



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 pushbuttons	2 - 152
RAFIX 22 FS pushbutton, flush lens, round collar	2 - 153
RAFIX 22 FS pushbutton, protruding lens, round collar	2 - 154
RAFIX 22 FS pushbutton, protruding front ring, round collar	2 - 155
RAFIX 22 FS pushbutton, flush lens, square collar	2 - 156
RAFIX 22 FS pushbutton, protruding lens, square collar	2 - 157
RAFIX 22 FS pushbutton, protruding front ring	2 - 158
RAFIX 22 FS selector switches	2 - 160
RAFIX 22 FS selector switch, round collar	2 - 161
RAFIX 22 FS selector switch, square collar	2 - 162
RAFIX 22 FS keylock switch	2 - 164
RAFIX 22 FS keylock switch, round collar	2 - 165
RAFIX 22 FS keylock switch, square collar	2 - 166
RAFIX 22 FS emergency stop pushbutton	2 - 168
RAFIX 22 FS emergency stop pushbutton, non-illuminated, dupe-proof to EN 418, non-blocking	2 - 169
RAFIX 22 FS emergency stop pushbutton, illuminated, dupe-proof to EN 418, non-blocking	2 - 170
RAFIX 22 FS emergency stop pushbutton, illuminated, dupe-proof to EN 418, non-blocking	2 - 170
RAFIX 22 FS signal indicator	2 - 172
RAFIX 22 FS signal indicator, round collar	2 - 173
RAFIX 22 FS signal indicator, square collar	2 - 173
RAFIX 22 FS contact blocks with gold contacts	2 - 174
RAFIX 22 FS contact block with gold contacts	2 - 175
RAFIX 22 FS contact blocks with silver contacts	2 - 176
RAFIX 22 FS contact blocks with silver contacts	2 - 177
RAFIX 22 FS special accessories	2 - 178
Blanking cap	2 - 178
Ring nut	2 - 178
LED base for signal indicators	2 - 179
Plastic frontring protection cap	2 - 179
Control components	2 - 147

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.**

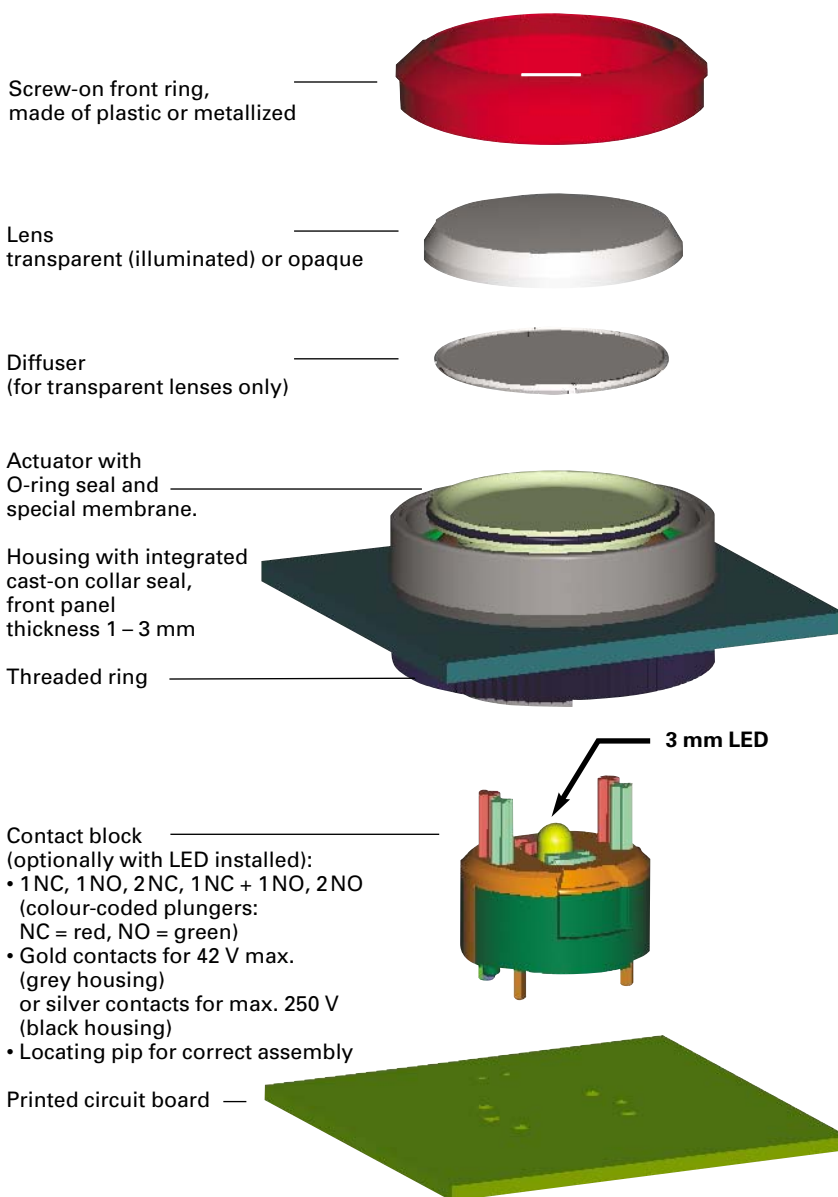
2

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.

