

# E-BOX

Ideal for your profile



**RAFI**

# E-Box modular

## Housing for RAFIX 22 FS<sup>+</sup> control components

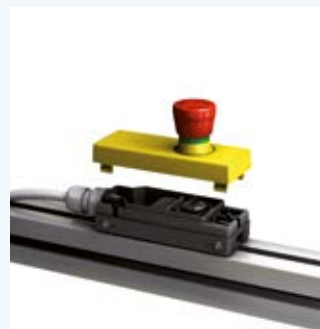


The RAFIX 22 FS<sup>+</sup> E-Box is an elegant, extremely well-designed housing for control components. It can be used wherever individual control component units are required in remote places. Very typical, for example, for Emergency-Stop applications along a production line or on the safety fence.

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

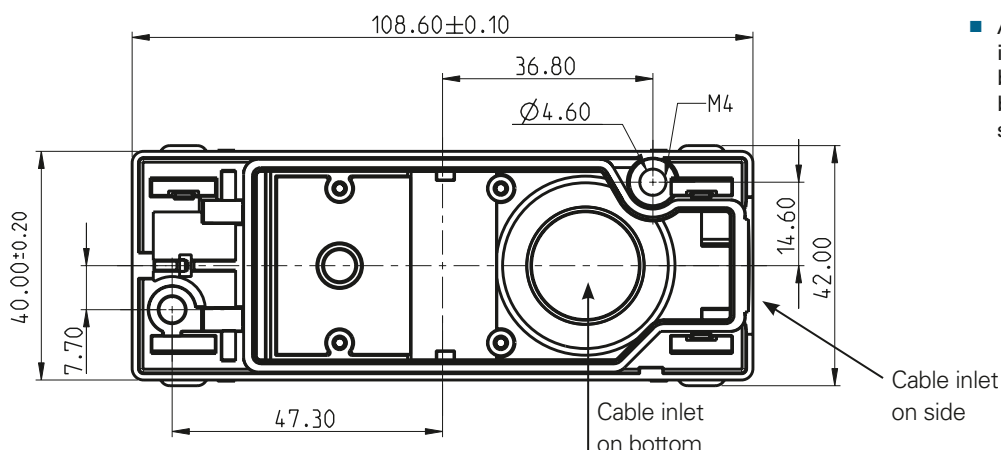
Instructional video for assembly: see [www.rafix22fs.de](http://www.rafix22fs.de)

### Simple assembly concept, based on 40 mm profile rails



- Insert metal clip in profile rail slot (locating noses on the clip ensure precise adjustment, fix with only one screw)
- The metal clip can also be screwed onto other surfaces.
- Mount housing bottom part
- Attach contact module
- Insert the wires
- Connect the terminals
- Insert RAFIX 22 FS<sup>+</sup> actuator (e.g. E-Stop) into housing top part
- Fix actuator with a ring nut
- Snap housing top part onto bottom part. Done!

### Drilling pattern for direct mounting with screws



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

# E-Box modular

## Housing for RAFIX 22 FS<sup>+</sup> control components

### Housing

- Extremely compact (dimensions 109 x 40 x 27 mm)
- Suitable for actuators from the RAFIX 22 FS<sup>+</sup> control unit range (ø 22.3 mm)
- With yellow housing cap for E-Stop actuator
- With grey housing cap for standard actuators (such as pushbuttons)
- Fixing
  - with the timesaving one-hole screw attachment method, particularly suitable for aluminium profile rails
  - or alternatively by direct attachment with M4 screws
- Includes cable lead-in for direct cabling
  - side: M16
  - bottom: M20

### Technical data

- Protection as per EN 60529: IP65
- Protection class II
- Temperature range as per IEC 60947-5-1<sup>1</sup>



<sup>1</sup> Depending on actuators used

### Contact module

- With RAFIX 22 FS<sup>+</sup> contact block for
  - E-Stop actuator or
  - Standard actuator
- Contact block with 2 contact cavities (for E-Stop "PLUS 1" with 3 contacts)
- Option with LED for illuminated actuator components
- Line connection (max. 1.5 mm<sup>2</sup>)
  - in bottom of housing
  - with spring clamp (rigid wire, wire with or without cable end sleeve)

### General information: contact modules

- Working temperature: -25 °C – +70 °C
- Storage temperature: -40 °C – +85 °C
- Shock resistance as per EN 60068-2-27
- Vibration resistance as per EN 60068-2-6
- Resistance to environmental conditions as per EN 60068-2

