

Series 45

Innovative and comprehensive. Modular.

<https://eao.com/45>



45 Information about the Series

Key advantages

- Comprehensive and modular series
- Rugged in use (up to IP69K)
- Easy to assemble and use
- Modern design with many options

Typical application areas

Various operating and control functions in machinery and equipment, such as:

- Start and stop
- Reset
- On and off
- Function control

Functions

- Pushbutton
- Illuminated pushbutton
- Double pushbutton
- Mushroom-head pushbutton
- Palm Switch
- Selector switch
- Keylock switch
- ID keylock switch
- Toggle stick
- Toggle switch
- Indicator
- Buzzer
- Potentiometer
- Stop switch
- Emergency stop switch

Design

- Flush
- Raised

IP front protection

- IP40
- IP65
- IP66
- IP67
- IP69K

Rating

- 500 VAC (10 A)

Mounting cut-outs

- Ø 22.3 mm
- Ø 30.5 mm

Terminal

- Screw terminal
- PCB
- Spring-loaded terminal

Lens Material

- Plastic

Markings

- Laser marking

Approvals

- CCC
- CSA
- UL

Conformities

- CE
- 2014/30/EU (EMC)
- 2014/35/EU (LVD)
- 2011/65/EU (RoHS)



| | |
|--|-----|
| Product structure | 454 |
| Flush design | |
| Pushbutton | 455 |
| Illuminated pushbutton | 456 |
| Selector switch 2 positions short lever | 457 |
| Selector switch 2 positions long lever | 458 |
| Selector switch 3 positions short lever | 459 |
| Selector switch 3 positions long lever | 460 |
| Keylock switch 2 and 3 positions | 461 |
| Indicator | 462 |
| Raised design | |
| Pushbutton | 463 |
| Illuminated pushbutton | 467 |
| Double pushbutton | 470 |
| Illuminated double pushbutton | 472 |
| Mushroom-head pushbutton Ø 30 mm | 474 |
| Mushroom-head pushbutton Ø 40 mm | 476 |
| Mushroom-head pushbutton Ø 60 mm | 478 |
| Mushroom-head pushbutton illuminated Ø 30 mm | 480 |
| Mushroom-head pushbutton illuminated Ø 40 mm | 482 |
| Mushroom-head pushbutton illuminated Ø 60 mm | 484 |
| Palm switch | 486 |
| Selector switch 2 positions short lever | 487 |
| Selector switch 2 positions long lever | 489 |
| Selector switch 2 positions round lever | 491 |
| Selector switch 3 positions short lever | 492 |
| Selector switch 3 positions long lever | 494 |
| Selector switch 4 positions round lever | 496 |
| Keylock switch 2 positions | 497 |
| Keylock switch 3 positions | 498 |
| ID keylock switch | 500 |
| Toggle stick | 501 |
| Toggle switch | 503 |
| Indicator full-face illumination | 504 |
| Indicator front illumination | 505 |
| Indicator Bi-colour | 506 |
| Buzzer | 507 |
| Potentiometer | 508 |
| Stop switch | 510 |
| Emergency stop switch foolproof, EN IEC 60947-5-5 | 511 |
| Illuminated emergency stop switch, foolproof, EN IEC 60947-5-5 | 513 |
| Components | 515 |
| Accessories | 529 |
| Drawings | 543 |
| Technical data | 551 |
| Marking | 563 |
| Application guidelines | 570 |

45 Product structure

01
02
03
04
09
14
17
18
19
22
31
41
45
51
56
57
61
70
71
82
84
92
96



- Functions**
Indicator
Buzzer
Pushbutton
Double pushbutton
Illuminated pushbutton
Emergency stop switch
Stop switch
Palm switch
Mushroom-head pushbutton
Keylock switch
ID keylock switch
Selector switch
Potentiometer
Toggle stick
Toggle switch



Holder



- Switching elements**
1 Switching element 1 NC/1 NO
2 Switching elements 2 NC or 2 NO



Lamp element

Pushbutton, IP66, IP67, IP69K

Equipment consisting of (schematic overview)

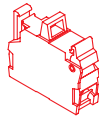


Actuator



Holder

Page 516

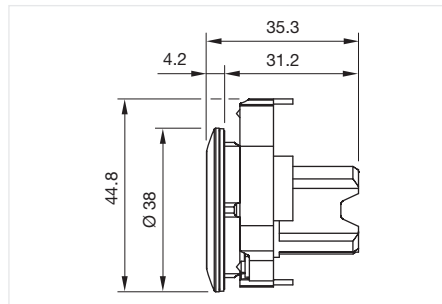


Switching element

Page 518

Each Part Number listed below includes all the black components shown in the 3D-drawing.

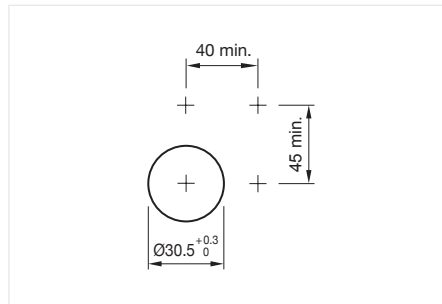
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Product can differ from the current configuration.



Mounting cut-outs [mm]

General information

- Front panel thickness 1 ... 6 mm



Actuator, Front dimension Ø 38 mm

| Switching action | Lens colour | Lens shape | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram |
|------------------|-------------|------------|--------------------|----------------------|----------------|------------------|------------------|----------------|
| Momentary | Black | flush | Sand grey | Metal | Silver | Metal | 45-2131.4F10.000 | 72 |
| | Red | flush | Sand grey | Metal | Silver | Metal | 45-2131.4F20.000 | 72 |
| | Yellow | flush | Sand grey | Metal | Silver | Metal | 45-2131.4F40.000 | 72 |
| | Green | flush | Sand grey | Metal | Silver | Metal | 45-2131.4F50.000 | 72 |
| | Blue | flush | Sand grey | Metal | Silver | Metal | 45-2131.4F60.000 | 72 |
| | White | flush | Sand grey | Metal | Silver | Metal | 45-2131.4F90.000 | 72 |
| Maintained | Black | flush | Sand grey | Metal | Silver | Metal | 45-2134.4F10.000 | 73 |
| | Red | flush | Sand grey | Metal | Silver | Metal | 45-2134.4F20.000 | 73 |
| | Yellow | flush | Sand grey | Metal | Silver | Metal | 45-2134.4F40.000 | 73 |
| | Green | flush | Sand grey | Metal | Silver | Metal | 45-2134.4F50.000 | 73 |
| | Blue | flush | Sand grey | Metal | Silver | Metal | 45-2134.4F60.000 | 73 |
| | White | flush | Sand grey | Metal | Silver | Metal | 45-2134.4F90.000 | 73 |

Wiring diagrams

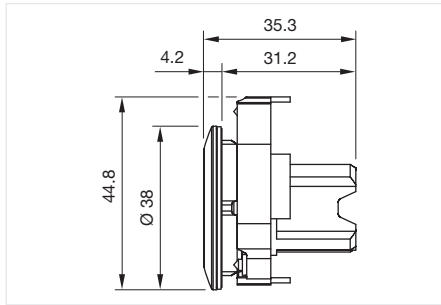
| | |
|-------------------|-------------------|
| E--- | E~-- |
| Wiring diagram 72 | Wiring diagram 73 |

45 Flush design

Illuminated pushbutton, IP66, IP67, IP69K



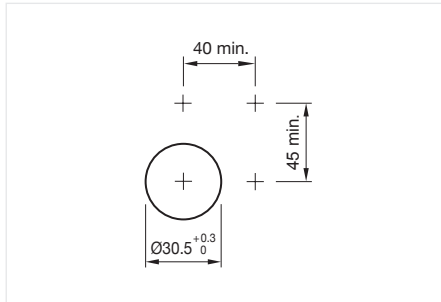
Product can differ from the current configuration.



Dimensions [mm]

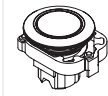
General information

- Front panel thickness 1 ... 6 mm

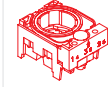


Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

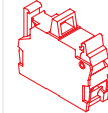


Actuator



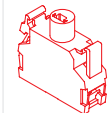
Holder

Page 516



Switching element

Page 518



Illumination element

Page 523

Each Part Number listed below includes all the black components shown in the 3D-drawing.

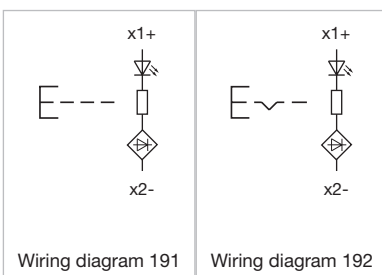
To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension Ø 38 mm

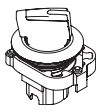
| Switching action | Lens colour | Lens shape | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram |
|------------------|-------------|------------|--------------------|----------------------|----------------|------------------|------------------|----------------|
| Momentary | Red | flush | Sand grey | Metal | Silver | Metal | 45-2231.4FE0.000 | 191 |
| | Yellow | flush | Sand grey | Metal | Silver | Metal | 45-2231.4FG0.000 | 191 |
| | Green | flush | Sand grey | Metal | Silver | Metal | 45-2231.4FH0.000 | 191 |
| | Blue | flush | Sand grey | Metal | Silver | Metal | 45-2231.4FJ0.000 | 191 |
| | Colourless | flush | Sand grey | Metal | Silver | Metal | 45-2231.4FK0.000 | 191 |
| Maintained | Red | flush | Sand grey | Metal | Silver | Metal | 45-2234.4FE0.000 | 192 |
| | Yellow | flush | Sand grey | Metal | Silver | Metal | 45-2234.4FG0.000 | 192 |
| | Green | flush | Sand grey | Metal | Silver | Metal | 45-2234.4FH0.000 | 192 |
| | Blue | flush | Sand grey | Metal | Silver | Metal | 45-2234.4FJ0.000 | 192 |
| | Colourless | flush | Sand grey | Metal | Silver | Metal | 45-2234.4FK0.000 | 192 |

Wiring diagrams



Selector switch 2 positions short lever, IP66, IP67, IP69K

Equipment consisting of (schematic overview)

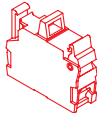


Actuator



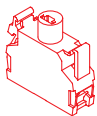
Holder

Page 516



Switching element

Page 518

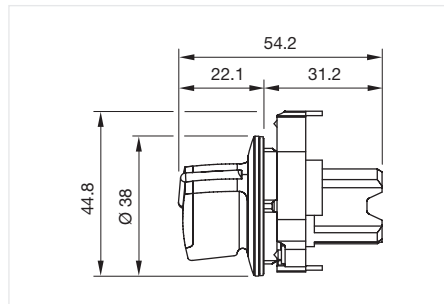


Illumination element

Page 523

Each Part Number listed below includes all the black components shown in the 3D-drawing.

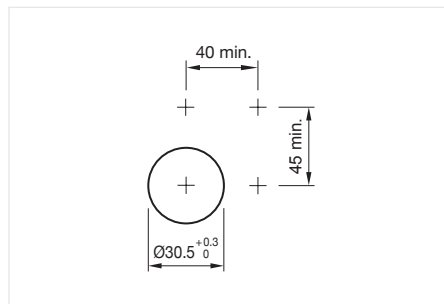
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



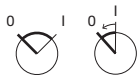
Product can differ from the current configuration.



Mounting cut-outs [mm]

General information

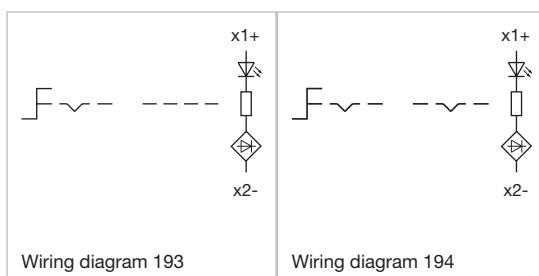
- Front panel thickness 1 ... 6 mm
- It is advisable to choose a white illumination



Actuator, Front dimension Ø 38 mm

| Switching action | Switching angle | Lever colour | Front bezel colour | Front bezel material | Housing material | Part No. | Wiring diagram |
|-------------------|-----------------|--------------|--------------------|----------------------|------------------|------------------|----------------|
| Rest - Maintained | 90° right | Red | Sand grey | Metal | Metal | 45-2828.4C20.001 | 194 |
| | 90° right | Green | Sand grey | Metal | Metal | 45-2828.4C50.001 | 194 |
| | 90° right | White | Sand grey | Metal | Metal | 45-2828.4C90.001 | 194 |
| Rest - Momentary | 45° right | Red | Sand grey | Metal | Metal | 45-2844.4C20.006 | 193 |
| | 45° right | Green | Sand grey | Metal | Metal | 45-2844.4C50.006 | 193 |
| | 45° right | White | Sand grey | Metal | Metal | 45-2844.4C90.006 | 193 |

Wiring diagrams

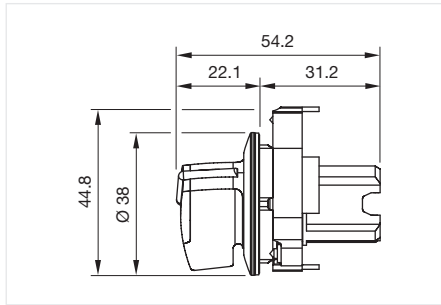


45 Flush design

Selector switch 2 positions long lever, IP66, IP67, IP69K

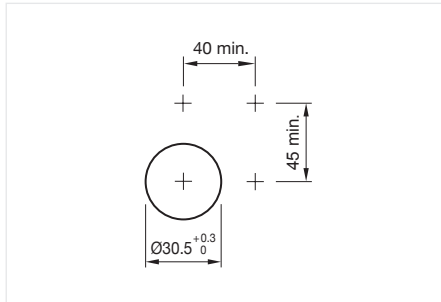


Product can differ from the current configuration.

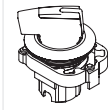


General information

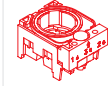
- Front panel thickness 1 ... 6 mm
- It is advisable to choose a white illumination



Equipment consisting of (schematic overview)

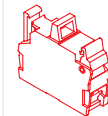


Actuator



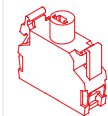
Holder

Page 516



Switching element

Page 518

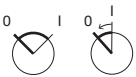


Illumination element

Page 523

Each Part Number listed below includes all the black components shown in the 3D-drawing.

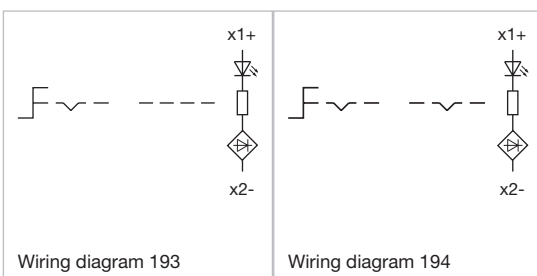
To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension \varnothing 38 mm

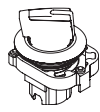
| Switching action | Switching angle | Lever colour | Front bezel colour | Front bezel material | Housing material | Part No. | Wiring diagram |
|-------------------|-----------------|--------------|--------------------|----------------------|------------------|------------------|----------------|
| Rest - Maintained | 90° right | Red | Sand grey | Metal | Metal | 45-2828.4D20.001 | 194 |
| | 90° right | Green | Sand grey | Metal | Metal | 45-2828.4D50.001 | 194 |
| | 90° right | White | Sand grey | Metal | Metal | 45-2828.4D90.001 | 194 |
| Rest - Momentary | 45° right | Red | Sand grey | Metal | Metal | 45-2844.4D20.006 | 193 |
| | 45° right | Green | Sand grey | Metal | Metal | 45-2844.4D50.006 | 193 |
| | 45° right | White | Sand grey | Metal | Metal | 45-2844.4D90.006 | 193 |

Wiring diagrams

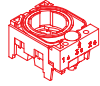


Selector switch 3 positions short lever, IP66, IP67, IP69K

Equipment consisting of (schematic overview)

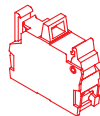


Actuator



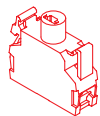
Holder

Page 516



Switching element

Page 518

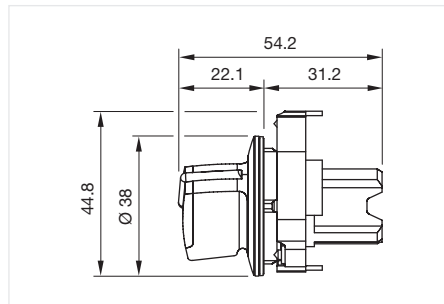


Illumination element

Page 523

Each Part Number listed below includes all the black components shown in the 3D-drawing.

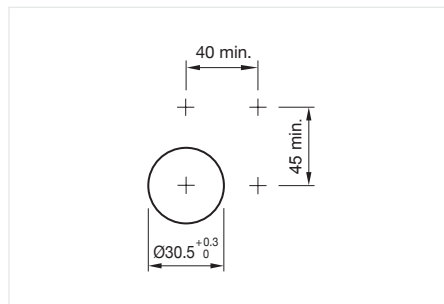
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



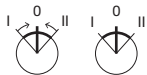
Product can differ from the current configuration.



Mounting cut-outs [mm]

General information

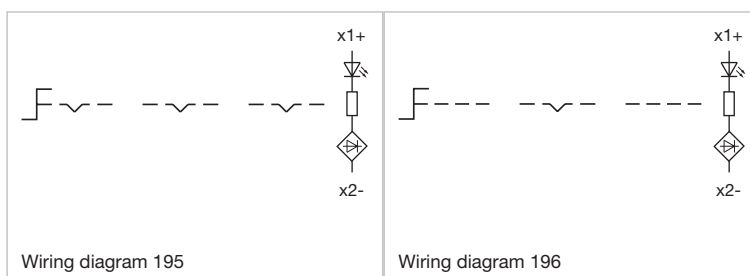
- Front panel thickness 1 ... 6 mm
- It is advisable to choose a white illumination



Actuator, Front dimension Ø 38 mm

| Switching action | Switching angle | Lever colour | Front bezel colour | Front bezel material | Housing material | Part No. | Wiring diagram |
|--------------------------------|----------------------|--------------|--------------------|----------------------|------------------|------------------|----------------|
| Momentary - Rest - Momentary | 45° left / 45° right | Red | Sand grey | Metal | Metal | 45-280S.4C20.003 | 196 |
| | 45° left / 45° right | Green | Sand grey | Metal | Metal | 45-280S.4C50.003 | 196 |
| | 45° left / 45° right | White | Sand grey | Metal | Metal | 45-280S.4C90.003 | 196 |
| Maintained - Rest - Maintained | 45° left / 45° right | Red | Sand grey | Metal | Metal | 45-2819.4C20.003 | 195 |
| | 45° left / 45° right | Green | Sand grey | Metal | Metal | 45-2819.4C50.003 | 195 |
| | 45° left / 45° right | White | Sand grey | Metal | Metal | 45-2819.4C90.003 | 195 |

Wiring diagrams

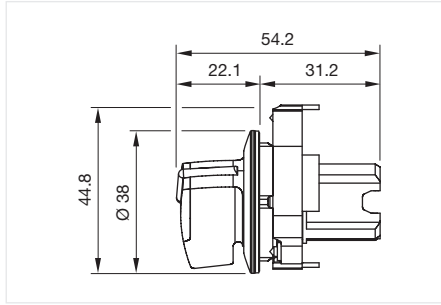


45 Flush design

Selector switch 3 positions long lever, IP66, IP67, IP69K



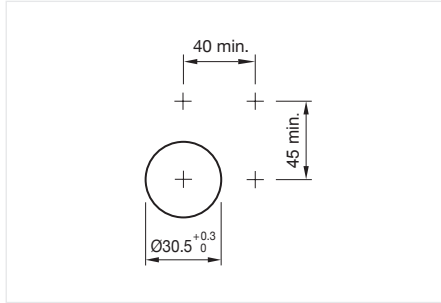
Product can differ from the current configuration.



Dimensions [mm]

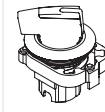
General information

- Front panel thickness 1 ... 6 mm
- It is advisable to choose a white illumination

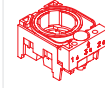


Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

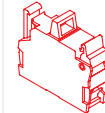


Actuator



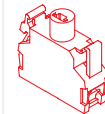
Holder

Page 516



Switching element

Page 518

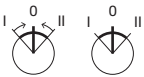


Illumination element

Page 523

Each Part Number listed below includes all the black components shown in the 3D-drawing.

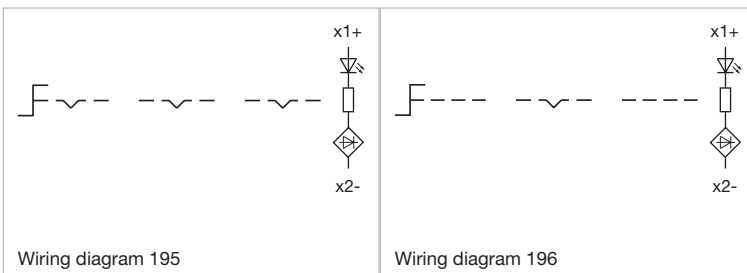
To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension \varnothing 38 mm

| Switching action | Switching angle | Lever colour | Front bezel colour | Front bezel material | Housing material | Part No. | Wiring diagram |
|--------------------------------|----------------------|--------------|--------------------|----------------------|------------------|------------------|----------------|
| Momentary - Rest - Momentary | 45° left / 45° right | Red | Sand grey | Metal | Metal | 45-280S.4D20.003 | 196 |
| | 45° left / 45° right | Green | Sand grey | Metal | Metal | 45-280S.4D50.003 | 196 |
| | 45° left / 45° right | White | Sand grey | Metal | Metal | 45-280S.4D90.003 | 196 |
| Maintained - Rest - Maintained | 45° left / 45° right | Red | Sand grey | Metal | Metal | 45-2819.4D20.003 | 195 |
| | 45° left / 45° right | Green | Sand grey | Metal | Metal | 45-2819.4D50.003 | 195 |
| | 45° left / 45° right | White | Sand grey | Metal | Metal | 45-2819.4D90.003 | 195 |

Wiring diagrams

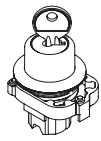


Wiring diagram 195

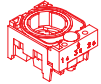
Wiring diagram 196

Keylock switch 2 and 3 positions, IP66, IP67, IP69K

Equipment consisting of (schematic overview)

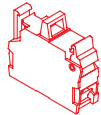


Actuator



Holder

Page 516

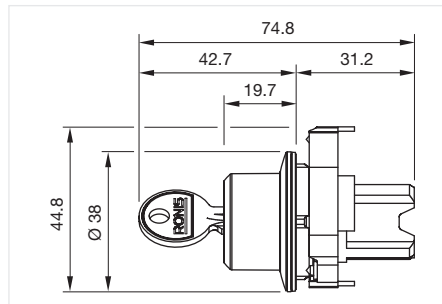


Switching element

Page 518

Each Part Number listed below includes all the black components shown in the 3D-drawing.

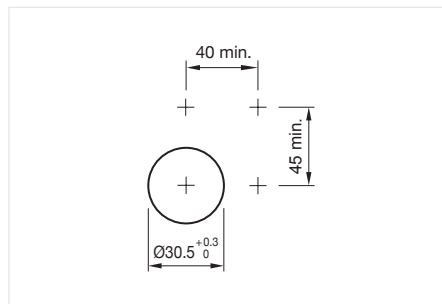
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Product can differ from the current configuration.



Mounting cut-outs [mm]

General information

- Front panel thickness 1 ... 6 mm
- The standard lock: RONIS, T254



Actuator, Front dimension Ø 38 mm

| Switching action | Switching angle | Front bezel colour | Front bezel material | Housing material | Part No. | Wiring diagram |
|--|----------------------|--------------------|----------------------|------------------|------------------|----------------|
| Maintained (a) - Rest (a) - Maintained (a) | 45° left / 45° right | Sand grey | Metal | Metal | 45-290F.4F00.113 | 83 |
| Rest (a) - Maintained (a) | 90° right | Sand grey | Metal | Metal | 45-290H.4F00.111 | 79 |
| Rest - Maintained (a) | 90° right | Sand grey | Metal | Metal | 45-290J.4F00.111 | 79 |
| Rest (a) - Momentary | 45° right | Sand grey | Metal | Metal | 45-290J.4F00.116 | 78 |

a = Key remove

Wiring diagrams

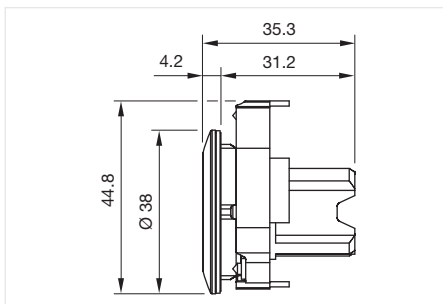
| | | |
|-------------------|-------------------|-------------------|
| | | |
| Wiring diagram 78 | Wiring diagram 79 | Wiring diagram 83 |

45 Flush design

Indicator, IP66, IP67, IP69K



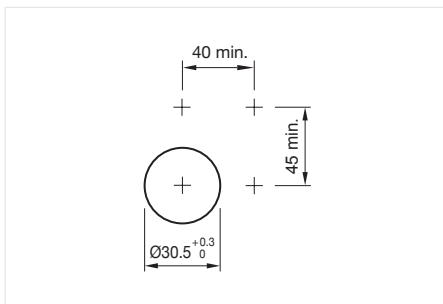
Product can differ from the current configuration.



Dimensions [mm]

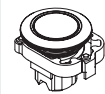
General information

- Front panel thickness 1 ... 6 mm

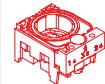


Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

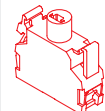


Actuator



Holder

Page 516



Illumination element

Page 74

Each Part Number listed below includes all the black components shown in the 3D-drawing.

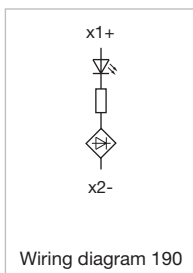
To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension Ø 38 mm

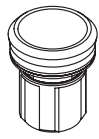
| Front bezel colour | Front bezel material | Lens cap colour | Housing material | Part No. | Wiring diagram |
|--------------------|----------------------|-----------------|------------------|------------------|----------------|
| Sand grey | Metal | Red | Metal | 45-2T07.4FE0.000 | 190 |
| | Metal | Yellow | Metal | 45-2T07.4FG0.000 | 190 |
| | Metal | Green | Metal | 45-2T07.4FH0.000 | 190 |
| | Metal | Blue | Metal | 45-2T07.4FJ0.000 | 190 |
| | Metal | Colourless | Metal | 45-2T07.4FK0.000 | 190 |

Wiring diagrams



Pushbutton, IP66, IP67, IP69K

Equipment consisting of (schematic overview)

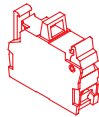


Actuator



Holder

Page 516

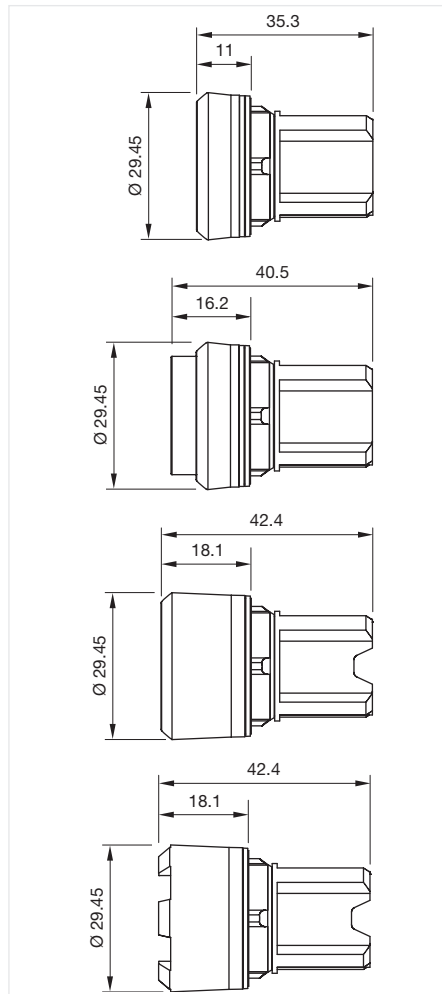


Switching element

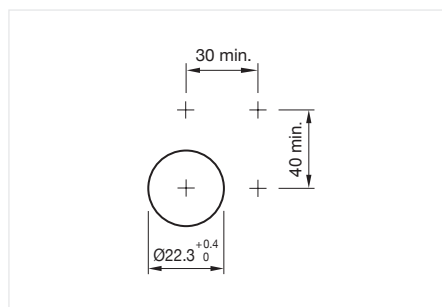
Page 518

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Mounting cut-outs [mm]



Product can differ from the current configuration.

General information

- Mounting depth, incl. front plate, see chapter drawings



Actuator, Front dimension Ø 29,5 mm

| Switching action | Lens colour | Lens shape | Lens type | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram |
|------------------|-------------|------------|------------------------|--------------------|----------------------|----------------|------------------|------------------|----------------|
| Momentary | Black | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2131.1110.000 | 72 |
| | Red | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2131.1120.000 | 72 |
| | Yellow | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2131.1140.000 | 72 |
| | Green | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2131.1150.000 | 72 |

45 Raised design

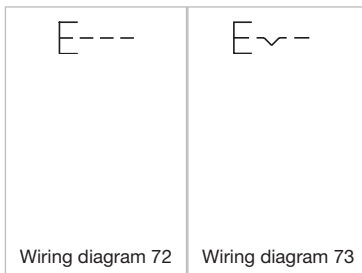
| Switching action | Lens colour | Lens shape | Lens type | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram |
|------------------|-------------|--------------------------|--------------------------|--------------------|----------------------|----------------|------------------|------------------|----------------|
| Momentary | Blue | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2131.1160.000 | 72 |
| | Grey | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2131.1180.000 | 72 |
| | White | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2131.1190.000 | 72 |
| | Colourless | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2131.11K0.000 | 72 |
| | Black | flush | raised above front bezel | Black | Plastic | Black | Plastic | 45-2131.1210.000 | 72 |
| | Red | flush | raised above front bezel | Black | Plastic | Black | Plastic | 45-2131.1220.000 | 72 |
| | Yellow | flush | raised above front bezel | Black | Plastic | Black | Plastic | 45-2131.1240.000 | 72 |
| | Green | flush | raised above front bezel | Black | Plastic | Black | Plastic | 45-2131.1250.000 | 72 |
| | Blue | flush | raised above front bezel | Black | Plastic | Black | Plastic | 45-2131.1260.000 | 72 |
| | White | flush | raised above front bezel | Black | Plastic | Black | Plastic | 45-2131.1290.000 | 72 |
| | Black | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2131.2110.000 | 72 |
| | Red | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2131.2120.000 | 72 |
| | Yellow | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2131.2140.000 | 72 |
| | Green | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2131.2150.000 | 72 |
| | Blue | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2131.2160.000 | 72 |
| | Grey | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2131.2180.000 | 72 |
| | White | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2131.2190.000 | 72 |
| | Colourless | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2131.21K0.000 | 72 |
| | Black | flush | raised above front bezel | Silver | Metal | Silver | Metal | 45-2131.2210.000 | 72 |
| | Red | flush | raised above front bezel | Silver | Metal | Silver | Metal | 45-2131.2220.000 | 72 |
| | Yellow | flush | raised above front bezel | Silver | Metal | Silver | Metal | 45-2131.2240.000 | 72 |
| | Green | flush | raised above front bezel | Silver | Metal | Silver | Metal | 45-2131.2250.000 | 72 |
| | Blue | flush | raised above front bezel | Silver | Metal | Silver | Metal | 45-2131.2260.000 | 72 |
| | White | flush | raised above front bezel | Silver | Metal | Silver | Metal | 45-2131.2290.000 | 72 |
| | Black | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3110.000 | 72 |
| | Red | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3120.000 | 72 |
| | Yellow | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3140.000 | 72 |
| | Green | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3150.000 | 72 |
| | Blue | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3160.000 | 72 |
| | Grey | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3180.000 | 72 |
| | White | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3190.000 | 72 |
| | Colourless | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2131.31K0.000 | 72 |
| Black | flush | raised above front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3210.000 | 72 | |
| Red | flush | raised above front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3220.000 | 72 | |
| Yellow | flush | raised above front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3240.000 | 72 | |

| Switching action | Lens colour | Lens shape | Lens type | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram |
|------------------|-------------|------------|--------------------------|------------------------|----------------------|----------------|------------------|------------------|------------------|
| Momentary | Green | flush | raised above front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3250.000 | 72 |
| | Blue | flush | raised above front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3260.000 | 72 |
| | White | flush | raised above front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3290.000 | 72 |
| Maintained | Black | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2134.1110.000 | 73 |
| | Red | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2134.1120.000 | 73 |
| | Yellow | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2134.1140.000 | 73 |
| | Green | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2134.1150.000 | 73 |
| | Blue | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2134.1160.000 | 73 |
| | White | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2134.1190.000 | 73 |
| | Black | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2134.2110.000 | 73 |
| | Red | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2134.2120.000 | 73 |
| | Yellow | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2134.2140.000 | 73 |
| | Green | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2134.2150.000 | 73 |
| | Blue | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2134.2160.000 | 73 |
| | White | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2134.2190.000 | 73 |
| | Red | flush | raised above front bezel | Silver | Metal | Silver | Metal | 45-2134.2220.000 | 73 |
| | Black | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2134.3110.000 | 73 |
| | Red | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2134.3120.000 | 73 |
| | Yellow | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2134.3140.000 | 73 |
| | Green | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2134.3150.000 | 73 |
| | Blue | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2134.3160.000 | 73 |
| | White | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2134.3190.000 | 73 |
| | Momentary | Black | flush | lower than front bezel | Black | Plastic | Black | Plastic | 45-2131.1310.000 |
| Red | | flush | lower than front bezel | Black | Plastic | Black | Plastic | 45-2131.1320.000 | 72 |
| Yellow | | flush | lower than front bezel | Black | Plastic | Black | Plastic | 45-2131.1340.000 | 72 |
| Green | | flush | lower than front bezel | Black | Plastic | Black | Plastic | 45-2131.1350.000 | 72 |
| Blue | | flush | lower than front bezel | Black | Plastic | Black | Plastic | 45-2131.1360.000 | 72 |
| White | | flush | lower than front bezel | Black | Plastic | Black | Plastic | 45-2131.1390.000 | 72 |
| Black | | flush | lower than front bezel | Silver | Metal | Silver | Metal | 45-2131.2310.000 | 72 |
| Red | | flush | lower than front bezel | Silver | Metal | Silver | Metal | 45-2131.2320.000 | 72 |
| Yellow | | flush | lower than front bezel | Silver | Metal | Silver | Metal | 45-2131.2340.000 | 72 |
| Green | | flush | lower than front bezel | Silver | Metal | Silver | Metal | 45-2131.2350.000 | 72 |
| Blue | | flush | lower than front bezel | Silver | Metal | Silver | Metal | 45-2131.2360.000 | 72 |
| White | | flush | lower than front bezel | Silver | Metal | Silver | Metal | 45-2131.2390.000 | 72 |
| Black | | flush | lower than front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3310.000 | 72 |
| Red | | flush | lower than front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3320.000 | 72 |
| Yellow | | flush | lower than front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3340.000 | 72 |
| Green | | flush | lower than front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3350.000 | 72 |
| Blue | | flush | lower than front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3360.000 | 72 |
| White | | flush | lower than front bezel | Sand grey | Metal | Black | Plastic | 45-2131.3390.000 | 72 |

45 Raised design

| Switching action | Lens colour | Lens shape | Lens type | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram |
|------------------|-------------|------------|------------------------|--------------------|----------------------|----------------|------------------|------------------|----------------|
| Momentary | Black | flush | lower than front bezel | Black | Plastic | Black | Plastic | 45-2131.1410.000 | 72 |
| | Red | flush | lower than front bezel | Black | Plastic | Black | Plastic | 45-2131.1420.000 | 72 |
| | Yellow | flush | lower than front bezel | Black | Plastic | Black | Plastic | 45-2131.1440.000 | 72 |
| | Green | flush | lower than front bezel | Black | Plastic | Black | Plastic | 45-2131.1450.000 | 72 |
| | Blue | flush | lower than front bezel | Black | Plastic | Black | Plastic | 45-2131.1460.000 | 72 |
| | White | flush | lower than front bezel | Black | Plastic | Black | Plastic | 45-2131.1490.000 | 72 |

Wiring diagrams



Robust. Aesthetic and versatile. *EAO Series 45 illuminated pushbuttons.*

Ideal for use in harsh environments – thanks to robust construction with IP69K protection and aesthetic flush design.

- Robust metal or plastic construction (IP69K)
- Fast and simple assembly without special tools
- Aesthetic design with uniform LED illumination
- Long mechanical service life
- Modular system with customer-specific options

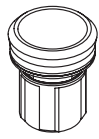
eao ■

www.eao.com/45

Your Expert Partner for Human Machine Interfaces

Illuminated pushbutton, IP66, IP67, IP69K

Equipment consisting of (schematic overview)

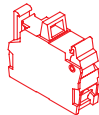


Actuator



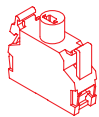
Holder

Page 516



Switching element

Page 518

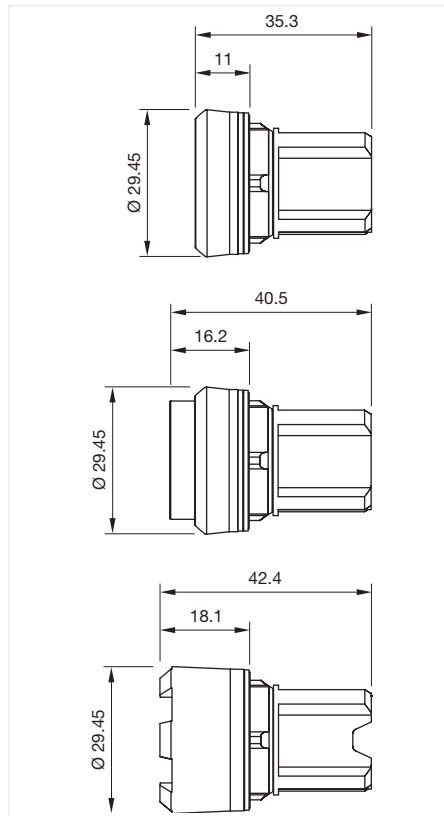


Illumination element

Page 523

Each Part Number listed below includes all the black components shown in the 3D-drawing.

