

# Series 61

**Characteristics**

The compact 16 mm Series 61 is especially suited for:

- Flush design
- Raised design
- PCB (with adaptor)

The modular design caters to a broad range of applications and combinations.

**Functions**

The Series 61 incorporates the following functions:

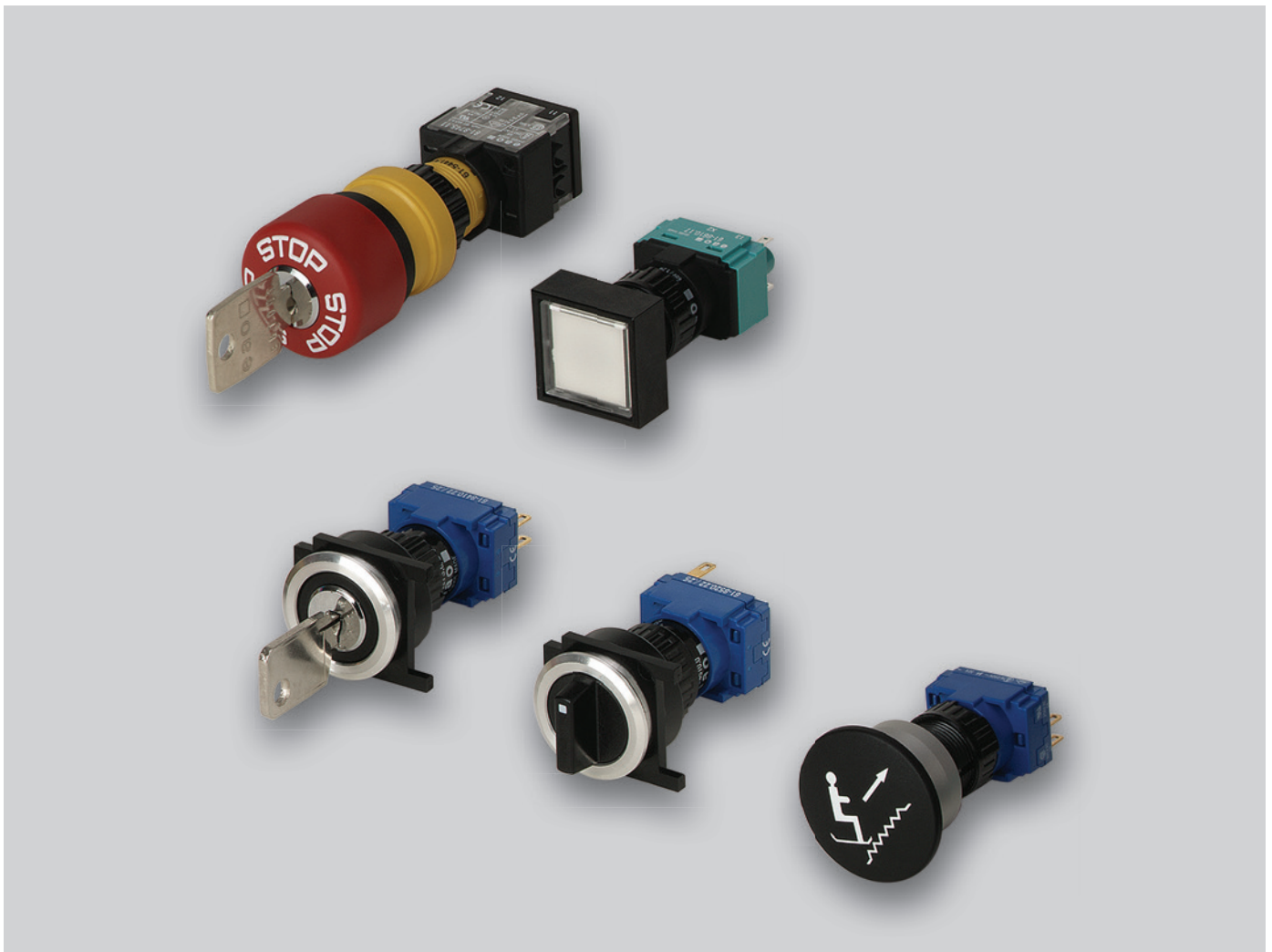
- Indicator
- Pushbutton
- Illuminated pushbutton
- E-STOP switch
- Stop switch
- Mushroom-head pushbutton
- Keylock switch
- Selector switch
- Buzzer
- Potentiometer

**Market segments**

The EAO Series 61 is especially suited for applications in the segments:

- Public transportation
- Machinery and Automation
- Construction machines and special-purpose vehicles
- Lifting and moving
- Panel building

Please refer to the EAO website to obtain detailed information regarding this series [www.products.eao.com](http://www.products.eao.com)  
Configure a product to your exact needs and request a quotation.





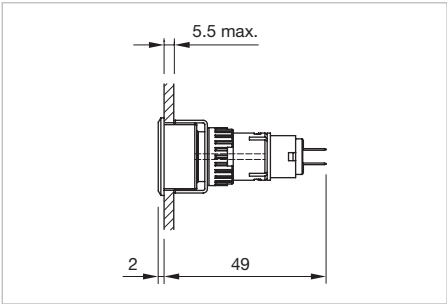
<b>Overview</b>	
Flush design	
Indicator	584
Illuminated pushbutton	590
Mushroom-head pushbutton	593
Keylock switch	594
Selector switch	603
Buzzer	607
Potentiometer	608
<b>Raised design</b>	
Indicator	609
Illuminated pushbutton	613
Emergency-stop switch	616
Stop switch	618
Mushroom-head pushbutton	619
Keylock switch	620
Selector switch	629
<b>Accessories</b>	<b>633</b>
<b>Drawings</b>	<b>667</b>
<b>Technical data</b>	<b>669</b>
<b>Marking</b>	<b>674</b>
<b>Application guidelines</b>	<b>677</b>

61 Flush design

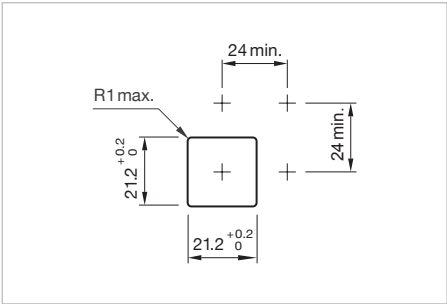
Indicator complete square, IP 65



Product can differ from the current configuration.



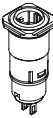




Dimensions [mm]




Mounting cut-outs [mm]

Equipment consisting of (schematic overview)


	<b>Lens</b>	page 632
	<b>Single-LED</b>	page 657
	<b>Actuator</b>	
	<b>Front bezel set</b>	page 640
	<b>Fixing nut</b>	

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.

Terminal	Part No.	Wiring diagram	Weight
 <b>Indicator actuator complete square</b> Solder 2.8 x 0.5 mm	61-0000.02	1	0.006 kg

x2+




x1-


Wiring diagram 1

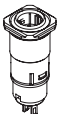



Indicator complete rectangular, IP 65


Equipment consisting of (schematic overview)

**Lens**  
*page 632*

**Single-LED**  
*page 657*

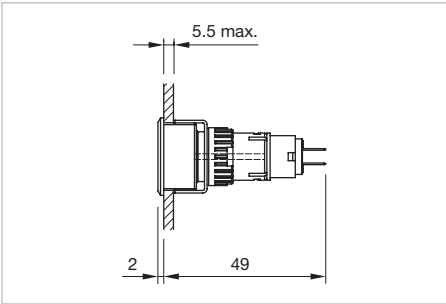
**Actuator**

**Front bezel set**  
*page 640*

**Fixing nut**

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

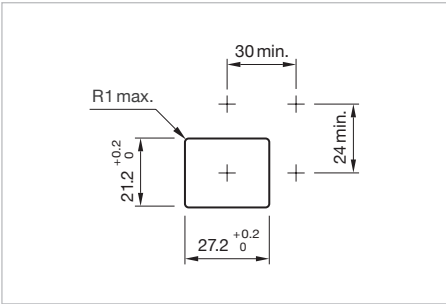
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Product can differ from the current configuration.



Mounting cut-outs [mm]

Additional Information

- For Front dimension 24 x 30 mm

Terminal



Indicator actuator complete rectangular

Solder 2.8 x 0.5 mm

Part No.

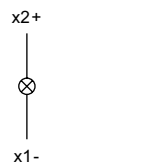
Wiring diagram

Weight

61-0000.02

1

0.006 kg



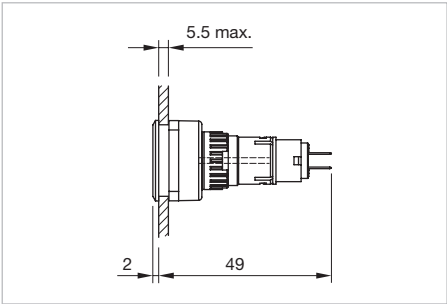
Wiring diagram 1

# 61 Flush design

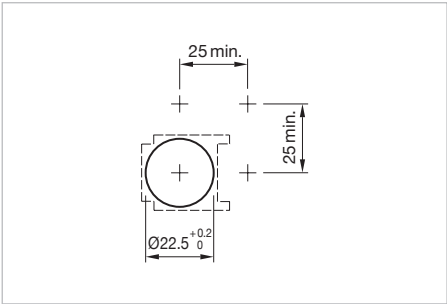
Indicator complete round, IP 65



Product can differ from the current configuration.



Dimensions [mm]




Mounting cut-outs [mm]

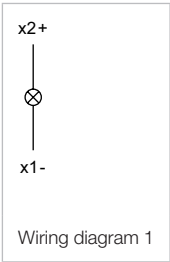
Equipment consisting of (schematic overview)

	<b>Lens</b>	page 632
	<b>Single-LED</b>	page 657
	<b>Actuator</b>	
	<b>Front bezel set</b>	page 640
	<b>Fixing nut</b>	

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.

Terminal	Part No.	Wiring diagram	Weight
 <b>Indicator actuator complete round</b>			
Solder 2.8 x 0.5 mm	61-0000.02	1	0.006 kg



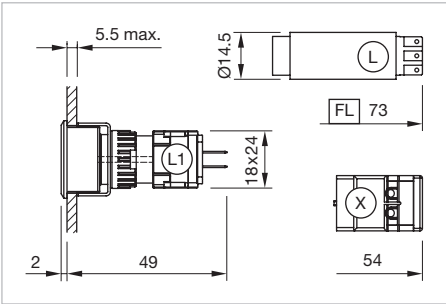
Indicator square, IP 65

Equipment consisting of (schematic overview)

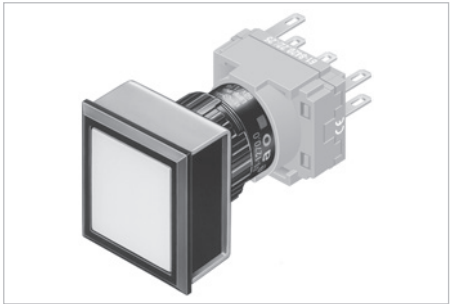
- **Lens** *page 632*
- **Single-LED** *page 657*
- **Actuator**
- **Front bezel set** *page 640*
- **Front bezel set** *page 640*
- **Fixing nut**
- **Lamp element** *page 650*

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.



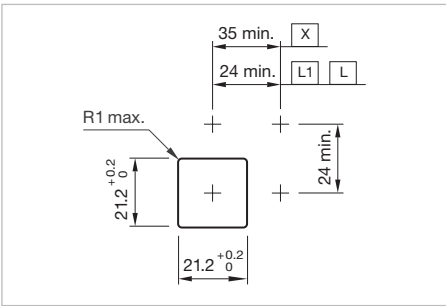
Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
L = Solder terminal,  
X = Screw terminal,  
FL = Flasher



Product can differ from the current configuration.

Additional Information

- For front dimension 24 x 24 mm



Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
L = Solder terminal,  
X = Screw terminal

Part No.

Weight



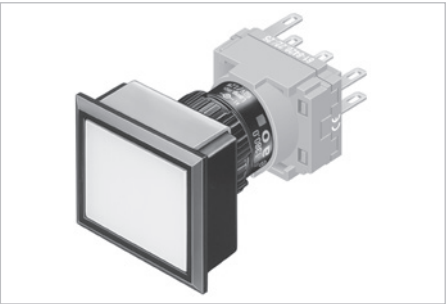
Indicator actuator square, flush design

61-0009.0

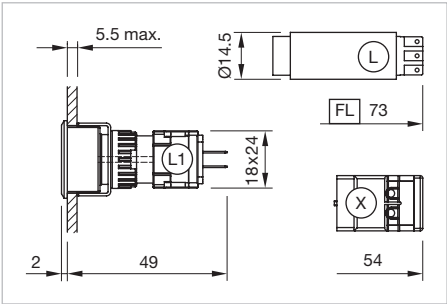
0.005 kg

61 Flush design

Indicator rectangular, IP 65



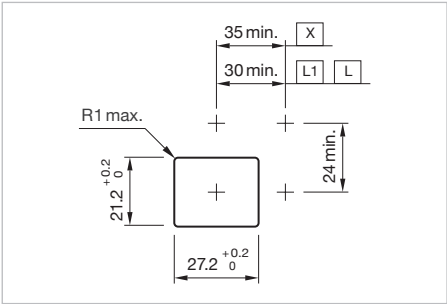
Product can differ from the current configuration.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
L = Solder terminal,  
X = Screw terminal,  
FL = Flasher

**Additional Information**

- For front dimension 24 x 30 mm



Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
L = Solder terminal,  
X = Screw terminal

**Equipment consisting of (schematic overview)**

	<b>Lens</b>	page 632
	<b>Single-LED</b>	page 657
	<b>Actuator</b>	
	<b>Front bezel set</b>	page 640
	<b>Fixing nut</b>	
	<b>Lamp element</b>	page 650


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 page s shown.


Part No.		Weight
<div></div> <div>Indicator actuator rectangular</div>		
61-0009.0		0.005 kg


Indicator round, IP 65


Equipment consisting of (schematic overview)


**Lens**  
*page 632*

**Single-LED**  
*page 657*

**Actuator**

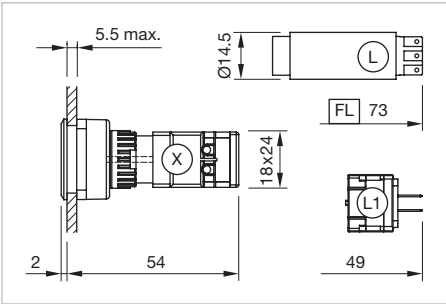
**Front bezel set**  
*page 640*

**Fixing nut**

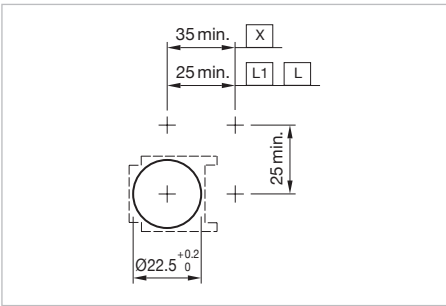
**Lamp element**  
*page 650*

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

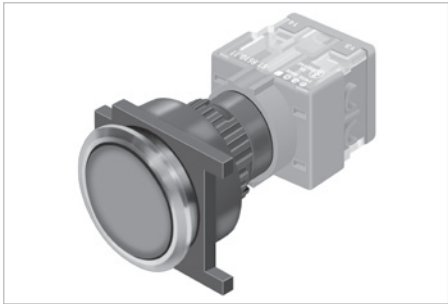
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
L = Solder terminal,  
X = Screw terminal,  
FL = Flasher



Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
L = Solder terminal,  
X = Screw terminal



Product can differ from the current configuration.

Additional Information

- For front dimension Ø 25 mm

Part No.

Weight



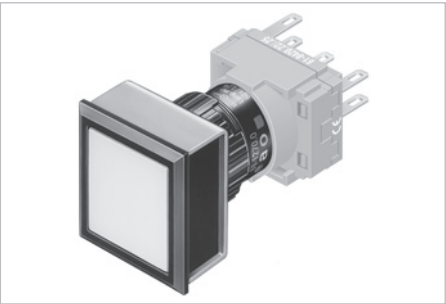
Indicator actuator round

61-0009.0

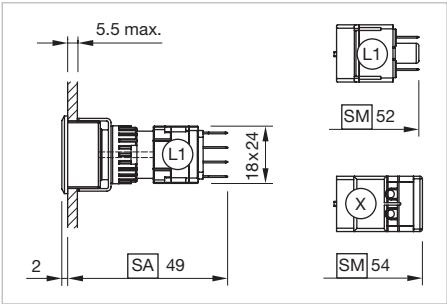
0.005 kg

61 Flush design

Illuminated pushbutton square, IP 65



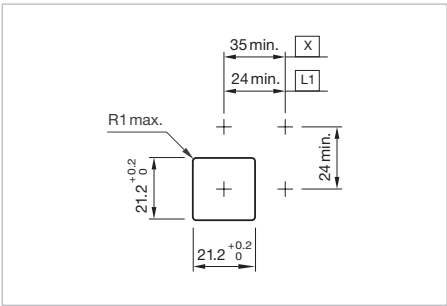
Product can differ from the current configuration.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal

**Additional Information**

- For front dimension 24 x 24 mm



Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal

**Equipment consisting of (schematic overview)**

	<b>Lens</b>	page 632
	<b>Single-LED</b>	page 657
	<b>Actuator</b>	
	<b>Front bezel set</b>	page 640
	<b>Fixing nut</b>	
	<b>Switching element</b>	page 651

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	Switching action	Part No.	Wiring diagram	Weight
	<b>Illuminated pushbutton actuator square</b>			
	B	<b>61-1100.0</b>	1	0.005 kg
	C	<b>61-1200.0</b>	2	0.005 kg
	B - C convertible from momentary to maintained action	<b>61-1300.0</b>	1	0.005 kg


Switching action: B = Momentary, C = Maintain


Wiring diagram 1	Wiring diagram 2


Illuminated pushbutton rectangular, IP 65


Equipment consisting of (schematic overview)

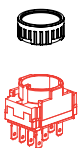
**Lens**  
*page 632*

**Single-LED**  
*page 657*

**Actuator**

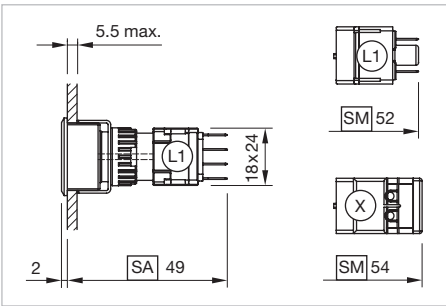
**Front bezel set**  
*page 640*

**Fixing nut**

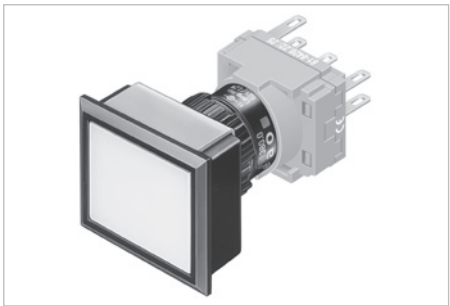
**Switching element**  
*page 651*

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

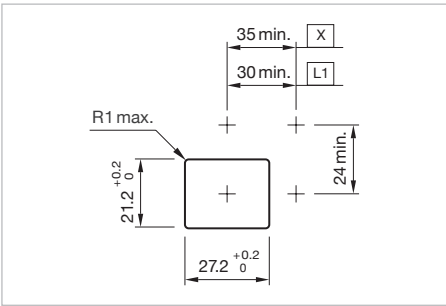
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal




Product can differ from the current configuration.



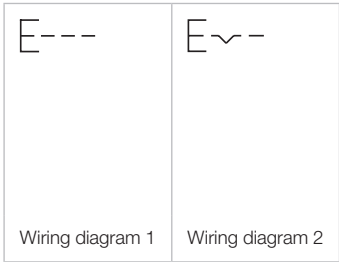
Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal

Additional Information

- For front dimension 24 x 30 mm

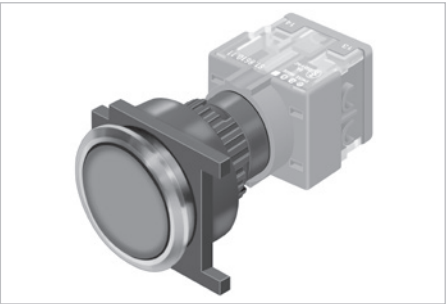
Product attribute	Switching action	Part No.	Wiring diagram	Weight
	<b>Illuminated pushbutton actuator rectangular</b>			
	B	<b>61-1100.0</b>	1	0.005 kg
	C	<b>61-1200.0</b>	2	0.005 kg
	B - C	<b>61-1300.0</b>	1	0.005 kg

Switching action: B = Momentary, C = Maintain

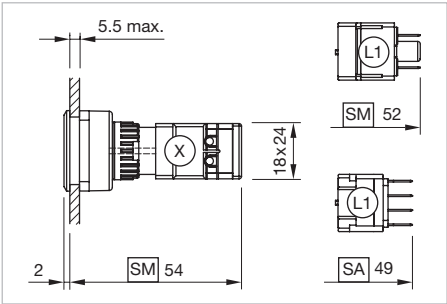


61 Flush design

Illuminated pushbutton round, IP 65



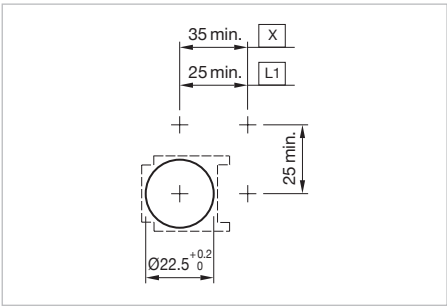
Product can differ from the current configuration.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal

**Additional Information**

- For front dimension Ø 25 mm



Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal

**Equipment consisting of (schematic overview)**

	<b>Druckhaube</b>	Seite 632
	<b>Single-LED</b>	page 657
	<b>Actuator</b>	
	<b>Front bezel set</b>	page 640
	<b>Fixing nut</b>	
	<b>Switching element</b>	page 651

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	Switching action	Part No.	Wiring diagram	Weight
	<b>Illuminated pushbutton actuator round</b>			
	B	<b>61-1100.0</b>	1	0.005 kg
	C	<b>61-1200.0</b>	2	0.005 kg
	B - C convertible from momentary to maintained action	<b>61-1300.0</b>	1	0.005 kg


Switching action: B = Momentary, C = Maintain


Wiring diagram 1	Wiring diagram 2





Mushroom-head pushbutton, IP 65


Equipment consisting of (schematic overview)

**Lens**  
*page 637*

**Actuator**

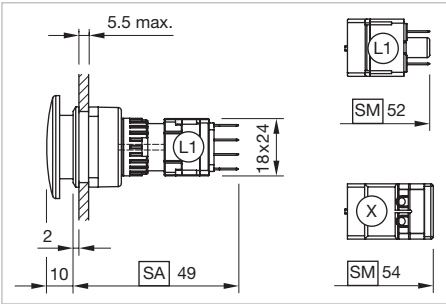
**Front bezel set**  
*page 641*

**Fixing nut**

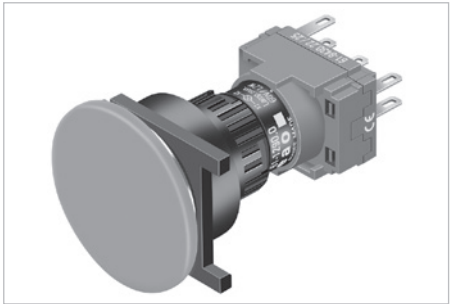
**Switching element**  
*page 651*

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

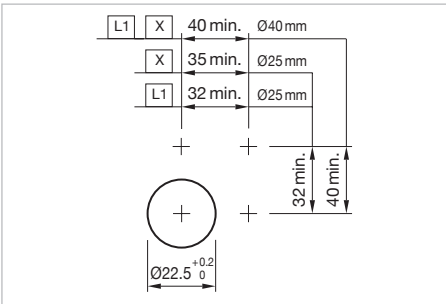
To obtain a complete unit, please select the red components from the pages shown.




Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal




Product can differ from the current configuration.




Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal

Product attribute	Switching action	Part No.	Wiring diagram	Weight
 <b>Mushroom-head pushbutton actuator, Front dimension Ø 32 mm</b>				
	B	<b>61-1100.0</b>	1	0.005 kg
	C	<b>61-1200.0</b>	2	0.005 kg
B-C convertible from momentary to maintained action	B - C	<b>61-1300.0</b>	1	0.005 kg

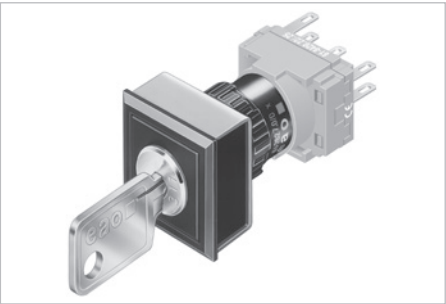
Switching action: B = Momentary, C = Maintain

  
Wiring diagram 1

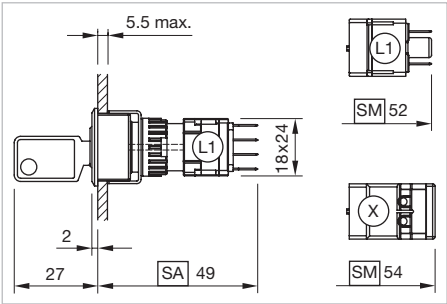
  
Wiring diagram 2

61 Flush design

Keylock switch 2 positions square, IP 65



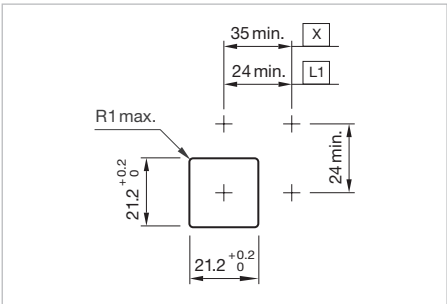
Product can differ from the current configuration.



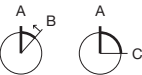
Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal

**Additional Information**

- For front dimension 24 x 24 mm
- The standard lock: DOM 311
- Two keys are supplied with each key lock switch
- Optional lock numbers on request



Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal



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

**Equipment consisting of (schematic overview)**

**Keylock front bezel** *page 637*

**Actuator**

**Front bezel set** *page 642*

**Fixing nut**

**Switching element** *page 651*

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 action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
<div><b>Keylock switch actuator 2 positions square</b></div>					
A - B	B = 42°	A	61-2101.0/D	1	0.065 kg
A - C	C = 90°	A	61-2201.0/D	2	0.065 kg
		C	61-2203.0/D	2	0.065 kg
		A + C	61-2205.0/D	2	0.065 kg


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

Wiring diagram 1


Wiring diagram 2

Keylock switch 2 positions rectangular, IP 65


Equipment consisting of (schematic overview)




**Keylock front bezel**  
page 637




**Actuator**



**Front bezel set**  
page 642



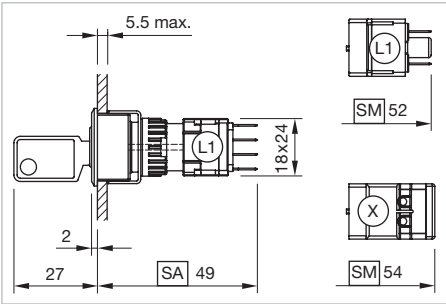
**Fixing nut**



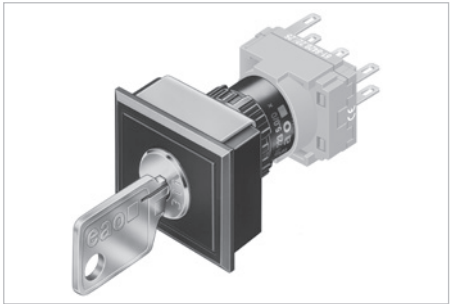
**Switching element**  
page 651

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

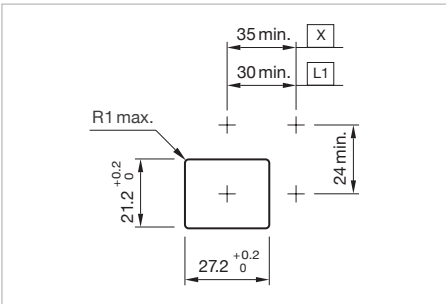
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal



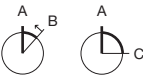
Product can differ from the current configuration.




Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal

Additional Information

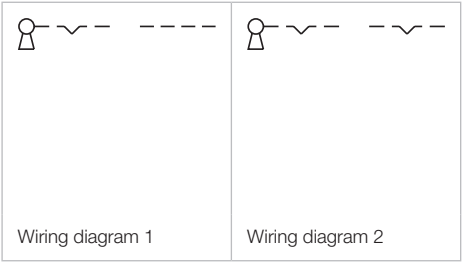
- For front dimension 24 x 30 mm
- The standard lock: DOM 311
- Two keys are supplied with each key lock switch
- Optional lock numbers on request



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

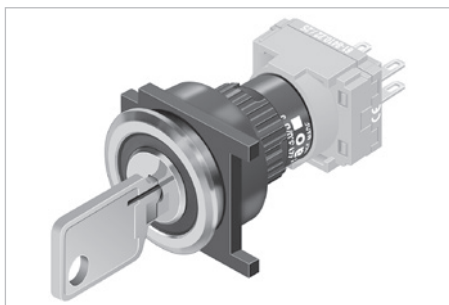
Switching action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
 <b>Keylock switch actuator 2 positions rectangular</b>					
A - B	B = 42°	A	61-2101.0/D	1	0.065 kg
A - C	C = 90°	A	61-2201.0/D	2	0.065 kg
		C	61-2203.0/D	2	0.065 kg
		A + C	61-2205.0/D	2	0.065 kg

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

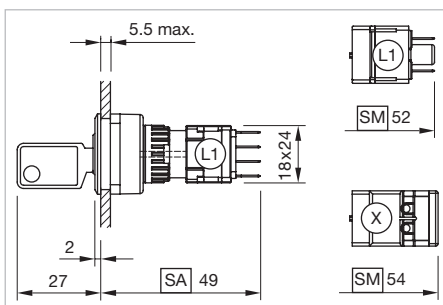


## 61 Flush design

### Keylock switch actuator 2 positions round, IP 65



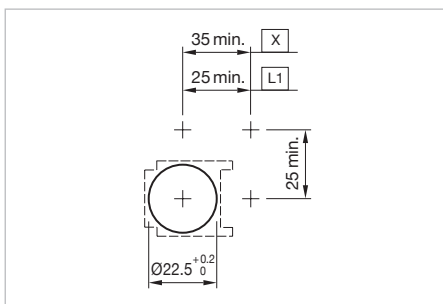
Product can differ from the current configuration.



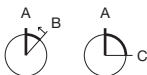
Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal

### Additional Information

- For front dimension 24 x 24 mm
- The standard lock: DOM 311
- Two keys are supplied with each key lock switch
- Optional lock numbers on request



Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal



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

**Equipment consisting of (schematic overview)**



**Keylock front bezel** page 637



### Actuator



**Front bezel set** *page 642*



### Anti-twist ring



Part of front bezel set




### Fixing nut



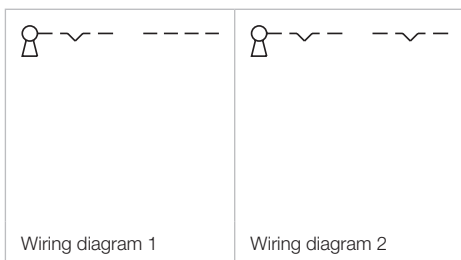
**Switching element** *page 651*

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 action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
 <p><b>Keylock switch actuator 2 positions round</b></p>					
A - B	B = 42°	A	<b>61-2101.0/D</b>	1	0.065 kg
A - C	C = 90°	A	<b>61-2201.0/D</b>	2	0.065 kg
		C	<b>61-2203.0/D</b>	2	0.065 kg
		A + C	<b>61-2205.0/D</b>	2	0.065 kg

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

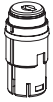


## Keylock switch 3 positions square, IP 65

### Equipment consisting of (schematic overview)



**Keylock front bezel** *page 637*



**Actuator**



**Front bezel set** *page 642*



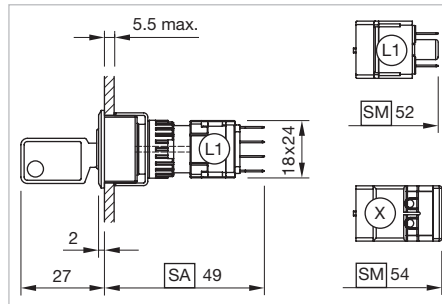
**Fixing nut**



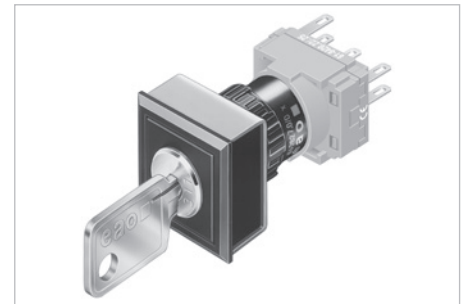
**Switching element** *page 653*

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

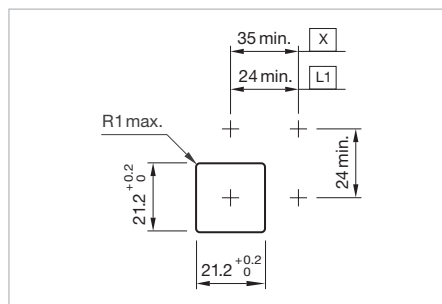
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal



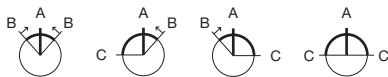
Product can differ from the current configuration.




Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal

### Additional Information

- For front dimension 24 x 24 mm
- The standard lock: DOM 311
- Two keys are supplied with each key lock switch
- Optional lock numbers on request

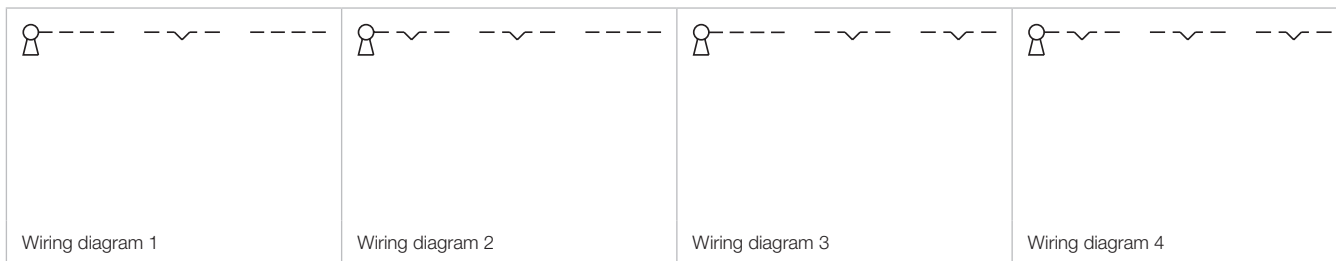


Switching positions (A = Rest, B = Momentary, C = Maintained)

Switching action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
 <b>Keylock switch actuator 3 positions square</b>					
B - A - B	B = 42° / 42°	A	<b>61-2501.0/D</b>	1	0.065 kg
C - A - B	C = 90°, B = 42°	A	<b>61-2801.0/D</b>	2	0.065 kg
		C	<b>61-2802.0/D</b>	2	0.065 kg
		C + A	<b>61-2804.0/D</b>	2	0.065 kg
B - A - C	B = 42°, C = 90°	A	<b>61-2701.0/D</b>	3	0.065 kg
		A + C	<b>61-2705.0/D</b>	3	0.065 kg
C - A - C	C = 90° / 90°	A	<b>61-2601.0/D</b>	4	0.065 kg
		C - -	<b>61-2602.0/D</b>	4	0.065 kg
		- - C	<b>61-2603.0/D</b>	4	0.065 kg
		C + A	<b>61-2604.0/D</b>	4	0.065 kg
		A + C	<b>61-2605.0/D</b>	4	0.065 kg
		C + C	<b>61-2606.0/D</b>	4	0.065 kg
		C + A + C	<b>61-2607.0/D</b>	4	0.065 kg


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

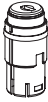
## 61 Flush design





Keylock switch 3 positions rectangular, IP 65

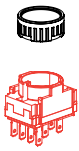
Equipment consisting of (schematic overview)

**Keylock front bezel**  
*page 637*

**Actuator**

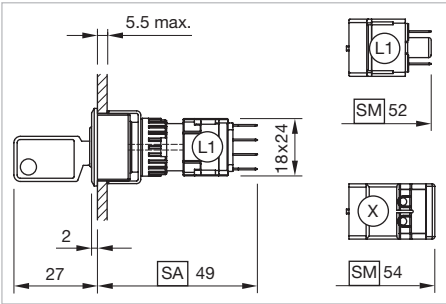
**Front bezel set**  
*page 642*

**Fixing nut**

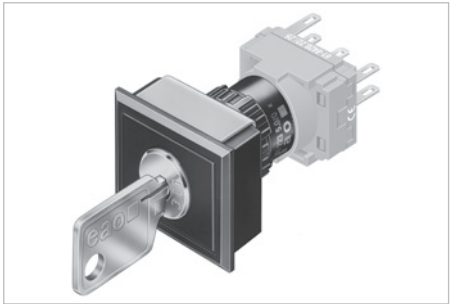
**Switching element**  
*page 653*

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

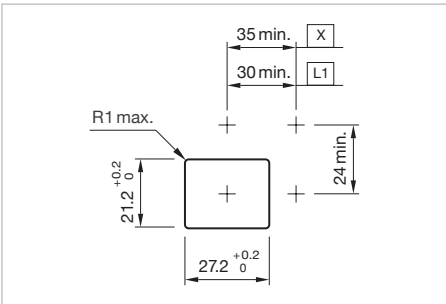
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal



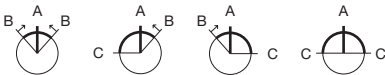
Product can differ from the current configuration.




Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal

Additional Information

- For front dimension 24 x 30 mm
- The standard lock: DOM 311
- Two keys are supplied with each key lock switch
- Optional lock numbers on request

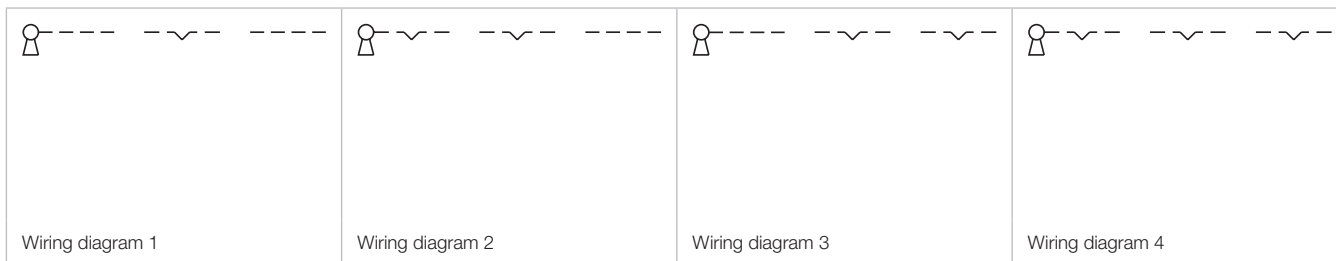


Switching positions (A = Rest, B = Momentary, C = Maintained)

Switching action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
 <b>Keylock switch actuator 3 positions rectangular</b>					
B - A - B	B = 42° / 42°	A	61-2501.0/D	1	0.065 kg
C - A - B	C = 90°, B = 42°	A	61-2801.0/D	2	0.065 kg
		C	61-2802.0/D	2	0.065 kg
		C + A	61-2804.0/D	2	0.065 kg
B - A - C	B = 42°, C = 90°	A	61-2701.0/D	3	0.065 kg
		A + C	61-2705.0/D	3	0.065 kg
C - A - C	C = 90° / 90°	A	61-2601.0/D	4	0.065 kg
		C - -	61-2602.0/D	4	0.065 kg
		- - C	61-2603.0/D	4	0.065 kg
		C + A	61-2604.0/D	4	0.065 kg
		A + C	61-2605.0/D	4	0.065 kg
		C + C	61-2606.0/D	4	0.065 kg
		C + A + C	61-2607.0/D	4	0.065 kg

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

## 61 Flush design



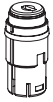


## Keylock switch 3 positions round, IP 65

### Equipment consisting of (schematic overview)



**Keylock front bezel** page 642



**Actuator**



**Front bezel set** page 642



**Anti-twist ring**



**Part of front bezel set**



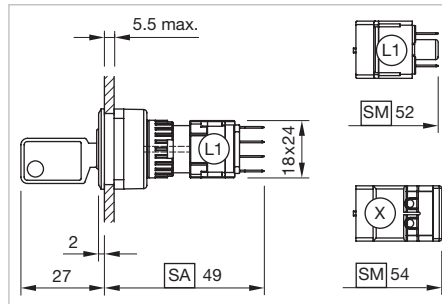
**Fixing nut**



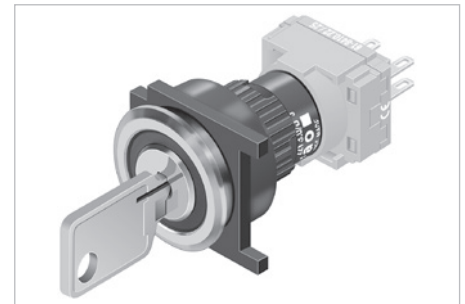
**Switching element** page 653

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

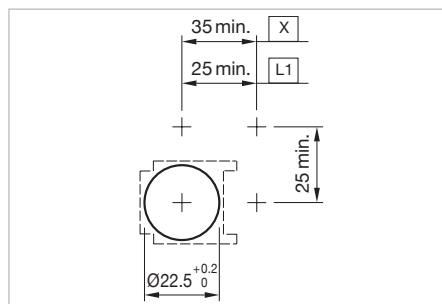
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal



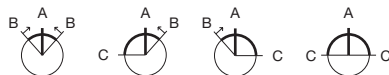
Product can differ from the current configuration.




Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal

### Additional Information

- For front dimension Ø 25 mm
- The standard lock: DOM 311
- Two keys are supplied with each key lock switch
- Optional lock numbers on request

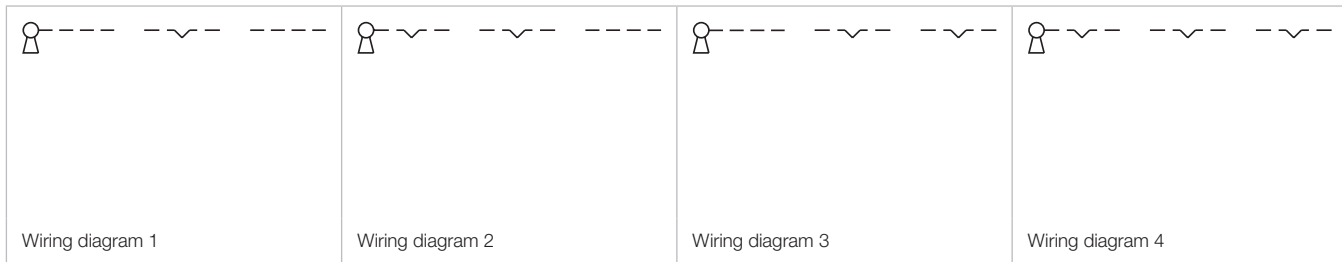


Switching positions (A = Rest, B = Momentary, C = Maintained)

Switching action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
 <b>Keylock switch actuator 3 positions round</b>					
B - A - B	B = 42° / 42°	A	<b>61-2501.0/D</b>	1	0.065 kg
C - A - B	C = 90°, B = 42°	A	<b>61-2801.0/D</b>	2	0.065 kg
		C	<b>61-2802.0/D</b>	2	0.065 kg
		C + A	<b>61-2804.0/D</b>	2	0.065 kg
B - A - C	B = 42°, C = 90°	A	<b>61-2701.0/D</b>	3	0.065 kg
		A + C	<b>61-2705.0/D</b>	3	0.065 kg
C - A - C	C = 90° / 90°	A	<b>61-2601.0/D</b>	4	0.065 kg
		C - -	<b>61-2602.0/D</b>	4	0.065 kg
		- - C	<b>61-2603.0/D</b>	4	0.065 kg
		C + A	<b>61-2604.0/D</b>	4	0.065 kg
		A + C	<b>61-2605.0/D</b>	4	0.065 kg
		C + C	<b>61-2606.0/D</b>	4	0.065 kg
		C + A + C	<b>61-2607.0/D</b>	4	0.065 kg






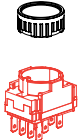
Switching action: A = Rest, B = Momentary, C = Maintain

## 61 Flush design



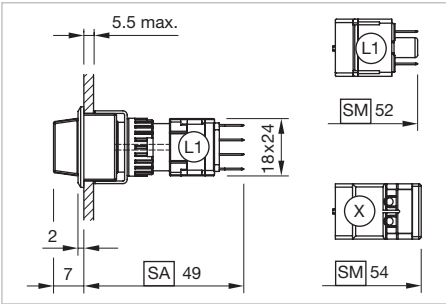
Selector switch 2 positions square, IP 65

Equipment consisting of (schematic overview)

- **Lever** *page 638*
- **Single-LED** *page 657*
- **Actuator**
- **Front bezel set** *page 643*
- **Fixing nut**
- **Switching element** *page 651*

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

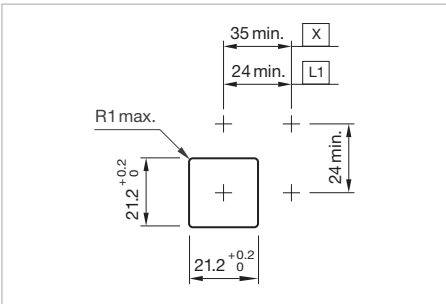
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal



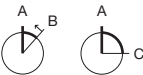
Product can differ from the current configuration.




Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal

Additional Information

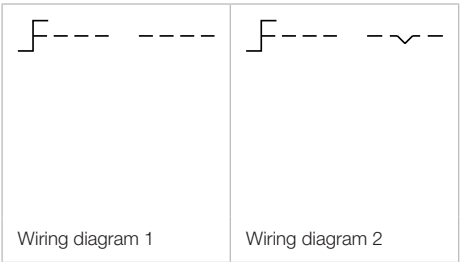
- For front dimension 24 x 24 mm
- Illuminative



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

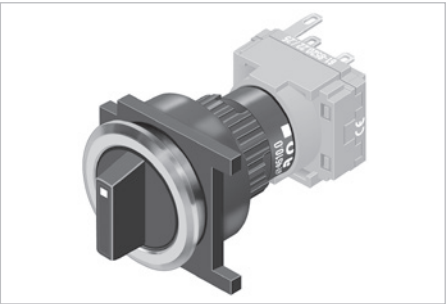
Switching action	Switching angle	Part No.	Wiring diagram	Weight
				
Selector switch actuator 2 positions square				
A - B	B = 42°	61-4110.0	1	0.006 kg
A - C	C = 90°	61-4210.0	2	0.006 kg

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

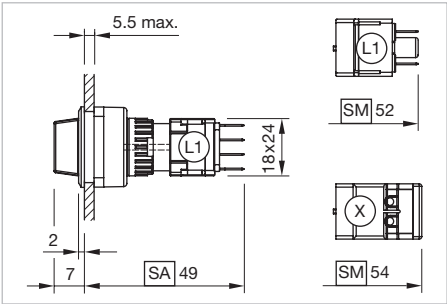


61 Flush design

Selector switch 2 positions round, IP 65



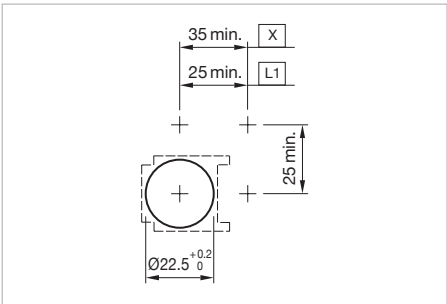
Product can differ from the current configuration.



