

Series  
**45**  
*Catalogue*



## Series 45.

*Modular, aesthetic and robust in use.*



### Innovative and comprehensive *Series 45*

EAO's Series 45 unites an extremely broad range of machine operating functions with outstanding technical properties. Penetration by dust and liquids is prevented even under the most adverse conditions.

#### **Robust industrial control system**

Resistant to aggressive cleaning agents, oils, dyes and other chemical substances, the actuators and indicators of the new Series 45 work perfectly each and every time. Our HMIs literally keep their cool in the face of high humidity and extreme fluctuations in temperature. Functionality is preserved even when the control units are subjected to dust or water at high pressures (IP69K). Series 45 is ideal for use in the most adverse conditions.

#### **High level of modularity**

Their modular construction ensures that our HMI Components all operate smoothly with each other. They are straightforward to install and can also be integrated easily into decentralised systems.

#### **Full functionality**

Every conceivable HMI function can be performed by products from Series 45. Pushbuttons, illuminated pushbuttons, indicators, selector switches, keylock switches, toggle sticks and emergency stop switches are capable of handling all major functions.

#### **Major benefits**

- Comprehensive Series
- Easy to use, modular construction and rapid assembly without special tools
- Rugged in use; IP69K front protection and metal models
- Modern design thanks to flush mounting, attractive illumination and metallic or plastic appearance
- Low energy consumption thanks to LEDs
- Long service life (up to 10 million switching cycles)

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## Indicator

45 - 2 T XX . X X X 0 . 0 0 0

### Actuator

T = Indicator

### Function

00 = Full face illumination

07 = Front illumination

### Material

1 = Plastic

2 = Metal

3 = Metal/plastic

4 = Metal/matt

### Shape of handle or front ring

F = flush

0 = raised

### Colour

E = red transparent

F = amber transparent

G = yellow transparent

H = green transparent

J = blue transparent

K = colourless transparent

N = white transparent

**Pushbutton**

45 - 2 1 XX . X X X 0 . 0 0 0

**Actuator**

1 = Pushbutton

**Function**

31 = 2 positions, momentary

34 = 2 positions, maintain, push to release

**Material**

1 = Plastic

2 = Metal

3 = Metal / plastic

4 = Metal / matt

**Shape of handle or front ring**

1 = raised / lens level with front ring

2 = raised / lens raised above front ring

3 = raised / lens lower than front ring

4 = raised / lens lower than front ring, with castellations

F = flush

**Colour**

1 = black

2 = red

4 = yellow

5 = green

6 = blue

8 = grey

9 = white

K = clear transparent

## Illuminated pushbutton

45 - 2 2 XX . X X X 0 . 0 0 0

### Actuator

2 = Illuminated pushbutton

### Function

31 = 2 positions, momentary

34 = 2 positions, maintain, push to release

### Material

1 = Plastic

2 = Metal

3 = Metal/plastic

4 = Metal/matt

### Shape of handle or front ring

1 = raised/lens level with front ring

2 = raised/lens raised above front ring

4 = raised/lens lower than front ring, with castellations

F = flush

### Colour

E = red transparent

F = amber transparent

G = yellow transparent

H = green transparent

J = blue transparent

K = colourless transparent

N = white transparent

**Emergency stop switch**

45 - 2 X XX . X X X 0 . 0 0 0

**Actuator**

- C = Emergency stop switch
- D = Emergency stop switch, illuminated

**Function**

- 35 = Key to release
- 36 = Twist to release
- 37 = Pull to release

**Material**

- 1 = Plastic

**Shape of handle or front ring**

- 8 = Diameter 30 mm
- 9 = Diameter 40 mm
- A = Diameter 60 mm

**Colour**

- 2 = red

## Stop switch

45 - 2 7 XX . X X X 0 . 0 0 0

	2	7	XX	.	X	X	X	0	.	0	0	0
<b>Actuator</b>												
7 = Stop switch		█										
<b>Function</b>												
36 = Twist to release			█									
<b>Material</b>												
1 = Plastic						█						
<b>Shape of handle or front ring</b>												
9 = Diameter 40 mm						█						
<b>Colour</b>												
1 = black								█				



**Mushroom-head pushbutton**

45 - 2 X XX . X X X 0 . 0 0 0

**Actuator**

5 = Mushroom-head pushbutton

6 = Mushroom-head pushbutton, illuminated

**Function**

30 = 2 positions, maintain, pull release

31 = 2 positions, momentary

32 = 3 positions, maintain/momentary, pull release

**Material**

1 = Plastic

2 = Metal

3 = Metal/plastic

**Shape of handle or front ring**

8 = Diameter 30 mm

9 = Diameter 40 mm

A = Diameter 60 mm

**Colour**

1 = black

2 = red

4 = yellow

5 = green

## Keylock switch

45 - 2 9 XX . X X 0 0 . X X X

### Actuator

9 = Keylock switch

### Function

0C = 3 positions, maintain, key remove L/R

0D = 3 positions, maintain, key remove L

0F = 3 positions, maintain, key remove L/C/R

0G = 3 positions, maintain, key remove L/C

0H = 2 positions, maintain, key remove L/R

0J = 2 positions, maintain, key remove L

0K = 2 positions, maintain, key remove L

0Z = 3 positions, maintain, key remove C

11 = 3 positions, momentary/maintain, key remove C

17 = 3 positions, maintain, key remove R

22 = 3 positions, maintain/momentary, key remove C

24 = 3 positions, maintain, key remove C

25 = 2 positions, maintain, key remove R

### Material

1 = Plastic

2 = Metal

3 = Metal/plastic

4 = Metal/matt

### Shape of handle or front ring

F = flush

0 = raised

### Lock System

1 = RONIS

### Key

1 = T254

### Angle

1 = 90° (V-Pos)

3 = 2x45° (V-Pos)

6 = 45° (0-Pos.12 o'clock)

**Selector switch**

45 - 2 8 XX . X X X 0 . 0 0 X

**Actuator**

8 = Selector switch

**Function**

0S = 3 positions, momentary

0X = 3 positions, momentary L, maintain R

16 = 3 positions, momentary R, maintain L

19 = 3 positions, maintain

28 = 2 positions, maintain

44 = 2 positions, momentary

45 = 4 positions, Rast, (0-Position 15h/18h/21h/12h)

**Material**

1 = Plastic

2 = Metal

3 = Metal/plastic

4 = Metal/matt

**Shape of handle or front ring**

C = short lever

D = long lever

E = round lever

**Colour**

2 = red

4 = yellow

5 = green

6 = blue

9 = white

**Angle**

1 = 90° (V-Pos)

2 = 4x90°

3 = 2x45° (V-Pos)

6 = 45° (0-Pos.12 o'clock)

# 45 Numbering structure

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 www.switchesunlimited.com

## Potentiometer

45 - 2 P XX . X X X 0 . 0 0 0

### Actuator

P = Potentiometer

### Function

01 = 100 kOhm

02 = 10 kOhm

03 = 1 kOhm

04 = 4.7 kOhm

05 = 470 kOhm

06 = 47 kOhm

### Material

1 = Plastic

2 = Metal

### Shape of handle or front ring

E = round lever

### Colour

1 = black

**Toggle stick**

45 - 2 F XX . X X X 0 . 0 0 0

**Actuator**

F = Toggle stick

**Function**

- 0T = 2 positions, momentary, L/R
- 0V = 4 positions, momentary, L/R/U/D
- 13 = 2 positions, momentary, L/R, lockable C
- 14 = 4 positions, momentary, L/R/U/D, lockable C
- 20 = 2 positions, maintain, L/R
- 21 = 4 positions, maintain, L/R/U/D
- 26 = 2 positions, maintain, L/R, lockable C
- 27 = 4 positions, maintain, L/R/U/D, lockable C
- 38 = 2 positions, momentary U/D
- 40 = 2 positions, momentary, U/D, lockable C
- 41 = 2 positions, maintain, U/D
- 43 = 2 positions, maintain, U/D, lockable

**Material**

- 1 = Plastic
- 2 = Metal
- 3 = Metal/plastic

**Colour**

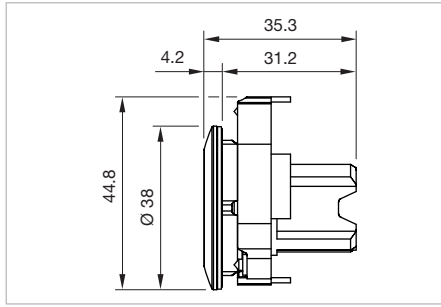
- 1 = black

# 45 Flush design

## Indicator, IP66, IP67, IP69K

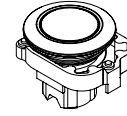


Product can differ from the current configuration.

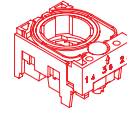


Dimensions [mm]

### Equipment consisting of (schematic overview)

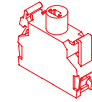


**Actuator**



**Holder**

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**Illumination element**

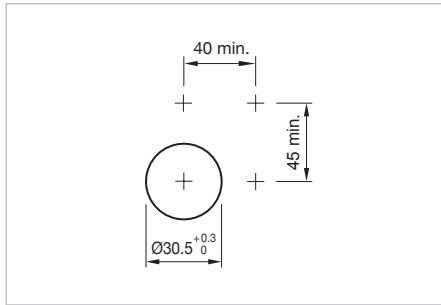
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Each Part Number listed below includes all the black components shown in the 3D-drawing.






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

### Additional Information

- Front panel thickness 1-6 mm

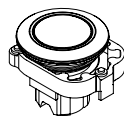


Mounting cut-outs [mm]

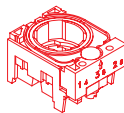
LED colour	Front ring	Lens cap	Part No.	Weight
	<b>Indicator actuator, Front dimension Ø 38 mm</b>			
red	Metal sandgrey	Plastic red transparent	<b>45-2T07.4FE0.000</b>	0.048 kg
	<b>Indicator actuator, Front dimension Ø 38 mm</b>			
yellow	Metal sandgrey	Plastic yellow transparent	<b>45-2T07.4FG0.000</b>	0.048 kg
	<b>Indicator actuator, Front dimension Ø 38 mm</b>			
green	Metal sandgrey	Plastic green transparent	<b>45-2T07.4FH0.000</b>	0.048 kg
	<b>Indicator actuator, Front dimension Ø 38 mm</b>			
blue	Metal sandgrey	Plastic blue transparent	<b>45-2T07.4FJ0.000</b>	0.048 kg
	<b>Indicator actuator, Front dimension Ø 38 mm</b>			
white	Metal sandgrey	Plastic colourless transparent	<b>45-2T07.4FK0.000</b>	0.048 kg

Pushbutton, IP66, IP67, IP69K

Equipment consisting of (schematic overview)



Actuator



Holder

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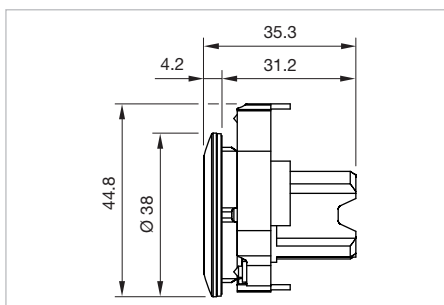


Switching element

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

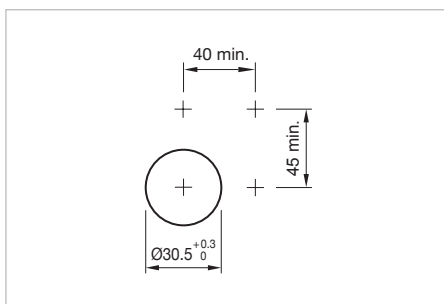
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Product can differ from the current configuration.










Mounting cut-outs [mm]

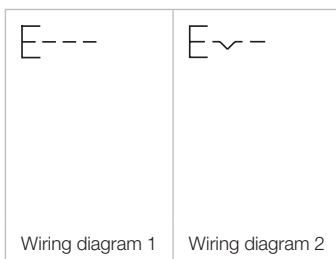
Additional Information

- Front panel thickness 1-6 mm

Front ring	Lens	Switching action	Part No.	Wiring diagram	Weight
	<b>Pushbutton actuator, Momentary, Front dimension Ø 38 mm</b>				
Metal sandgrey	Plastic black	B	<b>45-2131.4F10.000</b>	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 38 mm</b>				
Metal sandgrey	Plastic red	B	<b>45-2131.4F20.000</b>	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 38 mm</b>				
Metal sandgrey	Plastic yellow	B	<b>45-2131.4F40.000</b>	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 38 mm</b>				
Metal sandgrey	Plastic green	B	<b>45-2131.4F50.000</b>	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 38 mm</b>				
Metal sandgrey	Plastic blue	B	<b>45-2131.4F60.000</b>	1	0.048 kg

Front ring	Lens	Switching action	Part No.	Wiring diagram	Weight
					
	<b>Pushbutton actuator, Momentary, Front dimension Ø 38 mm</b>				
Metal sandgrey	Plastic white	B	<b>45-2131.4F90.000</b>	1	0.048 kg
					
	<b>Pushbutton actuator, Maintain, Front dimension Ø 38 mm</b>				
Metal sandgrey	Plastic black	C	<b>45-2134.4F10.000</b>	2	0.048 kg
					
	<b>Pushbutton actuator, Maintain, Front dimension Ø 38 mm</b>				
Metal sandgrey	Plastic red	C	<b>45-2134.4F20.000</b>	2	0.048 kg
					
	<b>Pushbutton actuator, Maintain, Front dimension Ø 38 mm</b>				
Metal sandgrey	Plastic yellow	C	<b>45-2134.4F40.000</b>	2	0.048 kg
					
	<b>Pushbutton actuator, Maintain, Front dimension Ø 38 mm</b>				
Metal sandgrey	Plastic green	C	<b>45-2134.4F50.000</b>	2	0.048 kg
					
	<b>Pushbutton actuator, Maintain, Front dimension Ø 38 mm</b>				
Metal sandgrey	Plastic blue	C	<b>45-2134.4F60.000</b>	2	0.048 kg
					
	<b>Pushbutton actuator, Maintain, Front dimension Ø 38 mm</b>				
Metal sandgrey	Plastic white	C	<b>45-2134.4F90.000</b>	2	0.048 kg

Switching action: B = Momentary, C = Maintain





**Illuminated pushbutton, IP66, IP67, IP69K**

**Equipment consisting of (schematic overview)**

**Actuator**

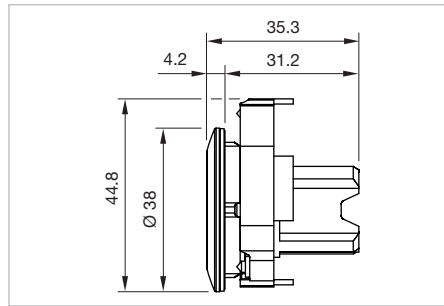
**Holder** *Page 111*

**Switching element** *Page 112*

**Illumination element** *Page 113*

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

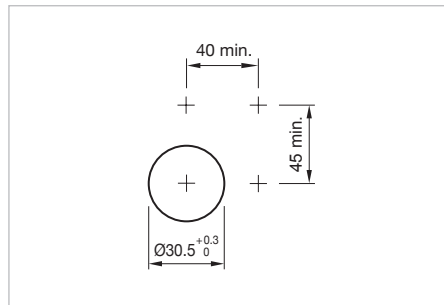
*To obtain a complete unit, please select the red components from the pages shown.*



Dimensions [mm]








Product can differ from the current configuration.



Mounting cut-outs [mm]






**Additional Information**

- Front panel thickness 1-6 mm

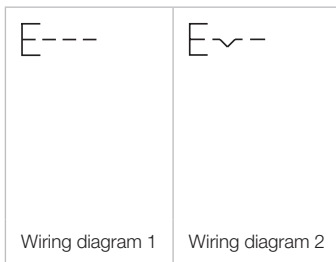
LED colour	Front ring	Lens	Switching action	Part No.	Wiring diagram	Weight
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 38 mm</b>					
red	Metal sandgrey	Plastic red transparent	B	<b>45-2231.4FE0.000</b>	1	0.048 kg
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 38 mm</b>					
yellow	Metal sandgrey	Plastic yellow transparent	B	<b>45-2231.4FG0.000</b>	1	0.048 kg
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 38 mm</b>					
green	Metal sandgrey	Plastic green transparent	B	<b>45-2231.4FH0.000</b>	1	0.048 kg
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 38 mm</b>					
blue	Metal sandgrey	Plastic blue transparent	B	<b>45-2231.4FJ0.000</b>	1	0.048 kg
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 38 mm</b>					
white	Metal sandgrey	Plastic colourless transparent	B	<b>45-2231.4FK0.000</b>	1	0.048 kg

# 45 Flush design

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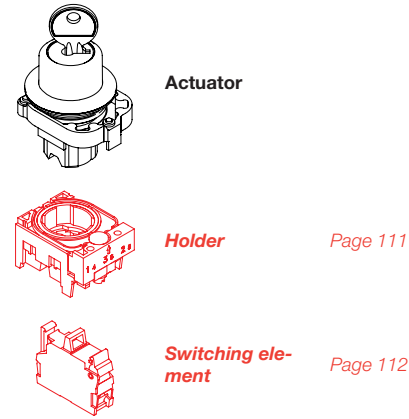
LED colour	Front ring	Lens	Switching action	Part No.	Wiring diagram	Weight
 <p><b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 38 mm</b></p>						
red	Metal sandgrey	Plastic red transparent	C	<b>45-2234.4FE0.000</b>	2	0.048 kg
 <p><b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 38 mm</b></p>						
yellow	Metal sandgrey	Plastic yellow transparent	C	<b>45-2234.4FG0.000</b>	2	0.048 kg
 <p><b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 38 mm</b></p>						
green	Metal sandgrey	Plastic green transparent	C	<b>45-2234.4FH0.000</b>	2	0.048 kg
 <p><b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 38 mm</b></p>						
blue	Metal sandgrey	Plastic blue transparent	C	<b>45-2234.4FJ0.000</b>	2	0.048 kg
 <p><b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 38 mm</b></p>						
white	Metal sandgrey	Plastic colourless transparent	C	<b>45-2234.4FK0.000</b>	2	0.048 kg

Switching action: B = Momentary, C = Maintain



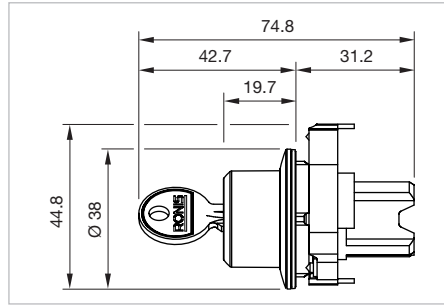
**Keylock switch 2 and 3 positions, IP66, IP67, IP69K**

**Equipment consisting of (schematic overview)**



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

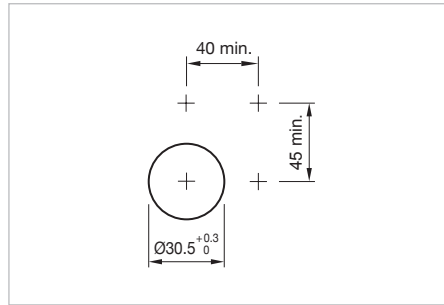
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Product can differ from the current configuration.





Mounting cut-outs [mm]

**Additional Information**

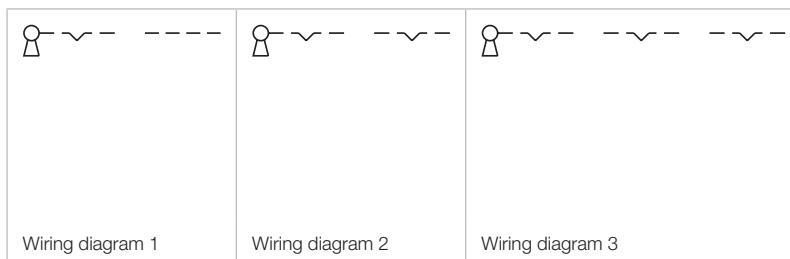
- Front panel thickness 1-6 mm
- The standard lock: RONIS, T254
- Two keys are supplied with each key lock switch



Switching positions (A = Rest, B = Momentary, C = Maintained)

Front ring	Switching action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
	<b>Keylock switch 2 positions, Front dimension Ø 38 mm</b>					
Metal sandgrey	A - B	B = 45°	A	<b>45-290J.4F00.116</b>	1	0.090 kg
	A - C	C = 90°	A + C	<b>45-290H.4F00.111</b>	2	0.090 kg
	A - C	C = 90°	A	<b>45-290J.4F00.111</b>	2	0.090 kg
	<b>Keylock switch 3 positions, Front dimension Ø 38 mm</b>					
Metal sandgrey	C - A - C	C = 45°	C - A - C	<b>45-290F.4F00.113</b>	3	0.090 kg

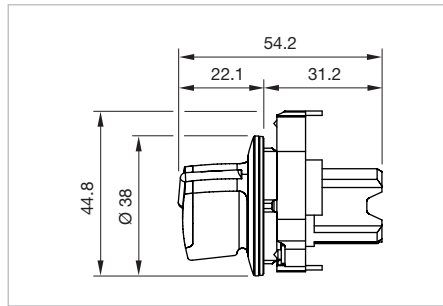
Switching action: A = Rest, B = Momentary, C = Maintain



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



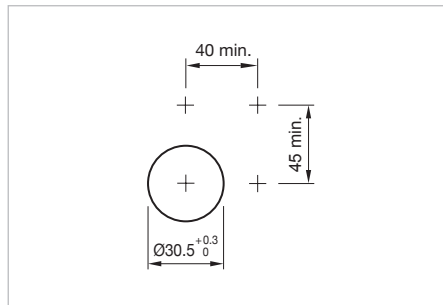
Product can differ from the current configuration.



Dimensions [mm]

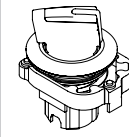
### Additional Information

- It is advisable to choose a white illumination
- Front panel thickness 1-6 mm
- Illumination elements are optional

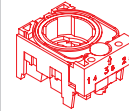


Mounting cut-outs [mm]

### Equipment consisting of (schematic overview)

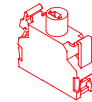


**Actuator**



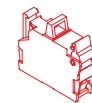
**Holder**

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**Illumination element**

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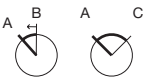


**Switching element**





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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.

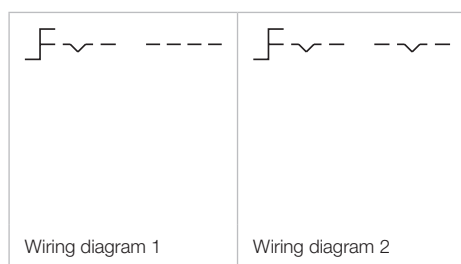


Switching positions (A = Rest, B = Momentary, C = Maintained)

Lever	Front ring	Switching action	Switching angle	Part No.	Wiring diagram	Weight
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 38 mm</b>					
Plastic red	Metal sandgrey	A - B	B = 45°	<b>45-2844.4C20.006</b>	1	0.055 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 38 mm</b>					
Plastic green	Metal sandgrey	A - B	B = 45°	<b>45-2844.4C50.006</b>	1	0.055 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 38 mm</b>					
Plastic white	Metal sandgrey	A - B	B = 45°	<b>45-2844.4C90.006</b>	1	0.055 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 38 mm</b>					
Plastic red	Metal sandgrey	A - C	C = 90°	<b>45-2828.4C20.001</b>	2	0.055 kg

Lever	Front ring	Switching action	Switching angle	Part No.	Wiring diagram	Weight
 <p><b>Selector switch actuator 2 positions, short lever, Front dimension Ø 38 mm</b></p>						
Plastic green	Metal sandgrey	A - C	C = 90°	<b>45-2828.4C50.001</b>	2	0.055 kg
 <p><b>Selector switch actuator 2 positions, short lever, Front dimension Ø 38 mm</b></p>						
Plastic white	Metal sandgrey	A - C	C = 90°	<b>45-2828.4C90.001</b>	2	0.055 kg

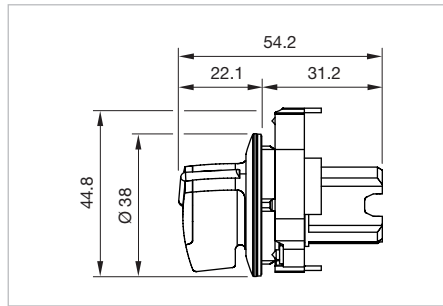
Switching action: A = Rest, B = Momentary, C = Maintain



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



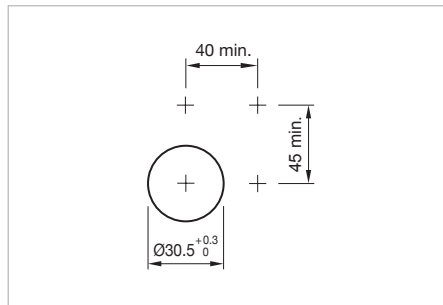
Product can differ from the current configuration.



