

The New **Control Component** Generation



# RAFIX 22QR



**RAFI**



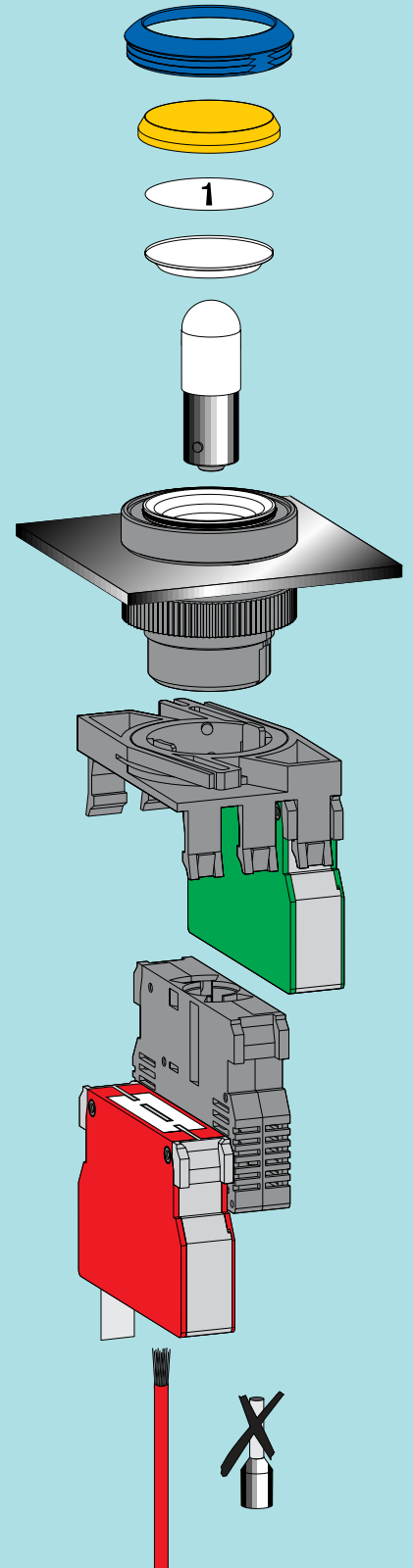
# RAFIX 22QR

The new **22 mm Control Component Generation** made by Rafi



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

- NC contacts: red
- NO contacts: green
- NC / NO contacts: red / green
- Lamp socket: black
- Silver contacts:  
basic housing colour is black
- Gold contacts:  
basic housing colour is grey
- The terminals associated with a contact pair are colour coded on the connection side and marked with the respective contact numbers.



The lamps of pushbuttons and signal lamps can be replaced from the front. This method saves time and increases safety since it eliminates the need for accessing the machine/control station interior and handling live cables for lamp replacement. After unscrewing the front ring, the lens can be removed and the lamp replaced.



The components feature a removable locating lug. If installed without locating lug, the ring nut with claw can be used. Accurate alignment of the actuator can be achieved behind the front panel. The cast-on collar seal can not get lost nor be twisted during installation and allows single-person assembly: the actuator is held in the mounting hole by the cast-on seal and can then be fixed by screwing from the rear.



First, snap the lamp socket and contact blocks into the coupling. Then snap the assembly on to the actuator. To release it, the bayonet lever must be pressed (prevents inadvertent releasing at the same time).

### Screw terminals or cage clamp terminals

The RAFIX 22QR contact blocks are available in two different connection styles as required for your application:



#### Screw terminals:

The terminals are open and the captive screws are mounted in the terminal recess.

#### Cage clamp terminals:

Simply insert a screwdriver to open the terminal, insert the cable and remove the screwdriver to close the terminal.

### Your advantage:

This offers you savings in three ways:

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



#### Sealed for life against humidity and dirt

The special seal reliably prevents moisture, oil and dust from penetrating to the contact block. In contrast to other sealing types which move up and down the shaft, this special seal is firmly seated on the housing. This is why the RAFIX 22QR range offers switching reliability throughout the operating life (degree of protection IP 65 to DIN).



**RAFIX 22QR**

## Easy assembly of RAFIX 22QR.

#### Screw terminals



**Insert the wire.**

#### Cage clamp terminals



**Open the terminal.**



**Tighten the screw.**



**Insert the wire.**



**Done.**



**Remove the screwdriver.**



## Versatility of design for customized panels

The RAFIX 22QR system does not only have a particularly low profile as compared to its predecessor and its competitors but is also available in many different versions. Your design options for your customized panels are nearly unlimited thanks to the interchangeable front rings and lenses. In this way you can achieve an attractive design while ensuring safe operation of your equipment at the same time.

RAFIX 22QR components are available either with a round or with a square collar. The square version can be mounted in flush fitting rows just like a self-contained pushbutton block. In this way, dirt cannot accumulate between the individual pushbuttons. Your panels will always remain attractive and functionally reliable.

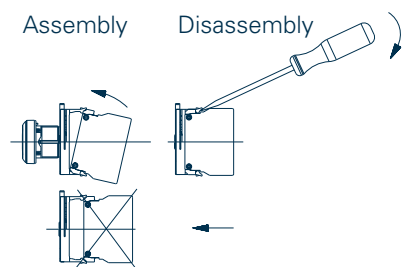
The new RAFIX 22QR control component range meets all the technical requirements and current standards for control gear. All the components have been designed from scratch, with a special view to progressive design and ease of assembly. As a result, we developed a state-of-the-art product with an optimum cost/benefit ratio.

The system is of modular design. Actuators, contact blocks and lamp sockets can be combined freely. This means that you may implement modifications of design or configuration even at the last minute. An additional positive effect is the reduction of stockholding costs.



### Sequence of assembly / disassembly

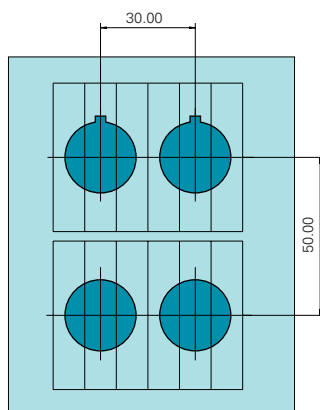
- Fix the actuator in the front panel with the ring nut.
- Snap the individual elements (a maximum three contact blocks or two contact blocks together with a lamp socket) in the coupling. You can install them on any assembling axis.
- Insert the lamp or LED into the lamp socket.
- Snap the coupling with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



### Approvals

● = Approved, ○ = Approval pend-

Part no.	BG zert.	VDE 0660	ENEC 10/15	ULc	GL
1.20 124.---	○	○	●	●	○
1.20 125.---	○	○	●	○	○
1.30 243.---	○				
1.71 213.---		○	●	●	○
1.71 214.---		○	●	○	○



### Panel cut-out according to IEC 947

All actuators are provided with a locating lug which may be removed using a screwdriver for installation into mounting holes if required.

With a grid spacing of 30 mm horizontally and 50 mm vertically, the collars of the square actuators touch each other. We recommend to use the same grid spacing also for the round collar shapes (IEC 947).

**All dimensions given in this catalogue are in mm!**

# Preliminary specifications

The specified data apply to contact blocks with either screw terminals or cage clamp terminals.  
If these values differ, those values referring to cage clamp terminals are given in square brackets [ ].  
We reserve the right to implement technical changes without notice.