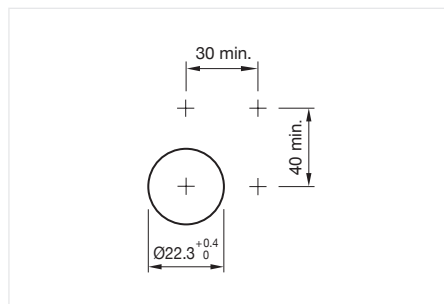
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Product can differ from the current configuration.



Mounting cut-outs [mm]

General information

- Mounting depth, incl. front plate, see chapter drawings



Actuator, Front dimension $\varnothing 29,5$ mm

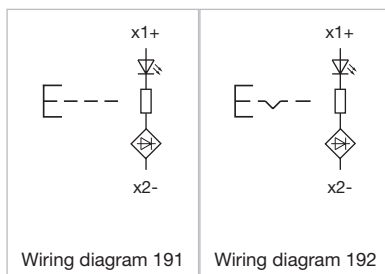
| Switching action | Lens colour | Lens shape | Lens type | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram |
|------------------|-------------|------------|------------------------|--------------------|----------------------|----------------|------------------|------------------|----------------|
| Momentary | Red | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2231.11E0.000 | 191 |
| | Amber | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2231.11F0.000 | 191 |
| | Yellow | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2231.11G0.000 | 191 |
| | Green | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2231.11H0.000 | 191 |
| | Blue | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2231.11J0.000 | 191 |
| | Colourless | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2231.11K0.000 | 191 |
| | White | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2231.11N0.000 | 191 |

45 Raised design

| Switching action | Lens colour | Lens shape | Lens type | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram |
|------------------|-------------|------------|--------------------------|--------------------|----------------------|----------------|------------------|------------------|----------------|
| Momentary | Red | flush | raised above front bezel | Black | Plastic | Black | Plastic | 45-2231.12E0.000 | 191 |
| | Yellow | flush | raised above front bezel | Black | Plastic | Black | Plastic | 45-2231.12G0.000 | 191 |
| | Green | flush | raised above front bezel | Black | Plastic | Black | Plastic | 45-2231.12H0.000 | 191 |
| | Blue | flush | raised above front bezel | Black | Plastic | Black | Plastic | 45-2231.12J0.000 | 191 |
| | Colour-less | flush | raised above front bezel | Black | Plastic | Black | Plastic | 45-2231.12K0.000 | 191 |
| | Blue | flush | lower than front bezel | Black | Plastic | Black | Plastic | 45-2231.14J0.000 | 191 |
| | Red | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2231.21E0.000 | 191 |
| | Amber | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2231.21F0.000 | 191 |
| | Yellow | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2231.21G0.000 | 191 |
| | Green | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2231.21H0.000 | 191 |
| | Blue | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2231.21J0.000 | 191 |
| | Colour-less | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2231.21K0.000 | 191 |
| | White | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2231.21N0.000 | 191 |
| | Red | flush | raised above front bezel | Silver | Metal | Silver | Metal | 45-2231.22E0.000 | 191 |
| | Amber | flush | raised above front bezel | Silver | Metal | Silver | Metal | 45-2231.22F0.000 | 191 |
| | Yellow | flush | raised above front bezel | Silver | Metal | Silver | Metal | 45-2231.22G0.000 | 191 |
| | Green | flush | raised above front bezel | Silver | Metal | Silver | Metal | 45-2231.22H0.000 | 191 |
| | Blue | flush | raised above front bezel | Silver | Metal | Silver | Metal | 45-2231.22J0.000 | 191 |
| | Colour-less | flush | raised above front bezel | Silver | Metal | Silver | Metal | 45-2231.22K0.000 | 191 |
| | White | flush | raised above front bezel | Silver | Metal | Silver | Metal | 45-2231.22N0.000 | 191 |
| | Red | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2231.31E0.000 | 191 |
| | Amber | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2231.31F0.000 | 191 |
| | Yellow | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2231.31G0.000 | 191 |
| | Green | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2231.31H0.000 | 191 |
| | Blue | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2231.31J0.000 | 191 |
| | Colour-less | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2231.31K0.000 | 191 |
| | White | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2231.31N0.000 | 191 |
| | Red | flush | raised above front bezel | Sand grey | Metal | Black | Plastic | 45-2231.32E0.000 | 191 |
| | Yellow | flush | raised above front bezel | Sand grey | Metal | Black | Plastic | 45-2231.32G0.000 | 191 |
| | Green | flush | raised above front bezel | Sand grey | Metal | Black | Plastic | 45-2231.32H0.000 | 191 |
| | Blue | flush | raised above front bezel | Sand grey | Metal | Black | Plastic | 45-2231.32J0.000 | 191 |
| | Colour-less | flush | raised above front bezel | Sand grey | Metal | Black | Plastic | 45-2231.32K0.000 | 191 |
| Maintained | Red | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2234.11E0.000 | 192 |
| | Yellow | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2234.11G0.000 | 192 |
| | Green | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2234.11H0.000 | 192 |

| Switching action | Lens colour | Lens shape | Lens type | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram |
|------------------|-------------|------------------------|------------------------|--------------------|----------------------|----------------|------------------|------------------|----------------|
| Maintained | Blue | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2234.11J0.000 | 192 |
| | Colour-less | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2234.11K0.000 | 192 |
| | White | flush | level with front bezel | Black | Plastic | Black | Plastic | 45-2234.11N0.000 | 192 |
| | Red | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2234.21E0.000 | 192 |
| | Yellow | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2234.21G0.000 | 192 |
| | Green | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2234.21H0.000 | 192 |
| | Blue | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2234.21J0.000 | 192 |
| | Colour-less | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2234.21K0.000 | 192 |
| | White | flush | level with front bezel | Silver | Metal | Silver | Metal | 45-2234.21N0.000 | 192 |
| | Red | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2234.31E0.000 | 192 |
| | Yellow | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2234.31G0.000 | 192 |
| | Green | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2234.31H0.000 | 192 |
| | Blue | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2234.31J0.000 | 192 |
| | Colour-less | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2234.31K0.000 | 192 |
| White | flush | level with front bezel | Sand grey | Metal | Black | Plastic | 45-2234.31N0.000 | 192 | |

Wiring diagrams

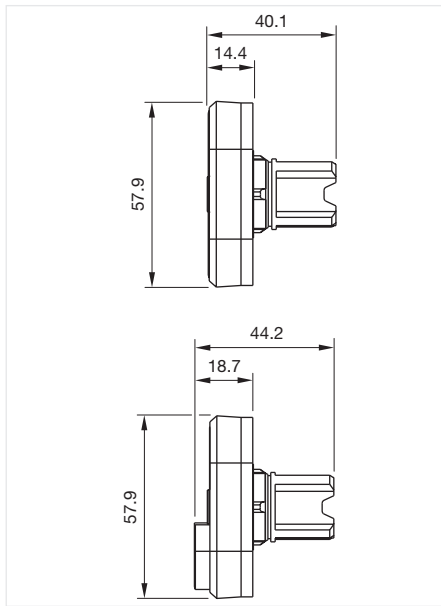


45 Raised design

Double pushbutton, IP66, IP67, IP69K



Product can differ from the current configuration.

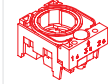


Dimensions [mm]

Equipment consisting of (schematic overview)

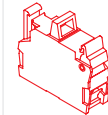


Actuator



Holder

Page 516



Switching element

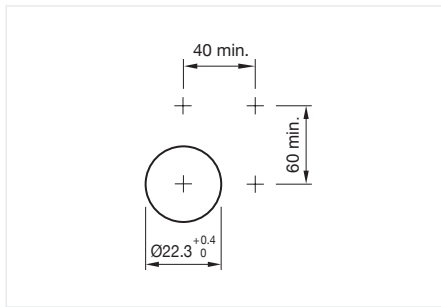
Page 518

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.

General information

- Mounting depth, incl. front plate, see chapter drawings



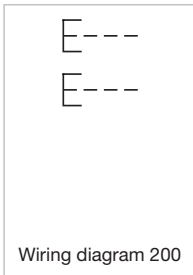
Mounting cut-outs [mm]



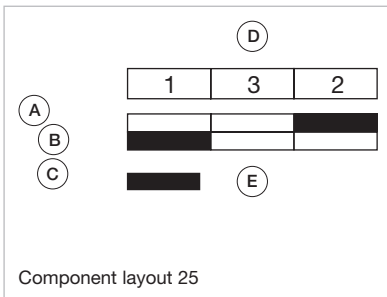
Actuator, Front dimension 58 mm x 30 mm

| Switching action | Lens colour | Lens shape | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram | Component Layout |
|------------------|---------------|------------|--------------------|----------------------|----------------|------------------|------------------|----------------|------------------|
| Momentary | Green/ Red | flush | Black | Plastic | Black | Plastic | 45-2J31.15T0.000 | 200 | 25 |
| | White / Black | flush | Black | Plastic | Black | Plastic | 45-2J31.15V0.000 | 200 | 25 |
| | Green/ Red | flush | Black | Plastic | Black | Plastic | 45-2J31.16T0.000 | 200 | 25 |
| | White / Black | flush | Black | Plastic | Black | Plastic | 45-2J31.16V0.000 | 200 | 25 |
| | Green/ Red | flush | Silver | Metal | Silver | Metal | 45-2J31.25T0.000 | 200 | 25 |
| | White / Black | flush | Silver | Metal | Silver | Metal | 45-2J31.25V0.000 | 200 | 25 |
| | Green/ Red | flush | Silver | Metal | Silver | Metal | 45-2J31.26T0.000 | 200 | 25 |
| | White / Black | flush | Silver | Metal | Silver | Metal | 45-2J31.26V0.000 | 200 | 25 |
| | Green/ Red | flush | Sand grey | Metal | Black | Plastic | 45-2J31.35T0.000 | 200 | 25 |
| | Green/ Red | flush | Sand grey | Metal | Black | Plastic | 45-2J31.36T0.000 | 200 | 25 |
| White / Black | flush | Sand grey | Metal | Black | Plastic | 45-2J31.36V0.000 | 200 | 25 | |

Wiring diagrams



Component layouts



- A = Switching action
- B = green (white) button pressed
- C = red (black) button pressed
- D = Arrangement switching element corresponds to designation of front adaptor
- E = Switching element actuated

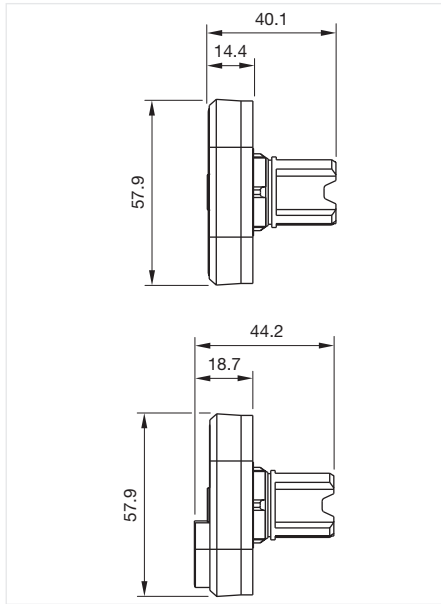
- 01
- 02
- 03
- 04
- 09
- 14
- 17
- 18
- 19
- 22
- 31
- 41
- 45**
- 51
- 56
- 57
- 61
- 70
- 71
- 82
- 84
- 92
- 96

45 Raised design

Illuminated double pushbutton, IP66, IP67, IP69K

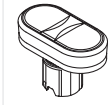


Product can differ from the current configuration.

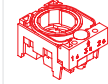


Dimensions [mm]

Equipment consisting of (schematic overview)

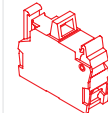


Actuator



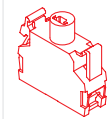
Holder

Page 516



Switching element

Page 518



Illumination element

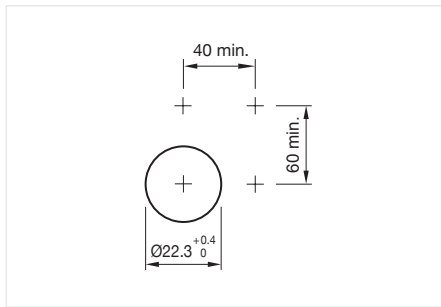
Page 523

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.

General information

- With illuminative centre window
- Mounting depth, incl. front plate, see chapter drawings



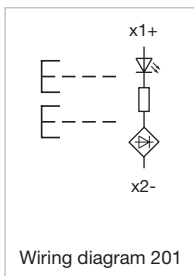
Mounting cut-outs [mm]



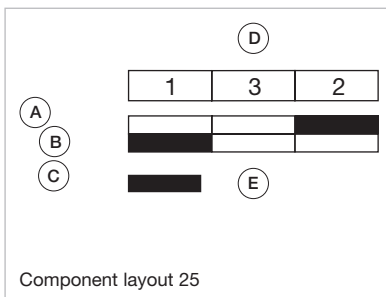
Actuator, Front dimension 58 mm x 30 mm

| Switching action | Lens colour | Lens shape | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram | Component Layout |
|------------------|---------------|------------|--------------------|----------------------|----------------|------------------|------------------|----------------|------------------|
| Momentary | Green/ Red | flush | Black | Plastic | Black | Plastic | 45-2K31.15T0.000 | 201 | 25 |
| | White / Black | flush | Black | Plastic | Black | Plastic | 45-2K31.15V0.000 | 201 | 25 |
| | Green/ Red | flush | Black | Plastic | Black | Plastic | 45-2K31.16T0.000 | 201 | 25 |
| | White / Black | flush | Black | Plastic | Black | Plastic | 45-2K31.16V0.000 | 201 | 25 |
| | Green/ Red | flush | Sand grey | Metal | Black | Plastic | 45-2K31.35T0.000 | 201 | 25 |
| | White / Black | flush | Sand grey | Metal | Black | Plastic | 45-2K31.35V0.000 | 201 | 25 |
| | Green/ Red | flush | Sand grey | Metal | Black | Plastic | 45-2K31.36T0.000 | 201 | 25 |
| | White / Black | flush | Sand grey | Metal | Black | Plastic | 45-2K31.36V0.000 | 201 | 25 |

Wiring diagrams



Component layouts



- A = Switching action
- B = green (white) button pressed
- C = red (black) button pressed
- D = Arrangement switching element corresponds to designation of front adaptor
- E = Switching element actuated



Versatile. Aesthetic and robust. *EAO Series 45 double pushbuttons.*

Double pushbuttons are cost effective, compact pushbuttons, ideal for start/stop, up/down or similar machine functions.

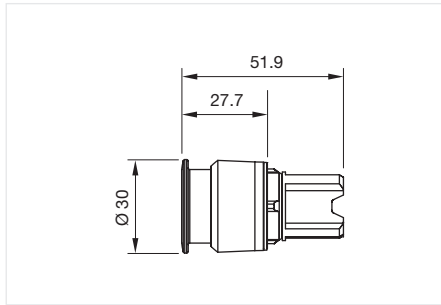
- Compact construction – two switches in one
- Range of colours and marking options
- IP69K sealed and optional silicon covers
- Plastic or metal versions
- Up to three contacts for each pushbutton
- Optional illumination

45 Raised design

Mushroom-head pushbutton Ø 30 mm, IP66, IP67, IP69K



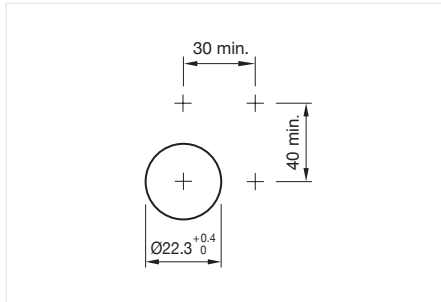
Product can differ from the current configuration.



Dimensions [mm]

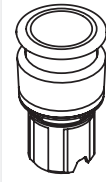
General information

- Mounting depth, incl. front plate, see chapter drawings

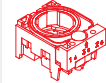


Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

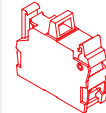


Actuator



Holder

Page 516



Switching element

Page 518

Each Part Number listed below includes all the black components shown in the 3D-drawing.

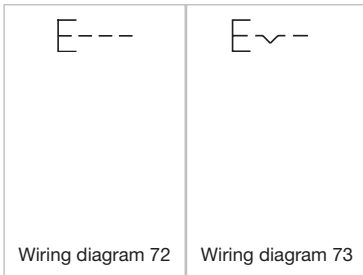
To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension Ø 30 mm


| Switching action | Lens colour | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram |
|------------------|-------------|--------------------|----------------------|----------------|------------------|------------------|----------------|
| Maintained | Black | Black | Plastic | Black | Plastic | 45-2530.1810.000 | 73 |
| | Red | Black | Plastic | Black | Plastic | 45-2530.1820.000 | 73 |
| | Yellow | Black | Plastic | Black | Plastic | 45-2530.1840.000 | 73 |
| | Black | Silver | Metal | Silver | Metal | 45-2530.2810.000 | 73 |
| | Red | Silver | Metal | Silver | Metal | 45-2530.2820.000 | 73 |
| | Black | Sand grey | Metal | Black | Plastic | 45-2530.3810.000 | 73 |
| | Red | Sand grey | Metal | Black | Plastic | 45-2530.3820.000 | 73 |
| Momentary | Black | Black | Plastic | Black | Plastic | 45-2531.1810.000 | 72 |
| | Red | Black | Plastic | Black | Plastic | 45-2531.1820.000 | 72 |
| | Yellow | Black | Plastic | Black | Plastic | 45-2531.1840.000 | 72 |
| | Green | Black | Plastic | Black | Plastic | 45-2531.1850.000 | 72 |
| | Black | Silver | Metal | Silver | Metal | 45-2531.2810.000 | 72 |
| | Red | Silver | Metal | Silver | Metal | 45-2531.2820.000 | 72 |
| | Yellow | Silver | Metal | Silver | Metal | 45-2531.2840.000 | 72 |
| | Green | Silver | Metal | Silver | Metal | 45-2531.2850.000 | 72 |
| | Black | Sand grey | Metal | Black | Plastic | 45-2531.3810.000 | 72 |
| | Red | Sand grey | Metal | Black | Plastic | 45-2531.3820.000 | 72 |
| | Yellow | Sand grey | Metal | Black | Plastic | 45-2531.3840.000 | 72 |
| | Green | Sand grey | Metal | Black | Plastic | 45-2531.3850.000 | 72 |


Wiring diagrams




- 01
- 02
- 03
- 04
- 09
- 14
- 17
- 18
- 19
- 22
- 31
- 41
- 45
- 51
- 56
- 57
- 61
- 70
- 71
- 82
- 84
- 92
- 96

Follow us.
We are on LinkedIn!
EAO creates possibilities. Since 1947.








[Come take a look at our LinkedIn profile today!](https://www.linkedin.com/company/eao/) Be sure to give us a follow so that you can fully interact with us.

<https://www.linkedin.com/company/eao/>

www.eao.com



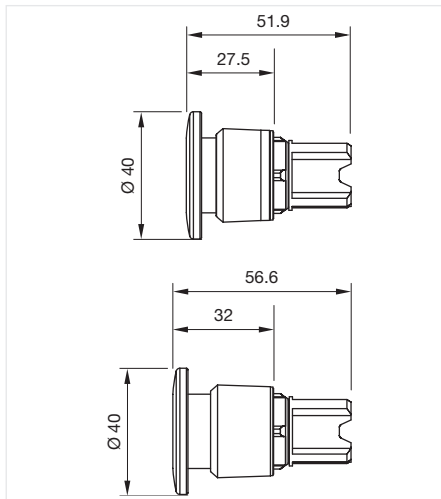
Your Expert Partner for Human Machine Interfaces

45 Raised design

Mushroom-head pushbutton Ø 40 mm, IP66, IP67, IP69K

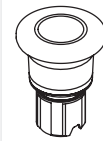


Product can differ from the current configuration.

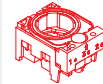


Dimensions [mm]

Equipment consisting of (schematic overview)

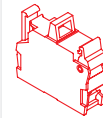


Actuator



Holder

Page 516



Switching element

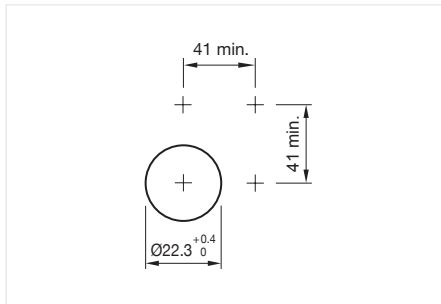
Page 518

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.

General information

- Mounting depth, incl. front plate, see chapter drawings



Mounting cut-outs [mm]



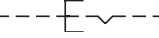



Actuator, Front dimension Ø 40 mm

| Switching action | Lens colour | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram |
|------------------------|-------------|--------------------|----------------------|----------------|------------------|------------------|----------------|
| Maintained | Black | Black | Plastic | Black | Plastic | 45-2530.1910.000 | 73 |
| | Red | Black | Plastic | Black | Plastic | 45-2530.1920.000 | 73 |
| | Yellow | Black | Plastic | Black | Plastic | 45-2530.1940.000 | 73 |
| | Green | Black | Plastic | Black | Plastic | 45-2530.1950.000 | 73 |
| | Black | Silver | Metal | Silver | Metal | 45-2530.2910.000 | 73 |
| | Red | Silver | Metal | Silver | Metal | 45-2530.2920.000 | 73 |
| | Yellow | Silver | Metal | Silver | Metal | 45-2530.2940.000 | 73 |
| | Black | Sand grey | Metal | Black | Plastic | 45-2530.3910.000 | 73 |
| | Red | Sand grey | Metal | Black | Plastic | 45-2530.3920.000 | 73 |
| Momentary | Black | Black | Plastic | Black | Plastic | 45-2531.1910.000 | 72 |
| | Red | Black | Plastic | Black | Plastic | 45-2531.1920.000 | 72 |
| | Yellow | Black | Plastic | Black | Plastic | 45-2531.1940.000 | 72 |
| | Green | Black | Plastic | Black | Plastic | 45-2531.1950.000 | 72 |
| | Black | Silver | Metal | Silver | Metal | 45-2531.2910.000 | 72 |
| | Red | Silver | Metal | Silver | Metal | 45-2531.2920.000 | 72 |
| | Yellow | Silver | Metal | Silver | Metal | 45-2531.2940.000 | 72 |
| | Green | Silver | Metal | Silver | Metal | 45-2531.2950.000 | 72 |
| | Black | Sand grey | Metal | Black | Plastic | 45-2531.3910.000 | 72 |
| | Red | Sand grey | Metal | Black | Plastic | 45-2531.3920.000 | 72 |
| | Yellow | Sand grey | Metal | Black | Plastic | 45-2531.3940.000 | 72 |
| | Green | Sand grey | Metal | Black | Plastic | 45-2531.3950.000 | 72 |
| Momentary / maintained | Black | Silver | Metal | Silver | Metal | 45-2532.2910.000 | 208 |
| | Red | Silver | Metal | Silver | Metal | 45-2532.2920.000 | 208 |

| Switching action | Lens colour | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram |
|------------------------|-------------|--------------------|----------------------|----------------|------------------|------------------|----------------|
| Momentary / maintained | Black | Silver | Metal | Silver | Metal | 45-2533.2910.000 | 209 |
| | Red | Silver | Metal | Silver | Metal | 45-2533.2920.000 | 209 |

Wiring diagrams

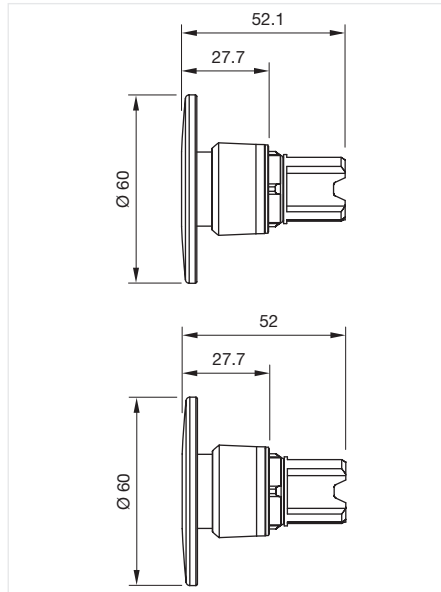
| | | | |
|---|---|---|---|
|  |  |  |  |
| Wiring diagram 72 | Wiring diagram 73 | Wiring diagram 208 | Wiring diagram 209 |

45 Raised design

Mushroom-head pushbutton Ø 60 mm, IP66, IP67, IP69K

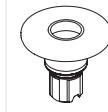


Product can differ from the current configuration.

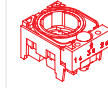


Dimensions [mm]

Equipment consisting of (schematic overview)

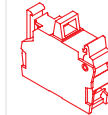


Actuator



Holder

Page 516



Switching element

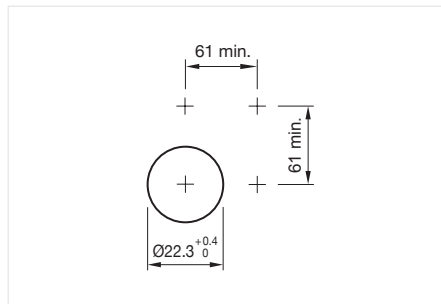
Page 518

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.

General information

- Mounting depth, incl. front plate, see chapter drawings



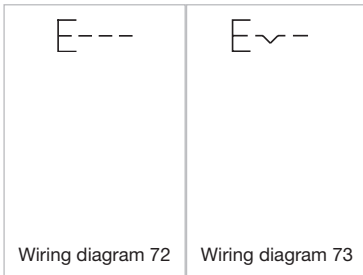
Mounting cut-outs [mm]



Actuator, Front dimension Ø 60 mm

| Switching action | Lens colour | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram |
|------------------|-------------|--------------------|----------------------|----------------|------------------|------------------|----------------|
| Maintained | Black | Black | Plastic | Black | Plastic | 45-2530.1A10.000 | 73 |
| | Red | Black | Plastic | Black | Plastic | 45-2530.1A20.000 | 73 |
| | Black | Silver | Metal | Silver | Metal | 45-2530.2A10.000 | 73 |
| | Red | Silver | Metal | Silver | Metal | 45-2530.2A20.000 | 73 |
| Momentary | Black | Black | Plastic | Black | Plastic | 45-2531.1A10.000 | 72 |
| | Red | Black | Plastic | Black | Plastic | 45-2531.1A20.000 | 72 |
| | Yellow | Black | Plastic | Black | Plastic | 45-2531.1A40.000 | 72 |
| | Green | Black | Plastic | Black | Plastic | 45-2531.1A50.000 | 72 |
| | Black | Silver | Metal | Silver | Metal | 45-2531.2A10.000 | 72 |
| | Red | Silver | Metal | Silver | Metal | 45-2531.2A20.000 | 72 |
| | Yellow | Silver | Metal | Silver | Metal | 45-2531.2A40.000 | 72 |
| | Green | Silver | Metal | Silver | Metal | 45-2531.2A50.000 | 72 |

Wiring diagrams



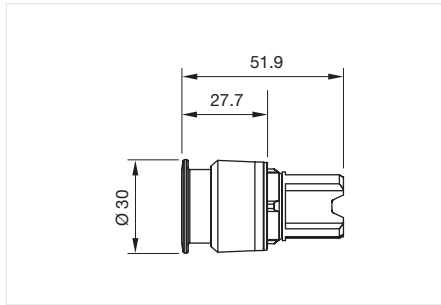
- 01
- 02
- 03
- 04
- 09
- 14
- 17
- 18
- 19
- 22
- 31
- 41
- 45**
- 51
- 56
- 57
- 61
- 70
- 71
- 82
- 84
- 92
- 96

45 Raised design

Mushroom-head pushbutton illuminated Ø 30 mm, IP66, IP67, IP69K



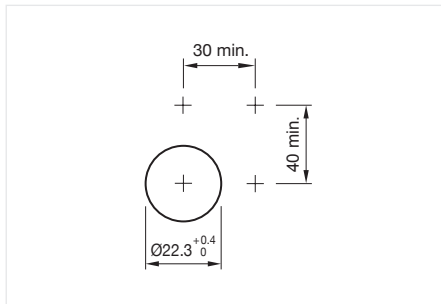
Product can differ from the current configuration.



Dimensions [mm]

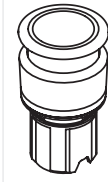
General information

- Mounting depth, incl. front plate, see chapter drawings

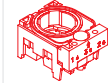


Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

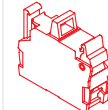


Actuator



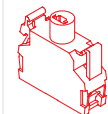
Holder

Page 516



Switching element

Page 518



Illumination element

Page 523

Each Part Number listed below includes all the black components shown in the 3D-drawing.

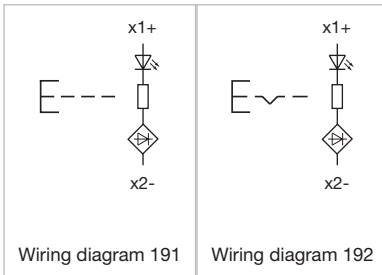
To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension Ø 30 mm

| Switching action | Lens colour | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram |
|------------------|-------------|--------------------|----------------------|----------------|------------------|------------------|------------------|
| Maintained | Red | Black | Plastic | Black | Plastic | 45-2630.18E0.000 | 192 |
| | Yellow | Black | Plastic | Black | Plastic | 45-2630.18G0.000 | 192 |
| | Green | Black | Plastic | Black | Plastic | 45-2630.18H0.000 | 192 |
| | Blue | Black | Plastic | Black | Plastic | 45-2630.18J0.000 | 192 |
| | Colourless | Black | Plastic | Black | Plastic | 45-2630.18K0.000 | 192 |
| | Red | Silver | Metal | Silver | Metal | 45-2630.28E0.000 | 192 |
| | Amber | Silver | Metal | Silver | Metal | 45-2630.28F0.000 | 192 |
| | Yellow | Silver | Metal | Silver | Metal | 45-2630.28G0.000 | 192 |
| | Green | Silver | Metal | Silver | Metal | 45-2630.28H0.000 | 192 |
| | Blue | Silver | Metal | Silver | Metal | 45-2630.28J0.000 | 192 |
| | Colourless | Silver | Metal | Silver | Metal | 45-2630.28K0.000 | 192 |
| | Red | Sand grey | Metal | Black | Plastic | 45-2630.38E0.000 | 192 |
| | Yellow | Sand grey | Metal | Black | Plastic | 45-2630.38G0.000 | 192 |
| | Momentary | Red | Black | Plastic | Black | Plastic | 45-2631.18E0.000 |
| Yellow | | Black | Plastic | Black | Plastic | 45-2631.18G0.000 | 191 |
| Green | | Black | Plastic | Black | Plastic | 45-2631.18H0.000 | 191 |
| Blue | | Black | Plastic | Black | Plastic | 45-2631.18J0.000 | 191 |
| Colourless | | Black | Plastic | Black | Plastic | 45-2631.18K0.000 | 191 |
| White | | Black | Plastic | Black | Plastic | 45-2631.18N0.000 | 191 |
| Yellow | | Silver | Metal | Silver | Metal | 45-2631.28G0.000 | 191 |
| Green | | Silver | Metal | Silver | Metal | 45-2631.28H0.000 | 191 |
| White | | Silver | Metal | Silver | Metal | 45-2631.28N0.000 | 191 |
| Yellow | | Sand grey | Metal | Black | Plastic | 45-2631.38G0.000 | 191 |
| Green | | Sand grey | Metal | Black | Plastic | 45-2631.38H0.000 | 191 |
| Colourless | | Sand grey | Metal | Black | Plastic | 45-2631.38K0.000 | 191 |
| White | | Sand grey | Metal | Black | Plastic | 45-2631.38N0.000 | 191 |

Wiring diagrams



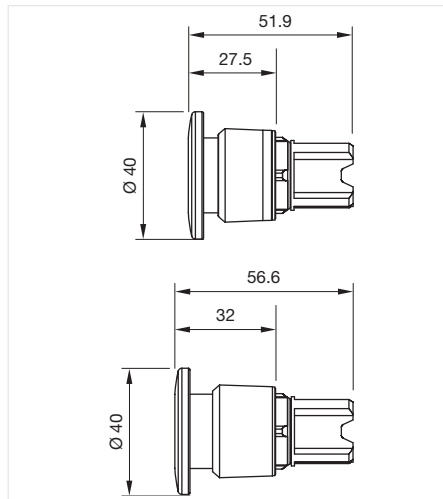
- 01
- 02
- 03
- 04
- 09
- 14
- 17
- 18
- 19
- 22
- 31
- 41
- 45**
- 51
- 56
- 57
- 61
- 70
- 71
- 82
- 84
- 92
- 96

45 Raised design

Mushroom-head pushbutton illuminated Ø 40 mm, IP66, IP67, IP69K

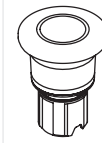


Product can differ from the current configuration.

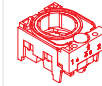


Dimensions [mm]

Equipment consisting of (schematic overview)

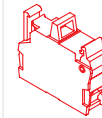


Actuator



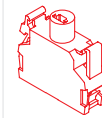
Holder

Page 516



Switching element

Page 518



Illumination element

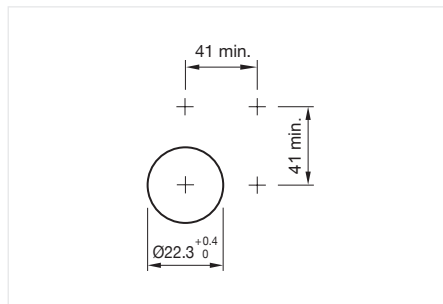
Page 523

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.

General information

- Mounting depth, incl. front plate, see chapter drawings



Mounting cut-outs [mm]

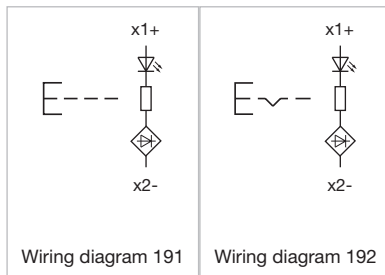


Actuator, Front dimension Ø 40 mm

| Switching action | Lens colour | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram |
|------------------|-------------|--------------------|----------------------|----------------|------------------|------------------|------------------|
| Maintained | Red | Black | Plastic | Black | Plastic | 45-2630.19E0.000 | 192 |
| | Yellow | Black | Plastic | Black | Plastic | 45-2630.19G0.000 | 192 |
| | Green | Black | Plastic | Black | Plastic | 45-2630.19H0.000 | 192 |
| | Blue | Black | Plastic | Black | Plastic | 45-2630.19J0.000 | 192 |
| | Colourless | Black | Plastic | Black | Plastic | 45-2630.19K0.000 | 192 |
| | Red | Silver | Metal | Silver | Metal | 45-2630.29E0.000 | 192 |
| | Amber | Silver | Metal | Silver | Metal | 45-2630.29F0.000 | 192 |
| | Yellow | Silver | Metal | Silver | Metal | 45-2630.29G0.000 | 192 |
| | Green | Silver | Metal | Silver | Metal | 45-2630.29H0.000 | 192 |
| | Blue | Silver | Metal | Silver | Metal | 45-2630.29J0.000 | 192 |
| | Colourless | Silver | Metal | Silver | Metal | 45-2630.29K0.000 | 192 |
| | Red | Sand grey | Metal | Black | Plastic | 45-2630.39E0.000 | 192 |
| | Yellow | Sand grey | Metal | Black | Plastic | 45-2630.39G0.000 | 192 |
| | Momentary | Yellow | Black | Plastic | Black | Plastic | 45-2631.19G0.000 |
| Green | | Black | Plastic | Black | Plastic | 45-2631.19H0.000 | 191 |
| Colourless | | Black | Plastic | Black | Plastic | 45-2631.19K0.000 | 191 |
| White | | Black | Plastic | Black | Plastic | 45-2631.19N0.000 | 191 |
| Amber | | Silver | Metal | Silver | Metal | 45-2631.29F0.000 | 191 |
| Yellow | | Silver | Metal | Silver | Metal | 45-2631.29G0.000 | 191 |
| Green | | Silver | Metal | Silver | Metal | 45-2631.29H0.000 | 191 |
| White | | Silver | Metal | Silver | Metal | 45-2631.29N0.000 | 191 |
| Yellow | | Sand grey | Metal | Black | Plastic | 45-2631.39G0.000 | 191 |

| Switching action | Lens colour | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram |
|------------------|-------------|--------------------|----------------------|----------------|------------------|------------------|----------------|
| Momentary | Green | Sand grey | Metal | Black | Plastic | 45-2631.39H0.000 | 191 |
| | Colourless | Sand grey | Metal | Black | Plastic | 45-2631.39K0.000 | 191 |
| | White | Sand grey | Metal | Black | Plastic | 45-2631.39N0.000 | 191 |
| | Red | Silver | Metal | Silver | Metal | 45-2632.29E0.000 | 191 |
| | Green | Silver | Metal | Silver | Metal | 45-2632.29H0.000 | 191 |
| | Red | Silver | Metal | Silver | Metal | 45-2633.29E0.000 | 191 |
| | White | Silver | Metal | Silver | Metal | 45-2633.29N0.000 | 191 |

Wiring diagrams



Innovative and comprehensive. *EAO's new Series 45.*

Modular, aesthetic and robust for every conceivable HMI function of machine operating.