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

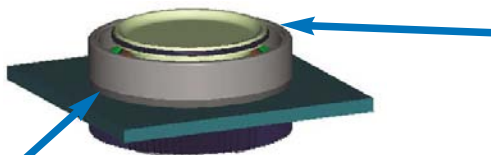
The actuators of the RAFIX 22FS system are suited for integration into low-profile data entry systems. The small mounting depth and the PCB solder terminals make it possible to combine the contact blocks with RAFI short-travel keys RACON 8 an 12, RF 15 and RF 19 as well as KN 19 on one and the same printed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

2

RAFIX
22 FS



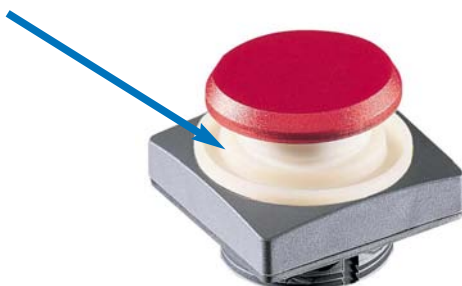
Cast-on collar seal

Sealed against moisture and dirt

O-ring seal

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

Special sealing

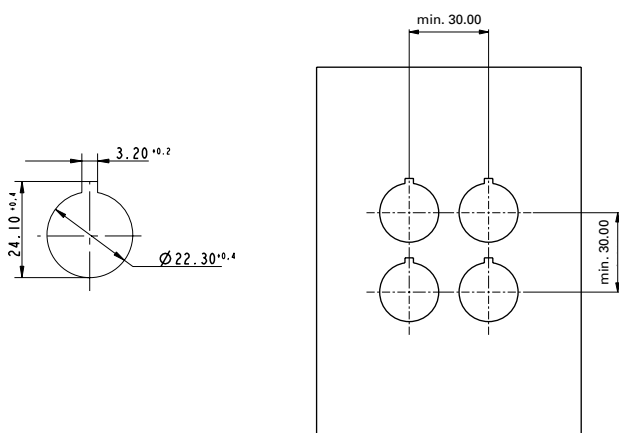


The special membrane seal safely prevents moisture, oil or dust from reaching the contact block. In contrast with seals sliding up and down along the shaft, the special membrane seal is arranged in a fixed position on the housing. In this way, RAFIX 22 FS guarantees switching reliability for the full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



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

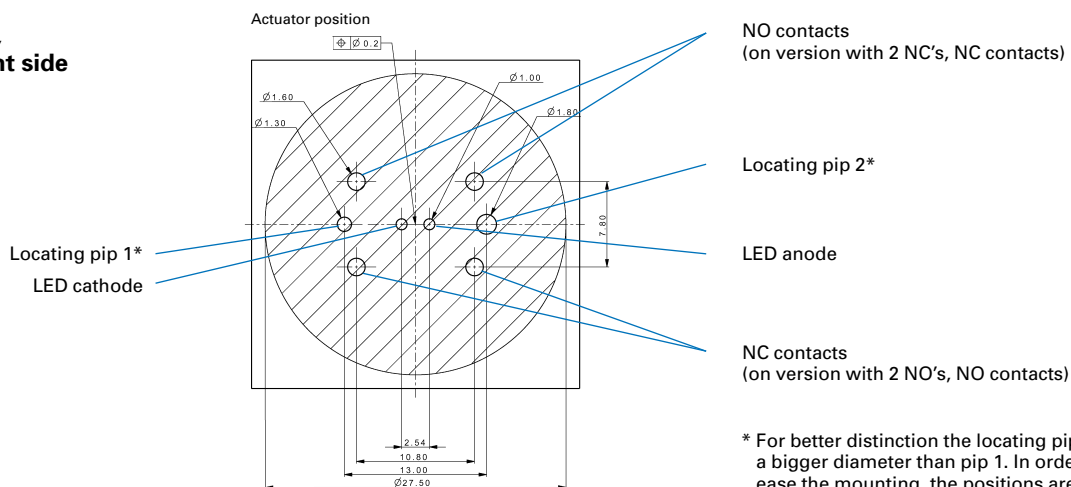
All actuators are provided with a locating pip.