## Overall system (actuator with contact block)

Approvals:	IEC 947, IEC 1058, UL 508, CSA 22.2; corresponding to EU Directive NSR 73/23
CE conformity:	Emergency stop and silver contact blocks meet the requirements of the Machinery Directive 89/392 (statement of conformity available on request)
Ambient temperature, operating:	- 25 ... + 70°C [- 25 ... + 50°C], with single-Chip-LED: - 25 ... + 65°C
Ambient temperature, storage:	- 40 ... + 80°C
Climatic conditions:	IEC 68 Part 2-3 and Part 2-30
Resistance to vibration:	10 g at 40...500 Hz
Shock resistance to IEC 68-2-27:	> 50 g at 11 ms amplitude, half-sinusoidal
Robustness of actuator:	> 100 N
Assembling axis:	Any
Degree of protection on front side of panel:	IP 65 throughout the full operating life

## Actuators, operating life specified in no. of operations

Pushbutton:	momentary: > 1 million; latching: > 0.5 million
Selector switch:	momentary: > 0.5 million; latching: > 0.5 million
Keylock switch:	momentary: > 0.3 million; latching: > 50,000
Mushroom-headed pushbutton:	> 1 million
Emergency stop pushbutton:	> 0.1 million
Emergency stop pushbutton with keylock:	> 50,000

## Contact blocks with gold contacts / silver contacts

Terminals:	Screw terminals with captive and open terminals or cage clamp. Solid or stranded wires can be connected without wire end sleeves. Up to two conductors with different cross-sections can be connected to each terminal.
Wire range:	2 x 0.75 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> solid wires without wire end sleeves, 2 x 1,0 mm <sup>2</sup> ... 1,5 mm <sup>2</sup> stranded wires without wire end sleeves [0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> ] 2 x 0.75 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> solid or stranded wires with wire end sleeves
Contact system:	Self-cleaning bridge contacts
Contact arrangement:	1NC, 1NO, 2NC, 2NO, 1NC + 1NO, [1NC, 1NO, 1NC + 1NO], floating contacts
NC contact:	Positive opening contact according to IEC 947-5-1
Operating force:	approx. 5 N per contact element

## Specific data for contact blocks with gold contacts

Supply voltage:	1...42 V AC/DC
Current rating:	0.01 ... 100 mA AC/DC
Operating life:	> 1 million operations at 10 mA/24 V DC
Switching reliability at 24 V/5 mA DC:	10 x 10 <sup>-6</sup> operations

### Specific data for contact blocks with silver contacts

Switching reliability at 24 V/5 mA DC:	$10 \times 10^{e-6}$ operations
Operating life:	> 0.5 million operations at 10 A/250 V AC <i>[7 x 10<sup>4</sup> at 10 A/250 V AC]</i> <i>[2 x 10<sup>5</sup> at 5 A/250 V AC]</i> <i>[0,6 x 10<sup>6</sup> at 2 A/250 V AC]</i>

### IEC 947, VDE 0660

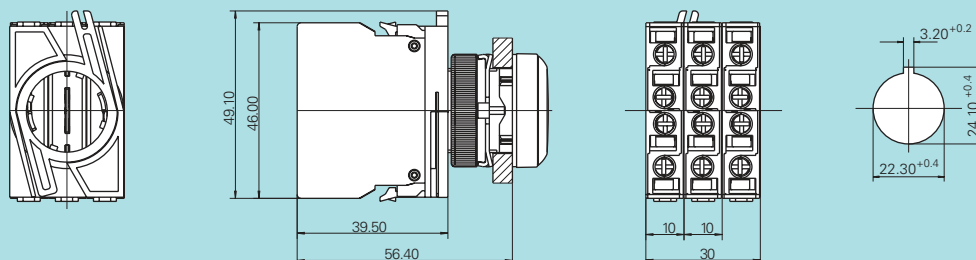
Rated insulation voltage:	400 V AC/DC
Rated peak voltage:	6 kV
Rated operating current I <sub>e</sub>	
AC-15:	125 V/10 A; 250 V/6 A; 400 V/3.5 A
DC-13 Q300:	24 V/2.75 A; 60 V/1.1 A; 125 V/0.55 A; 250 V/0.275 A
Degree of pollution:	3
Positive opening travel:	3 mm
Minimum opening force:	20 N
Actuating speed:	5 ... 1000 mm/s
Class of protection:	II

### IEC 1058, VDE 0630




Class of protection:	II
Resistive load:	10 A / 250 V AC; 7.5 A / 400 V AC
Motor load:	6 A [5 A] / 250 V AC; 4 A / 400 V AC
Peak input current, filament lamps:	36 A / 250 V AC
Peak input current, capacitive load:	100 A / 250 V AC [-]

### Lamp socket

Socket type:	BA9s
Supply voltage:	6...250 V AC/DC
Lamp power:	2 W
Terminal...:	x 1 outward contact (-) x 2 middle contact (+)



## RAFIX22QR control component assemblies


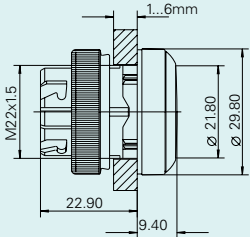

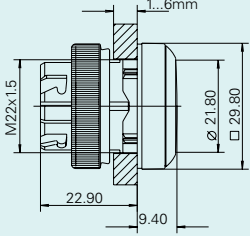

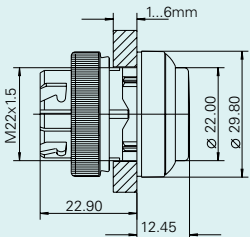

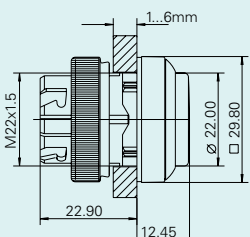

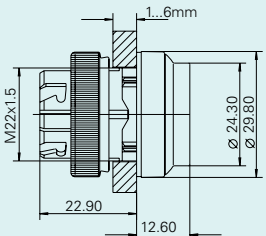

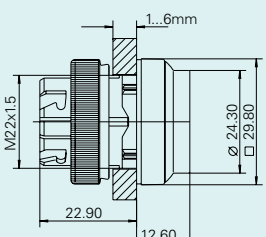
	Actuator	Contact block	Order no.	Colour no. (lens colour)	
<b>(1)</b> 	Pushbutton, flush Momentary function Illuminated Metal front ring (order no. 1.30 240.021)	1 NO + 1 lamp socket (order no. 1.20 124.022)	9.20 124.001	/1000 (colourless) /1300 (red) /1400 (yellow) /1500 (green) /1600 (blue)	
		1 NC + 1 NO + 1 lamp socket (order no. 1.20 124.027)	9.20 124.002		
		1 NC + 1 lamp socket (order no. 1.20 124.021)	9.20 124.003		/1000 (colourless) /1300 (red)
<b>(2)</b> 	Pushbutton, protruding Momentary function Illuminated Metal front ring (order no. 1.30 240.221)	1 NO + 1 lamp socket (order no. 1.20 124.022)	9.20 124.004	/1000 (colourless) /1300 (red) /1400 (yellow) /1500 (green) /1600 (blue)	
		1 NC + 1 NO + 1 lamp socket (order no. 1.20 124.027)	9.20 124.005		
<b>(3)</b> 	Pushbutton, flush Momentary function Non-illuminated Metal front ring (order no. 1.30 240.121)	1 NO contact (order no. 1.20 124.002)	9.20 124.006	/0100 (black) /0200 (white) /0300 (red) /0400 (yellow) /0500 (green) /0600 (blue) /0700 (slate grey)	
		1 NC + 1 NO contact (order no. 1.20 124.017)	9.20 124.007		
	As above with legend I (order no. 1.30 240.123)	1 NO contact (order no. 1.20 124.002)	9.20 124.008		/0100 (black) /0500 (green)
<b>(4)</b> 	Pushbutton, protruding Momentary function Non-illuminated Metal front ring (order no. 1.30 240.321)	1 NO contact (order no. 1.20 124.002)	9.20 124.010	/0100 (black) /0200 (white) /0300 (red) /0400 (yellow) /0500 (green) /0600 (blue) /0700 (slate grey)	
		1 NC + 1 NO contact (order no. 1.20 124.017)	9.20 124.011		
		1 NC contact (order no. 1.20 124.001)	9.20 124.013		
	As above with legend 0 (order no. 1.30 240.322)	1 NC contact (order no. 1.20 124.001)	9.20 124.012	/0200 (white) /0300 (red)	



