

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:

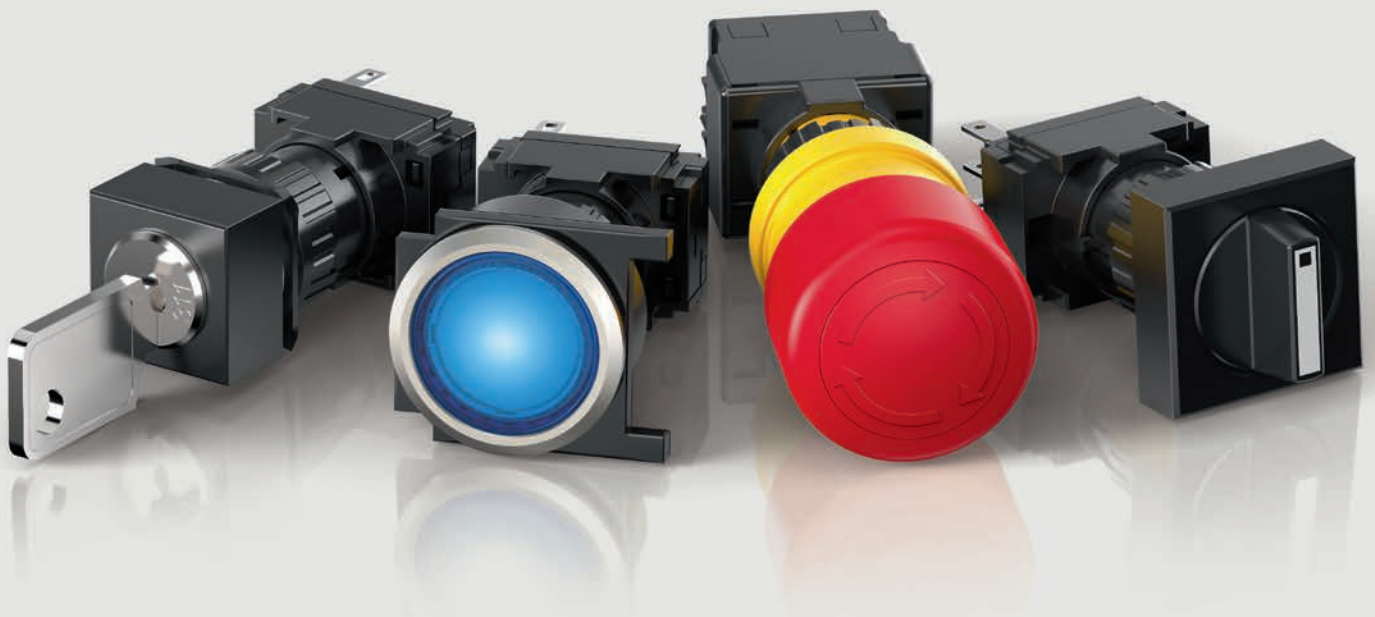
- Indicator
- Pushbutton
- Illuminated pushbutton
- E-STOP switch
- Stop switch
- Mushroom-head pushbutton
- Keylock switch
- Selector switch
- Buzzer
- Potentiometer

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
Configure a product to your exact needs and request a quotation.



Overview**Flush design**

| | |
|--------------------------|----|
| Indicator | 4 |
| Buzzer | 10 |
| Pushbutton | 11 |
| Illuminated pushbutton | 12 |
| Mushroom-head pushbutton | 15 |
| Keylock switch | 16 |
| Selector switch | 25 |
| Potentiometer | 29 |

Raised design

| | |
|--------------------------|----|
| Indicator | 30 |
| Illuminated pushbutton | 34 |
| Emergency-stop switch | 37 |
| Stop switch | 39 |
| Mushroom-head pushbutton | 41 |
| Keylock switch | 42 |
| Selector switch | 51 |

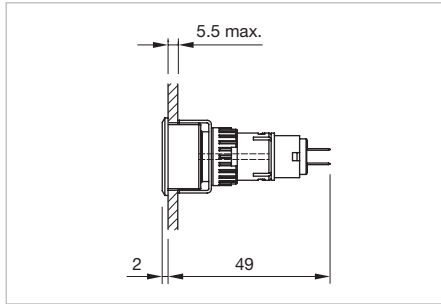
Accessories**55****Drawings****89****Technical data****92****Marking****98****Application guidelines****101****Index****102**

61 Flush design

Indicator complete square, IP 65



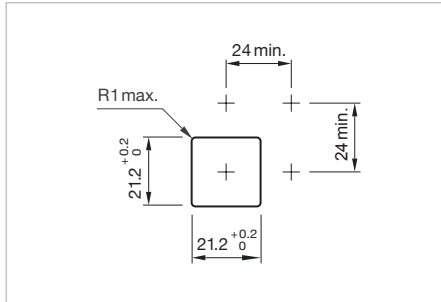
Product can differ from the current configuration.



Dimensions [mm]

Additional Information

- For front dimension 24 x 24 mm



Mounting cut-outs [mm]

Equipment consisting of (schematic overview)



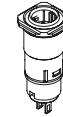
Lens

page 55



LED

page 80



Actuator




Front bezel set page 63

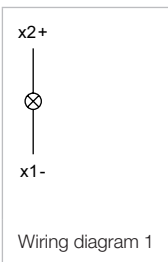


Fixing nut

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.

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



Indicator complete rectangular, IP 65

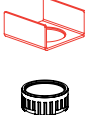
Equipment consisting of (schematic overview)

 **Lens** *page 55*

 **LED** *page 80*

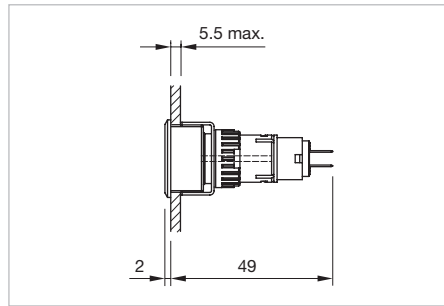
 **Actuator**

 **Front bezel set** *page 63*

 **Fixing nut**

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

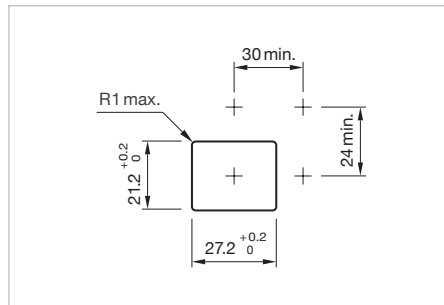
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]




Product can differ from the current configuration.

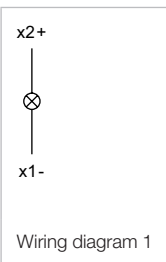


Mounting cut-outs [mm]

Additional Information

- For front dimension 24 x 30 mm

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

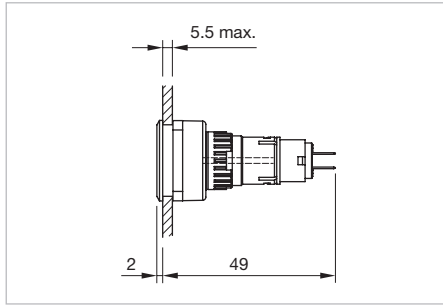


61 Flush design

Indicator complete round, IP 65



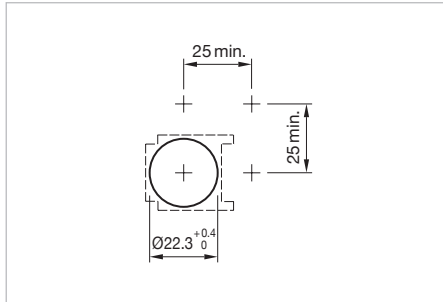
Product can differ from the current configuration.