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

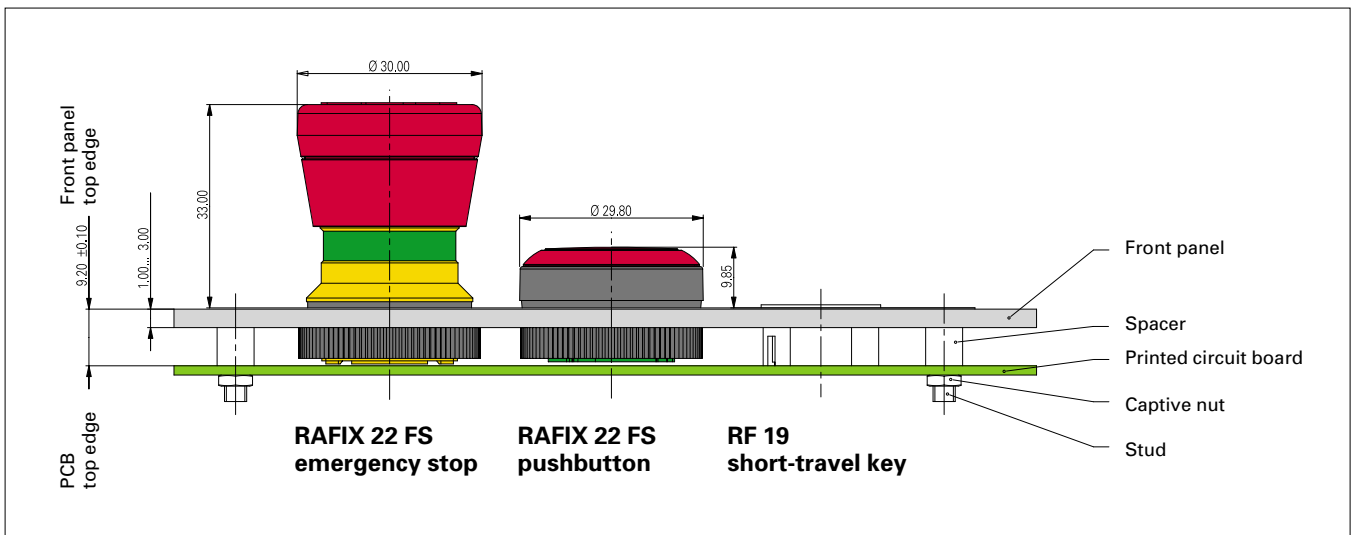
The mismatch of actuators and contact blocks must be in a range of $\varnothing 0.2$ mm.

Hole patterns PCB, view on component side



* 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
Colout of front ring	see order block
Form of collar	see order block

Dimensions

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

Mechanical design

Mounting	ring nut
Contact function	see order block
Illuminability	yes

Mechanical characteristics

Operating travel	4 mm
Robustness min.	100 N

Other specifications

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

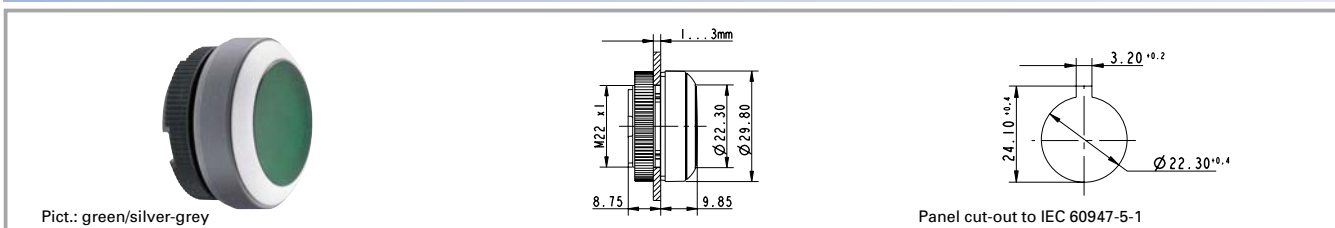
RAFIX
22 FS

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 - 175
RAFIX 22 FS universal contact block, silver contacts, 1 NO		1.20.126.202/0000	2 - 177
Fixing spanner for ring nut and front ring		5.05.800.062/0000	5 - 23

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 - 152

Accessoires:

Plastic frontring black protection cap: 5.05.004.986/0100
 Plastic frontring red protection cap: 5.05.004.986/0300
 Plastic frontring yellow protection cap: 5.05.004.986/0400
 Plastic frontring green protection cap: 5.05.004.986/0500
 Plastic frontring blue protection cap: 5.05.004.986/0600
 Plastic frontring slate grey protection cap: 5.05.004.986/0700
 Plastic frontring silver grey protection cap: 5.05.004.986/0800

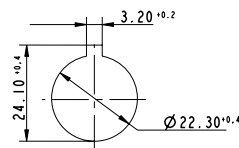
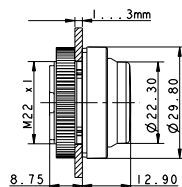
xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