### Technical data

#### Contact module with gold contact blocks

- Electrical characteristics:
  - operating voltage AC/DC min. 5 V
  - operating voltage AC/DC max. 35 V
  - operating current AC/DC min. 1 mA
  - operating current AC/DC max. 100 mA
  - switching capacity max. 250 mW
- Life cycle at 10 mA / 24 V DC 1,000,000 (Emergency-Stop "PLUS 1": 50,000)

### Technical data

#### Contact module with silver contact blocks

- Electrical characteristics as per IEC 60947, AC-15, DC-13:
  - rated insulation voltage AC/DC min. 250 V
  - rated impulse voltage 2.500 V
  - rated operating current
    - IE, AC15 B300 3 A / 120 V; 1,5 A / 240 V
    - I<sub>the</sub>: 5 A
  - rated operating current
    - IE, DC13 Q300 550 mA / 120 V; 270 mA / 240 V
    - I<sub>the</sub>: 2,5 A
- Life cycle (min.)
  - 1.000.000 at 250 V / 1 A
  - 100.000 at 250 V / 2 A
  - 30.000 at 250 V / 4 A



# E-Box modular

## Housing for E-Stop applications

### E-Box, yellow housing

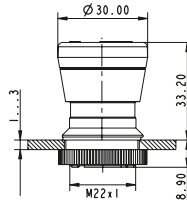


Cable attachment side

Cable attachment bottom

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

### RAFIX 22 FS+, E-Stop pushbutton



Reset	Illuminability	IP protection on front side	Order no.
by turning clockwise	no	IP65	1.30.273.501/0300
by turning clockwise	yes, window translucent white	IP65	1.30.273.001/2200
by turning clockwise	yes, window translucent red	IP65	1.30.273.001/2300
by pulling	no	IP65, IP69K	1.30.273.601/0300
by pulling	yes, window translucent white	IP65, IP69K	1.30.273.101/2200
by pulling	yes, window translucent red	IP65, IP69K	1.30.273.101/2300
by turning clockwise	no	IP65	1.30.273.502/0300 „PLUS 1“
by pulling	no	IP65, IP69K	1.30.273.602/0300 „PLUS 1“

For details see RAFI brochure RAFIX 22 FS+.

# E-Box modular

## Contact modules for E-Stop applications

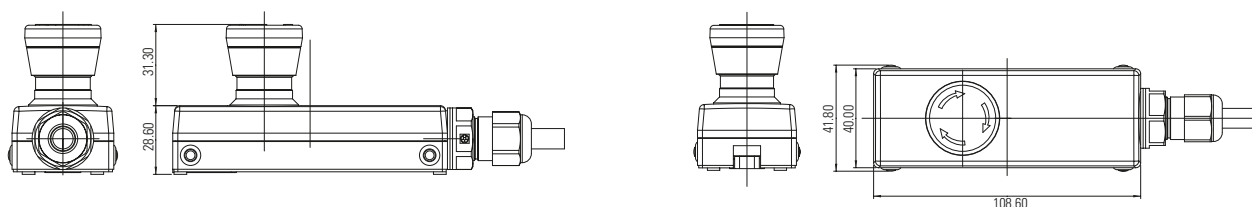
### E-Box Contact modules for E-Stop applications



RAFIX 22 FS <sup>+</sup> control element	Contact material	Contact arrangement	LED / colour	Order no.
E-Stop	gold	2 NC	none	5.00 100.221/0000
E-Stop	gold	2 NC	LED red	5.00 100.222/0000
E-Stop	gold	2 NC	LED white	5.00 100.224/0000
E-Stop	gold	2 NC	LED green	5.00 100.225/0000
E-Stop "PLUS 1"	gold	2 NC + 1 NO	none	5.00 100.226/0000
E-Stop	silver	2 NC	none	5.00 100.227/0000

For technical data see page 3.