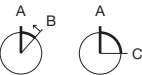
Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal

**Additional Information**

- For front dimension Ø 25 mm
- Illuminative



Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal




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

**Equipment consisting of (schematic overview)**

	<b>Lever</b>	page 638
	<b>Single-LED</b>	page 657
	<b>Actuator</b>	
	<b>Front bezel set</b>	page 643
	<b>Anti-twist ring</b>	
	<b>Part of front bezel set</b>	
	<b>Fixing nut</b>	
	<b>Switching element</b>	page 651

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 action	Switching angle	Part No.	Wiring diagram	Weight
 <b>Selector switch actuator 2 positions round</b>				
A - B	B = 42°	61-4110.0	1	0.006 kg
A - C	C = 90°	61-4210.0	2	0.006 kg

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

Wiring diagram 1	Wiring diagram 2

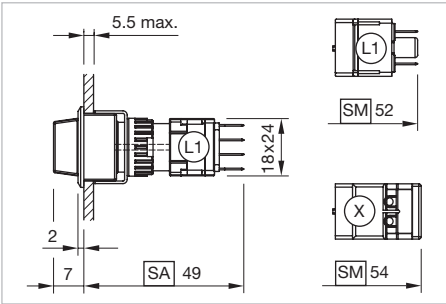
Selector switch 3 positions square, IP 65

Equipment consisting of (schematic overview)

- **Lever** *page 638*
- **Single-LED** *page 657*
- **Actuator**
- **Front bezel set** *page 643*
- **Fixing nut**
- **Switching element** *page 653*

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

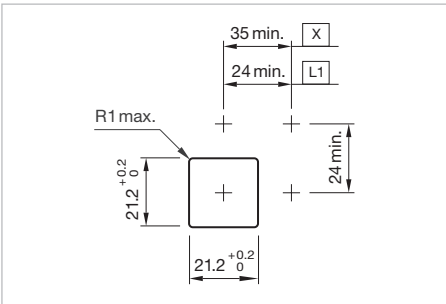
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal

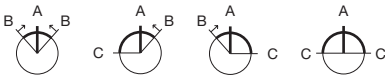


Product can differ from the current configuration.




Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal





- Additional Information**
- For front dimension 24 x 24 mm
  - Illuminative



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

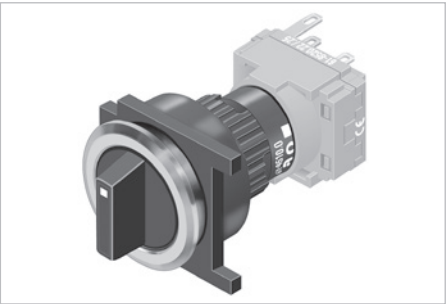
Switching action	Switching angle	Part No.	Wiring diagram	Weight
 <b>Selector switch actuator 3 positions square</b>				
B - A - B	B = 42° / 42°	61-4510.0	1	0.006 kg
C - A - B	C = 90°, B = 42°	61-4810.0	2	0.006 kg
B - A - C	B = 42°, C = 90°	61-4710.0	3	0.006 kg
C - A - C	C = 90° / 90°	61-4610.0	4	0.006 kg

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

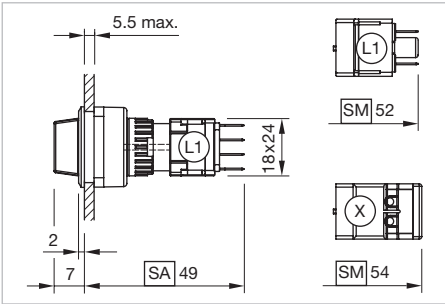
			
Wiring diagram 1	Wiring diagram 2	Wiring diagram 3	Wiring diagram 4

61 Flush design

Selector switch 3 positions round, IP 65



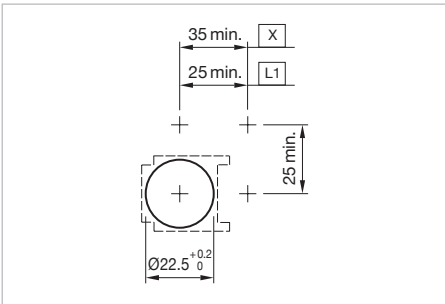
Product can differ from the current configuration.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal

**Additional Information**

- For front dimension Ø 25 mm
- Illuminative



Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal

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

**Equipment consisting of (schematic overview)**

	<b>Lever</b>	page 638
	<b>Single-LED</b>	page 657
	<b>Actuator</b>	
	<b>Front bezel set</b>	page 643
	<b>Anti-twist ring</b>	
	<b>Part of front bezel set</b>	
	<b>Fixing nut</b>	
	<b>Switching element</b>	page 653

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.

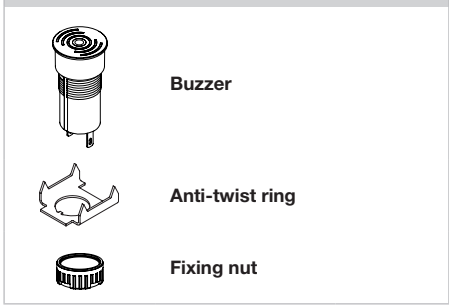
Switching action	Switching angle	Part No.	Wiring diagram	Weight
<b>Selector switch 3 positions round</b>				
B - A - B	B = 42° / 42°	61-4510.0	1	0.006 kg
C - A - B	C = 90°, B = 42°	61-4810.0	2	0.006 kg
B - A - C	B = 42°, C = 90°	61-4710.0	3	0.006 kg
C - A - C	C = 90° / 90°	61-4610.0	4	0.006 kg

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

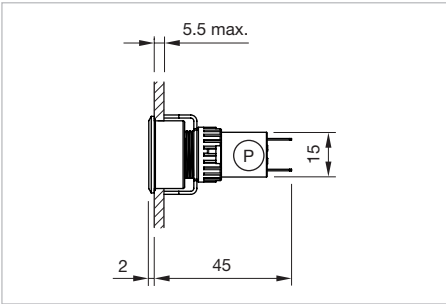
Wiring diagram 1	Wiring diagram 2	Wiring diagram 3	Wiring diagram 4

Buzzer

Equipment consisting of (schematic overview)



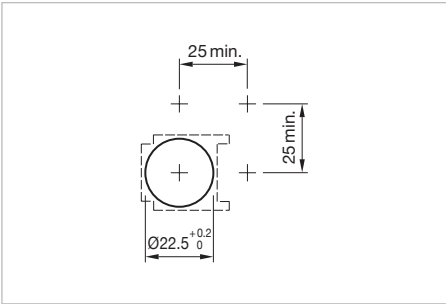
Each Part Number listed below includes all the black components shown in the 3D-drawing.



Dimensions [mm]  
P = Plug-in terminal 2.8 x 0.5 mm




Product can differ from the current configuration.

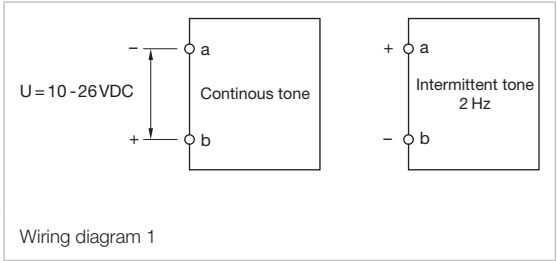


Mounting cut-outs [mm]

**Additional Information**

- Further information see «Technical data»

Front protection	Operating voltage	Front cap	Terminal	Part No.	Wiring diagram	Weight
 <b>Buzzer, Front dimension Ø 25 mm</b>						
IP 40	10 ... 26 VDC	Plastic black	Plug-in terminal 2.8 x 0.5 mm	<b>61-7000.02</b>	1	0.015 kg
IP 65	10 ... 26 VDC	Plastic black	Plug-in terminal 2.8 x 0.5 mm	<b>61-7100.02</b>	1	0.015 kg

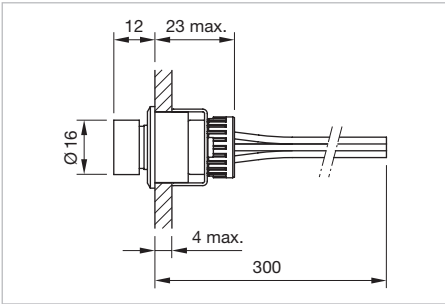


# 61 Flush design

## Potentiometer, IP 65





Product can differ from the current configuration.





Dimensions [mm]


Equipment consisting of (schematic overview)

 **Actuator**

 **Front bezel set flush mounting**

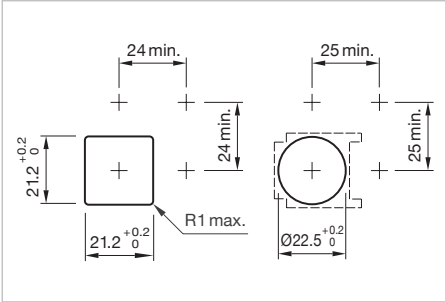
 **Anti-twist ring**

 **Thrust piece**



 **Fixing nut**

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

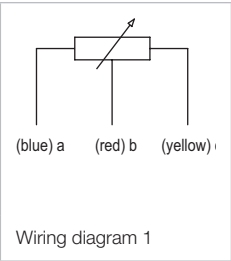
- Additional Information
- Resistance 10 kOhms / linear
  - Power 1 W
  - Slewing 300 °
  - Cable length 300 mm



Mounting cut-outs [mm]

Front bezel	Terminal	Part No.	Compo- nent layout	Wiring diagram	Weight
 <b>Potentiometer, Front dimension 24 x 24 mm</b>					
Plastic black	Flat ribbon cable	61-4970.13	1	1	0.023 kg
 <b>Potentiometer, Front dimension Ø 25 mm</b>					
Plastic black	Flat ribbon cable	61-4970.10	1	1	0.016 kg

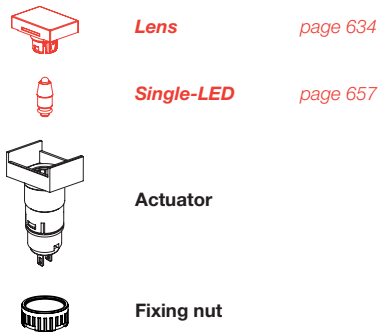
The component layouts you will find from page 666





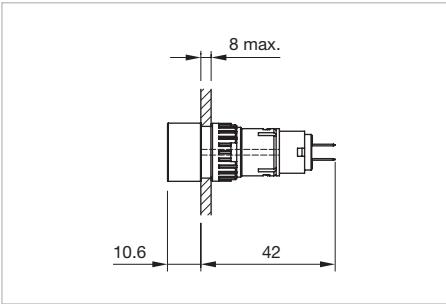
Indicator complete, IP 65

Equipment consisting of (schematic overview)



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

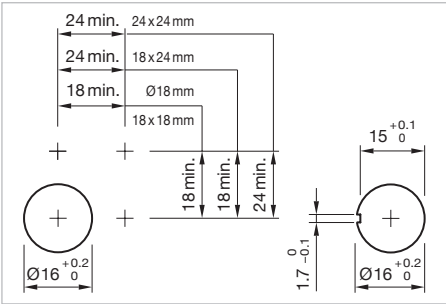
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]







Product can differ from the current configuration.

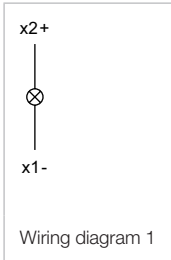


Mounting cut-outs [mm]

Additional Information

- Actuator housing plastic black

Terminal	Part No.	Wiring diagram	Weight
 <b>Indicator actuator complete, Front dimension 24 x 24 mm</b> Solder 2.8 x 0.5 mm	<b>61-0050.02</b>	1	0.005 kg
 <b>Indicator actuator complete, Front dimension 18 x 18 mm</b> Solder 2.8 x 0.5 mm	<b>61-0020.02</b>	1	0.005 kg
 <b>Indicator actuator complete, Front dimension 18 x 24 mm</b> Solder 2.8 x 0.5 mm	<b>61-0030.02</b>	1	0.005 kg
 <b>Indicator actuator complete, Front dimension Ø 18 mm</b> Solder 2.8 x 0.5 mm	<b>61-0010.02</b>	1	0.005 kg

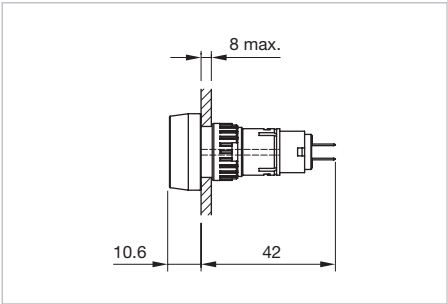


61 Raised design

Indicator complete Ø 24 mm, IP 65



Product can differ from the current configuration.

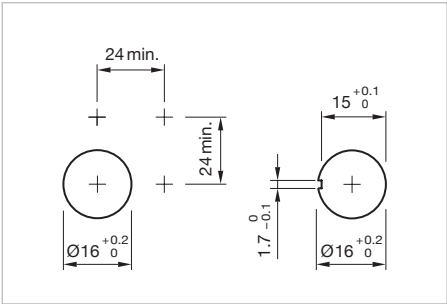


Dimensions [mm]


Equipment consisting of (schematic overview)		
	Lens	page 634
	Front ring	page 644
	Single-LED	page 657
	Actuator	
	Fixing nut	

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]

Terminal	Part No.	Wiring diagram	Weight
 Indicator actuator complete Ø 24 mm			
Solder 2.8 x 0.5 mm	61-0040.02	1	0.005 kg

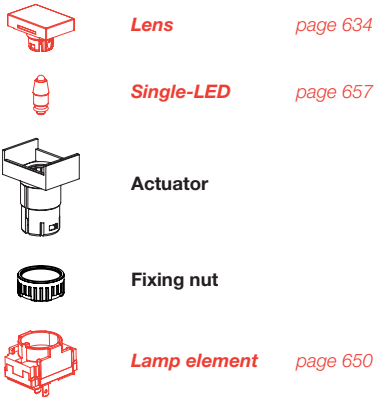
x2+

x1-

Wiring diagram 1

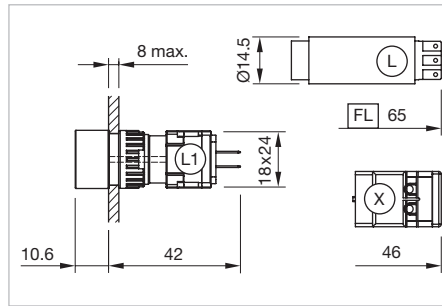
## Indicator, IP 65

### Equipment consisting of (schematic overview)



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

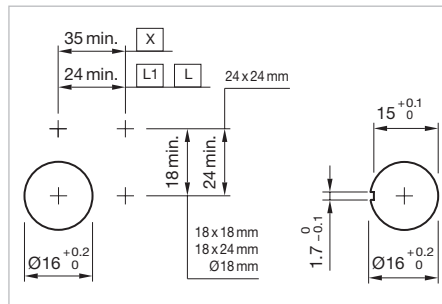
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
 L1 = Solder terminal 2.8 x 0.5 mm,  
 L = Solder terminal,  
 X = Screw terminal,  
 FL = Flasher







Product can differ from the current configuration.



Mounting cut-outs [mm]  
 L1 = Solder terminal 2.8 x 0.5 mm,  
 L = Solder terminal,  
 X = Screw terminal

### Additional Information

- Actuator housing plastic black

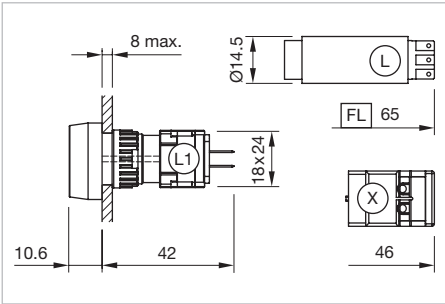
Part No.	Weight
 <p>Indicator actuator, Front dimension 24 x 24 mm</p>	
61-0059.0	0.005 kg
 <p>Indicator actuator, Front dimension 18 x 18 mm</p>	
61-0029.0	0.005 kg
 <p>Indicator actuator, Front dimension 18 x 24 mm</p>	
61-0039.0	0.005 kg
 <p>Indicator actuator, Front dimension Ø 18 mm</p>	
61-0019.0	0.005 kg

61 Raised design

Indicator Ø 24 mm, IP 65

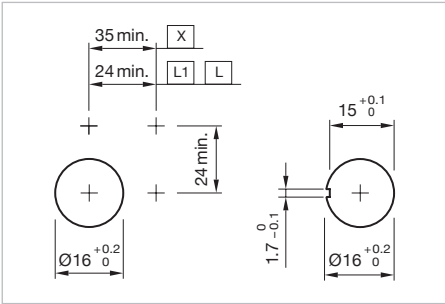


Product can differ from the current configuration.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
L = Solder terminal,  
X = Screw terminal,  
FL = Flasher

- Additional Information
- Actuator housing plastic black



Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
L = Solder terminal,  
X = Screw terminal

Equipment consisting of (schematic overview)		
	Lens	page 634
	Front ring	page 644
	Single-LED	page 657
	Actuator	
	Fixing nut	
	Lamp element	page 650

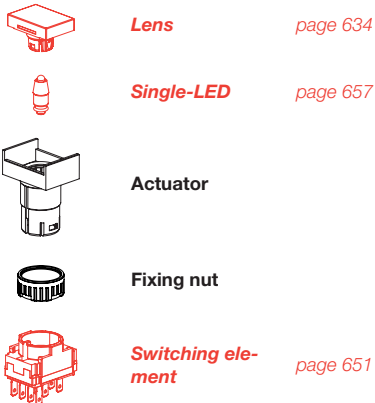
Each Part Number listed below includes all the black components shown in the 3D-drawing.

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

Part No.		Weight
	Indicator actuator Ø 24 mm	
61-0049.0		0.005 kg

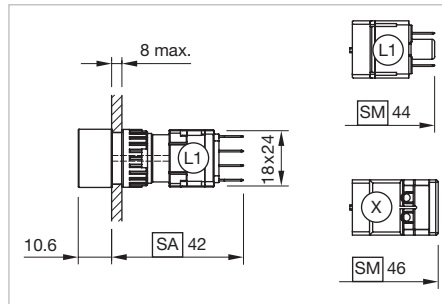
## Illuminated pushbutton, IP 65

### Equipment consisting of (schematic overview)

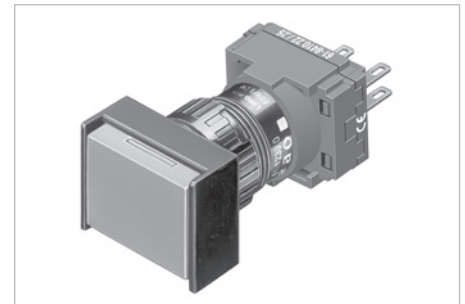


Each Part Number listed below includes all the black components shown in the 3D-drawing.

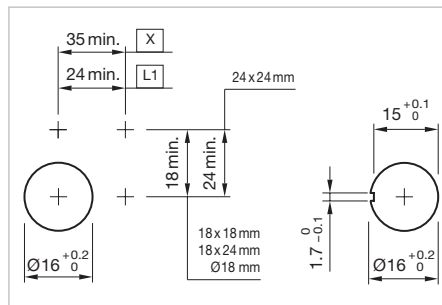
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal



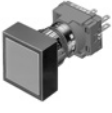


Product can differ from the current configuration.



Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal


### Additional Information

- Actuator housing plastic black



Product attribute	Switching action	Part No.	Wiring diagram	Weight
 <b>Illuminated pushbutton actuator, Front dimension 24 x 24 mm</b>				
	B	<b>61-1150.0</b>	1	0.005 kg
	C	<b>61-1250.0</b>	2	0.005 kg
B-C convertible from momentary to maintained action	B - C	<b>61-1350.0</b>	1	0.005 kg
 <b>Illuminated pushbutton actuator, Front dimension 18 x 18 mm</b>				
	B	<b>61-1120.0</b>	1	0.005 kg
	C	<b>61-1220.0</b>	2	0.005 kg
B-C convertible from momentary to maintained action	B - C	<b>61-1320.0</b>	1	0.005 kg
 <b>Illuminated pushbutton actuator, Front dimension 18 x 24 mm</b>				
	B	<b>61-1130.0</b>	1	0.005 kg
	C	<b>61-1230.0</b>	2	0.005 kg
B-C convertible from momentary to maintained action	B - C	<b>61-1330.0</b>	1	0.005 kg

61

Raised design


Product attribute	Switching action	Part No.	Wiring diagram	Weight
<div><b>Illuminated pushbutton actuator, Front dimension Ø 18 mm</b></div>				
	B	<b>61-1110.0</b>	1	0.005 kg
	C	<b>61-1210.0</b>	2	0.005 kg
B-C convertible from momentary to maintained action	B - C	<b>61-1310.0</b>	1	0.005 kg


Switching action: B = Momentary, C = Maintain


	
Wiring diagram 1	Wiring diagram 2


Illuminated pushbutton Ø 24 mm, IP 65


Equipment consisting of (schematic overview)


**Lens**  
page 634

**Front ring**  
page 644

**Single-LED**  
page 657

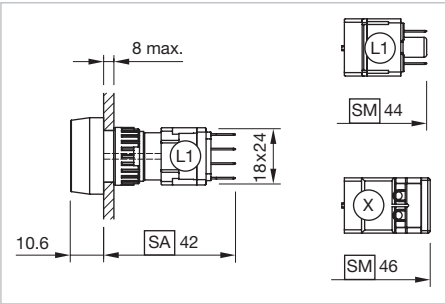
**Actuator**

**Fixing nut**

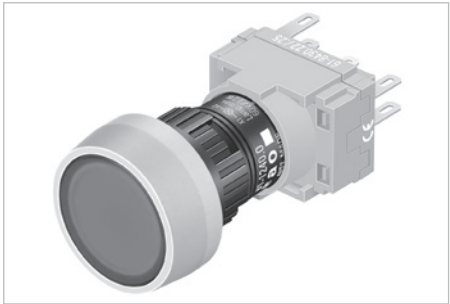
**Switching element**  
page 651

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

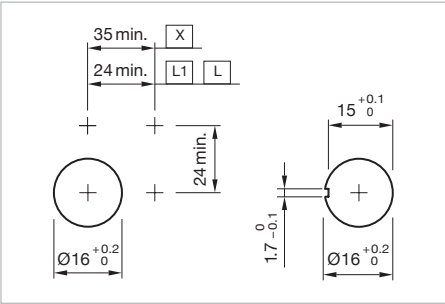
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal




Product can differ from the current configuration.




Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal


**Additional Information**

- Actuator housing plastic black

Switching action	Part No.	Wiring diagram	Weight
 <b>Indicator actuator Ø 24 mm</b>			
B	61-1140.0	1	0.005 kg
C	61-1240.0	2	0.005 kg

Switching action: B = Momentary, C = Maintain

  
Wiring diagram 1

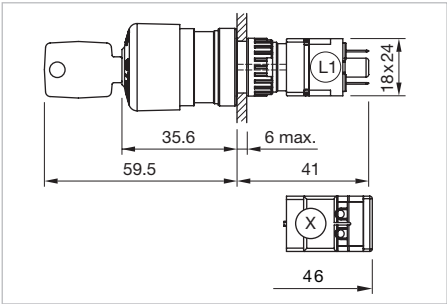
  
Wiring diagram 2

61 Raised design

Emergency-stop switch, foolproof EN IEC 60947-5-5, IP 65




Product can differ from the current configuration.




Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal


Equipment consisting of (schematic overview)



Actuator



Fixing nut



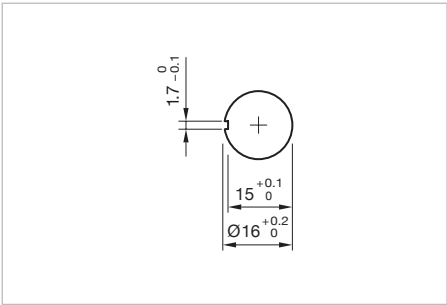
Switching element

page 655





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
- Lens plastic red
  - Application as per DIN EN ISO 13850 and EN 60204-1
  - The standard lock: KABA 1001
  - Two keys are supplied with each key lock switch
  - Optional lock numbers on request



Mounting cut-outs [mm]

Product attribute	Marking	Switching action	Part No.	Wiring diagram	Weight
 <b>Emergency-stop switch actuator, foolproof EN IEC 60947-5-5, Front dimension Ø 27 mm</b>					
Position indication ring black, twist to unlock clockwise	Arrows	C	61-3440.4/1	1	0.02 kg
 <b>Emergency-stop switch actuator, foolproof EN IEC 60947-5-5, Front dimension Ø 27 mm</b>					
Position indication ring black, twist to unlock clockwise	Stop + Arrows	C	61-3440.4/2	1	0.02 kg
 <b>Emergency-stop switch actuator, foolproof EN IEC 60947-5-5, Front dimension Ø 27 mm</b>					
Position indication ring green, twist to unlock clockwise	Arrows	C	61-3440.4/5	1	0.02 kg
 <b>Emergency-stop switch actuator, foolproof EN IEC 60947-5-5, Front dimension Ø 27 mm</b>					
Position indication ring black, twist to unlock clockwise, with adaptor for mosaic	Arrows	C	61-3440.4/1S	1	0.021 kg



Product attribute	Marking	Switching action	Part No.	Wiring diagram	Weight
 <div>Emergency-stop switch actuator, foolproof EN IEC 60947-5-5, Front dimension Ø 27 mm</div>					
Position indication ring black, twist to unlock clockwise, with metal fixing nut	Arrows	C	61-3440.4/D	1	0.02 kg
 <div>Emergency-stop switch actuator, foolproof EN IEC 60947-5-5, Front dimension Ø 27 mm</div>					
Position indication ring black, key to unlock clockwise	Stop	C	61-5441.4/K	1	0.033 kg

Switching action: C = Maintain



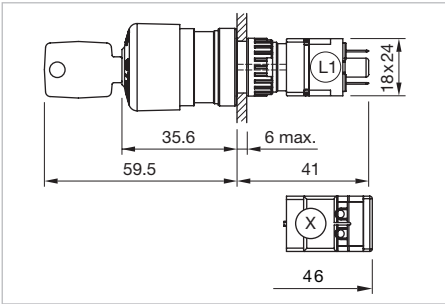
Wiring diagram 1

61 Raised design

Stop switch foolproof, IP 65

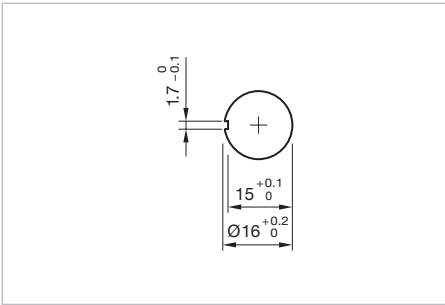


Product can differ from the current configuration.




Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal

- Additional Information**
- The standard lock: KABA 1001
  - Two keys are supplied with each key lock switch
  - Optional lock numbers on request




Mounting cut-outs [mm]


Equipment consisting of (schematic overview)



Actuator



Fixing nut





Switching element

page 654

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 page s shown.


Product attribute	Lens	Marking	Switching action	Part No.	Wiring diagram	Weight
 <b>Stop switch actuator, foolproof, Front dimension Ø 27 mm</b>						
Position indication ring black, twist to unlock clockwise	Plastic grey	Arrows	C	61-3440.4/8	1	0.02 kg
 <b>Stop switch actuator, foolproof, Front dimension Ø 27 mm</b>						
Position indication ring black, key to unlock clockwise	Plastic black		C	61-5441.0/KA	1	0.033 kg


Switching action: C = Maintain





Mushroom-head pushbutton, IP 65


Equipment consisting of (schematic overview)

**Lens**  
*page 637*

**Front ring**  
*page 644*

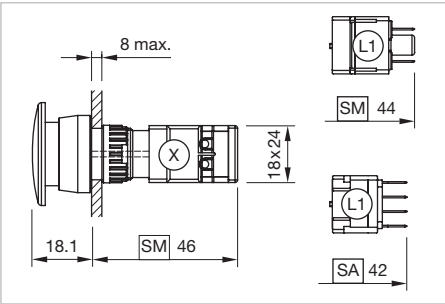
**Actuator**

**Fixing nut**

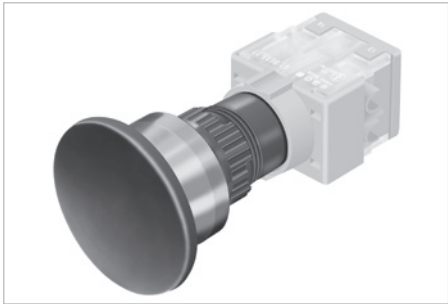
**Switching element**  
*page 651*

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

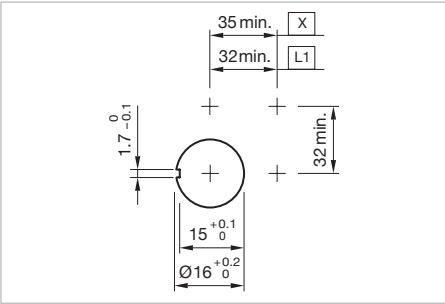
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal




Product can differ from the current configuration.




Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal


**Additional Information**

- For front dimension Ø 32 mm

Switching action	Part No.	Wiring diagram	Weight
 <b>Mushroom-head pushbutton actuator</b>			
B	61-1140.0	1	0.005 kg
C	61-1240.0	2	0.005 kg

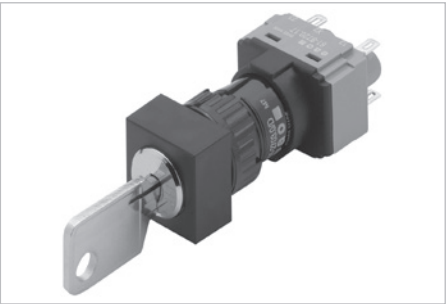
Switching action: B = Momentary, C = Maintain

  
Wiring diagram 1

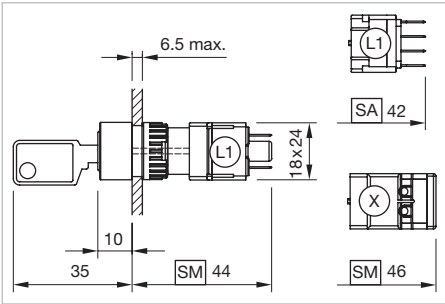
  
Wiring diagram 2

61 Raised design

Keylock switch 2 positions square, IP 65

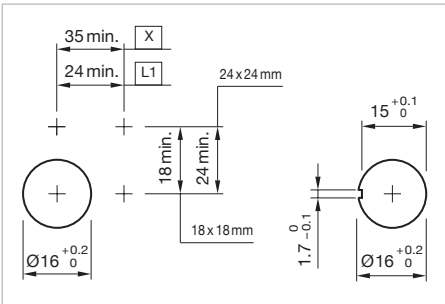


Product can differ from the current configuration.

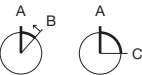


Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal

- Additional Information**
- For front dimensions 24 x 24 mm, 18 x18 mm
  - The standard lock: DOM 311
  - Two keys are supplied with each key lock switch
  - Optional lock numbers on request
  - If mounted with anti-twist device, the lug is on the left side
  - Anti-twist ring not needed by using anti-twist device



Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal



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

**Equipment consisting of (schematic overview)**

**Key**

**Keylock front bezel** *page 639*

**Actuator**


**Anti-twist ring** *page 663*

**Fixing nut**

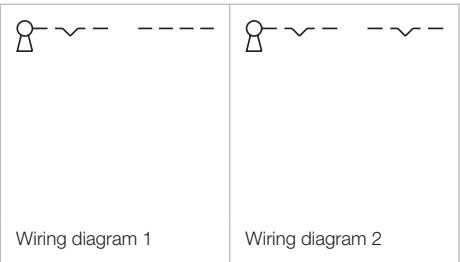
**Switching element** *page 652*

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 action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
 <b>Keylock switch actuator 2 positions square</b>					
A - B	B = 42°	A	61-2101.0/D	1	0.065 kg
A - C	C = 90°	A	61-2201.0/D	2	0.065 kg
		C	61-2203.0/D	2	0.065 kg
		A + C	61-2205.0/D	2	0.065 kg

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



**Keylock switch 2 positions rectangular, IP 65**

Equipment consisting of (schematic overview)



page 639



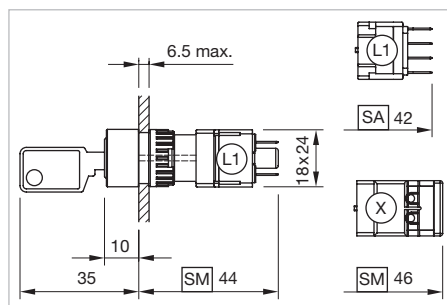
page 663



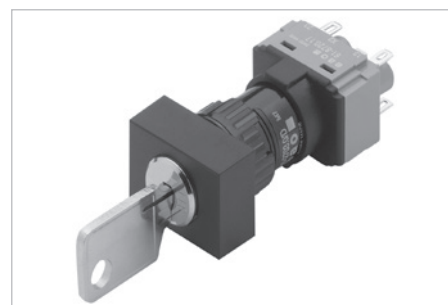
page 652

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

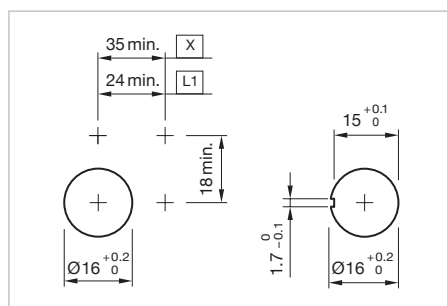
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal



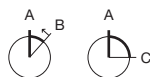
Product can differ from the current configuration.




Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal

### Additional Information

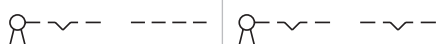
- For front dimension 18 x 24 mm
- The standard lock: DOM 311
- Two keys are supplied with each key lock switch
- Optional lock numbers on request
- If mounted with anti-twist device, the lug is on the left side
- Anti-twist ring not needed by using anti-twist device



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

Switching action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
 <p><b>Keylock switch actuator 2 positions rectangular</b></p>					
A - B	B = 42°	A	<b>61-2101.0/D</b>	1	0.065 kg
A - C	C = 90°	A	<b>61-2201.0/D</b>	2	0.065 kg
		C	<b>61-2203.0/D</b>	2	0.065 kg
		A + C	<b>61-2205.0/D</b>	2	0.065 kg

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



Wiring diagram 1

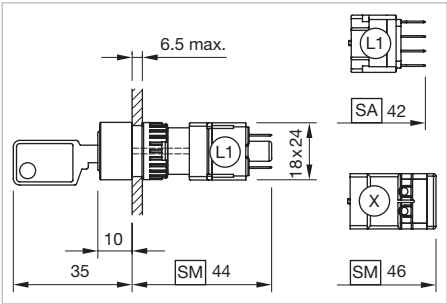
### Wiring diagram 2

# 61 Raised design

## Keylock switch actuator 2 positions round, IP 65

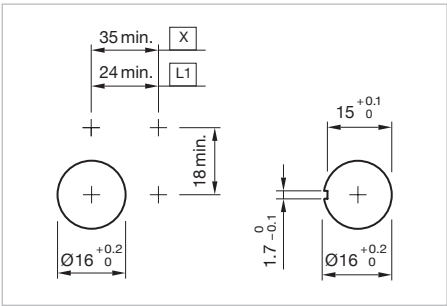


Product can differ from the current configuration.

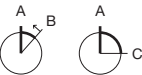


Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal

- Additional Information**
- For front dimension Ø 18 mm
  - The standard lock: DOM 311
  - Two keys are supplied with each key lock switch
  - Optional lock numbers on request
  - If mounted with anti-twist device, the lug is on the left side
  - Anti-twist ring not needed by using anti-twist device



Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal




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

**Equipment consisting of (schematic overview)**

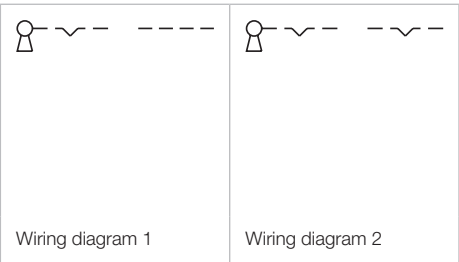
- Key**
- Keylock front bezel** *page 639*
- Actuator**
- Anti-twist ring** *page 663*
- Fixing nut**
- Switching element** *page 652*

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 page s shown.

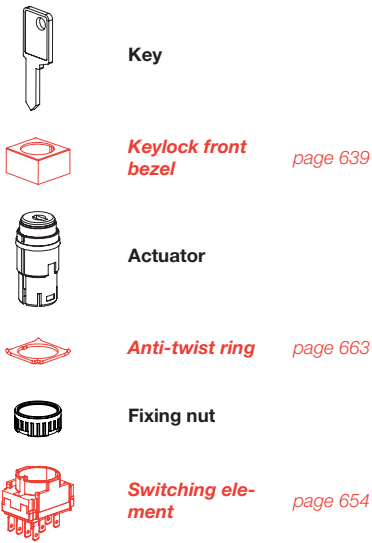
Switching action	Switching positions	Switching angle	Key remove	Part No.	Wiring diagram	Weight
 <b>Keylock switch actuator 2 positions round</b>						
A - B	A = Rest, C = Momentary	B = 42°	A	61-2101.0/D	1	0.065 kg
A - C	A = Rest, C = Maintain	C = 90°	A	61-2201.0/D	2	0.065 kg
			C	61-2203.0/D	2	0.065 kg
			A + C	61-2205.0/D	2	0.065 kg

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



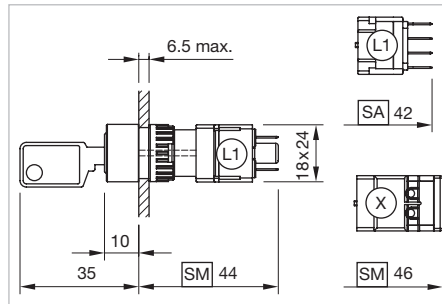
## Keylock switch 3 positions square, IP 65

### Equipment consisting of (schematic overview)

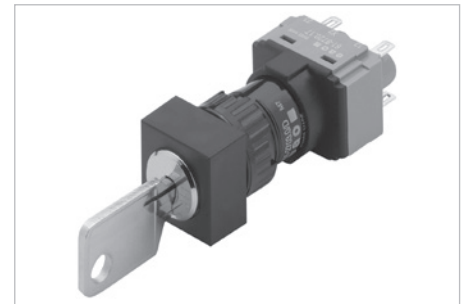


Each Part Number listed below includes all the black components shown in the 3D-drawing.

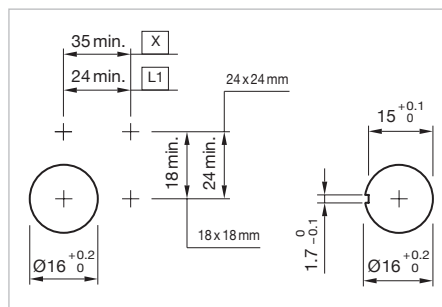
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
 L1 = Solder terminal 2.8 x 0.5 mm,  
 SA = Snap-action switching element,  
 SM = Slow-make switching element,  
 X = Screw terminal



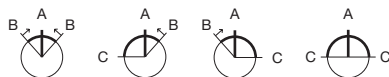
Product can differ from the current configuration.




Mounting cut-outs [mm]  
 L1 = Solder terminal 2.8 x 0.5 mm,  
 X = Screw terminal

### Additional Information

- For front dimensions 24 x 24 mm, 18 x 18 mm
- The standard lock: DOM 311
- Two keys are supplied with each key lock switch
- Optional lock numbers on request
- If mounted with anti-twist device, the lug is on the left side
- Anti-twist ring not needed by using anti-twist device



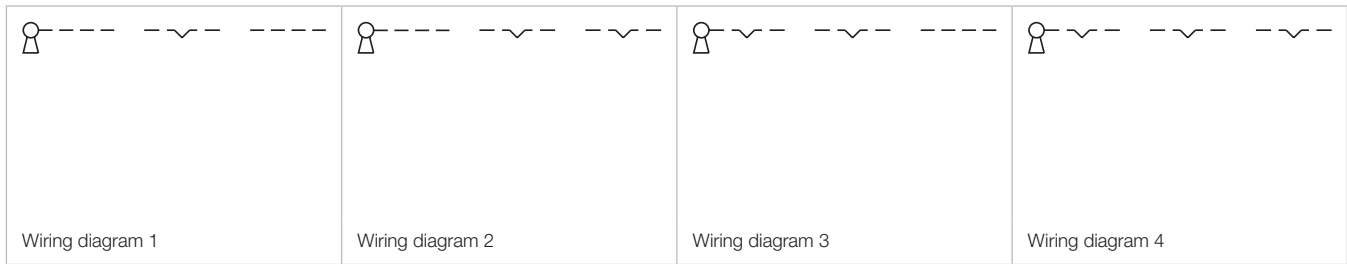
Switching positions (A = Rest, B = Momentary, C = Maintained)

Switching action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
 <b>Keylock switch actuator 3 positions square</b>					
B - A - B	B = 42° / 42°	A	<b>61-2501.0/D</b>	1	0.065 kg
C - A - B	B = 42°, C = 90°	A	<b>61-2801.0/D</b>	2	0.065 kg
		C	<b>61-2802.0/D</b>	2	0.065 kg
		C + A	<b>61-2804.0/D</b>	2	0.065 kg
B - A - C	C = 90°, B = 42°	A	<b>61-2701.0/D</b>	3	0.065 kg
		A + C	<b>61-2705.0/D</b>	3	0.065 kg
C - A - C	C = 90° / 90°	A	<b>61-2601.0/D</b>	4	0.065 kg
		C - -	<b>61-2602.0/D</b>	4	0.065 kg
		- - C	<b>61-2603.0/D</b>	4	0.065 kg
		C + A	<b>61-2604.0/D</b>	4	0.065 kg
		A + C	<b>61-2605.0/D</b>	4	0.065 kg
		C + C	<b>61-2606.0/D</b>	4	0.065 kg
		C + A + C	<b>61-2607.0/D</b>	4	0.065 kg

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

## 61

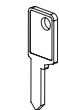
Raised design





Keylock switch 3 positions rectangular, IP 65

Equipment consisting of (schematic overview)



Key



Keylock front bezel *page 639*



Actuator



Anti-twist ring *page 663*



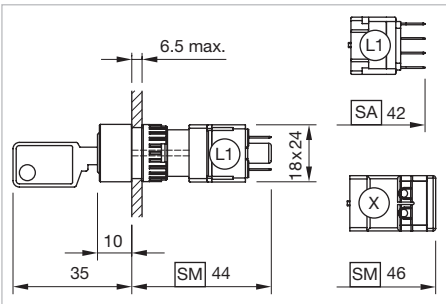
Fixing nut



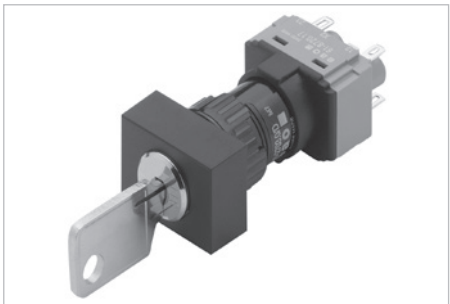
Switching element *page 654*

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

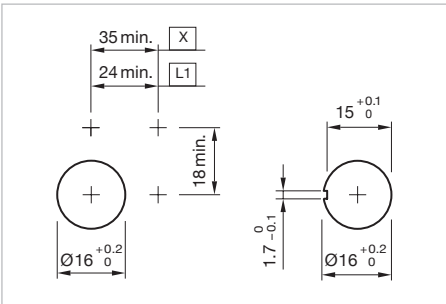
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal



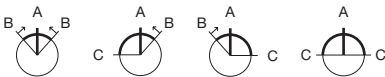
Product can differ from the current configuration.




Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal

Additional Information

- For front dimension 18 x 24 mm
- The standard lock: DOM 311
- Two keys are supplied with each key lock switch
- Optional lock numbers on request
- If mounted with anti-twist device, the lug is on the left side
- Anti-twist ring not needed by using anti-twist device



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

Switching action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
 Keylock switch actuator 3 positions rectangular					
B - A - B	B = 42° / 42°	A	61-2501.0/D	1	0.065 kg
C - A - B	B = 42°, C = 90°	A	61-2801.0/D	2	0.065 kg
		C	61-2802.0/D	2	0.065 kg
		C + A	61-2804.0/D	2	0.065 kg
B - A - C	C = 90°, B = 42°	A	61-2701.0/D	3	0.065 kg
		A + C	61-2705.0/D	3	0.065 kg
C - A - C	C = 90° / 90°	A	61-2601.0/D	4	0.065 kg
		C - -	61-2602.0/D	4	0.065 kg
		- - C	61-2603.0/D	4	0.065 kg
		C + A	61-2604.0/D	4	0.065 kg
		A + C	61-2605.0/D	4	0.065 kg
		C + C	61-2606.0/D	4	0.065 kg
		C + A + C	61-2607.0/D	4	0.065 kg

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

## 61

## Raised design



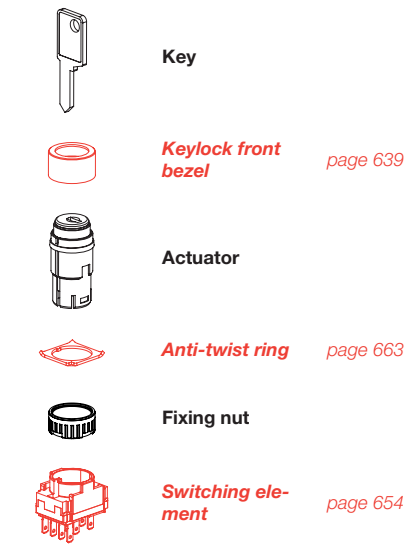
### Wiring diagram 2

### Wiring diagram 3

Wiring diagram 4

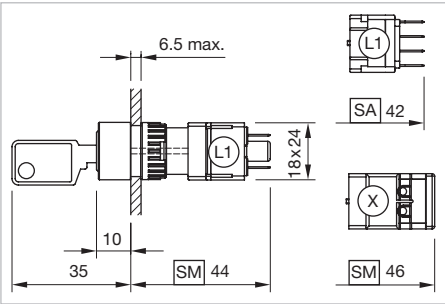
Keylock switch 3 positions round, IP 65

Equipment consisting of (schematic overview)



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

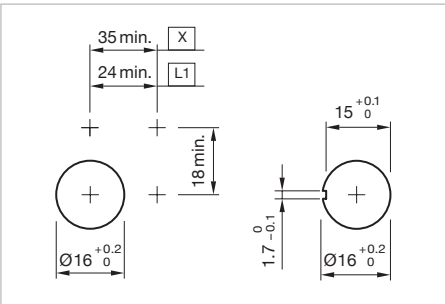
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal



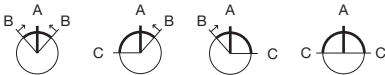
Product can differ from the current configuration.




Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal

Additional Information

- For front dimension Ø 18 mm
- The standard lock: DOM 311
- Two keys are supplied with each key lock switch
- Optional lock numbers on request
- If mounted with anti-twist device, the lug is on the left side
- Anti-twist ring not needed by using anti-twist device



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

Switching action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
 <b>Keylock switch actuator 3 positions round</b>					
B - A - B	B = 42° / 42°	A	<b>61-2501.0/D</b>	1	0.065 kg
C - A - B	B = 42°, C = 90°	A	<b>61-2801.0/D</b>	2	0.065 kg
		C	<b>61-2802.0/D</b>	2	0.065 kg
		C + A	<b>61-2804.0/D</b>	2	0.065 kg
B - A - C	C = 90°, B = 42°	A	<b>61-2701.0/D</b>	3	0.065 kg
		A + C	<b>61-2705.0/D</b>	3	0.065 kg
C - A - C	C = 90° / 90°	A	<b>61-2601.0/D</b>	4	0.065 kg
		C - -	<b>61-2602.0/D</b>	4	0.065 kg
		- - C	<b>61-2603.0/D</b>	4	0.065 kg
		C + A	<b>61-2604.0/D</b>	4	0.065 kg
		A + C	<b>61-2605.0/D</b>	4	0.065 kg
		C + C	<b>61-2606.0/D</b>	4	0.065 kg
		C + A + C	<b>61-2607.0/D</b>	4	0.065 kg

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

## 61

## Raised design










### Wiring diagram 2

### Wiring diagram 3

Wiring diagram 4

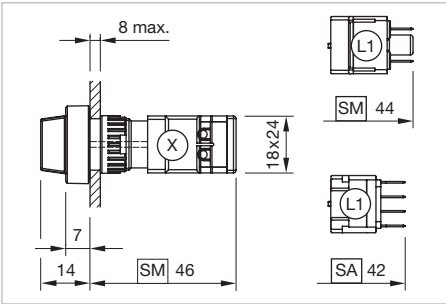
Selector switch 2 positions square, IP 65

Equipment consisting of (schematic overview)

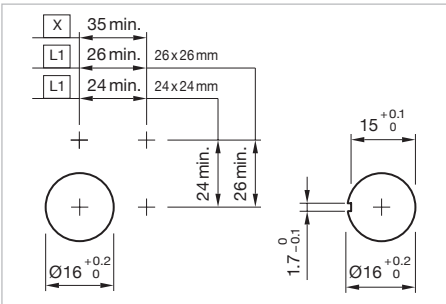
- **Lever** *page 640*
- **Front bezel** *page 644*
- **Single-LED** *page 658*
- **Actuator**
- **Anti-twist ring** *page 663*
- **Fixing nut**
- **Switching element** *page 652*

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]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal



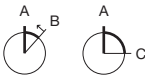
Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal




Product can differ from the current configuration.

Additional Information

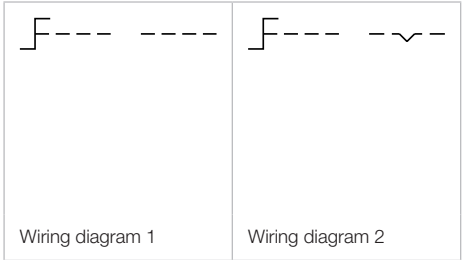
- For front dimensions 26 x 26 mm, 24 x 24 mm
- Illuminative
- If mounted with anti-twist device, the lug is on the left side
- Anti-twist ring not needed by using anti-twist device



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

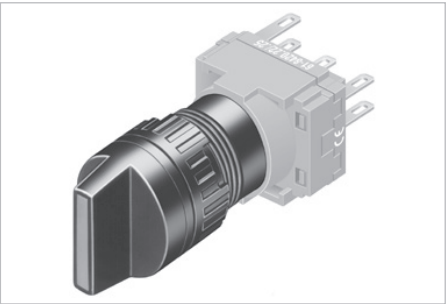
Switching action	Switching angle	Part No.	Wiring diagram	Weight
 <b>Selector switch actuator 2 positions square</b>				
A - B	B = 42°	61-4110.0	1	0.006 kg
A - C	C = 90°	61-4210.0	2	0.006 kg

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

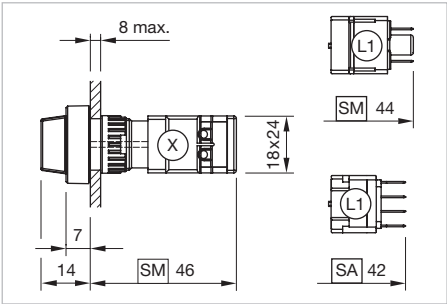


61 Raised design

Selector switch 2 positions round, IP 65



Product can differ from the current configuration.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal

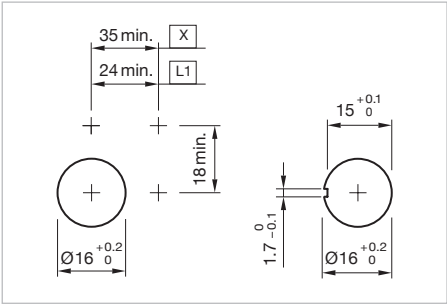
Equipment consisting of (schematic overview)

	Lever	page 640
	Single-LED	page 658
	Actuator	
	Anti-twist ring	page 663
	Fixing nut	
	Switching element	page 652

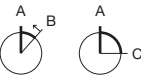
Each Part Number listed below includes all the black components shown in the 3D-drawing.

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


- Additional Information**
- Illuminative
  - If mounted with anti-twist device, the lug is on the left side
  - Anti-twist ring not needed by using anti-twist device



Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal



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








Switching action	Switching angle	Part No.	Wiring diagram	Weight
 <b>Selector switch actuator 2 positions round, Front dimension Ø 18 mm</b>				
A - B	B = 42°	61-4110.0	1	0.006 kg
A - C	C = 90°	61-4210.0	2	0.006 kg

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

Wiring diagram 1	Wiring diagram 2

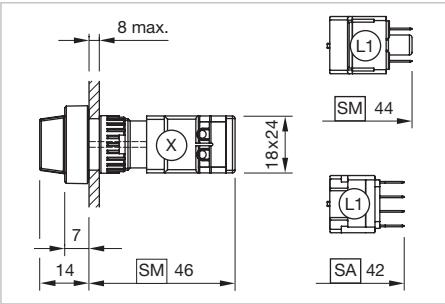
Selector switch 3 positions square, IP 65

Equipment consisting of (schematic overview)

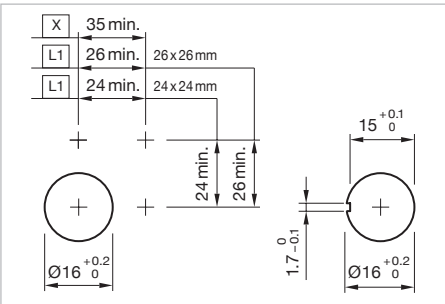
- **Lever** *page 640*
- **Front bezel** *page 644*
- **Single-LED** *page 658*
- **Actuator**
- **Anti-twist ring** *page 663*
- **Fixing nut**
- **Switching element** *page 652*

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]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal



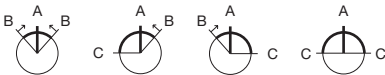
Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal




Product can differ from the current configuration.

Additional Information





- Illuminative
- For front dimensions 26 x 26 mm, 24 x 24 mm
- If mounted with anti-twist device, the lug is on the left side
- Anti-twist ring not needed by using anti-twist device



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

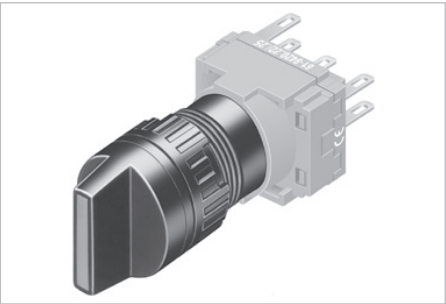
Switching action	Switching angle	Part No.	Wiring diagram	Weight
 <b>Selector switch actuator 3 positions square</b>				
B - A - B	B = 42° / 42°	<b>61-4510.0</b>	1	0.006 kg
C - A - B	C = 90°, B = 42°	<b>61-4810.0</b>	2	0.006 kg
B - A - C	B = 42°, C = 90°	<b>61-4710.0</b>	3	0.006 kg
C - A - C	C = 90° / 90°	<b>61-4610.0</b>	4	0.006 kg

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

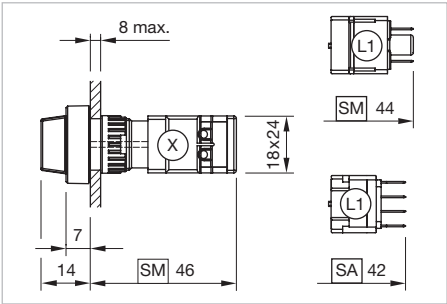
			
Wiring diagram 1	Wiring diagram 2	Wiring diagram 3	Wiring diagram 4

61 Raised design

Selector switch 3 positions round, IP 65



Product can differ from the current configuration.



Dimensions [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
SA = Snap-action switching element,  
SM = Slow-make switching element,  
X = Screw terminal

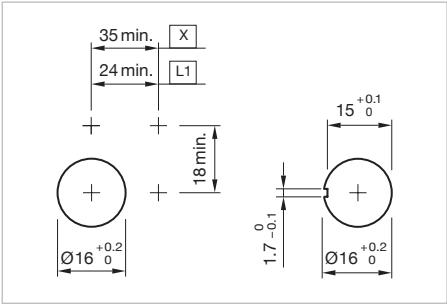
Equipment consisting of (schematic overview)

	Lever	page 640
	Single-LED	page 658
	Actuator	
	Anti-twist ring	page 663
	Fixing nut	
	Switching element	page 654

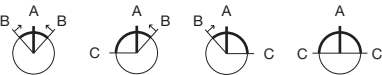
Each Part Number listed below includes all the black components shown in the 3D-drawing.

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


- Additional Information**
- Illuminative
  - If mounted with anti-twist device, the lug is on the left side
  - Anti-twist ring not needed by using anti-twist device







Mounting cut-outs [mm]  
L1 = Solder terminal 2.8 x 0.5 mm,  
X = Screw terminal



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

Switching action	Switching angle	Part No.	Wiring diagram	Weight
 Selector switch actuator 3 positions round, Front dimension Ø 18 mm				
B - A - B	B = 42° / 42°	61-4510.0	1	0.006 kg
C - A - B	C = 90°, B = 42°	61-4810.0	2	0.006 kg
B - A - C	B = 42°, C = 90°	61-4710.0	3	0.006 kg
C - A - C	C = 90° / 90°	61-4610.0	4	0.006 kg

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

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





## Front

## Lens flush design

## Additional Information




- Lens surface mat
- Lens profile flat

Product attribute	Dimension	Lens	Part No.	Weight
 <b>Lens plastic, flush design</b>				
illuminative	18 x 18 mm	smoked transparent	<b>61-9671.1</b>	0.002 kg
		red transparent	<b>61-9671.2</b>	0.002 kg
		orange transparent	<b>61-9671.3</b>	0.002 kg
		yellow transparent	<b>61-9671.4</b>	0.002 kg
		green transparent	<b>61-9671.5</b>	0.002 kg
		blue transparent	<b>61-9671.6</b>	0.002 kg
		colourless transparent	<b>61-9671.7</b>	0.002 kg
non-illuminative	18 x 18 mm	black opaque	<b>61-9771.0</b>	0.002 kg
		grey opaque	<b>61-9771.8</b>	0.002 kg
		white translucent	<b>61-9771.9</b>	0.002 kg
 <b>Lens plastic, flush design</b>				
illuminative	18 x 24 mm	smoked transparent	<b>61-9681.1</b>	0.002 kg
		red transparent	<b>61-9681.2</b>	0.002 kg
		orange transparent	<b>61-9681.3</b>	0.002 kg
		yellow transparent	<b>61-9681.4</b>	0.002 kg
		green transparent	<b>61-9681.5</b>	0.002 kg
		blue transparent	<b>61-9681.6</b>	0.002 kg
		colourless transparent	<b>61-9681.7</b>	0.002 kg
non-illuminative	18 x 24 mm	black opaque	<b>61-9781.0</b>	0.002 kg
		grey opaque	<b>61-9781.8</b>	0.002 kg
		white translucent	<b>61-9781.9</b>	0.002 kg
 <b>Lens plastic, flush design</b>				
illuminative	Ø 19.7 mm	smoked transparent	<b>61-9642.1</b>	0.002 kg
		red transparent	<b>61-9642.2</b>	0.002 kg
		orange transparent	<b>61-9642.3</b>	0.002 kg
		yellow transparent	<b>61-9642.4</b>	0.002 kg
		green transparent	<b>61-9642.5</b>	0.002 kg
		blue transparent	<b>61-9642.6</b>	0.002 kg
		colourless transparent	<b>61-9642.7</b>	0.002 kg

## Lens plastic with symbol


### Additional Information

- Illuminative
- Lens surface mat
- Lens profile flat
- Lenses are suitable for devices with front dimensions Ø 24 mm raised design or Ø 25 mm flush design
- The silvery coat is being applied on the lens (screen print) with an additional protective lacquer. Further information see «Technical data»

Dimension	Lens	Symbol	Part No.	Weight
 <b>Lens plastic with symbol</b>				
Ø 19.7 mm	red transparent	Ring	<b>61-9643.201</b>	0.002 kg
	orange transparent	Ring	<b>61-9643.301</b>	0.002 kg
	yellow transparent	Ring	<b>61-9643.401</b>	0.002 kg
	green transparent	Ring	<b>61-9643.501</b>	0.002 kg
	blue transparent	Ring	<b>61-9643.601</b>	0.002 kg
	colourless transparent	Ring	<b>61-9643.701</b>	0.002 kg
 <b>Lens plastic with symbol</b>				
Ø 19.7 mm	red transparent	ON/OFF	<b>61-9643.202</b>	0.002 kg
	green transparent	ON/OFF	<b>61-9643.502</b>	0.002 kg
	blue transparent	ON/OFF	<b>61-9643.602</b>	0.002 kg
	colourless transparent	ON/OFF	<b>61-9643.702</b>	0.002 kg
 <b>Lens plastic with symbol</b>				
Ø 19.7 mm	red transparent	Stand by	<b>61-9643.203</b>	0.002 kg
	green transparent	Stand by	<b>61-9643.503</b>	0.002 kg
	blue transparent	Stand by	<b>61-9643.603</b>	0.002 kg
	colourless transparent	Stand by	<b>61-9643.703</b>	0.002 kg


**Lens metal with dot****Additional Information**

- Illuminative
- Lens surface mat
- Lens profile flat
- Lenses are suitable for devices with front dimensions Ø 24 mm raised design or Ø 25 mm flush design
- The colour of anodized aluminium parts can vary due to technical production reasons





Dimension	Lens	Part No.	Weight
 <b>Lens metal with dot</b> Ø 19.7 mm	Aluminium black anodized	<b>61-9841.0A</b>	0.002 kg
	Aluminium red anodized	<b>61-9841.2A</b>	0.002 kg
	Aluminium gold anodized	<b>61-9841.4A</b>	0.002 kg
	Aluminium olive-green anodized	<b>61-9841.5A</b>	0.002 kg
	Aluminium blue anodized	<b>61-9841.6A</b>	0.002 kg
	Aluminium natural anodized	<b>61-9841.8A</b>	0.002 kg

**Lens raised design****Additional Information**

- Lens surface mat
- Lens profile flat or concave

Product attribute	Dimension	Lens	Part No.	Weight
 <b>Lens plastic, raised design</b> flat, illuminative	20 x 20 mm	smoked transparent	<b>61-9351.1</b>	0.002 kg
		red transparent	<b>61-9351.2</b>	0.002 kg
		orange transparent	<b>61-9351.3</b>	0.002 kg
		yellow transparent	<b>61-9351.4</b>	0.002 kg
		green transparent	<b>61-9351.5</b>	0.002 kg
		blue transparent	<b>61-9351.6</b>	0.002 kg
		colourless transparent	<b>61-9351.7</b>	0.002 kg
flat, non-illuminative	20 x 20 mm	black opaque	<b>61-9251.0</b>	0.002 kg
		grey opaque	<b>61-9251.8</b>	0.002 kg
		white translucent	<b>61-9251.9</b>	0.002 kg

# 61 Accessories



Product attribute	Dimension	Lens	Part No.	Weight
flat, illuminative	15.3 x 15.3 mm	smoked transparent	61-9321.1	0.002 kg
		red transparent	61-9321.2	0.002 kg
		orange transparent	61-9321.3	0.002 kg
		yellow transparent	61-9321.4	0.002 kg
		green transparent	61-9321.5	0.002 kg
		blue transparent	61-9321.6	0.002 kg
		colourless transparent	61-9321.7	0.002 kg
flat, non-illuminative	15.3 x 15.3 mm	black opaque	61-9221.0	0.002 kg
		grey opaque	61-9221.8	0.002 kg
		white translucent	61-9221.9	0.002 kg
<div></div> <div>Lens plastic, raised design</div>				
concave, illuminative	15.3 x 15.3 mm	colourless transparent	61-9326.7	0.002 kg
concave, non-illuminative	15.3 x 15.3 mm	black opaque	61-9226.0	0.002 kg
		grey opaque	61-9226.8	0.002 kg
<div></div> <div>Lens plastic, raised design</div>				
flat, illuminative	15.3 x 21.5 mm	smoked transparent	61-9331.1	0.002 kg
		red transparent	61-9331.2	0.002 kg
		orange transparent	61-9331.3	0.002 kg
		yellow transparent	61-9331.4	0.002 kg
		green transparent	61-9331.5	0.002 kg
		blue transparent	61-9331.6	0.002 kg
		colourless transparent	61-9331.7	0.002 kg
flat, non-illuminative	15.3 x 21.5 mm	black opaque	61-9231.0	0.002 kg
		grey opaque	61-9231.8	0.002 kg
		white translucent	61-9231.9	0.002 kg
<div></div> <div>Lens plastic, raised design</div>				
concave, illuminative	15.3 x 21.5 mm	red transparent	61-9336.2	0.002 kg
		yellow transparent	61-9336.4	0.002 kg
		green transparent	61-9336.5	0.002 kg
		colourless transparent	61-9336.7	0.002 kg
concave, non-illuminative	15.3 x 21.5 mm	white translucent	61-9236.9	0.002 kg
<div></div> <div>Lens plastic, raised design</div>				
flat, illuminative	Ø 19.7 mm	smoked transparent	61-9642.1	0.002 kg
		red transparent	61-9642.2	0.002 kg
		orange transparent	61-9642.3	0.002 kg
		yellow transparent	61-9642.4	0.002 kg
		green transparent	61-9642.5	0.002 kg
		blue transparent	61-9642.6	0.002 kg
		colourless transparent	61-9642.7	0.002 kg

Product attribute	Dimension	Lens	Part No.	Weight
flat, illuminative	Ø 15.8 mm	smoked transparent	<b>61-9311.1</b>	0.002 kg
		red transparent	<b>61-9311.2</b>	0.002 kg
		orange transparent	<b>61-9311.3</b>	0.002 kg
		yellow transparent	<b>61-9311.4</b>	0.002 kg
		green transparent	<b>61-9311.5</b>	0.002 kg
		blue transparent	<b>61-9311.6</b>	0.002 kg
		colourless transparent	<b>61-9311.7</b>	0.002 kg
flat, non-illuminative	Ø 15.8 mm	black opaque	<b>61-9211.0</b>	0.002 kg
		white translucent	<b>61-9211.9</b>	0.002 kg

### Lens metal

#### Additional Information

- Non-illuminative
- Lens surface mat
- Lenses are suitable for devices with front dimensions Ø 24 mm raised design or Ø 25 mm flush design
- The colour of anodized aluminium parts can vary due to technical production reasons


Product attribute	Dimension	Lens	Part No.	Weight
<div><b>Lens metal</b></div>				
flat	Ø 19.7 mm	Aluminium black anodized	<b>61-9841.0</b>	0.002 kg
		Aluminium red anodized	<b>61-9841.2</b>	0.002 kg
		Aluminium gold anodized	<b>61-9841.4</b>	0.002 kg
		Aluminium olive-green anodized	<b>61-9841.5</b>	0.002 kg
		Aluminium blue anodized	<b>61-9841.6</b>	0.002 kg
		Aluminium natural anodized	<b>61-9841.8</b>	0.002 kg
<div><b>Lens metal</b></div>				
convex (domed)	Ø 19.7 mm	Aluminium black anodized	<b>61-9842.0</b>	0.003 kg
		Aluminium red anodized	<b>61-9842.2</b>	0.003 kg
		Aluminium olive-green anodized	<b>61-9842.5</b>	0.003 kg
		Aluminium blue anodized	<b>61-9842.6</b>	0.003 kg
		Aluminium natural anodized	<b>61-9842.8</b>	0.003 kg

# 61 Accessories

## Mushroom-head cap

### Additional Information


- Non-illuminative

Mushroom-head cap	Part No.	Weight
 <b>Mushroom-head cap, Front dimension Ø 32 mm</b>		
Plastic black	<b>61-9593.0</b>	0.004 kg
Plastic red	<b>61-9593.2</b>	0.004 kg
Plastic yellow	<b>61-9593.4</b>	0.004 kg
Plastic green	<b>61-9593.5</b>	0.004 kg




## Marking plate

### Additional Information





- Can be hot stamped
- Only applicable with lens round Part No. 61-9642.X

Marking plate	Part No.	Weight
 <b>Legend plate for lens plastic</b>		
Plastic colourless transparent	<b>61-9707.7</b>	0.001 kg

## Keylock front bezel flush design


Product attribute	Dimension	Material	Colour	Part No.	Weight
 <b>Keylock front bezel for keylock switch, flush design</b>					
for device with front dimension 24 x 24 mm	18 x 18 mm	Plastic	black	<b>61-9220.0</b>	0.001 kg
 <b>Keylock front bezel for keylock switch, flush design</b>					
for device with front dimension 24 x 30 mm	18 x 24 mm	Plastic	black	<b>61-9230.0</b>	0.001 kg
 <b>Keylock front bezel for keylock switch, flush design</b>					
fro device with front dimension Ø 25 mm	Ø 18 mm	Plastic	black	<b>61-9210.0</b>	0.001 kg

**Keylock front bezel raised design**

Material	Colour	Part No.	Weight
 <b>Keylock front bezel for keylock switch, raised design, Front dimension 24 x 24 mm</b>			
Plastic	black	<b>61-9250.0</b>	0.001 kg
 <b>Keylock front bezel for keylock switch, raised design, Front dimension 18 x 18 mm</b>			
Plastic	black	<b>61-9220.0</b>	0.001 kg
 <b>Keylock front bezel for keylock switch, raised design, Front dimension 18 x 24 mm</b>			
Plastic	black	<b>61-9230.0</b>	0.001 kg
 <b>Keylock front bezel for keylock switch, raised design, Front dimension Ø 18 mm</b>			
Plastic	black	<b>61-9210.0</b>	0.001 kg

**Lever flush design****Additional Information**


- With bar and marking dot

Lever illumination	Lever	Bar colour	Part No.	Weight
 <b>Lever flush design</b>				
illuminative	Plastic black	red	<b>61-9028.20</b>	0.001 kg
		yellow	<b>61-9028.40</b>	0.001 kg
		green	<b>61-9028.50</b>	0.001 kg
		blue	<b>61-9028.60</b>	0.001 kg
	Plastic grey	red	<b>61-9029.20</b>	0.001 kg
		orange	<b>61-9029.30</b>	0.001 kg
		yellow	<b>61-9029.40</b>	0.001 kg
		green	<b>61-9029.50</b>	0.001 kg
non-illuminative	Plastic black	black	<b>61-9028.0</b>	0.001 kg
		white	<b>61-9028.9</b>	0.001 kg
	Plastic grey	grey	<b>61-9029.8</b>	0.001 kg
		white	<b>61-9029.9</b>	0.001 kg

## Lever raised design

### Additional Information

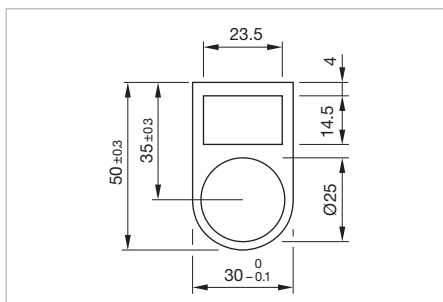
- With bar and marking dot

Lever illumination	Lever	Bar colour	Part No.	Weight
 <b>Lever raised design</b>				
illuminative	Plastic black	red	<b>52-928.20</b>	0.001 kg
		orange	<b>52-928.30</b>	0.001 kg
		yellow	<b>52-928.40</b>	0.001 kg
		green	<b>52-928.50</b>	0.001 kg
		blue	<b>52-928.60</b>	0.001 kg
	Plastic grey	red	<b>52-929.20</b>	0.001 kg
		orange	<b>52-929.30</b>	0.001 kg
		yellow	<b>52-929.40</b>	0.001 kg
		green	<b>52-929.50</b>	0.001 kg
		blue	<b>52-929.60</b>	0.001 kg
non-illuminative	Plastic black	black	<b>52-928.0</b>	0.001 kg
		white	<b>52-928.9</b>	0.001 kg
	Plastic grey	grey	<b>52-929.8</b>	0.001 kg
		white	<b>52-929.9</b>	0.001 kg