Dimensions [mm]

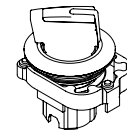
### Additional Information

- It is advisable to choose a white illumination
- Front panel thickness 1-6 mm
- Illumination elements are optional

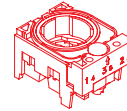


Mounting cut-outs [mm]

### Equipment consisting of (schematic overview)

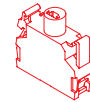


Actuator



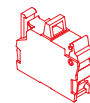
Holder

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Illumination element

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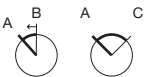


Switching element





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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.

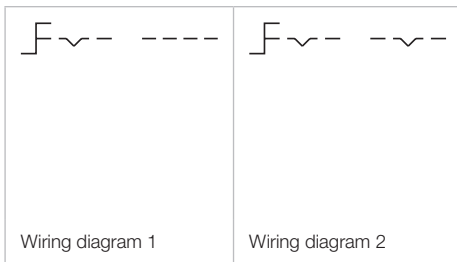


Switching positions (A = Rest, B = Momentary, C = Maintained)

Lever	Front ring	Switching action	Switching angle	Part No.	Wiring diagram	Weight
	<b>Selector switch actuator 2 positions, long lever, Front dimension Ø 38 mm</b>					
Plastic red	Metal sandgrey	A - B	B = 45°	<b>45-2844.4D20.006</b>	1	0.055 kg
	<b>Selector switch actuator 2 positions, long lever, Front dimension Ø 38 mm</b>					
Plastic green	Metal sandgrey	A - B	B = 45°	<b>45-2844.4D50.006</b>	1	0.055 kg
	<b>Selector switch actuator 2 positions, long lever, Front dimension Ø 38 mm</b>					
Plastic white	Metal sandgrey	A - B	B = 45°	<b>45-2844.4D90.006</b>	1	0.055 kg
	<b>Selector switch actuator 2 positions, long lever, Front dimension Ø 38 mm</b>					
Plastic red	Metal sandgrey	A - C	C = 90°	<b>45-2828.4D20.001</b>	2	0.055 kg

Lever	Front ring	Switching action	Switching angle	Part No.	Wiring diagram	Weight
 <p><b>Selector switch actuator 2 positions, long lever, Front dimension Ø 38 mm</b></p>						
Plastic green	Metal sandgrey	A - C	C = 90°	<b>45-2828.4D50.001</b>	2	0.055 kg
 <p><b>Selector switch actuator 2 positions, long lever, Front dimension Ø 38 mm</b></p>						
Plastic white	Metal sandgrey	A - C	C = 90°	<b>45-2828.4D90.001</b>	2	0.055 kg

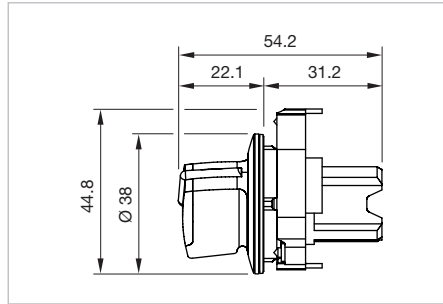
Switching action: A = Rest, B = Momentary, C = Maintain



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



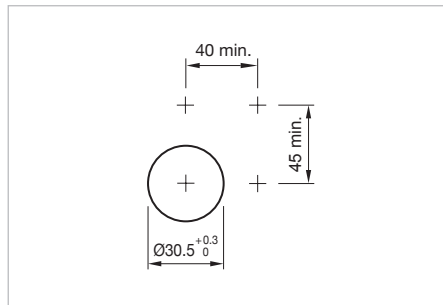
Product can differ from the current configuration.



Dimensions [mm]

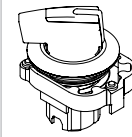
### Additional Information

- It is advisable to choose a white illumination
- Front panel thickness 1-6 mm
- Illumination elements are optional

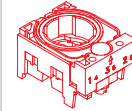


Mounting cut-outs [mm]

### Equipment consisting of (schematic overview)

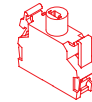


Actuator



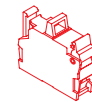
Holder

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Illumination element

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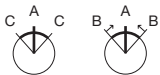


Switching element





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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.



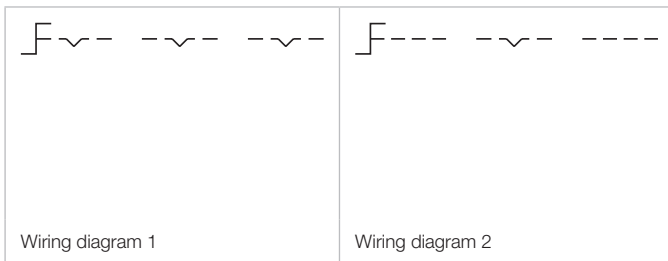
Switching positions (A = Rest, B = Momentary, C = Maintained)

Lever	Front ring	Switching action	Switching angle	Part No.	Wiring diagram	Weight
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 38 mm</b>					
Plastic red	Metal sandgrey	C - A - C	C = 45°	<b>45-2819.4C20.003</b>	1	0.055 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 38 mm</b>					
Plastic green	Metal sandgrey	C - A - C	C = 45°	<b>45-2819.4C50.003</b>	1	0.055 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 38 mm</b>					
Plastic white	Metal sandgrey	C - A - C	C = 45°	<b>45-2819.4C90.003</b>	1	0.055 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 38 mm</b>					
Plastic red	Metal sandgrey	B - A - B	B = 45°	<b>45-280S.4C20.003</b>	2	0.055 kg



Lever	Front ring	Switching action	Switching angle	Part No.	Wiring diagram	Weight
 <p><b>Selector switch actuator 3 positions, short lever, Front dimension Ø 38 mm</b></p>						
Plastic green	Metal sandgrey	B - A - B	B = 45°	<b>45-280S.4C50.003</b>	2	0.055 kg
 <p><b>Selector switch actuator 3 positions, short lever, Front dimension Ø 38 mm</b></p>						
Plastic white	Metal sandgrey	B - A - B	B = 45°	<b>45-280S.4C90.003</b>	2	0.055 kg

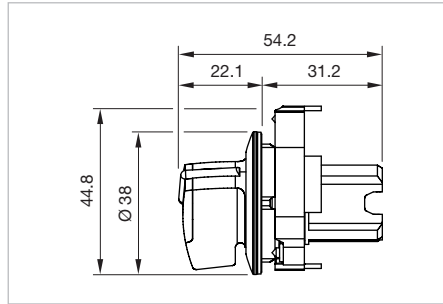
Switching action: A = Rest, B = Momentary, C = Maintain



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



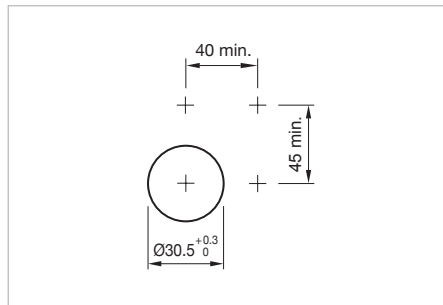
Product can differ from the current configuration.



Dimensions [mm]

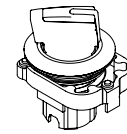
### Additional Information

- It is advisable to choose a white illumination
- Front panel thickness 1-6 mm
- Illumination elements are optional

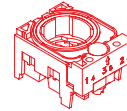


Mounting cut-outs [mm]

### Equipment consisting of (schematic overview)

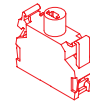


Actuator



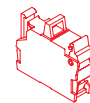
Holder

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Illumination element

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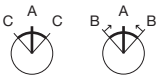


Switching element





Page 112



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.

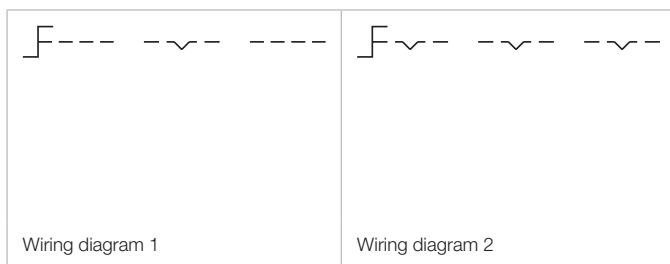


Switching positions (A = Rest, B = Momentary, C = Maintained)

Lever	Front ring	Switching action	Switching angle	Part No.	Wiring diagram	Weight
	<b>Selector switch actuator 3 positions, long lever, Front dimension Ø 38 mm</b>					
Plastic red	Metal sandgrey	C - A - C	C = 45°	<b>45-2819.4D20.003</b>	1	0.055 kg
	<b>Selector switch actuator 3 positions, long lever, Front dimension Ø 38 mm</b>					
Plastic green	Metal sandgrey	C - A - C	C = 45°	<b>45-2819.4D50.003</b>	1	0.055 kg
	<b>Selector switch actuator 3 positions, long lever, Front dimension Ø 38 mm</b>					
Plastic white	Metal sandgrey	C - A - C	C = 45°	<b>45-2819.4D90.003</b>	1	0.055 kg
	<b>Selector switch actuator 3 positions, long lever, Front dimension Ø 38 mm</b>					
Plastic red	Metal sandgrey	B - A - B	B = 45°	<b>45-280S.4D20.003</b>	2	0.055 kg

Lever	Front ring	Switching action	Switching angle	Part No.	Wiring diagram	Weight
 <p><b>Selector switch actuator 3 positions, long lever, Front dimension Ø 38 mm</b></p>						
Plastic green	Metal sandgrey	B - A - B	B = 45°	<b>45-280S.4D50.003</b>	2	0.055 kg
 <p><b>Selector switch actuator 3 positions, long lever, Front dimension Ø 38 mm</b></p>						
Plastic white	Metal sandgrey	B - A - B	B = 45°	<b>45-280S.4D90.003</b>	2	0.055 kg

Switching action: A = Rest, B = Momentary, C = Maintain

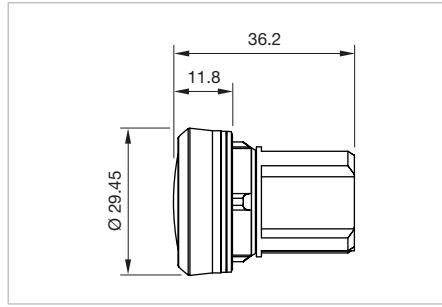


# 45 Raised design

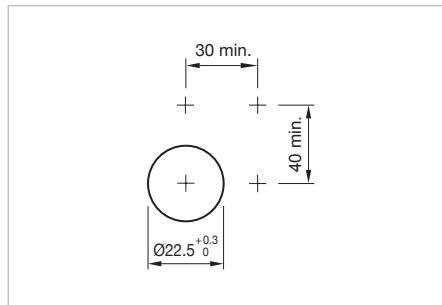
Indicator full face illumination, IP66, IP67, IP69K



Product can differ from the current configuration.



Dimensions [mm]

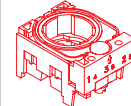


Mounting cut-outs [mm]

### Equipment consisting of (schematic overview)

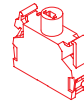


**Actuator**



**Holder**

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**Illumination element**

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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.*

LED colour	Housing material	Lens cap	Part No.	Weight
	<b>Indicator actuator, Front dimension Ø 29.45 mm</b>			
amber	Plastic	Plastic amber transparent	<b>45-2T00.10F0.000</b>	0.001 kg
	<b>Indicator actuator, Front dimension Ø 29.45 mm</b>			
red	Plastic	Plastic red transparent	<b>45-2T00.10E0.000</b>	0.001 kg
	<b>Indicator actuator, Front dimension Ø 29.45 mm</b>			
yellow	Plastic	Plastic yellow transparent	<b>45-2T00.10G0.000</b>	0.001 kg
	<b>Indicator actuator, Front dimension Ø 29.45 mm</b>			
green	Plastic	Plastic green transparent	<b>45-2T00.10H0.000</b>	0.001 kg
	<b>Indicator actuator, Front dimension Ø 29.45 mm</b>			
blue	Plastic	Plastic blue transparent	<b>45-2T00.10J0.000</b>	0.001 kg

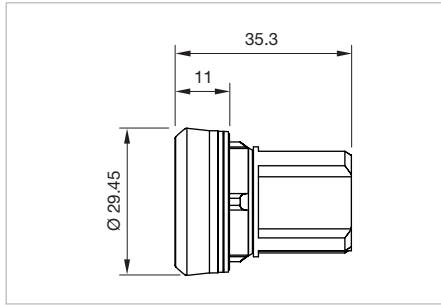
LED colour	Housing material	Lens cap	Part No.	Weight
 <p><b>Indicator actuator, Front dimension Ø 29.45 mm</b></p>				
white	Plastic	Plastic white transparent	<b>45-2T00.10N0.000</b>	0.001 kg
 <p><b>Indicator actuator, Front dimension Ø 29.45 mm</b></p>				
colourless	Plastic	Plastic colourless transparent	<b>45-2T00.10K0.000</b>	0.001 kg
 <p><b>Indicator actuator, Front dimension Ø 29.45 mm</b></p>				
amber	Metal	Plastic amber transparent	<b>45-2T00.20F0.000</b>	0.010 kg
 <p><b>Indicator actuator, Front dimension Ø 29.45 mm</b></p>				
red	Metal	Plastic red transparent	<b>45-2T00.20E0.000</b>	0.010 kg
 <p><b>Indicator actuator, Front dimension Ø 29.45 mm</b></p>				
yellow	Metal	Plastic yellow transparent	<b>45-2T00.20G0.000</b>	0.010 kg
 <p><b>Indicator actuator, Front dimension Ø 29.45 mm</b></p>				
green	Metal	Plastic green transparent	<b>45-2T00.20H0.000</b>	0.010 kg
 <p><b>Indicator actuator, Front dimension Ø 29.45 mm</b></p>				
blue	Metal	Plastic blue transparent	<b>45-2T00.20J0.000</b>	0.010 kg
 <p><b>Indicator actuator, Front dimension Ø 29.45 mm</b></p>				
white	Metal	Plastic white transparent	<b>45-2T00.20N0.000</b>	0.010 kg
 <p><b>Indicator actuator, Front dimension Ø 29.45 mm</b></p>				
colourless	Metal	Plastic colourless transparent	<b>45-2T00.20K0.000</b>	0.010 kg

# 45 Raised design

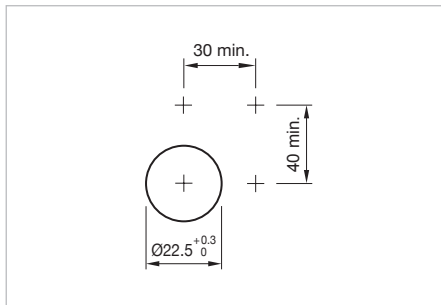
## Indicator front illumination, IP66, IP67, IP69K



Product can differ from the current configuration.



Dimensions [mm]

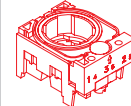


Mounting cut-outs [mm]

### Equipment consisting of (schematic overview)

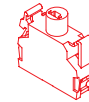


**Actuator**



**Holder**

Page 111













**Illumination element**

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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.*

LED colour	Front ring	Lens	Housing material	Part No.	Weight
	<b>Indicator actuator, Front dimension Ø 29.45 mm</b>				
red	Plastic black	Plastic red transparent	Plastic	<b>45-2T07.10E0.000</b>	0.011 kg
	<b>Indicator actuator, Front dimension Ø 29.45 mm</b>				
yellow	Plastic black	Plastic yellow transparent	Plastic	<b>45-2T07.10G0.000</b>	0.011 kg
	<b>Indicator actuator, Front dimension Ø 29.45 mm</b>				
green	Plastic black	Plastic green transparent	Plastic	<b>45-2T07.10H0.000</b>	0.011 kg
	<b>Indicator actuator, Front dimension Ø 29.45 mm</b>				
blue	Plastic black	Plastic blue transparent	Plastic	<b>45-2T07.10J0.000</b>	0.011 kg
	<b>Indicator actuator, Front dimension Ø 29.45 mm</b>				
colourless	Plastic black	Plastic colourless transparent	Plastic	<b>45-2T07.10K0.000</b>	0.011 kg

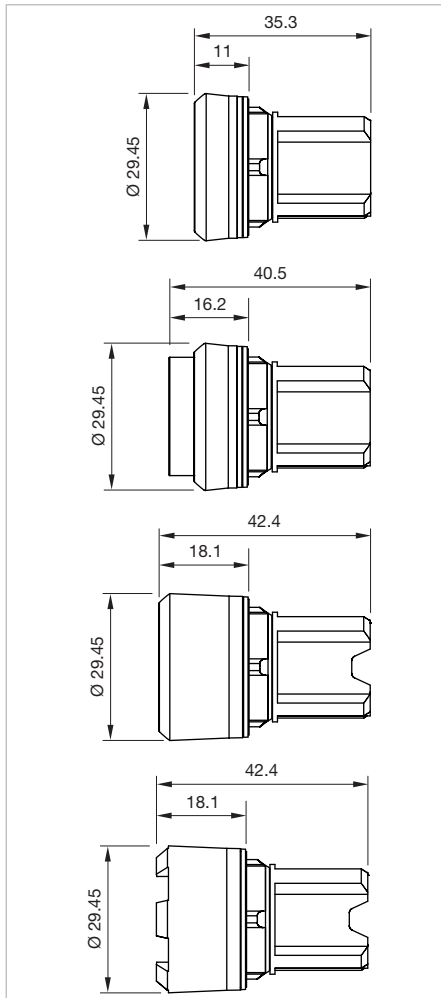
LED colour	Front ring	Lens	Housing material	Part No.	Weight
	<b>Indicator actuator, Front dimension Ø 29.45 mm</b>				
red	Metal sandgrey	Plastic red transparent	Plastic	<b>45-2T07.30E0.000</b>	0.020 kg
	<b>Indicator actuator, Front dimension Ø 29.45 mm</b>				
yellow	Metal sandgrey	Plastic yellow transparent	Plastic	<b>45-2T07.30G0.000</b>	0.020 kg
	<b>Indicator actuator, Front dimension Ø 29.45 mm</b>				
green	Metal sandgrey	Plastic green transparent	Plastic	<b>45-2T07.30H0.000</b>	0.020 kg
	<b>Indicator actuator, Front dimension Ø 29.45 mm</b>				
blue	Metal sandgrey	Plastic blue transparent	Plastic	<b>45-2T07.30J0.000</b>	0.020 kg
	<b>Indicator actuator, Front dimension Ø 29.45 mm</b>				
colourless	Metal sandgrey	Plastic colourless transparent	Plastic	<b>45-2T07.30K0.000</b>	0.020 kg

# 45 Raised design

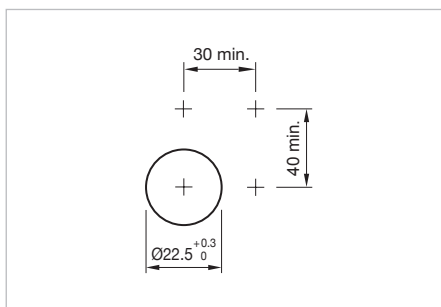
## Pushbutton, IP66, IP67, IP69K



Product can differ from the current configuration.