### Dimensional drawing



# E-Box modular

## Housing for standard applications

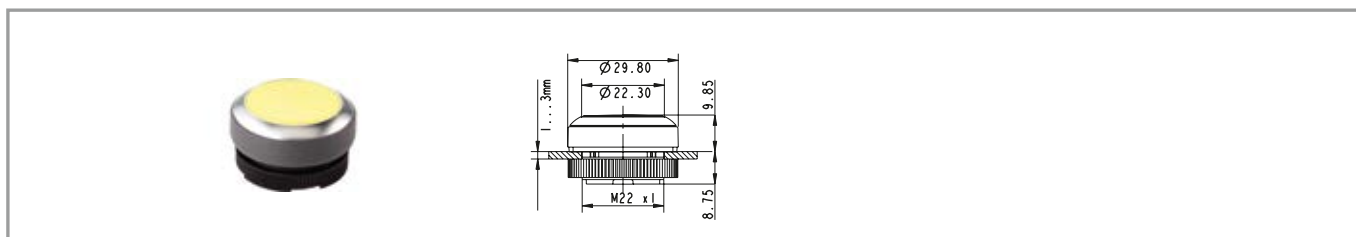
### E-Box, grey housing



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

Dimensional drawing see page 3/5.

### Pushbutton\* RAFIX 22 FS+



Illuminated	Lens colour	Order no. momentary		Order no. latching	
		Plastic front ring	Metallized front ring	Plastic front ring	Metallized front ring
yes	translucent white	1.30.270.001/22xx	1.30.270.021/2200	1.30.270.011/22xx	1.30.270.031/2200
yes	translucent red	1.30.270.001/23xx	1.30.270.021/2300	1.30.270.011/23xx	1.30.270.031/2300
yes	translucent yellow	1.30.270.001/24xx	1.30.270.021/2400	1.30.270.011/24xx	1.30.270.031/2400
yes	translucent green	1.30.270.001/25xx	1.30.270.021/2500	1.30.270.011/25xx	1.30.270.031/2500
yes	translucent blue	1.30.270.001/26xx	1.30.270.021/2600	1.30.270.011/26xx	1.30.270.031/2600

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

For more pushbutton models, see the RAFI brochure RAFIX 22 FS+.

\* Applications with other actuators from the RAFIX 22 FS+ series are possible on request.

# E-Box modular

## Contact modules for standard applications

### E-Box contact modules for standard applications



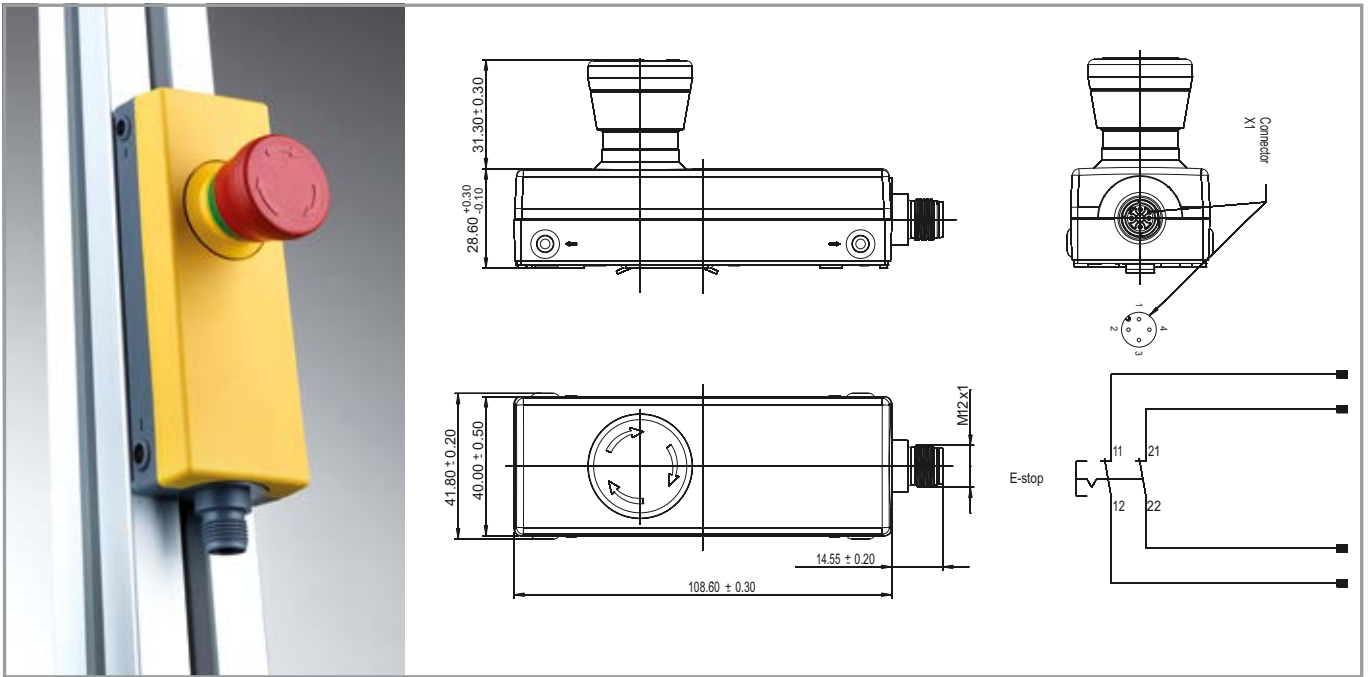
RAFIX 22 FS <sup>+</sup> control element	Contact material	Contact arrangement	LED / colour	Order no.
Universal	gold	2 NC	none	5.00 100.228/0000
Universal	gold	2 NC	LED red	5.00 100.229/0000
Universal	gold	2 NC	LED yellow	5.00 100.230/0000
Universal	gold	2 NC	LED green	5.00 100.231/0000
Universal	gold	2 NC	LED blue	5.00 100.232/0000
Universal	gold	2 NC	LED white	5.00 100.233/0000
Universal	gold	1 NC + 1 NO	none	5.00 100.234/0000
Universal	gold	1 NC + 1 NO	LED red	5.00 100.235/0000
Universal	gold	1 NC + 1 NO	LED yellow	5.00 100.236/0000
Universal	gold	1 NC + 1 NO	LED green	5.00 100.237/0000
Universal	gold	1 NC + 1 NO	LED blue	5.00 100.238/0000
Universal	gold	1 NC + 1 NO	LED white	5.00 100.239/0000
Universal	gold	2 NO	none	5.00 100.240/0000
Universal	gold	2 NO	LED red	5.00 100.241/0000
Universal	gold	2 NO	LED yellow	5.00 100.242/0000
Universal	gold	2 NO	LED green	5.00 100.243/0000
Universal	gold	2 NO	LED blue	5.00 100.244/0000
Universal	gold	2 NO	LED white	5.00 100.245/0000
Universal	silver	2 NC	none	5.00 100.246/0000
Universal	silver	1 NC + 1 NO	none	5.00 100.247/0000
Universal	silver	2 NO	none	5.00 100.248/0000