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/metallized



Panel cut-out to IEC 60947-5-1

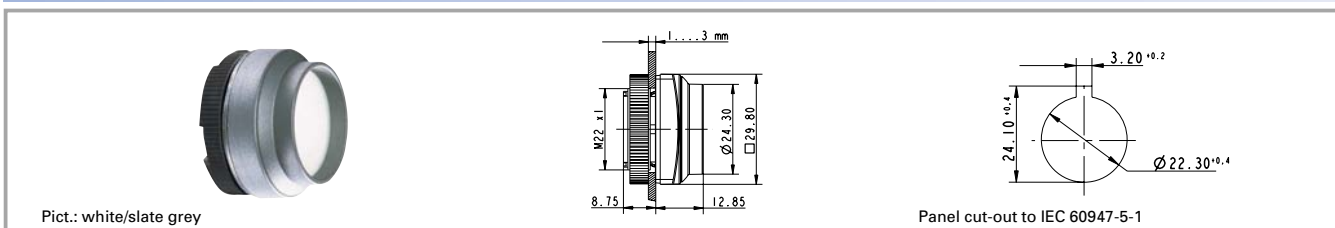
Illuminability	Colour of lens	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	transparent white	1.30.250.201/10xx	1.30.250.221/1000	1.30.250.211/10xx	1.30.250.231/1000
yes	transparent red	1.30.250.201/13xx	1.30.250.221/1300	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 - 152

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

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

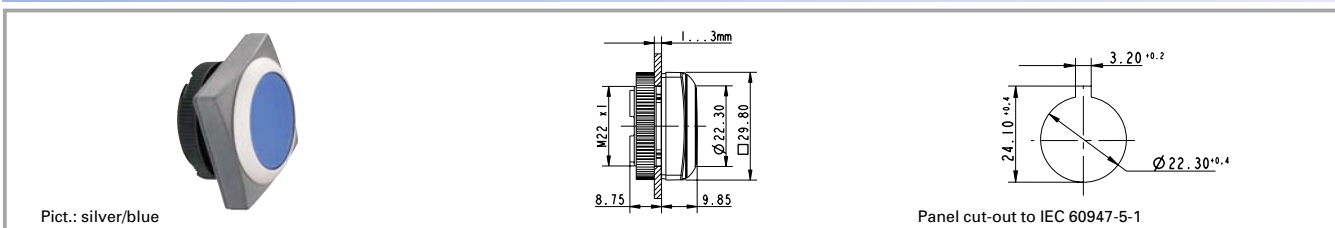
RAFIX 22 FS pushbutton, protruding front ring, round collar



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

Technical data see page 2 - 152

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	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 - 152

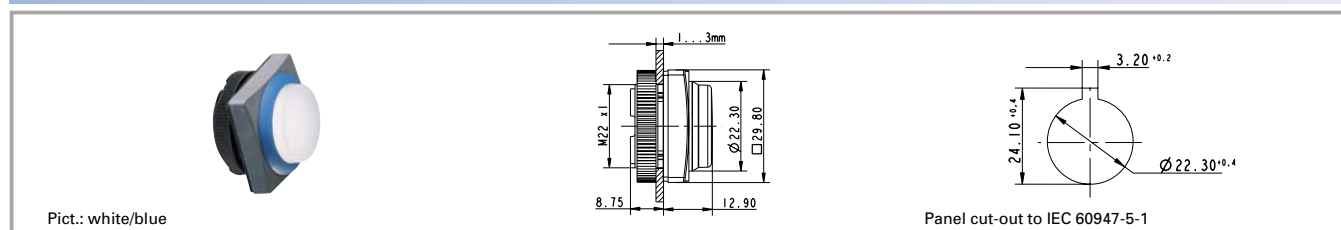
Accessoires:

Plastic frontring black protection cap: 5.05.004.986/0100
 Plastic frontring red protection cap: 5.05.004.986/0300
 Plastic frontring yellow protection cap: 5.05.004.986/0400
 Plastic frontring green protection cap: 5.05.004.986/0500
 Plastic frontring blue protection cap: 5.05.004.986/0600
 Plastic frontring slate grey protection cap: 5.05.004.986/0700
 Plastic frontring silver grey protection cap: 5.05.004.986/0800

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 - 152

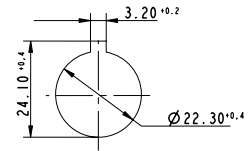
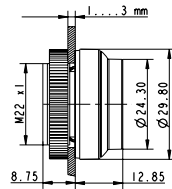
xx = Front ring colour: black = 01, red = 03, yellow = 04, green = 05, blue = 06, slate grey = 07, silver grey = 08