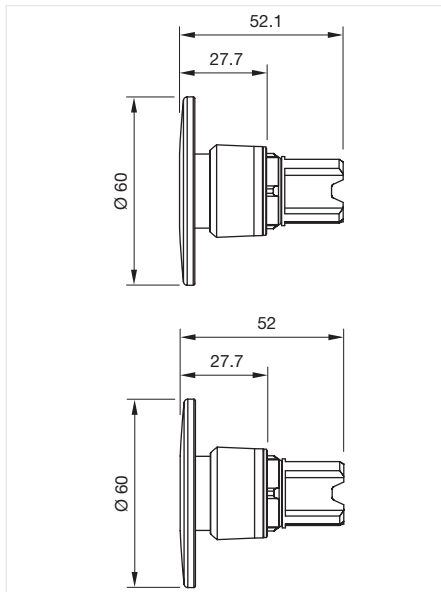
- Comprehensive and modular Series
- Rugged in use (up to IP69K)
- Easy to assemble and use
- Modern design with many options
- Value added services
- Long service life (up to 10 million switching cycles, depending on function)

45 Raised design

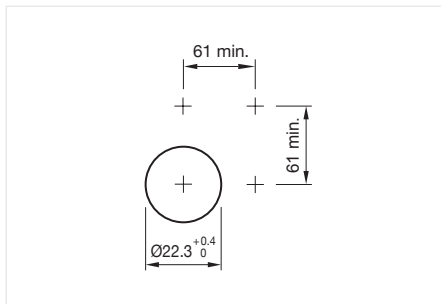
Mushroom-head pushbutton illuminated Ø 60 mm, IP66, IP67, IP69K



Product can differ from the current configuration.



Dimensions [mm]

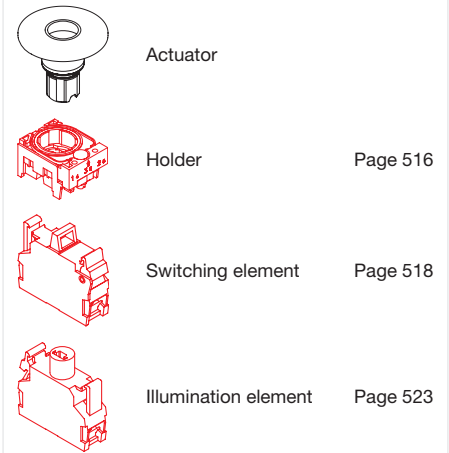


Mounting cut-outs [mm]

General information

- Mounting depth, incl. front plate, see chapter drawings

Equipment consisting of (schematic overview)



Each Part Number listed below includes all the black components shown in the 3D-drawing.

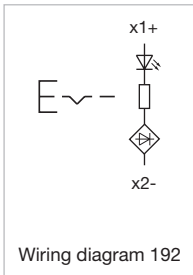
To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension Ø 60 mm

| Switching action | Lens colour | Front bezel colour | Front bezel material | Housing colour | Housing material | Part No. | Wiring diagram |
|------------------|-------------|--------------------|----------------------|----------------|------------------|------------------|----------------|
| Maintained | Red | Silver | Metal | Silver | Metal | 45-2630.2AE0.000 | 192 |
| | Yellow | Silver | Metal | Silver | Metal | 45-2630.2AG0.000 | 192 |
| | Green | Silver | Metal | Silver | Metal | 45-2630.2AH0.000 | 192 |
| | Blue | Silver | Metal | Silver | Metal | 45-2630.2AJ0.000 | 192 |
| | Colourless | Silver | Metal | Silver | Metal | 45-2630.2AK0.000 | 192 |
| Momentary | Amber | Silver | Metal | Silver | Metal | 45-2631.2AF0.000 | 191 |
| | Yellow | Silver | Metal | Silver | Metal | 45-2631.2AG0.000 | 191 |
| | Green | Silver | Metal | Silver | Metal | 45-2631.2AH0.000 | 191 |
| | White | Silver | Metal | Silver | Metal | 45-2631.2AN0.000 | 191 |

Wiring diagrams



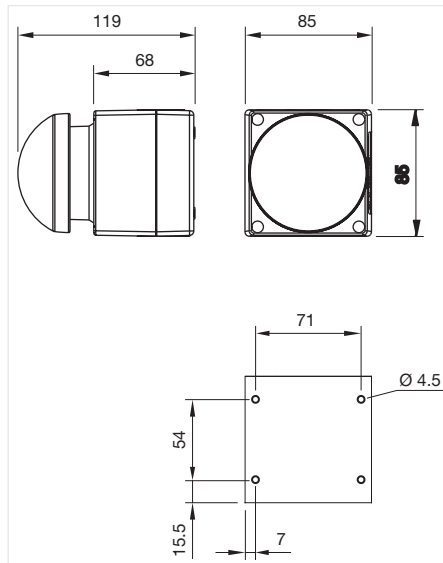
- 01
- 02
- 03
- 04
- 09
- 14
- 17
- 18
- 19
- 22
- 31
- 41
- 45**
- 51
- 56
- 57
- 61
- 70
- 71
- 82
- 84
- 92
- 96

45 Raised design

Palm switch, IP66, IP67, IP69K

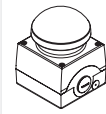


Product can differ from the current configuration.

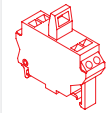


Dimensions [mm]

Equipment consisting of (schematic overview)



Actuator



Switching element

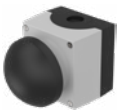
Page 521

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.

General information

- Mounting depth, incl. front plate, see chapter drawings

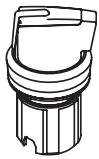


Actuator, Front dimension 85 mm x 85 mm

| Product attributes | Switching action | Lens colour | Housing colour | Housing material | Part No. |
|--------------------|------------------|-------------|----------------|------------------|-------------|
| | Momentary | Black | Grey | Plastic | 45-481.1810 |
| | | Black | Grey | Metal | 45-481.2810 |
| Pull release | Maintained | Red | Yellow | Plastic | 45-482.1810 |
| | | Red | Yellow | Metal | 45-482.2810 |

Selector switch 2 positions short lever, IP66, IP67, IP69K

Equipment consisting of (schematic overview)

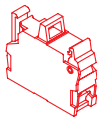


Actuator



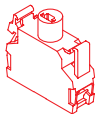
Holder

Page 516



Switching element

Page 518

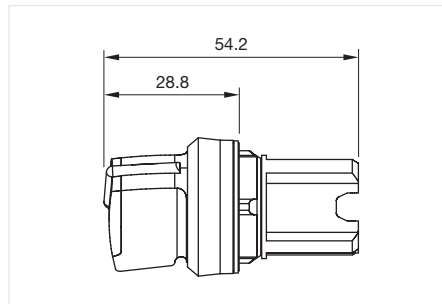


Illumination element

Page 523

Each Part Number listed below includes all the black components shown in the 3D-drawing.

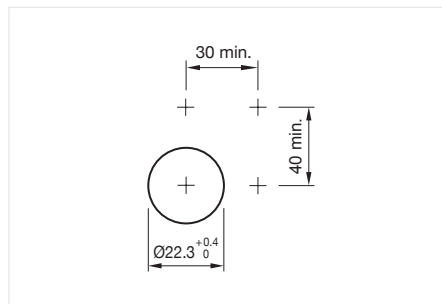
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



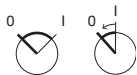
Product can differ from the current configuration.



Mounting cut-outs [mm]

General information

- External diameter of the short lever 32.3 mm
- Mounting depth, incl. front plate, see chapter drawings



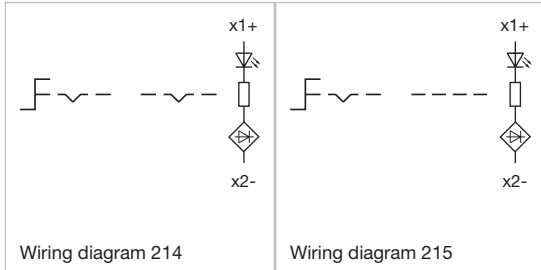
Actuator, Front dimension Ø 29,5 mm

| Switching action | Switching angle | Lever colour | Front bezel colour | Front bezel material | Housing material | Part No. | Wiring diagram |
|-------------------|-----------------|--------------|--------------------|----------------------|------------------|------------------|----------------|
| Rest - Maintained | 90° right | Red | Black | Plastic | Plastic | 45-2828.1C20.001 | 214 |
| | 90° right | Yellow | Black | Plastic | Plastic | 45-2828.1C40.001 | 214 |
| | 90° right | Green | Black | Plastic | Plastic | 45-2828.1C50.001 | 214 |
| | 90° right | Blue | Black | Plastic | Plastic | 45-2828.1C60.001 | 214 |
| | 90° right | White | Black | Plastic | Plastic | 45-2828.1C90.001 | 214 |
| | 90° right | Red | Silver | Metal | Metal | 45-2828.2C20.001 | 214 |
| | 90° right | Amber | Silver | Metal | Metal | 45-2828.2C30.001 | 214 |
| | 90° right | Green | Silver | Metal | Metal | 45-2828.2C50.001 | 214 |
| | 90° right | White | Silver | Metal | Metal | 45-2828.2C90.001 | 214 |
| | 90° right | Red | Sand grey | Metal | Plastic | 45-2828.3C20.001 | 214 |
| | 90° right | Yellow | Sand grey | Metal | Plastic | 45-2828.3C40.001 | 214 |
| | 90° right | Green | Sand grey | Metal | Plastic | 45-2828.3C50.001 | 214 |
| | 90° right | Blue | Sand grey | Metal | Plastic | 45-2828.3C60.001 | 214 |
| 90° right | White | Sand grey | Metal | Plastic | 45-2828.3C90.001 | 214 | |
| Rest - Momentary | 45° right | Red | Black | Plastic | Plastic | 45-2844.1C20.006 | 215 |
| | 45° right | Yellow | Black | Plastic | Plastic | 45-2844.1C40.006 | 215 |
| | 45° right | Green | Black | Plastic | Plastic | 45-2844.1C50.006 | 215 |
| | 45° right | Blue | Black | Plastic | Plastic | 45-2844.1C60.006 | 215 |
| | 45° right | White | Black | Plastic | Plastic | 45-2844.1C90.006 | 215 |
| | 45° right | Red | Silver | Metal | Metal | 45-2844.2C20.006 | 215 |
| | 45° right | Yellow | Silver | Metal | Metal | 45-2844.2C40.006 | 215 |
| | 45° right | Green | Silver | Metal | Metal | 45-2844.2C50.006 | 215 |
| | 45° right | Blue | Silver | Metal | Metal | 45-2844.2C60.006 | 215 |
| | 45° right | White | Silver | Metal | Metal | 45-2844.2C90.006 | 215 |
| | 45° right | Red | Sand grey | Metal | Plastic | 45-2844.3C20.006 | 215 |
| | 45° right | Yellow | Sand grey | Metal | Plastic | 45-2844.3C40.006 | 215 |

45 Raised design

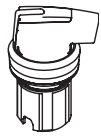
| Switching action | Switching angle | Lever colour | Front bezel colour | Front bezel material | Housing material | Part No. | Wiring diagram |
|------------------|-----------------|--------------|--------------------|----------------------|------------------|------------------|----------------|
| Rest - Momentary | 45° right | Green | Sand grey | Metal | Plastic | 45-2844.3C50.006 | 215 |
| | 45° right | Blue | Sand grey | Metal | Plastic | 45-2844.3C60.006 | 215 |
| | 45° right | White | Sand grey | Metal | Plastic | 45-2844.3C90.006 | 215 |

Wiring diagrams

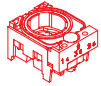


Selector switch 2 positions long lever, IP66, IP67, IP69K

Equipment consisting of (schematic overview)

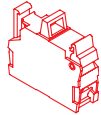


Actuator



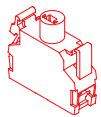
Holder

Page 516



Switching element

Page 518

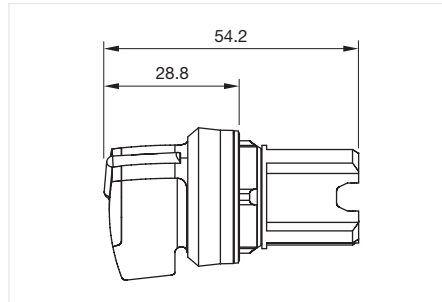


Illumination element

Page 523

Each Part Number listed below includes all the black components shown in the 3D-drawing.

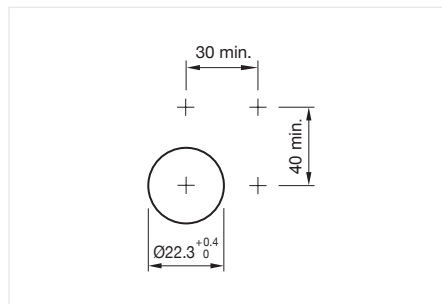
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



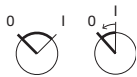
Product can differ from the current configuration.



Mounting cut-outs [mm]

General information

- External diameter of the long lever 44.8 mm
- Mounting depth, incl. front plate, see chapter drawings

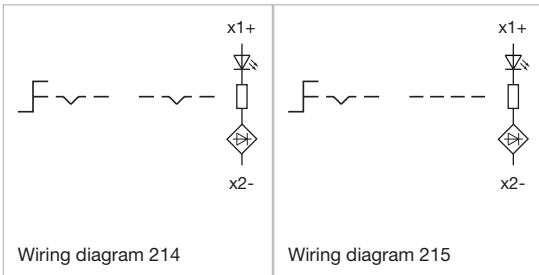


Actuator, Front dimension Ø 29,5 mm

| Switching action | Switching angle | Lever colour | Front bezel colour | Front bezel material | Housing material | Part No. | Wiring diagram |
|-------------------|-----------------|--------------|--------------------|----------------------|------------------|------------------|----------------|
| Rest - Maintained | 90° right | Red | Black | Plastic | Plastic | 45-2828.1D20.001 | 214 |
| | 90° right | White | Black | Plastic | Plastic | 45-2828.1D90.001 | 214 |
| | 90° right | Red | Silver | Metal | Metal | 45-2828.2D20.001 | 214 |
| | 90° right | Yellow | Silver | Metal | Metal | 45-2828.2D40.001 | 214 |
| | 90° right | Green | Silver | Metal | Metal | 45-2828.2D50.001 | 214 |
| | 90° right | Blue | Silver | Metal | Metal | 45-2828.2D60.001 | 214 |
| | 90° right | White | Silver | Metal | Metal | 45-2828.2D90.001 | 214 |
| | 90° right | Red | Sand grey | Metal | Plastic | 45-2828.3D20.001 | 214 |
| | 90° right | White | Sand grey | Metal | Plastic | 45-2828.3D90.001 | 214 |
| Rest - Momentary | 45° right | Yellow | Silver | Metal | Metal | 45-2844.2D40.006 | 215 |
| | 45° right | Green | Silver | Metal | Metal | 45-2844.2D50.006 | 215 |
| | 45° right | Blue | Silver | Metal | Metal | 45-2844.2D60.006 | 215 |
| | 45° right | White | Silver | Metal | Metal | 45-2844.2D90.006 | 215 |

45 Raised design

Wiring diagrams

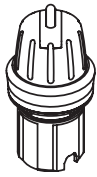


[Come take a look at our YouTube profile today!](https://www.youtube.com/user/eaoswitches) Be sure to give us a follow so that you can fully interact with us.

<https://www.youtube.com/user/eaoswitches>

Selector switch 2 positions round lever, IP66, IP67, IP69K

Equipment consisting of (schematic overview)

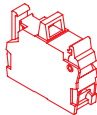


Actuator



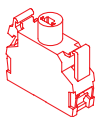
Holder

Page 516



Switching element

Page 518

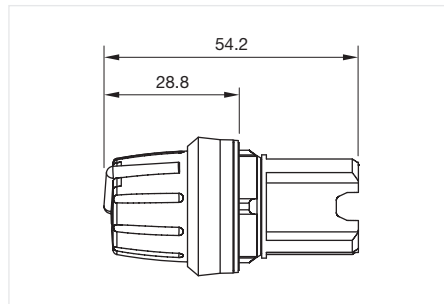


Illumination element

Page 523

Each Part Number listed below includes all the black components shown in the 3D-drawing.

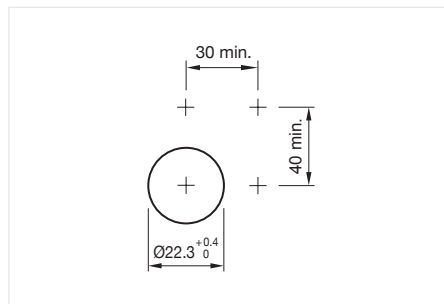
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Product can differ from the current configuration.



Mounting cut-outs [mm]

General information

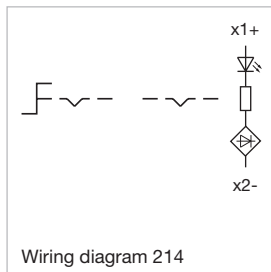
- Mounting depth, incl. front plate, see chapter drawings



Actuator, Front dimension $\varnothing 29,5$ mm

| Switching action | Switching angle | Lever colour | Front bezel colour | Front bezel material | Housing material | Part No. | Wiring diagram |
|-------------------|-----------------|--------------|--------------------|----------------------|------------------|------------------|----------------|
| Rest - Maintained | 90° right | Red | Black | Plastic | Plastic | 45-2828.1E20.001 | 214 |
| | 90° right | White | Black | Plastic | Plastic | 45-2828.1E90.001 | 214 |
| | 90° right | Red | Sand grey | Metal | Plastic | 45-2828.3E20.001 | 214 |
| | 90° right | White | Sand grey | Metal | Plastic | 45-2828.3E90.001 | 214 |

Wiring diagrams

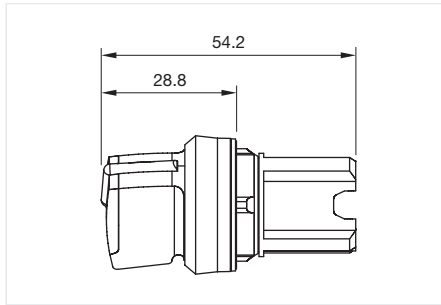


45 Raised design

Selector switch 3 positions short lever, IP66, IP67, IP69K



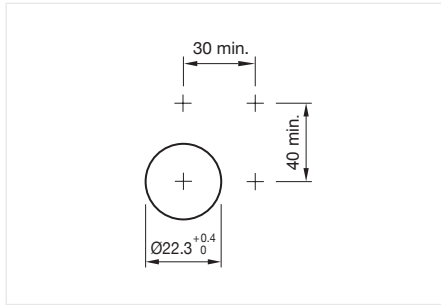
Product can differ from the current configuration.



Dimensions [mm]

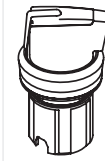
General information

- External diameter of the short lever 32.3 mm
- Mounting depth, incl. front plate, see chapter drawings

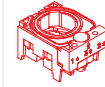


Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

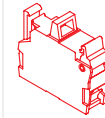


Actuator



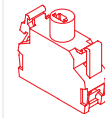
Holder

Page 516



Switching element

Page 518

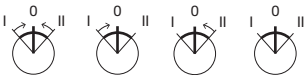


Illumination element

Page 523

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.

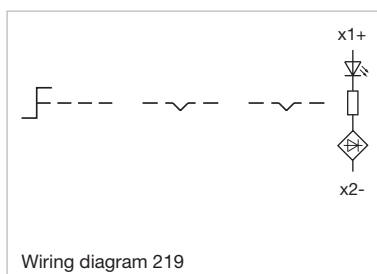
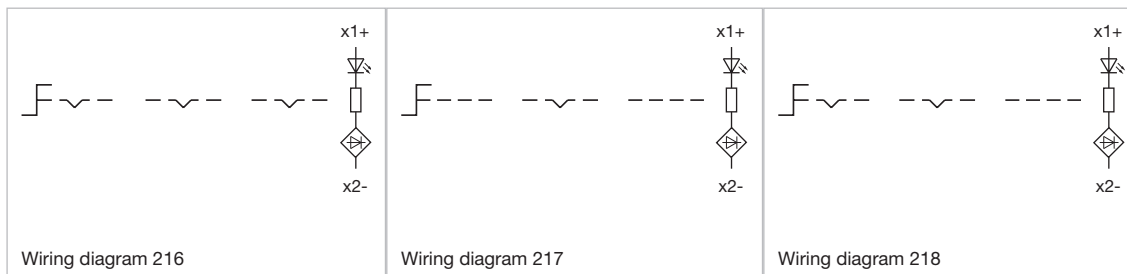


Actuator, Front dimension Ø 29,5 mm

| Switching action | Switching angle | Lever colour | Front bezel colour | Front bezel material | Housing material | Part No. | Wiring diagram |
|-------------------------------|----------------------|--------------|--------------------|----------------------|------------------|------------------|----------------|
| Momentary - Rest - Momentary | 45° left / 45° right | Red | Black | Plastic | Plastic | 45-280S.1C20.003 | 217 |
| | 45° left / 45° right | Yellow | Black | Plastic | Plastic | 45-280S.1C40.003 | 217 |
| | 45° left / 45° right | Green | Black | Plastic | Plastic | 45-280S.1C50.003 | 217 |
| | 45° left / 45° right | Blue | Black | Plastic | Plastic | 45-280S.1C60.003 | 217 |
| | 45° left / 45° right | White | Black | Plastic | Plastic | 45-280S.1C90.003 | 217 |
| | 45° left / 45° right | Red | Silver | Metal | Metal | 45-280S.2C20.003 | 217 |
| | 45° left / 45° right | Amber | Silver | Metal | Metal | 45-280S.2C30.003 | 217 |
| | 45° left / 45° right | Yellow | Silver | Metal | Metal | 45-280S.2C40.003 | 217 |
| | 45° left / 45° right | Green | Silver | Metal | Metal | 45-280S.2C50.003 | 217 |
| | 45° left / 45° right | Blue | Silver | Metal | Metal | 45-280S.2C60.003 | 217 |
| | 45° left / 45° right | White | Silver | Metal | Metal | 45-280S.2C90.003 | 217 |
| | 45° left / 45° right | Red | Sand grey | Metal | Plastic | 45-280S.3C20.003 | 217 |
| | 45° left / 45° right | Yellow | Sand grey | Metal | Plastic | 45-280S.3C40.003 | 217 |
| | 45° left / 45° right | Green | Sand grey | Metal | Plastic | 45-280S.3C50.003 | 217 |
| | 45° left / 45° right | Blue | Sand grey | Metal | Plastic | 45-280S.3C60.003 | 217 |
| | 45° left / 45° right | White | Sand grey | Metal | Plastic | 45-280S.3C90.003 | 217 |
| Momentary - Rest - Maintained | 45° left / 45° right | Red | Black | Plastic | Plastic | 45-280X.1C20.003 | 219 |
| | 45° left / 45° right | Yellow | Black | Plastic | Plastic | 45-280X.1C40.003 | 219 |
| | 45° left / 45° right | Green | Black | Plastic | Plastic | 45-280X.1C50.003 | 219 |
| | 45° left / 45° right | Blue | Black | Plastic | Plastic | 45-280X.1C60.003 | 219 |
| | 45° left / 45° right | White | Black | Plastic | Plastic | 45-280X.1C90.003 | 219 |
| | 45° left / 45° right | White | Silver | Metal | Metal | 45-280X.2C90.003 | 219 |
| | 45° left / 45° right | Red | Sand grey | Metal | Plastic | 45-280X.3C20.003 | 219 |
| | 45° left / 45° right | Yellow | Sand grey | Metal | Plastic | 45-280X.3C40.003 | 219 |
| | 45° left / 45° right | Green | Sand grey | Metal | Plastic | 45-280X.3C50.003 | 219 |
| | 45° left / 45° right | Blue | Sand grey | Metal | Plastic | 45-280X.3C60.003 | 219 |

| Switching action | Switching angle | Lever colour | Front bezel colour | Front bezel material | Housing material | Part No. | Wiring diagram |
|-------------------------------|--------------------------------|----------------------|--------------------|----------------------|------------------|------------------|------------------|
| Momentary - Rest - Maintained | 45° left / 45° right | White | Sand grey | Metal | Plastic | 45-280X.3C90.003 | 219 |
| Maintained - Rest - Momentary | 45° left / 45° right | Red | Black | Plastic | Plastic | 45-2816.1C20.003 | 218 |
| | 45° left / 45° right | Yellow | Black | Plastic | Plastic | 45-2816.1C40.003 | 218 |
| | 45° left / 45° right | Green | Black | Plastic | Plastic | 45-2816.1C50.003 | 218 |
| | 45° left / 45° right | Blue | Black | Plastic | Plastic | 45-2816.1C60.003 | 218 |
| | 45° left / 45° right | White | Black | Plastic | Plastic | 45-2816.1C90.003 | 218 |
| | 45° left / 45° right | Red | Silver | Metal | Metal | 45-2816.2C20.003 | 218 |
| | 45° left / 45° right | Green | Silver | Metal | Metal | 45-2816.2C50.003 | 218 |
| | 45° left / 45° right | White | Silver | Metal | Metal | 45-2816.2C90.003 | 218 |
| | 45° left / 45° right | Red | Sand grey | Metal | Plastic | 45-2816.3C20.003 | 218 |
| | 45° left / 45° right | Yellow | Sand grey | Metal | Plastic | 45-2816.3C40.003 | 218 |
| | 45° left / 45° right | Green | Sand grey | Metal | Plastic | 45-2816.3C50.003 | 218 |
| | 45° left / 45° right | Blue | Sand grey | Metal | Plastic | 45-2816.3C60.003 | 218 |
| | 45° left / 45° right | White | Sand grey | Metal | Plastic | 45-2816.3C90.003 | 218 |
| | Maintained - Rest - Maintained | 45° left / 45° right | Red | Black | Plastic | Plastic | 45-2819.1C20.003 |
| 45° left / 45° right | | Yellow | Black | Plastic | Plastic | 45-2819.1C40.003 | 216 |
| 45° left / 45° right | | Green | Black | Plastic | Plastic | 45-2819.1C50.003 | 216 |
| 45° left / 45° right | | Blue | Black | Plastic | Plastic | 45-2819.1C60.003 | 216 |
| 45° left / 45° right | | White | Black | Plastic | Plastic | 45-2819.1C90.003 | 216 |
| 45° left / 45° right | | Red | Silver | Metal | Metal | 45-2819.2C20.003 | 216 |
| 45° left / 45° right | | Yellow | Silver | Metal | Metal | 45-2819.2C40.003 | 216 |
| 45° left / 45° right | | Green | Silver | Metal | Metal | 45-2819.2C50.003 | 216 |
| 45° left / 45° right | | White | Silver | Metal | Metal | 45-2819.2C90.003 | 216 |
| 45° left / 45° right | | Red | Sand grey | Metal | Plastic | 45-2819.3C20.003 | 216 |
| 45° left / 45° right | | Yellow | Sand grey | Metal | Plastic | 45-2819.3C40.003 | 216 |
| 45° left / 45° right | | Green | Sand grey | Metal | Plastic | 45-2819.3C50.003 | 216 |
| 45° left / 45° right | | Blue | Sand grey | Metal | Plastic | 45-2819.3C60.003 | 216 |
| 45° left / 45° right | | White | Sand grey | Metal | Plastic | 45-2819.3C90.003 | 216 |

Wiring diagrams

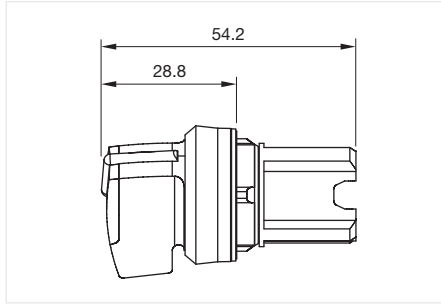


45 Raised design

Selector switch 3 positions long lever, IP66, IP67, IP69K



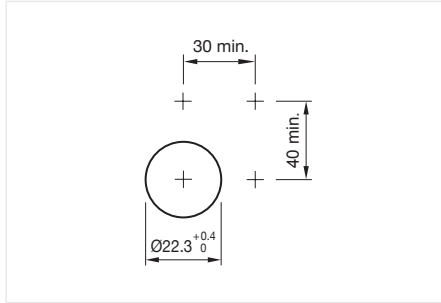
Product can differ from the current configuration.



Dimensions [mm]

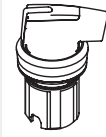
General information

- External diameter of the long lever 44.8 mm
- Mounting depth, incl. front plate, see chapter drawings

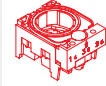


Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

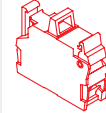


Actuator



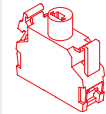
Holder

Page 516



Switching element

Page 518

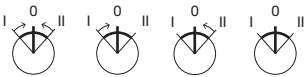


Illumination element

Page 523

Each Part Number listed below includes all the black components shown in the 3D-drawing.

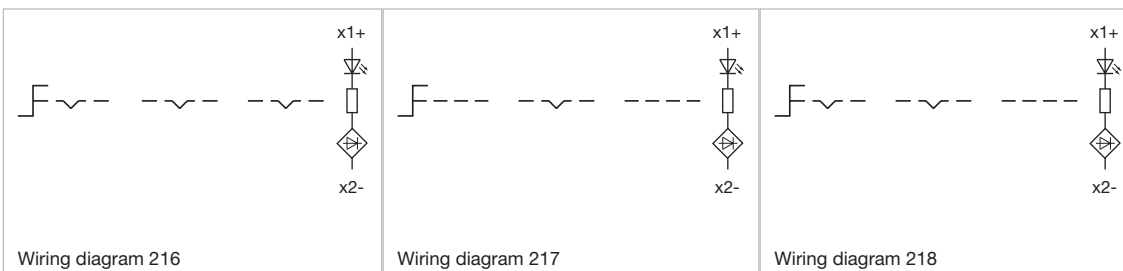
To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension $\varnothing 29,5$ mm

| Switching action | Switching angle | Lever colour | Front bezel colour | Front bezel material | Housing material | Part No. | Wiring diagram |
|--------------------------------|----------------------|--------------|--------------------|----------------------|------------------|------------------|----------------|
| Momentary - Rest - Momentary | 45° left / 45° right | Red | Silver | Metal | Metal | 45-280S.2D20.003 | 217 |
| | 45° left / 45° right | Green | Silver | Metal | Metal | 45-280S.2D50.003 | 217 |
| | 45° left / 45° right | White | Silver | Metal | Metal | 45-280S.2D90.003 | 217 |
| Momentary - Rest - Maintained | 45° left / 45° right | Red | Silver | Metal | Metal | 45-280X.2D20.003 | 219 |
| | 45° left / 45° right | White | Silver | Metal | Metal | 45-280X.2D90.003 | 219 |
| Maintained - Rest - Momentary | 45° left / 45° right | Red | Silver | Metal | Metal | 45-2816.2D20.003 | 218 |
| | 45° left / 45° right | White | Silver | Metal | Metal | 45-2816.2D90.003 | 218 |
| Maintained - Rest - Maintained | 45° left / 45° right | Red | Silver | Metal | Metal | 45-2819.2D20.003 | 216 |
| | 45° left / 45° right | Green | Silver | Metal | Metal | 45-2819.2D50.003 | 216 |
| | 45° left / 45° right | White | Silver | Metal | Metal | 45-2819.2D90.003 | 216 |

Wiring diagrams

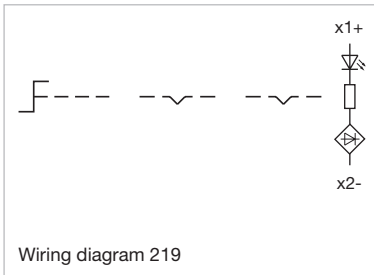


Wiring diagram 216

Wiring diagram 217

Wiring diagram 218

Wiring diagrams



01
02
03
04
09
14
17
18
19
22
31
41
45
51
56
57
61
70
71
82
84
92
96



Innovative and comprehensive.
EAO's new Series 45.

Modular, aesthetic and robust for every conceivable HMI function of machine operating.

- Comprehensive and modular Series
- Rugged in use (up to IP69K)
- Easy to assemble and use
- Modern design with many options
- Value added services
- Long service life (up to 10 million switching cycles, depending on function)

www.eao.com



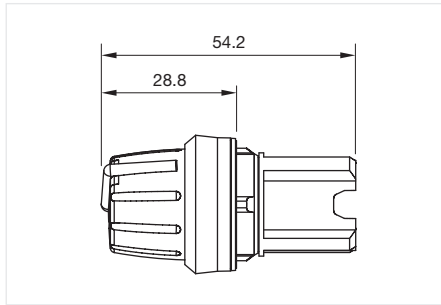
Your Expert Partner for Human Machine Interfaces

45 Raised design

Selector switch 4 positions round lever, IP66, IP67, IP69K



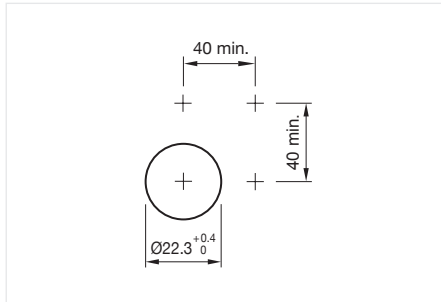
Product can differ from the current configuration.



Dimensions [mm]

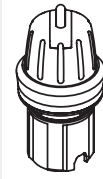
General information

- Use only with holder for 4 elements
- Mounting depth, incl. front plate, see chapter drawings

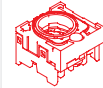


Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

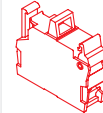


Actuator



Holder

Page 517

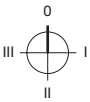


Switching element

Page 518

Each Part Number listed below includes all the black components shown in the 3D-drawing.

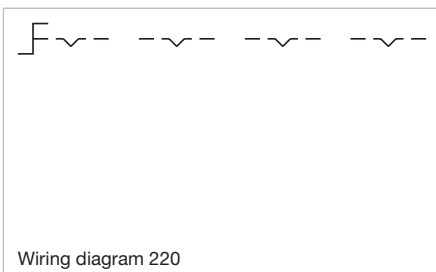
To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension \varnothing 29,5 mm

| Switching action | Switching angle | Lever colour | Front bezel colour | Front bezel material | Housing material | Part No. | Wiring diagram |
|---|-----------------|--------------|--------------------|----------------------|------------------|------------------|----------------|
| Maintained - Maintained - Maintained - Maintained | 4 x 90° | White | Black | Plastic | Plastic | 45-2845.1E90.002 | 220 |
| | 4 x 90° | White | Silver | Metal | Metal | 45-2845.2E90.002 | 220 |
| | 4 x 90° | White | Sand grey | Metal | Plastic | 45-2845.3E90.002 | 220 |

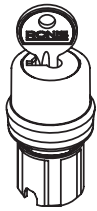
Wiring diagrams



Wiring diagram 220

Keylock switch 2 positions, IP66, IP67, IP69K

Equipment consisting of (schematic overview)

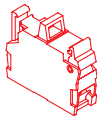


Actuator



Holder

Page 516

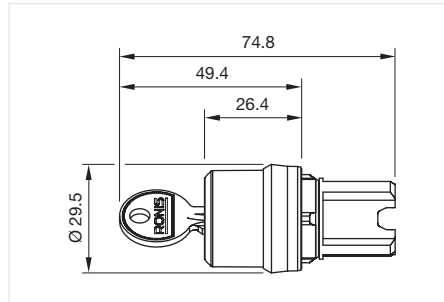


Switching element

Page 518

Each Part Number listed below includes all the black components shown in the 3D-drawing.

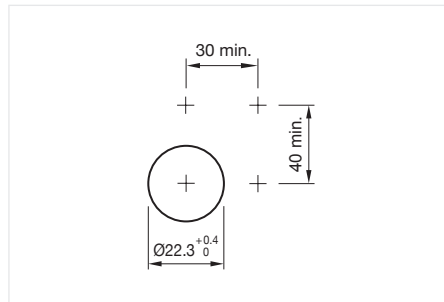
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



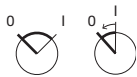
Product can differ from the current configuration.



Mounting cut-outs [mm]

General information

- The standard lock: RONIS, T254
- Mounting depth, incl. front plate, see chapter drawings

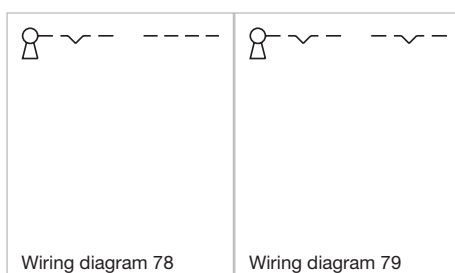


Actuator, Front dimension Ø 29,5 mm

| Switching action | Switching angle | Front bezel colour | Front bezel material | Housing material | Part No. | Wiring diagram |
|---------------------------|-----------------|--------------------|----------------------|------------------|------------------|----------------|
| Rest (a) - Maintained (a) | 90° right | Black | Plastic | Plastic | 45-290H.1000.111 | 79 |
| | 90° right | Silver | Metal | Metal | 45-290H.2000.111 | 79 |
| | 90° right | Sand grey | Metal | Plastic | 45-290H.3000.111 | 79 |
| Rest (a) - Maintained | 90° right | Black | Plastic | Plastic | 45-290J.1000.111 | 79 |
| | 90° right | Silver | Metal | Metal | 45-290J.2000.111 | 79 |
| | 90° right | Sand grey | Metal | Plastic | 45-290J.3000.111 | 79 |
| Rest (a) - Momentary | 45° right | Black | Plastic | Plastic | 45-290K.1000.116 | 78 |
| | 45° right | Silver | Metal | Metal | 45-290K.2000.116 | 78 |
| | 45° right | Sand grey | Metal | Plastic | 45-290K.3000.116 | 78 |
| Rest - Maintained (a) | 90° right | Black | Plastic | Plastic | 45-2925.1000.111 | 79 |
| | 90° right | Silver | Metal | Metal | 45-2925.2000.111 | 79 |
| | 90° right | Sand grey | Metal | Plastic | 45-2925.3000.111 | 79 |

a = Key remove

Wiring diagrams



Wiring diagram 78

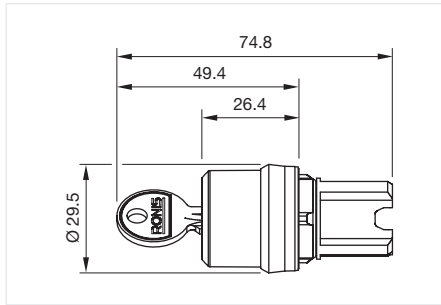
Wiring diagram 79

45 Raised design

Keylock switch 3 positions, IP66, IP67, IP69K



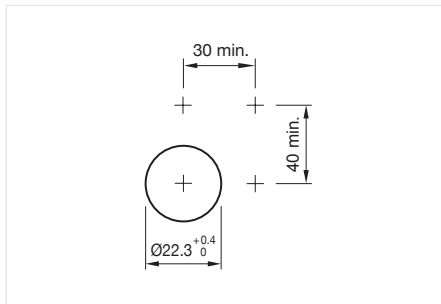
Product can differ from the current configuration.