## RAFIX22QR control component assemblies

	Actuator	Contact block	Order no.	Colour no.
(1)	 <p>Selector switch Metallized front ring Non-illuminated (order no. 1.30 242.702) 1 x 90°, latching</p>	1 NO contact (order no. 1.20 124.002)	9.20 124.020	Colour of mark on handle: /0200 (white)
		1 NC + 1 NO (order no. 1.20 124.017)	9.20 124.021	
	<p>Selector switch Metallized front ring Non-illuminated (order no. 1.30 242.802) 2 x 60°, latching</p>	1 NC + 1 NO (order no. 1.20 124.004)	9.20 124.022	
		1 NC + 1 NO, 1 NC + 1 NO (order no. 1.20 124.018)	9.20 124.023	
	<p>Selector switch Metallized front ring Non-illuminated (order no. 1.30 242.527) 2 x 45°, momentary</p>	1 NO + 1 NO (order no. 1.20 124.004)	9.20 124.024	
		1 NC + 1 NO, 1 NC + 1 NO (order no. 1.20 124.018)	9.20 124.025	
(2)	 <p>Keylock switch Key removal position 0 + 1 Metallized front ring (order no. 1.30 245.322) 1 x 90°, latching</p>	1 NO contact (order no. 1.20 124.002)	9.20 124.040	
		1 NC + 1 NO (order no. 1.20 124.017)	9.20 124.041	
(3)	 <p>Emergency stop pushbutton Latching function Non-illuminated (order no. 1.30 243.501)</p>	1 NC contact (order no. 1.20 124.001)	9.20 124.030	/0300 (red)
		1 NC + 1 NO (order no. 1.20 124.017)	9.20 124.031	
(4)	 <p>Mushroom-headed pushbutton Function momentary Non-illuminated Ø 40 mm (order no. 1.30 246.502)</p>	1 NO contact (order no. 1.20 124.002)	9.20 124.050	/0100 (black)
		1 NC + 1 NO (order no. 1.20 124.017)	9.20 124.051	
(5)	 <p>Signal indicator (order no. 1.74 505.501)</p>	1 lamp socket (order no. 1.71 213.001)	9.71 213.001	/1000 (colourless) /1300 (red) /1400 (yellow) /1500 (green) /1600 (blue)
		1 lamp socket with diode and resistor (order no. 1.71 213.002)	9.71 213.002	

## RAFIX22QR pushbuttons, illuminated, metal front ring

	Legending in black letters	Order no. Momentary function	Order no. Latching function	
(1) ○, flush pushbutton 	None I	1.30 240.021 / Colour no. 1.30 240.023 / Colour no.	1.30 240.031 / Colour no. —	
(2) □, flush pushbutton 	None I	1.30 240.071 / Colour no. 1.30 240.073 / Colour no.	1.30 240.081 / Colour no. —	
(3) ○, protruding pushbutton 	None 0	1.30 240.221 / Colour no. 1.30 240.222 / Colour no.	1.30 240.231 / Colour no. —	
(4) □, protruding pushbutton 	None 0	1.30 240.271 / Colour no. 1.30 240.272 / Colour no.	1.30 240.281 / Colour no. —	
(5) ○, protruding collar 	None	1.30 240.421 / Colour no.	—	
(6) □, protruding collar 	None	1.30 240.471 / Colour no.	—	


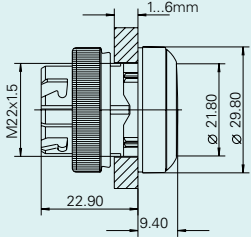

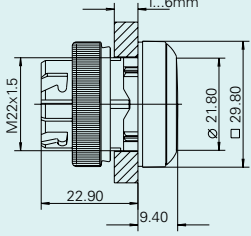

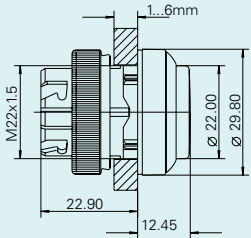

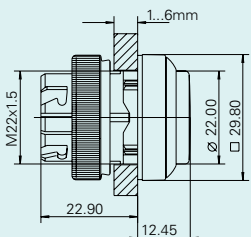

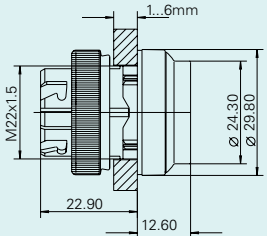

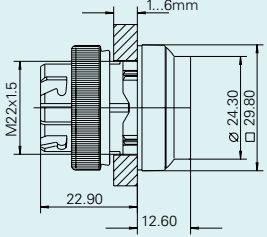
### Colour no. for front ring and transparent lens\*

Ring \ Lens	colourless	red	yellow	green	blue
metal	/1000	/1300	/1400	/1500	/1600

Ordering example: Flush pushbutton, illuminated, round collar, without legend, momentary, blue lens  
Order no. 1.30 240.021/1600

\* For your individual colour combination designs, please refer to the "RAFIX22QR single parts" chapter for various versions of housings, front rings, lenses and legend inserts.


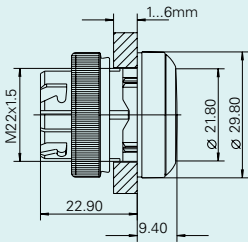

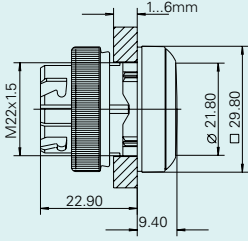

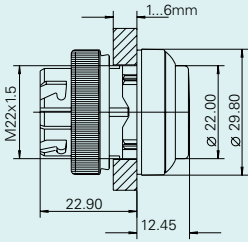

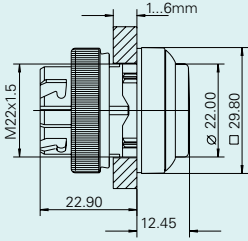

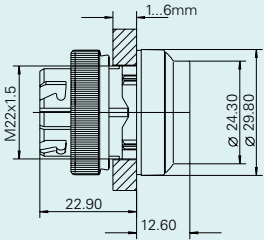

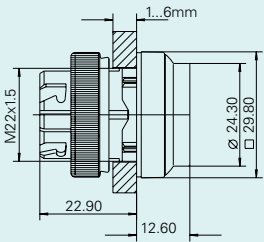
## RAFIX22QR pushbuttons, illuminated, plastic front ring

	Legending in black letters	Order no. Momentary function	Order no. Latching function	
<b>(1) ○, flush pushbutton</b> 	None I	1.30 240.001 / Colour no. 1.30 240.003 / Colour no.	1.30 240.011 / Colour no. –	
<b>(2) □, flush pushbutton</b> 	None I	1.30 240.051 / Colour no. 1.30 240.053 / Colour no.	1.30 240.061 / Colour no. –	
<b>(3) ○, protruding pushbutton</b> 	None 0	1.30 240.201 / Colour no. 1.30 240.202 / Colour no.	1.30 240.211 / Colour no. –	
<b>(4) □, protruding pushbutton</b> 	None 0	1.30 240.251 / Colour no. 1.30 240.252 / Colour no.	1.30 240.261 / Colour no. –	
<b>(5) ○, protruding collar</b> 	None	1.30 240.401 / Colour no.	–	
<b>(6) □, protruding collar</b> 	None	1.30 240.451 / Colour no.	–	

### Colour no. for front ring and transparent lens\*

Lens \ Ring	black	red	yellow	green	blue	slate grey	silver
colourless	/1001	/1003	/1004	/1005	/1006	/1007	/1008
red	–	–	–	–	–	–	/1308
yellow	–	–	–	–	–	–	/1408
green	–	–	–	–	–	–	/1508
blue	–	–	–	–	–	–	/1608