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/metallized



Panel cut-out to IEC 60947-5-1

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

Technical data see page 2 - 152

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

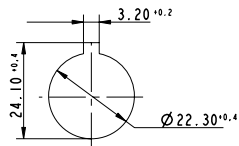
RAFIX 22 FS selector switches



Pict.: Front ring, silver grey, illuminated



Front ring, metallized, non-illuminated



Panel cut-out to IEC 60947-5-1

2

General data

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

Technical data

RAFIX
22 FS

General information

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

Dimensions

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

Mechanical design

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

Mechanical characteristics

Torque max.	1,5 Nm
-------------	--------

Other specifications

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

Accessories RAFIX 22 FS selector switches

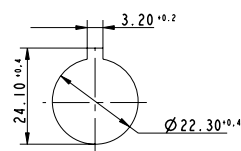
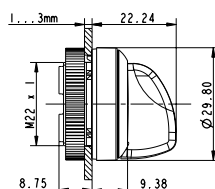
Description	Photo	Order no.	Page
RAFIX 22 FS universal contact block, 1 NO		1.20.126.002/0000	2 - 175
RAFIX 22 FS universal contact block, silver contacts, 1 NC		1.20.126.201/0000	2 - 177

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

RAFIX 22 FS selector switch, round collar



Pict.: Front ring, silver grey, illuminated



Panel cut-out to IEC 60947-5-1

Illuminability	Contact function	Rotating angle	Rotating angle	Order no.	
				Plastic front ring	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°, 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°, 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 - 160

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

Other contact functions and handle marking colours available on request.

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

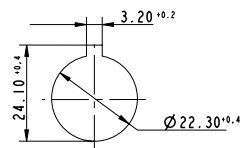
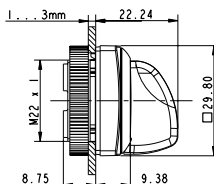
Illuminated: **1.30.242.001/2208, 1.30.242.026/2208, 1.30.242.101/2208, 1.30.242.201/2208, 1.30.242.301/2208**

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

RAFIX 22 FS selector switch, square collar



Pict.: Front ring, metallized, illuminated



Panel cut-out to IEC 60947-5-1

Illuminability	Contact function	Rotating angle	Rotating angle	Order no.	
				Plastic front ring	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°, 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°, 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 - 160

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

Other contact functions and handle marking colours available on request.

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**

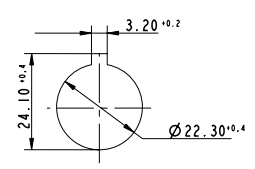
RAFIX 22 FS keylock switch



Pict.: Front ring blue



Front ring red



Panel cut-out to IEC 60947-5-1

2

Technical data

General information

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

Dimensions

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
Illuminability	no
Wafers	5
Lock type	001
Number of locking positions	500
Main key	no
Symmetric key	no
Rotating angle	see order block
Key removal position	see order block

Mechanical characteristics

Torque max.	1,3 Nm
-------------	--------

Other specifications

Operating life	0.3 million momentary / 50000 latching
----------------	--

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

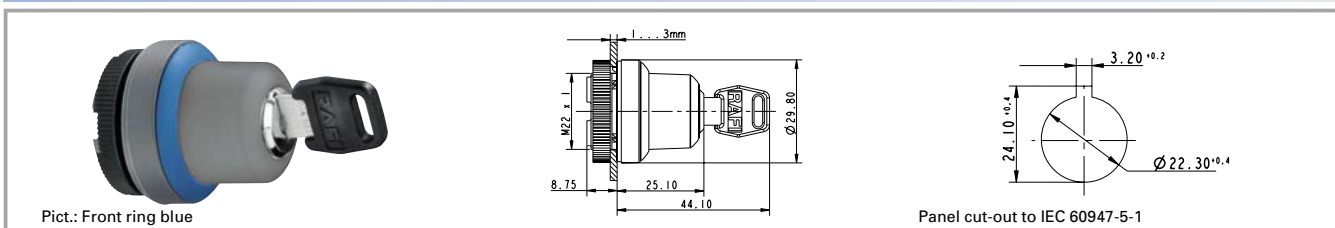
RAFIX
22 FS

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 - 175
RAFIX 22 FS universal contact block, silver contacts, 1 NC, 1 NO		1.20.126.203/0000	2 - 177
Spare key, for single action, e.g. 1 x 90°		5.58.007.001/0000	
Spare key, for double action, e.g. 2 x 90°		5.58.008.001/0000	

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

RAFIX 22 FS keylock switch, round collar



Contact function	Rotating angle	Key removal position	Rotating angle	Order no.	
				Plastic front ring	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°, 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 - 164

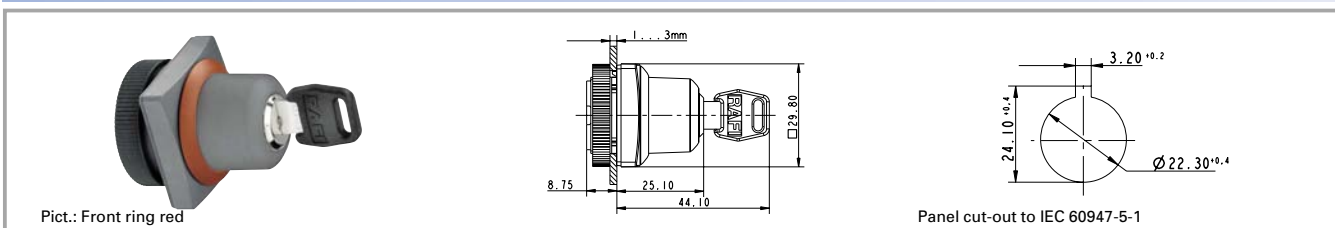
xxxx = Front ring colour: black = 0100, red = 0300, yellow = 0400, green = 0500, blue = 0600, slate grey = 0700, silver grey = 0800