Dimensions [mm]

Additional Information

- For front dimension \varnothing 25 mm



Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

 **Lens** [page 55](#)

 **LED** [page 80](#)


 **Actuator**

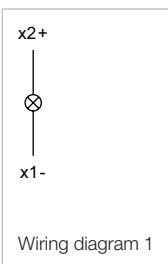
 **Front bezel set** [page 63](#)

 **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.

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



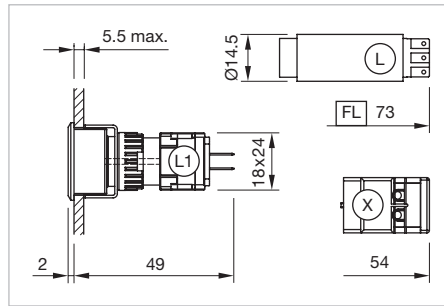
Indicator square, IP 65

Equipment consisting of (schematic overview)

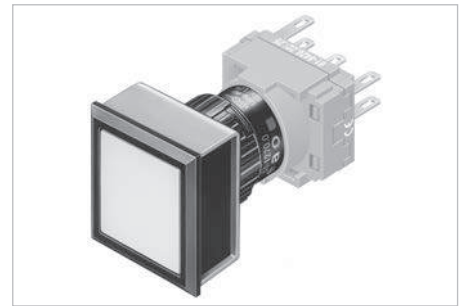
| | | |
|---|------------------------|----------------|
|  | Lens | <i>page 55</i> |
|  | LED | <i>page 80</i> |
|  | Actuator | |
|  | Front bezel set | <i>page 63</i> |
|  | | |
|  | Fixing nut | |
|  | Lamp element | <i>page 73</i> |

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

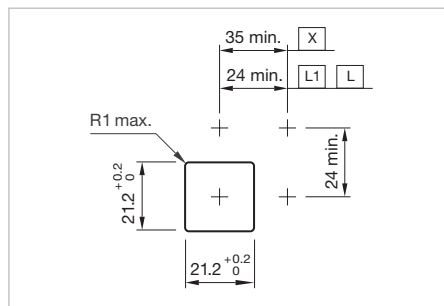
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]
 L1 = Solder/Plug-in 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/Plug-in terminal 2.8 x 0.5 mm,
 L = Solder terminal,
 X = Screw terminal

Additional Information

- For front dimension 24 x 24 mm

Part No.

Weight



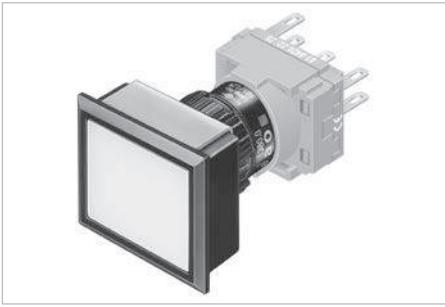
Indicator actuator square, flush design

61-0009.0

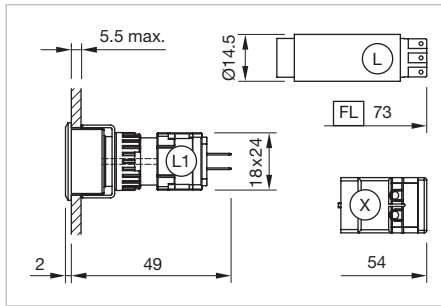
0.005 kg

61 Flush design

Indicator rectangular, IP 65



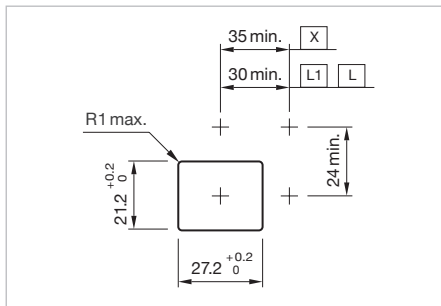
Product can differ from the current configuration.



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






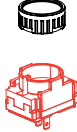
Additional Information

- For front dimension 24 x 30 mm




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

Equipment consisting of (schematic overview)

-  **Lens** page 55
-  **LED** page 80
-  **Actuator**
-  **Front bezel set** page 63
-  **Fixing nut**
-  **Lamp element** page 73







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.

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

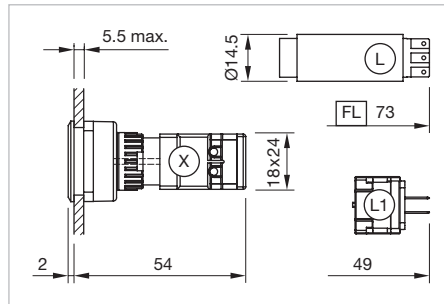
Indicator round, IP 65

Equipment consisting of (schematic overview)

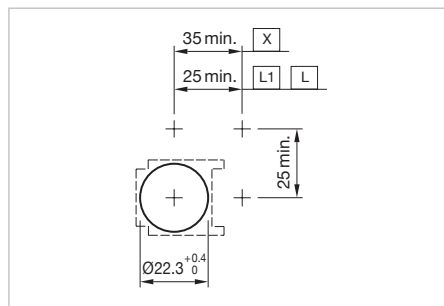
| | | |
|---|------------------------|---------|
|  | Lens | page 55 |
|  | LED | page 80 |
|  | Actuator | |
|  | Front bezel set | page 63 |
|  | Fixing nut | |
|  | Lamp element | page 73 |

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

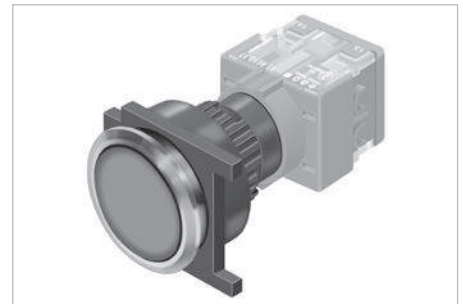
To obtain a complete unit, please select the red components from the pages shown.



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



Mounting cut-outs [mm]
 L1 = Solder/Plug-in 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

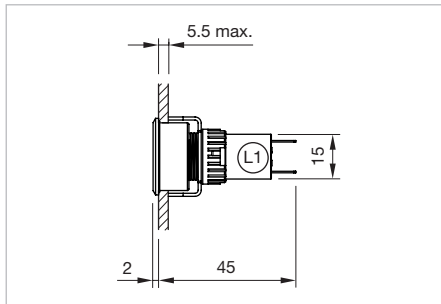
0.005 kg

61 Flush design

Buzzer, IP 40



Product can differ from the current configuration.

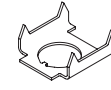


Dimensions [mm]
L1 = Solder/Plug-in terminal 2.8 x 0.5 mm

Equipment consisting of (schematic overview)



Actuator



Anti-twist ring

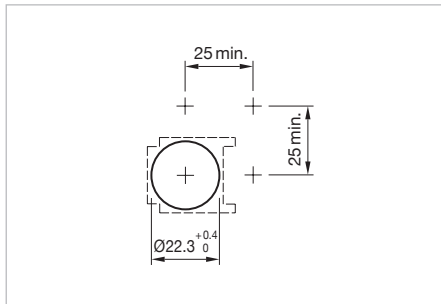


Fixing nut


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

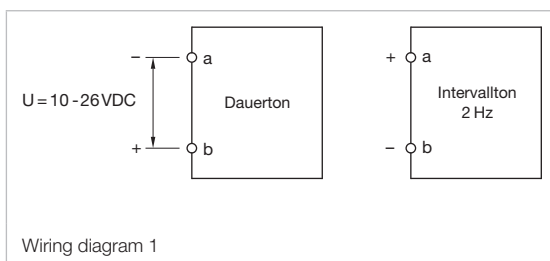
Additional Information

- Further information see «Technical data»



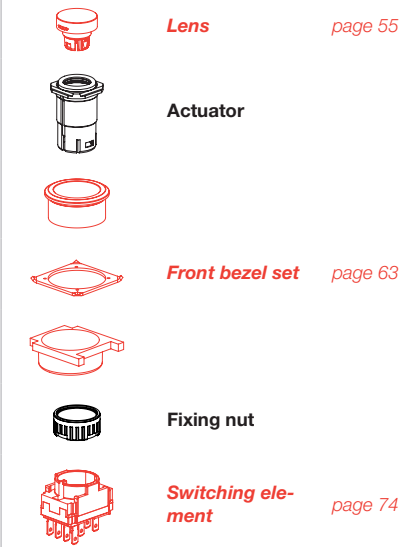
Mounting cut-outs [mm]

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



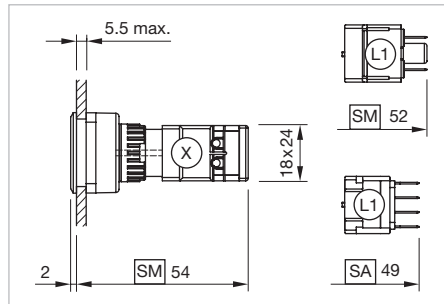
Pushbutton round, IP 65

Equipment consisting of (schematic overview)

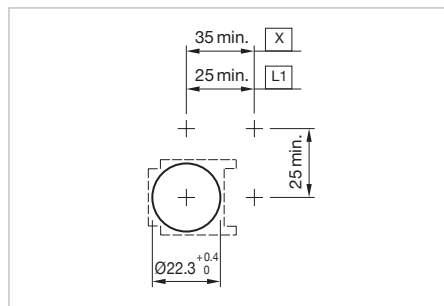


Each Part Number listed below includes all the black components shown in the 3D-drawing.