## RAFIX 22QR pushbuttons, non-illuminated, metal front ring

	Legending in black letters	Order no. Momentary function	Order no. Latching function	
<b>(1) ○, flush pushbutton</b> 	None	1.30 240.121/ Colour no.	—	
	0	1.30 240.122/ Colour no.	—	
	I	1.30 240.123/ Colour no.	—	
	→	1.30 240.124/ Colour no.	—	
<b>(2) □, flush pushbutton</b> 	None	1.30 240.171/ Colour no.	—	
	0	1.30 240.172/ Colour no.	—	
	I	1.30 240.173/ Colour no.	—	
	→	1.30 240.174/ Colour no.	—	
<b>(3) ○, protruding pushbutton</b> 	None	1.30 240.321/ Colour no.	1.30 240.331/ Colour no.	
	0	1.30 240.322/ Colour no.	—	
	I	1.30 240.323/ Colour no.	—	
	→	1.30 240.324/ Colour no.	—	
<b>(4) □, protruding pushbutton</b> 	None	1.30 240.371/ Colour no.	1.30 240.381/ Colour no.	
	0	1.30 240.372/ Colour no.	—	
	I	1.30 240.373/ Colour no.	—	
	→	1.30 240.374/ Colour no.	—	
<b>(5) ○, protruding collar</b> 	None	1.30 240.521/ Colour no.	—	
<b>(6) □, protruding collar</b> 	None	1.30 240.571/ Colour no.	—	


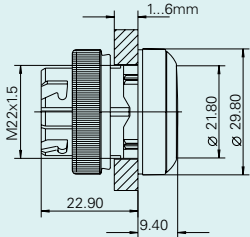

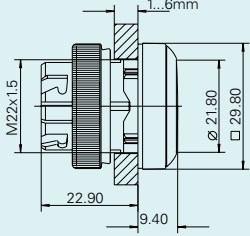

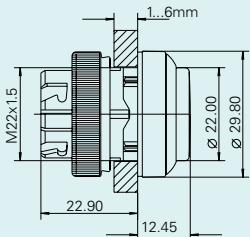

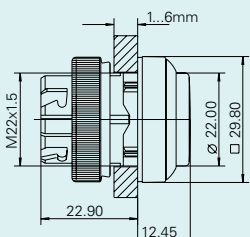

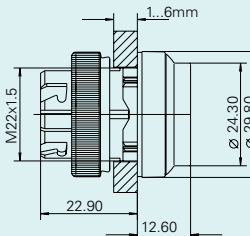

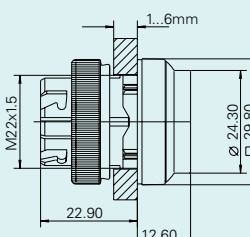
### Colour no. for front ring and opaque lens\*

Ring \ Lens	black	white	red	yellow	green	blue	slate grey
metal	/0100	/0200	/0300	/0400	/0500	/0600	/0700

Ordering example: Flush pushbutton, non-illuminated, round collar, without legend, momentary, blue lens  
Order no. 1.30 240.121/0600

\* For your individual colour combination designs, please refer to the "RAFIX 22QR single parts" chapter for various versions of housings, front rings, lenses and legend inserts.

## RAFIX22QR pushbuttons, non-illuminated, plastic front ring

	Legending in black letters	Order no. Momentary function	Order no. Latching function	
<b>(1) ○, flush pushbutton</b> 	None	1.30 240.101 / Colour no.	—	
	0	1.30 240.102 / Colour no.	—	
	I	1.30 240.103 / Colour no.	—	
	→	1.30 240.104 / Colour no.	—	
<b>(2) □, flush pushbutton</b> 	None	1.30 240.151 / Colour no.	—	
	0	1.30 240.152 / Colour no.	—	
	I	1.30 240.153 / Colour no.	—	
	→	1.30 240.154 / Colour no.	—	
<b>(3) ○, protruding pushbutton</b> 	None	1.30 240.301 / Colour no.	1.30 240.311 / Colour no.	
	0	1.30 240.302 / Colour no.	—	
	I	1.30 240.303 / Colour no.	—	
	→	1.30 240.304 / Colour no.	—	
<b>(4) □, protruding pushbutton</b> 	None	1.30 240.351 / Colour no.	1.30 240.361 / Colour no.	
	0	1.30 240.352 / Colour no.	—	
	I	1.30 240.353 / Colour no.	—	
	→	1.30 240.354 / Colour no.	—	
<b>(5) ○, protruding collar</b> 	None	1.30 240.501 / Colour no.	—	
<b>(6) □, protruding collar</b> 	None	1.30 240.551 / Colour no.	—	



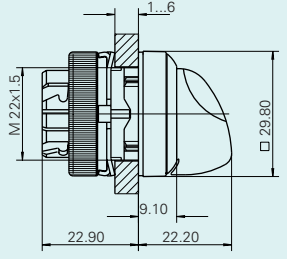




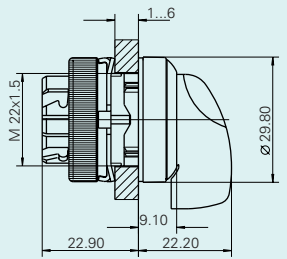



### Colour no. for front ring and opaque lens\*

Lens	Ring	black	red	yellow	green	blue	slate grey	silver
white		/0201	/0203	/0204	/0205	/0206	/0207	/0208
black		—	—	—	—	—	—	/0108
red		—	—	—	—	—	—	/0308
yellow		—	—	—	—	—	—	/0408
green		—	—	—	—	—	—	/0508
blue		—	—	—	—	—	—	/0608
slate grey		—	—	—	—	—	—	/0708

Ordering example: Flush pushbutton, non-illuminated, round collar, without legend, momentary, black front ring: Order no. 1.30 240.101/0201

\* For your individual colour combination designs, please refer to the "RAFIX22QR single parts" chapter for various versions of housings, front rings, lenses and legend inserts.

# RAFIX22QR selector switches, illuminated

	Function	Collar shape	Front ring	Order no. Short handle	Order no. Long handle		
<input type="checkbox"/> collar, short handle 	1x45°; momentary 	<input type="radio"/>	Plastic	1.30 242.001	1.30 242.011		
		<input type="checkbox"/>	Plastic	1.30 242.051	1.30 242.061		
		<input type="radio"/>	Metallized	1.30 242.002	1.30 242.012		
		<input type="checkbox"/>	Metallized	1.30 242.052	1.30 242.062		
	2x45°; momentary* 	<input type="radio"/>	Plastic	1.30 242.026	1.30 242.036		
		<input type="checkbox"/>	Plastic	1.30 242.076	1.30 242.086		
		<input type="radio"/>	Metallized	1.30 242.027	1.30 242.037		
		<input type="checkbox"/>	Metallized	1.30 242.077	1.30 242.087		
1x90°; latching 	<input type="radio"/>	Plastic	1.30 242.101	1.30 242.111			
	<input type="checkbox"/>	Plastic	1.30 242.151	1.30 242.161			
	<input type="radio"/>	Metallized	1.30 242.102	1.30 242.112			
	<input type="checkbox"/>	Metallized	1.30 242.152	1.30 242.162			
<input type="radio"/> collar, long handle 	2x90°; latching* 	<input type="radio"/>	Plastic	1.30 242.126	1.30 242.136		
		<input type="checkbox"/>	Plastic	1.30 242.176	1.30 242.186		
		<input type="radio"/>	Metal	1.30 242.127	1.30 242.137		
		<input type="checkbox"/>	Metal	1.30 242.177	1.30 242.187		
1x90°; latching 	<input type="radio"/>	Plastic	1.30 242.201	1.30 242.211			
	<input type="checkbox"/>	Plastic	1.30 242.251	1.30 242.261			
	<input type="radio"/>	Metallized	1.30 242.202	1.30 242.212			
	<input type="checkbox"/>	Metallized	1.30 242.252	1.30 242.262			
2x60°; latching* 	<input type="radio"/>	Plastic	1.30 242.301	1.30 242.311			
	<input type="checkbox"/>	Plastic	1.30 242.351	1.30 242.361			
	<input type="radio"/>	Metallized	1.30 242.302	1.30 242.312			
	<input type="checkbox"/>	Metallized	1.30 242.352	1.30 242.362			
1x90°; latching* 1x45°; momentary 	<input type="radio"/>	Plastic	1.30 242.426	1.30 242.436			
	<input type="checkbox"/>	Plastic	1.30 242.476	1.30 242.486			
	<input type="radio"/>	Metallized	1.30 242.427	1.30 242.437			
	<input type="checkbox"/>	Metallized	1.30 242.477	1.30 242.487			



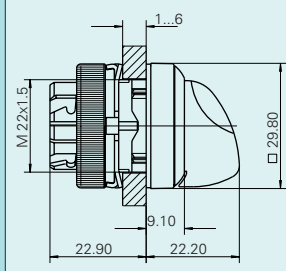







Mark	Ring	Front ring plastic						Front ring metal	
		black	red	yellow	green	blue	slate grey		silver
white		/2201	/2203	/2204	/2205	/2206	/2207	/2208	/2200
red		-	-	-	-	-	-	-	/2300
yellow		-	-	-	-	-	-	-	/2400
green		-	-	-	-	-	-	-	/2500
blue		-	-	-	-	-	-	-	/2600

Ordering example: Selector switch, illuminated, 1 x 45°, momentary, round collar, black plastic front ring, short handle, white handle mark  
Order no. 1.30 242.001/2201

\*Please use only two contact blocks on left and right position. A third contact block in the middle position may not be mounted.