Dimensions [mm]

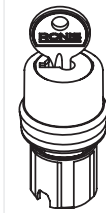
General information

- The standard lock: RONIS, T254
- Mounting depth, incl. front plate, see chapter drawings

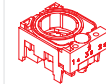


Mounting cut-outs [mm]

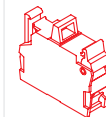
Equipment consisting of (schematic overview)



Actuator



Holder



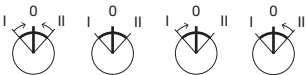
Switching element

Page 516

Page 518

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension Ø 29,5 mm

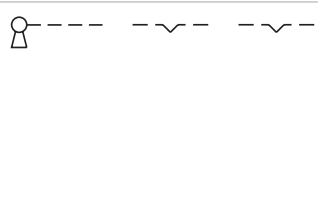
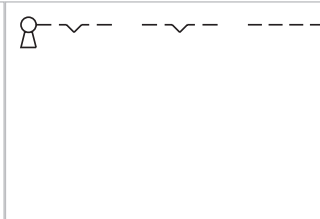
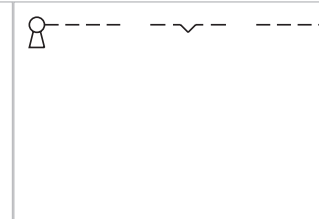
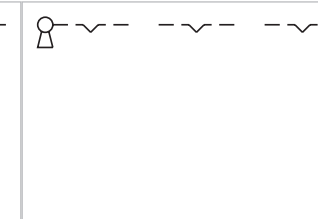
| Switching action | Switching angle | Front bezel colour | Front bezel material | Housing material | Part No. | Wiring diagram |
|--|----------------------|--------------------|----------------------|------------------|------------------|----------------|
| Maintained (a) - Rest - Momentary | 45° left / 45° right | Black | Plastic | Plastic | 45-290A.1000.113 | 81 |
| | 45° left / 45° right | Silver | Metal | Metal | 45-290A.2000.113 | 81 |
| Maintained (a) - Rest - Maintained (a) | 45° left / 45° right | Black | Plastic | Plastic | 45-290C.1000.113 | 83 |
| | 45° left / 45° right | Silver | Metal | Metal | 45-290C.2000.113 | 83 |
| | 45° left / 45° right | Sand grey | Metal | Plastic | 45-290C.3000.113 | 83 |
| Maintained (a) - Rest - Maintained | 45° left / 45° right | Black | Plastic | Plastic | 45-290D.1000.113 | 83 |
| | 45° left / 45° right | Silver | Metal | Metal | 45-290D.2000.113 | 83 |
| | 45° left / 45° right | Sand grey | Metal | Plastic | 45-290D.3000.113 | 83 |
| Maintained (a) - Rest (a) - Momentary | 45° left / 45° right | Black | Plastic | Plastic | 45-290E.1000.113 | 81 |
| | 45° left / 45° right | Silver | Metal | Metal | 45-290E.2000.113 | 81 |
| Maintained (a) - Rest (a) - Maintained (a) | 45° left / 45° right | Black | Plastic | Plastic | 45-290F.1000.113 | 83 |
| | 45° left / 45° right | Silver | Metal | Metal | 45-290F.2000.113 | 83 |
| | 45° left / 45° right | Sand grey | Metal | Plastic | 45-290F.3000.113 | 83 |
| Maintained (a) - Rest (a) - Maintained | 45° left / 45° right | Black | Plastic | Plastic | 45-290G.1000.113 | 83 |
| | 45° left / 45° right | Silver | Metal | Metal | 45-290G.2000.113 | 83 |
| | 45° left / 45° right | Sand grey | Metal | Plastic | 45-290G.3000.113 | 83 |
| Momentary - Rest - Maintained (a) | 45° left / 45° right | Black | Plastic | Plastic | 45-290W.1000.113 | 80 |
| Momentary - Rest (a) - Momentary | 45° left / 45° right | Black | Plastic | Plastic | 45-290Z.1000.113 | 82 |
| | 45° left / 45° right | Silver | Metal | Metal | 45-290Z.2000.113 | 82 |
| | 45° left / 45° right | Sand grey | Metal | Plastic | 45-290Z.3000.113 | 82 |
| Momentary - Rest (a) - Maintained (a) | 45° left / 45° right | Black | Plastic | Plastic | 45-2910.1000.113 | 80 |
| | 45° left / 45° right | Silver | Metal | Metal | 45-2910.2000.113 | 80 |
| Momentary - Rest (a) - Maintained | 45° left / 45° right | Black | Plastic | Plastic | 45-2911.1000.113 | 80 |
| | 45° left / 45° right | Silver | Metal | Metal | 45-2911.2000.113 | 80 |
| | 45° left / 45° right | Sand grey | Metal | Plastic | 45-2911.3000.113 | 80 |

a = Key remove

| Switching action | Switching angle | Front bezel colour | Front bezel material | Housing material | Part No. | Wiring diagram |
|------------------------------------|----------------------|--------------------|----------------------|------------------|------------------|----------------|
| Maintained - Rest - Maintained (a) | 45° left / 45° right | Black | Plastic | Plastic | 45-2917.1000.113 | 83 |
| | 45° left / 45° right | Silver | Metal | Metal | 45-2917.2000.113 | 83 |
| | 45° left / 45° right | Sand grey | Metal | Plastic | 45-2917.3000.113 | 83 |
| Maintained - Rest (a) - Momentary | 45° left / 45° right | Black | Plastic | Plastic | 45-2922.1000.113 | 81 |
| | 45° left / 45° right | Silver | Metal | Metal | 45-2922.2000.113 | 81 |
| | 45° left / 45° right | Sand grey | Metal | Plastic | 45-2922.3000.113 | 81 |
| Maintained - Rest (a) - Maintained | 45° left / 45° right | Black | Plastic | Plastic | 45-2924.1000.113 | 83 |
| | 45° left / 45° right | Silver | Metal | Metal | 45-2924.2000.113 | 83 |
| | 45° left / 45° right | Sand grey | Metal | Plastic | 45-2924.3000.113 | 83 |

a = Key remove

Wiring diagrams

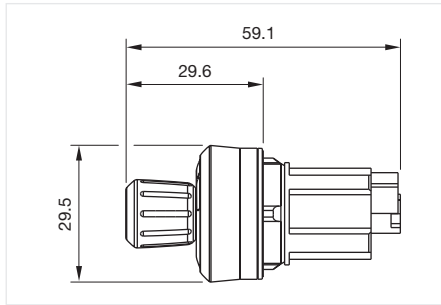
| | | | |
|---|---|--|---|
|  |  |  |  |
| Wiring diagram 80 | Wiring diagram 81 | Wiring diagram 82 | Wiring diagram 83 |

45 Raised design

ID keylock switch, IP65



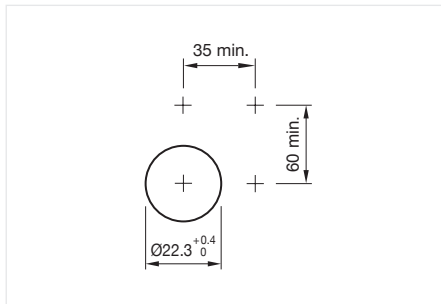
Product can differ from the current configuration.



Dimensions [mm]


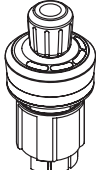


General information

- Mounting depth, incl. front plate, see chapter drawings



Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

| | | |
|---|-------------------|----------|
|  | ID key | Page 528 |
|  | Actuator | |
|  | Holder | Page 516 |
|  | Electronic module | Page 527 |

Each Part Number listed below includes all the black components shown in the 3D-drawing.

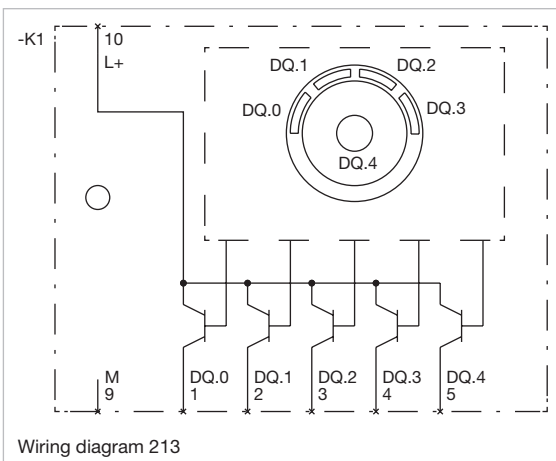
To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension Ø 29,5 mm

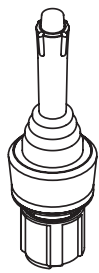
| Switching action | Front bezel colour | Front bezel material | Housing material | Part No. | Wiring diagram |
|---|--------------------|----------------------|------------------|------------------|----------------|
| Maintained - Maintained - Maintained - Maintained | Black | Plastic | Plastic | 45-2S00.1001.404 | 213 |
| | Sand grey | Metal | Plastic | 45-2S00.3001.404 | 213 |

Wiring diagrams



Toggle stick, IP65, IP67

Equipment consisting of (schematic overview)

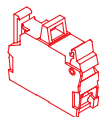


Actuator



Holder

Page 517

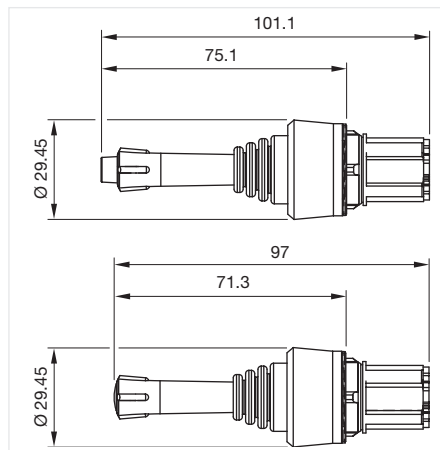


Switching element

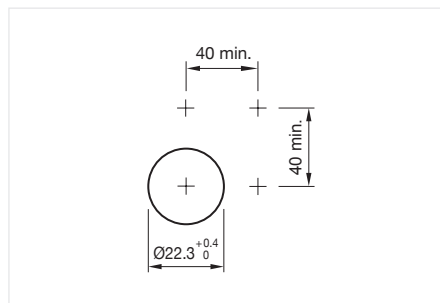
Page 518

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Mounting cut-outs [mm]



Product can differ from the current configuration.

General information

- Use only with holder for 4 elements
- Mounting depth, incl. front plate, see chapter drawings
- Lockable only in center position



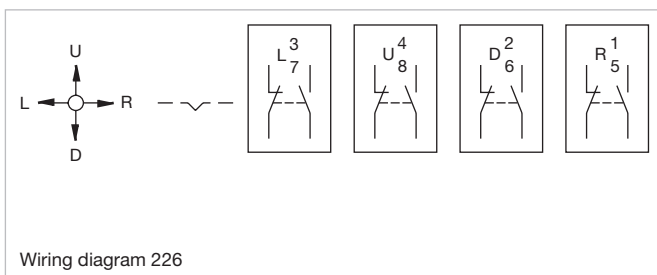
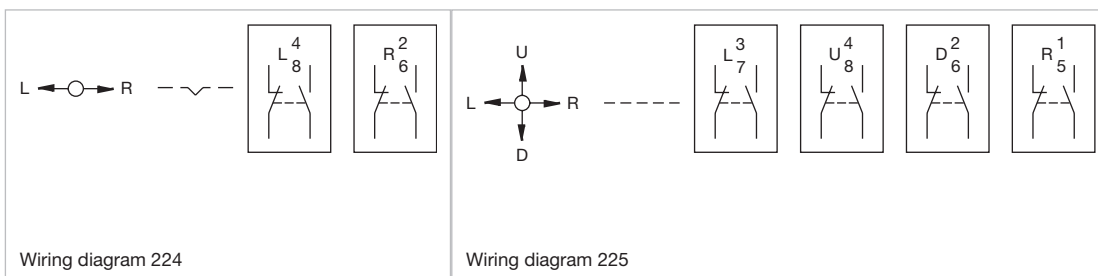
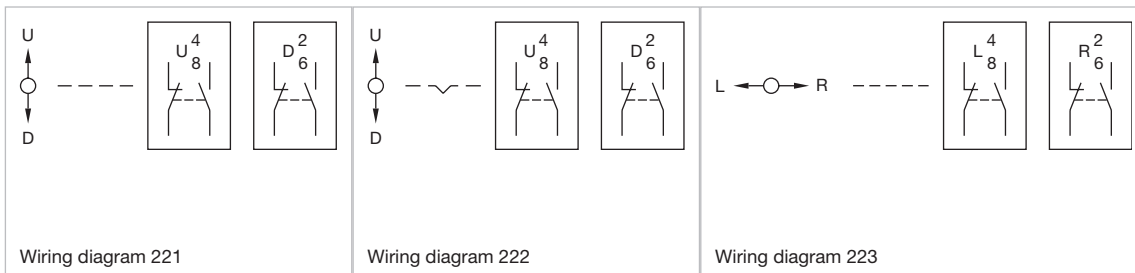
Actuator, Front dimension Ø 29,5 mm

| Switching action | Product attributes | Housing material | Front bezel colour | Front bezel material | Part No. | Wiring diagram |
|------------------|-----------------------------|------------------|--------------------|----------------------|------------------|----------------|
| Momentary | 2 positions (L-R) | Plastic | Black | Plastic | 45-2F0T.1010.000 | 223 |
| | 2 positions (L-R) | Metal | Silver | Metal | 45-2F0T.2010.000 | 223 |
| | 2 positions (L-R) | Plastic | Sand grey | Metal | 45-2F0T.3010.000 | 223 |
| | 4 positions | Plastic | Black | Plastic | 45-2F0V.1010.000 | 225 |
| | 4 positions | Metal | Silver | Metal | 45-2F0V.2010.000 | 225 |
| | 4 positions | Plastic | Sand grey | Metal | 45-2F0V.3010.000 | 225 |
| | 2 positions (L-R), lockable | Plastic | Black | Plastic | 45-2F13.1010.000 | 223 |
| | 2 positions (L-R), lockable | Metal | Silver | Metal | 45-2F13.2010.000 | 223 |
| | 2 positions (L-R), lockable | Plastic | Sand grey | Metal | 45-2F13.3010.000 | 223 |
| | 4 positions, lockable | Plastic | Black | Plastic | 45-2F14.1010.000 | 225 |
| | 4 positions, lockable | Metal | Silver | Metal | 45-2F14.2010.000 | 225 |
| | 4 positions, lockable | Plastic | Sand grey | Metal | 45-2F14.3010.000 | 225 |
| Maintained | 2 positions (LR) | Plastic | Black | Plastic | 45-2F20.1010.000 | 224 |
| | 2 positions (LR) | Metal | Silver | Metal | 45-2F20.2010.000 | 224 |
| | 2 positions (LR) | Plastic | Sand grey | Metal | 45-2F20.3010.000 | 224 |
| | 4 positions | Plastic | Black | Plastic | 45-2F21.1010.000 | 226 |
| | 4 positions | Metal | Silver | Metal | 45-2F21.2010.000 | 226 |
| | 4 positions | Plastic | Sand grey | Metal | 45-2F21.3010.000 | 226 |
| | 2 positions (LR), lockable | Plastic | Black | Plastic | 45-2F26.1010.000 | 224 |
| | 2 positions (LR), lockable | Metal | Silver | Metal | 45-2F26.2010.000 | 224 |
| | 2 positions (LR), lockable | Plastic | Sand grey | Metal | 45-2F26.3010.000 | 224 |
| | 4 positions, lockable | Plastic | Black | Plastic | 45-2F27.1010.000 | 226 |
| | 4 positions, lockable | Metal | Silver | Metal | 45-2F27.2010.000 | 226 |
| | 4 positions, lockable | Plastic | Sand grey | Metal | 45-2F27.3010.000 | 226 |
| Momentary | 2 positions (U-D) | Plastic | Black | Plastic | 45-2F38.1010.000 | 221 |

45 Raised design

| Switching action | Product attributes | Housing material | Front bezel colour | Front bezel material | Part No. | Wiring diagram |
|------------------|-----------------------------|------------------|--------------------|----------------------|------------------|----------------|
| Momentary | 2 positions (U-D) | Metal | Silver | Metal | 45-2F38.2010.000 | 221 |
| | 2 positions (U-D) | Plastic | Sand grey | Metal | 45-2F38.3010.000 | 221 |
| | 2 positions (U-D), lockable | Plastic | Black | Plastic | 45-2F40.1010.000 | 221 |
| | 2 positions (U-D), lockable | Metal | Silver | Metal | 45-2F40.2010.000 | 221 |
| | 2 positions (U-D), lockable | Plastic | Sand grey | Metal | 45-2F40.3010.000 | 221 |
| Maintained | 2 positions (UD) | Plastic | Black | Plastic | 45-2F41.1010.000 | 222 |
| | 2 positions (UD) | Metal | Silver | Metal | 45-2F41.2010.000 | 222 |
| | 2 positions (UD) | Plastic | Sand grey | Metal | 45-2F41.3010.000 | 222 |
| | 2 positions (UD), lockable | Plastic | Black | Plastic | 45-2F43.1010.000 | 222 |
| | 2 positions (UD), lockable | Metal | Silver | Metal | 45-2F43.2010.000 | 222 |
| | 2 positions (UD), lockable | Plastic | Sand grey | Metal | 45-2F43.3010.000 | 222 |

Wiring diagrams



Toggle switch, IP66, IP67, IP69K

Equipment consisting of (schematic overview)

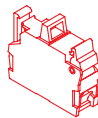


Actuator



Holder

Page 516

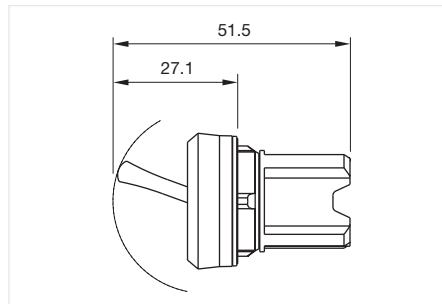


Switching element

Page 518

Each Part Number listed below includes all the black components shown in the 3D-drawing.

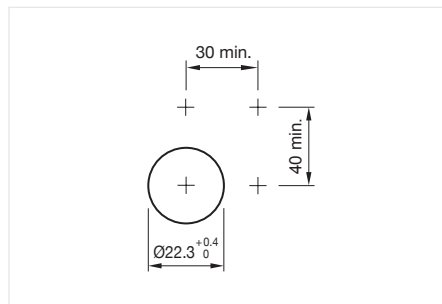
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Product can differ from the current configuration.



Mounting cut-outs [mm]

General information

- Mounting depth, incl. front plate, see chapter drawings



Actuator, Front dimension \varnothing 29,5 mm

| Switching action | Lever colour | Front bezel colour | Front bezel material | Housing material | Part No. | Wiring diagram |
|------------------|--------------|--------------------|----------------------|------------------|------------------|----------------|
| Momentary | Black | Black | Plastic | Plastic | 45-2N39.1010.000 | 72 |
| | Black | Silver | Metal | Metal | 45-2N39.2010.000 | 72 |
| | Black | Sand grey | Metal | Plastic | 45-2N39.3010.000 | 72 |
| Maintained | Black | Black | Plastic | Plastic | 45-2N42.1010.000 | 73 |
| | Black | Silver | Metal | Metal | 45-2N42.2010.000 | 73 |
| | Black | Sand grey | Metal | Plastic | 45-2N42.3010.000 | 73 |

Wiring diagrams

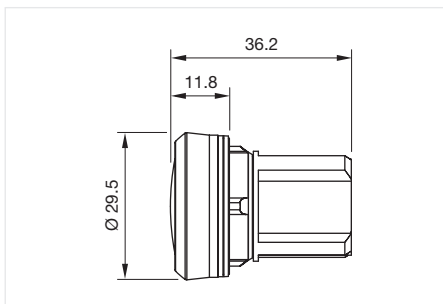
| | |
|-------------------|-------------------|
| E--- | E~-- |
| Wiring diagram 72 | Wiring diagram 73 |

45 Raised design

Indicator full-face illumination, IP66, IP67, IP69K



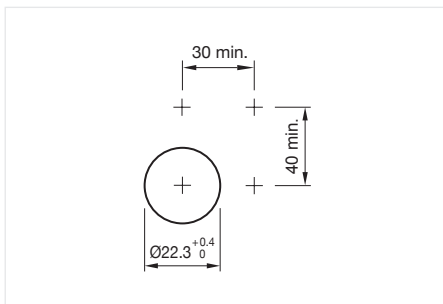
Product can differ from the current configuration.



Dimensions [mm]

General information

- Mounting depth, incl. front plate, see chapter drawings

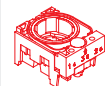


Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

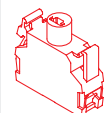


Actuator



Holder

Page 516



Illumination element

Page 523

Each Part Number listed below includes all the black components shown in the 3D-drawing.

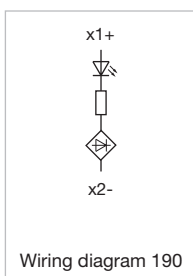
To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension Ø 30 mm

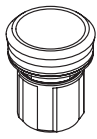
| Lens cap colour | Housing material | Part No. | Wiring diagram |
|-----------------|------------------|------------------|----------------|
| Red | Plastic | 45-2T00.10E0.000 | 190 |
| Amber | Plastic | 45-2T00.10F0.000 | 190 |
| Yellow | Plastic | 45-2T00.10G0.000 | 190 |
| Green | Plastic | 45-2T00.10H0.000 | 190 |
| Blue | Plastic | 45-2T00.10J0.000 | 190 |
| Colourless | Plastic | 45-2T00.10K0.000 | 190 |
| White | Plastic | 45-2T00.10N0.000 | 190 |
| Red | Metal | 45-2T00.20E0.000 | 190 |
| Amber | Metal | 45-2T00.20F0.000 | 190 |
| Yellow | Metal | 45-2T00.20G0.000 | 190 |
| Green | Metal | 45-2T00.20H0.000 | 190 |
| Blue | Metal | 45-2T00.20J0.000 | 190 |
| Colourless | Metal | 45-2T00.20K0.000 | 190 |
| White | Metal | 45-2T00.20N0.000 | 190 |

Wiring diagrams



Indicator front illumination, IP66, IP67, IP69K

Equipment consisting of (schematic overview)

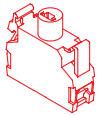


Actuator



Holder

Page 516

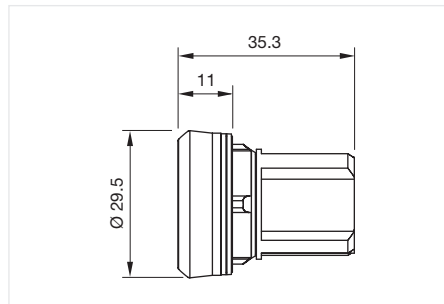


Illumination element

Page 523

Each Part Number listed below includes all the black components shown in the 3D-drawing.

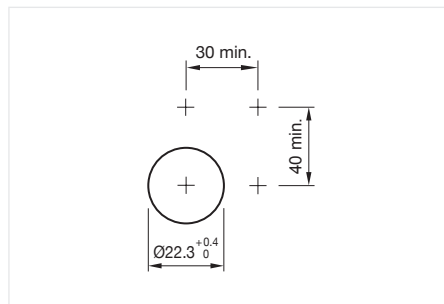
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Product can differ from the current configuration.



Mounting cut-outs [mm]

General information

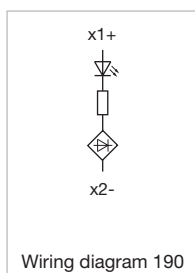
- Mounting depth, incl. front plate, see chapter drawings



Actuator, Front dimension Ø 29,5 mm

| Front bezel colour | Front bezel material | Lens cap colour | Housing material | Part No. | Wiring diagram |
|--------------------|----------------------|-----------------|------------------|------------------|----------------|
| Black | Plastic | Red | Plastic | 45-2T07.10E0.000 | 190 |
| | Plastic | Yellow | Plastic | 45-2T07.10G0.000 | 190 |
| | Plastic | Green | Plastic | 45-2T07.10H0.000 | 190 |
| | Plastic | Blue | Plastic | 45-2T07.10J0.000 | 190 |
| | Plastic | White | Plastic | 45-2T07.10K0.000 | 190 |
| Sand grey | Metal | Red | Plastic | 45-2T07.30E0.000 | 190 |
| | Metal | Yellow | Plastic | 45-2T07.30G0.000 | 190 |
| | Metal | Green | Plastic | 45-2T07.30H0.000 | 190 |
| | Metal | Blue | Plastic | 45-2T07.30J0.000 | 190 |
| | Metal | White | Plastic | 45-2T07.30K0.000 | 190 |

Wiring diagrams

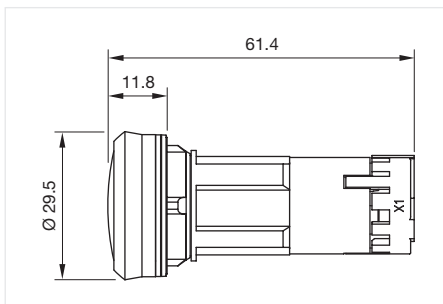


45 Raised design

Indicator Bi-colour, IP66, IP67, IP69K



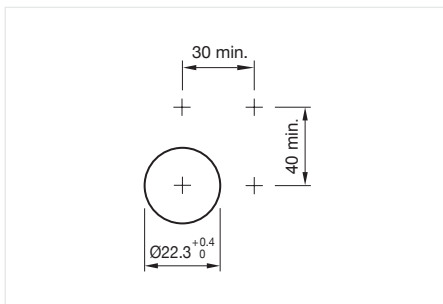
Product can differ from the current configuration.



Dimensions [mm]

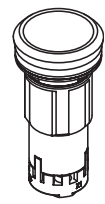
General information

- Mounting depth, incl. front plate, see chapter drawings

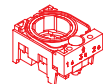


Mounting cut-outs [mm]

Equipment consisting of (schematic overview)



Actuator



Holder

Page 516

Each Part Number listed below includes all the black components shown in the 3D-drawing.

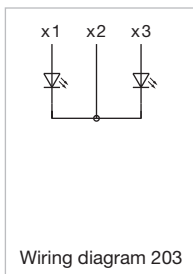
To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension Ø 29,5 mm

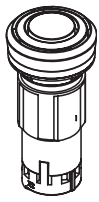
| Operating voltage | Illumination colour | Housing material | Part No. | Wiring diagram |
|-------------------|---------------------|------------------|------------------|----------------|
| 6 - 24 V AC/DC | Red / Green | Plastic | 45-2G08.10K1.000 | 203 |
| 110 V AC | Red / Green | Plastic | 45-2G08.10K7.000 | 203 |
| 230 V AC | Red / Green | Plastic | 45-2G08.10K8.000 | 203 |
| 6 - 24 V AC/DC | Red / Green | Metal | 45-2G08.20K2.000 | 203 |
| 110 V AC | Red / Green | Metal | 45-2G08.20K7.000 | 203 |
| 230 V AC | Red / Green | Metal | 45-2G08.20K8.000 | 203 |

Wiring diagrams



Buzzer, IP40

Equipment consisting of (schematic overview)



Actuator

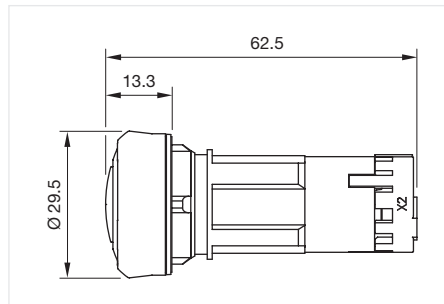


Holder

Page 516

Each Part Number listed below includes all the black components shown in the 3D-drawing.

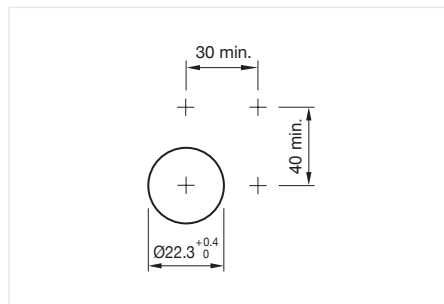
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Product can differ from the current configuration.



Mounting cut-outs [mm]

General information

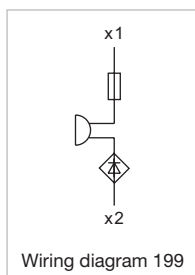
- Mounting depth, incl. front plate, see chapter drawings



Actuator, Front dimension Ø 29,5 mm

| Operating voltage | Housing material | Part No. | Wiring diagram |
|-------------------|------------------|------------------|----------------|
| 24 V AC/DC | Plastic | 45-2H00.1016.000 | 199 |
| 110 V AC | Plastic | 45-2H00.1017.000 | 199 |
| 230 V AC | Plastic | 45-2H00.1018.000 | 199 |
| 24 V AC/DC | Metal | 45-2H00.2016.000 | 199 |
| 110 V AC | Metal | 45-2H00.2017.000 | 199 |
| 230 V AC | Metal | 45-2H00.2018.000 | 199 |

Wiring diagrams

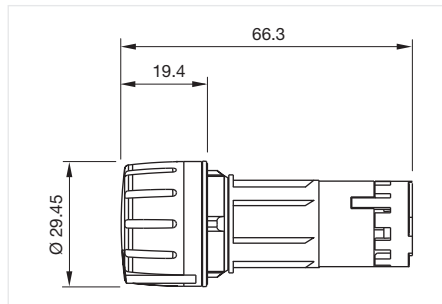


45 Raised design

Potentiometer, IP66, IP67, IP69K



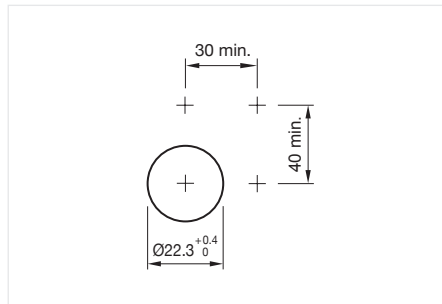
Product can differ from the current configuration.



Dimensions [mm]

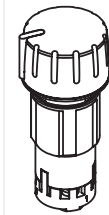
General information

- Power 0.5 W
- Mounting depth, incl. front plate, see chapter drawings

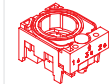


Mounting cut-outs [mm]

Equipment consisting of (schematic overview)



Actuator



Holder

Page 516

Each Part Number listed below includes all the black components shown in the 3D-drawing.

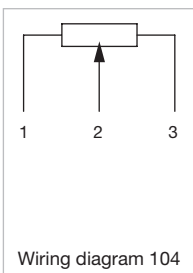
To obtain a complete unit, please select the red components from the pages shown.



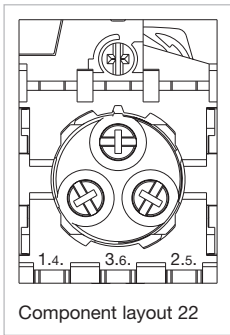
Actuator, Front dimension Ø 30 mm

| Front bezel colour | Front bezel material | Housing material | Resistance | Resistance kind of | Part No. | Wiring diagram | Component Layout |
|--------------------|----------------------|------------------|------------|--------------------|------------------|----------------|------------------|
| Black | Plastic | Plastic | 100 kOhm | linear, row_E3 | 45-2P01.1E10.000 | 104 | 22 |
| | Plastic | Plastic | 10 kOhm | linear, row_E3 | 45-2P02.1E10.000 | 104 | 22 |
| | Plastic | Plastic | 1 kOhm | linear, row_E3 | 45-2P03.1E10.000 | 104 | 22 |
| | Plastic | Plastic | 4.7 kOhm | linear, row_E3 | 45-2P04.1E10.000 | 104 | 22 |
| | Plastic | Plastic | 470 kOhm | linear, row_E3 | 45-2P05.1E10.000 | 104 | 22 |
| | Plastic | Plastic | 47 kOhm | linear, row_E3 | 45-2P06.1E10.000 | 104 | 22 |
| Silver | Metal | Metal | 100 kOhm | linear, row_E3 | 45-2P01.2E10.000 | 104 | 22 |
| | Metal | Metal | 10 kOhm | linear, row_E3 | 45-2P02.2E10.000 | 104 | 22 |
| | Metal | Metal | 1 kOhm | linear, row_E3 | 45-2P03.2E10.000 | 104 | 22 |
| | Metal | Metal | 4.7 kOhm | linear, row_E3 | 45-2P04.2E10.000 | 104 | 22 |
| | Metal | Metal | 470 kOhm | linear, row_E3 | 45-2P05.2E10.000 | 104 | 22 |
| | Metal | Metal | 47 kOhm | linear, row_E3 | 45-2P06.2E10.000 | 104 | 22 |

Wiring diagrams



Component layouts



01
02
03
04
09
14
17
18
19
22
31
41
45
51
56
57
61
70
71
82
84
92
96



User-friendly and robust.
EAO Series 45 Potentiometers.

Ideal for harsh industrial environments – thanks to IP69K protection and the long service life.

- IP69K protection
- Long service life
- Easy mounting
- Rotational range of 280°
- Resistance from 1 k to 470 kΩ

www.eao.com/45



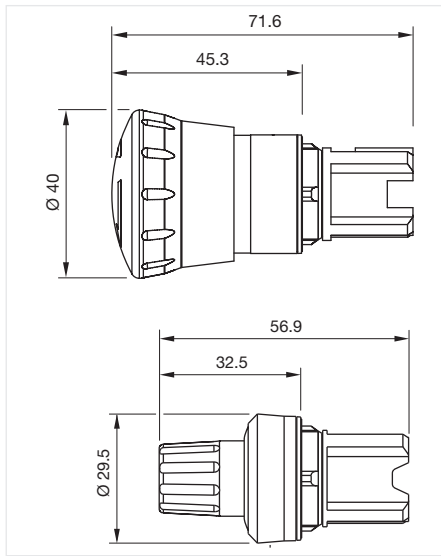
Your Expert Partner for Human Machine Interfaces

45 Raised design

Stop switch, IP66, IP67, IP69K

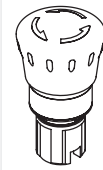


Product can differ from the current configuration.

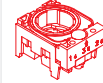


Dimensions [mm]

Equipment consisting of (schematic overview)

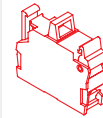


Actuator



Holder

Page 516



Switching element

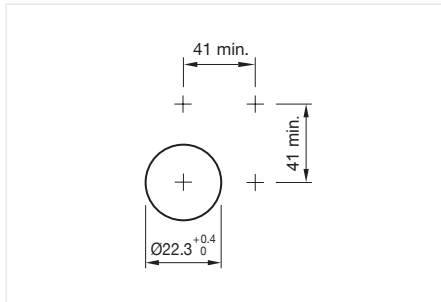
Page 518

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.

General information

- Mounting depth, incl. front plate, see chapter drawings



Mounting cut-outs [mm]



Actuator

| Product attributes | Lens colour | Front bezel colour | Front bezel material | Dimensions | Housing material | Part No. | Wiring diagram |
|--|-------------|--------------------|----------------------|------------|------------------|------------------|----------------|
| Twist to unlock clockwise | Black | Black | Plastic | Ø 40 mm | Plastic | 45-2736.1910.000 | 76 |
| | Blue | Black | Plastic | Ø 40 mm | Plastic | 45-2736.1960.000 | 76 |
| | Black | Silver | Metal | Ø 40 mm | Metal | 45-2C36.2910.000 | 76 |
| Twist to release, can be latched after pressing by rotating to the right | Black | Black | Plastic | Ø 29 mm | Plastic | 45-2729.1010.000 | 76 |
| | Red | Black | Plastic | Ø 29 mm | Plastic | 45-2729.1020.000 | 76 |

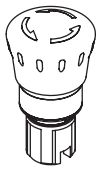
Wiring diagrams



Wiring diagram 76

Emergency stop switch foolproof, EN IEC 60947-5-5, IP66, IP67, IP69K

Equipment consisting of (schematic overview)

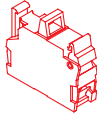


Actuator



Holder

Page 516

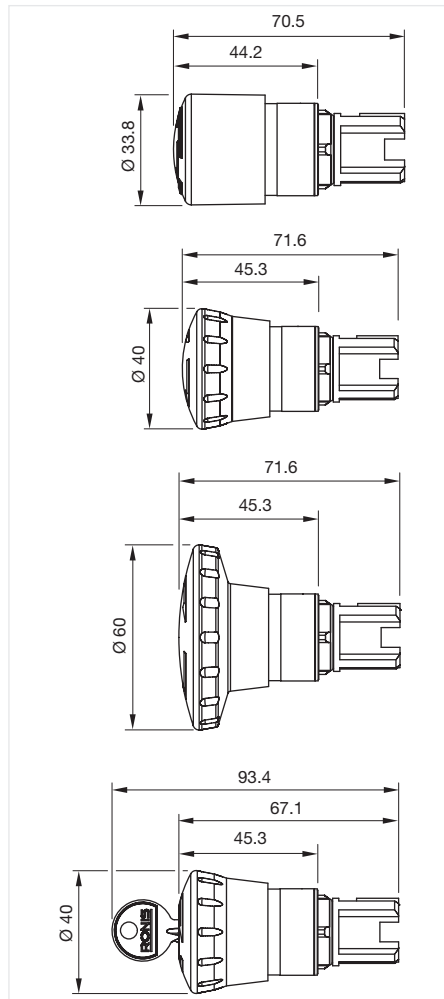


Switching element

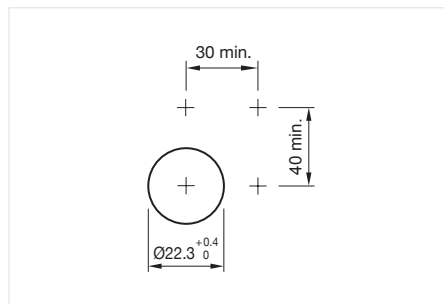
Page 518

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Mounting cut-outs [mm]



Product can differ from the current configuration.