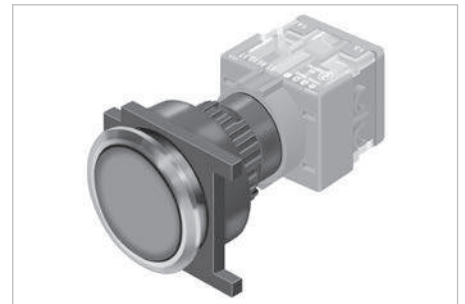
To obtain a complete unit, please select the red components from the pages shown.



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




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



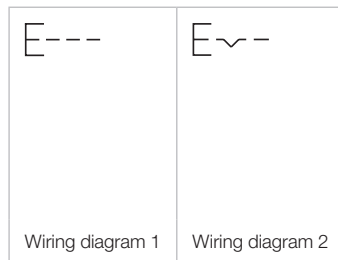
Product can differ from the current configuration.

Additional Information

- For front dimension Ø 25 mm

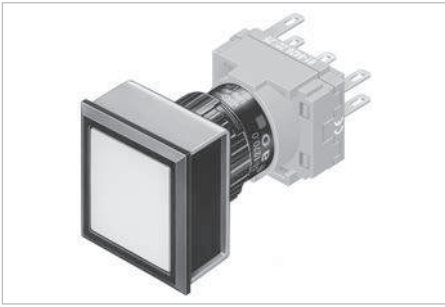
| Product attribute | Switching action | Part No. | Wiring diagram | Weight |
|---|---|------------------|------------------|----------|
|  <p>Pushbutton actuator round</p> | B | 61-1100.0 | 1 | 0.005 kg |
| | C | 61-1200.0 | 2 | 0.005 kg |
| | B-C convertible from momentary to maintained action | B - C | 61-1300.0 | 1 |

Switching action: B = Momentary, C= Maintained

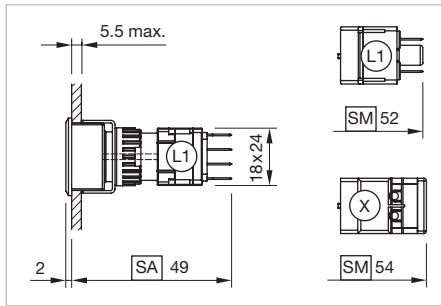


61 Flush design

Illuminated pushbutton square, IP 65



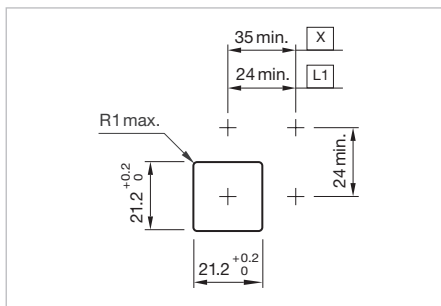
Product can differ from the current configuration.



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

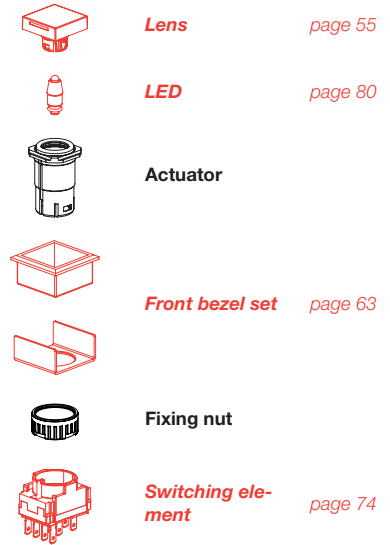
Additional Information

- For front dimension 24 x 24 mm




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

Equipment consisting of (schematic overview)

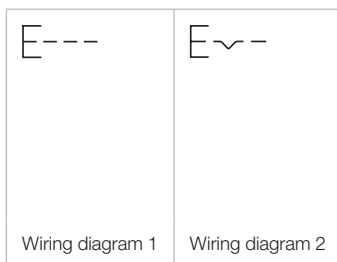


Each Part Number listed below includes all the black components shown in the 3D-drawing.

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

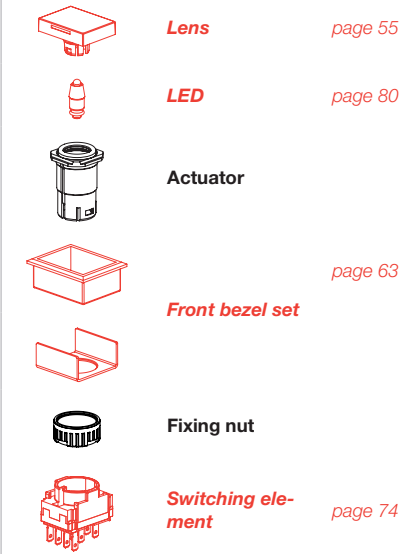
| Product attribute | Switching action | Part No. | Wiring diagram | Weight |
|---|---|------------------|------------------|----------|
|  <p>Illuminated pushbutton actuator square</p> | B | 61-1100.0 | 1 | 0.005 kg |
| | C | 61-1200.0 | 2 | 0.005 kg |
| | B-C convertible from momentary to maintained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

Switching action: B = Momentary, C= Maintained



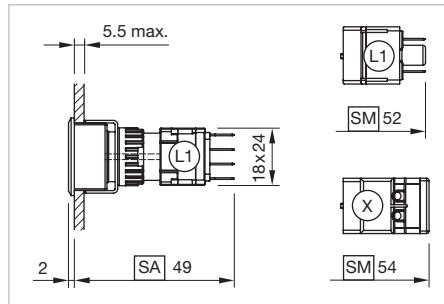
Illuminated pushbutton rectangular, IP 65

Equipment consisting of (schematic overview)

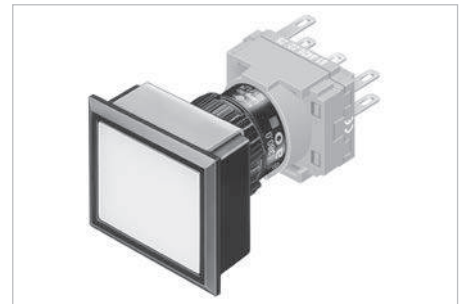


Each Part Number listed below includes all the black components shown in the 3D-drawing.

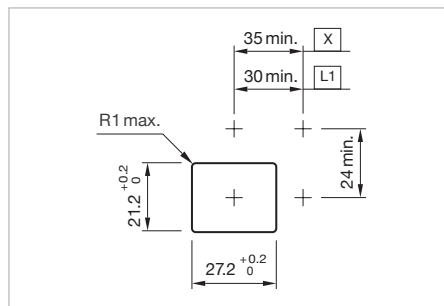
To obtain a complete unit, please select the red components from the pages shown.



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




Product can differ from the current configuration.



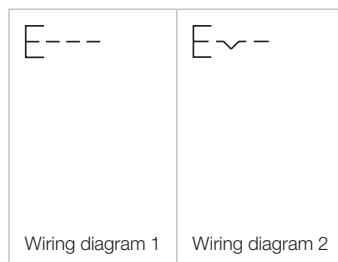
Mounting cut-outs [mm]
 L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
 X = Screw terminal

Additional Information

- For front dimension 24 x 30 mm

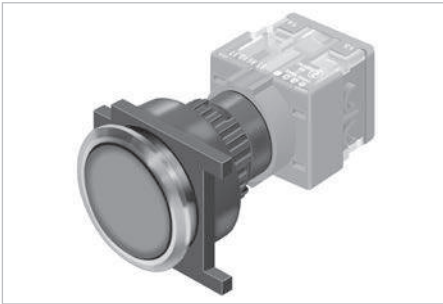
| Product attribute | Switching action | Part No. | Wiring diagram | Weight |
|---|---|------------------|------------------|----------|
|  <p>Illuminated pushbutton actuator rectangular</p> | B | 61-1100.0 | 1 | 0.005 kg |
| | C | 61-1200.0 | 2 | 0.005 kg |
| | B-C convertible from momentary to maintained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

Switching action: B = Momentary, C= Maintained

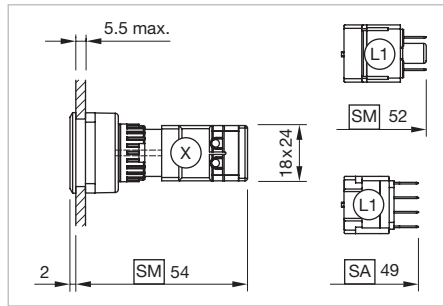


61 Flush design

Illuminated pushbutton round, IP 65



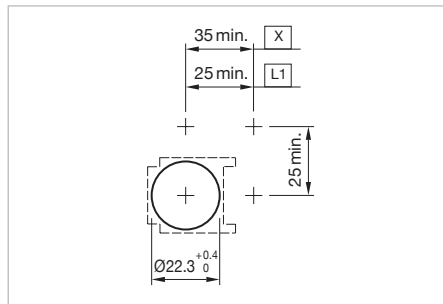
Product can differ from the current configuration.