Ring nut with claw included

## RAFIX22QR selector switches, non-illuminated

	Function	Collar shape	Front ring	Order no. Short handle	Order no. Long handle	
 □ collar, short handle	1x45°, momentary 	○	Plastic	1.30 242.501	1.30 242.511	
		□	Plastic	1.30 242.551	1.30 242.561	
		○	Metallized	1.30 242.502	1.30 242.512	
		□	Metallized	1.30 242.552	1.30 242.562	
	2x45°, momentary* 	○	Plastic	1.30 242.526	1.30 242.536	
		□	Plastic	1.30 242.576	1.30 242.586	
		○	Metallized	1.30 242.527	1.30 242.537	
		□	Metallized	1.30 242.577	1.30 242.587	
 ○ collar, long handle	1x90°, latching 	○	Plastic	1.30 242.601	1.30 242.611	
		□	Plastic	1.30 242.651	1.30 242.661	
		○	Metallized	1.30 242.602	1.30 242.612	
		□	Metallized	1.30 242.652	1.30 242.662	
	2x90°, latching* 	○	Plastic	1.30 242.626	1.30 242.636	
		□	Plastic	1.30 242.676	1.30 242.686	
		○	Metallized	1.30 242.627	1.30 242.637	
		□	Metallized	1.30 242.677	1.30 242.687	
1x90°, latching 	○	Plastic	1.30 242.701	1.30 242.711		
	□	Plastic	1.30 242.751	1.30 242.761		
	○	Metallized	1.30 242.702	1.30 242.712		
	□	Metallized	1.30 242.752	1.30 242.762		
2x60°, latching* 	○	Plastic	1.30 242.801	1.30 242.811		
	□	Plastic	1.30 242.851	1.30 242.861		
	○	Metallized	1.30 242.802	1.30 242.812		
	□	Metallized	1.30 242.852	1.30 242.862		
1x90°, latching* 1x45°, momentary 	○	Plastic	1.30 242.926	1.30 242.936		
	□	Plastic	1.30 242.976	1.30 242.986		
	○	Metallized	1.30 242.927	1.30 242.937		
	□	Metallized	1.30 242.977	1.30 242.987		

### Colour no. for front ring and opaque handle mark



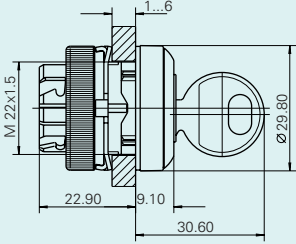

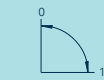



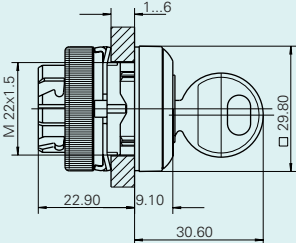


Mark	Ring	Front ring plastic						Front ring metal	
		black	red	yellow	green	blue	slate grey		silver
white		/0201	/0203	/0204	/0205	/0206	/0207	/0208	/0200
red		-	-	-	-	-	-	-	/0300
yellow		-	-	-	-	-	-	-	/0400
green		-	-	-	-	-	-	-	/0500
blue		-	-	-	-	-	-	-	/0600

Ordering example: Selector switch, non-illuminated, 1 x 45°, momentary, round collar, black plastic front ring, short handle, white handle mark  
Order no. 1.30 242.501/0201

\*Please use only two contact blocks on left and right position. A third contact block in the middle position may not be mounted.

Ring nut with claw included

## RAFIX22QR keylock switches, metal front ring

	Function	Key removal position	Collar shape	Order no.			
<p>○ collar</p> 	1 x 45°, momentary 	0 0	○ □	1.30 245.002 1.30 245.052			
	2 x 45°, momentary* 	0 0	○ □	1.30 245.102 1.30 245.152			
	1 x 90°, latching 	0 0	○ □	1.30 245.202 1.30 245.252			
		0 + I 0 + I	○ □	1.30 245.212 1.30 245.262			
	1 x 90°, latching 	0 + I 0 + I	○ □	1.30 245.222 1.30 245.272			
		0 0	○ □	1.30 245.302 1.30 245.352			
	<p>□ collar</p> 	2 x 90°, latching* 	0 0	○ □		1.30 245.402 1.30 245.452	
			0 + I 0 + I	○ □		1.30 245.412 1.30 245.462	
		0 + 2 0 + 2	○ □	1.30 245.422 1.30 245.472			
		0 + I + 2 0 + I + 2	○ □	1.30 245.432 1.30 245.482			
		2 x 60°, latching* 	0 + I + 2 0 + I + 2	○ □		1.30 245.732 1.30 245.782	
		1 x 90°, latching* 1 x 45°, momentary 	0 0	○ □		1.30 245.502 1.30 245.552	
2 2	○ □		1.30 245.512 1.30 245.562				
0 + 2 0 + 2	○ □		1.30 245.522 1.30 245.572				

Lock no. 455, Ronis.  
Other lock numbers on request.

### Lock characteristics (metal and plastic front ring)



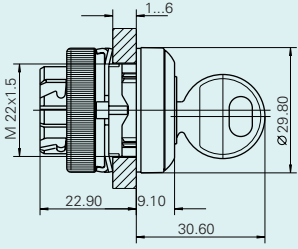





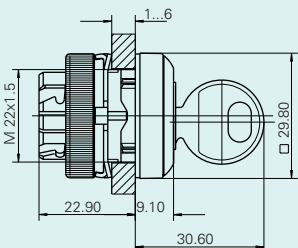




Wafers: 4  
No. of lock types: 200  
Main key: No  
Group key: No

\*Please use only two contact blocks on left and right position. A third contact block in the middle position may not be mounted.

Ring nut with claw and 2 keys included.



## RAFIX22QR keylock switches, plastic front ring


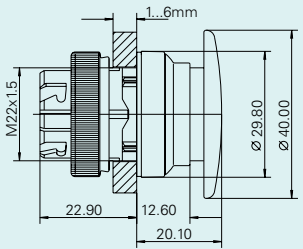

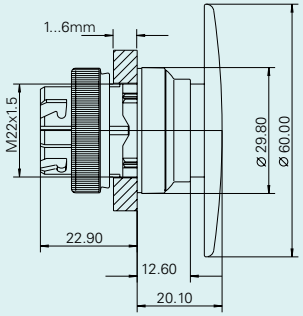
	Function	Key removal position	Collar shape	Order no.			
 <p>○ collar</p>	1 x 45°, momentary 	0 0	○ □	1.30 245.001 1.30 245.051			
	2 x 45°, momentary* 	0 0	○ □	1.30 245.101 1.30 245.151			
	1 x 90°, latching 	0 0	○ □	1.30 245.201 1.30 245.251			
		1 1	○ □	1.30 245.211 1.30 245.261			
	1 x 90°, latching* 	0 + 1 0 + 1	○ □	1.30 245.221 1.30 245.271			
		0 0	○ □	1.30 245.301 1.30 245.351			
	 <p>□ collar</p>	2 x 90°, latching* 	1 1	○ □		1.30 245.311 1.30 245.361	
			0 + 1 0 + 1	○ □		1.30 245.321 1.30 245.371	
		2 x 90°, latching* 	0 0	○ □		1.30 245.401 1.30 245.451	
			0 + 1 0 + 1	○ □		1.30 245.411 1.30 245.461	
2 x 90°, latching* 		0 + 2 0 + 2	○ □	1.30 245.421 1.30 245.471			
		0 + 1 + 2 0 + 1 + 2	○ □	1.30 245.431 1.30 245.481			
2 x 60°, latching* 		0 + 1 + 2 0 + 1 + 2	○ □	1.30 245.731 1.30 245.781			
		1 x 90°, latching* 1 x 45°, momentary 	0 0	○ □	1.30 245.501 1.30 245.551		
2 2			○ □	1.30 245.511 1.30 245.561			
0 + 2 0 + 2			○ □	1.30 245.521 1.30 245.571			
Lock characteristics and delivery contents see page 16.							