General information

- The standard lock: RONIS, T254
- Mounting depth, incl. front plate, see chapter drawings
- Application as per DIN EN ISO 13850





Actuator

| Product attributes | Lens colour | Front bezel colour | Front bezel material | Dimensions | Housing colour | Housing material | Part No. | Wiring diagram |
|----------------------------|-------------|--------------------|----------------------|------------|----------------|------------------|------------------|----------------|
| Key to releas | Red | Black | Plastic | Ø 40 mm | Yellow | Plastic | 45-2C35.1920.110 | 364 |
| | Red | Silver | Metal | Ø 40 mm | Yellow | Metal | 45-2C35.2920.110 | 364 |
| Pull release | Red | Black | Plastic | Ø 40 mm | Yellow | Plastic | 45-2C37.1920.000 | 76 |
| Twist to unlock clock-wise | Red | Black | Plastic | Ø 34 mm | Yellow | Plastic | 45-2C36.1820.000 | 76 |
| | Red | Black | Plastic | Ø 40 mm | Yellow | Plastic | 45-2C36.1920.000 | 76 |
| | Red | Black | Plastic | Ø 60 mm | Yellow | Plastic | 45-2C36.1A20.000 | 76 |
| | Red | Silver | Metal | Ø 34 mm | Silver | Metal | 45-2C36.2820.000 | 76 |

45 Raised design

| Product attributes | Lens colour | Front bezel colour | Front bezel material | Dimensions | Housing colour | Housing material | Part No. | Wiring diagram |
|---------------------------|-------------|--------------------|----------------------|------------|----------------|------------------|------------------|----------------|
| Twist to unlock clockwise | Red | Silver | Metal | Ø 40 mm | Silver | Metal | 45-2C36.2920.000 | 76 |

Wiring diagrams

| | |
|---|---|
|  |  |
| Wiring diagram 76 | Wiring diagram 364 |



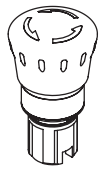
Innovative, intuitive and aesthetic.
EAO Series 45 ID keylock switches.

Ideal for implementing electronic access control systems in industrial environments.

- Intuitive and ease of use
- Authentication of up to 4 users or groups
- Robust in use
- Modular construction and quick mounting
- Aesthetic design, matching Series 45
- Innovative RFID technology

Illuminated emergency stop switch, foolproof, EN IEC 60947-5-5, IP66, IP67, IP69K

Equipment consisting of (schematic overview)

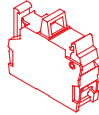


Actuator



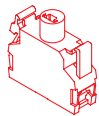
Holder

Page 516



Switching element

Page 518

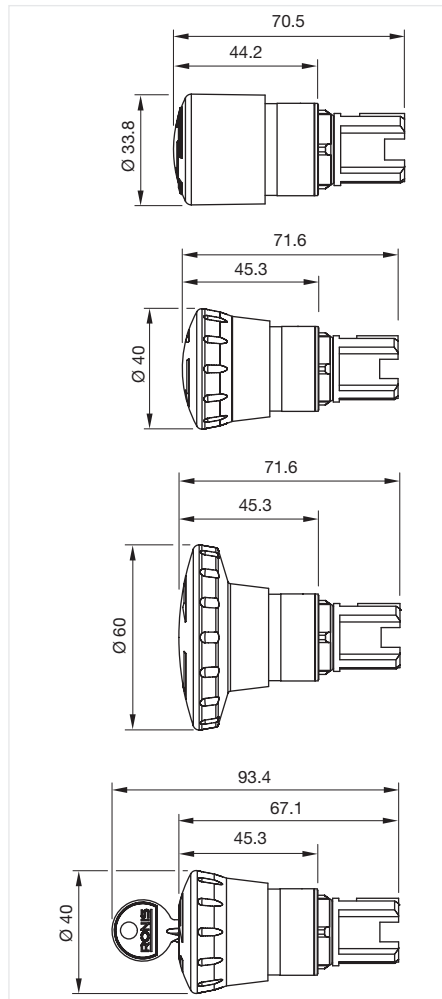


Illumination element

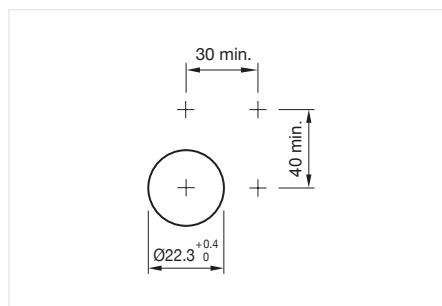
Page 523

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Mounting cut-outs [mm]



Product can differ from the current configuration.

General information

- The standard lock: RONIS, T254
- Mounting depth, incl. front plate, see chapter drawings
- Application as per DIN EN ISO 13850

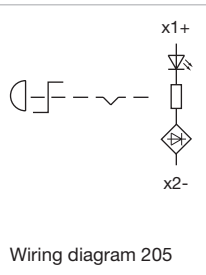


Actuator

| Product attributes | Lens colour | Front bezel colour | Front bezel material | Dimensions | Housing colour | Housing material | Part No. | Wiring diagram |
|---------------------------|-------------|--------------------|----------------------|------------|----------------|------------------|------------------|----------------|
| Twist to unlock clockwise | Red | Black | Plastic | Ø 34 mm | Yellow | Plastic | 45-2D36.1820.000 | 205 |
| | Red | Black | Plastic | Ø 40 mm | Yellow | Plastic | 45-2D36.1920.000 | 205 |
| | Red | Black | Plastic | Ø 60 mm | Yellow | Plastic | 45-2D36.1A20.000 | 205 |
| | Red | Silver | Metal | Ø 34 mm | Silver | Metal | 45-2D36.2820.000 | 205 |
| | Red | Silver | Metal | Ø 40 mm | Silver | Metal | 45-2D36.2920.000 | 205 |
| | Red | Silver | Metal | Ø 60 mm | Silver | Metal | 45-2D36.2A20.000 | 205 |

45 Raised design

Wiring diagrams



Rugged and reliable. *EAO Series 45 mushroom-head pushbuttons.*

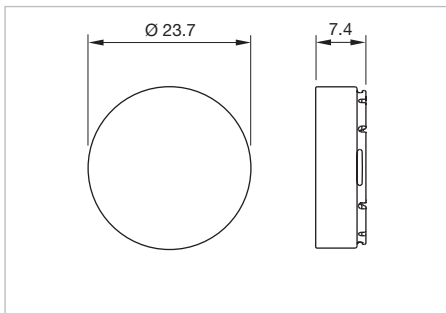
Reliable switching for harsh industrial environments – thanks to a large operating area and IP69K.

- Large, distinctive operating area
- Easy operation – even with gloves
- Many configuration options
- Optional illumination
- Long service life (up to 10 million switching cycles)
- Rugged in use (IP69K)



Lens plastic round increased

| Lens material | Lens colour | Lens optics | Lens shape | Lens illumination | Dimensions | Part No. |
|---------------|-------------|-------------|------------|-------------------|------------|-------------|
| Plastic | Black | opaque | flush | non illuminative | Ø 23.7 mm | 45-552.0100 |
| | Red | opaque | flush | non illuminative | Ø 23.7 mm | 45-552.0200 |
| | Yellow | opaque | flush | non illuminative | Ø 23.7 mm | 45-552.0400 |
| | Green | opaque | flush | non illuminative | Ø 23.7 mm | 45-552.0500 |
| | Red | transparent | flush | illuminative | Ø 23.7 mm | 45-552.0E00 |
| | Yellow | transparent | flush | illuminative | Ø 23.7 mm | 45-552.0G00 |
| | Green | transparent | flush | illuminative | Ø 23.7 mm | 45-552.0H00 |
| | Blue | transparent | flush | illuminative | Ø 23.7 mm | 45-552.0J00 |
| | Colourless | transparent | flush | illuminative | Ø 23.7 mm | 45-552.0K00 |

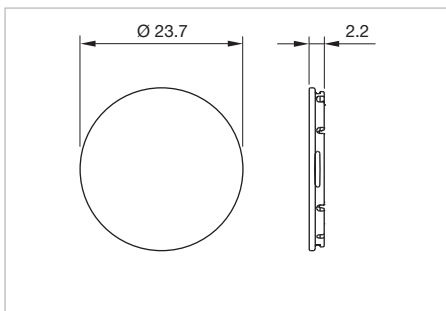


Dimensions [mm]



Lens plastic round flat

| Lens material | Lens colour | Lens optics | Lens shape | Lens illumination | Dimensions | Part No. |
|---------------|-------------|-------------|------------|-------------------|------------|-------------|
| Plastic | Black | opaque | flush | non illuminative | Ø 23.7 mm | 45-553.0100 |
| | Red | opaque | flush | non illuminative | Ø 23.7 mm | 45-553.0200 |
| | Yellow | opaque | flush | non illuminative | Ø 23.7 mm | 45-553.0400 |
| | Green | opaque | flush | non illuminative | Ø 23.7 mm | 45-553.0500 |
| | Blue | opaque | flush | non illuminative | Ø 23.7 mm | 45-553.0600 |
| | White | opaque | flush | non illuminative | Ø 23.7 mm | 45-553.0900 |
| | Red | transparent | flush | illuminative | Ø 23.7 mm | 45-553.0E00 |
| | Amber | transparent | flush | illuminative | Ø 23.7 mm | 45-553.0F00 |
| | Yellow | transparent | flush | illuminative | Ø 23.7 mm | 45-553.0G00 |
| | Green | transparent | flush | illuminative | Ø 23.7 mm | 45-553.0H00 |
| | Blue | transparent | flush | illuminative | Ø 23.7 mm | 45-553.0J00 |
| | White | transparent | flush | illuminative | Ø 23.7 mm | 45-553.0K00 |
| | Colourless | transparent | flush | illuminative | Ø 23.7 mm | 45-553.0N00 |



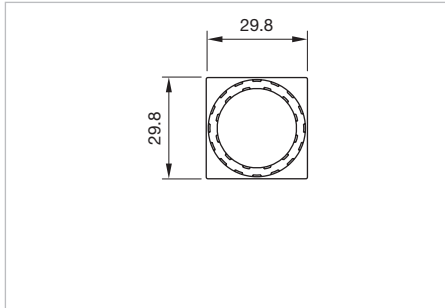
Dimensions [mm]

45 Components



Single frame

| Product attributes | Material | Colour | Dimensions | Part No. |
|--------------------|----------|--------|-------------------|-------------|
| For design square | plastic | Black | 29,8 mm x 29,8 mm | 45-558.0000 |

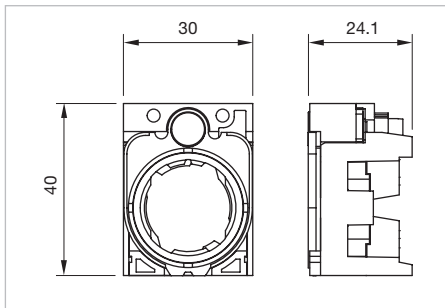


Dimensions [mm]



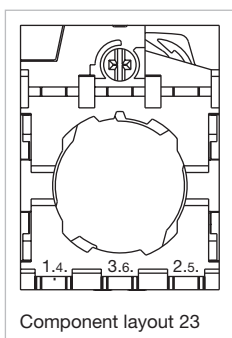
Holder for 3 elements

| Material | Part No. | Component Layout |
|----------|------------------|------------------|
| plastic | 45-2300.1000.000 | 23 |
| metal | 45-2300.2000.000 | 23 |



Dimensions [mm]

Component layouts

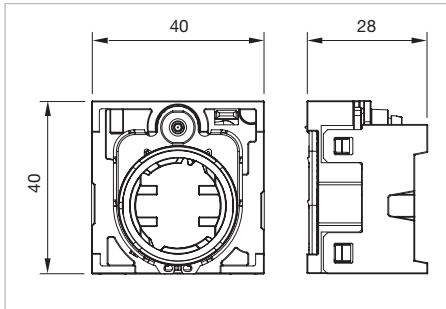


Component layout 23



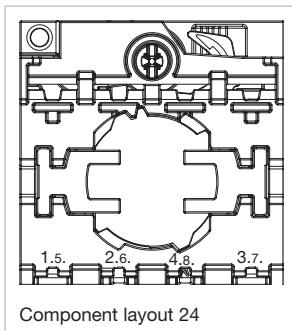
Holder for 4 elements

| Product attributes | Material | Part No. | Component Layout |
|--|----------|------------------|------------------|
| for selector switch 4 positions and toggle stick | plastic | 45-2400.1000.000 | 24 |
| | metal | 45-2400.2000.000 | 24 |



Dimensions [mm]

Component layouts



Component layout 24

- 01
- 02
- 03
- 04
- 09
- 14
- 17
- 18
- 19
- 22
- 31
- 41
- 45
- 51
- 56
- 57
- 61
- 70
- 71
- 82
- 84
- 92
- 96

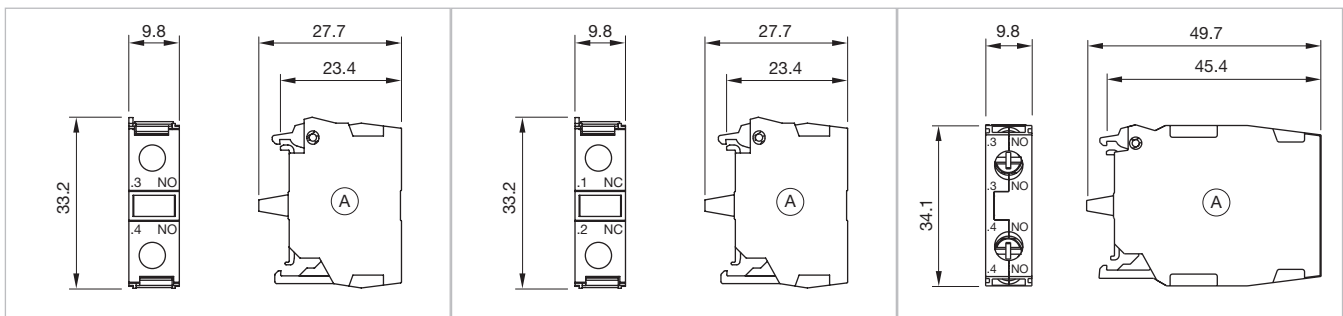
45 Components



Slow-make switching element front mounting with screw terminal

| Switching current | Contacts | Contact material | Part No. | Wiring diagram |
|-------------------|-------------|--------------------|-------------|----------------|
| 10 A | 1 NO | Silver | 45-311.1Z10 | 227 |
| | 1 NC | Silver | 45-312.1Z10 | 228 |
| | 2 NO | Silver | 45-313.1Z10 | 231 |
| | 2 NC | Silver | 45-314.1Z10 | 234 |
| | 1 NC / 1 NO | Silver | 45-315.1Z10 | 235 |
| | 1 NO | Gold-plated silver | 45-311.1X10 | 227 |
| | 1 NC | Gold-plated silver | 45-312.1X10 | 228 |
| | 1 NC / 1 FS | Gold-plated silver | 45-316.1X10 | 233 |

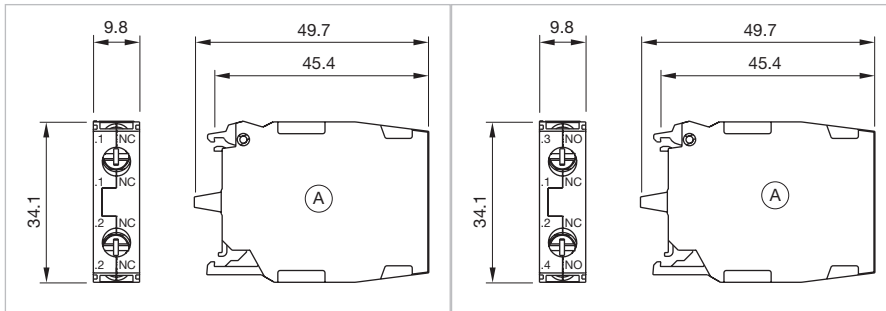
Contacts: NC = Normally closed, NO = Normally open



Dimensions [mm]
A = Screw terminal
for Part No. 45-311.1Z10, 45-311.1X10

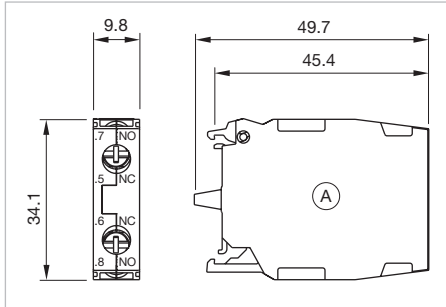
Dimensions [mm]
A = Screw terminal
for Part No. 45-312.1Z10, 45-312.1X10

Dimensions [mm]
A = Screw terminal
for Part No. 45-313.1Z10




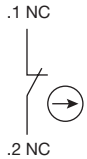
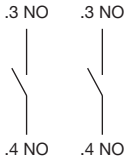
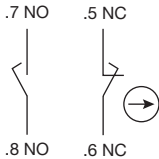
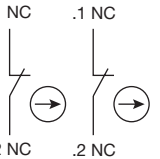
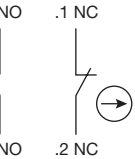
Dimensions [mm]
A = Screw terminal
for Part No. 45-314.1Z10

Dimensions [mm]
A = Screw terminal
for Part No. 45-315.1Z10



Dimensions [mm]
A = Screw terminal
for Part No. 45-316.1X10

Wiring diagrams

| | | | | | |
|--|--|--|--|---|--|
|  <p>.3 NO .4 NO</p> |  <p>.1 NC .2 NC</p> |  <p>.3 NO .3 NO .4 NO .4 NO</p> |  <p>.7 NO .5 NC .8 NO .6 NC</p> |  <p>.1 NC .1 NC .2 NC .2 NC</p> |  <p>.3 NO .1 NC .4 NO .2 NC</p> |
| Wiring diagram 227 | Wiring diagram 228 | Wiring diagram 231 | Wiring diagram 233 | Wiring diagram 234 | Wiring diagram 235 |



Innovative and comprehensive. *EAO's new Series 45.*

Modular, aesthetic and robust for every conceivable HMI function of machine operating.

- Comprehensive and modular Series
- Rugged in use (up to IP69K)
- Easy to assemble and use
- Modern design with many options
- Value added services
- Long service life (up to 10 million switching cycles, depending on function)

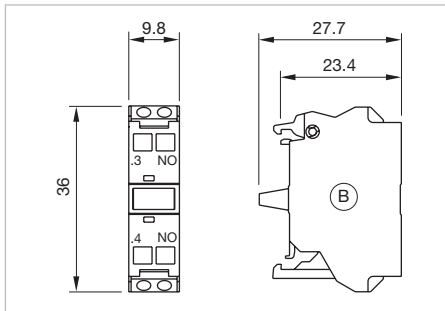
45 Components



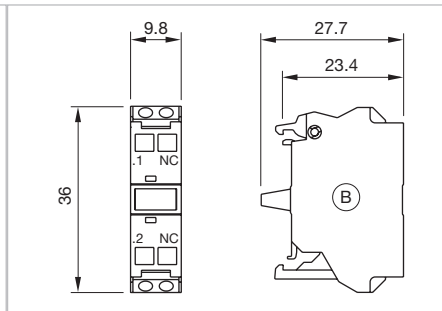
Slow-make switching element front mounting with spring-type terminal

| Switching current | Contacts | Contact material | Part No. | Wiring diagram |
|-------------------|-------------|--------------------|-------------|----------------|
| 10 A | 1 NO | Silver | 45-311.1Z40 | 227 |
| | 1 NC | Silver | 45-312.1Z40 | 228 |
| | 2 NO | Silver | 45-313.1Z40 | 231 |
| | 2 NC | Silver | 45-314.1Z40 | 234 |
| | 1 NC / 1 NO | Silver | 45-315.1Z40 | 235 |
| | 1 NC / 1 FS | Silver | 45-316.1Z40 | 233 |
| | 1 NC | Silver | 45-317.1Z40 | 232 |
| | 1 NO | Gold-plated silver | 45-311.1X40 | 227 |
| | 1 NC | Gold-plated silver | 45-312.1X40 | 228 |
| | 2 NO | Gold-plated silver | 45-313.1X40 | 231 |
| | 2 NC | Gold-plated silver | 45-314.1X40 | 234 |
| | 1 NC / 1 NO | Gold-plated silver | 45-315.1X40 | 235 |
| | 1 NC / 1 FS | Gold-plated silver | 45-316.1X40 | 233 |

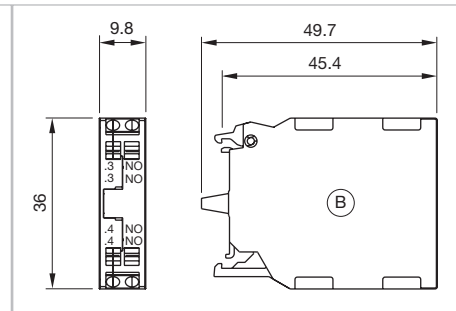
Contacts: NC = Normally closed, NO = Normally open



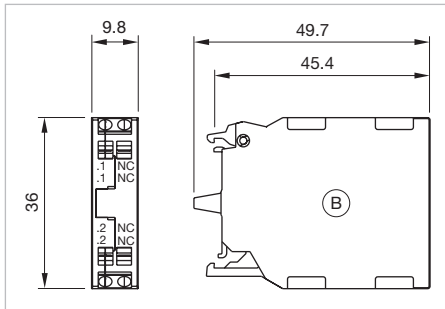
Dimensions [mm]
B = Spring-type terminal
for Part No. 45-311.1Z40, 45-311.1X40



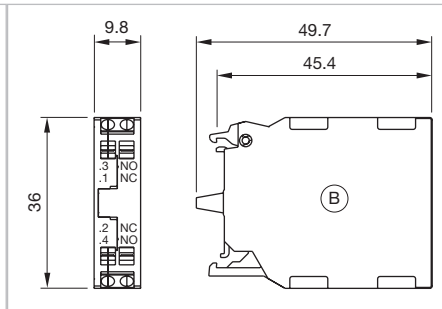
Dimensions [mm]
B = Spring-type terminal
for Part No. 45-312.1Z40, 45-312.1X40



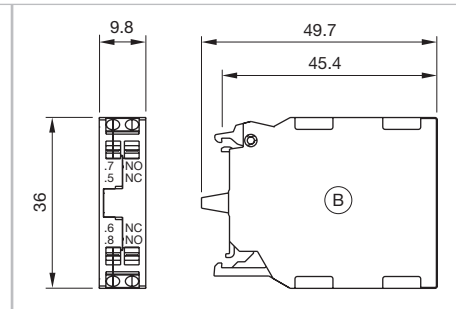
Dimensions [mm]
B = Spring-type terminal
for Part No. 45-313.1Z40, 45-313.1X40



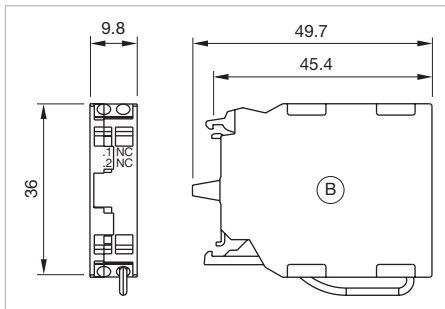
Dimensions [mm]
B = Spring-type terminal
for Part No. 45-314.1Z40, 45-314.1X40



Dimensions [mm]
B = Spring-type terminal
for Part No. 45-315.1Z40, 45-315.1X40



Dimensions [mm]
B = Spring-type terminal
for Part No. 45-316.1Z40, 45-316.1X40



Dimensions [mm]
B = Spring-type terminal
for Part No. 45-317.1Z40

Wiring diagrams

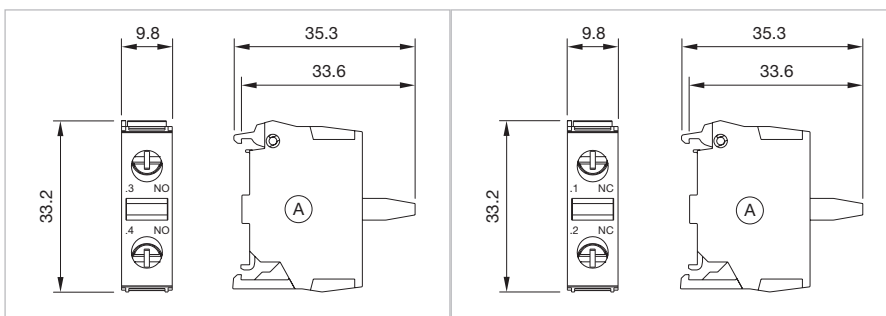
| | | | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| <p>Wiring diagram 227</p> | <p>Wiring diagram 228</p> | <p>Wiring diagram 231</p> | <p>Wiring diagram 232</p> | <p>Wiring diagram 233</p> | <p>Wiring diagram 234</p> | <p>Wiring diagram 235</p> |
|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|



Slow-make switching element base mounting with screw terminal

| Switching current | Contacts | Contact material | Part No. | Wiring diagram |
|-------------------|----------|------------------|-------------|----------------|
| 10 A | 1 NO | Silver | 45-311.2Z10 | 227 |
| | 1 NC | Silver | 45-312.2Z10 | 228 |

Contacts: NC = Normally closed, NO = Normally open



Dimensions [mm]
A = Screw terminal
for Part No. 45-311.2Z10

Dimensions [mm]
A = Screw terminal
for Part No. 45-312.2Z10

Wiring diagrams

| | |
|---------------------------|---------------------------|
| <p>Wiring diagram 227</p> | <p>Wiring diagram 228</p> |
|---------------------------|---------------------------|

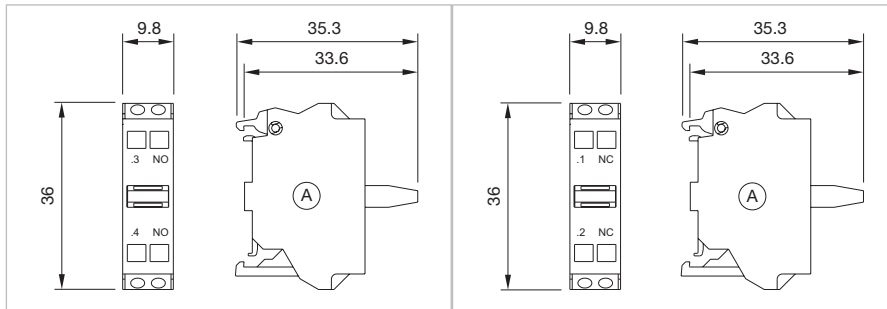
45 Components



Slow-make switching element base mounting with spring-type terminal

| Switching current | Contacts | Contact material | Part No. | Wiring diagram |
|-------------------|----------|------------------|-------------|----------------|
| 10 A | 1 NO | Silver | 45-311.2Z40 | 227 |
| | 1 NC | Silver | 45-312.2Z40 | 228 |

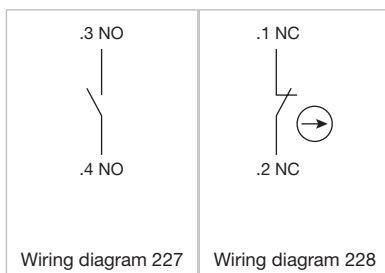
Contacts: NC = Normally closed, NO = Normally open



Dimensions [mm]
B = Spring-type terminal
for Part No. 45-311.2Z40

Dimensions [mm]
B = Spring-type terminal
for Part No. 45-312.2Z40

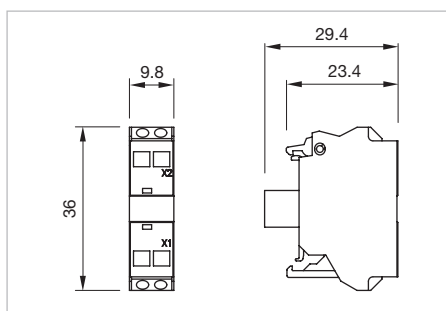
Wiring diagrams





Illumination element front mounting with spring-type terminal

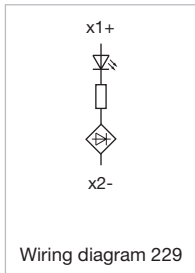
| Operating voltage | Illuminative colour | Part No. | Wiring diagram |
|-------------------|---------------------|-------------|----------------|
| 6 - 24 V AC/DC | Red | 45-320.1E41 | 229 |
| | Amber | 45-320.1F41 | 229 |
| | Yellow | 45-320.1G41 | 229 |
| | Green | 45-320.1H41 | 229 |
| | Blue | 45-320.1J41 | 229 |
| | White | 45-320.1N41 | 229 |
| 24 - 240 V AC/DC | Red | 45-320.1E42 | 229 |
| | Amber | 45-320.1F42 | 229 |
| | Yellow | 45-320.1G42 | 229 |
| | Green | 45-320.1H42 | 229 |
| | Blue | 45-320.1J42 | 229 |
| | White | 45-320.1N42 | 229 |
| 24 V AC/DC | Red | 45-320.1E46 | 229 |
| | Amber | 45-320.1F46 | 229 |
| | Yellow | 45-320.1G46 | 229 |
| | Green | 45-320.1H46 | 229 |
| | Blue | 45-320.1J46 | 229 |
| | White | 45-320.1N46 | 229 |
| 110 V AC/DC | Red | 45-320.1E47 | 229 |
| | Amber | 45-320.1F47 | 229 |
| | Yellow | 45-320.1G47 | 229 |
| | Green | 45-320.1H47 | 229 |
| | Blue | 45-320.1J47 | 229 |
| | White | 45-320.1N47 | 229 |
| 230 V AC/DC | Red | 45-320.1E48 | 229 |
| | Amber | 45-320.1F48 | 229 |
| | Yellow | 45-320.1G48 | 229 |
| | Green | 45-320.1H48 | 229 |
| | Blue | 45-320.1J48 | 229 |
| | White | 45-320.1N48 | 229 |



Dimensions [mm]

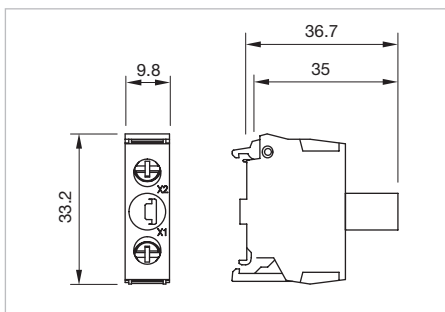
45 Components

Wiring diagrams



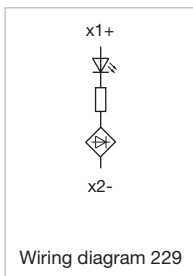
Illumination element base mounting with screw terminal

| Operating voltage | Illuminative colour | Part No. | Wiring diagram |
|-------------------|---------------------|-------------|----------------|
| 6 - 24 V AC/DC | Red | 45-320.2E11 | 229 |
| | Amber | 45-320.2F11 | 229 |
| | Yellow | 45-320.2G11 | 229 |
| | Green | 45-320.2H11 | 229 |
| | Blue | 45-320.2J11 | 229 |
| | White | 45-320.2N11 | 229 |
| 24 - 240 V AC/DC | Red | 45-320.2E12 | 229 |
| | Amber | 45-320.2F12 | 229 |
| | Yellow | 45-320.2G12 | 229 |
| | Green | 45-320.2H12 | 229 |
| | Blue | 45-320.2J12 | 229 |
| | White | 45-320.2N12 | 229 |
| 24 V AC/DC | Red | 45-320.2E16 | 229 |
| | Amber | 45-320.2F16 | 229 |
| | Yellow | 45-320.2G16 | 229 |
| | Green | 45-320.2H16 | 229 |
| | Blue | 45-320.2J16 | 229 |
| | White | 45-320.2N16 | 229 |
| 110 V AC/DC | Red | 45-320.2E17 | 229 |
| | Amber | 45-320.2F17 | 229 |
| | Yellow | 45-320.2G17 | 229 |
| | Green | 45-320.2H17 | 229 |
| | Blue | 45-320.2J17 | 229 |
| | White | 45-320.2N17 | 229 |
| 230 V AC/DC | Red | 45-320.2E18 | 229 |
| | Amber | 45-320.2F18 | 229 |
| | Yellow | 45-320.2G18 | 229 |
| | Green | 45-320.2H18 | 229 |
| | Blue | 45-320.2J18 | 229 |
| | White | 45-320.2N18 | 229 |



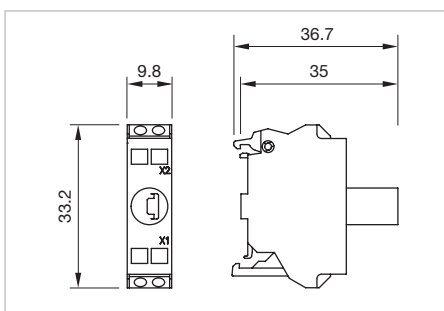
Dimensions [mm]

Wiring diagrams



Illumination element base mounting with spring-type terminal

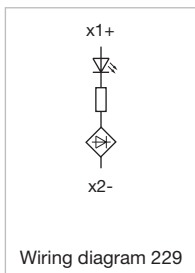
| Operating voltage | Illuminative colour | Part No. | Wiring diagram |
|-------------------|---------------------|-------------|----------------|
| 6 - 24 V AC/DC | Red | 45-320.2E41 | 229 |
| | Amber | 45-320.2F41 | 229 |
| | Yellow | 45-320.2G41 | 229 |
| | Green | 45-320.2H41 | 229 |
| | Blue | 45-320.2J41 | 229 |
| | White | 45-320.2N41 | 229 |
| 24 - 240 V AC/DC | Red | 45-320.2E42 | 229 |
| | Amber | 45-320.2F42 | 229 |
| | Yellow | 45-320.2G42 | 229 |
| | Green | 45-320.2H42 | 229 |
| | Blue | 45-320.2J42 | 229 |
| | White | 45-320.2N42 | 229 |
| 24 V AC/DC | Red | 45-320.2E46 | 229 |
| | Amber | 45-320.2F46 | 229 |
| | Yellow | 45-320.2G46 | 229 |
| | Green | 45-320.2H46 | 229 |
| | Blue | 45-320.2J46 | 229 |
| | White | 45-320.2N46 | 229 |
| 110 V AC/DC | Red | 45-320.2E47 | 229 |
| | Amber | 45-320.2F47 | 229 |
| | Yellow | 45-320.2G47 | 229 |
| | Green | 45-320.2H47 | 229 |
| | Blue | 45-320.2J47 | 229 |
| | White | 45-320.2N47 | 229 |
| 230 V AC/DC | Red | 45-320.2E48 | 229 |
| | Amber | 45-320.2F48 | 229 |
| | Yellow | 45-320.2G48 | 229 |
| | Green | 45-320.2H48 | 229 |
| | Blue | 45-320.2J48 | 229 |
| | White | 45-320.2N48 | 229 |



Dimensions [mm]

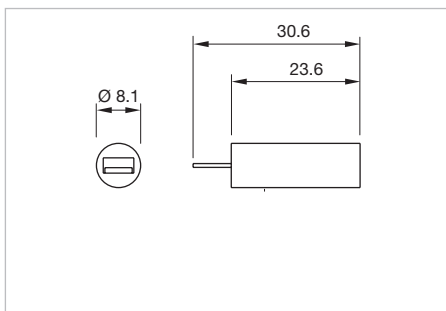
45 Components

Wiring diagrams



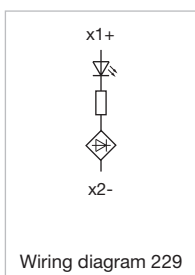
Illumination element PCB mounting

| Operating voltage | Illuminative colour | Part No. | Wiring diagram |
|-------------------|---------------------|-------------|----------------|
| 5 V AC/DC | Red | 45-320.3E60 | 229 |
| | Amber | 45-320.3F60 | 229 |
| | Yellow | 45-320.3G60 | 229 |
| | Green | 45-320.3H60 | 229 |
| | Blue | 45-320.3J60 | 229 |
| | White | 45-320.3N60 | 229 |



Dimensions [mm]

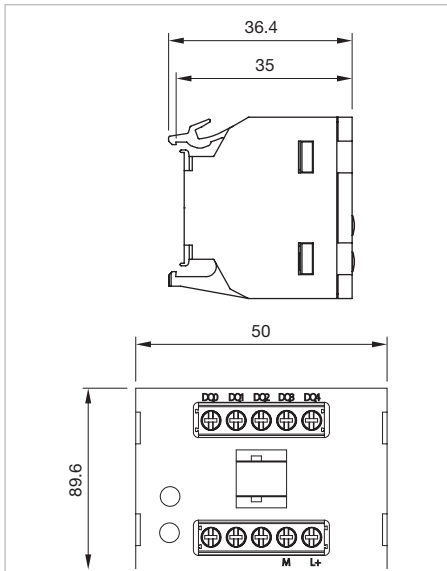
Wiring diagrams





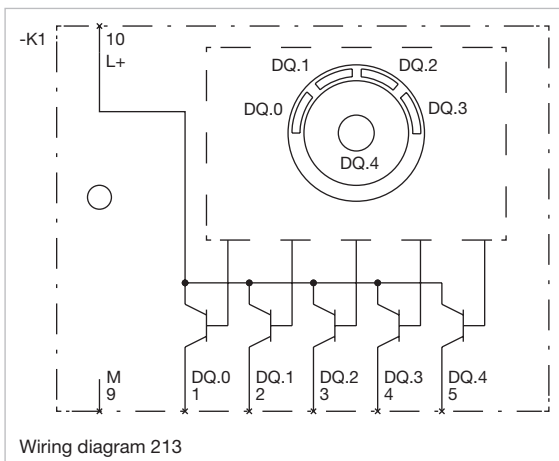
Electronic module

| Product attributes | Operating voltage | Terminal | Part No. | Wiring diagram | Component Layout |
|--------------------|-------------------|----------------|-------------|----------------|------------------|
| Front mounting | 24 V DC | Screw terminal | 45-36F.1114 | 213 | 26 |



Dimensions [mm]

Wiring diagrams

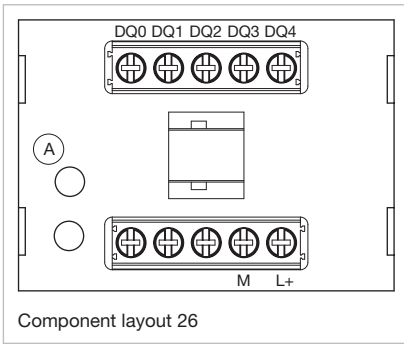


Wiring diagram 213

- 01
- 02
- 03
- 04
- 09
- 14
- 17
- 18
- 19
- 22
- 31
- 41
- 45**
- 51
- 56
- 57
- 61
- 70
- 71
- 82
- 84
- 92
- 96

45 Components

Component layouts



A = Device



ID-Key

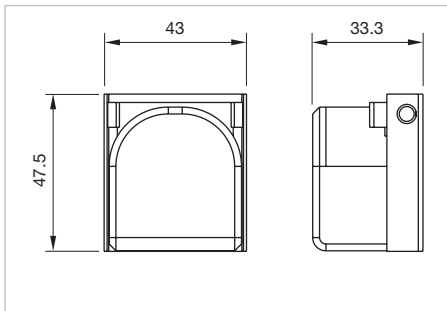
| Product attributes | Colour | Part No. |
|---|--------|-------------|
| Design of the RFID coding: Step 1 | Green | 45-50T.0500 |
| Design of the RFID coding: Step 1+2 | Yellow | 45-50V.0400 |
| Design of the RFID coding: Step 1+2+3 | Red | 45-50W.0200 |
| Design of the RFID coding: Step 1+2+3+4 | Blue | 45-574.0600 |

Front side



Cover for locking device


| Product attributes | Material | Colour | Optics | IP Protection | Part No. |
|--|-----------------|------------|-------------|-------------------|-------------|
| For pushbuttons, selector switches with round or short lever | metal / plastic | Colourless | transparent | IP66, IP67, IP69K | 45-529.2100 |





Dimensions [mm]

- 01
- 02
- 03
- 04
- 09
- 14
- 17
- 18
- 19
- 22
- 31
- 41
- 45
- 51
- 56
- 57
- 61
- 70
- 71
- 82
- 84
- 92
- 96

Follow us.
We are on LinkedIn!
EAO creates possibilities. Since 1947.