Dimensions [mm]

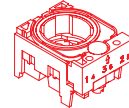


Mounting cut-outs [mm]

### Equipment consisting of (schematic overview)

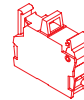


**Actuator**



**Holder**

Page 111













**Switching element**










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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.*





















Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Plastic black	Plastic black	Plastic	B	<b>45-2131.1110.000</b>	1	0.013 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Plastic black	Plastic red	Plastic	B	<b>45-2131.1120.000</b>	1	0.013 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Plastic black	Plastic yellow	Plastic	B	<b>45-2131.1140.000</b>	1	0.013 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Plastic black	Plastic green	Plastic	B	<b>45-2131.1150.000</b>	1	0.013 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Plastic black	Plastic blue	Plastic	B	<b>45-2131.1160.000</b>	1	0.013 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Plastic black	Plastic grey	Plastic	B	<b>45-2131.1180.000</b>	1	0.013 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Plastic black	Plastic white	Plastic	B	<b>45-2131.1190.000</b>	1	0.013 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Plastic black	Plastic colourless	Plastic	B	<b>45-2131.11K0.000</b>	1	0.013 kg
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Plastic black	Plastic black	Plastic	C	<b>45-2134.1110.000</b>	2	0.013 kg
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Plastic black	Plastic red	Plastic	C	<b>45-2134.1120.000</b>	2	0.013 kg










Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Plastic black	Plastic yellow	Plastic	C	<b>45-2134.1140.000</b>	2	0.013 kg
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Plastic black	Plastic green	Plastic	C	<b>45-2134.1150.000</b>	2	0.013 kg
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Plastic black	Plastic blue	Plastic	C	<b>45-2134.1160.000</b>	2	0.013 kg
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Plastic black	Plastic white	Plastic	C	<b>45-2134.1190.000</b>	2	0.013 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic black	Plastic	B	<b>45-2131.3110.000</b>	1	0.021 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic red	Plastic	B	<b>45-2131.3120.000</b>	1	0.021 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic yellow	Plastic	B	<b>45-2131.3140.000</b>	1	0.021 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic green	Plastic	B	<b>45-2131.3150.000</b>	1	0.021 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic blue	Plastic	B	<b>45-2131.3160.000</b>	1	0.021 kg










Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic grey	Plastic	B	<b>45-2131.3180.000</b>	1	0.021 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic white	Plastic	B	<b>45-2131.3190.000</b>	1	0.021 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic colourless	Plastic	B	<b>45-2131.31K0.000</b>	1	0.021 kg
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic black	Plastic	C	<b>45-2134.3110.000</b>	2	0.021 kg
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic red	Plastic	C	<b>45-2134.3120.000</b>	2	0.021 kg
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic yellow	Plastic	C	<b>45-2134.3140.000</b>	2	0.021 kg
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic green	Plastic	C	<b>45-2134.3150.000</b>	2	0.021 kg
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic blue	Plastic	C	<b>45-2134.3160.000</b>	2	0.021 kg
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic white	Plastic	C	<b>45-2134.3190.000</b>	2	0.021 kg

Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic black	Metal	B	<b>45-2131.2110.000</b>	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic red	Metal	B	<b>45-2131.2120.000</b>	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic yellow	Metal	B	<b>45-2131.2140.000</b>	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic green	Metal	B	<b>45-2131.2150.000</b>	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic blue	Metal	B	<b>45-2131.2160.000</b>	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic grey	Metal	B	<b>45-2131.2180.000</b>	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic white	Metal	B	<b>45-2131.2190.000</b>	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic colourless	Metal	B	<b>45-2131.21K0.000</b>	1	0.048 kg
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic black	Metal	C	<b>45-2134.2110.000</b>	2	0.048 kg










Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic red	Metal	C	45-2134.2120.000	2	0.048 kg
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic yellow	Metal	C	45-2134.2140.000	2	0.048 kg
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic green	Metal	C	45-2134.2150.000	2	0.048 kg
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic blue	Metal	C	45-2134.2160.000	2	0.048 kg
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic white	Metal	C	45-2134.2190.000	2	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens raised above front ring	Plastic black	Plastic black	Plastic	B	45-2131.1210.000	1	0.013 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens raised above front ring	Plastic black	Plastic red	Plastic	B	45-2131.1220.000	1	0.013 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens raised above front ring	Plastic black	Plastic yellow	Plastic	B	45-2131.1240.000	1	0.013 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens raised above front ring	Plastic black	Plastic green	Plastic	B	45-2131.1250.000	1	0.013 kg

Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Plastic black	Plastic blue	Plastic	B	<b>45-2131.1260.000</b>	1	0.013 kg
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Plastic black	Plastic white	Plastic	B	<b>45-2131.1290.000</b>	1	0.013 kg
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal sandgrey	Plastic black	Plastic	B	<b>45-2131.3210.000</b>	1	0.021 kg
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal sandgrey	Plastic red	Plastic	B	<b>45-2131.3220.000</b>	1	0.021 kg
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal sandgrey	Plastic yellow	Plastic	B	<b>45-2131.3240.000</b>	1	0.021 kg
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal sandgrey	Plastic green	Plastic	B	<b>45-2131.3250.000</b>	1	0.021 kg
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal sandgrey	Plastic blue	Plastic	B	<b>45-2131.3260.000</b>	1	0.021 kg
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal sandgrey	Plastic white	Plastic	B	<b>45-2131.3290.000</b>	1	0.021 kg
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal silver	Plastic black	Metal	B	<b>45-2131.2210.000</b>	1	0.021 kg

Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens raised above front ring	Metal silver	Plastic red	Metal	B	45-2131.2220.000	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens raised above front ring	Metal silver	Plastic yellow	Metal	B	45-2131.2240.000	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens raised above front ring	Metal silver	Plastic green	Metal	B	45-2131.2250.000	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens raised above front ring	Metal silver	Plastic blue	Metal	B	45-2131.2260.000	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens raised above front ring	Metal silver	Plastic white	Metal	B	45-2131.2290.000	1	0.048 kg
	<b>Pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens raised above front ring	Metal silver	Plastic red	Metal	C	45-2134.2220.000	2	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens lower than front ring	Plastic black	Plastic black	Plastic	B	45-2131.1310.000	1	0.013 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens lower than front ring	Plastic black	Plastic red	Plastic	B	45-2131.1320.000	1	0.013 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens lower than front ring	Plastic black	Plastic yellow	Plastic	B	45-2131.1340.000	1	0.013 kg




Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens lower than front ring	Plastic black	Plastic green	Plastic	B	<b>45-2131.1350.000</b>	1	0.013 kg
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens lower than front ring	Plastic black	Plastic blue	Plastic	B	<b>45-2131.1360.000</b>	1	0.013 kg
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens lower than front ring	Plastic black	Plastic white	Plastic	B	<b>45-2131.1390.000</b>	1	0.013 kg
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens lower than front ring	Metal sandgrey	Plastic black	Plastic	B	<b>45-2131.3310.000</b>	1	0.021 kg
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens lower than front ring	Metal sandgrey	Plastic red	Plastic	B	<b>45-2131.3320.000</b>	1	0.021 kg
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens lower than front ring	Metal sandgrey	Plastic yellow	Plastic	B	<b>45-2131.3340.000</b>	1	0.021 kg
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens lower than front ring	Metal sandgrey	Plastic green	Plastic	B	<b>45-2131.3350.000</b>	1	0.021 kg
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens lower than front ring	Metal sandgrey	Plastic blue	Plastic	B	<b>45-2131.3360.000</b>	1	0.021 kg
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens lower than front ring	Metal sandgrey	Plastic white	Plastic	B	<b>45-2131.3390.000</b>	1	0.021 kg



Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens lower than front ring	Metal silver	Plastic black	Metal	B	<b>45-2131.2310.000</b>	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens lower than front ring	Metal silver	Plastic red	Metal	B	<b>45-2131.2320.000</b>	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens lower than front ring	Metal silver	Plastic yellow	Metal	B	<b>45-2131.2340.000</b>	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens lower than front ring	Metal silver	Plastic green	Metal	B	<b>45-2131.2350.000</b>	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens lower than front ring	Metal silver	Plastic blue	Metal	B	<b>45-2131.2360.000</b>	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens lower than front ring	Metal silver	Plastic white	Metal	B	<b>45-2131.2390.000</b>	1	0.048 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens lower than front ring, with castellation	Plastic black	Plastic black	Plastic	B	<b>45-2131.1410.000</b>	1	0.013 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens lower than front ring, with castellation	Plastic black	Plastic red	Plastic	B	<b>45-2131.1420.000</b>	1	0.013 kg
	<b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens lower than front ring, with castellation	Plastic black	Plastic yellow	Plastic	B	<b>45-2131.1440.000</b>	1	0.013 kg

# 45 Raised design

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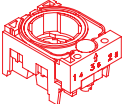
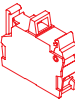
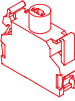
Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens lower than front ring, with castellation	Plastic black	Plastic green	Plastic	B	<b>45-2131.1450.000</b>	1	0.013 kg
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens lower than front ring, with castellation	Plastic black	Plastic blue	Plastic	B	<b>45-2131.1460.000</b>	1	0.013 kg
 <p><b>Pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens lower than front ring, with castellation	Plastic black	Plastic white	Plastic	B	<b>45-2131.1490.000</b>	1	0.013 kg

Switching action: B = Momentary, C = Maintain

E---	E~--
Wiring diagram 1	Wiring diagram 2

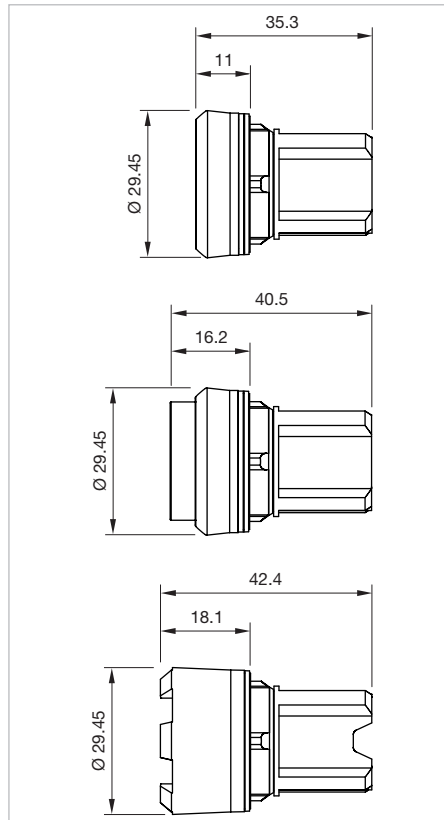
**Illuminated pushbutton, IP66, IP67, IP69K**

**Equipment consisting of (schematic overview)**

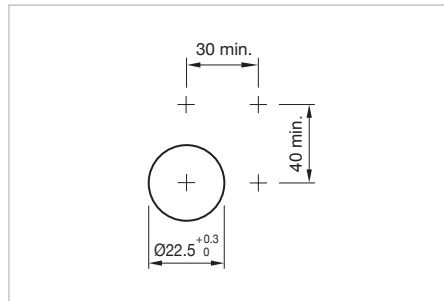
-  **Actuator**
-  **Holder** Page 111
-  **Switching element** Page 112
-  **Illumination element** Page 113

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.










Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Plastic black	Plastic amber transparent	Plastic	B	<b>45-2231.11F0.000</b>	1	0.011 kg
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Plastic black	Plastic red transparent	Plastic	B	<b>45-2231.11E0.000</b>	1	0.011 kg

Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens level with front ring	Plastic black	Plastic yellow transparent	Plastic	B	<b>45-2231.11G0.000</b>	1	0.011 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens level with front ring	Plastic black	Plastic green transparent	Plastic	B	<b>45-2231.11H0.000</b>	1	0.011 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens level with front ring	Plastic black	Plastic blue transparent	Plastic	B	<b>45-2231.11J0.000</b>	1	0.011 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens level with front ring	Plastic black	Plastic white transparent	Plastic	B	<b>45-2231.11N0.000</b>	1	0.011 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens level with front ring	Plastic black	Plastic colourless transparent	Plastic	B	<b>45-2231.11K0.000</b>	1	0.011 kg
 <p><b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b></p>							
Lens level with front ring	Plastic black	Plastic red transparent	Plastic	C	<b>45-2234.11E0.000</b>	2	0.011 kg
 <p><b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b></p>							
Lens level with front ring	Plastic black	Plastic yellow transparent	Plastic	C	<b>45-2234.11G0.000</b>	2	0.011 kg
 <p><b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b></p>							
Lens level with front ring	Plastic black	Plastic green transparent	Plastic	C	<b>45-2234.11H0.000</b>	2	0.011 kg
 <p><b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b></p>							
Lens level with front ring	Plastic black	Plastic blue transparent	Plastic	C	<b>45-2234.11J0.000</b>	2	0.011 kg









Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Plastic black	Plastic white transparent	Plastic	C	<b>45-2234.11N0.000</b>	2	0.011 kg
	<b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Plastic black	Plastic colourless transparent	Plastic	C	<b>45-2234.11K0.000</b>	2	0.011 kg
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic amber transparent	Plastic	B	<b>45-2231.31F0.000</b>	1	0.020 kg
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic red transparent	Plastic	B	<b>45-2231.31E0.000</b>	1	0.020 kg
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic yellow transparent	Plastic	B	<b>45-2231.31G0.000</b>	1	0.020 kg
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic green transparent	Plastic	B	<b>45-2231.31H0.000</b>	1	0.020 kg
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic blue transparent	Plastic	B	<b>45-2231.31J0.000</b>	1	0.020 kg
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic white transparent	Plastic	B	<b>45-2231.31N0.000</b>	1	0.020 kg
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic colourless transparent	Plastic	B	<b>45-2231.31K0.000</b>	1	0.020 kg

Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic red transparent	Plastic	C	<b>45-2234.31E0.000</b>	2	0.020 kg
	<b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic yellow transparent	Plastic	C	<b>45-2234.31G0.000</b>	2	0.020 kg
	<b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic green transparent	Plastic	C	<b>45-2234.31H0.000</b>	2	0.020 kg
	<b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic blue transparent	Plastic	C	<b>45-2234.31J0.000</b>	2	0.020 kg
	<b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic white transparent	Plastic	C	<b>45-2234.31N0.000</b>	2	0.020 kg
	<b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal sandgrey	Plastic colourless transparent	Plastic	C	<b>45-2234.31K0.000</b>	2	0.020 kg
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic amber transparent	Metal	B	<b>45-2231.21F0.000</b>	1	0.032 kg
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic red transparent	Metal	B	<b>45-2231.21E0.000</b>	1	0.032 kg
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic yellow transparent	Metal	B	<b>45-2231.21G0.000</b>	1	0.032 kg

Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic green transparent	Metal	B	<b>45-2231.21H0.000</b>	1	0.032 kg
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic blue transparent	Metal	B	<b>45-2231.21J0.000</b>	1	0.032 kg
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic white transparent	Metal	B	<b>45-2231.21N0.000</b>	1	0.032 kg
	<b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic colourless transparent	Metal	B	<b>45-2231.21K0.000</b>	1	0.032 kg
	<b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic red transparent	Metal	C	<b>45-2234.21E0.000</b>	2	0.032 kg
	<b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic yellow transparent	Metal	C	<b>45-2234.21G0.000</b>	2	0.032 kg
	<b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic green transparent	Metal	C	<b>45-2234.21H0.000</b>	2	0.032 kg
	<b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic blue transparent	Metal	C	<b>45-2234.21J0.000</b>	2	0.032 kg
	<b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b>						
Lens level with front ring	Metal silver	Plastic white transparent	Metal	C	<b>45-2234.21N0.000</b>	2	0.032 kg



Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
 <p><b>Illuminated pushbutton actuator, Maintain, Front dimension Ø 29.45 mm</b></p>							
Lens level with front ring	Metal silver	Plastic colourless transparent	Metal	C	<b>45-2234.21K0.000</b>	2	0.032 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Plastic black	Plastic red transparent	Plastic	B	<b>45-2231.12E0.000</b>	1	0.011 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Plastic black	Plastic yellow transparent	Plastic	B	<b>45-2231.12G0.000</b>	1	0.011 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Plastic black	Plastic green transparent	Plastic	B	<b>45-2231.12H0.000</b>	1	0.011 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Plastic black	Plastic blue transparent	Plastic	B	<b>45-2231.12J0.000</b>	1	0.011 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Plastic black	Plastic colourless transparent	Plastic	B	<b>45-2231.12K0.000</b>	1	0.011 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal sandgrey	Plastic red transparent	Plastic	B	<b>45-2231.32E0.000</b>	1	0.020 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal sandgrey	Plastic yellow transparent	Plastic	B	<b>45-2231.32G0.000</b>	1	0.020 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal sandgrey	Plastic green transparent	Plastic	B	<b>45-2231.32H0.000</b>	1	0.020 kg



Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal sandgrey	Plastic blue transparent	Plastic	B	<b>45-2231.32J0.000</b>	1	0.020 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal sandgrey	Plastic colourless transparent	Plastic	B	<b>45-2231.32K0.000</b>	1	0.020 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal silver	Plastic red transparent	Metal	B	<b>45-2231.22E0.000</b>	1	0.032 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal silver	Plastic amber transparent	Metal	B	<b>45-2231.22F0.000</b>	1	0.032 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal silver	Plastic yellow transparent	Metal	B	<b>45-2231.22G0.000</b>	1	0.032 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal silver	Plastic green transparent	Metal	B	<b>45-2231.22H0.000</b>	1	0.032 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal silver	Plastic blue transparent	Metal	B	<b>45-2231.22J0.000</b>	1	0.032 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal silver	Plastic colourless transparent	Metal	B	<b>45-2231.22K0.000</b>	1	0.032 kg

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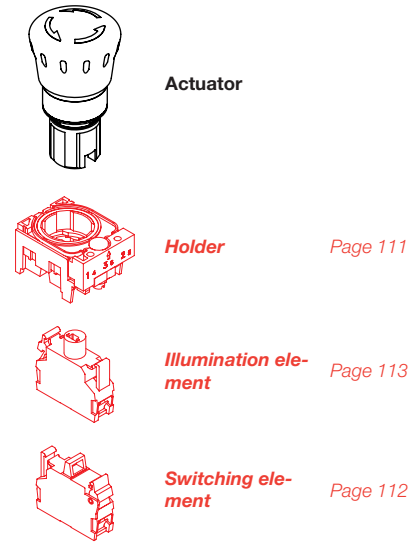
Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens raised above front ring	Metal silver	Plastic white transparent	Metal	B	<b>45-2231.22N0.000</b>	1	0.032 kg
 <p><b>Illuminated pushbutton actuator, Momentary, Front dimension Ø 29.45 mm</b></p>							
Lens lower than front ring, with castellation	Plastic black	Plastic blue transparent	Plastic	B	<b>45-2231.14J0.000</b>	1	0.011 kg

Switching action: B = Momentary, C = Maintain

E---	E~--
Wiring diagram 1	Wiring diagram 2

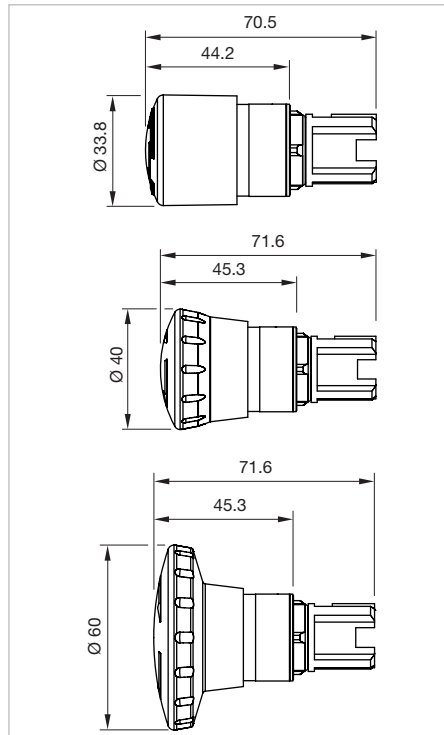
**Emergency stop switch foolproof, EN IEC 60947-5-5, IP66, IP67, IP69K**

**Equipment consisting of (schematic overview)**



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

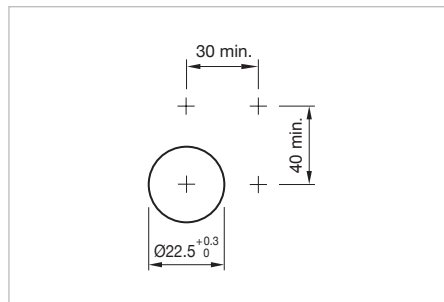
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]





Product can differ from the current configuration.








Mounting cut-outs [mm]

**Additional Information**

- The standard lock: RONIS, T254
- Two keys are supplied with each key lock switch

Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Emergency stop switch actuator, foolproof EN IEC 60947-5-5, Front dimension Ø 33.8 mm</b>						
twist to release	Plastic black	Plastic red	Plastic	C	<b>45-2C36.1820.000</b>	1	0.046 kg
	<b>Emergency stop switch actuator, foolproof EN IEC 60947-5-5, Front dimension Ø 40 mm</b>						
twist to release	Plastic black	Plastic red	Plastic	C	<b>45-2C36.1920.000</b>	1	0.046 kg

Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
 <p><b>Emergency stop switch actuator, foolproof EN IEC 60947-5-5, Front dimension Ø 40 mm</b></p>							
pull release	Plastic black	Plastic red	Plastic	C	<b>45-2C37.1920.000</b>	1	0.046 kg
 <p><b>Emergency stop switch actuator, foolproof EN IEC 60947-5-5, Front dimension Ø 40 mm</b></p>							
twist to release, illuminable	Plastic black	Plastic red	Plastic	C	<b>45-2D36.1920.000</b>	1	0.046 kg
 <p><b>Emergency stop switch actuator, foolproof EN IEC 60947-5-5, Front dimension Ø 60 mm</b></p>							
twist to release	Plastic black	Plastic red	Plastic	C	<b>45-2C36.1A20.000</b>	1	0.056 kg
 <p><b>Emergency stop switch actuator, foolproof EN IEC 60947-5-5, Front dimension Ø 60 mm</b></p>							
twist to release, illuminable	Plastic black	Plastic red	Plastic	C	<b>45-2D36.1A20.000</b>	1	0.053 kg
 <p><b>Emergency stop switch actuator, foolproof EN IEC 60947-5-5, Front dimension Ø 40 mm</b></p>							
key to release	Plastic black	Plastic red	Plastic	C	<b>45-2C35.1920.110</b>	1	0.083 kg

Switching action: C = Maintain



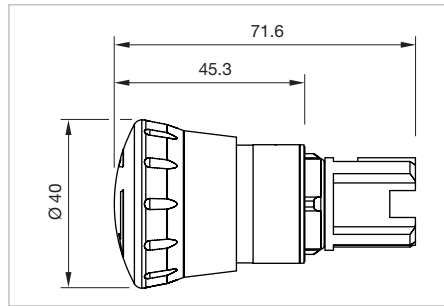
**Stop switch actuator, foolproof, IP66, IP67, IP69K**

**Equipment consisting of (schematic overview)**

**Actuator**

**Holder** *Page 111*

**Switching element** *Page 112*



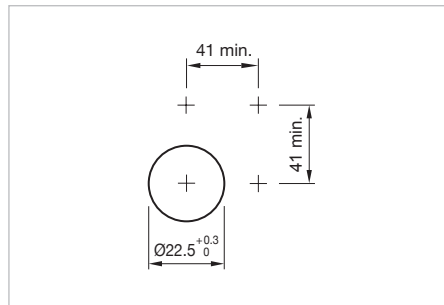
Dimensions [mm]



Product can differ from the current configuration.

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.*



Mounting cut-outs [mm]

Product attribute	Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
<b>Stop switch actuator, foolproof, Front dimension Ø 40 mm</b>							
twist to release	Plastic black	Plastic black	Plastic	C	<b>45-2736.1910.000</b>	1	0.036 kg

Switching action: C = Maintain



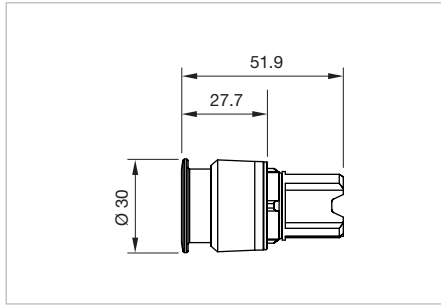
# 45 Raised design

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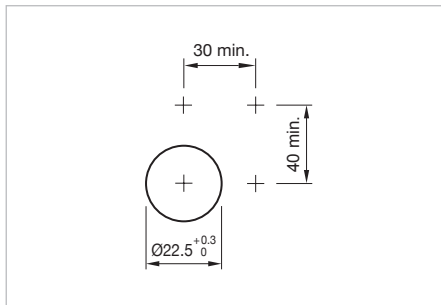
## Mushroom-head pushbutton Ø 30 mm, IP66, IP67, IP69K



Product can differ from the current configuration.