For technical data see page 3.

# E-Box Complete

## E-Stop with M12 connector

### E-Box Complete, E-Stop with M12 connector



The **E-BOX COMPLETE** is a ready-to-connect, completely equipped E-Stop-housing, including E-Stop and contact module.

This makes the connection process even easier: Attach the M12 sleeve, check the unit - done!

#### TECHNICAL DATA

Dimensions:	109 x 40 x 29 mm	Operational voltage:	5- 35 V
Attachment:	with a clip, in a 40 mm aluminum profile rail	Operational current:	1- 100 mA
Connector:	M12, 4-poled	Breaking capacity max.:	250 mW
Safety class:	IP65	Contact mounting:	2 NC (1/2 and 3/4)
Working temp.:	-5...+70 °C	Useful life / B10 value:	50.000

E-Box Complete	Equipped with actuator	Contact configuration / LED	Connector configuration plug	Order no.
E-Stop	E-Stop	2 NC	1/2 and 3/4	1.20.810.306/0000

Additional configurations upon request.



# E-Box X2

With two installation points

## E-Box X2, pre-fitted housing, two installation points, M12 connector



The E-Box X2 is a ready-to-connect, completely equipped housing for two control devices, including an actuator and control elements. This enables - for instance - UP/DOWN functions, additional status indicators for the E-Stop function (or further additional input functions) on the highly compact E-Box. The E-Box X2 is available as a pre-fitted module. Assembly process: Attach the clip, place the box on top, connect the plug, check the unit - and you're done!

The RAFIX 22 FS<sup>+</sup> E-Box can be used in any location where individual control device units are necessary on decentralized deployment sites.

This is typical - for instance - to E-Stop applications along a production facility (or on the safety fence).

The size of the RAFIX 22 FS<sup>+</sup> E-Box is oriented to the angular dimensions of a 40 mm profile rail.