### Colour no. for front ring

Ring	black	red	yellow	green	blue	slate grey	silver
Colour no.	/0100	/0300	/0400	/0500	/0600	/0700	/0800

\*Please use only two contact blocks on left and right position.  
A third contact block in the middle position may not be mounted.

## RAFIX 22QR mushroom-headed pushbuttons, non-illuminated

	Collar shape	Front ring	Order no. Momentary function	Order no. Latching function	
○, mushroom head Ø 40 mm 	○	Plastic, silver	1.30 246.501	1.30 246.511	
	○	Metal	1.30 246.502	1.30 246.512	
	□	Plastic, silver	1.30 246.551	1.30 246.561	
	□	Metal	1.30 246.552	1.30 246.562	
□, mushroom head Ø 60 mm 	○	Plastic, silver	1.30 246.601	–	
	○	Metal	1.30 246.602	–	
	□	Plastic, silver	1.30 246.651	–	
	□	Metal	1.30 246.652	–	

### Colour no. for front ring and mushroom head


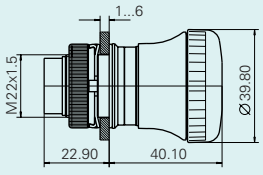
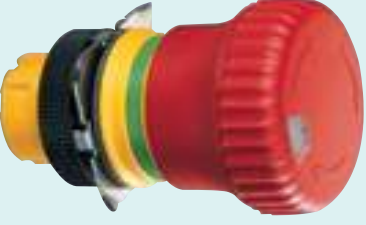
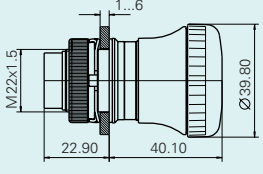

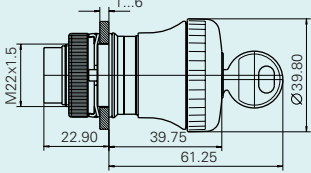

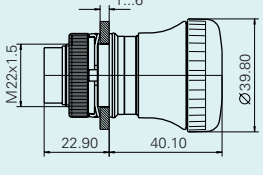
Ring \ Head	black	white	red	yellow	green	blue	slate grey
plastic, silver	/0108	/0208	/0308	/0408	/0508	/0608	/0708
metal	/0100	/0200	/0300	/0400	/0500	/0600	/0700

Ordering example:

Mushroom-headed pushbutton Ø 40 mm, round collar,  
silver plastic front ring, black mushroom head

Order no. 1.30 246.501/0108

## RAFIX22QR emergency stop pushbuttons, dupe-proof to EN 418

	Order no. Non-illuminated	Order no. Illuminated	
(1) 	1.30 243.501 /0300	–	
(2) with indicator acc. to EN 81 	1.30 243.601 /0300	–	
(3) with keylock 	1.30 243.701 /0300	–	
(4) beleuchtbar 	–	1.30 243.001 /0300	

Ring nut with claw included, (3): 2 keys included

The emergency stop pushbuttons meet the requirements of DIN EN 60 204, IEC 73, IEC 204, IEC 947, DIN EN 60 947, VDE 0660 Part 200 and VDE 0113 Part 1. They are dupe-proof according to EN 418 thanks to the positive-action mechanical movement sequence. To prevent inadvertent actuation, a certain operating force must be exerted at the action point.

The button latches when being pressed and can be reset by turning to the right or left. Due to the design of the actuating element the emergency stop switch is protected against interlocking, i.e. a started emergency stop process cannot be interrupted by jamming elements.

The green ring below the actuator shows the switching position of the pushbutton – it can not be seen any more when the pushbutton is pressed.

Emergency stop label plates see accessories.

### Switching position indication according EN 81

According to this norm the switching position of an emergency stop pushbutton must be visible from the front and from the side.

The Rafi pushbutton (position 2) has a mechanical indicator at the top which changes from green to red, when actuated. The green ring shows the switching position from the side.


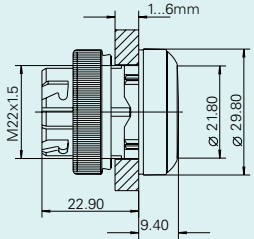



not actuated



actuated

## RAFIX22QR signal indicators

	Order no. Labelling with legend inserts*	Order no. No labelling	
<p>(1) ○ collar</p> 	1.74 505.501 / Colour no.	1.74 505.001 / Colour no.	
<p>(2) □ collar</p> 	1.74 505.551 / Colour no.	1.74 505.051 / Colour no.	




### Colour no. for signal indicators

Version	Lens	colourless transp.	red transparent	yellow transparent	green transparent	blue transparent
<b>For legend inserts</b>		/1000	/1300	/1400	/1500	/1600
<b>No labelling</b>		/2200	/2300	/2400	/2500	/2600




\* Please order legend inserts separately;  
see accessories page

Ordering example: Signal indicator, round collar,  
no labelling, blue  
Order no. 1.74 505.001/2600

## RAFIX22QR lamp sockets with coupling, screw terminals


	Version	Switching symbol	Order no.
	Lamp socket BA 9 s 250 V / 2 W		1.71 213.001
	Lamp socket BA 9 s with diode and series resistor 250 V / 130 V / 2 W		1.71 213.004

## RAFIX22QR lamp sockets without coupling, screw terminals


	Version	Switching symbol	Order no.	Accessory
	Lamp socket 250 V / 2 W		5.00 070.074	
	Lamp socket with diode and series resistor 250 V / 130 V / 2 W		5.00 070.080	Coupling 5.05 510.935

For lamps and LEDs, refer to accessories page.

## RAFIX22QR contact blocks complete with coupling, screw terminals

Example: 1 NO contact, silver, 250 V	Version	Reference no. on coupling			Switching symbol	Order no. silver 250 V	Order no. gold 42 V
		1	3	2			
	1 NC contact	●	●	●		1.20 124.001	1.20 124.101
	1 NO contact	●	●	●		1.20 124.002	1.20 124.102
	1 NC, 1 NC	●	●	●		1.20 124.003	1.20 124.103
	1 NO, 1 NO	●	●	●		1.20 124.004	1.20 124.104
	1 NO, 1 NC	●	●	●		1.20 124.005	1.20 124.105





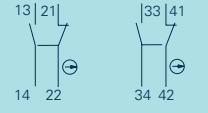
## RAFIX22QR contact blocks and lamp sockets complete with coupling, screw terminals

Example: 1 NC contact, silver, 250 V, 1 lamp socket	Version	Reference no. on coupling			Switching symbol	Order no. silver 250 V	Order no. gold 42 V
		1	3	2			
	1 NC, 1 lamp socket	●	●	●		1.20 124.021	1.20 124.121
	1 NO contact, 1 lamp socket	●	●	●		1.20 124.022	1.20 124.122
	1 NC, 1 NC, 1 lamp socket	●	●	●		1.20 124.023	1.20 124.123
	1 NO, 1 NO, 1 lamp socket	●	●	●		1.20 124.024	1.20 124.124
	1 NO, 1 NC, 1 lamp socket	●	●	●		1.20 124.025	1.20 124.125


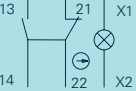
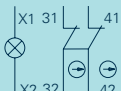
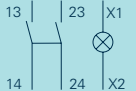
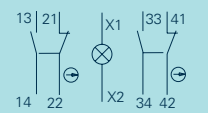
## RAFIX22QR contact blocks without coupling, screw terminals\*