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



Contact function	Rotating angle	Key removal position	Rotating angle	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°, 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 - 164

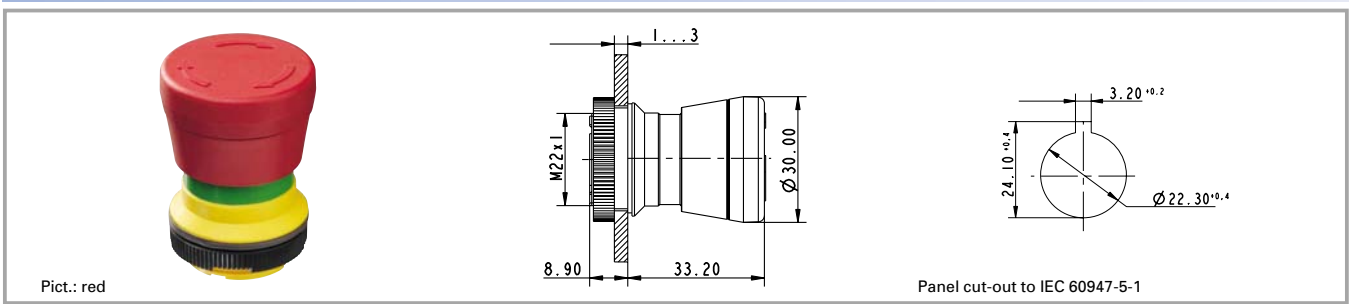
xxxx = Front ring colour: black = 0100, red = 0300, yellow = 0400, green = 0500, blue = 0600, slate grey = 0700, silver grey = 0800

Other lock variants available on request.

Included: 2 keys.

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

RAFIX 22 FS emergency stop pushbutton



2

General data

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

Only use contact block 1.20.126.4xx.

Technical data

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

Mechanical design

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

Mechanical characteristics

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

Other specifications

Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Approvals acc. to IEC	60947-5-x, 60204, 60073, 601058
Approvals, other	UL 508, CSA, cURus (UL + CSA)
Robustness	acc. to 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

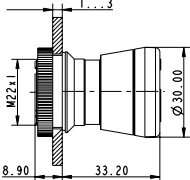
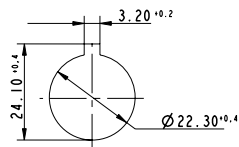
Accessories RAFIX 22 FS emergency stop pushbutton

Description	Photo	Order no.	Page
RAFIX 22 FS emergency stop contact block, 1 NC, gold contacts		1.20.126.401/0000	2 - 175
RAFIX 22 FS emergency stop contact block, 2 NC, gold contacts		1.20.126.404/0000	2 - 175

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 - 177
Fixing spanner for ring nut and front ring		5.05.800.062/0000	5 - 23
Emergency stop label, yellow, round 60 mm, PVC adhesive, without legend		5.76.204.100/0400	2 - 146
Emergency stop label, yellow, round 60 mm, PVC adhesive, with legend „NOT-AUS“		5.76.204.101/0400	2 - 146
Emergency stop label, yellow, round 60 mm, PVC adhesive, with legend „ARRET D'URGENCE“		5.76.204.102/0400	2 - 146
Emergency stop label, yellow, round 60 mm, PVC adhesive, with legend „EMERGENCY-STOP“		5.76.204.103/0400	2 - 146
Emergency stop label, yellow 36 x 64 mm, PVC adhesive, without legend		5.76.205.011/0400	2 - 146

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

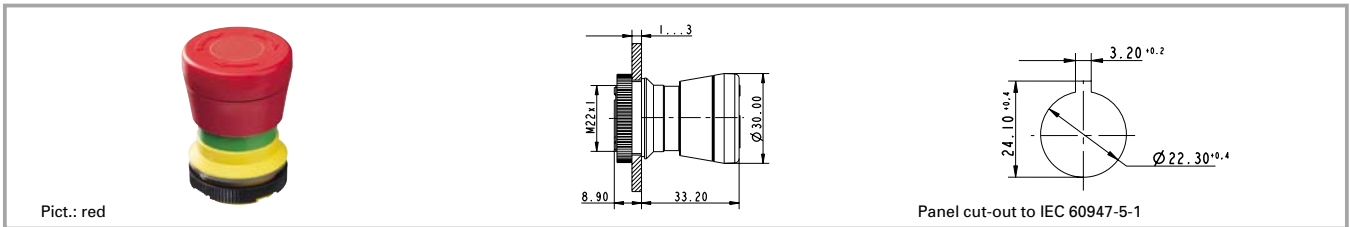
 Pict.: red		 Panel cut-out to IEC 60947-5-1
---	---	---