### TECHNICAL DATA

Dimensions: 109 x 40 x 29 mm

Attachment: with a clip,  
in a 40 mm aluminum profile rail

Connector: M12, 4-poled or 8-poled

Safety class: IP65

Working temp.: -5 ... +70 °C

Operational voltage: 5 - 35 V

Operational current: 1 - 100 mA

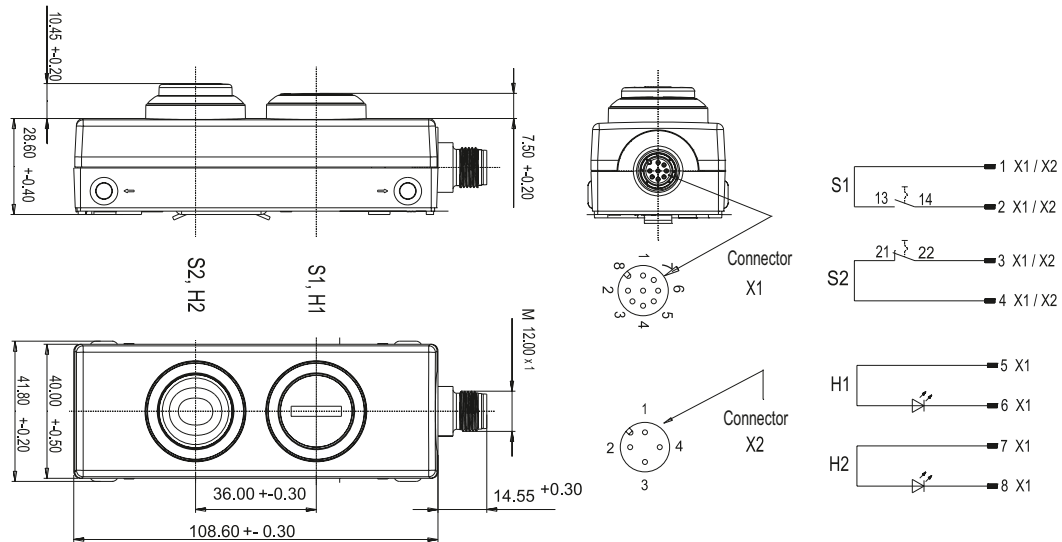
Breaking capacity max.: 250 mW

Contact mounting: see order table

# E-Box X2

With two installation points

## E-Box X2, pre-fitted housing, two installation points, M12 connector



E-Box X2 connector M12 4-poled	Equipped with actuator / diode / LED	Labeling / Symbol	Contact configuration LED	Contact configuration connector	Order no.
Pushbutton red-green	Pushbutton, flat, green		1 NO	1 - 2	1.20.810.320/0000
	Pushbutton, protruding, red		1 NC	3 - 4	
Pushbutton arrows	Pushbutton, flat, white		1 NO	1 - 2	1.20.810.321/0000
	Pushbutton, flat, white		1 NO	3 - 4	
Keyswitch with signal indicator	Keyswitch 1 x 90° Catching		1 NO	1 - 2	1.20.810.322/0000
	Signal indicator white		LED green	3 - 4	
E-Stop with signal indicator	E-Stop		1 NC	1 - 2	1.20.810.350/0000
	Signal indicator white		LED red	3 - 4	

E-Box X2 connector M12 8-poled	Equipped with actuator / diode / LED	Labeling / Symbol	Contact configuration / LED	Contact configuration connector	Order no.
Pushbutton red-green with LEDs	Pushbutton, flat, green		1 NO	1 - 2	1.20.810.360/0000
	with LED green		LED green	5 - 6	
	Pushbutton, protruding, red		1 NC	3 - 4	
	with LED red		LED red	7 - 8	
E-Stop with luminous field	E-Stop		1 NC	1 - 2	1.20.810.390/0000
			1 NC	5 - 6	
	Signal indicator white		LED red	3 - 4	

Additional configurations upon request.

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Technical data are approximate and only intended for general orientation in the selection of a product. Subject to modifications and errors.

Images and other graphics may only be similar.  
For more information, refer to [www.rafi.de](http://www.rafi.de) chapter Imprint / Data Protection

## E-Box application examples



Profile rails are widely used in machinery and plant, as they can be universally deployed in all kinds of stable structures. They are used in, among other areas, logistics and production, because they can cover large span lengths.

Aluminium profile rails are also widely used in the chassis structure of assembly robotics, for CNC machines or automatic injection moulding machines, as well as in transport and conveyor systems. Industrial work and test benches are most often built using profile rails.

Certain profile designs in this world-wide range of structures are also suitable for safety fences. Depending on the profile, various different panes or wave mesh can be used.

The range of accessories for profile rails is generally very extensive and suitable for all kinds of applications.

The E-Box assembly concept is based on profile rails. However the E-Box can also be mounted on other surfaces. You can use the metal clip, or screws for direct mounting, to attach the E-Box to cast iron, wood, plaster, concrete, and many other surfaces.

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