Example: 1 NC contact, silver, 250 V	Version	Switching symbol	Order no. silver 250 V	Order no. gold 42 V	Accessory
1 NO contact		5.00 100.140	5.00 100.165		





## RAFIX22QR contact blocks complete with coupling, screw terminals

Example: 1 NC contact + 1 NO contact, gold, 42 V	Version	Reference no. on coupling			Switching symbol	Order no. silver 250 V	Order no. gold 42 V
		1/2	5/6	3/4			
	1 NC + 1 NO	●				1.20 124.017	1.20 124.117
	2 NC contacts			●		1.20 124.019	1.20 124.119
	2 NO contacts	●				1.20 124.020	1.20 124.120
	1 NC + 1 NO, 1 NC + 1 NO	●		●		1.20 124.018	1.20 124.118

## RAFIX22QR contact blocks and lamp sockets complete with coupling, screw terminals

Example: 1 NC contact, 1 NO contact, 1 lamp socket, 1 NC contact, 1 NO contact, silver, 250 V	Version	Reference no. on coupling			Switching symbol	Order no. silver 250 V	Order no. gold 42 V
		1/2	5/6	3/4			
	1 NC + 1 NO, 1 lamp socket	●	●			1.20 124.027	1.20 124.127
	2 NC contacts, 1 lamp socket		●	●		1.20 124.029	1.20 124.129
	2 NO contacts, 1 lamp socket	●	●			1.20 124.030	1.20 124.130
	1 NC + 1 NO, 1 NC + NO, 1 lamp socket	●	●	●		1.20 124.028	1.20 124.128

## RAFIX22QR contact blocks without coupling, screw terminals\*

Example: 2 NC contacts, silver, 250 V	Version	Switching symbol	Order no. silver 250 V	Order no. gold 42 V	Accessory
	1 NC + 1 NO		5.00 100.143	5.00 100.163	
	2 NO contacts		5.00 100.142	5.00 100.162	Coupling 5.05 510.936
	2 NC contacts		5.00 100.141	5.00 100.161	

\* For lamp sockets, see page 21

## RAFIX22QR contact blocks complete with coupling, cage clamp terminals

Version	Reference no. on coupling			Switching symbol	Order no. silver 250 V	Order no. gold 42 V
	1	3	2			
1 NC contact			●		1.20 125.001	1.20 125.101
1 NO contact	●				1.20 125.002	1.20 125.102
1 NC, 1 NC	●		●		1.20 125.003	1.20 125.103
1 NO, 1 NO	●		●		1.20 125.004	1.20 125.104
1 NO, 1 NC	●		●		1.20 125.005	1.20 125.105

Example:

**1 NC contact, gold, 42 V**



## RAFIX22QR contact blocks and lamp sockets complete with coupling, cage clamp terminals

Version	Reference no. on coupling			Switching symbol	Order no. silver 250 V	Order no. gold 42 V
	1	3	2			
1 NC contact, 1 lamp socket BA9s		●	●		1.20 125.021	1.20 125.121
1 NO contact, 1 lamp socket BA9s	●	●			1.20 125.022	1.20 125.122
1 NC, 1 NC, 1 lamp socket	●	●	●		1.20 125.023	1.20 125.123
1 NO, 1 NO, 1 lamp socket	●	●	●		1.20 125.024	1.20 125.124
1 NO, 1 NC, 1 lamp socket	●	●	●		1.20 125.025	1.20 125.125

Example:

**1 NC contact, 1 NO contact,  
1 lamp socket,  
1 NC contact, 1 NO contact,  
silver, 250 V**



## RAFIX22QR contact blocks without coupling, cage clamp terminals

Version	Switching symbol	Order no. silver 250 V	Order no. gold 42 V	Accessory
1 NO contact		5.00 100.145	5.00 100.160	



Example:

**1 NC contact, silver, 250 V**







## RAFIX22QR lamp sockets complete with coupling, cage clamp terminals

(1)	Version	Switching symbol	Order no.
	Lamp socket BA9 s 250 V / 2 W		1.71 214.001

## RAFIX22QR lamp sockets without coupling, cage clamp terminals

(2)	Version	Switching symbol	Order no.	Accessory
	Lamp socket BA9 s 250 V / 2 W		5.00 070.078	Coupling 5.05 510.935



## RAFIX22QR single parts

	Designation	Order no.	Colour no.
<p>(1) ○ collar</p> 	<p>Housing for pushbutton Flush pushbutton, momentary</p>	<p>1.30 240.601</p>	<p>–</p>
<p>(2) □ collar</p> 	<p>Housing for pushbutton Flush pushbutton, momentary</p>	<p>1.30 240.602</p>	<p>–</p>
<p>(3)</p> 	<p>Metal front ring</p>	<p>5.45 638.015 / 6030</p>	<p>–</p>
<p>(4)</p> 	<p>Plastic front ring</p>	<p>5.45 639.020 / Colour no.</p>	<p>/01 black /03 red /04 yellow /05 green /06 blue /07 slate grey /08 silver</p>
<p>(5)</p> 	<p>Transparent lens with diffuser (for illuminated pushbuttons) Please order legend inserts separately (see next page)</p>	<p>For flush pushbutton 5.04 926.008 / Colour no.</p>	<p>/10 colourless /13 red /14 yellow /15 green /16 blue</p>
<p>(6)</p> 	<p>Opaque lens (for non-illuminated pushbuttons)</p>	<p>5.49 263.014 / Colour no.</p>	<p>/01 black /02 white /03 red /04 yellow /05 green /06 blue /07 slate grey</p>


## RAFIX22QR label holders

	Designation	Order no.
(1) 	RAFIX22QR label holder (with adhesive tape and cover foil on rear)	5.07 620.010
(2) 	RAFIX22QR label holder (with adhesive tape and cover foil on rear)	5.07 620.011

## RAFIX22QR legend label

	Designation	Legend	Order no.
  	Legend label to clip into label holder, 0.8 mm thick Front side: brushed silver finish Rear side: mat black Legend: on front side according to DIN 1451 black Background colour: mat silver Type size: 3.5 mm	Blank (with cover foil)	5.73 110.000
		ON	5.73 110.004
		OFF	5.73 110.005
		HAND AUTO	5.73 110.021
		AUTO HAND	5.73 110.022
		HAND 0 AUTO	5.73 110.023
		0 I	5.73 110.026
		I 0 II	5.73 110.027
		ON OFF	5.73 110.028
		OFF ON	5.73 110.029

## RAFIX22QR legend inserts for illuminated pushbuttons and signal indicators

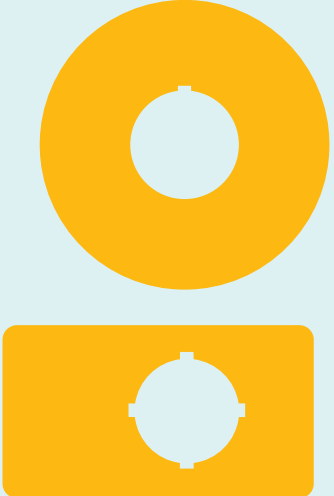
	Legend Black letters on white background	Order no. for flush pushbutton and indicator	Order no. for protruding pushbutton
	Blank	5.70 800.000/2000	5.70 802.000/2000
	DOWN	5.70 800.001/0200	5.70 802.001/0200
	UP	5.70 800.002/0200	5.70 802.002/0200
	ON	5.70 800.003/0200	5.70 802.003/0200
	OFF	5.70 800.004/0200	5.70 802.004/0200
	START	5.70 800.006/0200	5.70 802.006/0200
	STOP	5.70 800.007/0200	5.70 802.007/0200
	I	5.70 800.010/0200	5.70 802.010/0200
	+	5.70 800.017/0200	5.70 802.017/0200
	-	5.70 800.018/0200	5.70 802.018/0200
	->	5.70 800.019/0200	5.70 802.019/0200
	OPERATION	5.70 800.020/0200	5.70 802.020/0200
	FAULT	5.70 800.033/0200	5.70 802.033/0200
	0	5.70 800.034/0200	5.70 802.034/0200

Special legends according to your specifications can be made for you by engraving or printing techniques.