Come take a look at our LinkedIn profile today! *Be sure to give us a follow so that you can fully interact with us.*

<https://www.linkedin.com/company/eao/>

www.eao.com



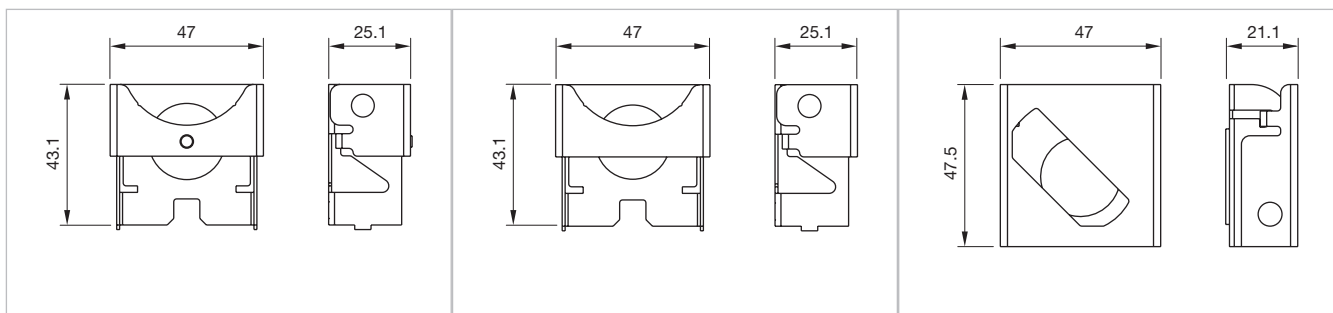
Your Expert Partner for Human Machine Interfaces

45 Accessories



Locking device

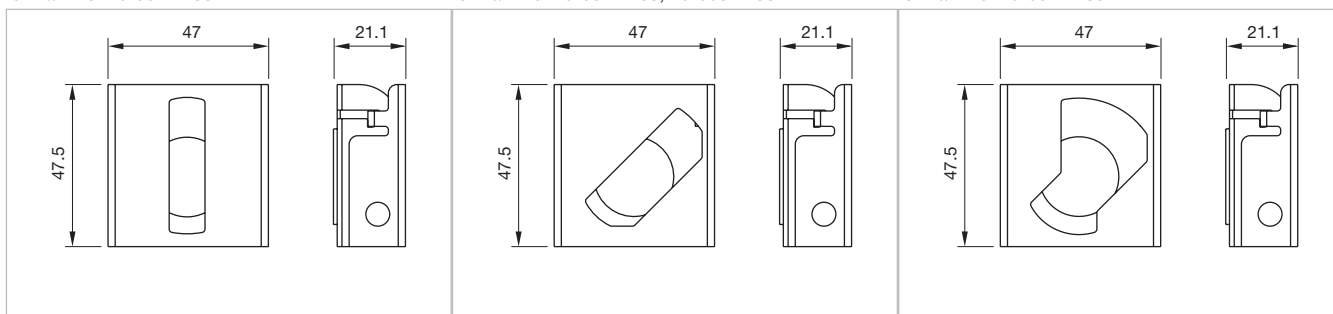
| Product attributes | Dimensions | Material | Colour | Part No. |
|--|---------------------------|----------|--------|-------------|
| For pushbutton with lens raised | 47 mm x 25.1 mm x 43.1 mm | metal | Silver | 45-531.2100 |
| For pushbutton with lens flat | 47 mm x 25.1 mm x 43.1 mm | metal | Silver | 45-532.2100 |
| For mushroom-head pushbutton Ø 30 mm or Ø 40 mm | 47 mm x 25.1 mm x 43.1 mm | metal | Silver | 45-530.2100 |
| For selector switch in position left | 47 mm x 21.1 mm x 47.1 mm | metal | Silver | 45-534.2100 |
| For selector switch in position center | 47 mm x 21.1 mm x 47.1 mm | metal | Silver | 45-533.2100 |
| For selector switch in position right | 47 mm x 21.1 mm x 47.1 mm | metal | Silver | 45-536.2100 |
| For selector switch in position center and right | 47 mm x 21.1 mm x 47.1 mm | metal | Silver | 45-535.2100 |
| For selector switch in position center and left | 47 mm x 21.1 mm x 47.1 mm | metal | Silver | 45-537.2100 |



Dimensions [mm]
for Part No. 45-531.2100

Dimensions [mm]
for Part No. 45-532.2100, 45-530.2100

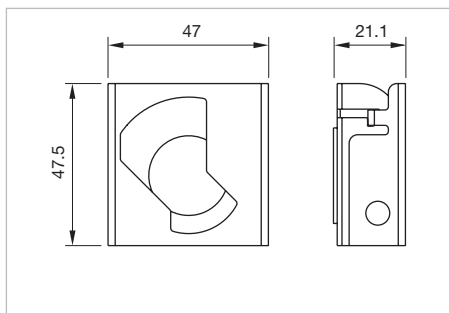
Dimensions [mm]
for Part No. 45-534.2100



Dimensions [mm]
for Part No. 45-533.2100

Dimensions [mm]
for Part No. 45-536.2100

Dimensions [mm]
for Part No. 45-535.2100

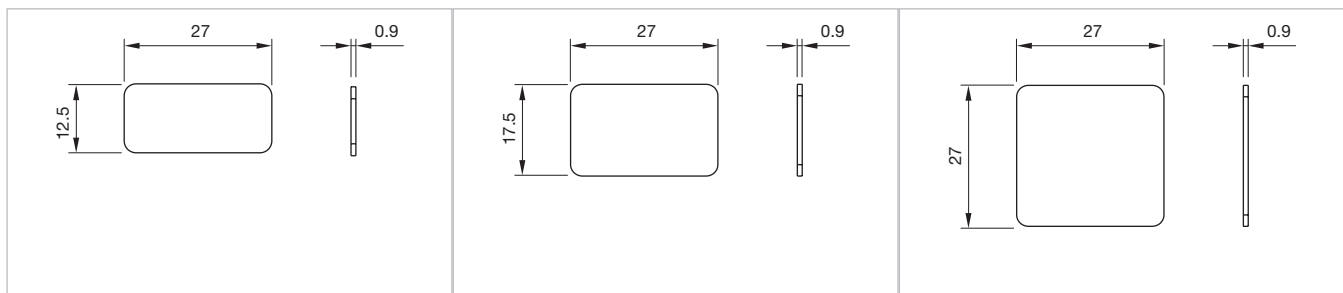


Dimensions [mm]
for Part No. 45-537.2100



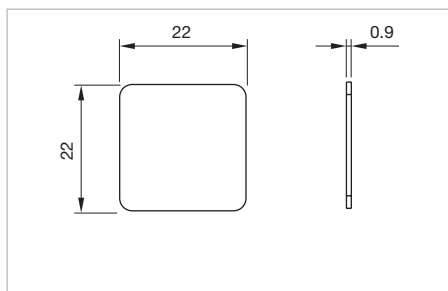
Legend plate

| Product attributes | Dimensions | Material | Colour | Mounting type | Part No. |
|---------------------------------------|-----------------|----------|--------|---------------|-------------|
| Not to use with emergency stop switch | 27 mm x 12.5 mm | plastic | Black | adhesive | 45-573.1102 |
| | 27 mm x 12.5 mm | plastic | Red | adhesive | 45-573.1202 |
| | 27 mm x 12.5 mm | plastic | Silver | adhesive | 45-573.1A02 |
| | 27 mm x 17.5 mm | plastic | Black | adhesive | 45-573.1103 |
| | 27 mm x 17.5 mm | plastic | Silver | adhesive | 45-573.1A03 |
| | 27 mm x 27 mm | plastic | Black | adhesive | 45-573.1105 |
| | 27 mm x 27 mm | plastic | Silver | adhesive | 45-573.1A05 |
| | 22 mm x 22 mm | plastic | Silver | adhesive | 45-573.1A04 |
| | 22 mm x 22 mm | plastic | Black | adhesive | 45-573.1104 |



Dimensions [mm]
for Part No. 45-573.1102, 45-573.1202, 45-573.1A02 for Part No. 45-573.1103, 45-573.1A03

Dimensions [mm]
for Part No. 45-573.1105, 45-573.1A05



Dimensions [mm]
for Part No. 45-573.1A04, 45-573.1104



Emergency stop legend

| Dimensions | Material | Colour | Mounting type | Marking | Part No. |
|----------------|----------|--------|---------------|---|-------------|
| Ø 45 mm | plastic | Yellow | | without marking | 45-50K.1407 |
| Ø 75 mm | plastic | Yellow | | without marking | 45-50K.1408 |
| | plastic | Yellow | adhesive | without marking | 45-50J.1400 |
| | plastic | Yellow | adhesive | NOT - HALT | 45-50J.140Q |
| | plastic | Yellow | adhesive | EMERGENCY STOP | 45-50J.140S |
| | plastic | Yellow | adhesive | NOT - AUS | 45-50J.140P |
| | plastic | Yellow | adhesive | ARRET D'URGENCE | 45-50J.140T |
| | plastic | Yellow | adhesive | EMERGENZA | 45-50J.140V |
| | plastic | Yellow | adhesive | NODSTOP | 45-50J.140W |
| | plastic | Yellow | adhesive | 紧急停止 | 45-50J.140X |
| | plastic | Yellow | adhesive | NOT-HALT EMERGENCY STOP EMERGENZA EMERGENCIA | 45-50J.140Z |
| 150 mm x 38 mm | plastic | Yellow | adhesive | without marking | 45-561.1400 |
| | plastic | Yellow | adhesive | NOT - AUS | 45-561.140P |
| | plastic | Yellow | adhesive | without marking, with recess | 45-562.1400 |

Additional information

- Front panel thickness 3 mm max.

01
02
03
04
09
14
17
18
19
22
31
41
45
51
56
57
61
70
71
82
84
92
96

45 Accessories



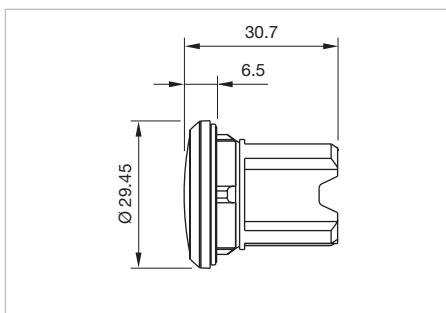
Legend plate for potentiometer

| Dimensions | Material | Colour | Part No. |
|------------|----------|--------|-------------|
| Ø 40 mm | plastic | Black | 45-538.1100 |



Blind plug

| Material | Colour | Part No. |
|----------|-----------|-------------|
| plastic | Black | 45-506.1100 |
| metal | Sand grey | 45-506.3A00 |
| | Silver | 45-506.2A00 |



Dimensions [mm]



Spare key

| Product attributes | Part No. |
|--------------------|-------------|
| 2 spare keys | 45-522.0900 |

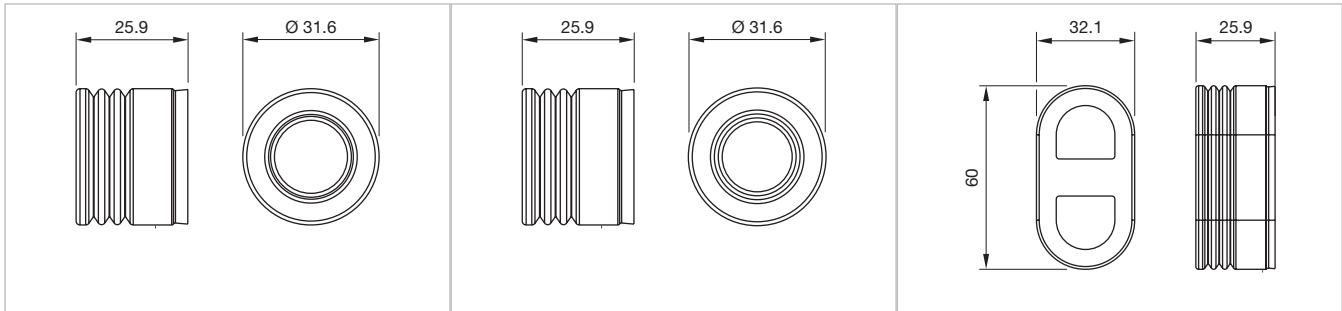
Additional information

- For standard lock RONIS T254



Protective cap

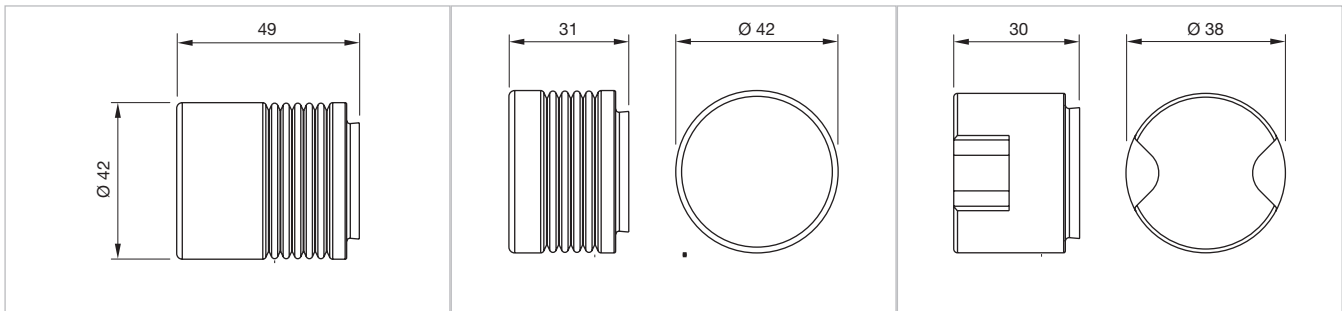
| Product attributes | Material | Colour | Optics | Part No. |
|--------------------------------------|----------|------------|-------------|-------------|
| For lens raised above bezel | silicone | Colourless | transparent | 45-544.1K00 |
| For lens flush | silicone | Colourless | transparent | 45-545.1K00 |
| For lens raised above bezel | silicone | Colourless | transparent | 45-547.1K00 |
| For lens flush | silicone | Colourless | transparent | 45-548.1K00 |
| For lens raised above bezel | silicone | Colourless | transparent | 45-542.1K00 |
| For Mushroom-head pushbutton Ø 40 mm | silicone | Colourless | transparent | 45-543.1K00 |
| For lever switch, short lever | silicone | Colourless | transparent | 45-546.1K00 |
| For keylock switch | silicone | Colourless | transparent | 45-50F.1100 |



Dimensions [mm]
for Part No. 45-544.1K00

Dimensions [mm]
for Part No. 45-545.1K00

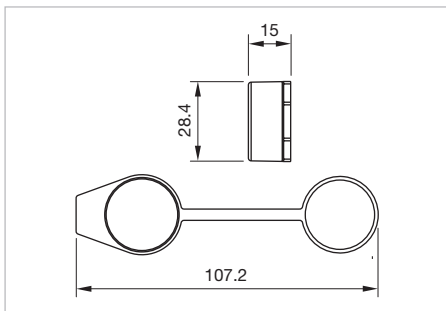
Dimensions [mm]
for Part No. 45-547.1K00, 45-548.1K00



Dimensions [mm]
for Part No. 45-542.1K00

Dimensions [mm]
for Part No. 45-543.1K00

Dimensions [mm]
for Part No. 45-546.1K00



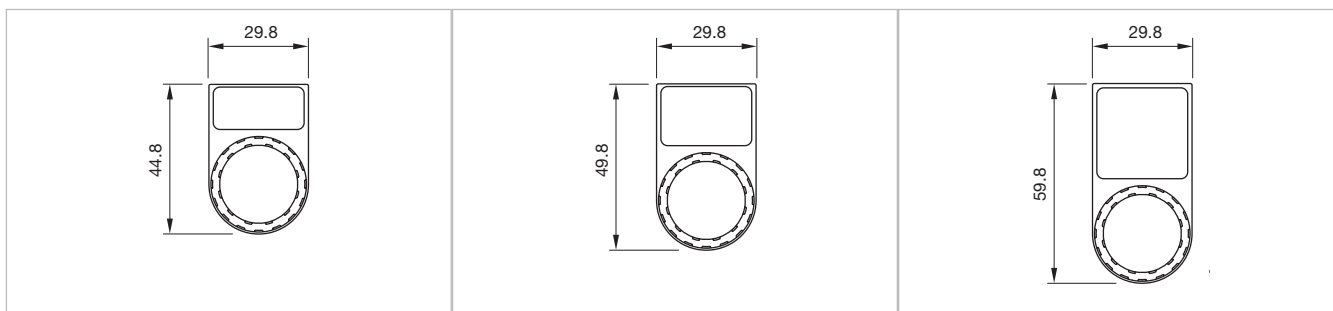
Dimensions [mm]
for Part No. 45-50F.1100

45 Accessories



Legend support without legend

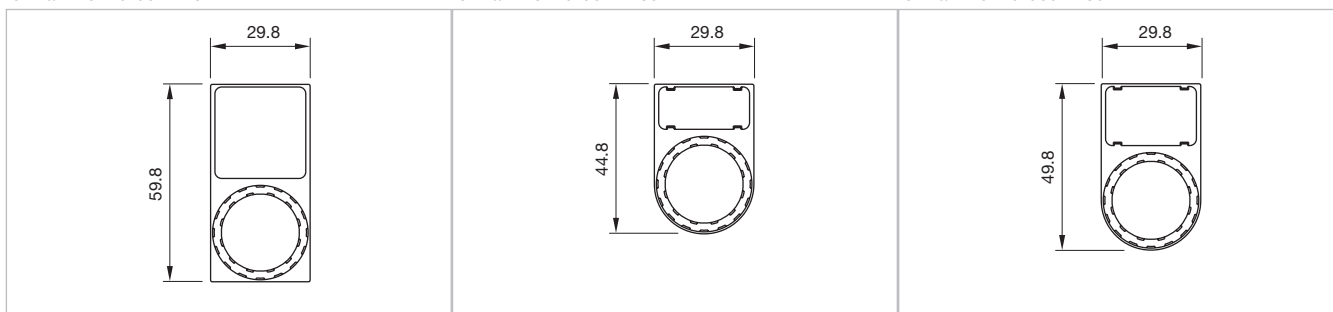
| Product attributes | Material | Colour | Mounting type | Part No. |
|----------------------------|----------|--------|-----------------------------------|-------------|
| For legend 27 mm x 12.5 mm | plastic | Black | For sticking or snapping in place | 45-564.1102 |
| | plastic | Black | For sticking or snapping in place | 45-567.1103 |
| For legend 27 mm x 27 mm | plastic | Black | For sticking or snapping in place | 45-569.1105 |
| | plastic | Black | For sticking or snapping in place | 45-570.1105 |
| For legend 27 mm x 12.5 mm | plastic | Black | For sticking or snapping in place | 45-564.1110 |
| For legend 27 mm x 17.5 mm | plastic | Black | For sticking or snapping in place | 45-567.1111 |
| For legend 27 mm x 27 mm | plastic | Black | For sticking or snapping in place | 45-569.1112 |



Dimensions [mm]
for Part No. 45-564.1102

Dimensions [mm]
for Part No. 45-567.1103

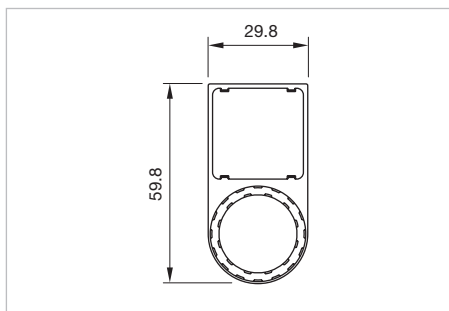
Dimensions [mm]
for Part No. 45-569.1105



Dimensions [mm]
for Part No. 45-570.1105

Dimensions [mm]
for Part No. 45-564.1110

Dimensions [mm]
for Part No. 45-567.1111

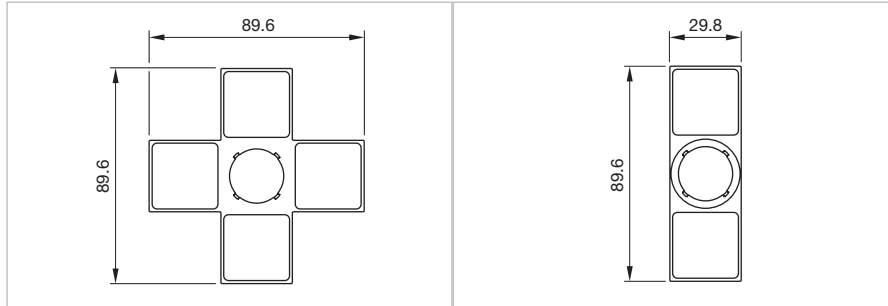


Dimensions [mm]
for Part No. 45-569.1112



Legend support without legend for toggle stick

| Product attributes | Material | Colour | Mounting type | Part No. |
|-------------------------------|----------|--------|-----------------------------------|-------------|
| For legend 27 mm x 27 mm (2x) | plastic | Black | For sticking or snapping in place | 45-571.1105 |
| For legend 27 mm x 27 mm (4x) | plastic | Black | For sticking or snapping in place | 45-572.1105 |



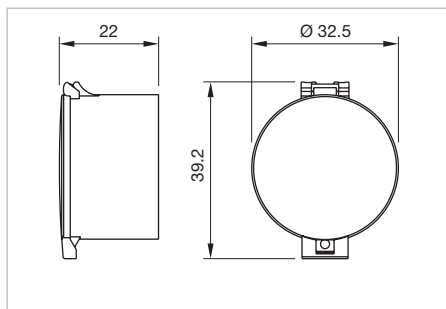
Dimensions [mm]
for Part No. 45-571.1105

Dimensions [mm]
for Part No. 45-572.1105



Protective cover

| Product attributes | Material | Colour | Optics | Part No. |
|--------------------------------|----------|------------|-------------|-------------|
| Hinged, with means for sealing | plastic | Black | opaque | 45-555.1100 |
| | plastic | Colourless | transparent | 45-555.1K00 |

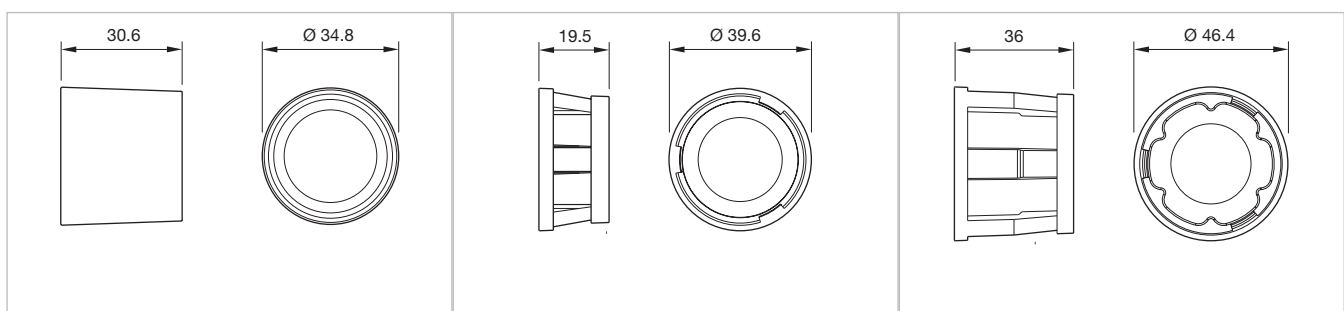


Dimensions [mm]



Protective shroud

| Dimensions | Material | Colour | Part No. |
|------------|----------|--------|-------------|
| Ø 34.8 mm | plastic | Black | 45-50N.1100 |
| Ø 46.4 mm | metal | Silver | 45-50Q.2100 |
| Ø 39.6 mm | metal | Silver | 45-50P.0100 |



Dimensions [mm]
for Part No. 45-50N.1100

Dimensions [mm]
for Part No. 45-50Q.2100

Dimensions [mm]
for Part No. 45-50P.0100

45 Accessories

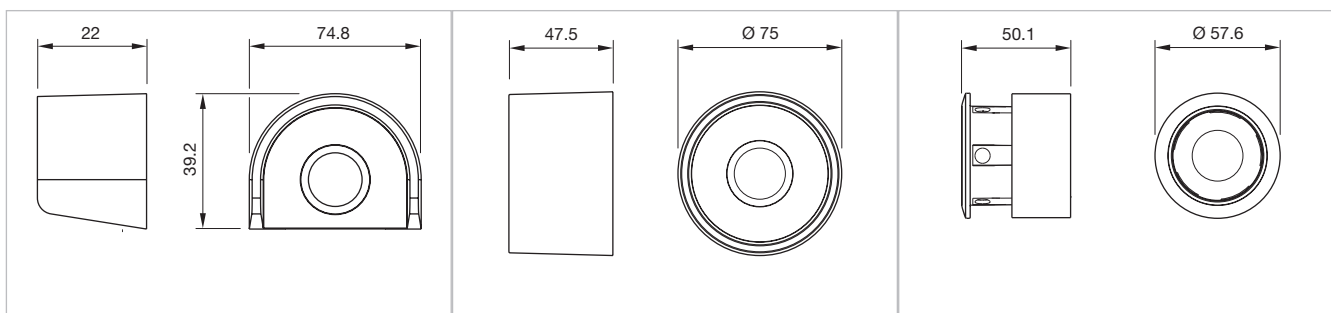


E stop protective shroud

| Product attributes | Material | Colour | Part No. |
|---|----------|--------|-------------|
| | plastic | Yellow | 45-549.1400 |
| | plastic | Grey | 45-549.1800 |
| | plastic | Yellow | 45-550.1400 |
| For Emergency stop switch Ø 40 mm, for 5 padlocks | metal | Yellow | 45-539.2400 |
| | metal | Grey | 45-539.2800 |

Additional information

- The protection shroud is not suitable for a proper use of emergency stop. It can obstruct a spontaneous operation of the emergency stop



Dimensions [mm]
for Part No. 45-549.1400, 45-549.1800

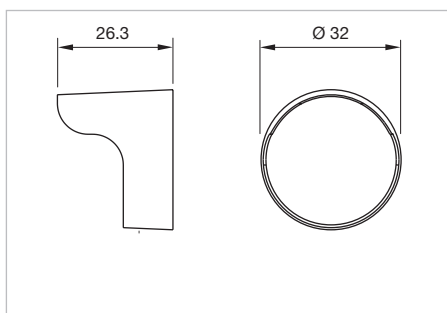
Dimensions [mm]
for Part No. 45-550.1400

Dimensions [mm]
for Part No. 45-539.2400, 45-539.2800



Sun collar

| Product attributes | Material | Colour | Part No. |
|----------------------------|----------|--------|-------------|
| For pushbutton illuminated | plastic | Black | 45-560.1100 |



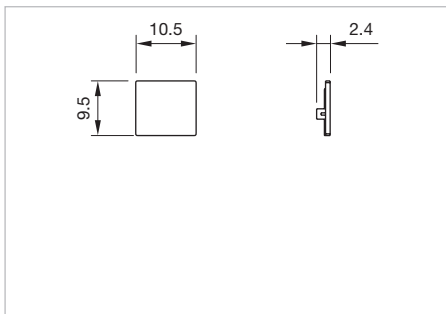
Dimensions [mm]

Rear side



Legend plate for switching elements

| Dimensions | Material | Colour | Mounting type | Part No. |
|------------------|----------|--------|-----------------------|-------------|
| 10.5 mm x 9.5 mm | plastic | White | for snapping in place | 45-523.1900 |

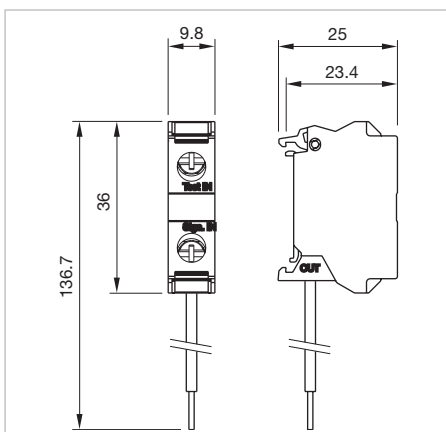


Dimensions [mm]



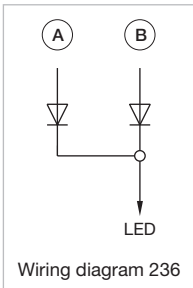
Test module

| Product attributes | Operating voltage | Terminal | Part No. | Wiring diagram |
|--------------------|-------------------|----------------|-------------|----------------|
| Front mounting | 12 - 240 V AC/DC | Screw terminal | 45-330.1115 | 236 |
| Base mounting | 12 - 240 V AC/DC | Screw terminal | 45-330.2115 | 236 |



Dimensions [mm]

Wiring diagrams



[Come take a look at our YouTube profile today!](https://www.youtube.com/user/eaoswitches) *Be sure to give us a follow so that you can fully interact with us.*

<https://www.youtube.com/user/eaoswitches>

Mounting



Adapter for reduction of 30.5 mm to 22.3 mm

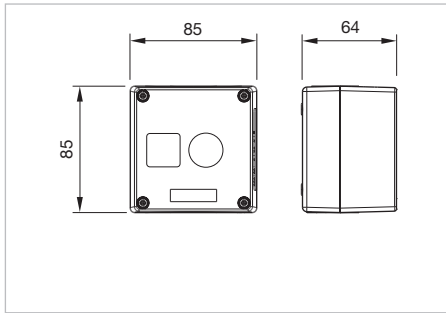
| Product attributes | Material | IP front protection | Part No. |
|--------------------|----------|---------------------|-------------|
| With seal | metal | IP66, IP67, IP69K | 45-501.2000 |



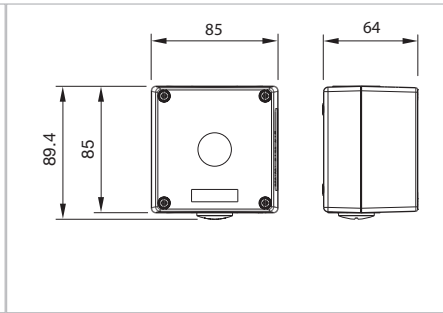
Enclosure

| Product attributes | Dimensions | Material | Colour | IP Protection | Part No. |
|---|-------------------------|----------|--------|-------------------|-------------|
| 1 mounting hole Ø 22.3 mm 1 x M20 | 85 mm x 64 mm x 85 mm | plastic | Grey | IP66, IP67, IP69K | 45-430.1801 |
| | 85 mm x 64 mm x 85 mm | plastic | Yellow | IP66, IP67, IP69K | 45-410.1401 |
| 1 mounting hole Ø 22.3 mm, top and bottom each 1 x M20 | 89.4 mm x 64 mm x 85 mm | metal | Yellow | IP66, IP67, IP69K | 45-410.2403 |
| | 89.4 mm x 64 mm x 85 mm | metal | Grey | IP66, IP67, IP69K | 45-430.2803 |
| 1 mounting hole Ø 22.3 mm 1 x M20, with protective shroud | 85 mm x 64 mm x 85 mm | plastic | Yellow | IP66, IP67, IP69K | 45-420.1401 |
| | 85 mm x 64 mm x 85 mm | metal | Yellow | IP66, IP67, IP69K | 45-420.2403 |
| 1 mounting hole Ø 22.3 mm, with protective shroud, top and bottom 1 x M20 | 89.4 mm x 64 mm x 85 mm | metal | Grey | IP66, IP67, IP69K | 45-420.2803 |
| 2 mounting holes Ø 22.3 mm, top and bottom 1 x M20 | 114 mm x 64 mm x 85 mm | plastic | Grey | IP66, IP67, IP69K | 45-440.1801 |
| | 118 mm x 64 mm x 85 mm | metal | Grey | IP66, IP67, IP69K | 45-440.2803 |
| 3 mounting holes Ø 22.3 mm, top and bottom 1 x M20 | 154 mm x 64 mm x 85 mm | plastic | Grey | IP66, IP67, IP69K | 45-450.1801 |
| | 158 mm x 64 mm x 85 mm | metal | Grey | IP66, IP67, IP69K | 45-450.2803 |
| 4 mounting holes Ø 22.3 mm, top and bottom 1 x M25 | 194 mm x 64 mm x 85 mm | plastic | Grey | IP66, IP67, IP69K | 45-460.1802 |
| | 199 mm x 64 mm x 85 mm | metal | Grey | IP66, IP67, IP69K | 45-460.2804 |
| 6 mounting holes Ø 22.3 mm, top and bottom 1 x M25 | 280 mm x 64 mm x 85 mm | plastic | Grey | IP66, IP67, IP69K | 45-470.1802 |
| | 285 mm x 64 mm x 85 mm | metal | Grey | IP66, IP67, IP69K | 45-470.2804 |

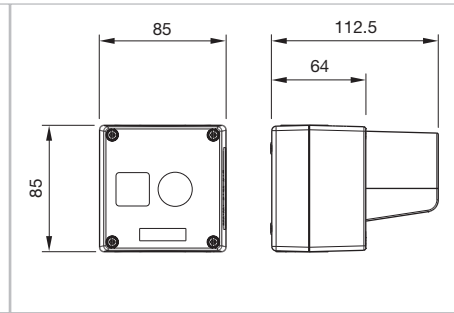
45 Accessories



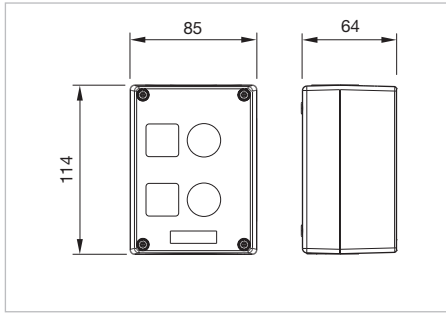
Dimensions [mm]
for Part No. 45-430.1801, 45-410.1401



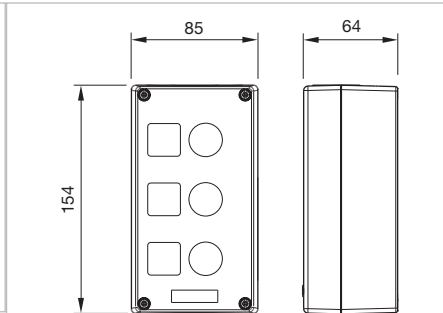
Dimensions [mm]
for Part No. 45-410.2403, 45-430.2803, 45-420.2803



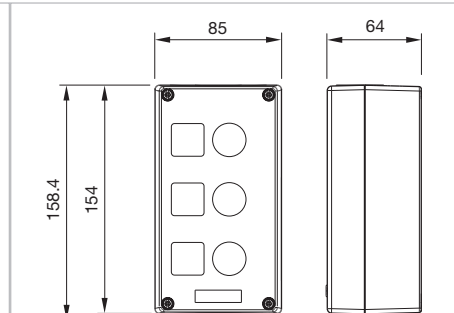
Dimensions [mm]
for Part No. 45-420.1401, 45-420.2403



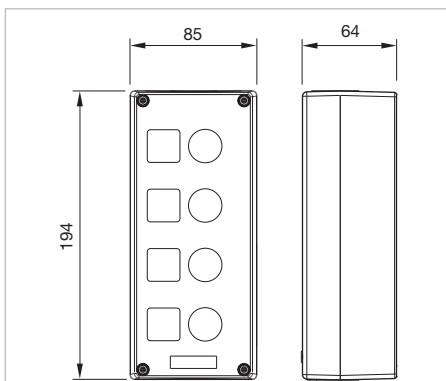
Dimensions [mm]
for Part No. 45-440.1801, 45-440.2803