## Legend frame

### Additional Information

- For devices with front dimension Ø 25 mm, flush design
- The colour of anodized aluminium parts can vary due to technical production reasons




Dimensions [mm]

Dimension	Material	Colour	Mounting type	Part No.	Weight
 <b>Legend frame</b>					
30 x 50 x 0.75 mm	Aluminium	black anodized	adhesive	<b>61-9980.0</b>	0.001 kg






**Legend plate****Additional Information**

- For legend frame Part No. 61-9980.0
- The colour of anodized aluminium parts can vary due to technical production reasons

Dimension	Material	Colour	Mounting type	Part No.	Weight
 <b>Legend plate for legend frame</b>					
14.5 x 23.5 mm	Aluminium	natural anodized	adhesive	<b>704.968.0</b>	0.001 kg
		black anodized	adhesive	<b>704.968.1</b>	0.001 kg

**Front bezel set pushbutton****Additional Information**



- The dimensions of the Mounting cut-outs are shown in the product details
- The colour of anodized aluminium parts can vary due to technical production reasons

Mounting cut-out	Front bezel	Part No.	Weight
 <b>Front bezel set for indicator and illuminated pushbutton, flush design, Front dimension 24 x 24 mm</b>			
21 x 21 mm	Plastic black	<b>61-9930.0</b>	0.008 kg
	Plastic silver	<b>61-9930.4</b>	0.008 kg
 <b>Front bezel set for indicator and illuminated pushbutton, flush design, Front dimension 24 x 30 mm</b>			
21 x 27 mm	Plastic black	<b>61-9931.0</b>	0.008 kg
	Plastic silver	<b>61-9931.4</b>	0.008 kg
 <b>Front bezel set for indicator and illuminated pushbutton, flush design, Front dimension Ø 25 mm</b>			
Ø 22.5 mm	Aluminium natural anodized	<b>61-9933.0</b>	0.006 kg
	Aluminium black anodized	<b>61-9933.1</b>	0.006 kg
	Aluminium red anodized	<b>61-9933.2</b>	0.006 kg
	Aluminium gold anodized	<b>61-9933.4</b>	0.006 kg
	Aluminium olive-green anodized	<b>61-9933.5</b>	0.006 kg
	Aluminium blue anodized	<b>61-9933.6</b>	0.006 kg
	Plastic black	<b>61-9933.10</b>	0.008 kg

## Front bezel set mushroom




### Additional Information

- The dimensions of the mounting cut-outs are shown in the product details
- The colour of anodized aluminium parts can vary due to technical production reasons

Dimension	Mounting cut-out	Front bezel	Part No.	Weight
 <b>Front bezel set for mushroom-head pushbutton, flush design, Front dimension Ø 40 mm</b>				
	Ø 22.5 mm	Aluminium natural anodized	<b>61-9934.8</b>	0.013 kg
 <b>Front bezel set for mushroom-head pushbutton, flush design</b>				
Ø 25 mm	Ø 22.5 mm	Aluminium natural anodized	<b>61-9933.0</b>	0.006 kg
	Ø 22.5 mm	Aluminium black anodized	<b>61-9933.1</b>	0.006 kg
	Ø 22.5 mm	Aluminium red anodized	<b>61-9933.2</b>	0.006 kg
	Ø 22.5 mm	Aluminium gold anodized	<b>61-9933.4</b>	0.006 kg
	Ø 22.5 mm	Aluminium olive-green anodized	<b>61-9933.5</b>	0.006 kg
	Ø 22.5 mm	Aluminium blue anodized	<b>61-9933.6</b>	0.006 kg
	Ø 22.5 mm	Plastic black	<b>61-9933.10</b>	0.008 kg

**Front bezel set keylock switch****Additional Information**



- The dimensions of the mounting cut-outs are shown in the product details
- For the round front bezel sets the anti-twist ring is part of the sales-package
- The colour of anodized aluminium parts can vary due to technical production reasons

Mounting cut-out	Front bezel	Part No.	Weight
 <b>Front bezel set for keylock switch, flush design, Front dimension 24 x 24 mm</b>			
21 x 21 mm	Plastic black	<b>61-9930.0</b>	0.008 kg
	Plastic silver	<b>61-9930.4</b>	0.008 kg
 <b>Front bezel set for keylock switch, flush design, Front dimension 24 x 30 mm</b>			
21 x 27 mm	Plastic black	<b>61-9931.0</b>	0.008 kg
	Plastic silver	<b>61-9931.4</b>	0.008 kg
 <b>Front bezel set for keylock switch, flush design, Front dimension Ø 25 mm</b>			
Ø 22.5 mm	Aluminium natural anodized	<b>61-9932.0</b>	0.006 kg
	Aluminium black anodized	<b>61-9932.1</b>	0.006 kg
	Aluminium red anodized	<b>61-9932.2</b>	0.006 kg
	Aluminium gold anodized	<b>61-9932.4</b>	0.006 kg
	Aluminium olive-green anodized	<b>61-9932.5</b>	0.006 kg
	Aluminium blue anodized	<b>61-9932.6</b>	0.006 kg
	Plastic black	<b>61-9932.10</b>	0.008 kg

## Front bezel set selector switch

### Additional Information

- The dimensions of the mounting cut-outs are shown in the product details
- With the round front bezel sets Ø 25 mm the anti-twist ring is part of the sales-package
- The colour of anodized aluminium parts can vary due to technical production reasons

Mounting cut-out	Front bezel	Part No.	Weight
 <b>Front bezel set for selector switch, flush design, Front dimension 24 x 24 mm</b>			
	Plastic black	<b>61-9936.0</b>	0.007 kg
 <b>Front bezel set for selector switch, flush design, Front dimension Ø 25 mm</b>			
	Aluminium natural anodized	<b>61-9932.0</b>	0.006 kg
	Aluminium black anodized	<b>61-9932.1</b>	0.006 kg
	Aluminium red anodized	<b>61-9932.2</b>	0.006 kg
	Aluminium gold anodized	<b>61-9932.4</b>	0.006 kg
	Aluminium olive-green anodized	<b>61-9932.5</b>	0.006 kg
	Aluminium blue anodized	<b>61-9932.6</b>	0.006 kg
	Plastic black	<b>61-9932.10</b>	0.008 kg

## Front bezel selector switch square


### Additional Information

- The dimensions of the mounting cut-outs are shown in the product details

Dimension	Front bezel	Part No.	Weight
 <b>Front bezel for selector switch square, raised design</b>			
	Plastic black	<b>52-950.0</b>	0.001 kg
	Plastic black	<b>52-952.0</b>	0.001 kg



**Front ring****Additional Information**

- For devices with front dimension Ø 24 mm, raised design
- The colour of anodized aluminium parts can vary due to technical production reasons

Front ring	Part No.	Weight
 <b>Front ring, Front dimension Ø 24 mm</b>		
	Aluminium black anodized	<b>61-9600.0</b> 0.003 kg
	Aluminium natural anodized	<b>61-9600.1</b> 0.003 kg

**Front protective cap, IP 68****Additional Information**

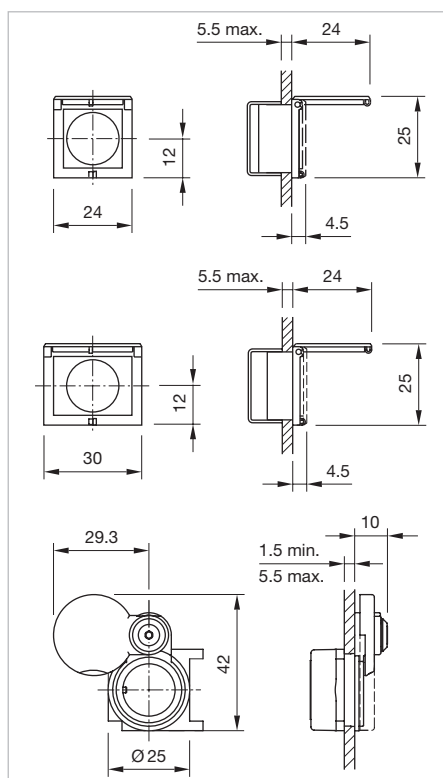
- For flat lense profil only
- When using the front protection cover for push buttons the external sealing in the front bezel set and the silicone bellows in the actuator are to be removed

Product attribute	Material	Colour	Optics	Part No.	Weight
 <b>Front protective cap</b>					
	for front bezel set 24 x 30 mm, flush design	Silicone	colourless	transparent	<b>61-9927.2</b> 0.001 kg
 <b>Front protective cap</b>					
	for front bezel set Ø 25 mm, flush design	Silicone	colourless	transparent	<b>84-9103.7</b> 0.001 kg




## Protective cover flush design, IP 65

### Additional Information

- The dimensions of the mounting cut-outs are shown in the product details
- Please note that bigger minimum distances are necessary



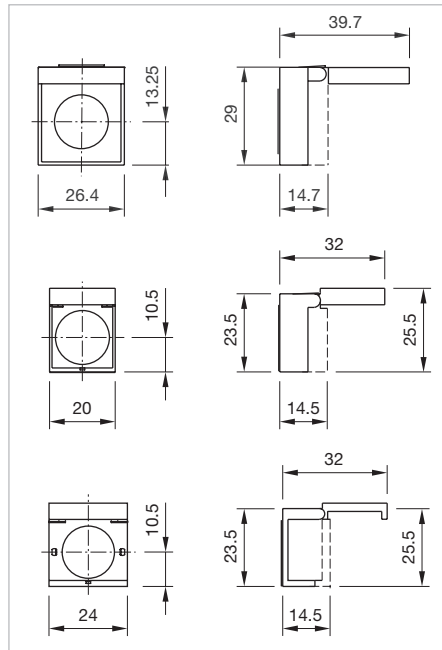
Dimensions [mm]

Product attribute	Mounting cut-out	Material	Optics	Part No.	Weight
 <b>Protective cover flush design</b> hinged, with means for sealing, for device with front dimension 24 x 24 mm	21 x 21 mm	Plastic	transparent	<b>61-9921.0</b>	0.006 kg
 <b>Protective cover flush design</b> hinged, with means for sealing, for device with front dimension 24 x 30 mm	21 x 27 mm	Plastic	transparent	<b>61-9922.0</b>	0.006 kg
 <b>Protective cover flush design</b> slide by side, with means not for sealing, for device with front dimension Ø 25 mm	Ø 22.5 mm	Plastic	transparent	<b>61-9924.0</b>	0.006 kg




## Protective cover raised design, IP 65

### Additional Information

- The dimensions of the mounting cut-outs are shown in the product details
- Please note that bigger minimum distances are necessary



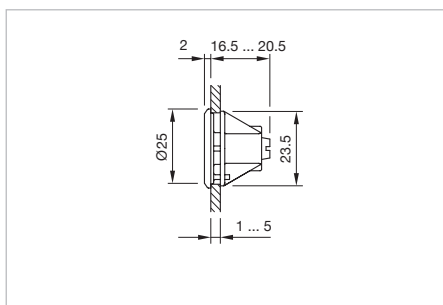
Dimensions [mm]

Product attribute	Mounting cut-out	Material	Optics	Part No.	Weight
 <b>Protective cover raised design</b>					
hinged, with means not for sealing, for device with front dimension 24 x 24 mm	Ø 16 mm	Plastic	transparent	<b>61-9920.0</b>	0.004 kg
 <b>Protective cover raised design</b>					
hinged, with means for sealing, for device with front dimension 18 x 18 mm	Ø 16 mm	Plastic	transparent	<b>51-920</b>	0.002 kg
 <b>Protective cover raised design</b>					
hinged, with means for sealing, for device with front dimension 18 x 24 mm	Ø 16 mm	Plastic	transparent	<b>51-925</b>	0.002 kg




## Blind plug flush design

### Additional Information

- The dimensions of the mounting cut-outs are shown in the product details

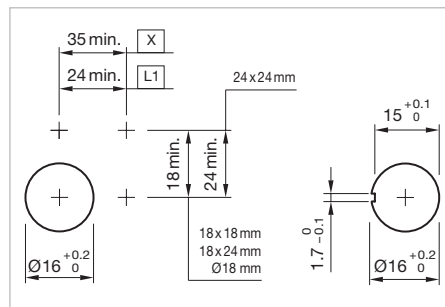


Dimensions [mm]




Dimension	Mounting cut-out	Material	Colour	Part No.	Weight
	<b>Blind plug flush design</b>				
	24 x 24 mm	21 x 21 mm	Plastic	black	<b>61-9451.0</b> 0.006 kg
	<b>Blind plug flush design</b>				
	24 x 30 mm	21 x 27 mm	Plastic	black	<b>61-9452.0</b> 0.006 kg
	<b>Blind plug flush design</b>				
	Ø 25 mm	Ø 22.5 mm	Plastic	black	<b>61-9453.0</b> 0.006 kg



# Blind plug raised design



Mounting cut-outs [mm]


Dimension	Mounting cut-out	Material	Colour	Part No.	Weight
 <b>Blind plug raised design</b>					
24 x 24 mm	Ø 16 mm	Plastic	black	<b>61-9450.0</b>	0.003 kg
18 x 18 mm	Ø 16 mm	Plastic	black	<b>51-948.0</b>	0.003 kg
 <b>Blind plug raised design</b>					
18 x 24 mm	Ø 16 mm	Plastic	black	<b>51-947.0</b>	0.003 kg
 <b>Blind plug raised design</b>					
Ø 18 mm	Ø 16 mm	Plastic	black	<b>51-949.0</b>	0.003 kg

# 61 Accessories

## Master key

### Additional Information



- For standard lock: DOM 311 ... 445

Part No.	Weight
 <b>Master key</b>	
31-989.300	0.006 kg

## Spare key

### Additional Information


- Optional lock numbers on request

Product attribute	Part No.	Weight
 <b>Spare key</b>		
for emergency-stop switch, for standard lock: KABA 1001	14-987.1001	0.006 kg
 <b>Spare key</b>		
for key lock switch, for standard lock: DOM 311	31-989.311	0.006 kg

## EMC key protection cap



### Additional Information

- For standard lock: DOM
- Plastic black

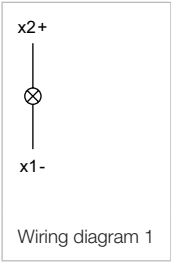
Part No.	Weight
 <b>EMC key protection cap</b>	
31-985.0	0.005 kg

Rear side


Lamp element

Terminal	Part No.	Compo- nent layout	Wiring diagram	Weight
 <b>Lamp element</b>				
Screw	61-8006.01	3	1	0.005 kg
 <b>Lamp element</b>				
Solder 2.8 x 0.5 mm	61-8006.02	2	1	0.005 kg

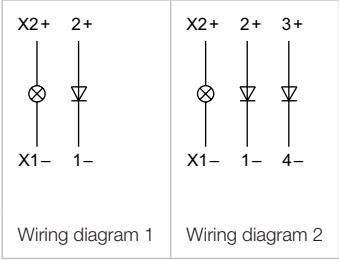
The component layouts you will find from page 666



Diode element

Diode	Terminal	Part No.	Compo- nent layout	Wiring diagram	Weight
 <b>Diode element</b>					
1	Solder 2.8 x 0.5 mm	61-8101.02	4	1	0.007 kg
2	Solder 2.8 x 0.5 mm	61-8102.02	5	2	0.008 kg

The component layouts you will find from page 666



## Flasher element

### Additional Information

- Only for Indicator actuator (without indicator complete)
- Further information see «Technical data»


Operating voltage	Terminal	Part No.	Component layout	Weight
 <b>Flasher element</b>				
12 ... 28 ±10 % VAC/DC	Solder	61-8000.05	6	0.005 kg



The component layouts you will find from page 666

## Switching element 2 positions

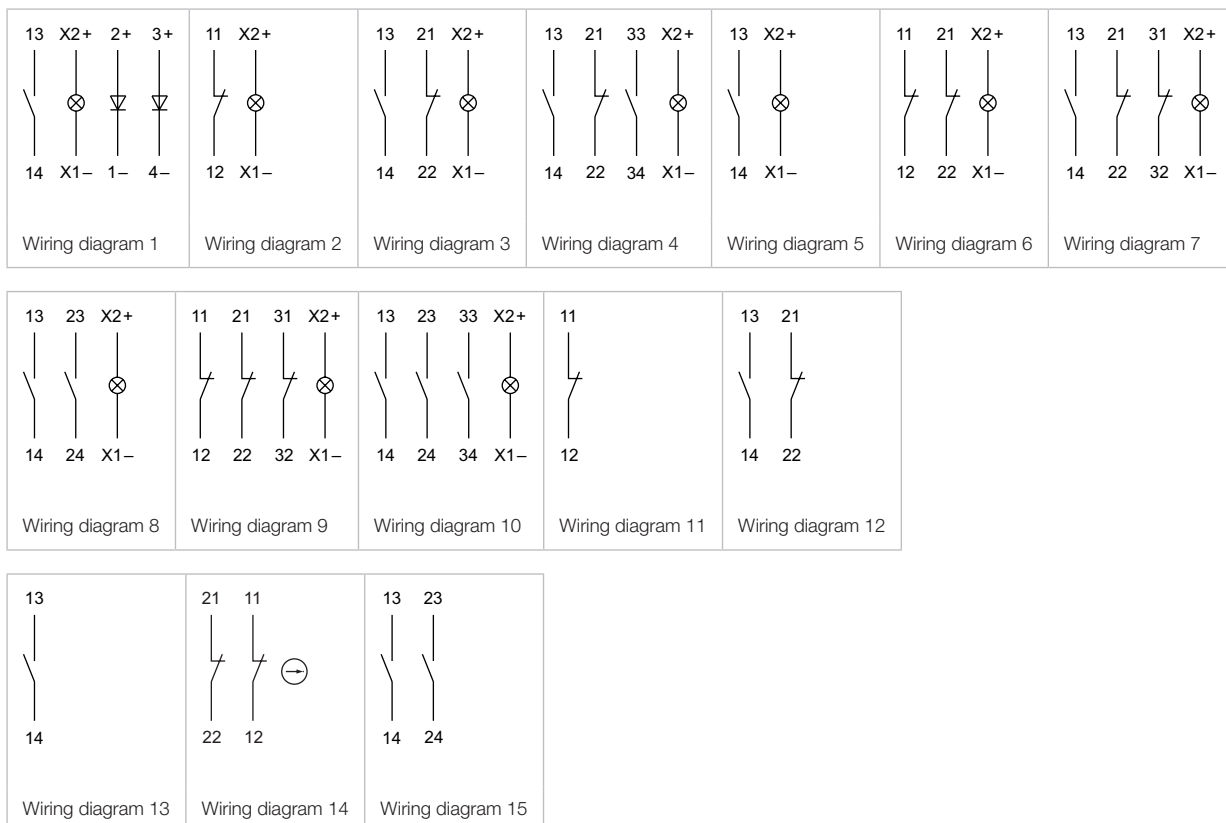
### Additional Information

- We offer a dismantling tool Part No. 61-9711.0 for dismantling of the switching element

Product attribute	Diode 1N4007	Switching voltage	Switching current	Switching system	Contacts	Contact material	Terminal	Part No.	Component layout	Wiring diagram	Weight
 <b>Switching element for pushbutton and keylock- and selector switch 2 positions</b>											
with lamp terminal	2	250 VAC	5 A	Snap-action switching element	1 NO	Silver	Solder 2.8 x 0.5 mm	61-8212.12	7	1	0.007 kg
						Gold	Solder 2.8 x 0.5 mm	61-8212.22	7	1	0.007 kg
		250 VAC	5 A	Snap-action switching element	1 NO	Silver	Solder 2.8 x 0.5 mm	61-8410.12	11	5	0.007 kg
						Gold	Solder 2.8 x 0.5 mm	61-8410.22	11	5	0.007 kg
					2 NO	Silver	Solder 2.8 x 0.5 mm	61-8420.12	14	8	0.007 kg
						Gold	Solder 2.8 x 0.5 mm	61-8420.22	14	8	0.007 kg
					3 NO	Silver	Solder 2.8 x 0.5 mm	61-8430.12	16	10	0.007 kg
						Gold	Solder 2.8 x 0.5 mm	61-8430.22	16	10	0.007 kg
					1 NC	Silver	Solder 2.8 x 0.5 mm	61-8440.12	8	2	0.007 kg
						Gold	Solder 2.8 x 0.5 mm	61-8440.22	8	2	0.007 kg
					2 NC	Silver	Solder 2.8 x 0.5 mm	61-8450.12	12	6	0.007 kg
						Gold	Solder 2.8 x 0.5 mm	61-8450.22	12	6	0.007 kg
					3 NC	Silver	Solder 2.8 x 0.5 mm	61-8460.12	15	9	0.007 kg
						Gold	Solder 2.8 x 0.5 mm	61-8460.22	15	9	0.007 kg
					1 NC + 1 NO	Silver	Solder 2.8 x 0.5 mm	61-8470.12	9	3	0.007 kg
						Gold	Solder 2.8 x 0.5 mm	61-8470.22	9	3	0.007 kg
					2 NC + 1 NO	Silver	Solder 2.8 x 0.5 mm	61-8480.12	13	7	0.007 kg
						Gold	Solder 2.8 x 0.5 mm	61-8480.22	13	7	0.007 kg
					1 NC + 2 NO	Silver	Solder 2.8 x 0.5 mm	61-8490.12	10	4	0.007 kg
						Gold	Solder 2.8 x 0.5 mm	61-8490.22	10	4	0.007 kg

Product attribute	Diode 1N4007	Switching voltage	Switching current	Switching system	Contacts	Contact material	Terminal	Part No.	Component layout	Wiring diagram	Weight
<div></div> <div>Switching element for pushbutton and keylock- and selector switch 2 positions</div>											
with lamp terminal		250 VAC	5 A	Slow-make switching element	1 NO	Silver	Solder 2.8 x 0.5 mm	61-8610.17	20	5	0.008 kg
					2 NO	Silver	Solder 2.8 x 0.5 mm	61-8620.17	23	8	0.008 kg
					1 NC	Silver	Solder 2.8 x 0.5 mm	61-8640.17	17	2	0.008 kg
					2 NC	Silver	Solder 2.8 x 0.5 mm	61-8650.17	22	6	0.008 kg
					1 NC + 1 NO	Silver	Solder 2.8 x 0.5 mm	61-8670.17	19	3	0.008 kg
		42 VAC/DC	0.1 A	Slow-make switching element	1 NO	Gold	Solder 2.8 x 0.5 mm	61-8610.37	20	5	0.008 kg
					2 NO	Gold	Solder 2.8 x 0.5 mm	61-8620.37	23	8	0.008 kg
					1 NC	Gold	Solder 2.8 x 0.5 mm	61-8640.37	17	2	0.008 kg
					2 NC	Gold	Solder 2.8 x 0.5 mm	61-8650.37	22	6	0.008 kg
					1 NC + 1 NO	Gold	Solder 2.8 x 0.5 mm	61-8670.37	19	3	0.008 kg
<div></div> <div>Switching element for pushbutton and keylock- and selector switch 2 positions</div>											
with lamp terminal		250 VAC	5 A	Slow-make switching element	1 NO	Silver	Screw	61-8610.11	21	5	0.008 kg
					1 NC	Silver	Screw	61-8640.11	18	11	0.008 kg
without lamp terminal		250 VAC	5 A	Slow-make switching element	1 NO	Silver	Screw	61-8615.11	26	13	0.008 kg
					2 NO	Silver	Screw	61-8625.11	28	15	0.008 kg
					1 NC	Silver	Screw	61-8645.11	24	11	0.008 kg
					2 NC	Silver	Screw	61-8655.11	27	14	0.008 kg
					1 NC + 1 NO	Silver	Screw	61-8675.11	25	12	0.008 kg


Contacts: NC = Normally closed, NO = Normally open  
The component layouts you will find from page 666