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

Additional Information

- For front dimension Ø 25 mm




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

Equipment consisting of (schematic overview)

| | | |
|--|--------------------------|---------|
| | Lens | page 55 |
| | LED | page 80 |
| | Actuator | |
| | Front bezel set | page 63 |
| | Fixing nut | |
| | Switching element | page 74 |

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

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

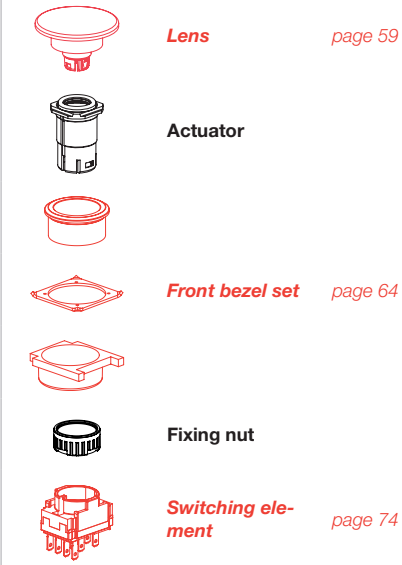
| Product attribute | Switching action | Part No. | Wiring diagram | Weight |
|--|---|------------------|------------------|----------|
|  <p>Illuminated pushbutton actuator round</p> | B | 61-1100.0 | 1 | 0.005 kg |
| | C | 61-1200.0 | 2 | 0.005 kg |
| | B-C convertible from momentary to maintained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

Switching action: B = Momentary, C= Maintained

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

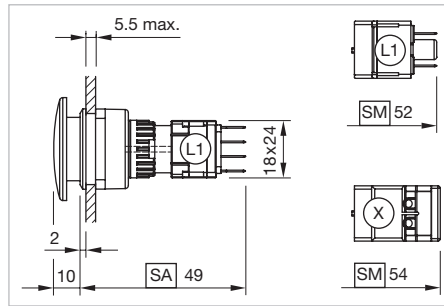
Mushroom-head pushbutton, IP 65

Equipment consisting of (schematic overview)

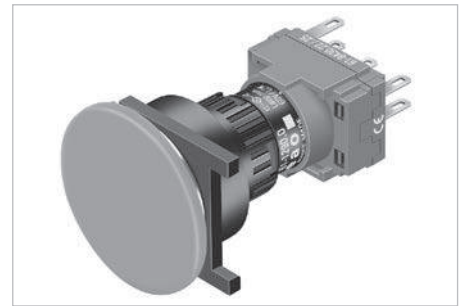


Each Part Number listed below includes all the black components shown in the 3D-drawing.

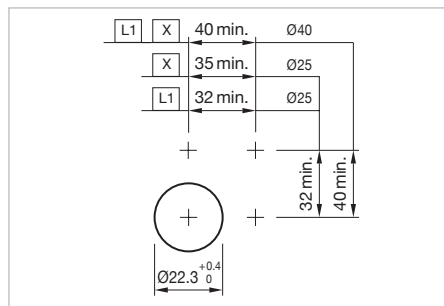
To obtain a complete unit, please select the red components from the pages shown.




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



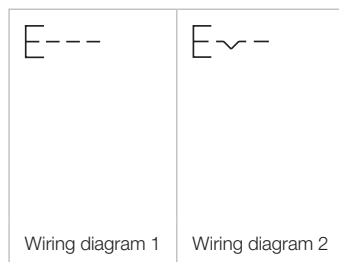
Product can differ from the current configuration.



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

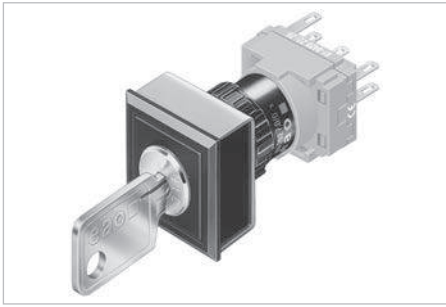
| Product attribute | Switching action | Part No. | Wiring diagram | Weight |
|--|---|------------------|------------------|----------|
|  <p>Mushroom-head pushbutton actuator, Front dimension Ø 32 mm</p> | B | 61-1100.0 | 1 | 0.005 kg |
| | C | 61-1200.0 | 2 | 0.005 kg |
| | B-C convertible from momentary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

Switching action: B = Momentary, C= Maintained

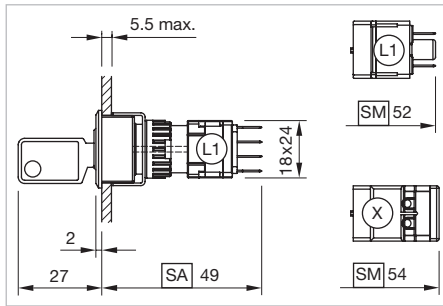


61 Flush design

Keylock switch 2 positions square, IP 65



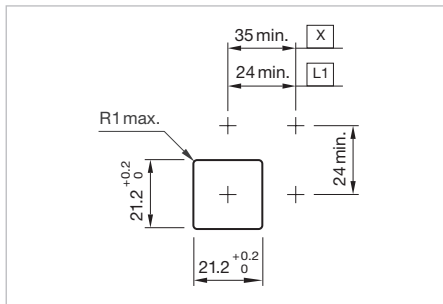
Product can differ from the current configuration.



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

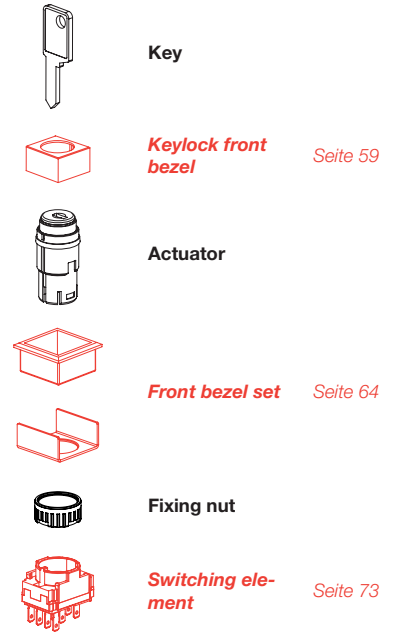
Additional Information

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



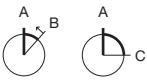
Mounting cut-outs [mm]
L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
X = Screw terminal

Equipment consisting of (schematic overview)




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

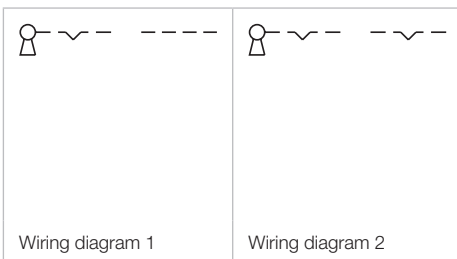
To obtain a complete unit, please select the red components from the pages shown.



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



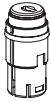


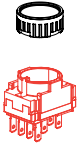
| Switching action | Switching angle | Key remove | Part No. | Wiring diagram | Weight |
|--|-----------------|------------|--------------------|----------------|----------|
|  Keylock switch actuator 2 positions square | | | | | |
| A - B | B = 42° | A | 61-2101.0/D | 1 | 0.065 kg |
| A - C | C = 90°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

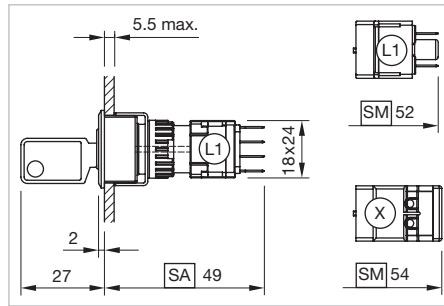
Switching positions A = Rest, B = Momentary, C = Maintained



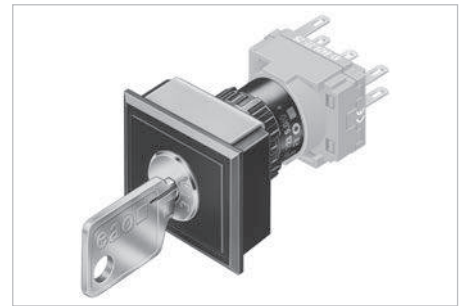
Keylock switch 2 positions rectangular, IP 65

Equipment consisting of (schematic overview)

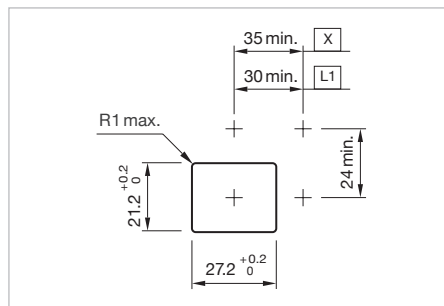
-  **Key**
-  **Keylock front bezel** *Seite 59*
-  **Actuator**
-  **Front bezel set** *Seite 64*
-  **Fixing nut**
-  **Switching element** *Seite 73*



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



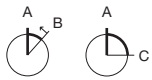
Product can differ from the current configuration.