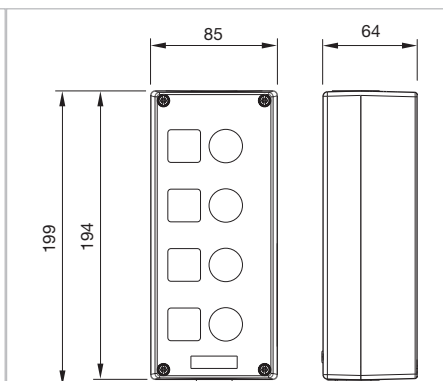
Dimensions [mm]
for Part No. 45-450.1801



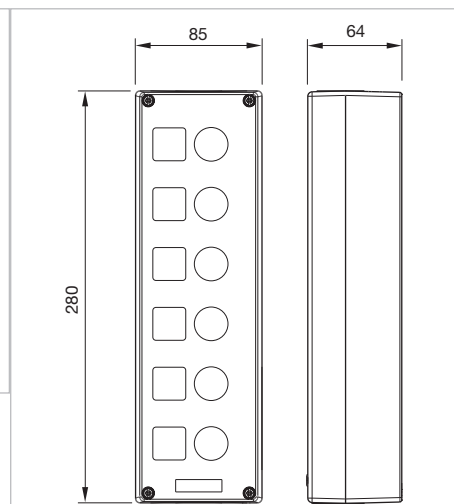
Dimensions [mm]
for Part No. 45-450.2803



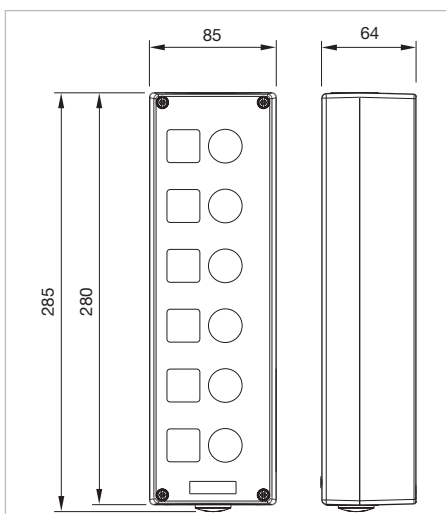
Dimensions [mm]
for Part No. 45-460.1802



Dimensions [mm]
for Part No. 45-460.2804



Dimensions [mm]
for Part No. 45-470.1802

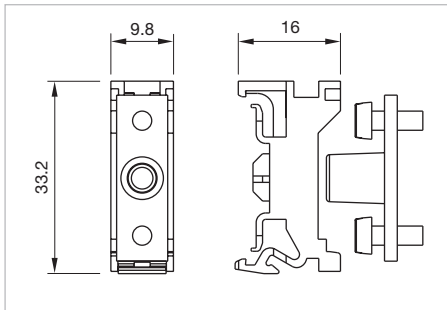


Dimensions [mm]
for Part No. 45-470.2804



Enclosure cover monitoring

| Product attributes | Material | Colour | Part No. |
|-------------------------|----------|--------|-------------|
| With extension plungers | plastic | Black | 45-50G.0900 |

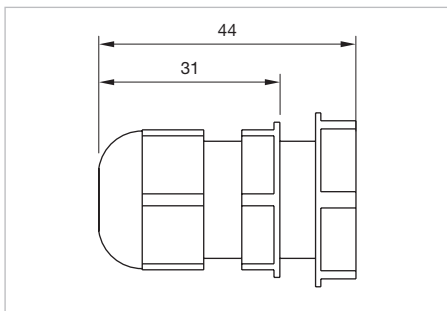


Dimensions [mm]



Cable gland

| Material | Colour | IP Protection | Thread | Part No. |
|----------|--------|-------------------|--------|-------------|
| plastic | Black | IP66, IP67, IP69K | M20 | 45-507.1100 |
| | Black | IP66, IP67, IP69K | M25 | 45-509.1100 |



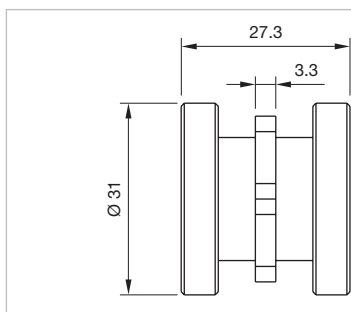
Dimensions [mm]

45 Accessories

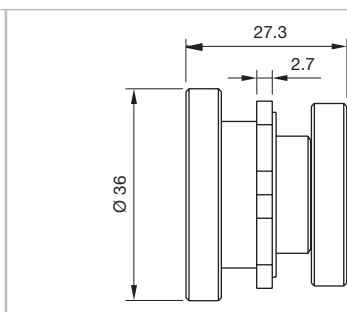


Connection piece

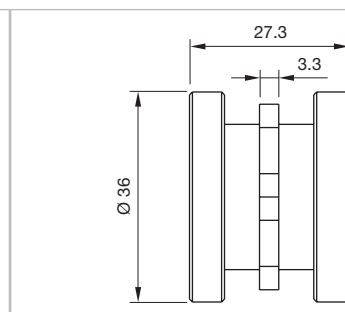
| Product attributes | Material | Colour | IP Protection | Thread | Part No. |
|---|----------|--------|-------------------|-----------|-------------|
| For connecting 2 enclosures, with hexagonal nut | plastic | Black | IP66, IP67, IP69K | M20 / M20 | 45-50C.1900 |
| | plastic | Black | IP66, IP67, IP69K | M20 / M25 | 45-50D.1900 |
| | plastic | Black | IP66, IP67, IP69K | M25 / M26 | 45-50E.1900 |
| | metal | Silver | IP66, IP67, IP69K | M20 / M20 | 45-50C.2900 |
| | metal | Silver | IP66, IP67, IP69K | M20 / M25 | 45-50D.2900 |
| | metal | Silver | IP66, IP67, IP69K | M25 / M26 | 45-50E.2900 |



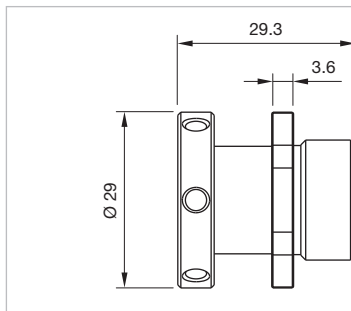
Dimensions [mm]
for Part No. 45-50C.1900



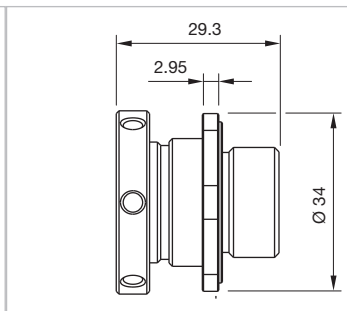
Dimensions [mm]
for Part No. 45-50D.1900



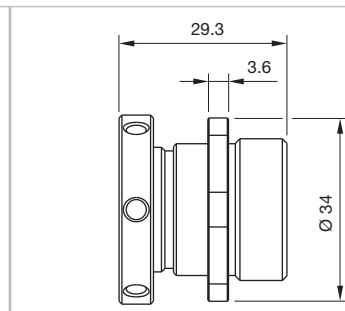
Dimensions [mm]
for Part No. 45-50E.1900



Dimensions [mm]
for Part No. 45-50C.2900



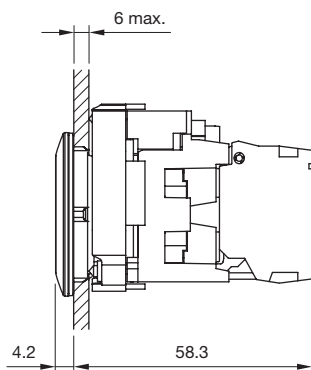
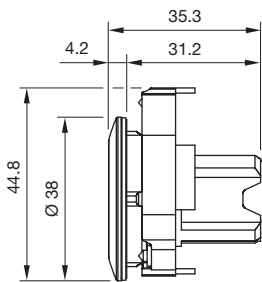
Dimensions [mm]
for Part No. 45-50D.2900



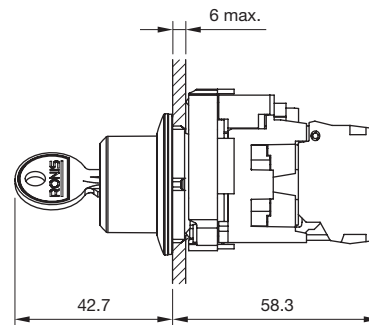
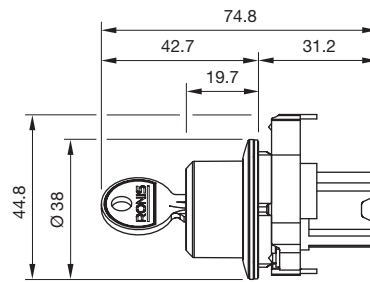
Dimensions [mm]
for Part No. 45-50E.2900

Dimensions incl. mounting depth of 3 or 4 elements

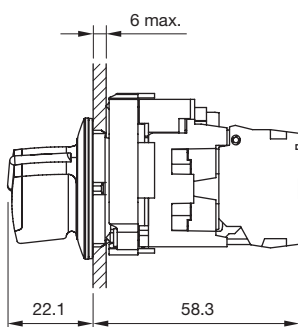
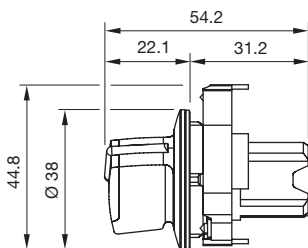
Indicator, Pushbutton, Illuminated pushbutton (flush design)



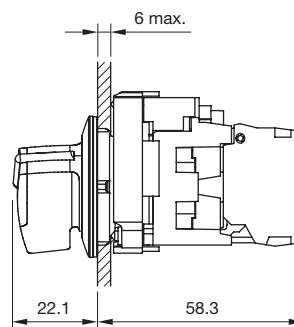
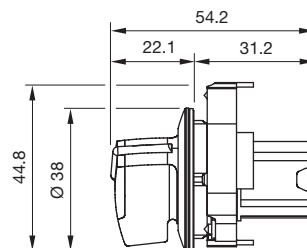
Keylock switch (flush design)



Selector switch short lever (flush design)



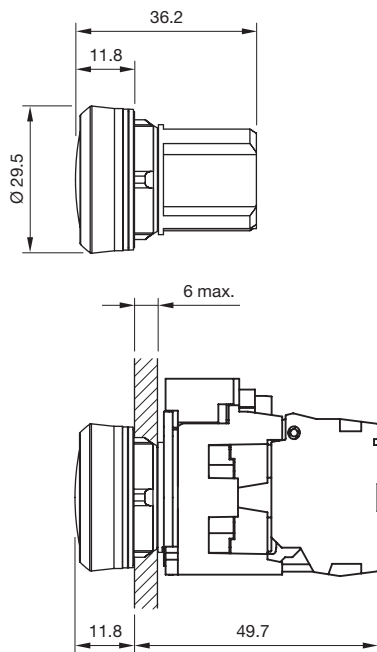
Selector switch long lever (flush design)



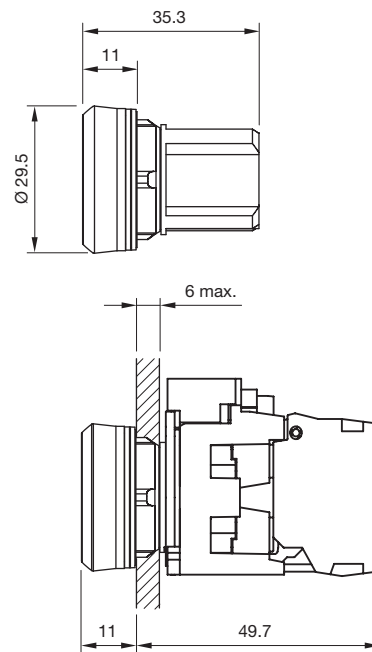
- 01
- 02
- 03
- 04
- 09
- 14
- 17
- 18
- 19
- 22
- 31
- 41
- 45
- 51
- 56
- 57
- 61
- 70
- 71
- 82
- 84
- 92
- 96

45 Drawings

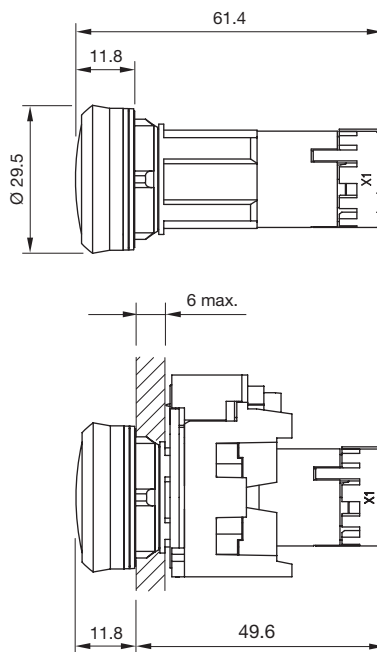
Indicator full face illumination (raised design)



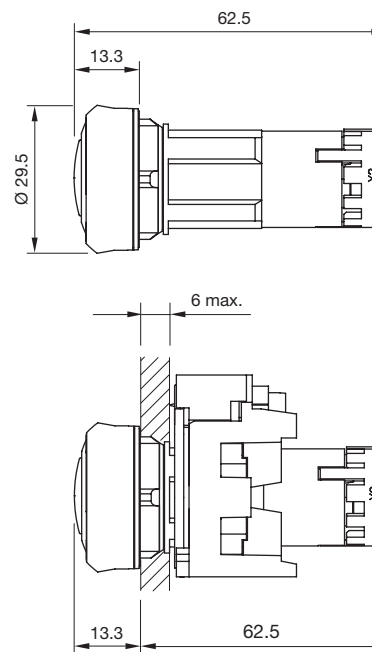
Indicator front illumination, Pushbutton, Illuminated pushbutton, Lens level with front ring (raised design)



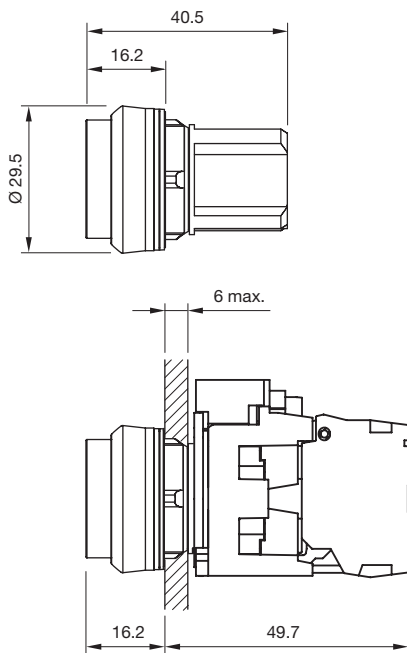
Duo indicator



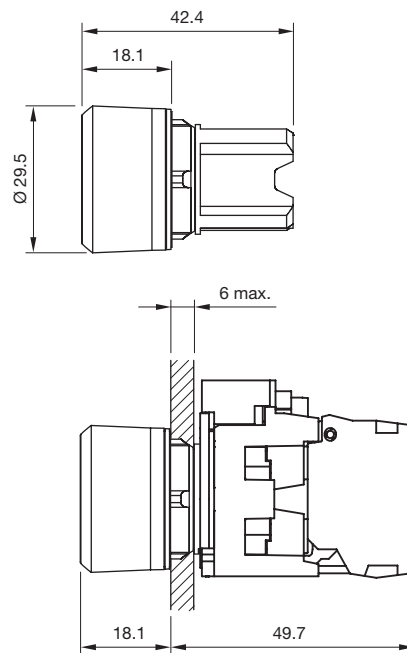
Buzzer



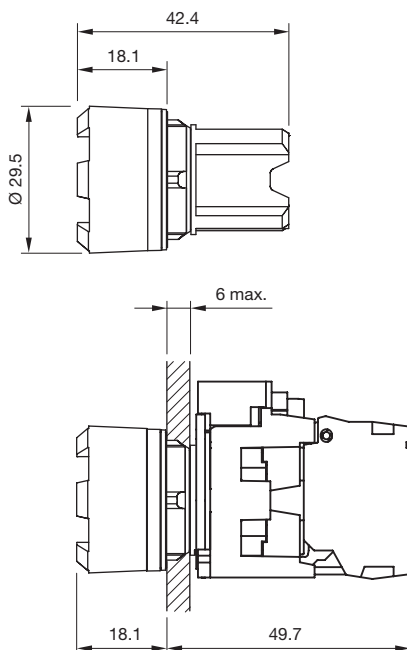
Pushbutton, Illuminated pushbutton, lens raised above front ring (raised design)



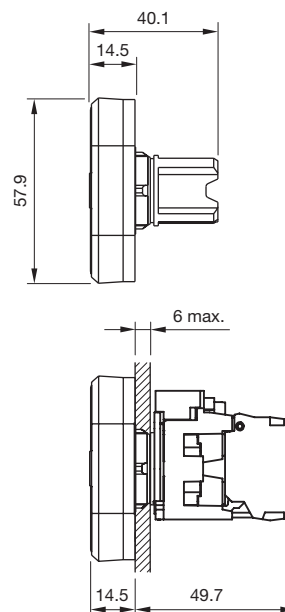
Pushbutton, lens lower than front ring (raised design)



Pushbutton, Illuminated pushbutton, lens lower than front ring, with castellation (raised design)

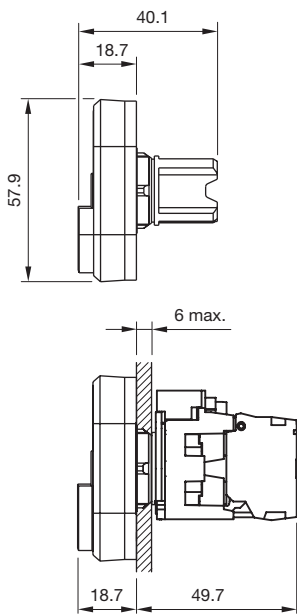


Double pushbutton, Lens level with front ring (raised design)

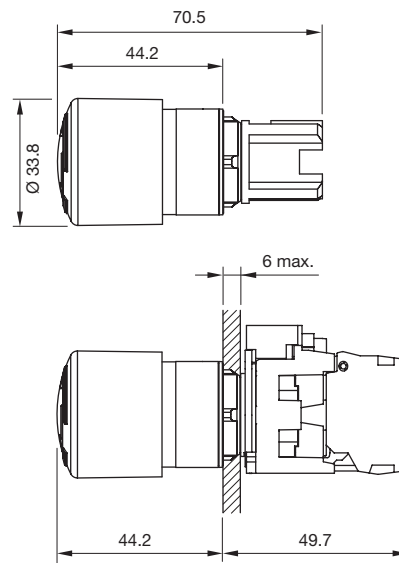


45 Drawings

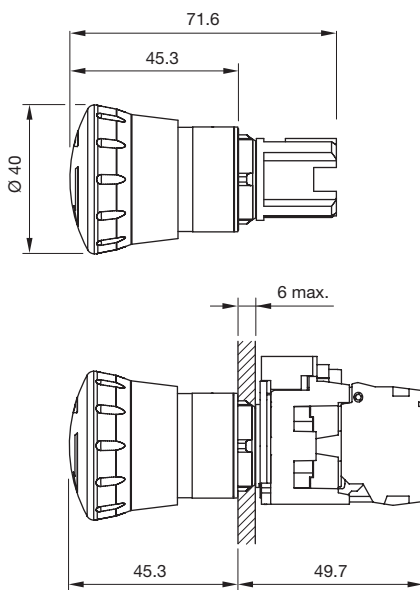
Double pushbutton, level with/raised above front ring (raised design)



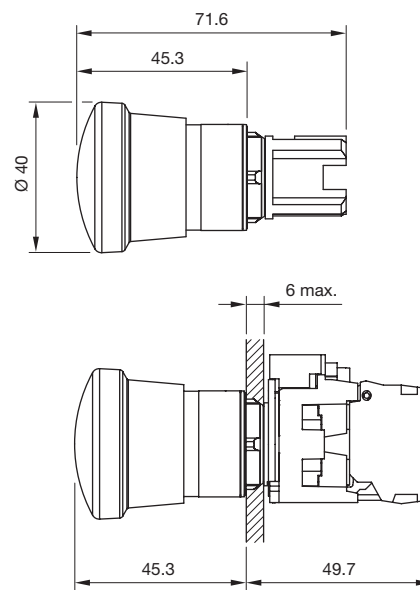
Emergency stop switch Ø 33.8 mm (raised design)



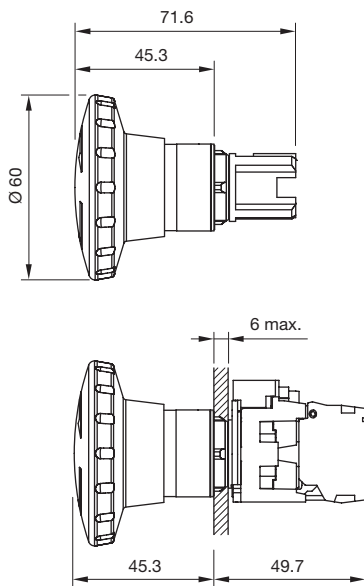
Emergency stop switch, Stop switch Ø 40 mm (raised design)



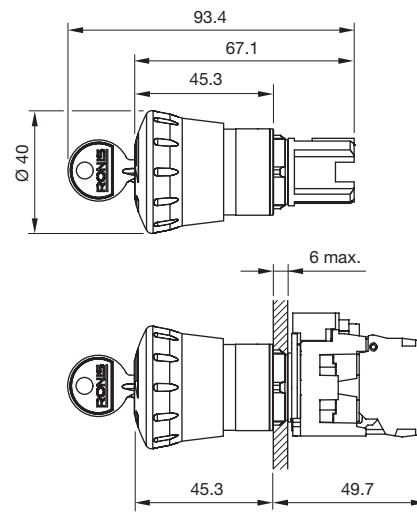
Emergency stop switch, Stop switch Ø 40 mm (raised design)



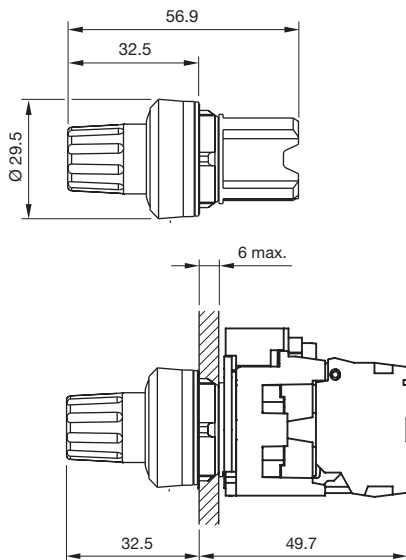
Emergency stop switch Ø 60 mm (raised design)



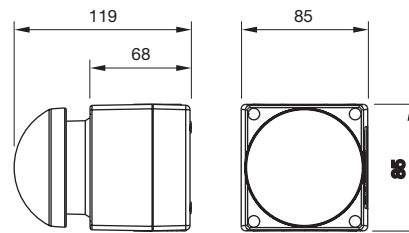
Emergency stop switch with key Ø 40 mm (raised design)



Stop switch Ø 29.5 mm (raised design)

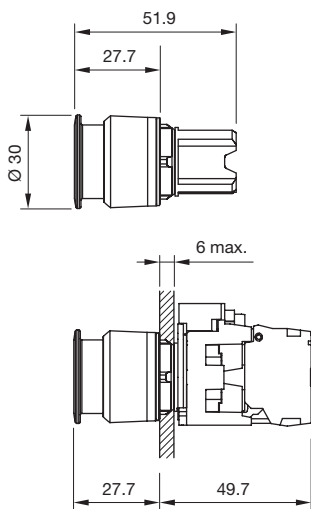


Palm switch

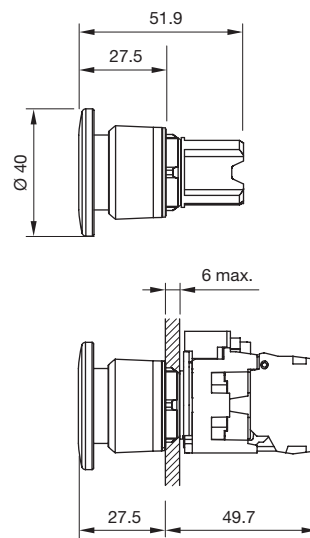


45 Drawings

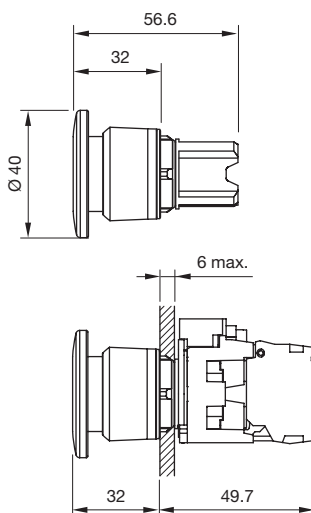
Mushroom-head pushbutton \varnothing 30 mm (raised design)



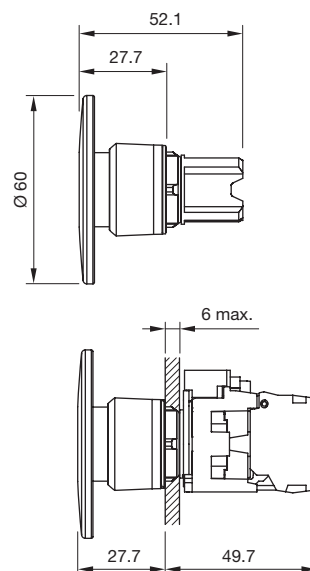
Mushroom-head pushbutton Momentary, Maintain, \varnothing 40 mm (raised design)



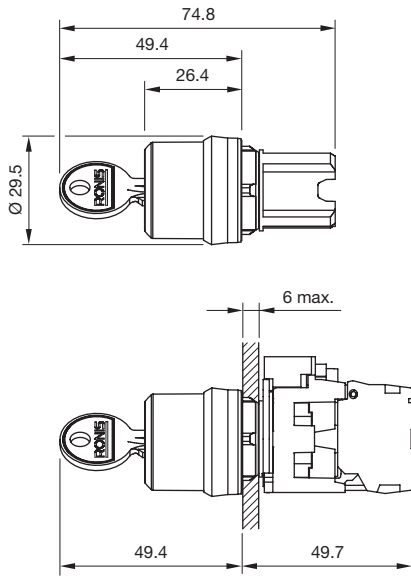
Mushroom-head pushbutton Momentary/Maintain, Momentary/Momentary, \varnothing 40 mm (raised design)



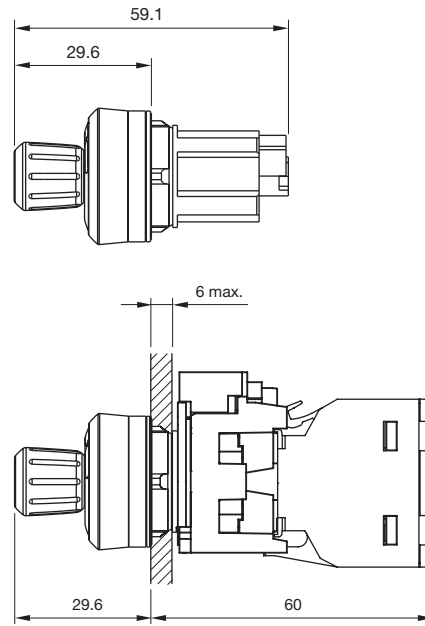
Mushroom-head pushbutton \varnothing 60 mm (raised design)



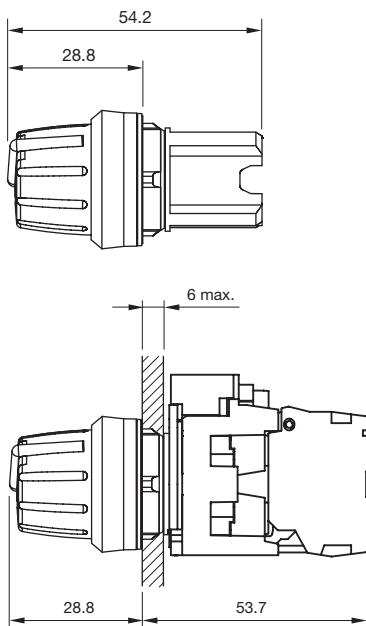
Keylock switch (raised design)



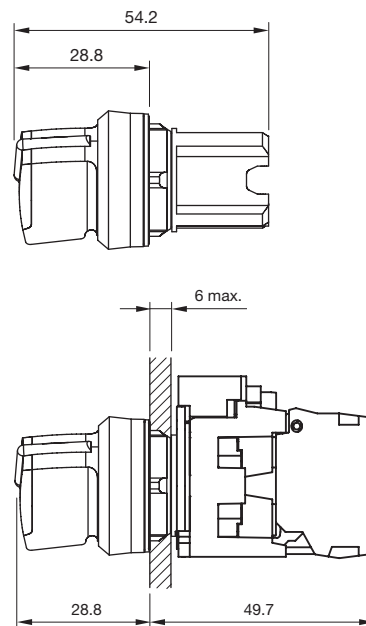
ID keylock switch (raised design)



Selector switch, round lever (raised design)

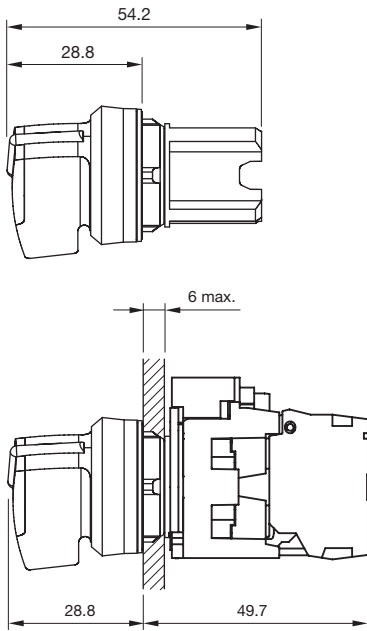


Selector switch, short lever (raised design)

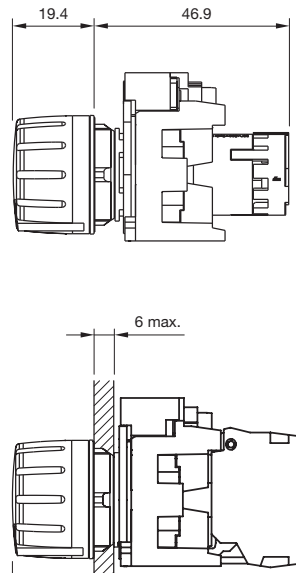


45 Drawings

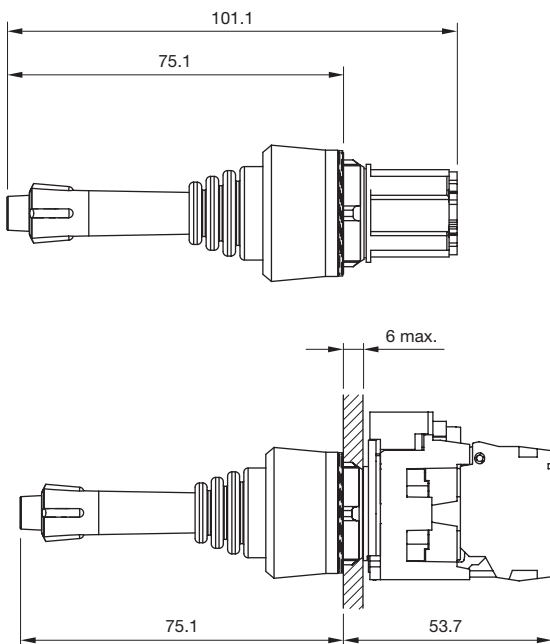
Selector switch, long lever (raised design)



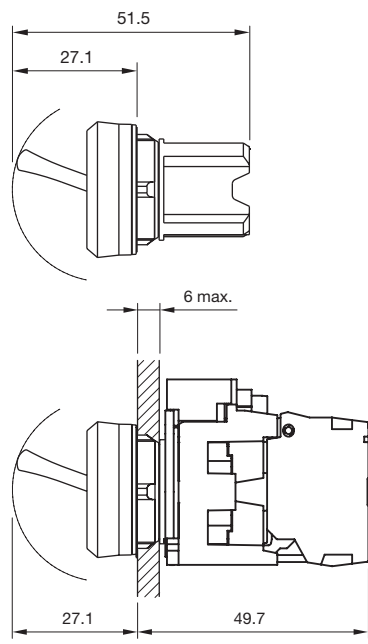
Potentiometer (raised design)



Toggle stick (raised design)



Toggle switch (raised design)



Indicator actuator

Material

Actuator element
Plastic

Front ring
Plastic or metal

Actuator housing
Plastic or metal

Ambient conditions

Operating temperature
-25 °C ... +70 °C

Storage temperature
-40 °C ... +80 °C

Protection degree
IP66, IP67, IP69K

Vibration resistance
According to IEC 60068-2-6
2 ... 500 Hz: 5 g

Shock resistance
According to IEC 60068-2-27
Sinusoidal half-wave 50 g/11 ms

Climatic ambient conditions
During operation according to IEC 60721:
3K6, 3C3, 3S2, 3M6

Duo Indicator

Material

Actuator element
Plastic

Front ring
Plastic or metal

Actuator housing
Plastic or metal

Mechanical characteristics

Terminal

- Screw terminal
- Solid without end sleeves 2 x (1.0 ... 1.5 mm²)
 - Solid with end sleeves 2 x (0.5 ... 0.75 mm²)
 - Finely stranded without end sleeves 2 x (0.5 ... 0.75 mm²)
 - Finely stranded with end sleeves 2 x (0.5 ... 1.5 mm²)
 - For AWG cables for auxiliary contacts 2 x (18 ... 14)

Tightening torque
Screw terminal 0.8 ... 1 Nm

Electrical characteristics

Insulation voltage
Rated value 320 V

Pollution degree
3

Surge voltage resistance
Rated value 4 kV

Operating voltage
at AC/DC
- Rated value 6 ... 24 V

at AC
- Rated value 110 or 230 V

Ambient conditions

Operating temperature
-25 °C ... +70 °C

Storage temperature
-40 °C ... +80 °C

Protection degree
IP66, IP67, IP69K

Vibration resistance
According to IEC 60068-2-6
10 ... 500 Hz: 5 g

Shock resistance
According to IEC 60068-2-27
Sinusoidal half-wave 50 g/11 ms

Climatic ambient conditions
During operation according to IEC 60721:
3B2, 3K6, 3S2, 3M6

45 Technical data

Buzzer

Material

Actuator element
Plastic

Front bezel
Plastic or metal

Actuator housing
Plastic or metal

Mechanical characteristics

Terminal
Screw terminal

- Solid without end sleeves 2 x (1.0 ... 1.5 mm²)
- Solid with end sleeves 2 x (0.5 ... 0.75 mm²)
- Finely stranded without end sleeves 2 x (0.5 ... 0.75 mm²)
- Finely stranded with end sleeves 2 x (0.5 ... 1.5 mm²)
- For AWG cables for auxiliary contacts 2 x (18 ... 14)

Tightening torque
Screw terminal 0.8 ... 1 Nm

Electrical characteristics

Frequency (tone)
Approx. 2.4 kHz continuous tone only

Sound pressure
95 db (A) ±8 dB at a distance of 0.1 m

Insulation voltage
Rated value 320 V

Pollution degree
3

Surge voltage resistance
Rated value 4 kV

Operating voltage
at AC
- Rated value 24 ... 24 V

at DC
- Rated value 24 ... 24 V

Ambient conditions

Operating temperature
-25 °C ... +70 °C

Storage temperature
-40 °C ... +80 °C

Protection degree
IP40

Vibration resistance
According to IEC 60068-2-6
10 ... 500 Hz: 5 g

Shock resistance
According to IEC 60068-2-27
Sinusoidal half-wave 50 g/11 ms

Climatic ambient conditions
During operation according to IEC 60721:
3B2, 3K6, 3S2, 3M6

Pushbutton actuator

Material

Actuator element
Plastic

Front ring
Plastic or metal

Actuator housing
Plastic or metal

Mechanical characteristics

Operating frequency
- Momentary max. 3 600/h
- Maintain max. 1 800/h

Mechanical lifetime
- Momentary 500 000 cycles of operation
- Maintain 1 000 000 cycles of operation

Ambient conditions

Operating temperature
-25 °C ... +70 °C

Storage temperature
-40 °C ... +80 °C

Protection degree
IP66, IP67, IP69K

Vibration resistance
According to IEC 60068-2-6
20 ... 500 Hz: 5g

Shock resistance
According to IEC 60068-2-27
Sinusoidal half-wave 50g / 11 ms

Climatic ambient conditions
During operation according to IEC 60721:
3K6, 3C3, 3S2, 3M6

| |
|-----------|
| 01 |
| 02 |
| 03 |
| 04 |
| 09 |
| 14 |
| 17 |
| 18 |
| 19 |
| 22 |
| 31 |
| 41 |
| 45 |
| 51 |
| 56 |
| 57 |
| 61 |
| 70 |
| 71 |
| 82 |
| 84 |
| 92 |
| 96 |

45 Technical data

Double pushbutton actuator, Double pushbutton actuator illuminated

Material

Actuator element
Plastic

Front ring
Plastic or metal

Actuator housing
Plastic or metal

Mechanical characteristics

Operating frequency
max. 3 600/h

Mechanical lifetime
2 000 000 cycles of operation

Ambient conditions

Operating temperature
-25 °C ... +70 °C

Storage temperature
-40 °C ... +80 °C

Protection degree
IP66, IP67, IP69K

Vibration resistance
According to IEC 60068-2-6
10 ... 500 Hz: 5g

Shock resistance
According to IEC 60068-2-27
Sinusoidal half-wave 50g / 11 ms

Climatic ambient conditions
During operation according to IEC 60721:
3K6, 3C3, 3S2, 3M6, 3B2