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

Technical data see page 2 - 168

**RAFIX
22 FS**

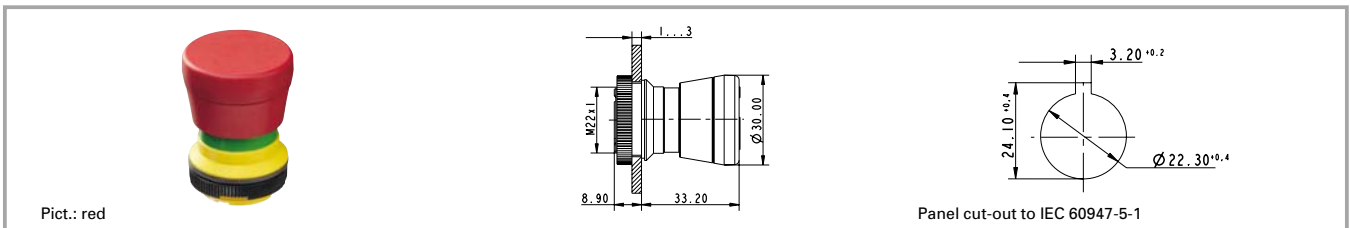
RAFIX 22 FS emergency stop pushbutton, illuminated, dupe-proof to EN 418, non-blocking



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

Technical data see page 2 - 168

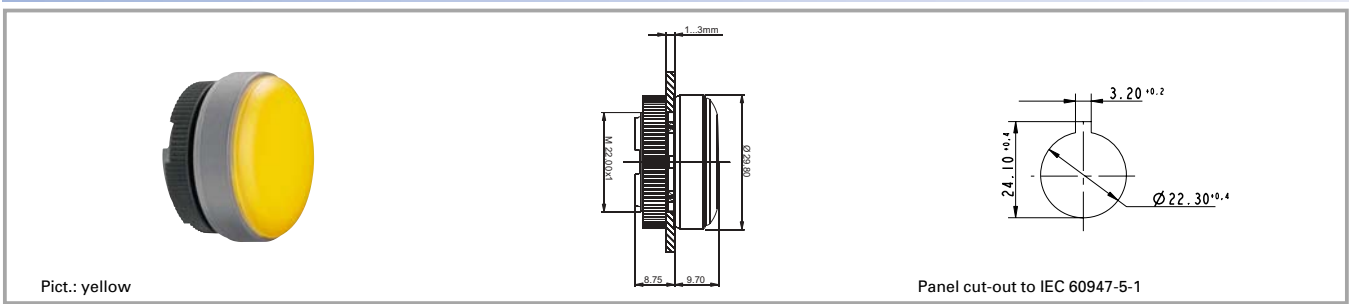
RAFIX 22 FS emergency stop pushbutton, illuminated, dupe-proof to EN 418, non-blocking



Reset	Illuminability	Approvals acc. to IEC	Order no.
by pulling	no	60947-5-x, 60204, 60073, 601058	1.30.253.601/0300

Technical data see page 2 - 168

RAFIX 22 FS signal indicator



Pict.: yellow

Panel cut-out to IEC 60947-5-1

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

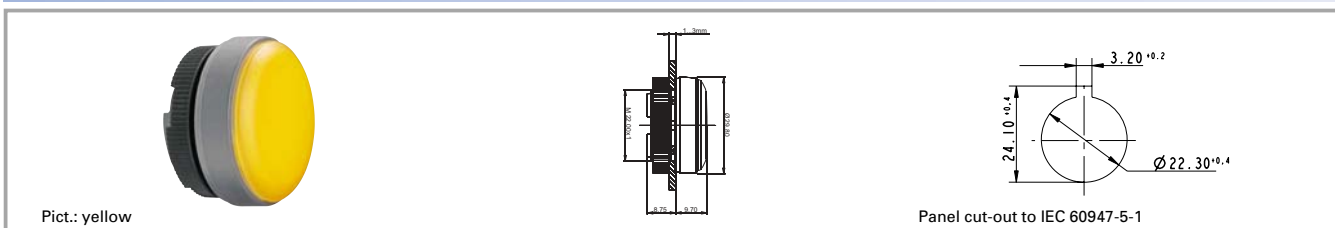
Degree of protection from front side	IP65
Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Resistance to constant environment	IEC 600 68-2-3 and 2-30
Resistance at variable environment	IEC 600 68-2-14 and 2-33

