to IEC 60947-5-5 (TÜV)
NC contact forcibly actuated acc. to IEC 60947-5-1	yes	Shock resistance acc. to IEC 60068-2-27	50 g at 11 ms, amplitude half sinusoidal
Terminals	solder terminal with locating lug	Resistance to vibrations acc. to IEC 60068-2-6	5 g at 10 ... 500 Hz
Robustness	100 N	Resistance to constant environment	IEC 600 68-2-3 and 2-30
Electrica characteristics acc. to IEC 60947, AC-15		Resistance at variable environment	IEC 600 68-2-14 and 2-33
Rated insulation voltage AC/DC	250 V	Salt spray	IEC 600 68-2-11
Rated peak voltage	2500 V	Solderability / solder heat resistance	IEC 600 68-2-20
Rated operating current I _E , AC15 B300	3 A/120 V; 1.5 A/240 V; I _{the} : 5 A	Solder techniques	wave solder bath / manual soldering
Rated operating current I _E , DC13 Q300	550 mA/120 V; 270 mA/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	1000000	Type	see order block
Operating life at 250V / 2A	100000	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	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 NO	emergency stop	black	green	1.20.126.602/0000
1 NC + 1 NO	emergency stop	black	yellow	1.20.126.603/0000
2 NC	emergency stop	black	red	1.20.126.604/0000
2 NO	emergency stop	black	green	1.20.126.605/0000

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 RAFX 22 QR special accessories

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

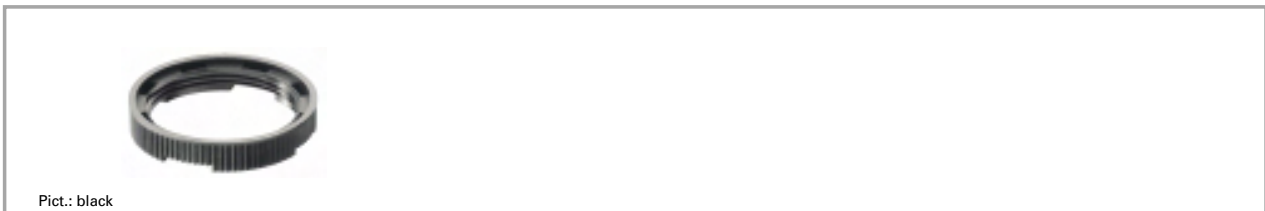
Blanking cap



RAFIX
22 FS

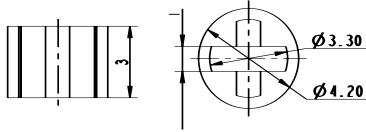
Short text	Feature 1	Feature 2	Order no.
Blanking cap IP65, ring nut, square			5.05.800.068/0000
Blanking cap IP65, ring nut, round			5.05.800.067/0000

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

2

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

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22 FS