Illuminated pushbuton actuator

Material

Actuator element
Plastic

Front ring
Plastic or metal

Actuator housing
Plastic or metal

Mechanical characteristics

Operating frequency
- Momentary max. 3 600/h
- Maintain max. 1 800/h

Mechanical lifetime
- Momentary 3 000 000 cycles of operation
- Maintain 500 000 cycles of operation

Ambient conditions

Operating temperature
-25 °C ... +70 °C

Storage temperature
-40 °C ... +80 °C

Protection degree
IP66, IP67, IP69K

Vibration resistance
According to IEC 60068-2-6
20 ... 500 Hz: 5g

Shock resistance
According to IEC 60068-2-27
Sinusoidal half-wave 50g / 11 ms

Climatic ambient conditions
During operation according to IEC 60721:
3K6, 3C3, 3S2, 3M6

Emergency stop switch actuator

Material

Actuator element
Plastic red

Actuator housing
Plastic or metal

Mechanical characteristics

Type of unlocking device
Twist to release, pull release or key to release

Operating frequency
Max. 600/h

Mechanical lifetime
300 000 cycles of operation

Ambient conditions

Operating temperature
-25 °C ... +70 °C

Storage temperature
-40 °C ... +80 °C

Protection degree
IP66, IP67, IP69K

Vibration resistance
According to IEC 60068-2-6
2 ... 500 Hz: 5 g

Shock resistance
According to IEC 60068-2-27
Sinusoidal half-wave 50 g/11 ms

Climatic ambient conditions
During operation according to IEC 60721:
3K6, 3C3, 3S2, 3M6

Stop switch actuator

Material

Actuator element
Plastic red

Actuator housing
Plastic or metal

Mechanical characteristics

Type of unlocking device
Twist to release

Operating frequency
Max. 600/h

Mechanical lifetime
300 000 cycles of operation

Ambient conditions

Operating temperature
-25 °C ... +70 °C

Storage temperature
-40 °C ... +80 °C

Protection degree
IP66, IP67, IP69K

Vibration resistance
According to IEC 60068-2-6
2 ... 500 Hz: 5 g

Shock resistance
According to IEC 60068-2-27
Sinusoidal half-wave 50 g/11 ms

Climatic ambient conditions
During operation according to IEC 60721:
3K6, 3C3, 3S2, 3M6

45 Technical data

Palm switch

Material

Actuator element
Plastic or metal, red or black

Actuator housing
Plastic or metal

Mechanical characteristics

Type of unlocking device
Pull to release

Electrical characteristics

Operating voltage
at AC
- Rated value 5 ... 500V

at DC
- Rated value 5 ... 500V

Ambient conditions

Operating temperature
-25 °C ... +70 °C

Storage temperature
-40 °C ... +80 °C

Protection degree
IP66, IP67, IP69K

Vibration resistance
According to IEC 60068-2-6
10 ... 500 Hz: 5g

Shock resistance
According to IEC 60068-2-27
Sinusoidal half-wave 50g/11 ms

Climatic ambient conditions
During operation according to IEC 60721:
3K6, 3C3, 3S2, 3M6, 3B2

Mushroom-head pushbutton actuator

Material

Actuator element
Plastic

Front ring
Plastic or metal

Actuator housing
Plastic or metal

Mechanical characteristics

Type of unlocking device
Pull release

Operating frequency
- Momentary max. 3600/h
- Maintain max. 1800/h

Mechanical lifetime
- Momentary 10 000 000 cycles of operation
- Maintain 500 000 cycles of operation

Ambient conditions

Operating temperature
-25 °C ... +70 °C

Storage temperature
-40 °C ... +80 °C

Vibration resistance
According to IEC 60068-2-6
20 ... 500 Hz: 5g

Shock resistance
According to IEC 60068-2-27
Sinusoidal half-wave 50 g/11 ms

Protection degree
IP66, IP67, IP69K

Climatic ambient conditions
During operation according to IEC 60721:
3K6, 3C3, 3S2, 3M6

Keylock switch actuator

Material

Actuator element
Metal

Front ring
Plastic or metal

Actuator housing
Plastic or metal

Mechanical characteristics

Operating frequency
Max. 1800/h

Mechanical lifetime
1 000 000 cycles of operation

Ambient conditions

Operating temperature
-25 °C ... +70 °C

Storage temperature
-40 °C ... +80 °C

Protection degree
IP66, IP67, IP69K

Vibration resistance
According to IEC 60068-2-6
10 ... 500 Hz: 5g

Shock resistance
According to IEC 60068-2-27
Sinusoidal half-wave 50 g/11 ms

Climatic ambient conditions
During operation according to IEC 60721:
3K6, 3C3, 3S2, 3M6

ID keylock switch

Material

Actuator element
Plastic

Front ring
Plastic or metal

Actuator housing
Plastic

Mechanical characteristics

Terminals
Screw terminal front mounting

- Solid with end sleeves
1 x (0.2 ... 2.5 mm²), 2 x (0.2 ... 0.75 mm²)
- Solid without end sleeves
1 x (0.2 ... 2.5 mm²), 2 x (0.2 ... 0.75 mm²)
- Finely stranded with end sleeves
1 x (0.2 ... 2.5 mm²), 2 x (0.25 ... 0.75 mm²)
- Finely stranded with end sleeves
1 x (0.2 ... 2.5 mm²), 2 x (0.2 ... 0.75 mm²)
- For AWG cables
1 x (24 ... 14), (24 ... 19)

Tightening torque
Screw terminal
0.35 ... 0.4 Nm

Mechanical lifetime
100 000 cycles of operation

Number of NO contacts
5

ID-Key

| Authorization level | Key colour |
|---------------------|------------|
| 1 | green |
| 1+2 | yellow |
| 1+2+3 | red |
| 1+2+3+4 | blue |

Electrical characteristics

Operating voltage
24 VDC

45 Technical data

Ambient conditions

Operating temperature
-25 °C ... +70 °C

Storage temperature
-40 °C ... +80 °C

Protection degree
IP65

Climatic ambient conditions
During operation according to IEC 60721:
3M6, 3S2, 3B2, 3C3, 3K6 (with relative air humidity
of 10 ... 95 %)

Selector switch actuator

Material

Actuator element
Round lever, plastic, illuminable
Short lever, plastic, illuminable
Long lever, plastic, illuminable

Front ring
Plastic or metal

Actuator housing
Plastic or metal

Mechanical characteristics

Operating frequency
Max. 1 800/h

Mechanical lifetime
1 000 000 cycles of operation

Ambient conditions

Operating temperature
-25 °C ... +70 °C

Storage temperature
-40 °C ... +80 °C

Protection degree
IP66, IP67, IP69K

Vibration resistance
According to IEC 60068-2-6
10 ... 500 Hz: 5g

Shock resistance
According to IEC 60068-2-27
Sinusoidal half-wave 50g/11ms

Climatic ambient conditions
During operation according to IEC 60721:
3K6, 3C3, 3S2, 3M6

Potentiometer

Material

Actuator element
Round lever, plastic

Front ring
Plastic or metal

Actuator housing
Plastic or metal

Mechanical characteristics

Terminals
Screw terminal
- Solid 2 x (1.0 ... 1.5 mm²)
- With end sleeves 2 x (0.5 ... 0.75 mm²)
- Finely stranded
- Without end sleeves 2 x (0.5 ... 0.75 mm²)
- With end sleeves 2 x (0.5 ... 1.5 mm²)
- For AWG cables for auxiliary contacts 2 x (18 ... 14)

Tightening torque
0.8 ... 1 Nm

Turning frequency
Max. 1 800/h

Mechanical lifetime

25000 turning cycles

Vibration resistance

according to IEC 60068-2-6

10 ... 500 Hz: 5g

Shock resistance

according to IEC 60068-2-27

Sinusoidal half-wave 50g/11ms

Slewing range

275° ±2°

Electrical characteristics

Active power consumption

0.5W

Insulation voltage

Rated value 500V

Ambient conditions

Operating temperature

-25°C ... +70°C

Storage temperature

-40°C ... +80°C

Protection degree

IP66, IP67, IP69K

Climatic ambient conditions

During operation according to IEC 60721:

3K6, 3C3, 3S2, 3M6

Toggle stick actuator

Material

Actuator element

Plastic

Front ring

Plastic or metal

Actuator housing

Plastic or metal

Mechanical characteristics

Operating frequency

3600/h

Mechanical lifetime

Momentary: 250000 cycles of operation per direction of actuation

Maintain: 100000 cycles of operation per direction of actuation

Deflection angle

Max. 30°

Ambient conditions

Operating temperature

-25°C ... +70°C

Storage temperature

-40°C ... +80°C

Protection degree

IP65, IP67

Vibration resistance

According to IEC 60068-2-6

10 ... 500 Hz: 5g

Shock resistance

According to IEC 60068-2-27

Sinusoidal half-wave 50g/11ms

Climatic ambient conditions

During operation according to IEC 60721:

3K6, 3C3, 3S2, 3M6

45 Technical data

Toggle switch actuator

Material

Actuator element
Plastic

Front ring
Plastic or metal

Actuator housing
Plastic or metal

Mechanical characteristics

Operating frequency
Max. 1 800/h

Mechanical lifetime
1 000 000 cycles of operation

Ambient conditions

Operating temperature
-25 °C ... +70 °C

Storage temperature
-40 °C ... +80 °C

Protection degree
IP66, IP67, IP69K

Vibration resistance
According to IEC 60068-2-6
10 ... 500 Hz: 5g

Shock resistance
According to IEC 60068-2-27
Sinusoidal half-wave 50 g/11 ms

Climatic ambient conditions
During operation according to IEC 60721:
3K6, 3C3, 3S2, 3M6

Slow-make switching element

Switching system

The double-break, slow-make switching element is equipped with normally open or normally closed contact. The normally closed contact has forced opening. Slow-make contacts with forced action are ideal for high switch ratings. Up to six switching elements can be snapped to each holder.

The NC contact opens automatically upon disconnection of the actuator. On delivery, the contact is open (= safe state). Activation (= NC contacts on the non-actuated commanding device are closed) takes place upon first-time actuation after the contact block is snapped onto the actuator.

Material

Material of contact
Silver alloy

Housing
Plastic

Mechanical characteristics

Terminals
Screw terminal
- Solid 2 x (1.0 ... 1.5 mm²)
- With end sleeves 2 x (0.5 ... 0.75 mm²)
- Finely stranded
- Without end sleeves 2 x (0.5 ... 0.75 mm²)
- With end sleeves 2 x (0.5 ... 1.5 mm²)
- For AWG cables for auxiliary contacts 2 x (18 ... 14)

Spring-type terminal (SP)
- Solid 2 x (0.25 ... 1.5 mm²)
- Finely stranded
- Without end sleeves 2 x (0.5 ... 1.5 mm²)
- With end sleeves 2 x (0.5 ... 0.75 mm²)
- For AWG cables for auxiliary contacts 2 x (24 ... 16)

Tightening torque
Screw terminal, spring-type terminal 0.8 ... 0.9 Nm

Operating frequency
Max. 3 600/h

Mechanical lifetime
10 000 000 cycles of operation

Electrical characteristics

Standards

The switches comply with the "Standards for low-voltage switching devices" EN IEC 60947-5-1

Thermal current I_{th}
10A

Insulation voltage
Rated value 500V

Pollution degree
3

Surge voltage resistance
Rated value 6kV

Contact reliability
One contact failure per 100 million switching operations
(17 V, 5 mA)
One contact failure per 10 million switching operations (5 V, 1 mA)

Operating voltage
at AC
- Rated value 5 ... 500V

at DC
- Rated value 5 ... 500V

Switching voltage and switching current

at AC-12

| | | | |
|---------|-----|------|------|
| Voltage | 24V | 230V | 500V |
| Current | 10A | 10A | 10A |

at AC-15

| | | | | |
|---------|-----|------|------|------|
| Voltage | 24V | 230V | 400V | 500V |
| Current | 6A | 6A | 3A | 1.4A |

at DC-12

| | | | | | | |
|---------|-----|-----|------|------|------|------|
| Voltage | 24V | 48V | 110V | 230V | 400V | 500V |
| Current | 10A | 5A | 2.5A | 1A | 0.3A | 0.2A |

at DC-13

| | | | | | | |
|---------|-----|------|------|------|------|-------|
| Voltage | 24V | 48V | 110V | 230V | 400V | 500V |
| Current | 3A | 1.5A | 0.7A | 0.3A | 0.1A | 0.07A |

Ambient conditions

Operating temperature
-25°C ... +70°C

Storage temperature
-40°C ... +80°C

Protection degree
IP40 housing
IP20 terminal

Vibration resistance
According to IEC 60068-2-6
2 ... 500 Hz: 5g

Shock resistance
According to IEC 60068-2-27
Sinusoidal half-wave 50 g/11 ms

Climatic ambient conditions
During operation according to IEC 60721:
3K6, 3C3, 3S2, 3M6

Approvals

Approbations

CCC
CSA
UL

Declaration of conformity

CE

| |
|----|
| 01 |
| 02 |
| 03 |
| 04 |
| 09 |
| 14 |
| 17 |
| 18 |
| 19 |
| 22 |
| 31 |
| 41 |
| 45 |
| 51 |
| 56 |
| 57 |
| 61 |
| 70 |
| 71 |
| 82 |
| 84 |
| 92 |
| 96 |

Illumination element

Material

Housing
Plastic

Mechanical characteristics

Terminals

- Screw terminal
- Solid 2 x (1.0 ... 1.5 mm²)
 - With end sleeves 2 x (0.5 ... 0.75 mm²)
 - Finely stranded
 - Without end sleeves 2 x (0.5 ... 0.75 mm²)
 - With end sleeves 2 x (0.5 ... 1.5 mm²)
 - For AWG cables for auxiliary contacts 2 x (18 ... 14)

Spring-type terminal (SP)

- Solid 2 x (0.25 ... 1.5 mm²)
- Finely stranded
- Without end sleeves 2 x (0.5 ... 1.5 mm²)
- With end sleeves 2 x (0.5 ... 0.75 mm²)
- For AWG cables for auxiliary contacts 2 x (24 ... 16)

Tightening torque

Screw terminal, spring-type terminal 0.8 ... 0.9 Nm

Electrical characteristics

Standards

The switches comply with the "Standards for low-voltage switching devices" EN IEC 60947-5-1

Electrical life

100 000 h

Insulation voltage

Rated value 320 V

Surge voltage resistance

Rated value 4 kV

EAO reserves the right to alter specifications without further notice.

Ambient conditions

Operating temperature
-25 °C ... +70 °C

Storage temperature
-40 °C ... +80 °C

Protection degree

IP20 terminal

Shock resistance

According to IEC 60068-2-27
Sinusoidal half-wave 50 g/11 ms

Vibration resistance

According to IEC 60068-2-6
2 ... 500 Hz: 5 g

Climatic ambient conditions

During operation according to IEC 60721:
3K6, 3C3, 3S2, 3M6

Optical characteristics

Luminous intensity

| | |
|--------|------------------|
| Red | 450 ... 1120 mcd |
| Amber | 450 ... 1120 mcd |
| Yellow | 900 ... 1400 mcd |
| Green | 900 ... 1400 mcd |
| Blue | 280 ... 710 mcd |
| White | 900 ... 1400 mcd |

Approvals

Approbations

CCC
CSA
UL


Declaration of conformity

CE

Inscription marking plates and legend plates

Labels can be inserted for identification purposes in illuminated pushbuttons and pushbuttons with a flat lens. This marking plates are made of translucent plastic with a black inscription, which can be fitted in any 90° angle.

Standard texts for marking plates












| | | |
|----------------|---|-----------------------------|
| Example |  | Part No. 45-563.0K00.T00029 |
|----------------|---|-----------------------------|

| Standard texts German | | Standard texts English | |
|-----------------------|-----------------------------|------------------------|-----------------------------|
| Ein | Part No. 45-563.0K00.T00001 | On | Part No. 45-563.0K00.T00020 |
| Aus | Part No. 45-563.0K00.T00002 | Off | Part No. 45-563.0K00.T00021 |
| Auf | Part No. 45-563.0K00.T00003 | Up | Part No. 45-563.0K00.T00022 |
| Ab | Part No. 45-563.0K00.T00004 | Down | Part No. 45-563.0K00.T00023 |
| Vor | Part No. 45-563.0K00.T00005 | Forward | Part No. 45-563.0K00.T00024 |
| Zurück | Part No. 45-563.0K00.T00006 | Right | Part No. 45-563.0K00.T00026 |
| Rechts | Part No. 45-563.0K00.T00007 | Left | Part No. 45-563.0K00.T00027 |
| Links | Part No. 45-563.0K00.T00008 | Stop | Part No. 45-563.0K00.T00028 |
| Halt | Part No. 45-563.0K00.T00009 | Start | Part No. 45-563.0K00.T00029 |
| Zu | Part No. 45-563.0K00.T00010 | Reset | Part No. 45-563.0K00.T00030 |
| Schnell | Part No. 45-563.0K00.T00011 | Test | Part No. 45-563.0K00.T00031 |
| Langsam | Part No. 45-563.0K00.T00012 | Open | Part No. 45-563.0K00.T00032 |
| Betrieb | Part No. 45-563.0K00.T00013 | Close | Part No. 45-563.0K00.T00033 |
| Störung | Part No. 45-563.0K00.T00014 | Running | Part No. 45-563.0K00.T00035 |
| Einrichten | Part No. 45-563.0K00.T00018 | Fast | Part No. 45-563.0K00.T00044 |
| | | Slow | Part No. 45-563.0K00.T00045 |

45 Marking

Symbols for marking plates

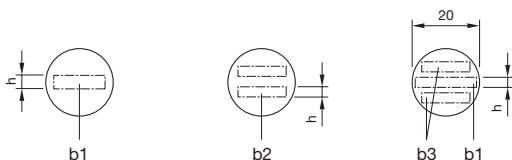
Graphic symbols are according to ISO 7000 or IEC 60417.

| | | |
|--|--|--|
|  Part No. 45-563.0K00.S00001 |  Part No. 45-563.0K00.S00012 Decrease, Minus |  Part No. 45-563.0K00.S00023 Unlock |
|  Part No. 45-563.0K00.S00002 |  Part No. 45-563.0K00.S00013 Electric motor |  Part No. 45-563.0K00.S00024 Setting |
|  Part No. 45-563.0K00.S00003 |  Part No. 45-563.0K00.S00014 Horn |  Part No. 45-563.0K00.S00025 On-Off momentary contact type |
|  Part No. 45-563.0K00.S00004 |  Part No. 45-563.0K00.S00015 Water tap |  Part No. 45-563.0K00.S00026 Manual operating |
|  Part No. 45-563.0K00.S00005 Arrow direction to right |  Part No. 45-563.0K00.S00016 Pump |  Part No. 45-563.0K00.S00027 Automatic cycle |
|  Part No. 45-563.0K00.S00006 Arrow direction up |  Part No. 45-563.0K00.S00017 Coolant pump |  Part No. 45-563.0K00.S00028 Suction |
|  Part No. 45-563.0K00.S00007 Clockwise rotation |  Part No. 45-563.0K00.S00018 Lock, tighten |  Part No. 45-563.0K00.S00029 Blowing |
|  Part No. 45-563.0K00.S00008 Counterclockwise rotation |  Part No. 45-563.0K00.S00019 Unlock, unclamp | |
|  Part No. 45-563.0K00.S00009 Rapid traverse |  Part No. 45-563.0K00.S00020 Brake | |
|  Part No. 45-563.0K00.S00010 Feed |  Part No. 45-563.0K00.S00021 Release brake | |
|  Part No. 45-563.0K00.S00011 Increase, Plus |  Part No. 45-563.0K00.S00022 Interlock | |

Customized inscription for marking plates

All dimensions in mm

| Height of letters | Number of lines | Number of letters per line (target value) | | |
|-------------------|-----------------|---|----|----|
| | | b1 | b2 | b3 |
| 4 | 1 | 10 | – | – |
| 3 | 2 | – | 8 | – |
| | 3 | 10 | – | 6 |



The gap between two words results in each case a letter less.






Standard texts for legend plates black, 27 x 12.5 mm

| | | |
|----------------|--------------|-----------------------------|
| Example | Reset | Part No. 45-573.1102.T00030 |
|----------------|--------------|-----------------------------|

| Standard texts German | | Standard texts English | | Standard texts French | |
|-----------------------|-----------------------------|------------------------|-----------------------------|-----------------------|-----------------------------|
| Ein | Part No. 45-573.1102.T00001 | On | Part No. 45-573.1102.T00020 | Marche | Part No. 45-573.1102.T00048 |
| Aus | Part No. 45-573.1102.T00002 | Off | Part No. 45-573.1102.T00021 | Arrêt | Part No. 45-573.1102.T00049 |
| Auf | Part No. 45-573.1102.T00003 | Up | Part No. 45-573.1102.T00022 | Montée | Part No. 45-573.1102.T00050 |
| Ab | Part No. 45-573.1102.T00004 | Down | Part No. 45-573.1102.T00023 | Descente | Part No. 45-573.1102.T00051 |
| Vor | Part No. 45-573.1102.T00005 | Forward | Part No. 45-573.1102.T00024 | Avant | Part No. 45-573.1102.T00052 |
| Zurück | Part No. 45-573.1102.T00006 | Reverse | Part No. 45-573.1102.T00025 | Retour | Part No. 45-573.1102.T00053 |
| Rechts | Part No. 45-573.1102.T00007 | Right | Part No. 45-573.1102.T00026 | Droite | Part No. 45-573.1102.T00054 |
| Links | Part No. 45-573.1102.T00008 | Left | Part No. 45-573.1102.T00027 | Gauche | Part No. 45-573.1102.T00055 |
| Halt | Part No. 45-573.1102.T00009 | Stop | Part No. 45-573.1102.T00028 | Ouvert | Part No. 45-573.1102.T00056 |
| Zu | Part No. 45-573.1102.T00010 | Start | Part No. 45-573.1102.T00029 | Fermé | Part No. 45-573.1102.T00057 |
| Betrieb | Part No. 45-573.1102.T00013 | Reset | Part No. 45-573.1102.T00030 | Rapide | Part No. 45-573.1102.T00058 |
| Störung | Part No. 45-573.1102.T00014 | Test | Part No. 45-573.1102.T00031 | En Service | Part No. 45-573.1102.T00059 |
| Hand Auto | Part No. 45-573.1102.T00015 | Open | Part No. 45-573.1102.T00032 | Default | Part No. 45-573.1102.T00060 |
| Hand O Auto | Part No. 45-573.1102.T00017 | Close | Part No. 45-573.1102.T00033 | Reglage | Part No. 45-573.1102.T00061 |
| | | Jog | Part No. 45-573.1102.T00034 | Arrêt d'urgence | Part No. 45-573.1102.T00062 |
| | | Running | Part No. 45-573.1102.T00035 | Hors service | Part No. 45-573.1102.T00063 |
| | | Fault | Part No. 45-573.1102.T00036 | Sous tension | Part No. 45-573.1102.T00064 |
| | | Run | Part No. 45-573.1102.T00037 | Manu Auto | Part No. 45-573.1102.T00065 |
| | | Stop Start | Part No. 45-573.1102.T00038 | Marche Arrêt | Part No. 45-573.1102.T00066 |
| | | Off On | Part No. 45-573.1102.T00039 | Rearmement | Part No. 45-573.1102.T00067 |
| | | Power off | Part No. 45-573.1102.T00040 | | |
| | | Power on | Part No. 45-573.1102.T00041 | | |
| | | Man O Auto | Part No. 45-573.1102.T00042 | | |
| | | Man Auto | Part No. 45-573.1102.T00043 | | |

Symbols for legend plates black, 27 x 12.5 mm

Graphic symbols are according to ISO 7000 or IEC 60417.

| | | | |
|---|-----------------------------|---|---|
|  | Part No. 45-573.1102.S00001 |  | Part No. 45-573.1102.S00007 |
|  | Part No. 45-573.1102.S00002 |  | Part No. 45-573.1102.S00009 Arrow/Direction up |
|  | Part No. 45-573.1102.S00005 | | |

45 Marking










Standard texts for legend plates silver, 27 x 12.5 mm

| | | |
|----------------|--------------|-----------------------------|
| Example | Reset | Part No. 45-573.1A02.T00030 |
|----------------|--------------|-----------------------------|


| Standard texts German | | Standard texts English | |
|-----------------------|-----------------------------|------------------------|-----------------------------|
| Ein | Part No. 45-573.1A02.T00001 | On | Part No. 45-573.1A02.T00020 |
| Aus | Part No. 45-573.1A02.T00002 | Off | Part No. 45-573.1A02.T00021 |
| Auf | Part No. 45-573.1A02.T00003 | Up | Part No. 45-573.1A02.T00022 |
| Ab | Part No. 45-573.1A02.T00004 | Down | Part No. 45-573.1A02.T00023 |
| Vor | Part No. 45-573.1A02.T00005 | Stop | Part No. 45-573.1A02.T00028 |
| Zurück | Part No. 45-573.1A02.T00006 | Start | Part No. 45-573.1A02.T00029 |
| Rechts | Part No. 45-573.1A02.T00007 | Reset | Part No. 45-573.1A02.T00030 |
| Links | Part No. 45-573.1A02.T00008 | Test | Part No. 45-573.1A02.T00031 |
| Halt | Part No. 45-573.1A02.T00009 | Open | Part No. 45-573.1A02.T00032 |
| Zu | Part No. 45-573.1A02.T00010 | Close | Part No. 45-573.1A02.T00033 |
| Schnell | Part No. 45-573.1A02.T00011 | Man O Auto | Part No. 45-573.1A02.T00042 |
| Langsam | Part No. 45-573.1A02.T00012 | Man Auto | Part No. 45-573.1A02.T00043 |
| Betrieb | Part No. 45-573.1A02.T00013 | Running | Part No. 45-573.1A02.T00035 |
| Störung | Part No. 45-573.1A02.T00014 | Fault | Part No. 45-573.1A02.T00036 |
| Hand Auto | Part No. 45-573.1A02.T00015 | Fast | Part No. 45-573.1A02.T00044 |
| Stop Start | Part No. 45-573.1A02.T00016 | Slow | Part No. 45-573.1A02.T00045 |
| Hand O Auto | Part No. 45-573.1A02.T00017 | | |

Symbols for legend plates silver, 27 x 12.5 mm

Graphic symbols are according to ISO 7000 or IEC 60417.

| | | | |
|---|-----------------------------|---|--|
|  | Part No. 45-573.1A02.S00001 |  | Part No. 45-573.1A02.S00006 |
|  | Part No. 45-573.1A02.S00002 |  | Part No. 45-573.1A02.S00007 |
|  | Part No. 45-573.1A02.S00003 |  | Part No. 45-573.1A02.S00008 Arrow/Direction right |
|  | Part No. 45-573.1A02.S00004 |  | Part No. 45-573.1A02.S00009 Arrow/Direction up |
|  | Part No. 45-573.1A02.S00005 | | |






Standard texts for legend plates black, 27 x 17.5 mm

| | | |
|----------------|---|-----------------------------|
| Example |  | Part No. 45-573.1103.T00028 |
|----------------|---|-----------------------------|

| Standard texts German | | Standard texts English | | Standard texts French | |
|-----------------------|-----------------------------|------------------------|-----------------------------|-----------------------|-----------------------------|
| Ein | Part No. 45-573.1103.T00001 | On | Part No. 45-573.1103.T00020 | Marche | Part No. 45-573.1103.T00048 |
| Aus | Part No. 45-573.1103.T00002 | Off | Part No. 45-573.1103.T00021 | Arrêt | Part No. 45-573.1103.T00049 |
| Auf | Part No. 45-573.1103.T00003 | Up | Part No. 45-573.1103.T00022 | Droite | Part No. 45-573.1103.T00054 |
| Ab | Part No. 45-573.1103.T00004 | Down | Part No. 45-573.1103.T00023 | Gauche | Part No. 45-573.1103.T00055 |
| Vor | Part No. 45-573.1103.T00005 | Forward | Part No. 45-573.1103.T00024 | En Service | Part No. 45-573.1103.T00059 |
| Zurück | Part No. 45-573.1103.T00006 | Reverse | Part No. 45-573.1103.T00025 | Default | Part No. 45-573.1103.T00060 |
| Halt | Part No. 45-573.1103.T00009 | Right | Part No. 45-573.1103.T00026 | Sous tension | Part No. 45-573.1103.T00064 |
| Zu | Part No. 45-573.1103.T00010 | Stop | Part No. 45-573.1103.T00028 | Manu Auto | Part No. 45-573.1103.T00065 |
| Betrieb | Part No. 45-573.1103.T00011 | Start | Part No. 45-573.1103.T00029 | Marche Arrêt | Part No. 45-573.1103.T00066 |
| Störung | Part No. 45-573.1103.T00014 | Open | Part No. 45-573.1103.T00032 | Rearmement | Part No. 45-573.0K00.T00067 |
| Hand Auto | Part No. 45-573.1103.T00015 | Close | Part No. 45-573.1103.T00033 | | |
| | | Running | Part No. 45-573.1103.T00035 | | |
| | | Fault | Part No. 45-573.1103.T00036 | | |
| | | Stop Start | Part No. 45-573.1103.T00038 | | |
| | | Man Auto | Part No. 45-573.1103.T00043 | | |

Symbols for legend plates black, 27 x 12.5 mm

Graphic symbols are according to ISO 7000 or IEC 60417.

| | | | |
|---|-----------------------------|---|--|
|  | Part No. 45-573.1103.S00001 |  | Part No. 45-573.1103.S00008 Arrow/Direction right |
|  | Part No. 45-573.1103.S00002 |  | Part No. 45-573.1103.S00009 Arrow/Direction up |
|  | Part No. 45-573.1103.S00005 | | |

45 Marking






Standard texts for legend plates silver, 27 x 17.5 mm

| | | |
|----------------|-------------|-----------------------------|
| Example | Stop | Part No. 45-573.1A03.T00028 |
|----------------|-------------|-----------------------------|

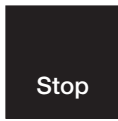
| Standard texts German | | Standard texts English | |
|-----------------------|-----------------------------|------------------------|-----------------------------|
| Ein | Part No. 45-573.1A03.T00001 | On | Part No. 45-573.1A03.T00020 |
| Aus | Part No. 45-573.1A03.T00002 | Off | Part No. 45-573.1A03.T00021 |
| Auf | Part No. 45-573.1A03.T00003 | Stop | Part No. 45-573.1A03.T00028 |
| Ab | Part No. 45-573.1A03.T00004 | Start | Part No. 45-573.1A03.T00029 |
| Vor | Part No. 45-573.1A03.T00005 | Reset | Part No. 45-573.1A03.T00030 |
| Zurück | Part No. 45-573.1A03.T00006 | Fault | Part No. 45-573.1A03.T00036 |
| Rechts | Part No. 45-573.1A03.T00007 | Man O Auto | Part No. 45-573.1A03.T00043 |
| Halt | Part No. 45-573.1A03.T00009 | | |
| Zu | Part No. 45-573.1A03.T00010 | | |
| Betrieb | Part No. 45-573.1A03.T00013 | | |
| Störung | Part No. 45-573.1A03.T00014 | | |
| Hand Auto | Part No. 45-573.1A03.T00015 | | |
| Hand O Auto | Part No. 45-573.1A03.T00017 | | |

Symbols for legend plates silver, 27 x 17.5 mm

Graphic symbols are according to ISO 7000 or IEC 60417.

| | | | |
|---|-----------------------------|---|--|
|  | Part No. 45-573.1A02.S00001 |  | Part No. 45-573.1A02.S00007 |
|  | Part No. 45-573.1A02.S00002 |  | Part No. 45-573.1A02.S00008 Arrow/Direction right |
|  | Part No. 45-573.1A02.S00005 |  | Part No. 45-573.1A02.S00009 Arrow/Direction up |



Standard texts for legend plates black, 27 x 27 mm

| | | |
|----------------|---|-----------------------------|
| Example |  | Part No. 45-573.1103.T00028 |
|----------------|---|-----------------------------|

| Standard texts German | | Standard texts English | | Standard texts French | |
|-----------------------|-----------------------------|------------------------|-----------------------------|-----------------------|-----------------------------|
| Ein | Part No. 45-573.1105.T00001 | On | Part No. 45-573.1105.T00020 | Marche | Part No. 45-573.1105.T00048 |
| Aus | Part No. 45-573.1105.T00002 | Off | Part No. 45-573.1105.T00021 | Arrêt | Part No. 45-573.1105.T00049 |
| Auf | Part No. 45-573.1105.T00003 | Up | Part No. 45-573.1105.T00022 | Montée | Part No. 45-573.1105.T00050 |
| Ab | Part No. 45-573.1105.T00004 | Down | Part No. 45-573.1105.T00023 | Descente | Part No. 45-573.1105.T00051 |
| Vor | Part No. 45-573.1105.T00005 | Forward | Part No. 45-573.1105.T00024 | En Service | Part No. 45-573.1105.T00059 |
| Zurück | Part No. 45-573.1105.T00006 | Reverse | Part No. 45-573.1105.T00025 | Default | Part No. 45-573.1105.T00060 |
| Rechts | Part No. 45-573.1105.T00007 | Stop | Part No. 45-573.1105.T00028 | Sous tension | Part No. 45-573.1105.T00064 |
| Links | Part No. 45-573.1105.T00008 | Start | Part No. 45-573.1105.T00029 | Manu Auto | Part No. 45-573.1105.T00065 |
| Halt | Part No. 45-573.1105.T00009 | Stop Start | Part No. 45-573.1105.T00038 | Marche Arrêt | Part No. 45-573.1105.T00066 |
| Zu | Part No. 45-573.1105.T00010 | EMERGENCY STOP | Part No. 45-573.1105.T00046 | | |
| Betrieb | Part No. 45-573.1105.T00013 | | | | |
| Störung | Part No. 45-573.1105.T00014 | | | | |
| Hand Auto | Part No. 45-573.1105.T00015 | | | | |

Symbols for legend plates black, 27 x 27 mm

Graphic symbols are according to ISO 7000 or IEC 60417.

| | | | |
|---|-----------------------------|---|--|
|  | Part No. 45-573.1105.S00003 |  | Part No. 45-573.1105.S00008 Arrow/Direction right |
|---|-----------------------------|---|--|

Customized inscription for legend plates

All dimensionen in mm

| Size of legend plates | Height of letters | Number of lines |
|-----------------------|-------------------|-----------------|
| 27 x 12.5 | 4 | 1 |
| | 3.5 | 2 |
| | 2.5 | 3 |
| 27 x 17.5 | 4 | 1 – 2 |
| | 3 | 3 |
| 27 x 27 | 4 | 1 – 5 |

Up to 11 characters per line are possible.

45 Application guidelines

Suppressor circuits

When switching inductive loads such as relays, DC motors, and DC solenoids, it is always important to absorb surges (e.g. with a diode) to protect the contacts. When these inductive loads are switched off, a counter emf can severely damage switch contacts and greatly shorten lifetime.

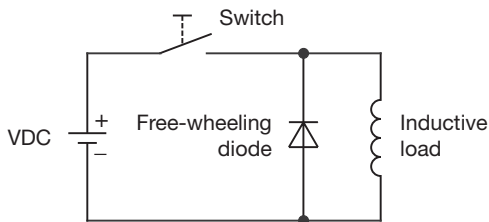
Fig. 1 shows an inductive load with a free-wheeling diode connected in parallel. This free-wheeling diode provides a path for the inductor current to flow when the current is interrupted by the switch. Without this free-wheeling diode, the voltage across the coil will be limited only by dielectric breakdown voltages of the circuit or parasitic elements of the coil. This voltage can be kilo-

volts in amplitude even when nominal circuit voltages are low (e.g. 12VDC) see Fig. 2.

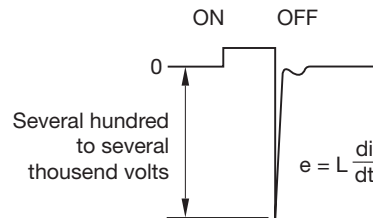
The free-wheeling diode should be chosen so that the reverse breakdown voltage is greater than the voltage driving the inductive load. The DC blocking voltage (VR) of the free-wheeling diode can be found in the datasheet of a diode. The forward current should be equal or greater than the maximum current flowing through the load.

To get an efficient protection, the free-wheeling diode must be connected as close as possible to the inductive load!

Switching with inductive load
Fig. 1



Counter EMF
over load without free-wheeling diode
Fig. 2



X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Piezo Buzzers & Audio Indicators](#) category:

Click to view products by [EAO](#) manufacturer:

Other Similar products are found below :

[6-4](#) [68S1240-PA](#) [MBA-624](#) [FDG06PSLLF](#) [F/EM12PLF](#) [F/NRMB 24 BLACK LF](#) [PF-35N29WQ](#) [PFD-21A29W](#) [PFD-27A35PQ](#) [PL-21N30WQ](#) [PL-27A35PSQ](#) [PLD-21N30W](#) [PLD-21N30WQ](#) [PS-531Q](#) [PT-3534FP](#) [EBPT-401](#) [B822B](#) [B/CP28/100DB/BLACK LF](#) [PB-1220PEQ](#) [S6109](#) [SC110E](#) [SC2036ACP](#) [SC616N-2](#) [SC628FW](#) [SC628MPG](#) [SC648D](#) [SCS045MD9DT3S](#) [ESZ-25B-5-250B](#) [FCM12PLF](#) [SSX-52SA](#) [F/EB20P-DR LF](#) [AI-4228-TF-LW305-R](#) [F/SMD03A LF](#) [FSMD8585JSLF](#) [F/TCW 12 WITH LABEL LF](#) [PFD-27N36W](#) [PKM22EPPH40S1-B0](#) [PKM35-4A0](#) [PL-35N29WQ](#) [PLD-27A35PQ](#) [CM-5](#) [REF-202](#) [B/SE 128 RED LF](#) [KBS-20DA-7AS](#) [KBS-27DA-5C-105](#) [LSC628ANR](#) [03-810.001](#) [RTO-1R07-001](#) [PL-21N31PQ](#) [F-B-P1405ISB LF](#)