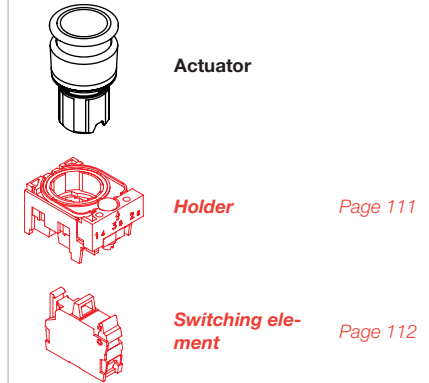


Dimensions [mm]








Mounting cut-outs [mm]










### 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.

Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Plastic black	Plastic black	Plastic	C	45-2530.1810.000	2	0.020 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Plastic black	Plastic red	Plastic	C	45-2530.1820.000	2	0.020 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Plastic black	Plastic yellow	Plastic	C	45-2530.1840.000	2	0.020 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Plastic black	Plastic black	Plastic	B	45-2531.1810.000	1	0.020 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Plastic black	Plastic red	Plastic	B	45-2531.1820.000	1	0.020 kg



Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Plastic black	Plastic yellow	Plastic	B	45-2531.1840.000	1	0.020 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Plastic black	Plastic green	Plastic	B	45-2531.1850.000	1	0.020 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Metal sandgrey	Plastic black	Plastic	C	45-2530.3810.000	2	0.034 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Metal sandgrey	Plastic red	Plastic	C	45-2530.3820.000	2	0.034 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Metal sandgrey	Plastic black	Plastic	B	45-2531.3810.000	1	0.034 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Metal sandgrey	Plastic red	Plastic	B	45-2531.3820.000	1	0.034 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Metal sandgrey	Plastic yellow	Plastic	B	45-2531.3840.000	1	0.034 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Metal sandgrey	Plastic green	Plastic	B	45-2531.3850.000	1	0.034 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Metal silver	Plastic black	Metal	C	45-2530.2810.000	2	0.052 kg

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Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Metal silver	Plastic red	Metal	C	45-2530.2820.000	2	0.052 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Metal silver	Plastic black	Metal	B	45-2531.2810.000	1	0.052 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Metal silver	Plastic red	Metal	B	45-2531.2820.000	1	0.052 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Metal silver	Plastic yellow	Metal	B	45-2531.2840.000	1	0.052 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Metal silver	Plastic green	Metal	B	45-2531.2850.000	1	0.052 kg

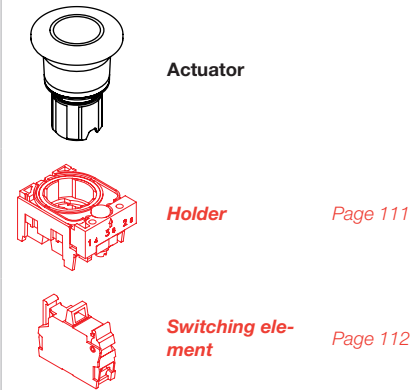
Switching action: B = Momentary, C = Maintain

	
Wiring diagram 1	Wiring diagram 2



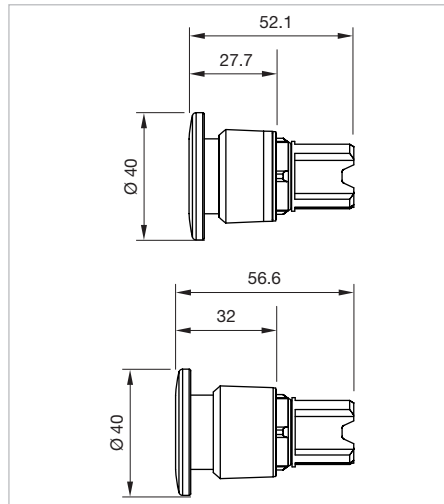
**Mushroom-head pushbutton Ø 40 mm, IP66, IP67, IP69K**

**Equipment consisting of (schematic overview)**

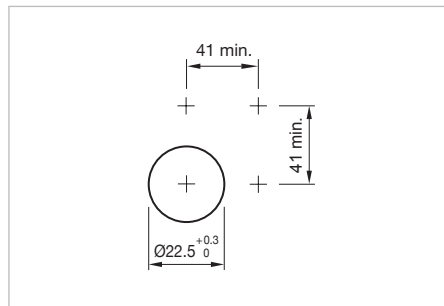


Each Part Number listed below includes all the black components shown in the 3D-drawing.










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












Product can differ from the current configuration.






Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Plastic black	Plastic black	Plastic	C	45-2530.1910.000	2	0.022 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Plastic black	Plastic red	Plastic	C	45-2530.1920.000	2	0.020 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Plastic black	Plastic yellow	Plastic	C	45-2530.1940.000	2	0.020 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Plastic black	Plastic green	Plastic	C	45-2530.1950.000	2	0.020 kg

Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Plastic black	Plastic black	Plastic	B	45-2531.1910.000	1	0.020 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Plastic black	Plastic red	Plastic	B	45-2531.1920.000	1	0.020 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Plastic black	Plastic yellow	Plastic	B	45-2531.1940.000	1	0.020 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Plastic black	Plastic green	Plastic	B	45-2531.1950.000	1	0.020 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Metal sandgrey	Plastic black	Plastic	C	45-2530.3910.000	2	0.034 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Metal sandgrey	Plastic red	Plastic	C	45-2530.3920.000	2	0.034 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Metal sandgrey	Plastic black	Plastic	B	45-2531.3910.000	1	0.034 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Metal sandgrey	Plastic red	Plastic	B	45-2531.3920.000	1	0.034 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Metal sandgrey	Plastic yellow	Plastic	B	45-2531.3940.000	1	0.034 kg



Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Metal sandgrey	Plastic green	Plastic	B	45-2531.3950.000	1	0.034 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Metal silver	Plastic black	Metal	C	45-2530.2910.000	2	0.052 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Metal silver	Plastic red	Metal	C	45-2530.2920.000	2	0.052 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Metal silver	Plastic yellow	Metal	C	45-2530.2940.000	2	0.052 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Metal silver	Plastic black	Metal	B	45-2531.2910.000	1	0.052 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Metal silver	Plastic red	Metal	B	45-2531.2920.000	1	0.052 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Metal silver	Plastic yellow	Metal	B	45-2531.2940.000	1	0.052 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Metal silver	Plastic green	Metal	B	45-2531.2950.000	1	0.052 kg
	<b>Mushroom-head pushbutton actuator, Momentary/Maintain, Front dimension Ø 40 mm</b>					
Metal silver	Plastic black	Metal	B/C	45-2532.2910.000	3	0.052 kg

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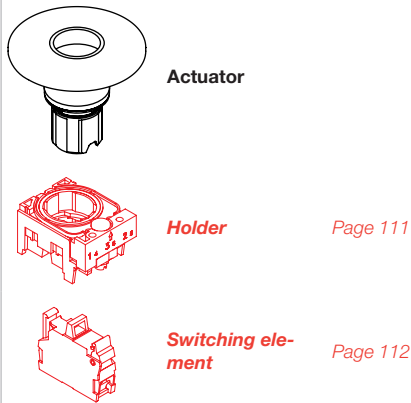
Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Momentary/Maintain, Front dimension Ø 40 mm</b>					
Metal silver	Plastic red	Metal	B/C	<b>45-2532.2920.000</b>	3	0.052 kg
	<b>Mushroom-head pushbutton actuator, Momentary/Maintain, Front dimension Ø 40 mm</b>					
Metal silver	Plastic black	Metal	B/C	<b>45-2533.2910.000</b>	3	0.052 kg
	<b>Mushroom-head pushbutton actuator, Momentary/Maintain, Front dimension Ø 40 mm</b>					
Metal silver	Plastic red	Metal	B/C	<b>45-2533.2920.000</b>	3	0.052 kg

Switching action: B = Momentary, C = Maintain, B/C = Momentary/Maintain

	
Wiring diagram 1	Wiring diagram 2

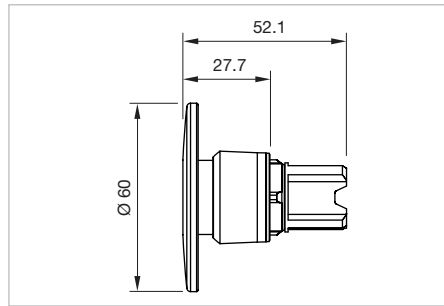
**Mushroom-head pushbutton Ø 60 mm, IP66, IP67, IP69K**

**Equipment consisting of (schematic overview)**



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

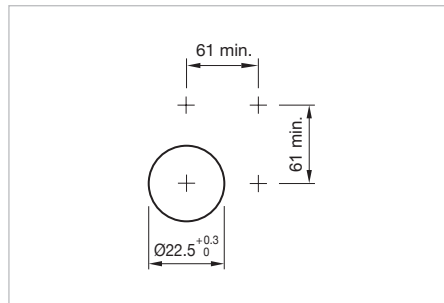
*To obtain a complete unit, please select the red components from the pages shown.*








Dimensions [mm]



Product can differ from the current configuration.










Mounting cut-outs [mm]



Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 60 mm</b>					
Plastic black	Plastic black	Plastic	C	45-2530.1A10.000	2	0.022 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 60 mm</b>					
Plastic black	Plastic red	Plastic	C	45-2530.1A20.000	2	0.020 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 60 mm</b>					
Plastic black	Plastic black	Plastic	B	45-2531.1A10.000	1	0.020 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 60 mm</b>					
Plastic black	Plastic red	Plastic	B	45-2531.1A20.000	1	0.020 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 60 mm</b>					
Plastic black	Plastic yellow	Plastic	B	45-2531.1A40.000	1	0.020 kg

# 45 Raised design

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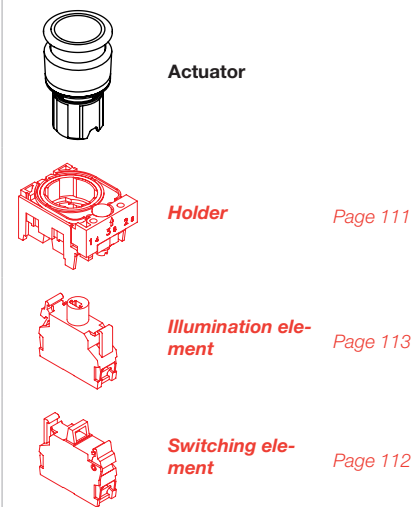
Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 60 mm</b>					
Plastic black	Plastic green	Plastic	B	<b>45-2531.1A50.000</b>	1	0.020 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 60 mm</b>					
Metal silver	Plastic black	Metal	C	<b>45-2530.2A10.000</b>	2	0.052 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 60 mm</b>					
Metal silver	Plastic red	Metal	C	<b>45-2530.2A20.000</b>	2	0.052 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 60 mm</b>					
Metal silver	Plastic black	Metal	B	<b>45-2531.2A10.000</b>	1	0.052 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 60 mm</b>					
Metal silver	Plastic red	Metal	B	<b>45-2531.2A20.000</b>	1	0.052 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 60 mm</b>					
Metal silver	Plastic yellow	Metal	B	<b>45-2531.2A40.000</b>	1	0.052 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 60 mm</b>					
Metal silver	Plastic green	Metal	B	<b>45-2531.2A50.000</b>	1	0.052 kg

Switching action: B = Momentary, C = Maintain

	
Wiring diagram 1	Wiring diagram 2

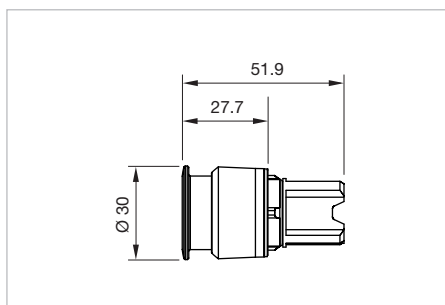
**Mushroom-head pushbutton Ø 30 mm, illuminated, IP66, IP67, IP69K**

**Equipment consisting of (schematic overview)**



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

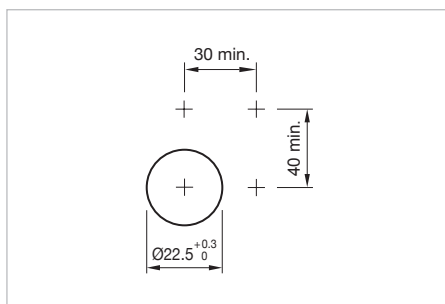
*To obtain a complete unit, please select the red components from the pages shown.*








Dimensions [mm]












Product can differ from the current configuration.












Mounting cut-outs [mm]

Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Plastic black	Plastic red transparent	Plastic	C	<b>45-2630.18E0.000</b>	1	0.027 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Plastic black	Plastic yellow transparent	Plastic	C	<b>45-2630.18G0.000</b>	1	0.027 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Plastic black	Plastic green transparent	Plastic	C	<b>45-2630.18H0.000</b>	1	0.027 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Plastic black	Plastic blue transparent	Plastic	C	<b>45-2630.18J0.000</b>	1	0.027 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Plastic black	Plastic colourless transparent	Plastic	C	<b>45-2630.18K0.000</b>	1	0.027 kg




Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Plastic black	Plastic red transparent	Plastic	B	45-2631.18E0.000	2	0.033 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Plastic black	Plastic yellow transparent	Plastic	B	45-2631.18G0.000	2	0.033 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Plastic black	Plastic green transparent	Plastic	B	45-2631.18H0.000	2	0.033 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Plastic black	Plastic blue transparent	Plastic	B	45-2631.18J0.000	2	0.033 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Plastic black	Plastic colourless transparent	Plastic	B	45-2631.18K0.000	2	0.033 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Plastic black	Plastic white transparent	Plastic	B	45-2631.18N0.000	2	0.033 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Metal sandgrey	Plastic red transparent	Plastic	C	45-2630.38E0.000	1	0.034 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Metal sandgrey	Plastic yellow transparent	Plastic	C	45-2630.38G0.000	1	0.034 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Metal sandgrey	Plastic yellow transparent	Plastic	B	45-2631.38G0.000	2	0.026 kg



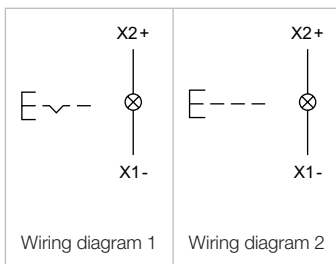
Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Metal sandgrey	Plastic green transparent	Plastic	B	45-2631.38H0.000	2	0.026 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Metal sandgrey	Plastic colourless transparent	Plastic	B	45-2631.38K0.000	2	0.026 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Metal sandgrey	Plastic white transparent	Plastic	B	45-2631.38N0.000	2	0.026 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Metal silver	Plastic amber transparent	Metal	C	45-2630.28F0.000	1	0.052 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Metal silver	Plastic red transparent	Metal	C	45-2630.28E0.000	1	0.052 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Metal silver	Plastic yellow transparent	Metal	C	45-2630.28G0.000	1	0.052 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Metal silver	Plastic green transparent	Metal	C	45-2630.28H0.000	1	0.052 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Metal silver	Plastic blue transparent	Metal	C	45-2630.28J0.000	1	0.052 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 30 mm</b>					
Metal silver	Plastic colourless transparent	Metal	C	45-2630.28K0.000	1	0.052 kg

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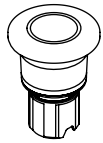
Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Metal silver	Plastic yellow transparent	Metal	B	<b>45-2631.28G0.000</b>	2	0.041 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Metal silver	Plastic green transparent	Metal	B	<b>45-2631.28H0.000</b>	2	0.041 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 30 mm</b>					
Metal silver	Plastic white transparent	Metal	B	<b>45-2631.28N0.000</b>	2	0.041 kg

Switching action: B = Momentary, C = Maintain

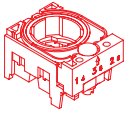


**Mushroom-head pushbutton Ø 40 mm, illuminated, IP66, IP67, IP69K**

**Equipment consisting of (schematic overview)**



**Actuator**



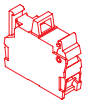
**Holder**

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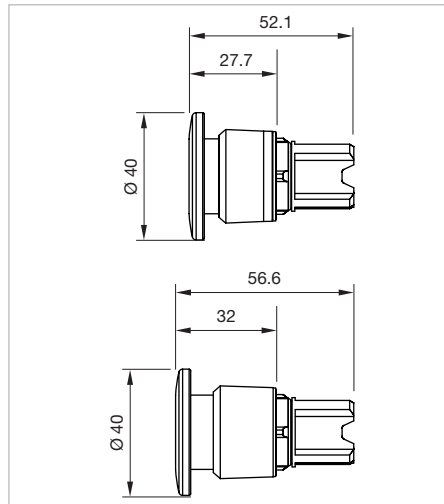
**Illumination element**

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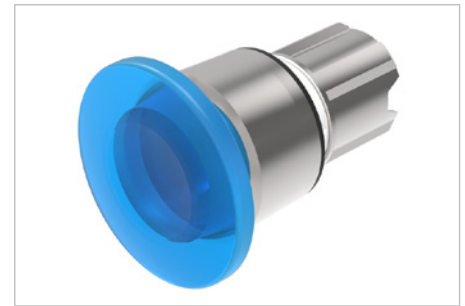


**Switching element**

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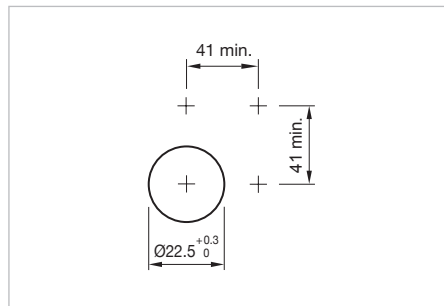
Dimensions [mm]







Product can differ from the current configuration.







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.



Mounting cut-outs [mm]








Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Plastic black	Plastic red transparent	Plastic	C	<b>45-2630.19E0.000</b>	1	0.028 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Plastic black	Plastic yellow transparent	Plastic	C	<b>45-2630.19G0.000</b>	1	0.028 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Plastic black	Plastic green transparent	Plastic	C	<b>45-2630.19H0.000</b>	1	0.028 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Plastic black	Plastic blue transparent	Plastic	C	<b>45-2630.19J0.000</b>	1	0.028 kg

Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Plastic black	Plastic colourless transparent	Plastic	C	45-2630.19K0.000	1	0.028 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Plastic black	Plastic yellow transparent	Plastic	B	45-2631.19G0.000	2	0.019 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Plastic black	Plastic green transparent	Plastic	B	45-2631.19H0.000	2	0.019 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Plastic black	Plastic colourless transparent	Plastic	B	45-2631.19K0.000	2	0.019 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Plastic black	Plastic white transparent	Plastic	B	45-2631.19N0.000	2	0.019 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Metal sandgrey	Plastic red transparent	Plastic	C	45-2630.39E0.000	1	0.035 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Metal sandgrey	Plastic yellow transparent	Plastic	C	45-2630.39G0.000	1	0.035 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Metal sandgrey	Plastic yellow transparent	Plastic	B	45-2631.39G0.000	2	0.028 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Metal sandgrey	Plastic green transparent	Plastic	B	45-2631.39H0.000	2	0.028 kg

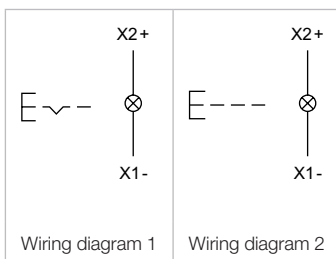
Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Metal sandgrey	Plastic colourless transparent	Plastic	B	45-2631.39K0.000	2	0.028 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Metal sandgrey	Plastic white transparent	Plastic	B	45-2631.39N0.000	2	0.028 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Metal silver	Plastic red transparent	Metal	C	45-2630.29E0.000	1	0.035 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Metal silver	Plastic amber transparent	Metal	C	45-2630.29F0.000	1	0.053 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Metal silver	Plastic yellow transparent	Metal	C	45-2630.29G0.000	1	0.053 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Metal silver	Plastic green transparent	Metal	C	45-2630.29H0.000	1	0.053 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Metal silver	Plastic blue transparent	Metal	C	45-2630.29J0.000	1	0.053 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 40 mm</b>					
Metal silver	Plastic colourless transparent	Metal	C	45-2630.29K0.000	1	0.053 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Metal silver	Plastic amber transparent	Metal	B	45-2631.29F0.000	2	0.042 kg

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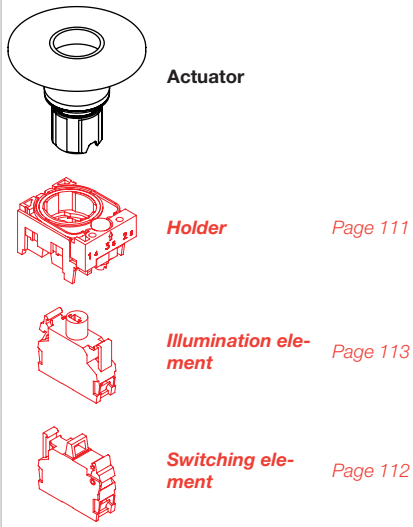
Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Metal silver	Plastic yellow transparent	Metal	B	45-2631.29G0.000	2	0.042 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Metal silver	Plastic green transparent	Metal	B	45-2631.29H0.000	2	0.042 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 40 mm</b>					
Metal silver	Plastic white transparent	Metal	B	45-2631.29N0.000	2	0.042 kg
	<b>Mushroom-head pushbutton actuator, Momentary/Maintain, Front dimension Ø 40 mm</b>					
Metal silver	Plastic red transparent	Metal	B/C	45-2632.29E0.000	3	0.051 kg
	<b>Mushroom-head pushbutton actuator, Momentary/Maintain, Front dimension Ø 40 mm</b>					
Metal silver	Plastic green transparent	Metal	B/C	45-2632.29H0.000	3	0.051 kg
	<b>Mushroom-head pushbutton actuator, Momentary/Maintain, Front dimension Ø 40 mm</b>					
Metal silver	Plastic red transparent	Metal	B/C	45-2633.29E0.000	3	0.051 kg
	<b>Mushroom-head pushbutton actuator, Momentary/Maintain, Front dimension Ø 40 mm</b>					
Metal silver	Plastic white transparent	Metal	B/C	45-2633.29N0.000	3	0.051 kg

Switching action: B = Momentary, C = Maintain, B/C = Momentary/Maintain



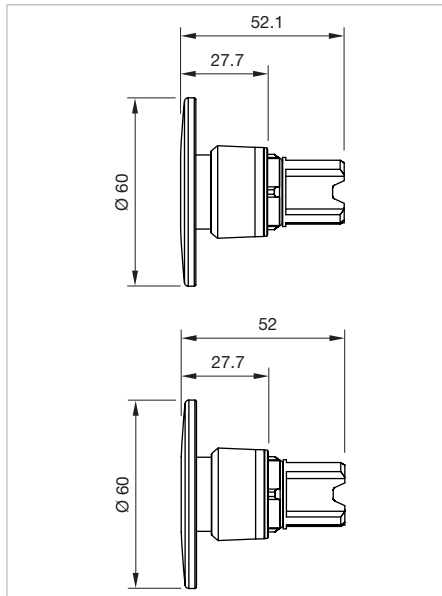
**Mushroom-head pushbutton Ø 60 mm, illuminated, IP66, IP67, IP69K**

**Equipment consisting of (schematic overview)**

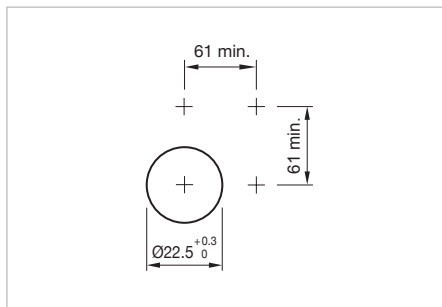


Each Part Number listed below includes all the black components shown in the 3D-drawing.

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






Dimensions [mm]



Mounting cut-outs [mm]









Product can differ from the current configuration.