## Switching element 3 positions

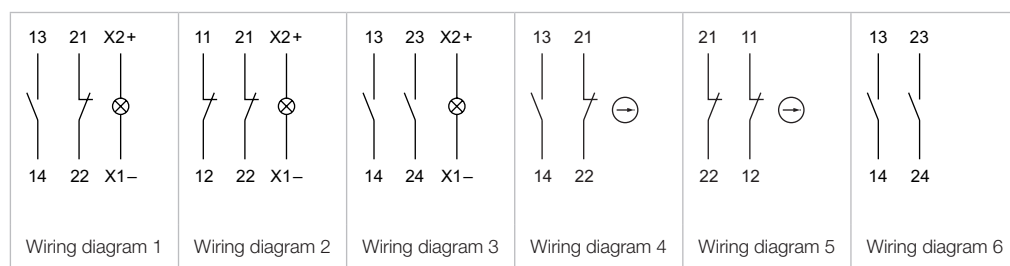
### Additional Information

- We offer a dismantling tool Part No. 61-9711.0 for dismantling of the switching element



Product attribute	Switching voltage	Switching current	Switching system	Contacts	Contact material	Terminal	Art.-Nr.	Component layout	Wiring diagram	Gewicht
	250 VAC	5 A	Snap-action switching element	2 NO	Silver	Solder 2.8 x 0.5 mm	<b>61-8520.12</b>	31	3	0.008 kg
					Gold	Solder 2.8 x 0.5 mm	<b>61-8520.22</b>	31	3	0.008 kg
				2 NC	Silver	Solder 2.8 x 0.5 mm	<b>61-8550.12</b>	30	2	0.008 kg
					Gold	Solder 2.8 x 0.5 mm	<b>61-8550.22</b>	30	2	0.008 kg
				1 NC + 1 NO	Gold	Solder 2.8 x 0.5 mm	<b>61-8574.22</b>	29	1	0.008 kg
					Silver	Solder 2.8 x 0.5 mm	<b>61-8574.12</b>	29	1	0.008 kg
		0.1 A	Slow-make switching element	2 NO	Silver	Solder 2.8 x 0.5 mm	<b>61-8720.17</b>	31	3	0.008 kg
				2 NC	Silver	Solder 2.8 x 0.5 mm	<b>61-8750.17</b>	31	2	0.008 kg
				1 NC + 1 NO	Silver	Solder 2.8 x 0.5 mm	<b>61-8770.17</b>	32	1	0.008 kg
	42 VAC/DC	0.1 A	Slow-make switching element	2 NO	Gold	Solder 2.8 x 0.5 mm	<b>61-8720.37</b>	34	3	0.008 kg
				2 NC	Gold	Solder 2.8 x 0.5 mm	<b>61-8750.37</b>	33	2	0.008 kg
				1 NC + 1 NO	Gold	Solder 2.8 x 0.5 mm	<b>61-8770.37</b>	32	1	0.008 kg
without lamp terminal	250 VAC	5 A	Slow-make switching element	2 NO	Silver	Screw	<b>61-8725.11</b>	28	6	0.008 kg
				2 NC	Silver	Screw	<b>61-8755.11</b>	27	5	0.008 kg
				1 NC + 1 NO	Silver	Screw	<b>61-8775.11</b>	25	4	0.008 kg

Contacts: NC = Normally closed, NO = Normally open

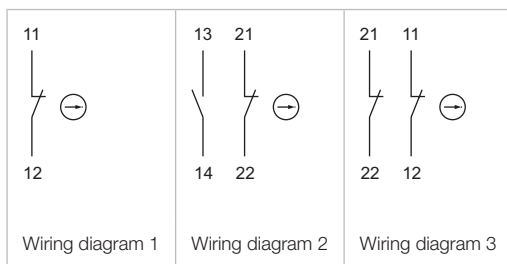
The component layouts you will find from page 666




## Switching element E-stop & stop

Switching voltage	Switching current	Switching system	Contacts	Contact material	Terminal	Part No.	Component layout	Wiring diagram	Weight
<div></div> <div>Switching element for emergency-stop switch, foolproof EN IEC 60947-5-5</div>									
250 VAC	5 A	Slow-make switching element	1 NC	Silver	Screw	61-8745.11	24	1	0.008 kg
			2 NC	Silver	Screw	61-8755.11	27	3	0.008 kg
			1 NC + 1 NO	Silver	Screw	61-8775.11	25	2	0.008 kg
<div></div> <div>Switching element for emergency-stop switch, foolproof EN IEC 60947-5-5</div>									
250 VAC	5 A	Slow-make switching element	1 NC	Silver	Solder 2.8 x 0.5 mm	61-8745.17	35	1	0.008 kg
			2 NC	Silver	Solder 2.8 x 0.5 mm	61-8755.17	37	3	0.008 kg
			1 NC + 1 NO	Silver	Solder 2.8 x 0.5 mm	61-8775.17	36	2	0.008 kg

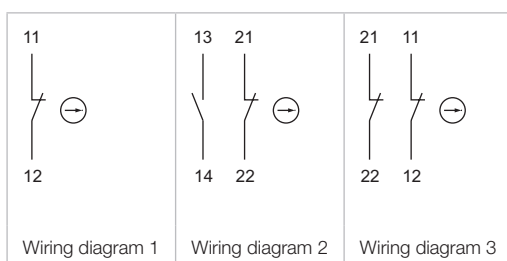
Contacts: NC = Normally closed, NO = Normally open  
The component layouts you will find from page 666






## Switching element stop switch

Switching voltage	Switching current	Switching system	Contacts	Contact material	Terminal	Part No.	Component layout	Wiring diagram	Weight
 <b>Switching element for stop switch, foolproof</b>									
42 VAC/DC	0.1 A	Slow-make switching element	1 NC	Gold	Solder 2.8 x 0.5 mm	<b>61-8745.37</b>	35	1	0.008 kg
			2 NC	Gold	Solder 2.8 x 0.5 mm	<b>61-8755.37</b>	37	3	0.008 kg
			1 NC + 1 NO	Gold	Solder 2.8 x 0.5 mm	<b>61-8775.37</b>	36	2	0.008 kg

Contacts: NC = Normally closed, NO = Normally open  
The component layouts you will find from page 666




PCB plug-in base

Product attribute	Dimension	Pins	Terminal	Part No.	Component layout	Weight
<div><b>PCB plug-in base</b></div>						
for indicator complete	Ø 13.1 x 9.8 mm	axial	PCB	61-9820.1	40	0.002 kg
<div><b>PCB plug-in base</b></div>						
for snap-action switching element, indicator- and diode element	23 x 15 x 9.4 mm	axial	PCB	61-9821.1	38	0.003 kg
<div><b>PCB plug-in base</b></div>						
for slow-make switching element	23.6 x 17.7 x 10.9 mm	axial	PCB	61-9823	39	0.002 kg

The component layouts you will find from page 666



Multi-plug housing

- Additional Information
- For snap-action switching element, max. 6 connections possible

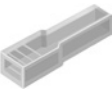
Part No.	Weight
<div><b>Multi-plug housing</b></div>	
61-9830	0.002 kg



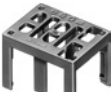

**Flat receptacle**

Product attribute	Part No.	Weight
 <b>Flat receptacle</b>		
2.8 x 0.5 mm plug-in terminal	<b>31-946</b>	0.001 kg
 <b>Flat receptacle</b>		
2.8 x 0.5 mm multi-plug housing	<b>51-943.1</b>	0.001 kg

**Insulation sleeve**

Product attribute	Part No.	Weight
 <b>Insulation sleeve</b>		
for flat receptacle 2.8 mm	<b>31-929</b>	0.001 kg

**Terminal cover**

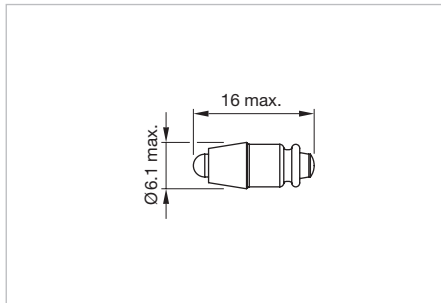
Product attribute	Part No.	Weight
 <b>Terminal cover</b>		
for snap-action switching element with soldering terminal	<b>61-9830.2</b>	0.002 kg
 <b>Terminal cover</b>		
for indicator complete	<b>61-9831.2</b>	0.001 kg

## Illumination


### Single-LED, T1 3/4 MG

#### Additional Information


- When using AC/DC types with AC operation, slight flickering can occur
- Luminous intensity data of the LEDs on direct voltage
- Electrical and optical data are measured at 25 °C
- The specified versions are built with a protection diode (half wave rectifier) in series and the LED
- Luminosity and wave length variations caused by LED manufacturing processes may cause slight differences regarding the illumination
- For supply voltages above 48V, a voltage reduction element (external series resistor or transformer) must be used
- Due to high surface temperatures, the surface resistors must be soldered directly to the terminals of the equipment (use a terminal plate)



Dimensions [mm]


LED colour	Operating voltage	Operation current	Lumi. intensity	Dom. wavelength	Part No.	Weight
 <b>Single-LED</b>						
red	6 VDC +10 %	15 mA ±15 %	350 mcd	630 nm	<b>10-2J06.3142</b>	0.002 kg
	12 VAC/DC +10 %	7/14 mA ±15 %	330 mcd	630 nm	<b>10-2J09.1062</b>	0.002 kg
	24 VAC/DC +10 %	7/14 mA ±15 %	330 mcd	630 nm	<b>10-2J12.1062</b>	0.002 kg
	28 VAC/DC +10 %	7/14 mA ±15 %	330 mcd	630 nm	<b>10-2J13.1062</b>	0.002 kg
	48 VAC/DC +10 %	4/8 mA ±15 %	200 mcd	630 nm	<b>10-2J19.1042</b>	0.002 kg
yellow	6 VDC +10 %	15 mA ±15 %	300 mcd	587 nm	<b>10-2J06.3144</b>	0.002 kg
	12 VAC/DC +10 %	7/14 mA ±15 %	280 mcd	587 nm	<b>10-2J09.1064</b>	0.002 kg
	24 VAC/DC +10 %	7/14 mA ±15 %	280 mcd	587 nm	<b>10-2J12.1064</b>	0.002 kg
	28 VAC/DC +10 %	7/14 mA ±15 %	280 mcd	587 nm	<b>10-2J13.1064</b>	0.002 kg
	48 VAC/DC +10 %	4/8 mA ±15 %	180 mcd	587 nm	<b>10-2J19.1044</b>	0.002 kg
green	6 VDC +10 %	7 mA ±15 %	1050 mcd	525 nm	<b>10-2J06.3145</b>	0.002 kg
	12 VAC/DC +10 %	4/7 mA ±15 %	1050 mcd	525 nm	<b>10-2J09.1065</b>	0.002 kg
	24 VAC/DC +10 %	4/7 mA ±15 %	1050 mcd	525 nm	<b>10-2J12.1065</b>	0.002 kg
	28 VAC/DC +10 %	4/7 mA ±15 %	1050 mcd	525 nm	<b>10-2J13.1065</b>	0.002 kg
	48 VAC/DC +10 %	2/4 mA ±15 %	600 mcd	525 nm	<b>10-2J19.1045</b>	0.002 kg
blue	6 VDC +10 %	15 mA ±15 %	680 mcd	470 nm	<b>10-2J06.3146</b>	0.002 kg
	12 VAC/DC +10 %	7/14 mA ±15 %	650 mcd	470 nm	<b>10-2J09.1066</b>	0.002 kg
	24 VAC/DC +10 %	7/14 mA ±15 %	650 mcd	470 nm	<b>10-2J12.1066</b>	0.002 kg
	28 VAC/DC +10 %	7/14 mA ±15 %	650 mcd	470 nm	<b>10-2J13.1066</b>	0.002 kg
	48 VAC/DC +10 %	4/8 mA ±15 %	400 mcd	470 nm	<b>10-2J19.1046</b>	0.002 kg
white	6 VDC +10 %	6 mA ±15 %	900 mcd	x0.31/y0.32 nm	<b>10-2J06.3149</b>	0.002 kg
	12 VAC/DC +10 %	3/6 mA ±15 %	900 mcd	x0.31/y0.32 nm	<b>10-2J09.1069</b>	0.002 kg
	24 VAC/DC +10 %	2.5/5 mA ±15 %	750 mcd	x0.31/y0.32 nm	<b>10-2J12.1069</b>	0.002 kg
	28 VAC/DC +10 %	2.5/5 mA ±15 %	750 mcd	x0.31/y0.32 nm	<b>10-2J13.1069</b>	0.002 kg
	48 VAC/DC +10 %	2/4 mA ±15 %	600 mcd	x0.31/y0.32 nm	<b>10-2J19.1049</b>	0.002 kg

**Filament lamp, T1 3/4 MG**

Operating voltage	Operation current	Part No.	Weight
 <b>Filament lamp</b>			
6 VAC/DC	120 mA $\pm$ 10 %	<b>10-1306.1349</b>	0.001 kg
6.3 VAC/DC	200 mA $\pm$ 10 %	<b>10-1307.1369</b>	0.001 kg
12 VAC/DC	75 mA $\pm$ 10 %	<b>10-1309.1309</b>	0.001 kg
14 VAC/DC	80 mA $\pm$ 10 %	<b>10-1310.1319</b>	0.001 kg
18 VAC/DC	40 mA $\pm$ 10 %	<b>10-1311.1249</b>	0.001 kg
24 VAC/DC	35 mA $\pm$ 10 %	<b>10-1312.1229</b>	0.001 kg
28 VAC/DC	30 mA $\pm$ 10 %	<b>10-1313.1209</b>	0.001 kg
	40 mA $\pm$ 10 %	<b>10-1313.1249</b>	0.001 kg
36 VAC/DC	20 mA $\pm$ 10 %	<b>10-1316.1179</b>	0.001 kg
	30 mA $\pm$ 10 %	<b>10-1316.1209</b>	0.001 kg
48 VAC/DC	20 mA $\pm$ 10 %	<b>10-1319.1179</b>	0.001 kg
	25 mA $\pm$ 10 %	<b>10-1319.1199</b>	0.001 kg

**Series resistor****Additional Information**


- Only for filament lamp 48 VAC, 25 mA
- For lamp voltage reduction
- Keep to the country specific safety instructions
- Due to high surface temperatures, the surface resistors must be soldered directly to the terminals of the equipment (use a terminal plate)

Operating voltage	Resistance	Part No.	Weight
 <b>Series resistor</b>			
110 VAC	2.7 kOhm	<b>02-904.0</b>	0.003 kg
125 VAC	3.3 kOhm	<b>02-904.1</b>	0.003 kg
145 VAC	4.7 kOhm	<b>02-904.3</b>	0.003 kg
240 VAC	10 kOhm	<b>02-904.7</b>	0.003 kg


Terminal plate empty

Additional Information

- For fitting with series resistors

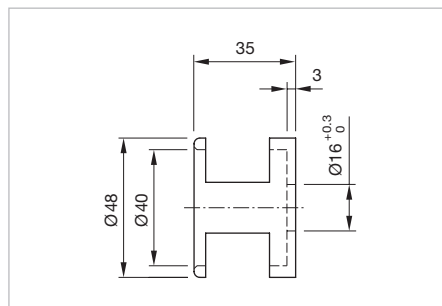
Product attribute	Dimension	Part No.	Weight
<div><div>Terminal plate empty</div></div>			
5 spaces	62.5 x 60 x 15 mm	02-912.1	0.025 kg
10 spaces	125 x 60 x 15 mm	02-912.2	0.045 kg
15 spaces	187.6 x 60 x 15 mm	02-912.3	0.090 kg
20 spaces	250 x 60 x 15 mm	02-912.4	0.095 kg

**Emergency-stop switch****Emergency-stop legend**

Dimension	Mounting cut-out	Marking	Colour	Part No.	Weight
 <b>Emergency-stop legend</b>					
Ø 43 x 1.7 mm	Ø 16 mm	without marking	yellow	<b>61-9970.0</b>	0.002 kg
		NOT-AUS	yellow	<b>61-9970.1</b>	0.002 kg
		EMERGENCY-STOP	yellow	<b>61-9970.2</b>	0.002 kg
		ARRET-D'URGENCE	yellow	<b>61-9970.3</b>	0.002 kg
		EMERGENCY-STOP	yellow	<b>61-9970.6</b>	0.002 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



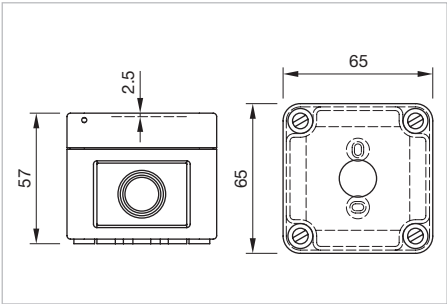
Dimensions [mm]

Material	Colour	Part No.	Weight
 <b>Emergency-stop protective shroud</b>			
Aluminium anodised	yellow varnished	<b>61-9965</b>	0.036 kg


Emergency-stop enclosure, IP 66

Additional Information

- Bottom grey similar RAL 7035; cover lead-sealable, yellow similar RAL 1004
- With mounting cut-out Ø 16 mm, without anti-twist device
- Openings for cable gland M16 or M20




Dimensions [mm]

Dimension	Part No.	Weight
 Emergency-stop enclosure		
65 x 65 x 57 mm	61-9480.5	0.099 kg


Cable gland, IP 68

Additional Information


- With traction relief
- With fixing nut

Product attribute	Thread	Material	Colour	Part No.	Weight
 Cable gland					
Clamping range Ø 4 ... 10 mm, thread length 8 mm	M16 x 1.5	Plastic	grey	61-9481.6	0.007 kg
Clamping range Ø 6 ... 12 mm, thread length 9 mm	M20 x 1.5	Plastic	grey	704.945.6	0.011 kg

**Mounting****Fixing nut**


Product attribute	Material	Part No.	Weight
 <b>Fixing nut</b> special recommended for keylock switches	Metal	<b>31-991</b>	0.005 kg
 <b>Fixing nut</b> Standard delivery	Plastic	<b>61-9915.0</b>	0.002 kg

**Anti-twist ring**

Mounting cut-out	Art.-Nr.	Gewicht
		
Ø 16 mm	<b>51-910</b>	0.001 kg
Ø 22.5 mm	<b>61-9912.0</b>	0.002 kg

**Reducing ring****Additional Information**

- Only for use of devices with front size 24 x 24 mm and Ø 24 mm, mounting cut-out Ø 22.5 mm to Ø 16.5 mm, without keylock- and selector switch


Part No.	Weight
 <b>Reducing ring</b>	
<b>61-9960</b>	0.003 kg

# 61 Accessories



## Tool set

### Additional Information

- Consists of lens remover, lamp-and LED remover, mounting tool and dismantling tool
- For dismantling keep care of the enclosed assembly instruction

Part No.	Weight
 <b>Tool set</b>	
K61-999.100	0.048 kg


## Lens remover

Product attribute	Part No.	Weight
 <b>Lens remover</b>		
for raised design	02-905	0.011 kg
 <b>Lens remover</b>		
for flush design	61-9730.0	0.011 kg

## Lamp remover

### Additional Information


- ▲ **Caution:** A switching process might be released when replacing the lamp

Part No.	Weight
 <b>Lamp remover</b>	
61-9740.0	0.003 kg




**Mounting tool****Additional Information**

- For device with mounting cut-out Ø 16 mm

Product attribute	Part No.	Weight
 <p><b>Mounting tool</b></p> <p>for tightening or loosening of the fixing nut</p>	<b>01-907</b>	0.02 kg

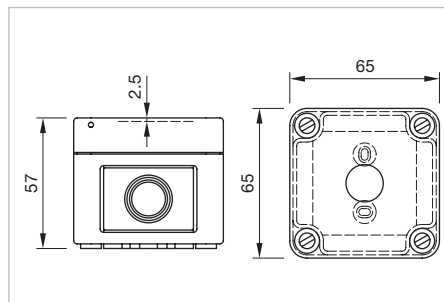
**Dismantling tool****Additional Information**

- For dismantling of the switching element


Part No.	Weight
 <p><b>Dismantling tool</b></p> <p><b>61-9711.0</b></p>	0.004 kg

**Enclosure, IP 66****Additional Information**

- Cover lead-sealable
- Openings for cable gland M16 or M20
- With mounting cut-out Ø 16 mm, without anti-twist device



Dimensions [mm]


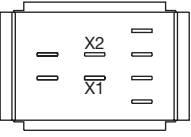
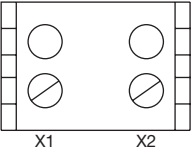
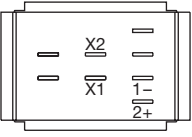
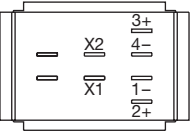
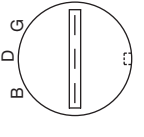
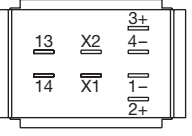
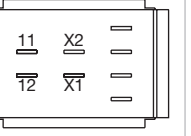
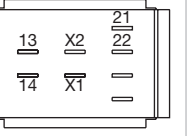
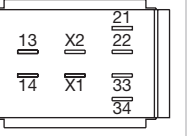
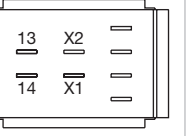
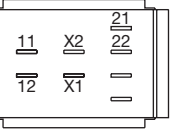
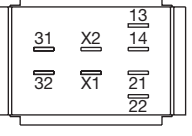
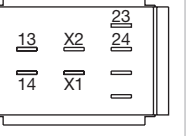
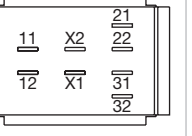
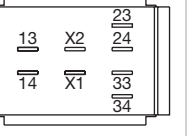
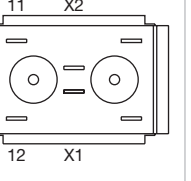
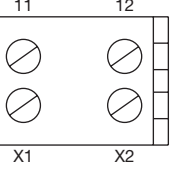
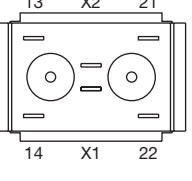
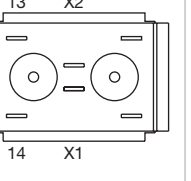
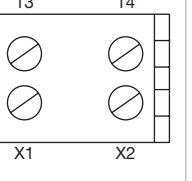
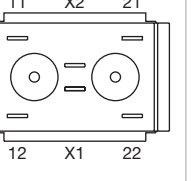
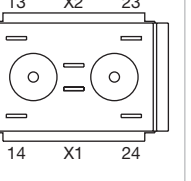
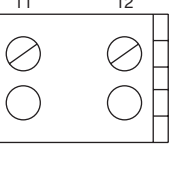
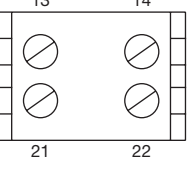
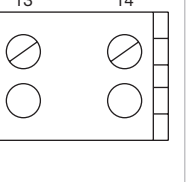
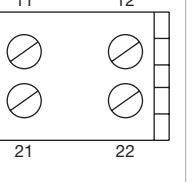
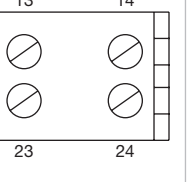
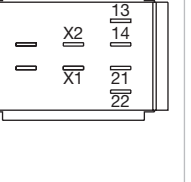
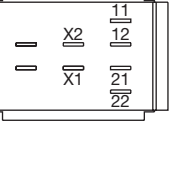
Dimension	Colour	Part No.	Weight
 <p><b>Enclosure</b></p> <p>65 x 65 x 57 mm</p>	grey, similar RAL 7035	<b>61-9480.6</b>	0.099 kg

Cable gland, IP 68

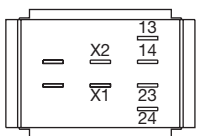
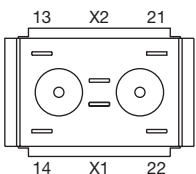
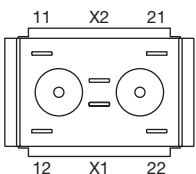
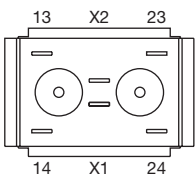
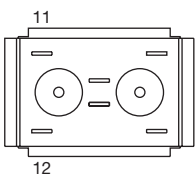
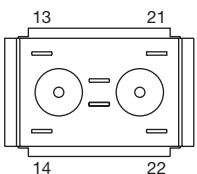
- Additional Information
- With traction relief
  - With fixing nut