RAFIX
22 FS

Accessories RAFIX 22 FS signal indicator

Description	Photo	Order no.	Page
3 mm LED superbright red		1.90.690.269/0000	5 - 20
Fixing spanner for ring nut and front ring		5.05.800.062/0000	5 - 23
LED base for signal indicators		5.30.109.020/0756	2 - 179
Legend insert, blank		5.70.806.000/2000	

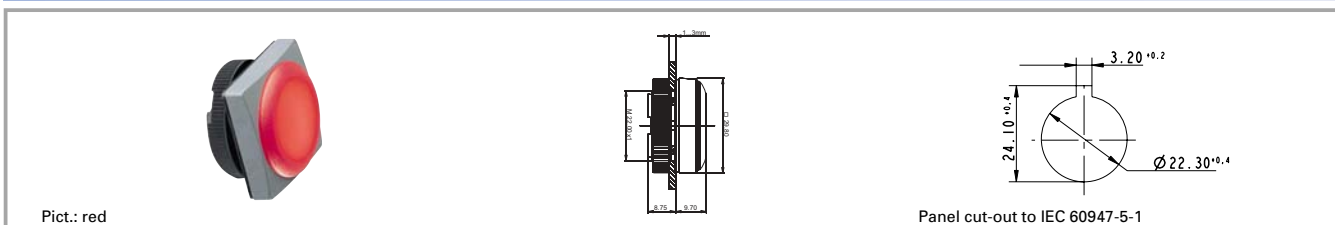
RAFIX 22 FS signal indicator, round collar



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

Technical data see page 2 - 172

RAFIX 22 FS signal indicator, square collar



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

Technical data see page 2 - 172

RAFIX
22 FS

2

RAFIX 22 FS contact blocks with gold contacts



General data

Illumination information:

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

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

Technical data

General information

Lamp LED

Dimensions

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

Mechanical design

Mounting soldering in PCB
Contact system bridgecontact self cleaning
Contact materials 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

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

Other specifications

Operating life 1 million at 10 mA/ 24 V DC
Switching reliability at 24V/5mA DC 10×10^{-6}

Approvals acc. to IEC

Approvals, other

Ambient temp. operating min.
Ambient temp. operating max.
Storage temperature min.
Storage temperature max.
Colour of plunger
Robustness

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

Resistance to vibrations acc. to IEC 600 68-2-6
Resistance to constant environment
Resistance at variable environment
Salt spray
Solderability / solder heat resistance
Solder techniques

Type
Colour of housing

60947-5-x, 60204, 60073, 601058
UL 508, CSA, cURus (UL + CSA)

-25 °C

+70 °C

-40 °C

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

50 g at 11 ms, amplitude half sinusoidal

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

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 - 20
3 mm LED superbright red		1.90.690.269/0000	5 - 20
3 mm LED superbright blue		1.90.690.282/0000	5 - 20
3 mm LED superbright green		1.90.690.285/0000	5 - 20
3 mm LED superbright white		1.90.690.295/0000	5 - 20

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

RAFIX 22 FS contact block with gold contacts



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

Technical data see page 2 - 174

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

Dimensions

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

Mechanical design

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

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; I_{the} : 5 A
Rated operating current I_E , DC13 Q300 550 mA/120 V; 270 mA/240 V; I_{the} : 2.5 A

Other specifications

Operating life at 250V / 1A 1,000,000
Operating life at 250V / 2A 100000
Operating life at 250V / 4A 70000

Switching reliability at 24V/5mA DC 10×10^{-6}
Ambient temp. operating min. -25 °C
Ambient temp. operating max. +70 °C
Storage temperature min. -40 °C
Storage temperature max. +80 °C
Colour of plunger see order block
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 600 68-2-27 50 g at 11 ms, amplitude half sinusoidal
Resistance to vibrations acc. to IEC 600 68-2-6 5 g at 10 ... 500 Hz
Resistance to constant environment IEC 600 68-2-3 and 2-30
Resistance at variable environment IEC 600 68-2-14 and 2-33
Salt spray IEC 600 68-2-11
Solderability / solder heat resistance IEC 600 68-2-20
Solder techniques wave solder bath / manual soldering V 0
Flame class acc. to UL 94
Hot wire ignition acc. to IEC 60695-2-1 yes
Type see order block
Colour of housing black

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 - 20
3 mm LED superbright red		1.90.690.269/0000	5 - 20
3 mm LED superbright blue		1.90.690.282/0000	5 - 20
3 mm LED superbright green		1.90.690.285/0000	5 - 20
3 mm LED superbright white		1.90.690.295/0000	5 - 20

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

RAFIX 22 FS contact blocks with silver contacts



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

Technical data see page 2 - 176

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



black

Accessories RAFIX 22 FS special accessories

Description	Photo	Order no.	Page
Fixing spanner for ring nut and front ring		5.05.800.062/0000	5 - 23

Blanking cap



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

Ring nut



Pict.: black

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

LED base for signal indicators


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

Plastic frontring protection cap


Pict.: slate-grey

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

**RAFIX
22 FS**
2