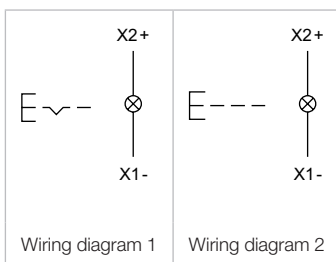
Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 60 mm</b>					
Metal silver	Plastic red transparent	Metal	C	<b>45-2630.2AE0.000</b>	1	0.057 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 60 mm</b>					
Metal silver	Plastic yellow transparent	Metal	C	<b>45-2630.2AG0.000</b>	1	0.057 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 60 mm</b>					
Metal silver	Plastic green transparent	Metal	C	<b>45-2630.2AH0.000</b>	1	0.057 kg

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Front ring	Lens	Housing material	Switching action	Part No.	Wiring diagram	Weight
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 60 mm</b>					
Metal silver	Plastic blue transparent	Metal	C	45-2630.2AJ0.000	1	0.057 kg
	<b>Mushroom-head pushbutton actuator, Maintain, Front dimension Ø 60 mm</b>					
Metal silver	Plastic colourless transparent	Metal	C	45-2630.2AK0.000	1	0.057 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 60 mm</b>					
Metal silver	Plastic amber transparent	Metal	B	45-2631.2AF0.000	2	0.045 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 60 mm</b>					
Metal silver	Plastic yellow transparent	Metal	B	45-2631.2AG0.000	2	0.045 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 60 mm</b>					
Metal silver	Plastic green transparent	Metal	B	45-2631.2AH0.000	2	0.045 kg
	<b>Mushroom-head pushbutton actuator, Momentary, Front dimension Ø 60 mm</b>					
Metal silver	Plastic white transparent	Metal	B	45-2631.2AN0.000	2	0.045 kg

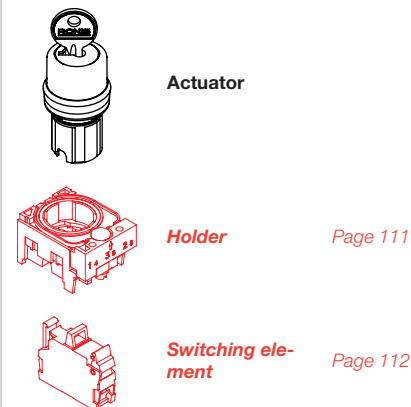
Switching action: B = Momentary, C = Maintain





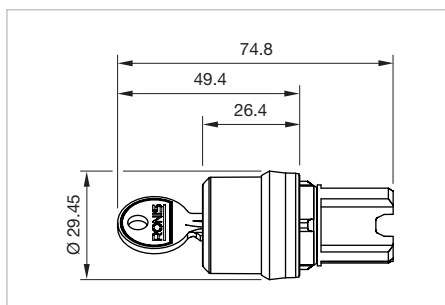
**Keylock switch 2 positions, IP66, IP67, IP69K**

**Equipment consisting of (schematic overview)**



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

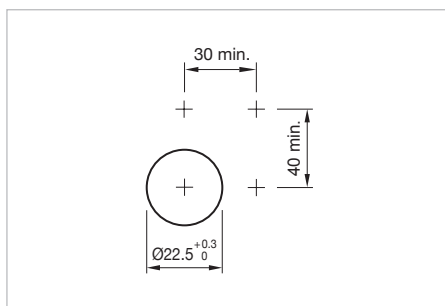
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Product can differ from the current configuration.





Mounting cut-outs [mm]

**Additional Information**

- The standard lock: RONIS, T254
- Two keys are supplied with each key lock switch




Switching positions (A = Rest, B = Momentary, C = Maintained)

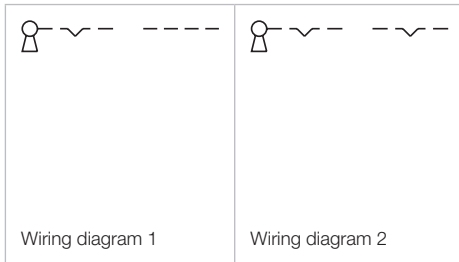
Front ring	Housing material	Switching action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
	<b>Keylock switch actuator 2 positions, Front dimension Ø 29.45 mm</b>						
Plastic black	Plastic	A - B	B = 45°	A	<b>45-290K.1000.116</b>	1	0.046 kg
		A - C	C = 90°	A	<b>45-290J.1000.111</b>	2	0.046 kg
				A + C	<b>45-290H.1000.111</b>	2	0.046 kg
				A	<b>45-2925.1000.111</b>	2	0.046 kg
	<b>Keylock switch actuator 2 positions, Front dimension Ø 29.45 mm</b>						
Metal sandgrey	Plastic	A - B	B = 45°	A	<b>45-290K.3000.116</b>	1	0.061 kg
		A - C	C = 90°	A	<b>45-290J.3000.111</b>	2	0.061 kg
				A + C	<b>45-290H.3000.111</b>	2	0.061 kg
				A	<b>45-2925.3000.111</b>	2	0.061 kg

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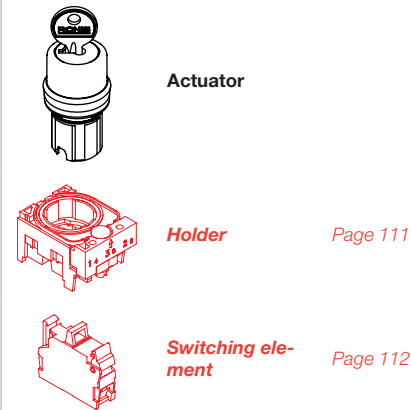
Front ring	Housing material	Switching action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
 <p><b>Keylock switch actuator 2 positions, Front dimension Ø 29.45 mm</b></p>							
Metal silver	Metal	A - B	B = 45°	A	<b>45-290K.2000.116</b>	1	0.080 kg
		A - C	C = 90°	A	<b>45-290J.2000.111</b>	2	0.080 kg
				A + C	<b>45-290H.2000.111</b>	2	0.080 kg
				A	<b>45-2925.2000.111</b>	2	0.080 kg

Switching action: A = Rest, B = Momentary, C = Maintain



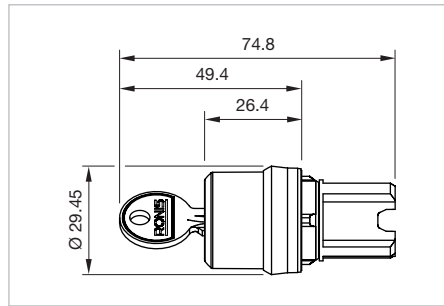
**Keylock switch 3 positions, IP66, IP67, IP69K**

**Equipment consisting of (schematic overview)**



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

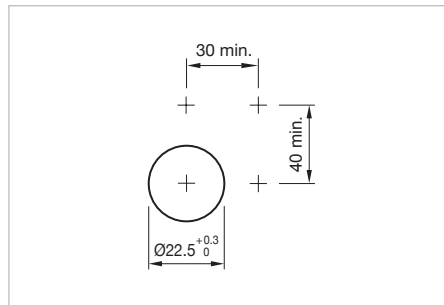
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



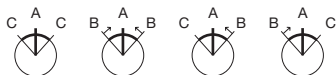
Product can differ from the current configuration.




Mounting cut-outs [mm]



**Additional Information**

- The standard lock: RONIS, T254
- Two keys are supplied with each key lock switch

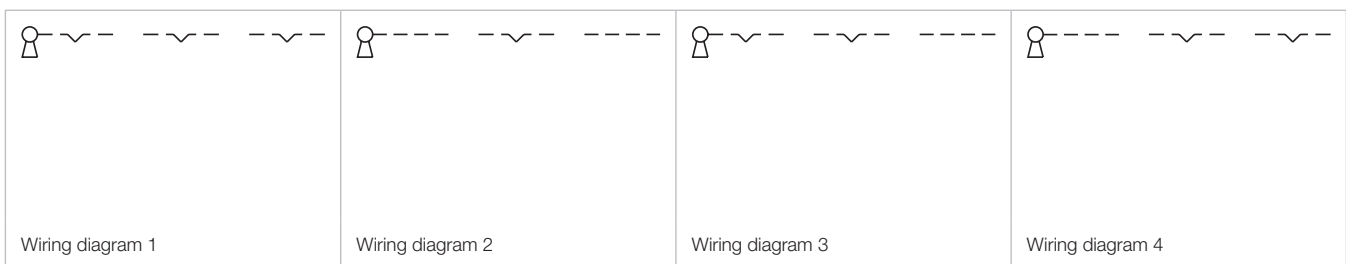


Switching positions (A = Rest, B = Momentary, C = Maintained)

Front ring	Housing material	Switching action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
 <p><b>Keylock switch actuator 3 positions, Front dimension Ø 29.45 mm</b></p>							
Plastic black	Plastic	C - A - C	C = 45°	A	<b>45-2924.1000.113</b>	1	0.060 kg
		C - A - C	C = 45°	C + A + C	<b>45-290F.1000.113</b>	1	0.060 kg
		C - A - C	C = 45°	C - -	<b>45-290D.1000.113</b>	1	0.060 kg
		C - A - C	C = 45°	- - C	<b>45-2917.1000.113</b>	1	0.060 kg
		C - A - C	C = 45°	C + C	<b>45-290C.1000.113</b>	1	0.060 kg
		C - A - C	C = 45°	C + A	<b>45-290G.1000.113</b>	1	0.060 kg
		B - A - B	B = 45°	A	<b>45-290Z.1000.113</b>	2	0.060 kg
		C - A - B	C = 45°, B = 45°	A	<b>45-2922.1000.113</b>	3	0.060 kg
		B - A - C	B = 45°, C = 45°	A	<b>45-2911.1000.113</b>	4	0.060 kg

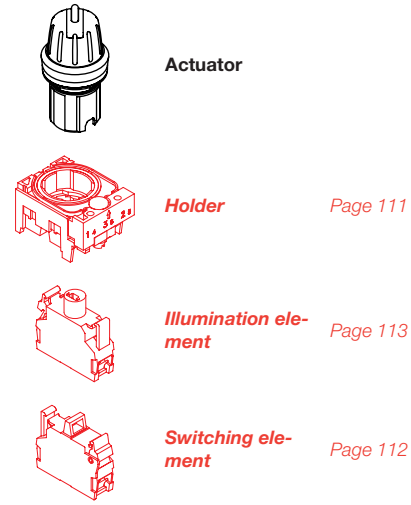
Front ring	Housing material	Switching action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
 <p><b>Keylock switch actuator 3 positions, Front dimension Ø 29.45 mm</b></p>							
Metal sandgrey	Plastic	C - A - C	C = 45°	A	<b>45-2924.3000.113</b>	1	0.061 kg
		C - A - C	C = 45°	C + A + C	<b>45-290F.3000.113</b>	1	0.061 kg
		C - A - C	C = 45°	C - -	<b>45-290D.3000.113</b>	1	0.061 kg
		C - A - C	C = 45°	- - C	<b>45-2917.3000.113</b>	1	0.061 kg
		C - A - C	C = 45°	C + C	<b>45-290C.3000.113</b>	1	0.061 kg
		C - A - C	C = 45°	C + A	<b>45-290G.3000.113</b>	1	0.061 kg
		B - A - B	B = 45°	A	<b>45-290Z.3000.113</b>	2	0.061 kg
		C - A - B	C = 45°, B = 45°	A	<b>45-2922.3000.113</b>	3	0.061 kg
		B - A - C	B = 45°, C = 45°	A	<b>45-2911.3000.113</b>	4	0.061 kg
 <p><b>Keylock switch actuator 3 positions, Front dimension Ø 29.45 mm</b></p>							
Metal silver	Metal	C - A - C	C = 45°	A	<b>45-2924.2000.113</b>	1	0.080 kg
		C - A - C	C = 45°	C + A + C	<b>45-290F.2000.113</b>	1	0.080 kg
		C - A - C	C = 45°	C - -	<b>45-290D.2000.113</b>	1	0.080 kg
		C - A - C	C = 45°	- - C	<b>45-2917.2000.113</b>	1	0.080 kg
		C - A - C	C = 45°	C + C	<b>45-290C.2000.113</b>	1	0.080 kg
		C - A - C	C = 45°	C + A	<b>45-290G.2000.113</b>	1	0.080 kg
		B - A - B	B = 45°	A	<b>45-290Z.2000.113</b>	2	0.080 kg
		C - A - B	C = 45°, B = 45°	A	<b>45-2922.2000.113</b>	3	0.080 kg
		B - A - C	B = 45°, C = 45°	A	<b>45-2911.2000.113</b>	4	0.080 kg

Switching action: A = Rest, B = Momentary, C = Maintain



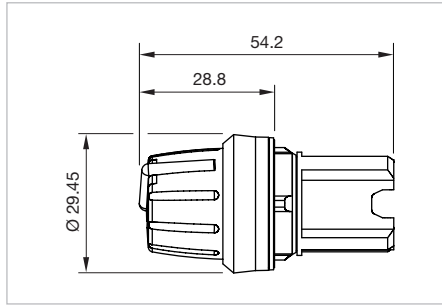
**Selector switch actuator 2 positions round lever, IP66, IP67, IP69K**

**Equipment consisting of (schematic overview)**

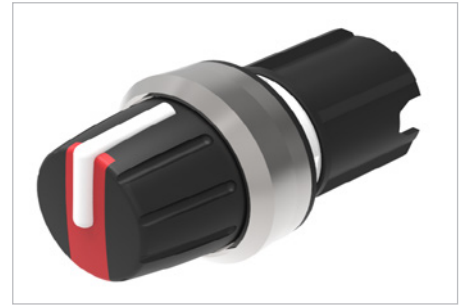


Each Part Number listed below includes all the black components shown in the 3D-drawing.

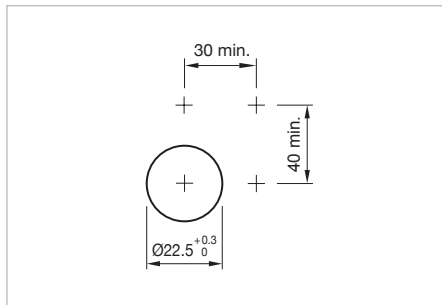
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Product can differ from the current configuration.





Mounting cut-outs [mm]

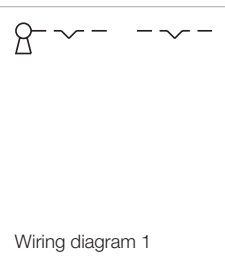
A C



Switching positions (A = Rest, B = Momentary, C = Maintained)

Lever	Front ring	Housing material	Switching action	Switching angle	Part No.	Wiring diagram	Weight
 <p><b>Selector switch actuator 2 positions, round lever, Front dimension Ø 29.45 mm</b></p>							
Plastic red	Plastic black	Plastic	A - C	C = 90°	<b>45-2828.1E20.001</b>	1	0.023 kg
Plastic white	Plastic black	Plastic	A - C	C = 90°	<b>45-2828.1E90.001</b>	1	0.023 kg
 <p><b>Selector switch actuator 2 positions, round lever, Front dimension Ø 29.45 mm</b></p>							
Plastic red	Metal sandgrey	Plastic	A - C	C = 90°	<b>45-2828.3E20.001</b>	1	0.023 kg
Plastic white	Metal sandgrey	Plastic	A - C	C = 90°	<b>45-2828.3E90.001</b>	1	0.023 kg

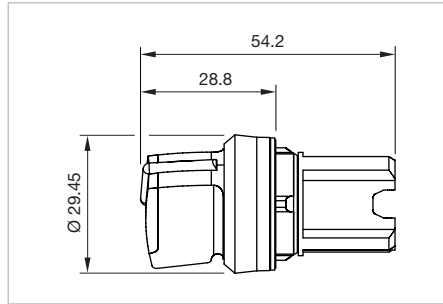
Switching action: A = Rest, C = Maintain



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



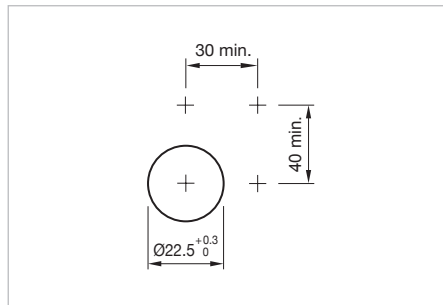
Product can differ from the current configuration.



Dimensions [mm]

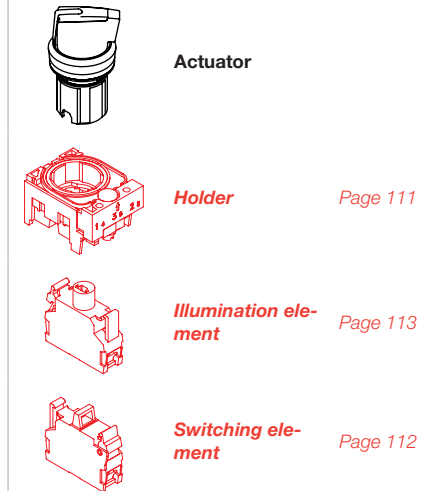
### Additional Information

- External diameter of the short lever 32.3 mm



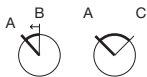
Mounting cut-outs [mm]

### 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.










Switching positions (A = Rest, B = Momentary, C = Maintained)

Lever	Front ring	Housing material	Switching action	Switching angle	Part No.	Wiring diagram	Weight
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Plastic black	Plastic	A - B	B = 45°	<b>45-2844.1C20.006</b>	1	0.022 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic yellow	Plastic black	Plastic	A - B	B = 45°	<b>45-2844.1C40.006</b>	1	0.022 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Plastic black	Plastic	A - B	B = 45°	<b>45-2844.1C50.006</b>	1	0.022 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic blue	Plastic black	Plastic	A - B	B = 45°	<b>45-2844.1C60.006</b>	1	0.022 kg

Lever	Front ring	Housing material	Switching action	Switching angle	Part No.	Wiring diagram	Weight
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal sandgrey	Plastic	A - B	B = 45°	<b>45-2844.1C90.006</b>	1	0.022 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Metal sandgrey	Plastic	A - B	B = 45°	<b>45-2844.3C20.006</b>	1	0.029 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic yellow	Metal sandgrey	Plastic	A - B	B = 45°	<b>45-2844.3C40.006</b>	1	0.029 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Metal sandgrey	Plastic	A - B	B = 45°	<b>45-2844.3C50.006</b>	1	0.029 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic blue	Metal sandgrey	Plastic	A - B	B = 45°	<b>45-2844.3C60.006</b>	1	0.029 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal sandgrey	Plastic	A - B	B = 45°	<b>45-2844.3C90.006</b>	1	0.029 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Metal silver	Metal	A - B	B = 45°	<b>45-2844.2C20.006</b>	1	0.044 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic yellow	Metal silver	Metal	A - B	B = 45°	<b>45-2844.2C40.006</b>	1	0.044 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Metal silver	Metal	A - B	B = 45°	<b>45-2844.2C50.006</b>	1	0.044 kg

Lever	Front ring	Housing material	Switching action	Switching angle	Part No.	Wiring diagram	Weight
 <p><b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b></p>							
Plastic blue	Metal silver	Metal	A - B	B = 45°	<b>45-2844.2C60.006</b>	1	0.044 kg
 <p><b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b></p>							
Plastic white	Metal silver	Metal	A - B	B = 45°	<b>45-2844.2C90.006</b>	1	0.044 kg
 <p><b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b></p>							
Plastic red	Plastic black	Plastic	A - C	C = 90°	<b>45-2828.1C20.001</b>	2	0.022 kg
 <p><b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b></p>							
Plastic yellow	Plastic black	Plastic	A - C	C = 90°	<b>45-2828.1C40.001</b>	2	0.022 kg
 <p><b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b></p>							
Plastic green	Plastic black	Plastic	A - C	C = 90°	<b>45-2828.1C50.001</b>	2	0.022 kg
 <p><b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b></p>							
Plastic blue	Plastic black	Plastic	A - C	C = 90°	<b>45-2828.1C60.001</b>	2	0.022 kg
 <p><b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b></p>							
Plastic white	Plastic black	Plastic	A - C	C = 90°	<b>45-2828.1C90.001</b>	2	0.022 kg
 <p><b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b></p>							
Plastic red	Metal sandgrey	Plastic	A - C	C = 90°	<b>45-2828.3C20.001</b>	2	0.029 kg
 <p><b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b></p>							
Plastic yellow	Metal sandgrey	Plastic	A - C	C = 90°	<b>45-2828.3C40.001</b>	2	0.029 kg



Lever	Front ring	Housing material	Switching action	Switching angle	Part No.	Wiring diagram	Weight
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Metal sandgrey	Plastic	A - C	C = 90°	<b>45-2828.3C50.001</b>	2	0.029 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic blue	Metal sandgrey	Plastic	A - C	C = 90°	<b>45-2828.3C60.001</b>	2	0.029 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal sandgrey	Plastic	A - C	C = 90°	<b>45-2828.3C90.001</b>	2	0.029 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Metal silver	Metal	A - C	C = 90°	<b>45-2828.2C20.001</b>	2	0.044 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic amber	Metal silver	Metal	A - C	C = 90°	<b>45-2828.2C30.001</b>	2	0.044 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Metal silver	Metal	A - C	C = 90°	<b>45-2828.2C50.001</b>	2	0.044 kg
	<b>Selector switch actuator 2 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal silver	Metal	A - C	C = 90°	<b>45-2828.2C90.001</b>	2	0.044 kg

Switching action: A = Rest, B = Momentary, C = Maintain

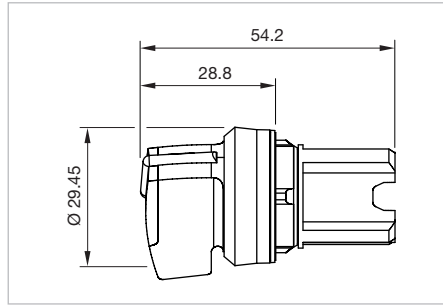


# 45 Raised design

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



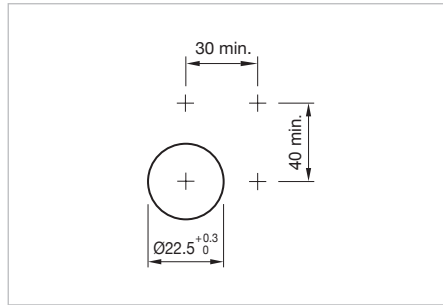
Product can differ from the current configuration.



Dimensions [mm]

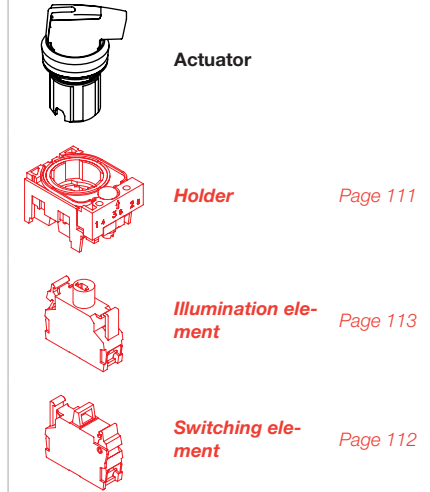
### Additional Information

- External diameter of the long lever 44.8 mm



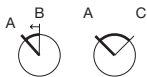
Mounting cut-outs [mm]

### 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.



Switching positions (A = Rest, B = Momentary, C = Maintained)

Lever	Front ring	Housing material	Switching action	Switching angle	Part No.	Wiring diagram	Weight
	<b>Selector switch actuator 2 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Plastic black	Plastic	A - C	C = 90°	45-2828.1D20.001	1	0.022 kg
	<b>Selector switch actuator 2 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Plastic black	Plastic	A - C	C = 90°	45-2828.1D90.001	1	0.022 kg
	<b>Selector switch actuator 2 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Metal sandgrey	Plastic	A - C	C = 90°	45-2828.3D20.001	1	0.029 kg
	<b>Selector switch actuator 2 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal sandgrey	Plastic	A - C	C = 90°	45-2828.3D90.001	1	0.029 kg

Lever	Front ring	Housing material	Switching action	Switching angle	Part No.	Wiring diagram	Weight
	<b>Selector switch actuator 2 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Metal silver	Metal	A - C	C = 90°	45-2828.2D20.001	1	0.029 kg
	<b>Selector switch actuator 2 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic yellow	Metal silver	Metal	A - C	C = 90°	45-2828.2D40.001	1	0.052 kg
	<b>Selector switch actuator 2 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Metal silver	Metal	A - C	C = 90°	45-2828.2D50.001	1	0.052 kg
	<b>Selector switch actuator 2 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic blue	Metal silver	Metal	A - C	C = 90°	45-2828.2D60.001	1	0.052 kg
	<b>Selector switch actuator 2 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal silver	Metal	A - C	C = 90°	45-2828.2D90.001	1	0.052 kg
	<b>Selector switch actuator 2 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic yellow	Metal silver	Metal	A - B	B = 45°	45-2844.2D40.006	2	0.044 kg
	<b>Selector switch actuator 2 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Metal silver	Metal	A - B	B = 45°	45-2844.2D50.006	2	0.044 kg
	<b>Selector switch actuator 2 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic blue	Metal silver	Metal	A - B	B = 45°	45-2844.2D60.006	2	0.044 kg
	<b>Selector switch actuator 2 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal silver	Metal	A - B	B = 45°	45-2844.2D90.006	2	0.044 kg

Switching action: A = Rest, B = Momentary, C = Maintain

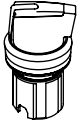
# 45 Raised design

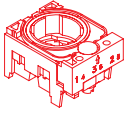
Switches Unlimited  
Contact: sales@switchesunlimited.com  
800-221-0487 ☐ Fax: 718-672-6370  
www.switchesunlimited.com

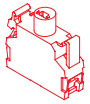


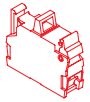
**Selector switch 3 positions short lever, IP66, IP67, IP69K**

**Equipment consisting of (schematic overview)**

 **Actuator**

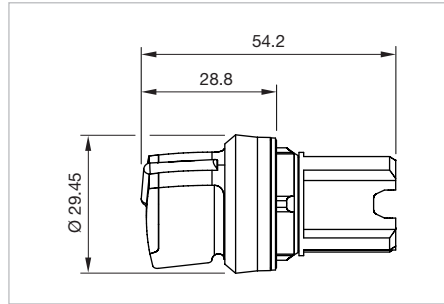
 **Holder** Page 111

 **Illumination element** Page 113

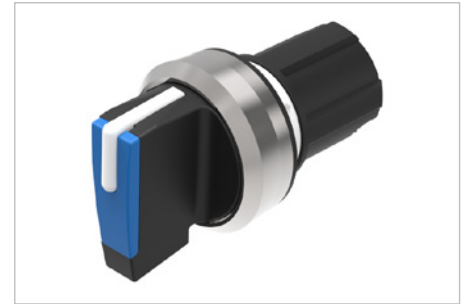
 **Switching element** Page 112

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

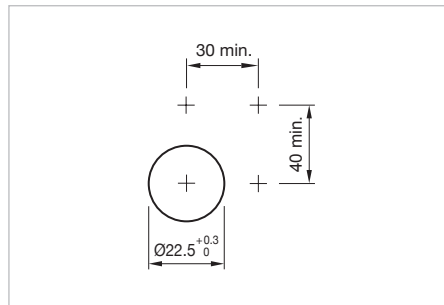
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



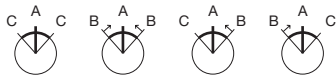
Product can differ from the current configuration.