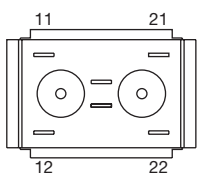
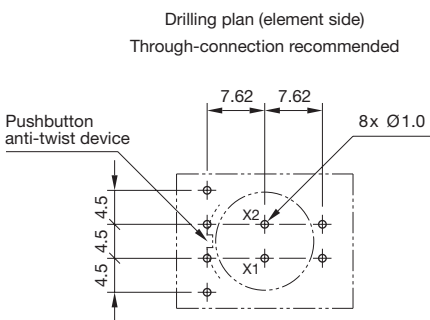
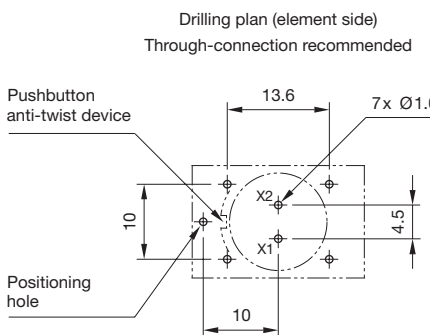
Product attribute	Thread	Material	Colour	Part No.	Weight
<div></div> <div>Cable gland</div>					
Clamping range Ø 4 ... 10 mm, thread length 8 mm	M16 x 1.5	Plastic	grey	61-9481.6	0.007 kg
Clamping range Ø 6 ... 12 mm, thread length 9 mm	M20 x 1.5	Plastic	grey	704.945.6	0.011 kg

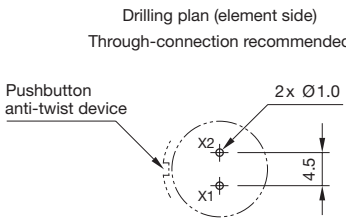
## Drawings

<p>Rearview Potentiometer terminals</p>  <p>Conductor colour of flat ribbon cable a = blue, b = red, c = yellow</p> <p>Component layout 1</p>	 <p>Component layout 2</p>	 <p>Component layout 3</p>	 <p>Component layout 4</p>	 <p>Component layout 5</p>	 <p>Component layout 6</p>
 <p>Component layout 7</p>	 <p>Component layout 8</p>	 <p>Component layout 9</p>	 <p>Component layout 10</p>	 <p>Component layout 11</p>	 <p>Component layout 12</p>
 <p>Component layout 13</p>	 <p>Component layout 14</p>	 <p>Component layout 15</p>	 <p>Component layout 16</p>	 <p>Component layout 17</p>	 <p>Component layout 18</p>
 <p>Component layout 19</p>	 <p>Component layout 20</p>	 <p>Component layout 21</p>	 <p>Component layout 22</p>	 <p>Component layout 23</p>	 <p>Component layout 24</p>
 <p>Component layout 25</p>	 <p>Component layout 26</p>	 <p>Component layout 27</p>	 <p>Component layout 28</p>	 <p>Component layout 29</p>	 <p>Component layout 30</p>

# 61 Drawings

					
Component layout 31	Component layout 32	Component layout 33	Component layout 34	Component layout 35	Component layout 36

	<p>Drilling plan (element side) Through-connection recommended</p> 	<p>Drilling plan (element side) Through-connection recommended</p> 
Component layout 37	Component layout 38	Component layout 39

<p>Drilling plan (element side) Through-connection recommended</p> 
Component layout 40

## Actuator with snap-action switching element

### Switching system

Self-cleaning, double-break snap-action switching system with contact opening width 2 x 0.5 mm (switch with small contact opening width as per EN IEC 61058-1).  
The switching elements are optionally equipped with the following switching functions:  
One to three normally open (NO) or normally closed (NC), or any combination of NO and NC plus connections for T1 3/4 LED or lamp.  
The number of switching elements cannot exceed three.  
The switching elements provided for the 3-position switch actuators are equipped with max. 2 NC or 2 NO or any combination.  
The number of switching elements cannot exceed two.

### Material

#### Lens

Raised mounting Polymethylmethacrylat (PMMA), as per UL 94 HB, flush mounting Polycarbonat (PC), as per UL 94 V0, or Aluminium anodized

#### Front bezel

Polyetherimid (PEI), as per UL 94 V0, or Aluminium anodized

#### Front ring

Aluminium anodized

#### Material of contact

Silver or silver with gold plating

#### Switching element

Diallylphthalate (DAP), as per UL 94 V0 and Polyamide (PA 66), as per UL 94 V0

#### Actuator housing

Polyetherimide (PEI), as per UL 94 V0, self-extinguishing

### Mechanical characteristics

#### Terminals

	rigid	flexible	superflexible
1 wire	0.5 ... 1.5 mm <sup>2</sup>	0.5 ... 0.75 mm <sup>2</sup>	0.5 mm <sup>2</sup>
2 wires	0.75 mm <sup>2</sup>	0.5 mm <sup>2</sup>	

#### Tightening torque

for fixing nut max. 50 Ncm

#### Actuating torque

Selector-/Keylock switch 2.5 ... 10 Ncm

#### Actuating force

Pushbutton 2.7 ... 3.6 N

#### Actuating travel

Pushbutton 3 mm

Selector-/keylock switch	2 positions	3 positions
Momentary action	approx. 42°	approx. 2 x 42°
Maintained action	approx. 90°	approx. 2 x 90°

### Rebound time

The rebound times apply to normal manual activation  
Contact making 3 ms  
Contact breaking 5 ms

### Mechanical lifetime

as per DIN IEC 60512-5-6 and EN IEC 60947-5-1	
Pushbutton maintained action	1 million cycles of operation
Pushbutton momentary action	2 million cycles of operation
Keylock switch	50 000 cycles of operation
Selector switch	100 000 cycles of operation

### Electrical characteristics

#### Standards

The devices comply with: EN IEC 61058-1 and EN IEC 60947-5-1

#### Rated Operational Voltage $U_o$

250 VAC/DC as per EN IEC 60947-1

#### Rated Insulation Voltage $U_i$

320 VAC, as per EN IEC 60947-5-1

#### Rated Impulse Withstand Voltage $U_{imp}$

4 kV, as per EN IEC 60947-5-1

#### Contact resistance

New state with silver contact  $\leq 100 \text{ m}\Omega$   
as per DIN IEC 60512-2-4, measured at 100 mA, 10 V

New state with gold plated contact  $\leq 50 \text{ m}\Omega$   
as per DIN IEC 60512-2-3, measured at 20 mV, 10 mA

#### Electrical life

$\geq 50\,000$  cycles of operation at 250 VAC, 5 A,  $\cos\varphi 0.95$ , as per EN IEC 60947-5-1

#### Electrostatic discharge (ESD)

Keylock switch 11 kV

#### Conventional free air thermal current $I_{th}$

5 A, as per EN IEC 60947-5-1  
the maximum current in continuous operation and at ambient temperature must not exceed the quoted maximum values.

#### Switch rating

Switch rating AC with silver contact or silver contact with gold plating, service category AC-15, as per EN IEC 60947-5-1

Voltage	125 VAC	250 VAC
Current	2.5 A	2 A

Switch rating DC for silver contact or silver contact with gold plating, service category DC-13, as per EN IEC 60947-5-1

Voltage	250 VDC
Current	0.15 A

#### Recommended minimum operational data

Material of contact	Silver	Silver with gold plating
Voltage	20 VAC/DC	5 VAC/DC
Current	100 mA	10 mA

# 61 Technical data

## Electric strength

2500 VAC, 50 Hz, 1 min., as per DIN IEC 60512-2-11 between all terminals and earth

## Overvoltage category

III, as per EN IEC 60947-5-1

## Protection class

Class II, as per EN IEC 61058-1

## Degree of pollution

3, as per EN IEC 60947-1

## Environmental conditions

### Storage temperature

-40 °C ... +85 °C

### Operating temperature

-25 °C ... +55 °C

### Protection degree

as per EN IEC 60529

Front side IP 65, rear side IP 40

### Shock resistance

(semi-sinusoidal)

max. 10 m/s<sup>2</sup>, pulse width 11 ms, 3-axis,

as per EN IEC 60068-2-27

### Vibration resistance

(sinusoidal)

max. 100 m/s<sup>2</sup> at 10 Hz ... 500 Hz, as per EN IEC 60068-2-6

## Climate resistance

Damp heat, cyclic

96 hours, +25 °C/97 %, +55 °C/93 % relative humidity, as per EN IEC 60068-2-30

Damp heat, state

56 days, +40 °C/93 % relative humidity, as per EN IEC 60068-2-78

Rapid change of temperature

100 cycles, -40 °C ... +80 °C, as per EN IEC 60068-2-14

## Approvals

### Approbations

CB (IEC 61058)

CB (IEC 60947)

CSA

ENEC (EN 61058)

CCA-NTR (EN 60947)

CCC

CENELEC (IEC 60947-5-1)

Germanischer Lloyd

GOST

UL

SEV

NFF

### Declaration of conformity

CE

## Actuator with slow-make switching element

### Switching system

Double-break slow-make system, contact opening width

2 x 1.5 mm, with 2 x 2 contact points per switching element.

NC-contact elements in the slow-make elements fulfill requirements of switches with forced opening as per EN IEC 60947-5-12.17.

The slow-make elements are optionally obtainable with the following switching functions : 1 NO or 2 NO, 1 NC or 2 NC, 1 NO + 1 NC.

### Material

#### Lens

Raised mounting Polymethylmethacrylat (PMMA), as per UL 94 HB, flush mounting Polycarbonat (PC), as per UL 94 V0, or Aluminium anodized

#### Front bezel

Polyetherimid (PEI), as per UL 94 V0, or Aluminium anodized

#### Front ring

Aluminium anodized

#### Material of contact

Silver or gold (specified for operation for low level switching)

### Switching element

Diallylphthalate (DAP), as per UL 94 V0 and Polyamide (PA 66), as per UL 94 V0

### Actuator housing

Polyetherimide (PEI), as per UL 94 V0, self-extinguishing

## Mechanical characteristics

### Terminals

	rigid	flexible	superflexible
– Solder			
1 wire	0.5 ... 1.5 mm <sup>2</sup>	0.5 ... 0.75 mm <sup>2</sup>	0.5 mm <sup>2</sup>
2 wires	0.75 mm <sup>2</sup>	0.5 mm <sup>2</sup>	
– Screw			
1 wire	0.5 ... 1.5 mm <sup>2</sup>	0.5 ... 0.75 mm <sup>2</sup>	0.5 mm <sup>2</sup>
2 wires	0.75 mm <sup>2</sup>	0.5 mm <sup>2</sup>	0.5 mm <sup>2</sup>

### Tightening torque

for fixing nut max. 50 Ncm

### Actuating torque

Selector-/Keylock switch 4 ... 16 Ncm

## Actuating force

Pushbutton 3.5 ... 11 N  
Emergency-stop switch max. 65 N

## Actuating travel

Pushbutton 3 mm  
Emergency-stop switch 10 mm  
Selector-/keylock switch 2 positions 3 positions  
Momentary action approx. 42° approx. 2 x 42°  
Maintained action approx. 90° approx. 2 x 90°

## Rebound time

2 ms, contact making and contact breaking the rebound times apply to normal manual activation

## Mechanical lifetime

as per DIN IEC 60512-5-6 and EN IEC 60947-5-1  
Pushbutton maintained action 1 million cycles of operation  
Pushbutton momentary action 2 million cycles of operation  
Emergency-stop switch 6050 cycles of operation  
Keylock switch 50 000 cycles of operation  
Selector switch 100 000 cycles of operation

## Electrical characteristics

### Standards

The devices comply with: EN IEC 61058-1 and EN IEC 60947-5-1, EN IEC 60947-5-5 (Emergency-stop)

### Electrical life

≥ 50 000 cycles of operation at 250 VAC, 5 A,  $\cos\phi$  0.95, as per EN IEC 60947-5-1  
Switching element of emergency-stop 6050 cycles of operation, as per EN IEC 60947-5-5

### Electrostatic discharge (ESD)

Keylock switch 11 kV

### Electric strength

4000 VAC, 50 Hz, 1 min., as per DIN IEC 60512-2 between all terminals and earth

### Overvoltage category

III, as per EN IEC 60947-5-1

### Protection class

Class II, as per EN IEC 61058-1

### Degree of pollution

3, as per EN IEC 60947-1

## Electrical characteristics for silver contacts

### Rated Operational Voltage $U_e$

250 VAC/DC as per EN IEC 60947-1

### Rated Insulation Voltage $U_i$

320 VAC, as per EN IEC 60947-5-1

### Rated Impulse Withstand Voltage $U_{imp}$

4 kV, as per EN IEC 60947-5-1

## Contact resistance

New state  $\leq 50 \text{ m}\Omega$ , as per DIN IEC 60512-2-4, measured at 100 mA, 10 V

## Conventional free air thermal current $I_{th}$

5 A, as per EN IEC 60947-5-1  
the maximum current in continuous operation and at ambient temperature must not exceed the quoted maximum values.

## Switch rating

Switch rating AC with silver contact and screw terminal, service category AC-15, as per EN IEC 60947-5-1

Voltage	125 VAC	250 VAC
Current	3 A	2 A

Switch rating with silver contact and screw terminal, service category DC-13, as per EN IEC 60947-5-1

Voltage	250 VDC
Current	0.2 A

## Recommended minimum operational data

20 VAC/DC, 100 mA

## Electrical characteristics for gold contacts

### Rated Operational Voltage $U_e$

50 VAC/DC, as per EN IEC 60947-5-1

### Rated Insulation Voltage $U_i$

$U_i = 320 \text{ VAC}$ , as per EN IEC 60947-5-1

### Rated Impulse Withstand Voltage $U_{imp}$

0.8 kV, as per EN IEC 60947-1

## Contact resistance

New state  $\leq 50 \text{ m}\Omega$   
as per DIN IEC 60512-2-4, measured at 20 mV, 10 mA

## Conventional free air thermal current $I_{th}$

3 A, as per EN IEC 60947-5-1  
the maximum current in continuous operation and at ambient temperature must not exceed the quoted maximum values.

## Switch rating

Switch rating AC with gold contact, service category AC-15, as per EN IEC 60947-5-1

Voltage	50 VAC
Current	0.5 A

Switch rating with gold contact, service category DC-13, as per EN IEC 60947-5-1

Voltage	50 VDC
Current	0.1 A

## Recommended minimum operational data

Voltage	10 mVAC/DC
Current	2 mA

# 61 Technical data

## Environmental conditions

### Storage temperature

-40 °C ... +85 °C

### Operating temperature

-25 °C ... +55 °C

### Protection degree

as per EN IEC 60529  
Frontside IP 65, rear side IP 40

### Shock resistance

(semi-sinusoidal)  
max. 100 m/s<sup>2</sup>, pulse width 11 ms, 3-axis,  
as per EN IEC 60068-2-27

### Vibration resistance

(sinusoidal)  
max. 100 m/s<sup>2</sup> at 10 Hz ... 500 Hz, as per EN IEC 60068-2-6

### Climate resistance

Damp heat, cyclic  
96 hours, +25 °C/97 %, +55 °C/93 % relative humidity,  
as per EN IEC 60068-2-30

Damp heat, state  
56 days, +40 °C/93 % relative humidity,  
as per EN IEC 60068-2-78

Rapid change of temperature  
100 cycles, -40 °C ... +80 °C, as per EN IEC 60068-2-14

## Approvals

### Approbations

CB (IEC 61058)  
CB (IEC 60947)  
CSA  
ENEC (EN 61058)  
CCA-NTR (EN 60947)  
CCC  
CENELEC (IEC 60947-5-1)  
Germanischer Lloyd  
GOST  
UL  
SEV  
NFF

### Declaration of conformity

CE

## Actuator with flasher element

### Material

#### Lens

Raised mounting Polymethylmethacrylat PMMA, as per UL 94 HB,  
flush mounting Polycarbonat (PC), as per UL 94 V0

#### Actuator housing

Polyetherimide (PEI), as per UL 94 V0, self-extinguishing

#### Flasher element

Polyetherimide (PEI), as per UL 94 V0

## Mechanical characteristics

### Terminals

Soldering terminal

### Tightening torque

for fixing nut max. 50 Ncm

## Electrical characteristics

### Illumination

Filament lamp	14 VAC/DC	28 VAC/DC
Power consumption	80 mA	44 mA
Single-LED	12 VAC/DC	28 VAC/DC
Power consumption	15 mA	18 mA

### Flashing frequency

1 Hz ±0.25 Hz

### Pulse duty factor

approx. 50 %

### Operating voltage

12 ... 28 VAC/DC ±10 %

## Environmental conditions

### Operating temperature

0 °C ... +45 °C

### Protection degree

as per EN IEC 60529  
Front side IP 65, rear side IP 40



## Buzzer

### Buzzer system

Electronic non-contacting buzzer  
with IC oscillator

### Material

**Alarm buzzer case**  
Polyetherimide

**Front bezel**  
Polyamide

### Mechanical characteristics

**Terminals**  
Plug-in terminal 2.8 x 0.5 mm

**Tightening torque**  
for fixing nut max. 50 Ncm

### Electrical characteristics

**Frequency (tone)**  
Approx. 2.0 kHz

**Interval frequency**  
2 Hz

### Sound pressure

88 dB (A)  $\pm 8$  dB at a distance of 0.1 m (IP 40)  
82 dB (A)  $\pm 8$  dB at a distance of 0.1 m (IP 65)  
Volume variable with a 1 M $\Omega$  potentiometer or corresponding fixed resistor

### Operation Voltage/Current

Typ. 10 VDC ... 26 VDC,  $\leq 20$  mA

### Environmental conditions

**Storage temperature**  
-40 °C ... +85 °C

**Service temperature**  
-25 °C ... +55 °C

**Protection degree**  
IP 40  
IP 65

### Approvals

**Declaration of conformity**  
CE

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

## General notes

### 1. Engraving

In addition to the most commonly used world languages, in DIN1451-3 close spacing, other typefaces are available as Scandinavian, Slavic, Greek, Russian and Polish. Red, blue and black lenses are filled with white colour. Other colour lenses are filled in black. Standard height of letters is 2 mm. If the height is not specified, we will supply 2 mm engraved letters.

### 2. Hot stamping

For larger series it is worth considering markings by means of hot stamping or laser engraving. We will be pleased to advise you. For letters and figures, typefaces with 2.5 mm, 3 mm and 4 mm are available.

### 3. Film inserts

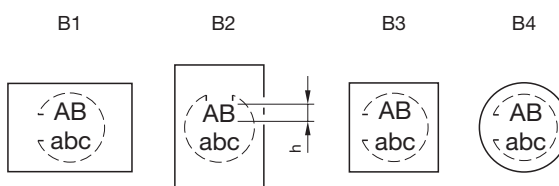
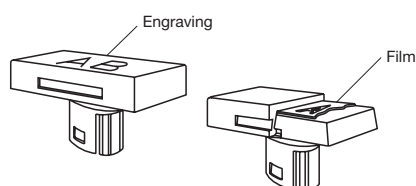
Instead of using engraving the lenses can be fitted with transparent film inserts, as an alternative. In the case of use of a smoke-black lens the fitted film becomes readable only if the lamp is on. The film thickness is 0.2 mm. For lenses Ø 24 mm and Ø 25 mm with Part No. 619642.x the marking takes place directly on the text plate Part No. 61-9707.7, instead of a film insert.

**Important: Consider pushbutton mounting orientation before specifying engraving characters!**

## Lenses for Indicators, Illuminated pushbuttons, flush mounting

All dimensions in mm

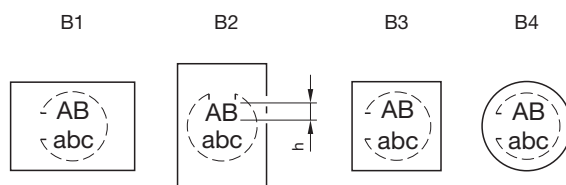
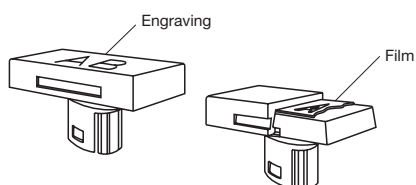
Front size (Lens)	Film insert max. size	Height of letters h	Number of lines	Number of capital letters per line (target value)	Number of small letters per line (target value)	Image
24 x 24 (18 x 18)	15.1 x 15.1	2	4	8-9	9	B3
		3	3	7-8	8	B3
		4	2	4-5	5	B3
		5	2	4	4-5	B3
		6	1	4	4	B3
		8	1	2-3	2-3	B3
24 x 30 (18 x 24)	15.1 x 21	2	4	12	13	B1
			5	8-9	9	B2
		3	3	10-11	11-12	B1
			4	7-8	8	B2
		4	2	7	8	B1
			3	4-5	5	B2
		5	2	5-6	6	B1
				4	4-5	B2
		6	1	4-5	5	B1
			2	3	3-4	B2
		8	1	3-4	3-4	B1
				2-3	2-3	B2
Ø 25 (Ø 19.7)	Marking plate	2	3	6	6	B4
		3	2	5	6	B4
		4	2	3	4	B4
		5	1	2	3	B4
		6	1	2	3	B4
		8	1	2	2	B4



## Lenses for Indicators, Illuminated pushbuttons, raised mounting

All dimensions in mm

Front size (Lens)	Film insert max. size	Height of letters h	Number of lines	Number of capital letters per line (target value)	Number of small letters per line (target value)	Image
18 x 18 (15.3 x 15.3)	12.7 x 12.7	2	4	7-8	8	B3
		3	3	6-7	7	B3
		4	2	4-5	5	B3
		5	2	3-4	4	B3
		6	1	3	3-4	B3
		8	1	2-3	2-3	B3
18 x 24 (15.3 x 21.5)	12.7 x 18.7	2	4	11	12	B1
			5	7-8	8	B2
		3	3	9-10	10-11	B1
			4	6-7	7	B2
		4	2	7	7-8	B1
			3	4-5	5	B2
		5	2	5-6	6	B1
				3-4	4	B2
		6	1	4-5	5	B1
			2	3	3-4	B2
		8	1	3-4	3-4	B1
				2-3	2-3	B2
24 x 24 (20 x 20)	16.9 x 16.9	2	4	9	10	B3
		3	3	7-8	9	B3
		4	2	4-5	5	B3
		5	2	4	4-5	B3
		6	1	4	4	B3
		8	1	2	2	B3
Ø 18 (Ø 15.8)	Ø 12.8	2	3	6	6	B4
		3	2	5	6	B4
		4	2	3	4	B4
		5	1	2	3	B4
		6	1	2	3	B4
		8	1	2	2	B4
Ø 24 (Ø 19.7)	Marking plate	2	3	6	6	B4
		3	2	5	6	B4
		4	2	3	4	B4
		5	1	2	3	B4
		6	1	2	3	B4
		8	1	2	2	B4

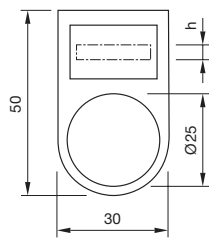


# 61 Marking

## Engraving legend plates

All dimensions in mm

Height of letters h	Number of lines	Number of letters per line (target value)
3.0	1	11
3.0	2	11
4.0	1	7
8.0	1	4



## Suppressor circuits

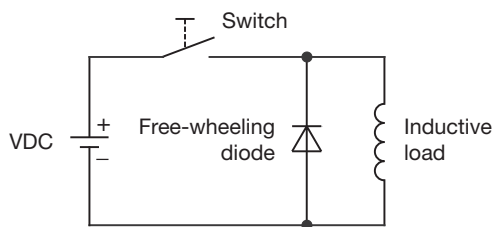
When switching inductive loads such as relays, DC motors, and DC solenoids, it is always important to absorb surges (e.g. with a diode) to protect the contacts. When these inductive loads are switched off, a counter emf can severely damage switch contacts and greatly shorten lifetime.

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