We require the following information from you:

1. Legend (text or symbol)
2. Type size
3. Line thickness
4. Legend colour/ background colour
5. Assembling axis (mounting position)
6. Sketch/ drawing or sample

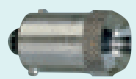
## RAFIX22QR emergency stop label plates

	Description	Plate shape	Order no.	Legending	
				Front side	Back side
	Ø 60 mm, RAL 1003 yellow hard PVC 1 mm degree of protection: IP40	round	5.76 207.001	NOT-AUS	–
			5.76 207.002	EMERGENCY-STOP	ARRÊT-D'URGENCE
	Ø 60 mm, RAL 1004 yellow made of PVC foil (adhesive) degree of protection: IP65	round	5.76 204.100	–	–
			5.76 204.101	NOT-AUS	–
			5.76 204.103	EMERGENCY-STOP	–
			5.76 204.102	ARRÊT-D'URGENCE	–
	RAL 1004 yellow made of PVC foil (adhesive) degree of protection: IP65	square 36 x 64 mm	5.76 205.011	–	–




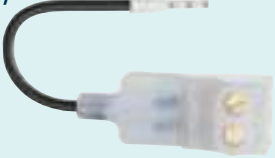
## RAFIX22QR lamps, BA 9s

	Rated voltage	Order no.	Lamp extractor order no.
<b>(1) Filament lamp</b> 	6 – 7 V	1.90 060.131	1.90 900.007
	12 – 15 V	1.90 060.132	1.90 900.007
	24 – 30 V	1.90 060.133	1.90 900.007
	110 – 130 V	1.90 060.137	1.90 900.007
<b>(2) Neon lamp</b> 	220 V ~ (red)	1.90 560.102	1.90 900.007
	220 V ~ (green)	1.90 560.104	1.90 900.007



## RAFIX22QR multi-chip LED, BA 9s

	24V DC +- 10%	Order no.	Lamp extractor order no.
<b>(3)</b> 	LED red	1.90 690.341	1.90 900.007
	LED green	1.90 690.342	1.90 900.007
	LED yellow	1.90 690.343	1.90 900.007
	LED blue	1.90 690.344	1.90 900.007
	LED white	1.90 690.345	1.90 900.007




## RAFIX22QR accessories

	Designation	Order no.
<p>(1) □ collar</p> 	<p>RAFIX22QR blanking cap Fixing method: Ring nut Degree of protection: IP 65</p>	<p>5.05 800.065</p>
<p>(2) ○ collar</p> 	<p>RAFIX22QR blanking cap Fixing method: Ring nut Degree of protection: IP 65</p>	<p>5.05 800.064</p>
<p>(3)</p> 	<p>Fixing spanner for ring nut and for mounting of front rings</p>	<p>5.05 800.062</p>
<p>(4)</p> 	<p>Lamp tester This tester allows you to perform a lamp test on the complete panel, i.e. one press of a button activates all lamps installed. One lamp tester required for each light / lamp.</p>	<p>5.03 771.678</p>

## RAFIX22QR couplings

	Marked with reference numbers	Order no.
<p>(5)</p> 	<p>1 – 3 – 2</p>	<p>5.05 510.935</p>
<p>(6)</p> 	<p>1/2 – 5/6 – 3/4</p>	<p>5.05 510.936</p>

## RAFIX22QR accessories

	Designation	Order no.
<p>(7)</p> 	<p>Ring nut</p>	<p>5.24 279.012</p>
<p>(8)</p> 	<p>Ring nut with claw (for mounting holes without locating indent, with guide groove for aligning the actuators behind the front panel)</p>	<p>5.02 420.001</p>
<p>(9)</p> 	<p>Marking tag (only for contact blocks / lamp sockets with screw terminals)</p>	<p>5.40 010.131</p>

# Order Number Guide

Order no.	Page								
		1.20 125.001	24	1.30 240.172	12	1.30 242.001	14	1.30 242.427	14
1.20 124.001	8	1.20 125.002	24	1.30 240.173	12	1.30 242.002	14	1.30 242.436	14
1.20 124.001	9	1.20 125.003	24	1.30 240.174	12	1.30 242.011	14	1.30 242.437	14
1.20 124.001	22	1.20 125.004	24	1.30 240.201	11	1.30 242.012	14	1.30 242.476	14
1.20 124.002	8	1.20 125.005	24	1.30 240.202	11	1.30 242.026	14	1.30 242.477	14
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1.20 124.003	22	1.20 125.023	24	1.30 240.221	10	1.30 242.037	14	1.30 242.501	15
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1.20 124.101	22	1.30 240.071	10	1.30 240.353	13	1.30 242.187	14	1.30 242.636	15
1.20 124.102	22	1.30 240.073	10	1.30 240.354	13	1.30 242.201	14	1.30 242.637	15
1.20 124.103	22	1.30 240.081	10	1.30 240.361	13	1.30 242.202	14	1.30 242.651	15
1.20 124.104	22	1.30 240.101	13	1.30 240.371	12	1.30 242.211	14	1.30 242.652	15
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1.20 124.127	23	1.30 240.152	13	1.30 240.551	13	1.30 242.352	14	1.30 242.712	15
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1.30 242.801	15	1.30 245.361	17	1.30 246.652	18	5.05 510.936	23	5.73 110.005	27
1.30 242.802	9	1.30 245.362	16	1.71 213.001	9	5.05 510.936	29	5.73 110.021	27
1.30 242.802	15	1.30 245.371	17	1.71 213.001	21	5.05 800.062	29	5.73 110.022	27
1.30 242.811	15	1.30 245.372	16	1.71 213.002	9	5.05 800.064	29	5.73 110.023	27
1.30 242.812	15	1.30 245.401	17	1.71 213.004	21	5.05 800.065	29	5.73 110.026	27
1.30 242.851	15	1.30 245.402	16	1.71 214.001	25	5.07 620.010	27	5.73 110.027	27
1.30 242.852	15	1.30 245.411	17	1.74 505.001	20	5.07 620.011	27	5.73 110.028	27
1.30 242.861	15	1.30 245.412	16	1.74 505.051	20	5.24 279.012	29	5.73 110.029	27
1.30 242.862	15	1.30 245.421	17	1.74 505.501	9	5.40 010.131	29	5.76 204.100	28
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1.30 245.221	17	1.30 245.572	16	5.00 100.144	24	5.70 802.006	27	9.20 124.024	9
1.30 245.222	16	1.30 245.731	17	5.00 100.145	24	5.70 802.007	27	9.20 124.025	9
1.30 245.251	17	1.30 245.732	16	5.00 100.159	24	5.70 802.010	27	9.20 124.030	9
1.30 245.252	16	1.30 245.781	17	5.00 100.160	24	5.70 802.017	27	9.20 124.031	9
1.30 245.261	17	1.30 245.782	16	5.00 100.161	23	5.70 802.018	27	9.20 124.040	9
1.30 245.262	16	1.30 246.501	18	5.00 100.162	23	5.70 802.019	27	9.20 124.041	9
1.30 245.271	17	1.30 246.502	9	5.00 100.163	23	5.70 802.020	27	9.20 124.050	9
1.30 245.272	16	1.30 246.502	18	5.00 100.164	22	5.70 802.033	27	9.20 124.051	9
1.30 245.301	17	1.30 246.511	18	5.00 100.165	22	5.70 802.034	27	9.71 213.001	9
1.30 245.302	16	1.30 246.512	18	5.02 420.001	29	5.73 110.000	27	9.71 213.002	9
1.30 245.311	17	1.30 246.551	18	5.03 771.678	29				
1.30 245.312	16	1.30 246.552	18	5.04 926.008	26				
1.30 245.321	17	1.30 246.561	18	5.05 510.935	21				
1.30 245.322	9	1.30 246.562	18	5.05 510.935	22				
1.30 245.322	16	1.30 246.601	18	5.05 510.935	24				
1.30 245.351	17	1.30 246.602	18	5.05 510.935	25				



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