Mounting cut-outs [mm]











**Additional Information**











- External diameter of the short lever 32.3 mm













Switching positions (A = Rest, B = Momentary, C = Maintained)











Lever	Front ring	Housing material	Switching action	Switching angle	Part No.	Wiring diagram	Weight
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Plastic black	Plastic	C - A - C	C = 45°	<b>45-2819.1C20.003</b>	1	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic yellow	Plastic black	Plastic	C - A - C	C = 45°	<b>45-2819.1C40.003</b>	1	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Plastic black	Plastic	C - A - C	C = 45°	<b>45-2819.1C50.003</b>	1	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic blue	Plastic black	Plastic	C - A - C	C = 45°	<b>45-2819.1C60.003</b>	1	0.022 kg










Lever	Front ring	Housing material	Switching action	Switching angle	Part No.	Wiring diagram	Weight
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Plastic black	Plastic	C - A - C	C = 45°	<b>45-2819.1C90.003</b>	1	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Plastic black	Plastic	B - A - B	B = 45°	<b>45-280S.1C20.003</b>	2	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic yellow	Plastic black	Plastic	B - A - B	B = 45°	<b>45-280S.1C40.003</b>	2	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Plastic black	Plastic	B - A - B	B = 45°	<b>45-280S.1C50.003</b>	2	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic blue	Plastic black	Plastic	B - A - B	B = 45°	<b>45-280S.1C60.003</b>	2	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Plastic black	Plastic	B - A - B	B = 45°	<b>45-280S.1C90.003</b>	2	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Plastic black	Plastic	C - A - B	C = 45°, B = 45°	<b>45-2816.1C20.003</b>	3	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic yellow	Plastic black	Plastic	C - A - B	C = 45°, B = 45°	<b>45-2816.1C40.003</b>	3	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Plastic black	Plastic	C - A - B	C = 45°, B = 45°	<b>45-2816.1C50.003</b>	3	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic blue	Plastic black	Plastic	C - A - B	C = 45°, B = 45°	<b>45-2816.1C60.003</b>	3	0.022 kg

Lever	Front ring	Housing material	Switching action	Switching angle	Part No.	Wiring diagram	Weight
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Plastic black	Plastic	C - A - B	C = 45°, B = 45°	<b>45-2816.1C90.003</b>	3	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Plastic black	Plastic	B - A - C	B = 45°, C = 45°	<b>45-280X.1C20.003</b>	4	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic yellow	Plastic black	Plastic	B - A - C	B = 45°, C = 45°	<b>45-280X.1C40.003</b>	4	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Plastic black	Plastic	B - A - C	B = 45°, C = 45°	<b>45-280X.1C50.003</b>	4	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic blue	Plastic black	Plastic	B - A - C	B = 45°, C = 45°	<b>45-280X.1C60.003</b>	4	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Plastic black	Plastic	B - A - C	B = 45°, C = 45°	<b>45-280X.1C90.003</b>	4	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Metal sandgrey	Plastic	C - A - C	C = 45°	<b>45-2819.3C20.003</b>	1	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic yellow	Metal sandgrey	Plastic	C - A - C	C = 45°	<b>45-2819.3C40.003</b>	1	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Metal sandgrey	Plastic	C - A - C	C = 45°	<b>45-2819.3C50.003</b>	1	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic blue	Metal sandgrey	Plastic	C - A - C	C = 45°	<b>45-2819.3C60.003</b>	1	0.022 kg

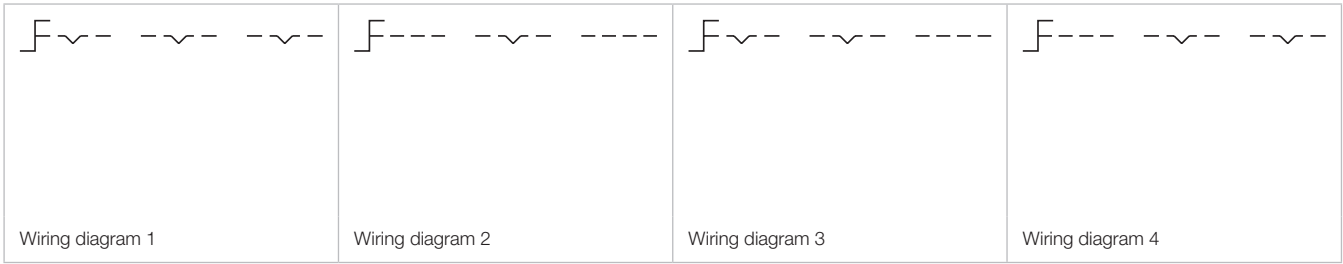
Lever	Front ring	Housing material	Switching action	Switching angle	Part No.	Wiring diagram	Weight
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal sandgrey	Plastic	C - A - C	C = 45°	<b>45-2819.3C90.003</b>	1	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Metal sandgrey	Plastic	B - A - B	B = 45°	<b>45-280S.3C20.003</b>	2	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic yellow	Metal sandgrey	Plastic	B - A - B	B = 45°	<b>45-280S.3C40.003</b>	2	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Metal sandgrey	Plastic	B - A - B	B = 45°	<b>45-280S.3C50.003</b>	2	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic blue	Metal sandgrey	Plastic	B - A - B	B = 45°	<b>45-280S.3C60.003</b>	2	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal sandgrey	Plastic	B - A - B	B = 45°	<b>45-280S.3C90.003</b>	2	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Metal sandgrey	Plastic	C - A - B	C = 45°, B = 45°	<b>45-2816.3C20.003</b>	3	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic yellow	Metal sandgrey	Plastic	C - A - B	C = 45°, B = 45°	<b>45-2816.3C40.003</b>	3	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Metal sandgrey	Plastic	C - A - B	C = 45°, B = 45°	<b>45-2816.3C50.003</b>	3	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic blue	Metal sandgrey	Plastic	C - A - B	C = 45°, B = 45°	<b>45-2816.3C60.003</b>	3	0.022 kg



Lever	Front ring	Housing material	Switching action	Switching angle	Part No.	Wiring diagram	Weight
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal sandgrey	Plastic	C - A - B	C = 45°, B = 45°	<b>45-2816.3C90.003</b>	3	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Metal sandgrey	Plastic	B - A - C	B = 45°, C = 45°	<b>45-280X.3C20.003</b>	4	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic yellow	Metal sandgrey	Plastic	B - A - C	B = 45°, C = 45°	<b>45-280X.3C40.003</b>	4	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Metal sandgrey	Plastic	B - A - C	B = 45°, C = 45°	<b>45-280X.3C50.003</b>	4	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic blue	Metal sandgrey	Plastic	B - A - C	B = 45°, C = 45°	<b>45-280X.3C60.003</b>	4	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal sandgrey	Plastic	B - A - C	B = 45°, C = 45°	<b>45-280X.3C90.003</b>	4	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Metal silver	Metal	C - A - C	C = 45°	<b>45-2819.2C20.003</b>	1	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic yellow	Metal silver	Metal	C - A - C	C = 45°	<b>45-2819.2C40.003</b>	1	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Metal silver	Metal	C - A - C	C = 45°	<b>45-2819.2C50.003</b>	1	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal silver	Metal	C - A - C	C = 45°	<b>45-2819.2C90.003</b>	1	0.022 kg

Lever	Front ring	Housing material	Switching action	Switching angle	Part No.	Wiring diagram	Weight
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Metal silver	Metal	B - A - B	B = 45°	<b>45-280S.2C20.003</b>	2	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic amber	Metal silver	Metal	B - A - B	B = 45°	<b>45-280S.2C30.003</b>	2	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic yellow	Metal silver	Metal	B - A - B	B = 45°	<b>45-280S.2C40.003</b>	2	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Metal silver	Metal	B - A - B	B = 45°	<b>45-280S.2C50.003</b>	2	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic blue	Metal silver	Metal	B - A - B	B = 45°	<b>45-280S.2C60.003</b>	2	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal silver	Metal	B - A - B	B = 45°	<b>45-280S.2C90.003</b>	2	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Metal silver	Metal	C - A - B	C = 45°, B = 45°	<b>45-2816.2C20.003</b>	3	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Metal silver	Metal	C - A - B	C = 45°, B = 45°	<b>45-2816.2C50.003</b>	3	0.022 kg
	<b>Selector switch actuator 3 positions, short lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal silver	Metal	C - A - B	C = 45°, B = 45°	<b>45-2816.2C90.003</b>	3	0.022 kg
			B - A - C	B = 45°, C = 45°	<b>45-280X.2C90.003</b>	4	0.022 kg

Switching action: A = Rest, B = Momentary, C = Maintain

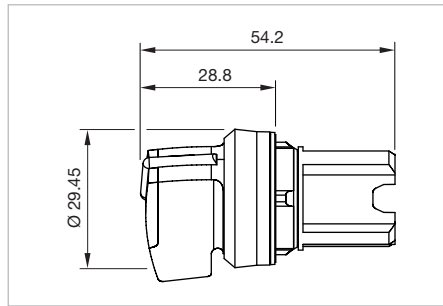


# 45 Raised design

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



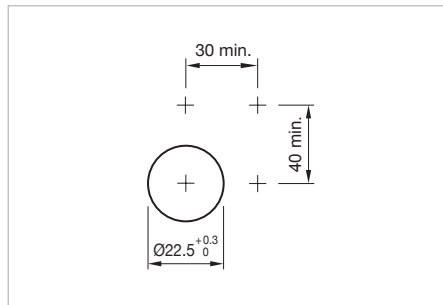
Product can differ from the current configuration.



Dimensions [mm]

### Additional Information

- External diameter of the long lever 44.8 mm



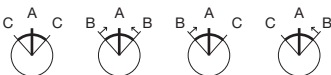
Mounting cut-outs [mm]

### Equipment consisting of (schematic overview)

	<b>Actuator</b>	
	<b>Holder</b>	Page 111
	<b>Illumination element</b>	Page 113
	<b>Switching element</b>	Page 112







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.







Switching positions (A = Rest, B = Momentary, C = Maintained)

Lever	Front ring	Housing material	Switching action	Switching angle	Part No.	Wiring diagram	Weight
	<b>Selector switch actuator 3 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Metal silver	Metal	C - A - C	C = 45°	<b>45-2819.2D20.003</b>	1	0.022 kg
	<b>Selector switch actuator 3 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Metal silver	Metal	C - A - C	C = 45°	<b>45-2819.2D50.003</b>	1	0.022 kg
	<b>Selector switch actuator 3 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal silver	Metal	C - A - C	C = 45°	<b>45-2819.2D90.003</b>	1	0.022 kg
	<b>Selector switch actuator 3 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Metal silver	Metal	B - A - B	B = 45°	<b>45-280S.2D20.003</b>	2	0.022 kg

Lever	Front ring	Housing material	Switching action	Switching angle	Part No.	Wiring diagram	Weight
	<b>Selector switch actuator 3 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic green	Metal silver	Metal	B - A - B	B = 45°	<b>45-280S.2D50.003</b>	2	0.022 kg
	<b>Selector switch actuator 3 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal silver	Metal	B - A - B	B = 45°	<b>45-280S.2D90.003</b>	2	0.022 kg
	<b>Selector switch actuator 3 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Metal silver	Metal	C - A - B	C = 45°, B = 45°	<b>45-2816.2D20.003</b>	3	0.022 kg
	<b>Selector switch actuator 3 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal silver	Metal	C - A - B	C = 45°, B = 45°	<b>45-2816.2D90.003</b>	3	0.022 kg
	<b>Selector switch actuator 3 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic red	Metal silver	Metal	B - A - C	B = 45°, C = 45°	<b>45-280X.2D20.003</b>	4	0.022 kg
	<b>Selector switch actuator 3 positions, long lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal silver	Metal	B - A - C	B = 45°, C = 45°	<b>45-280X.2D90.003</b>	4	0.022 kg

Switching action: A = Rest, B = Momentary, C = Maintain

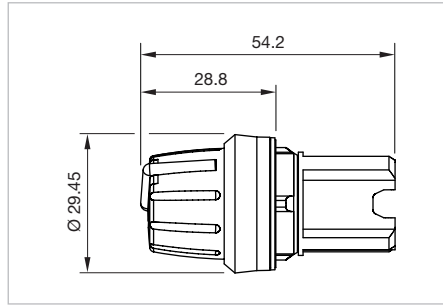
			
Wiring diagram 1	Wiring diagram 2	Wiring diagram 3	Wiring diagram 4

# 45 Raised design

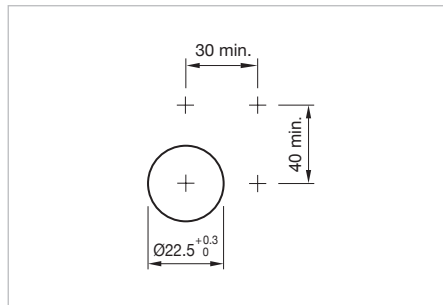
## Selector switch actuator 4 positions round lever, IP66, IP67, IP69K



Product can differ from the current configuration.

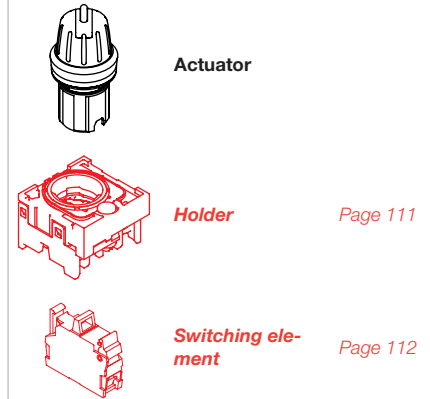


Dimensions [mm]






Mounting cut-outs [mm]

### Equipment consisting of (schematic overview)

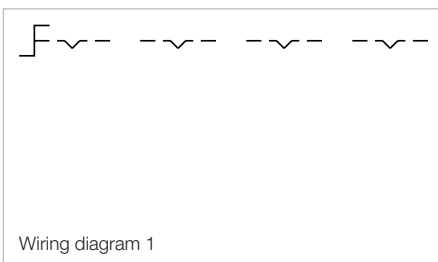


Each Part Number listed below includes all the black components shown in the 3D-drawing.

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

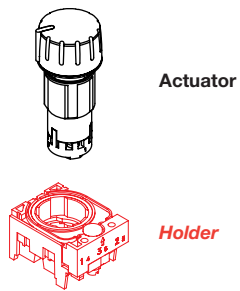
Lever	Front ring	Housing material	Switching action	Switching angle	Part No.	Wiring diagram	Weight
	<b>Selector switch actuator 4 positions, round lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Plastic black	Plastic	C	C = 90°	<b>45-2845.1E90.002</b>	1	0.023 kg
	<b>Selector switch actuator 4 positions, round lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal sandgrey	Plastic	C	C = 90°	<b>45-2845.3E90.002</b>	1	0.023 kg
	<b>Selector switch actuator 4 positions, round lever, Front dimension Ø 29.45 mm</b>						
Plastic white	Metal silver	Metal	C	C = 90°	<b>45-2845.2E90.002</b>	1	0.023 kg

Switching action: C = Maintain

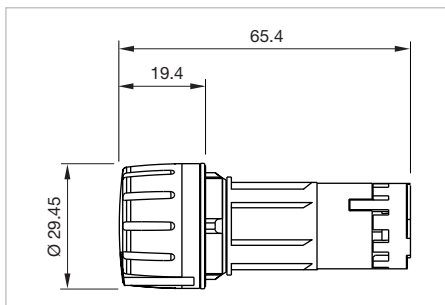


Potentiometer, IP66, IP67, IP69K

Equipment consisting of (schematic overview)



Page 111



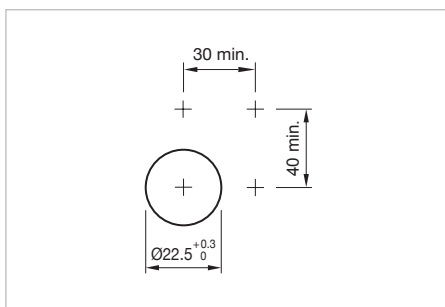
Dimensions [mm]



Product can differ from the current configuration.

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.



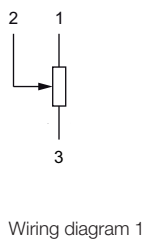
Mounting cut-outs [mm]

Additional Information

- Power 0.5 W
- Slewing range 210°–150°

Product attribute	Front ring	Housing material	Part No.	Component layout	Wiring diagram	Weight
 <p><b>Potentiometer, Front dimension Ø 29.45 mm</b></p>						
Resistor 1 kOhm / linear, series E3	Plastic black	Plastic	<b>45-2P03.1E10.000</b>	1	1	0.03 kg
Resistor 4.7 kOhm / linear, series E3	Plastic black	Plastic	<b>45-2P04.1E10.000</b>	1	1	0.03 kg
Resistor 10 kOhm / linear, series E3	Plastic black	Plastic	<b>45-2P02.1E10.000</b>	1	1	0.03 kg
Resistor 47 kOhm / linear, series E3	Plastic black	Plastic	<b>45-2P06.1E10.000</b>	1	1	0.03 kg
Resistor 100 kOhm / linear, series E3	Plastic black	Plastic	<b>45-2P01.1E10.000</b>	1	1	0.03 kg
Resistor 470 kOhm / linear, series E3	Plastic black	Plastic	<b>45-2P05.1E10.000</b>	1	1	0.03 kg
Resistor 1 kOhm / linear, series E3	Metal silver	Metal	<b>45-2P03.2E10.000</b>	1	1	0.03 kg
Resistor 4.7 kOhm / linear, series E3	Metal silver	Metal	<b>45-2P04.2E10.000</b>	1	1	0.03 kg
Resistor 10 kOhm / linear, series E3	Metal silver	Metal	<b>45-2P02.2E10.000</b>	1	1	0.03 kg
Resistor 47 kOhm / linear, series E3	Metal silver	Metal	<b>45-2P06.2E10.000</b>	1	1	0.03 kg
Resistor 100 kOhm / linear, series E3	Metal silver	Metal	<b>45-2P01.2E10.000</b>	1	1	0.03 kg
Resistor 470 kOhm / linear, series E3	Metal silver	Metal	<b>45-2P05.2E10.000</b>	1	1	0.03 kg

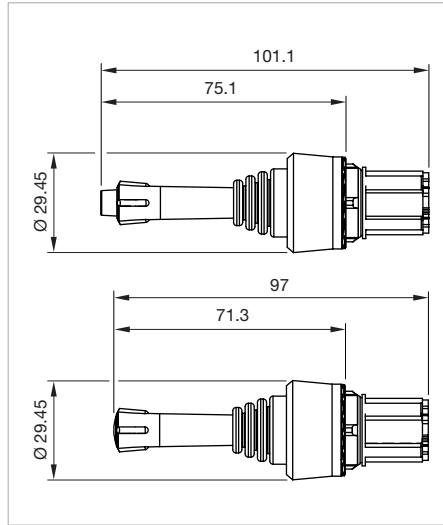
The component layouts you will find from Page 116



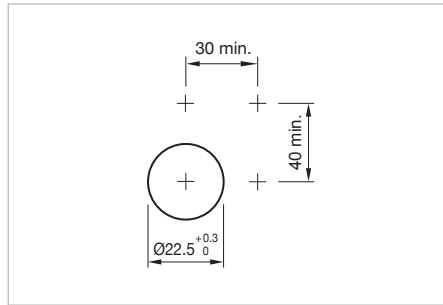
## Toggle stick, IP 65



Product can differ from the current configuration.