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

Additional Information

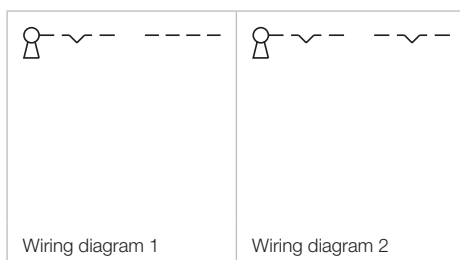
- For front dimension 24 x 30 mm
- Standard lock: DOM 311
- Two keys are supplied with each key lock switch
- Optional lock numbers on request



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

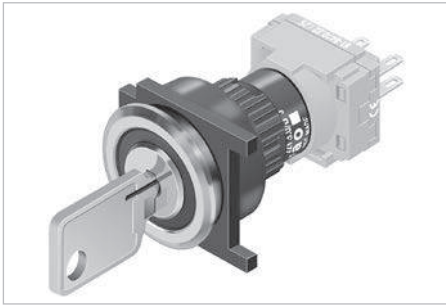
| Switching action | Switching angle | Key remove | Part No. | Wiring diagram | Weight |
|--|-----------------|------------|--------------------|----------------|----------|
|  Keylock switch actuator 2 positions rectangular | | | | | |
| A - B | B = 42° | A | 61-2101.0/D | 1 | 0.065 kg |
| A - C | C = 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 positions A = Rest, B = Momentary, C = Maintained

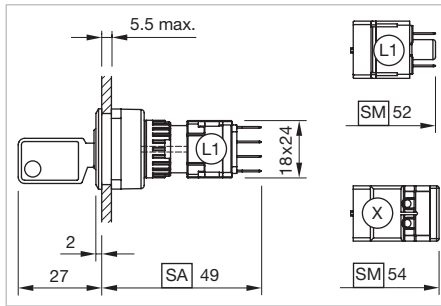


61 Flush design

Keylock switch actuator 2 positions round, IP 65



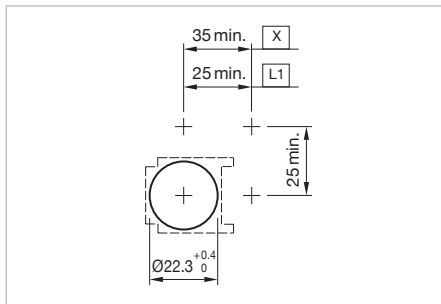
Product can differ from the current configuration.



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

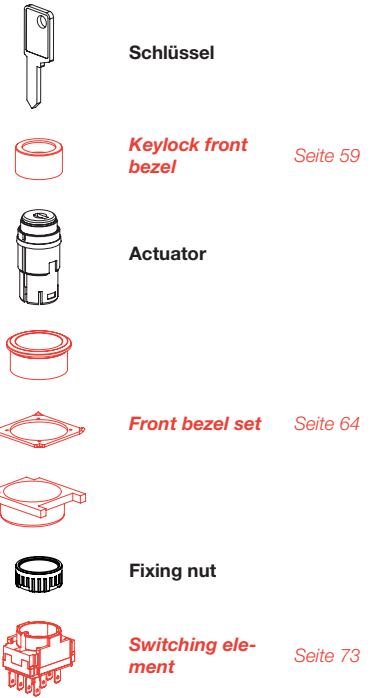
Additional Information

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



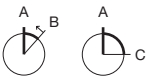
Mounting cut-outs [mm]
 L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
 X = Screw terminal

Equipment consisting of (schematic overview)




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

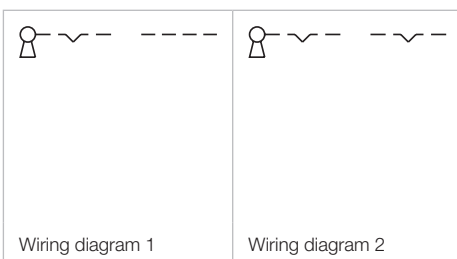
To obtain a complete unit, please select the red components from the pages shown.



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



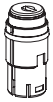
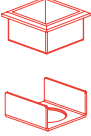


| Switching action | Switching angle | Key remove | Part No. | Wiring diagram | Weight |
|--|-----------------|------------|--------------------|----------------|----------|
|  Keylock switch actuator 2 positions round | | | | | |
| A - B | B = 42° | A | 61-2101.0/D | 1 | 0.065 kg |
| A - C | C = 90° | 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 positions A = Rest, B = Momentary, C = Maintained



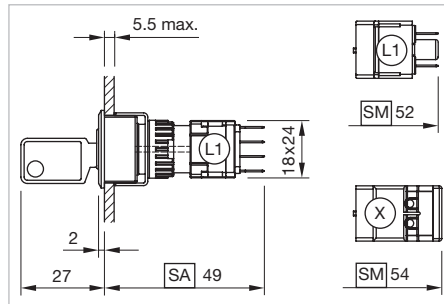
Keylock switch 3 positions square, IP 65

Equipment consisting of (schematic overview)

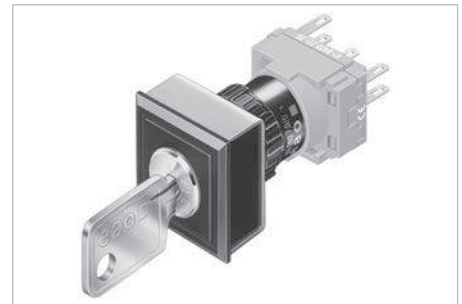
-  **Key**
-  **Keylock front bezel** *page 59*
-  **Actuator**
-  **Front bezel set** *page 64*
-  **Fixing nut**
-  **Switching element** *page 75*

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

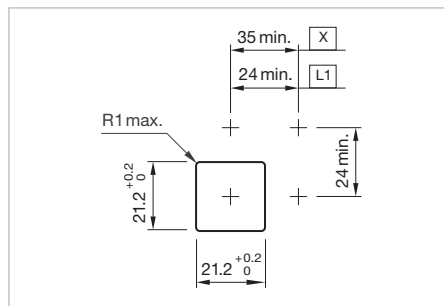
To obtain a complete unit, please select the red components from the pages shown.



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



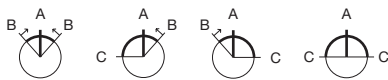
Product can differ from the current configuration.




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

Additional Information

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

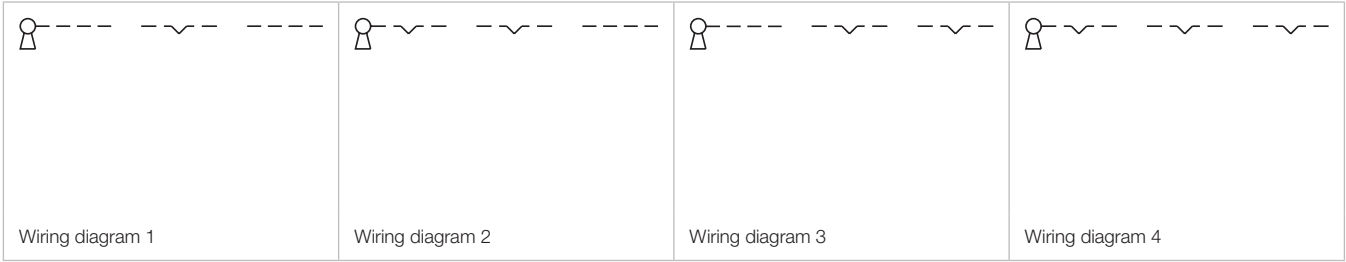


Switching positions (A = Rest, B = Momentary, C = Maintained)

| Switching action | Switching angle | Key remove | Part No. | Wiring diagram | Weight |
|--|------------------|------------|--------------------|----------------|----------|
|  Keylock switch actuator 3 positions square | | | | | |
| 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 positions A = Rest, B = Momentary, C = Maintained