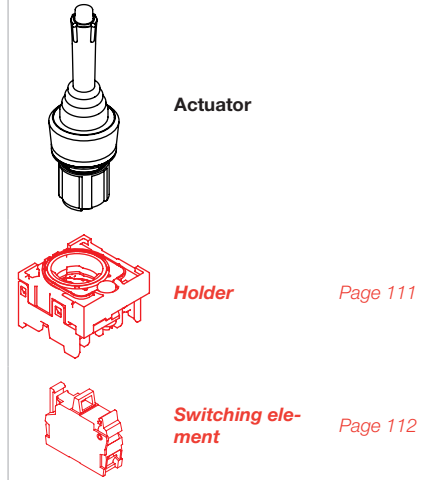


Dimensions [mm]





Mounting cut-outs [mm]

### 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.

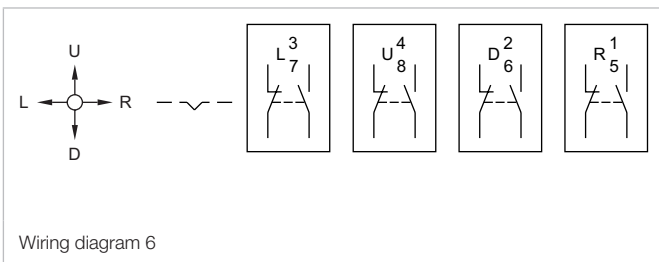
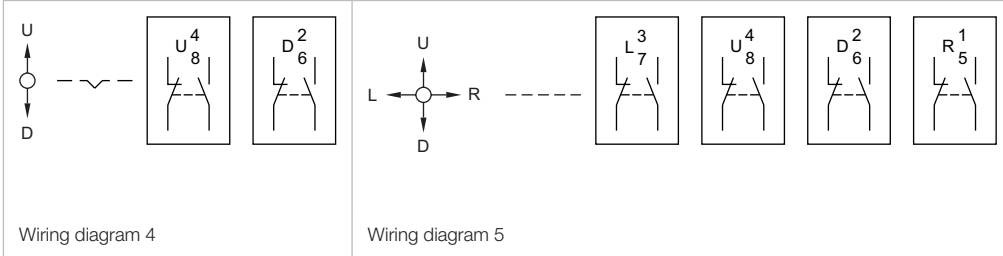
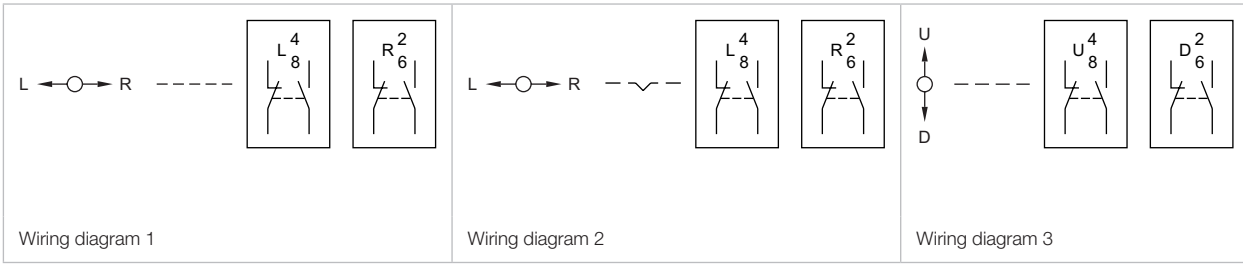
Product attribute	Front ring	Housing material	Switching action	Part No.	Wiring diagram	Weight
 <p><b>Toggle stick, Front dimension Ø 29.45 mm</b></p>						
2 positions (L-R) without latch position, lockable	Plastic black	Plastic	B	<b>45-2F13.1010.000</b>	1	0.035 kg
2 positions (LR) with latch position, lockable	Plastic black	Plastic	C	<b>45-2F26.1010.000</b>	2	0.035 kg
2 positions (U-D) without latch position, lockable	Plastic black	Plastic	B	<b>45-2F40.1010.000</b>	3	0.035 kg
2 positions (UD) with latch position, lockable	Plastic black	Plastic	C	<b>45-2F43.1010.000</b>	4	0.035 kg
4 positions without latch position, lockable	Plastic black	Plastic	B	<b>45-2F14.1010.000</b>	5	0.035 kg
4 positions with latch position, lockable	Plastic black	Plastic	C	<b>45-2F27.1010.000</b>	6	0.035 kg
 <p><b>Toggle stick, Front dimension Ø 29.45 mm</b></p>						
2 positions (L-R) without latch position, lockable	Metal sandgrey	Plastic	B	<b>45-2F13.3010.000</b>	1	0.042 kg
2 positions (LR) with latch position, lockable	Metal sandgrey	Plastic	C	<b>45-2F26.3010.000</b>	2	0.042 kg
2 positions (U-D) without latch position, lockable	Metal sandgrey	Plastic	B	<b>45-2F40.3010.000</b>	3	0.042 kg
2 positions (UD) with latch position, lockable	Metal sandgrey	Plastic	C	<b>45-2F43.3010.000</b>	4	0.042 kg
4 positions without latch position, lockable	Metal sandgrey	Plastic	B	<b>45-2F14.3010.000</b>	5	0.042 kg
4 positions with latch position, lockable	Metal sandgrey	Plastic	C	<b>45-2F27.3010.000</b>	6	0.042 kg



Product attribute	Front ring	Housing material	Switching action	Part No.	Wiring diagram	Weight
 <p><b>Toggle stick, Front dimension Ø 29.45 mm</b></p>						
2 positions (L-R) without latch position, lockable	Metal silver	Metal	B	<b>45-2F13.2010.000</b>	1	0.081 kg
2 positions (LR) with latch position, lockable	Metal silver	Metal	C	<b>45-2F26.2010.000</b>	2	0.081 kg
2 positions (U-D) without latch position, lockable	Metal silver	Metal	B	<b>45-2F40.2010.000</b>	3	0.081 kg
2 positions (UD) with latch position, lockable	Metal silver	Metal	C	<b>45-2F43.2010.000</b>	4	0.081 kg
4 positions without latch position, lockable	Metal silver	Metal	B	<b>45-2F14.2010.000</b>	5	0.081 kg
4 positions with latch position, lockable	Metal silver	Metal	C	<b>45-2F27.2010.000</b>	6	0.081 kg
 <p><b>Toggle stick, Front dimension Ø 29.45 mm</b></p>						
2 positions (L-R) without latch position	Plastic black	Plastic	B	<b>45-2F0T.1010.000</b>	1	0.035 kg
2 positions (LR) with latch position	Plastic black	Plastic	C	<b>45-2F20.1010.000</b>	2	0.035 kg
2 positions (U-D) without latch position	Plastic black	Plastic	B	<b>45-2F38.1010.000</b>	3	0.035 kg
2 positions (UD) with latch position	Plastic black	Plastic	C	<b>45-2F41.1010.000</b>	4	0.035 kg
4 positions without latch position	Plastic black	Plastic	B	<b>45-2F0V.1010.000</b>	5	0.035 kg
4 positions with latch position	Plastic black	Plastic	C	<b>45-2F21.1010.000</b>	6	0.035 kg
 <p><b>Toggle stick, Front dimension Ø 29.45 mm</b></p>						
2 positions (L-R) without latch position	Metal sandgrey	Plastic	B	<b>45-2F0T.3010.000</b>	1	0.042 kg
2 positions (LR) with latch position	Metal sandgrey	Plastic	C	<b>45-2F20.3010.000</b>	2	0.042 kg
2 positions (U-D) without latch position	Metal sandgrey	Plastic	B	<b>45-2F38.3010.000</b>	3	0.042 kg
2 positions (UD) with latch position	Metal sandgrey	Plastic	C	<b>45-2F41.3010.000</b>	4	0.042 kg
4 positions without latch position	Metal sandgrey	Plastic	B	<b>45-2F0V.3010.000</b>	5	0.042 kg
4 positions with latch position	Metal sandgrey	Plastic	C	<b>45-2F21.3010.000</b>	6	0.042 kg
 <p><b>Toggle stick, Front dimension Ø 29.45 mm</b></p>						
2 positions (L-R) without latch position	Metal silver	Metal	B	<b>45-2F0T.2010.000</b>	1	0.081 kg
2 positions (LR) with latch position	Metal silver	Metal	C	<b>45-2F20.2010.000</b>	2	0.081 kg
2 positions (U-D) without latch position	Metal silver	Metal	B	<b>45-2F38.2010.000</b>	3	0.081 kg
2 positions (UD) with latch position	Metal silver	Metal	C	<b>45-2F41.2010.000</b>	4	0.081 kg
4 positions without latch position	Metal silver	Metal	B	<b>45-2F0V.2010.000</b>	5	0.081 kg
4 positions with latch position	Metal silver	Metal	C	<b>45-2F21.2010.000</b>	6	0.081 kg

Switching action: B = Momentary, C = Maintain

# 45 Raised design

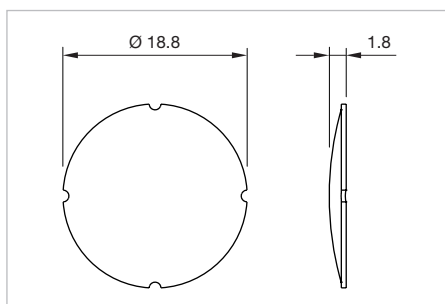


Front


Marking plate

Additional Information

- For illuminated pushbutton
- Markable, see «Marking»
- To change the text plate, the push cap is removed with a screwdriver and then snapped back



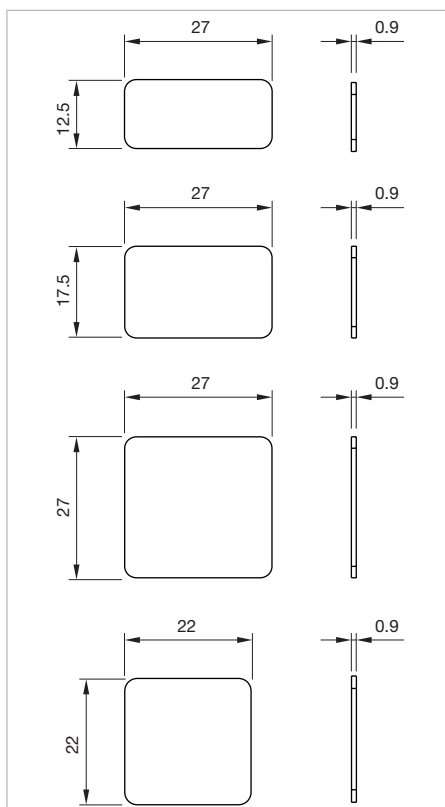
Dimensions [mm]

Marking plate illumination	Marking plate	Part No.	Weight
	<b>Marking plate</b>		
illuminative	white translucent	<b>45-563.0K00</b>	0.001 kg

Legend plate





Additional Information

- Markable, see «Marking»



Dimensions [mm]



# 45 Raised design





Product attribute	Dimension	Material	Colour	Part No.	Weight
 <b>Legend plate</b>					
for sticking or snapping in place	27 x 12.5 mm	Plastic	black	<b>45-573.1102</b>	0.001 kg
			red	<b>45-573.1202</b>	0.001 kg
			silver	<b>45-573.1A02</b>	0.001 kg
 <b>Legend plate</b>					
for sticking or snapping in place	27 x 17.5 mm	Plastic	black	<b>45-573.1103</b>	0.001 kg
			silver	<b>45-573.1A03</b>	0.001 kg
 <b>Legend plate</b>					
for sticking or snapping in place	27 x 27 mm	Plastic	black	<b>45-573.1105</b>	0.001 kg
			silver	<b>45-573.1A05</b>	0.001 kg
 <b>Legend plate</b>					
for sticking or snapping in place	22 x 22 mm	Plastic	silver	<b>45-573.1A04</b>	0.001 kg

## Emergency stop legend


### Additional Information

- Front panel thickness 3 mm max.

Dimension	Mounting cut-out	Marking	Colour	Product attribute	Part No.	Weight
 <b>Emergency stop legend</b>						
Ø 45 x 1 mm	Ø 22.5 mm	without marking	yellow		<b>45-50K.1407</b>	0.005 kg
 <b>Emergency stop legend</b>						
Ø 75 x 1 mm	Ø 22.5 mm	without marking	yellow		<b>45-50K.1408</b>	0.010 kg

Dimension	Mounting cut-out	Marking	Colour	Product attribute	Part No.	Weight
 <p><b>Emergency stop legend</b></p>						
Ø 75 x 1 mm	Ø 23 mm	without marking	yellow	self-adhesive	<b>45-50J.1400</b>	0.004 kg
 <p><b>Emergency stop legend</b></p>						
Ø 75 x 1 mm	Ø 23 mm	NOT - HALT	yellow	self-adhesive	<b>45-50J.140Q</b>	0.004 kg
 <p><b>Emergency stop legend</b></p>						
Ø 75 x 1 mm	Ø 23 mm	EMERGENCY STOP	yellow	self-adhesive	<b>45-50J.140S</b>	0.004 kg
 <p><b>Emergency stop legend</b></p>						
150 x 38 mm	Ø 23 mm	without marking	yellow	self-adhesive	<b>45-561.1400</b>	0.004 kg

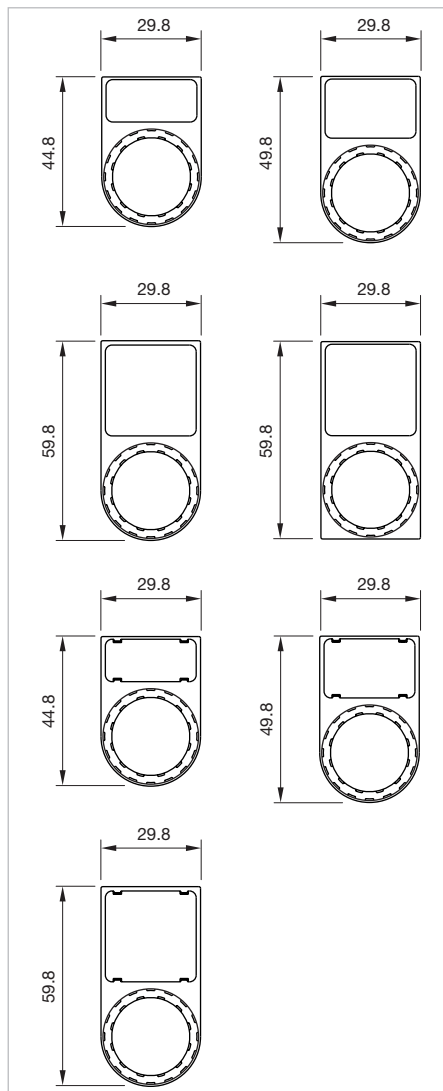
**Legend plate for potentiometer**

Dimension	Material	Colour	Part No.	Weight
 <p><b>Legend plate for potentiometer</b></p>				
Ø 40 mm	Plastic	black	<b>45-538.1100</b>	0.001 kg




## Legend support without legend





### Additional Information

- For sticking or snapping in place



Dimensions [mm]

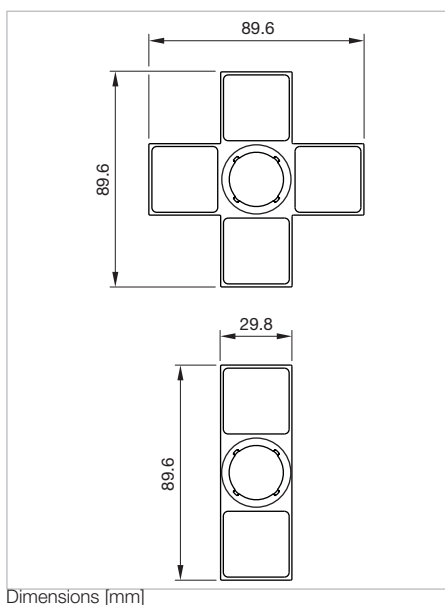
Product attribute	Material	Colour	Part No.	Weight
 <p><b>Legend support without legend</b></p>				
for legend plate 27 x 12.5 mm	Plastic	black	<b>45-564.1102</b>	0.002 kg
 <p><b>Legend support without legend</b></p>				
for legend plate 27 x 17.5 mm	Plastic	black	<b>45-567.1103</b>	0.002 kg
 <p><b>Legend support without legend</b></p>				
for legend plate 27 x 27 mm	Plastic	black	<b>45-569.1105</b>	0.002 kg

Product attribute	Material	Colour	Part No.	Weight
 <b>Legend support without legend</b>				
for legend plate 27 x 27 mm	Plastic	black	<b>45-570.1105</b>	0.002 kg
 <b>Legend support without legend</b>				
for legend plate 27 x 12.5 mm	Plastic	black	<b>45-564.1110</b>	0.002 kg
 <b>Legend support without legend</b>				
for legend plate 27 x 17.5 mm	Plastic	black	<b>45-567.1111</b>	0.002 kg
 <b>Legend support without legend</b>				
for legend plate 27 x 27 mm	Plastic	black	<b>45-569.1112</b>	0.002 kg

**Legend support without legend for toggle stick**

**Additional Information**

- For sticking or snapping in place



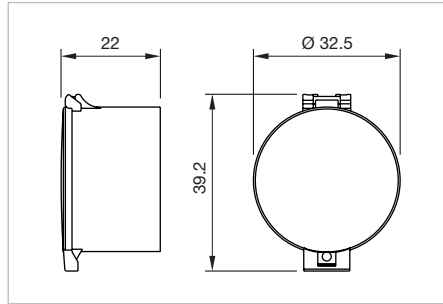
Product attribute	Material	Colour	Part No.	Weight
 <b>Legend support without legend for toggle stick</b>				
for legend plate 27 x 27 mm	Plastic	black	<b>45-571.1105</b>	0.002 kg

Product attribute	Material	Colour	Part No.	Weight
 <p><b>Legend support without legend for toggle stick</b></p>				
for legend plate 27 x 27 mm	Plastic	black	<b>45-572.1105</b>	0.002 kg



## Protective cover, IP66, IP67

### Additional Information



- Hinged, with means for sealing
- Please note that bigger minimum distances are necessary



Dimensions [mm]

Front protection	Material	Colour	Optics	Part No.	Weight
 <p><b>Protective cover</b></p>					
IP66, IP67	Plastic	black	opaque	<b>45-555.1100</b>	0.012 kg
 <p><b>Protective cover</b></p>					
IP66, IP67	Plastic	colourless	transparent	<b>45-555.1K00</b>	0.012 kg

## Protective cap, IP66, IP67

Product attribute	Front protection	Material	Colour	Optics	Part No.	Weight
 <p><b>Protective cap for pushbutton</b></p>						
for lens raised above bezel	IP66, IP67	Silicone	colourless	transparent	<b>45-544.1K00</b>	0.008 kg
for lens flush	IP66, IP67	Silicone	colourless	transparent	<b>45-545.1K00</b>	0.008 kg
 <p><b>Protective cap for</b></p>						
for selector switch, short lever	IP66, IP67	Silicone	colourless	transparent	<b>45-546.1K00</b>	0.006 kg

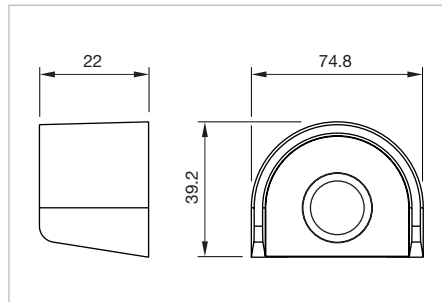


Product attribute	Front protection	Material	Colour	Optics	Part No.	Weight
 <p><b>Protective cap for Mushroom-head pushbutton</b></p>						
for Mushroom-head pushbutton Ø 40	IP66, IP67	Silicone	colourless	transparent	<b>45-543.1K00</b>	0.006 kg


**Emergency stop protective shroud**

**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



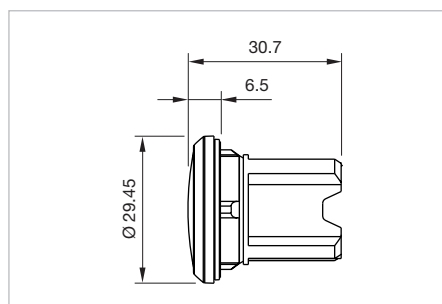
Dimensions [mm]

Material	Colour	Part No.	Weight
 <p><b>Emergency stop protective shroud</b></p>			
Plastic	yellow	<b>45-549.1400</b>	0.052 kg

**Blind plug, IP66, IP67**

**Additional Information**

- Use with plastic or metal holder



Dimensions [mm]


Mounting cut-out	Material	Colour	Part No.	Weight
 <p><b>Blind plug</b></p>				
Ø 22.5 mm	Plastic	black	<b>45-506.1100</b>	0.010 kg

Mounting cut-out	Material	Colour	Part No.	Weight
 <p><b>Blind plug</b></p>				
Ø 22.5 mm	Metal sandgrey	silver	<b>45-506.3A00</b>	0.008 kg
 <p><b>Blind plug</b></p>				
Ø 22.5 mm	Metal shiny	silver	<b>45-506.2A00</b>	0.038 kg

## Spare key

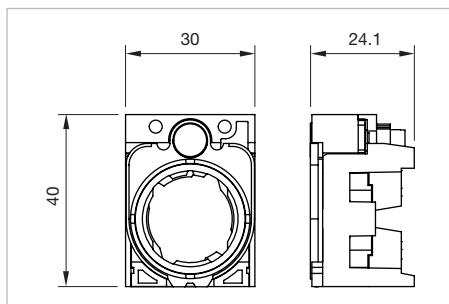
**Additional Information**

- For standard lock RONIS T254



Part No.	Weight
 <p><b>Two spare key</b></p>	
<b>45-522.0900</b>	0.008 kg

Rear side

Holder for 3 elements

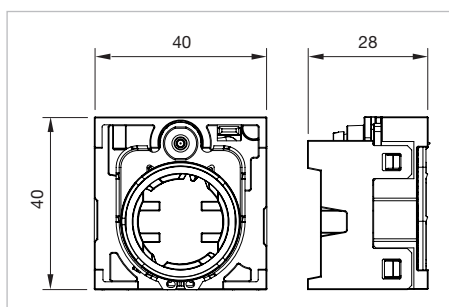


Dimensions [mm]


Material	Part No.	Component layout	Weight
 <p><b>Holder for 3 switching elements</b></p>			
Plastic	45-2300.1000.000	2	0.028 kg
 <p><b>Holder for 3 switching elements</b></p>			
Metal	45-2300.2000.000	2	0.046 kg


The component layouts you will find from Page 116

Holder for 4 elements



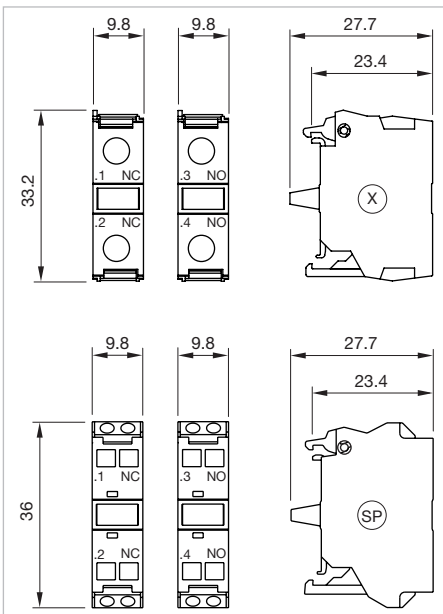
Dimensions [mm]

Material	Part No.	Component layout	Weight
 <p><b>Holder for 4 switching elements</b></p>			
Plastic	45-2400.1000.000	3	0.028 kg



Material	Part No.	Component layout	Weight
 <p><b>Holder for 4 switching elements</b></p>			
	Metal	<b>45-2400.2000.000</b>	3

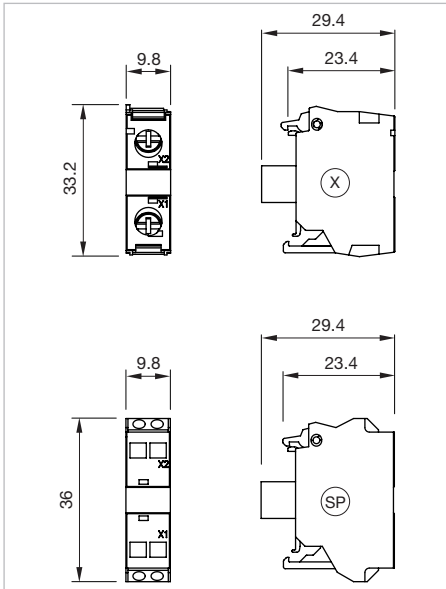
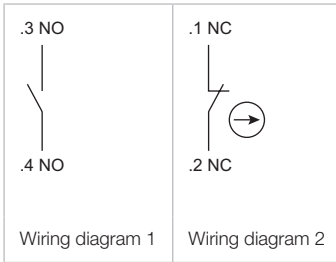
The component layouts you will find from Page 116