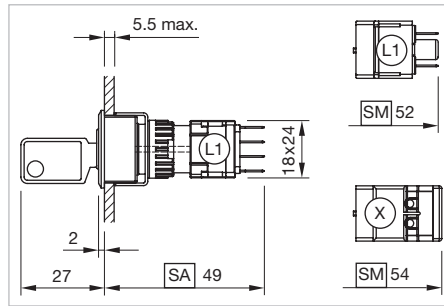
61 Flush design



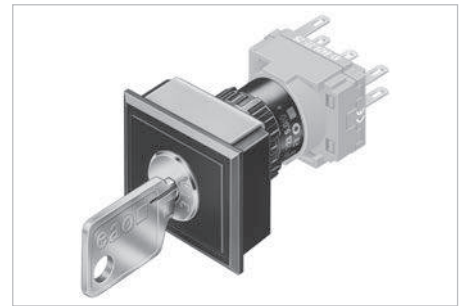
Keylock switch 3 positions rectangular, IP 65

Equipment consisting of (schematic overview)

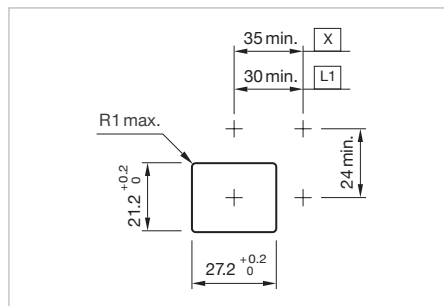
-  **Key**
-  **Keylock front bezel** *page 59*
-  **Actuator**
-  **Front bezel set** *page 64*
-  **Fixing nut**
-  **Switching element** *page 75*



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



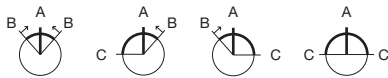
Product can differ from the current configuration.




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

Additional Information

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

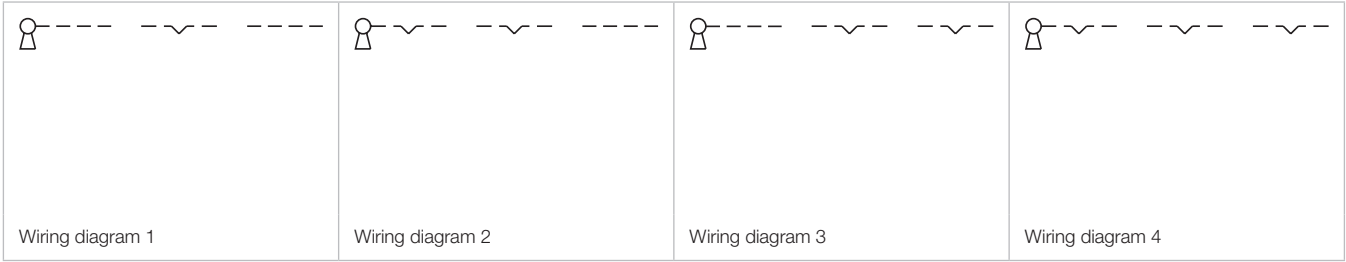


Switching positions (A = Rest, B = Momentary, C = Maintained)

| Switching action | Switching angle | Key remove | Part No. | Wiring diagram | Weight |
|--|------------------|------------|--------------------|----------------|----------|
|  Keylock switch actuator 3 positions rectangular | | | | | |
| 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 |



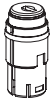



Switching positions A = Rest, B = Momentary, C = Maintained

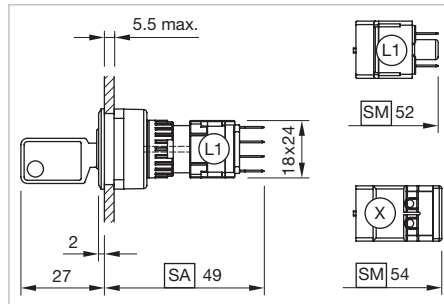
61 Flush design



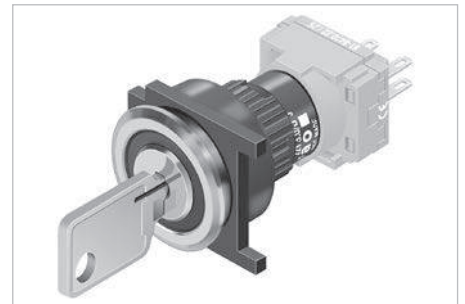
Keylock switch 3 positions round, IP 65

Equipment consisting of (schematic overview)

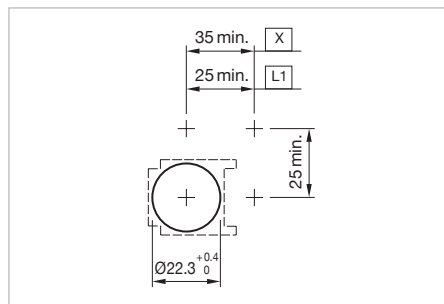
-  **Key**
-  **Keylock front bezel** *page 59*
-  **Actuator**
-  **Front bezel set** *page 64*
-  **Fixing nut**
-  **Switching element** *page 75*



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



Product can differ from the current configuration.



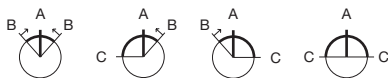
Mounting cut-outs [mm]
 L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
 X = Screw terminal

Additional Information


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

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

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

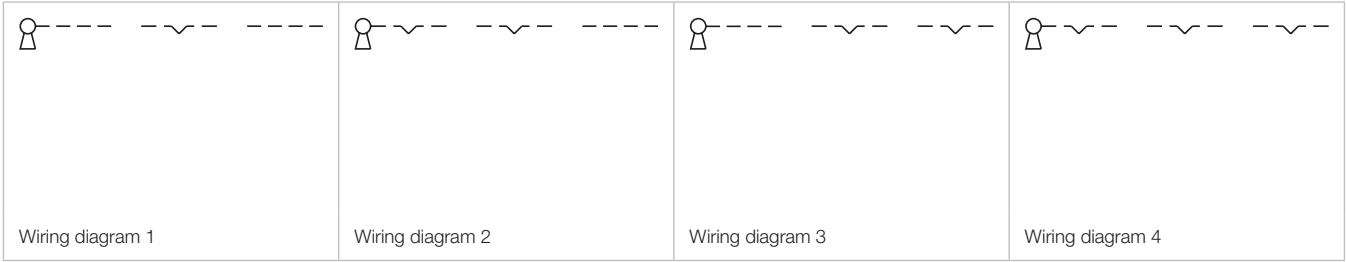


Switching positions (A = Rest, B = Momentary, C = Maintained)

| Switching action | Switching angle | Key remove | Part No. | Wiring diagram | Weight |
|---|------------------|------------|--------------------|----------------|----------|
|  Keylock switch actuator 3 positions round | | | | | |
| 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 |
| | | C + A | 61-2701.0/D | 3 | 0.065 kg |
| B - A - C | B = 42°, C = 90° | 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 positions A = Rest, B = Momentary, C = Maintained

61 Flush design



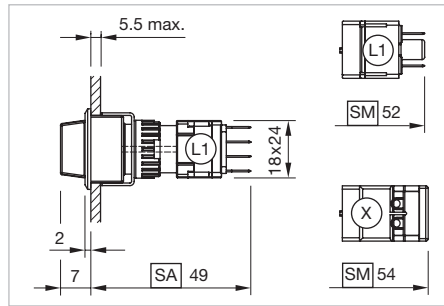
Selector switch 2 positions square, IP 65

Equipment consisting of (schematic overview)

-  **Lever** page 60
-  **LED** page 80
-  **Actuator**
-  **Front bezel set** page 65
-  **Front bezel set** page 65
-  **Fixing nut**
-  **Switching element** page 73

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.



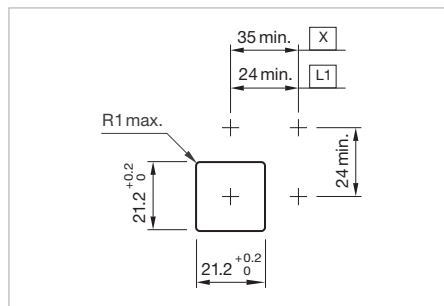
Dimensions [mm]
 L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
 SA = Snap-action switching element,
 SA = Slow-make switching element,
 X = Screw terminal



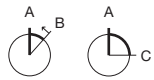
Product can differ from the current configuration.