## Switching element front mounting





Dimensions [mm]  
 X = Screw terminal, SP = Spring-type terminal

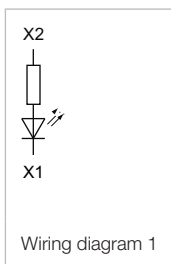
Switching current	Contacts	Contact material	Terminal	Part No.	Wiring diagram	Weight
 <p><b>Switching element</b></p>	1 NO	Silver	Screw	<b>45-311.1Z10</b>	1	0.010 kg
	1 NC	Silver	Screw	<b>45-312.1Z10</b>	2	0.010 kg
 <p><b>Switching element</b></p>	1 NO	Silver	Spring-type terminal	<b>45-311.1Z40</b>	1	0.010 kg
	1 NC	Silver	Spring-type terminal	<b>45-312.1Z40</b>	2	0.010 kg




Dimensions [mm]  
 X = Screw terminal, SP = Spring-type terminal

LED colour	Operating voltage	Terminal	Part No.	Wiring diagram	Weight
 <p><b>Illumination element</b></p>					
red	24 VAC/DC	Screw	<b>45-320.1E16</b>	1	0.009 kg
amber	24 VAC/DC	Screw	<b>45-320.1F16</b>	1	0.009 kg
yellow	24 VAC/DC	Screw	<b>45-320.1G16</b>	1	0.009 kg
green	24 VAC/DC	Screw	<b>45-320.1H16</b>	1	0.009 kg
blue	24 VAC/DC	Screw	<b>45-320.1J16</b>	1	0.009 kg
white	24 VAC/DC	Screw	<b>45-320.1N16</b>	1	0.009 kg
red	230 VAC	Screw	<b>45-320.1E18</b>	1	0.010 kg
amber	230 VAC	Screw	<b>45-320.1F18</b>	1	0.010 kg
yellow	230 VAC	Screw	<b>45-320.1G18</b>	1	0.010 kg
green	230 VAC	Screw	<b>45-320.1H18</b>	1	0.010 kg
blue	230 VAC	Screw	<b>45-320.1J18</b>	1	0.010 kg
white	230 VAC	Screw	<b>45-320.1N18</b>	1	0.010 kg
red	24-240 VAC/DC	Screw	<b>45-320.1E12</b>	1	0.010 kg
amber	24-240 VAC/DC	Screw	<b>45-320.1F12</b>	1	0.010 kg
yellow	24-240 VAC/DC	Screw	<b>45-320.1G12</b>	1	0.010 kg
green	24-240 VAC/DC	Screw	<b>45-320.1H12</b>	1	0.010 kg
blue	24-240 VAC/DC	Screw	<b>45-320.1J12</b>	1	0.010 kg
white	24-240 VAC/DC	Screw	<b>45-320.1N12</b>	1	0.010 kg

LED colour	Operating voltage	Terminal	Part No.	Wiring diagram	Weight
 <b>Illumination element</b>					
red	24 VAC/DC	Spring-type terminal	<b>45-320.1E46</b>	1	0.009 kg
amber	24 VAC/DC	Spring-type terminal	<b>45-320.1F46</b>	1	0.009 kg
yellow	24 VAC/DC	Spring-type terminal	<b>45-320.1G46</b>	1	0.009 kg
green	24 VAC/DC	Spring-type terminal	<b>45-320.1H46</b>	1	0.009 kg
blue	24 VAC/DC	Spring-type terminal	<b>45-320.1J46</b>	1	0.009 kg
white	24 VAC/DC	Spring-type terminal	<b>45-320.1N46</b>	1	0.009 kg
red	230 VAC	Spring-type terminal	<b>45-320.1E48</b>	1	0.010 kg
amber	230 VAC	Spring-type terminal	<b>45-320.1F48</b>	1	0.010 kg
yellow	230 VAC	Spring-type terminal	<b>45-320.1G48</b>	1	0.010 kg
green	230 VAC	Spring-type terminal	<b>45-320.1H48</b>	1	0.010 kg
blue	230 VAC	Spring-type terminal	<b>45-320.1J48</b>	1	0.010 kg
white	230 VAC	Spring-type terminal	<b>45-320.1N48</b>	1	0.010 kg
red	24-240 VAC/DC	Spring-type terminal	<b>45-320.1E42</b>	1	0.010 kg
amber	24-240 VAC/DC	Spring-type terminal	<b>45-320.1F42</b>	1	0.010 kg
yellow	24-240 VAC/DC	Spring-type terminal	<b>45-320.1G42</b>	1	0.010 kg
green	24-240 VAC/DC	Spring-type terminal	<b>45-320.1H42</b>	1	0.010 kg
blue	24-240 VAC/DC	Spring-type terminal	<b>45-320.1J42</b>	1	0.010 kg
white	24-240 VAC/DC	Spring-type terminal	<b>45-320.1N42</b>	1	0.010 kg



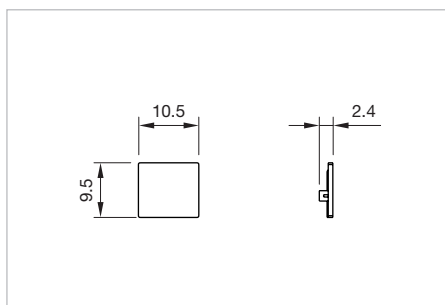
## Extension plungers

Product attribute	Material	Colour	Part No.	Weight
 <b>Extension plungers</b>				
for pushbutton with extended stroke	Plastic	black	<b>45-50M.1900</b>	0.009 kg


**Legend plate for switching elements**

**Additional Information**

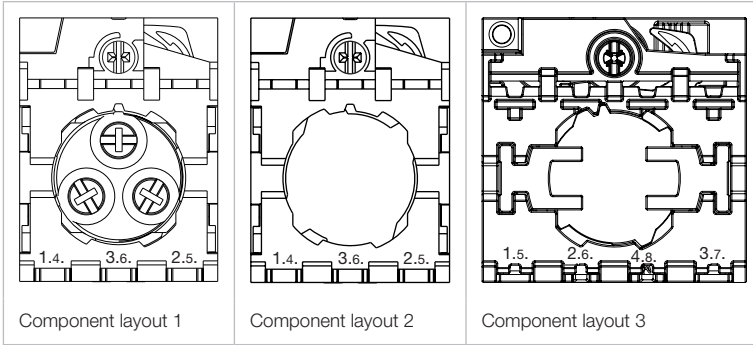
- Without inscription
- In support of the dust resistance



Dimensions [mm]

Product attribute	Dimension	Material	Colour	Part No.	Weight
 <p><b>Legend plate</b></p>					
for snapping in place	10.5 x 9.5 mm	Plastic	white	<b>45-523.1900</b>	0.001 kg

## Drawings





## Indicator actuator

### Material

#### Actuator element

Plastic

#### Front ring

Plastic or metal

#### Actuator housing

Plastic or metal

### Mechanical characteristics

#### 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

### Environmental conditions

#### Operating temperature

-25 °C ... +70 °C

#### Storage temperature

-40 °C ... +80 °C

#### Protection degree

IP66, IP67, IP69K

#### Environmental category

during operation according to IEC 60721:

3K6, 3C3,3S2, 3M6

## Pushbutton actuator

### Material

#### Actuator element

Plastic

#### Front ring

Plastic or metal

#### Actuator housing

Plastic or metal

### Mechanical characteristics

#### Operating frequency

Lens flat/level with front bezel:

- Momentary max. 3 600/h

- Maintain max. 1 800/h

Lens flat/raised above front ring:

- Momentary max. 3 600/h

- Maintain max. 1 800/h

Lens flat/lower than front ring:

- Momentary max. 3 600/h

Lens flat/lower than front ring, with castellation:

- Momentary max. 3 600/h

#### Mechanical lifetime

Lens flat/level with front bezel:

- Momentary 10 000 000 switching cycles

- Maintain 500 000 switching cycles

Lens flat/raised above front ring:

- Momentary 10 000 000 switching cycles

- Maintain 500 000 switching cycles

Lens flat/lower than front ring:

- Momentary 10 000 000 switching cycles

Lens flat/lower than front ring, with castellation:

- Momentary 10 000 000 switching cycles

#### Vibration resistance

according to IEC 60068-2-6

20 ... 500 Hz: 5 g

#### Shock resistance

according to IEC 60068-2-27

Sinusoidal half-wave 50 g /11 ms

### Environmental conditions

#### Operating temperature

-25 °C ... +70 °C

#### Storage temperature

-40 °C ... +80 °C

#### Protection degree

IP66, IP67, IP69K

#### Environmental category

during operation according to IEC 60721:

3K6, 3C3,3S2, 3M6

## Illuminated pushbutton actuator

### Material

#### Actuator element

Plastic

#### Front ring

Plastic or metal

#### Actuator housing

Plastic or metal

### Mechanical characteristics

#### Operating frequency

Lens flat/level with front bezel:

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

Lens flat/raised above front ring:

- Momentary max. 3 600/h

Lens flat/lower than front ring, with castellation:

- Momentary max. 3 600/h

#### Mechanical lifetime

Lens flat/level with front bezel:

- Momentary 3 000 000 switching cycles
- Maintain 500 000 switching cycles

Lens flat/raised above front ring:

- Momentary 3 000 000 switching cycles

Lens flat/lower than front ring, with castellation:

- Momentary 3 000 000 switching cycles

#### Vibration resistance

according to IEC 60068-2-6

20 ... 500 Hz: 5 g

#### Shock resistance

according to IEC 60068-2-27

Sinusoidal half-wave 50 g /11 ms

### Environmental conditions

#### Operating temperature

-25 °C ... +70 °C

#### Storage temperature

-40 °C ... +80 °C

#### Protection degree

IP66, IP67, IP69K

#### Environmental category

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 switching cycles

#### 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

### Environmental conditions

#### Operating temperature

-25 °C ... +70 °C

#### Storage temperature

-40 °C ... +80 °C

#### Protection degree

IP66, IP67, IP69K

#### Environmental category

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 switching cycles

#### 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

### Environmental conditions

#### Operating temperature

-25 °C ... +70 °C

#### Storage temperature

-40 °C ... +80 °C

#### Protection degree

IP66, IP67, IP69K

#### Environmental category

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

## Mushroom-head pushbutton actuator

### Material

#### Actuator element

Plastic

#### Actuator housing

Plastic or metal

### Mechanical characteristics

#### Type of unlocking device

Pull release

#### Operating frequency

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

#### Mechanical lifetime

- Momentary 10 000 000 switching cycles  
- Maintain 500 000 switching cycles

#### Vibration resistance

according to IEC 60068-2-6  
20 ... 500 Hz: 5 g

#### Shock resistance

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

### Environmental conditions

#### Operating temperature

-25 °C ... +70 °C

#### Storage temperature

-40 °C ... +80 °C

#### Protection degree

IP66, IP67, IP69K

#### Environmental category

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 switching cycles

#### 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

### Environmental conditions

#### Operating temperature

-25 °C ... +70 °C

#### Storage temperature

-40 °C ... +80 °C

#### Protection degree

IP66, IP67, IP69K

#### Environmental category

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

## 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. 1800/h

#### Mechanical lifetime

1 000 000 switching cycles

#### 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

### Environmental conditions

#### Operating temperature

-25 °C ... +70 °C

#### Storage temperature

-40 °C ... +80 °C

#### Protection degree

IP66, IP67, IP69K

#### Environmental category

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 mm<sup>2</sup>)
- With end sleeves 2 x (0.5 ... 0.75 mm<sup>2</sup>)
- Finely stranded
- Without end sleeves 2 x (0.5 ... 0.75 mm<sup>2</sup>)
- With end sleeves 2 x (0.5 ... 1.5 mm<sup>2</sup>)
- For AWG cables for auxiliary contacts 2 x (18 ... 14)

Spring-type terminal (SP)

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

#### Tightening torque

0.8 ... 1 Nm

#### Operating frequency

max. 1 800/h

#### Mechanical lifetime

25 000 switching cycles

#### 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

#### Slewing range

210°–150°

### Electrical characteristics

#### Active power consumption

0.5 W

#### Insulation voltage

Rated value 500 V

### Environmental conditions

#### Operating temperature

–25 °C ... +70 °C

#### Storage temperature

–40 °C ... +80 °C

#### Protection degree

IP66, IP67, IP69K

#### Environmental category

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

3 600/h

#### Mechanical lifetime

170 000 switching cycles

#### 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

### Environmental conditions

#### Operating temperature

–25 °C ... +70 °C

## Storage temperature

-40 °C ... +80 °C

## Protection degree

IP66, IP67, IP69K

## Environmental category

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 mm<sup>2</sup>)
- With end sleeves 2 x (0.5 ... 0.75 mm<sup>2</sup>)
- Finely stranded
- Without end sleeves 2 x (0.5 ... 0.75 mm<sup>2</sup>)
- With end sleeves 2 x (0.5 ... 1.5 mm<sup>2</sup>)
- For AWG cables for auxiliary contacts 2 x (18 ... 14)

Spring-type terminal (SP)

- Solid 2 x (0.25 ... 1.5 mm<sup>2</sup>)
- Finely stranded
- Without end sleeves 2 x (0.5 ... 1.5 mm<sup>2</sup>)
- With end sleeves 2 x (0.5 ... 0.75 mm<sup>2</sup>)
- 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 switching cycles

### 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

### Electrical characteristics

#### Standards

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

#### Thermal current

10 A

#### Insulation voltage

Rated value 500 V

#### Pollution degree

3

#### Surge voltage resistance

Rated value 6 kV

#### 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 ... 500 V

at DC

- Rated value 5 ... 500 V

#### Operating current

at AC-12

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

at AC-15

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

at DC-12

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

at DC-13

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

#### Environmental category

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

#### Environmental conditions

##### Operating temperature

-25 °C ... +70 °C

##### Storage temperature

-40 °C ... +80 °C

##### Protection degree

Housing IP40

Terminal IP20

#### Approvals

##### Approbations

CCC

CSA

UL

##### Declaration of conformity

CE

### Illumination element

#### Material

##### Housing

Plastic

#### Mechanical characteristics

##### Terminals

Screw terminal

- Solid 2 x (1.0 ... 1.5 mm<sup>2</sup>)
- With end sleeves 2 x (0.5 ... 0.75 mm<sup>2</sup>)
- Finely stranded
- Without end sleeves 2 x (0.5 ... 0.75 mm<sup>2</sup>)
- With end sleeves 2 x (0.5 ... 1.5 mm<sup>2</sup>)
- For AWG cables for auxiliary contacts 2 x (18 ... 14)

Spring-type terminal (SP)

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

##### Tightening torque

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

##### 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

*EAO reserves the right to alter specifications without further notice.*

#### 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

#### Environmental conditions

##### Operating temperature

-25 °C ... +70 °C

##### Storage temperature

-40 °C ... +80 °C

##### Protection degree

Terminal IP20

##### Environmental category

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

#### 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




























<b>Example</b>		Part No. 45-563.0K00.T00029
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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



**Symbols for marking plates**

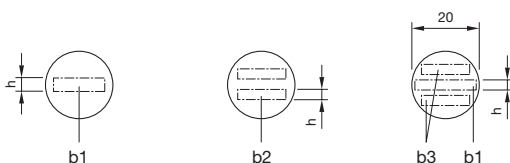
Graphic symbols are according to ISO 7000 or IEC 60417.

 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 h	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

<b>Example</b>	<b>Reset</b>	Part No. 45-573.1102.T00030
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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
Einrichten	Part No. 45-573.1102.T00018	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	










**Standard texts for legend plates silver, 27 x 12.5 mm**

<b>Example</b>	<b>Reset</b>	Part No. 45-573.1A02.T00030
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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

<b>Example</b>		Part No. 45-573.1103.T00028
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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	Defaut	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		





**Standard texts for legend plates silver, 27 x 17.5 mm**

<b>Example</b>		Part No. 45-573.1A03.T00028
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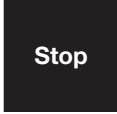
Standard texts German		Standard texts English	
Aus	Part No. 45-573.1A03.T00002	On	Part No. 45-573.1A03.T00020
Auf	Part No. 45-573.1A03.T00003	Off	Part No. 45-573.1A03.T00021
Ab	Part No. 45-573.1A03.T00004	Stop	Part No. 45-573.1A03.T00028
Vor	Part No. 45-573.1A03.T00005	Start	Part No. 45-573.1A03.T00029
Zurück	Part No. 45-573.1A03.T00006	Reset	Part No. 45-573.1A03.T00030
Rechts	Part No. 45-573.1A03.T00007	Fault	Part No. 45-573.1A03.T00036
Halt	Part No. 45-573.1A03.T00009	Man O Auto	Part No. 45-573.1A03.T00043
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

<b>Example</b>		Part No. 45-573.1103.T00028
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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.T00028	En Service	Part No. 45-573.1105.T00059
Zurück	Part No. 45-573.1105.T00006	Reverse	Part No. 45-573.1105.T00025	Defaut	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
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## 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.

## Suppressor circuits

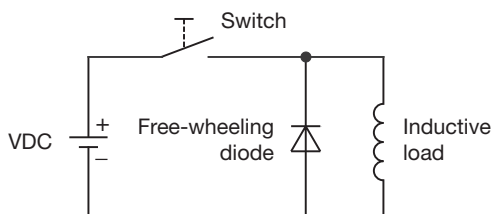
When switching inductive loads such as relays, DC motors, and DC solenoids, it is always important to absorb surges (e.g. with a diode) to protect the contacts. When these inductive loads are switched off, a counter emf can severely damage switch contacts and greatly shorten lifetime.

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

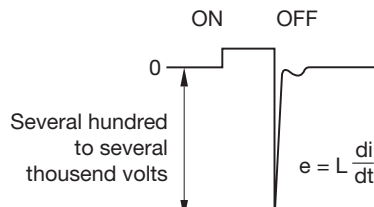
The free-wheeling diode should be chosen so that the reverse breakdown voltage is greater than the voltage driving the inductive load. The DC blocking voltage ( $V_R$ ) of the free-wheeling diode can be found in the datasheet of a diode. The forward current should be equal or greater than the maximum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







Part No.	Page	Part No.	Page	Part No.	Page
45-2922.3000.113 ...	80	45-2T07.10G0.000...	34	45-567.1103 .....	106
45-2924.1000.113 ...	79	45-2T07.10H0.000...	34	45-567.1111 .....	107
45-2924.2000.113 ...	80	45-2T07.10J0.000 ...	34	45-569.1105 .....	106
45-2924.3000.113 ...	80	45-2T07.10K0.000...	34	45-569.1112 .....	107
45-2925.1000.111 ...	77	45-2T07.30E0.000...	35	45-570.1105 .....	107
45-2925.2000.111 ...	78	45-2T07.30G0.000...	35	45-571.1105 .....	107
45-2925.3000.111 ...	77	45-2T07.30H0.000...	35	45-572.1105 .....	108
45-2C35.1920.110...	56	45-2T07.30J0.000 ...	35	45-573.1102 .....	104
45-2C36.1820.000...	55	45-2T07.30K0.000...	35	45-573.1103 .....	104
45-2C36.1920.000...	55	45-2T07.4FE0.000 ...	18	45-573.1105 .....	104
45-2C36.1A20.000 ...	56	45-2T07.4FG0.000...	18	45-573.1202 .....	104
45-2C37.1920.000...	56	45-2T07.4FH0.000...	18	45-573.1A02 .....	104
45-2D36.1920.000...	56	45-2T07.4FJ0.000 ...	18	45-573.1A03 .....	104
45-2D36.1A20.000 ..	56	45-2T07.4FK0.000 ...	18	45-573.1A04 .....	104
45-2F0T.1010.000..	101	45-311.1Z10 .....	112	45-573.1A05 .....	104
45-2F0T.2010.000..	101	45-311.1Z40 .....	112		
45-2F0T.3010.000..	101	45-312.1Z10 .....	112		
45-2F0V.1010.000..	101	45-312.1Z40 .....	112		
45-2F0V.2010.000..	101	45-320.1E12 .....	113		
45-2F0V.3010.000..	101	45-320.1E16 .....	113		
45-2F13.1010.000 .	100	45-320.1E18 .....	113		
45-2F13.2010.000 .	101	45-320.1E42 .....	114		
45-2F13.3010.000 .	100	45-320.1E46 .....	114		
45-2F14.1010.000 .	100	45-320.1E48 .....	114		
45-2F14.2010.000 .	101	45-320.1F12 .....	113		
45-2F14.3010.000 .	100	45-320.1F16 .....	113		
45-2F20.1010.000 .	101	45-320.1F18 .....	113		
45-2F20.2010.000 .	101	45-320.1F42 .....	114		
45-2F20.3010.000 .	101	45-320.1F46 .....	114		
45-2F21.1010.000 .	101	45-320.1F48 .....	114		
45-2F21.2010.000 .	101	45-320.1G12 .....	113		
45-2F21.3010.000 .	101	45-320.1G16 .....	113		
45-2F26.1010.000 .	100	45-320.1G18 .....	113		
45-2F26.2010.000 .	101	45-320.1G42 .....	114		
45-2F26.3010.000 .	100	45-320.1G46 .....	114		
45-2F27.1010.000 .	100	45-320.1G48 .....	114		
45-2F27.2010.000 .	101	45-320.1H12 .....	113		
45-2F27.3010.000 .	100	45-320.1H16 .....	113		
45-2F38.1010.000 .	101	45-320.1H18 .....	113		
45-2F38.2010.000 .	101	45-320.1H42 .....	114		
45-2F38.3010.000 .	101	45-320.1H46 .....	114		
45-2F40.1010.000 .	100	45-320.1H48 .....	114		
45-2F40.2010.000 .	101	45-320.1J12 .....	113		
45-2F40.3010.000 .	100	45-320.1J16 .....	113		
45-2F41.1010.000 .	101	45-320.1J18 .....	113		
45-2F41.2010.000 .	101	45-320.1J42 .....	114		
45-2F41.3010.000 .	101	45-320.1J46 .....	114		
45-2F43.1010.000 .	100	45-320.1J48 .....	114		
45-2F43.2010.000 .	101	45-320.1N12 .....	113		
45-2F43.3010.000 .	100	45-320.1N16 .....	113		
45-2P01.1E10.000...	99	45-320.1N18 .....	113		
45-2P01.2E10.000...	99	45-320.1N42 .....	114		
45-2P02.1E10.000...	99	45-320.1N46 .....	114		
45-2P02.2E10.000...	99	45-320.1N48 .....	114		
45-2P03.1E10.000...	99	45-506.1100 .....	109		
45-2P03.2E10.000...	99	45-506.2A00 .....	110		
45-2P04.1E10.000...	99	45-506.3A00 .....	110		
45-2P04.2E10.000...	99	45-50J.1400 .....	105		
45-2P05.1E10.000...	99	45-50J.140Q .....	105		
45-2P05.2E10.000...	99	45-50J.140S .....	105		
45-2P06.1E10.000...	99	45-50K.1407 .....	104		
45-2P06.2E10.000...	99	45-50K.1408 .....	104		
45-2T00.10E0.000 ...	32	45-50M.1900 .....	114		
45-2T00.10F0.000 ...	32	45-522.0900 .....	110		
45-2T00.10G0.000...	32	45-523.1900 .....	115		
45-2T00.10H0.000...	32	45-538.1100 .....	105		
45-2T00.10J0.000 ...	32	45-543.1K00 .....	109		
45-2T00.10K0.000...	33	45-544.1K00 .....	108		
45-2T00.10N0.000...	33	45-545.1K00 .....	108		
45-2T00.20E0.000 ...	33	45-546.1K00 .....	108		
45-2T00.20F0.000 ...	33	45-549.1400 .....	109		
45-2T00.20G0.000...	33	45-555.1100 .....	108		
45-2T00.20H0.000...	33	45-555.1K00 .....	108		
45-2T00.20J0.000 ...	33	45-561.1400 .....	105		
45-2T00.20K0.000...	33	45-563.0K00 .....	103		
45-2T00.20N0.000...	33	45-564.1102 .....	106		
45-2T07.10E0.000 ...	34	45-564.1110 .....	107		