Additional Information


- For front dimension 24 x 24 mm
- illuminative



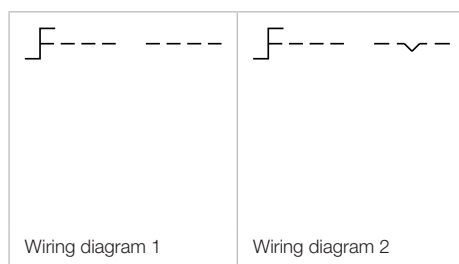
Mounting cut-outs [mm]
 L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
 X = Screw terminal



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

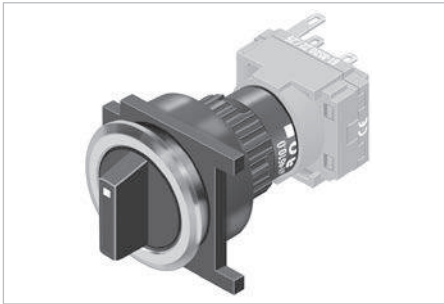
| Switching action | Switching angle | Part No. | Wiring diagram | Weight |
|---|-----------------|----------|----------------|------------|
|  <p>Selector switch actuator 2 positions square</p> | A - B | B = 42° | 61-4110.0 | 1 0.006 kg |
| | A - C | C = 90° | 61-4210.0 | 2 0.006 kg |

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

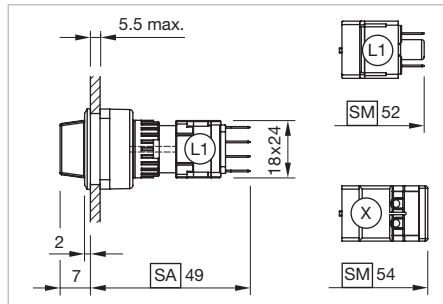


61 Flush design

Selector switch 2 positions round, IP 65



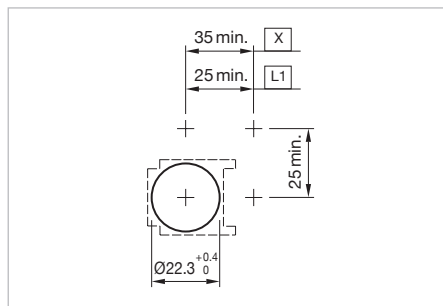
Product can differ from the current configuration.



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

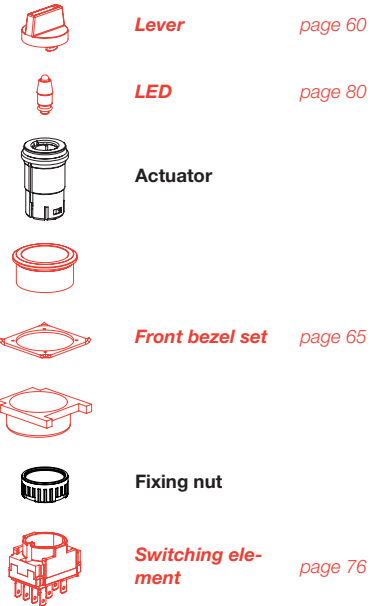
Additional Information

- For front dimension Ø 25 mm
- illuminative



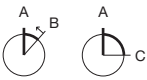
Mounting cut-outs [mm]
L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
X = Screw terminal

Equipment consisting of (schematic overview)




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

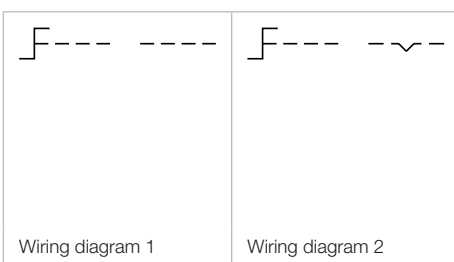
To obtain a complete unit, please select the red components from the pages shown.



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




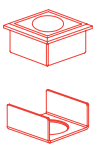


| Switching action | Switching angle | Part No. | Wiring diagram | Weight |
|--|-----------------|------------------|----------------|----------|
|  | | | | |
| Selector switch actuator 2 positions round | | | | |
| A - B | B = 42° | 61-4110.0 | 1 | 0.006 kg |
| A - C | C = 90° | 61-4210.0 | 2 | 0.006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

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



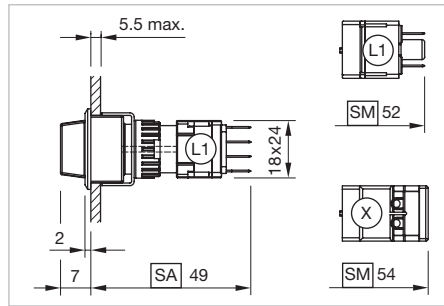
Selector switch 3 positions square, IP 65

Equipment consisting of (schematic overview)

-  **Lever** page 60
-  **LED** page 80
-  **Actuator**
-  **Front bezel set** page 65
-  **Fixing nut**
-  **Switching element** page 76

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

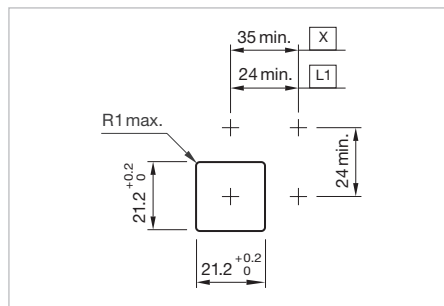
To obtain a complete unit, please select the red components from the pages shown.



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



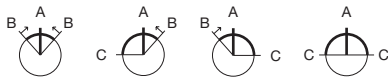
Product can differ from the current configuration.




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

Additional Information

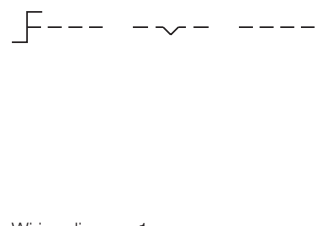
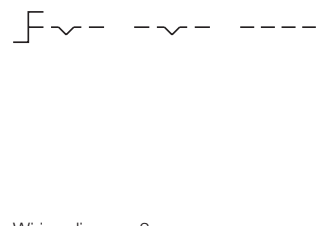
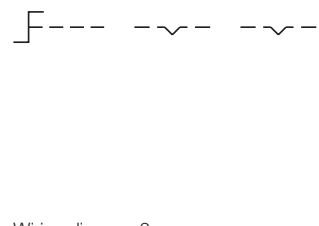
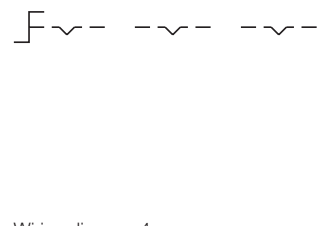
- For front dimension 24 x 24 mm
- illuminative



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

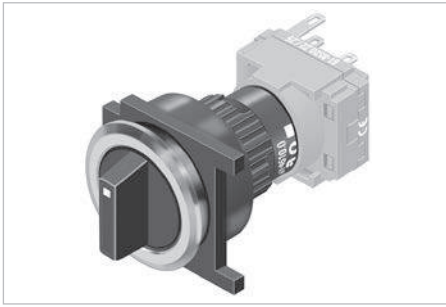
| Switching action | Switching angle | Part No. | Wiring diagram | Weight |
|---|------------------|------------------|----------------|----------|
|  | | | | |
| Selector switch actuator 3 positions square | | | | |
| B - A - B | B = 42° / 42° | 61-4510.0 | 1 | 0.006 kg |
| C - A - B | C = 90°, B = 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 positions A = Rest, B = Momentary, C = Maintained

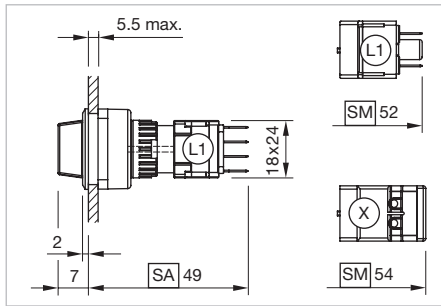
| | | | |
|---|---|--|---|
|  |  |  |  |
| Wiring diagram 1 | Wiring diagram 2 | Wiring diagram 3 | Wiring diagram 4 |

61 Flush design

Selector switch 3 positions round, IP 65



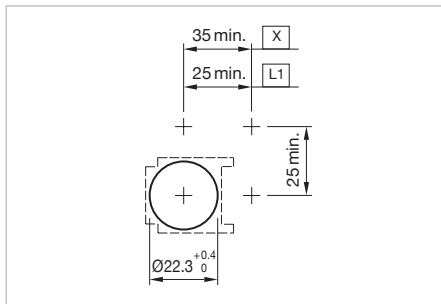
Product can differ from the current configuration.



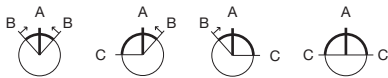
Dimensions [mm]
L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
SA = Snap-action switching element,
SA = Slow-make switching element,
X = Screw terminal

Additional Information

- For front dimension Ø 25 mm
- illuminative

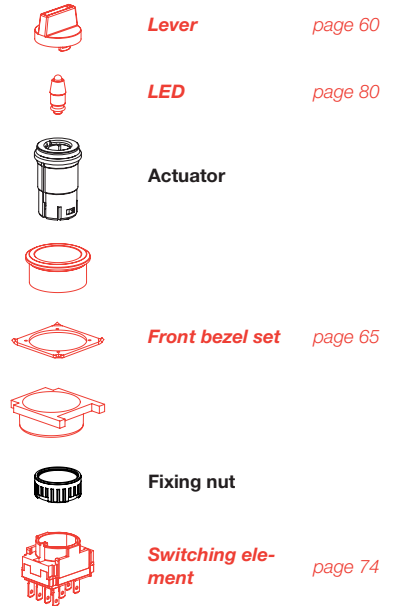


Mounting cut-outs [mm]
L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
X = Screw terminal




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

Equipment consisting of (schematic overview)

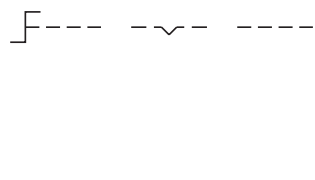
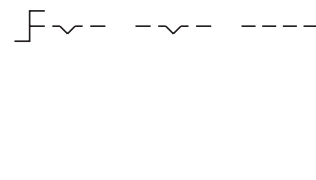
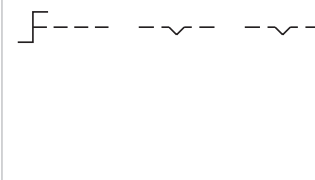
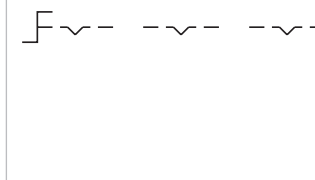


Each Part Number listed below includes all the black components shown in the 3D-drawing.

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

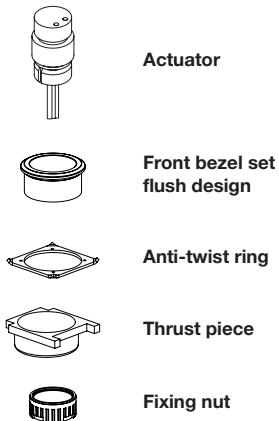
| Switching action | Switching angle | Part No. | Wiring diagram | Weight |
|--|------------------|------------------|----------------|----------|
|  | | | | |
| Selector switch 3 positions round | | | | |
| B - A - B | B = 42° / 42° | 61-4510.0 | 1 | 0.006 kg |
| C - A - B | C = 90°, B = 42° | 61-4810.0 | 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 positions A = Rest, B = Momentary, C = Maintained

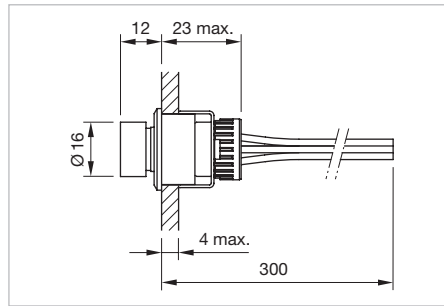
| | | | |
|--|---|--|---|
|  |  |  |  |
| Wiring diagram 1 | Wiring diagram 2 | Wiring diagram 3 | Wiring diagram 4 |

Potentiometer, IP 65

Equipment consisting of (schematic overview)



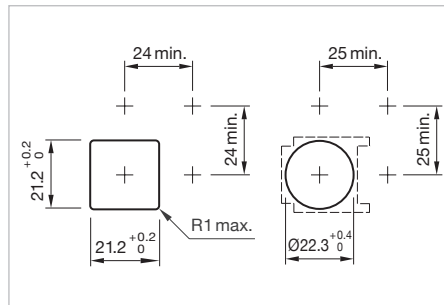
Each Part Number listed below includes all the black components shown in the 3D-drawing.



Dimensions [mm]





Product can differ from the current configuration.



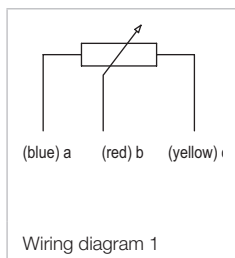
Mounting cut-outs [mm]

Additional Information

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

| Front bezel | Terminal | Part No. | Component layout | Wiring diagram | Weight |
|---|-------------------|-------------------|------------------|----------------|----------|
|  | | | | | |
| Potentiometer, Front dimension 24 x 24 mm | | | | | |
| Plastic black | Flat ribbon cable | 61-4970.13 | 1 | 1 | 0.023 kg |
|  | | | | | |
| Potentiometer, Front dimension Ø 25 mm | | | | | |
| Plastic black | Flat ribbon cable | 61-4970.10 | 1 | 1 | 0.016 kg |

The component layouts you will find from page 90

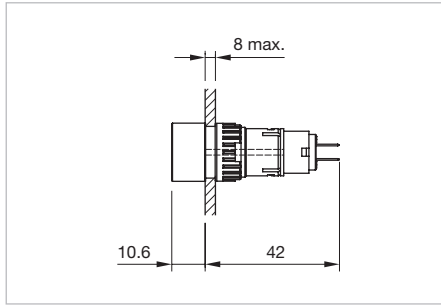


61 Raised design

Indicator complete, IP 65

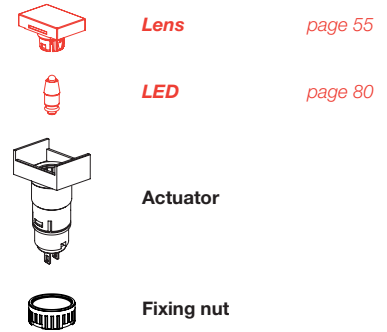


Product can differ from the current configuration.



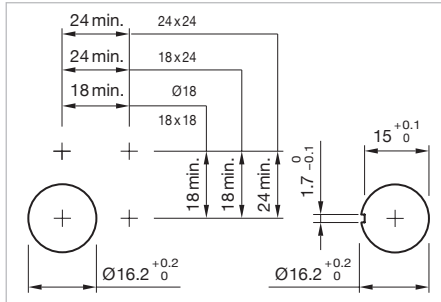
Dimensions [mm]

Equipment consisting of (schematic overview)



Additional Information





- Actuator housing plastic black

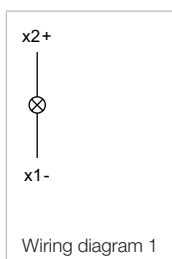


Mounting cut-outs [mm]

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 |
|---|-------------------|----------------|----------|
|  <p>Indicator actuator complete, Front dimension 24 x 24 mm</p> <p>Solder 2.8 x 0.5 mm</p> | 61-0050.02 | 1 | 0.005 kg |
|  <p>Indicator actuator complete, Front dimension 18 x 18 mm</p> <p>Solder 2.8 x 0.5 mm</p> | 61-0020.02 | 1 | 0.005 kg |
|  <p>Indicator actuator complete, Front dimension 18 x 24 mm</p> <p>Solder 2.8 x 0.5 mm</p> | 61-0030.02 | 1 | 0.005 kg |
|  <p>Indicator actuator complete, Front dimension Ø 18 mm</p> <p>Solder 2.8 x 0.5 mm</p> | 61-0010.02 | 1 | 0.005 kg |



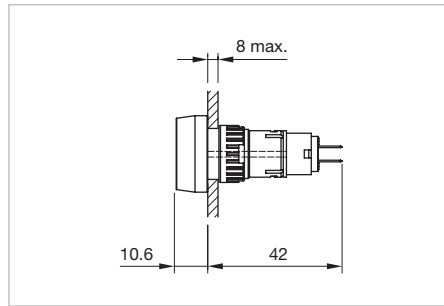
Indicator complete Ø 24 mm, IP 65

Equipment consisting of (schematic overview)

-  **Lens** *page 55*
-  **Front ring** *page 66*
-  **LED** *page 80*
-  **Actuator**
-  **Fixing nut**

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

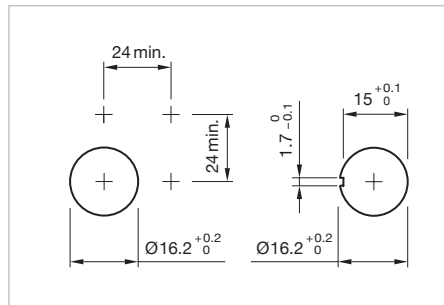
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]




Product can differ from the current configuration.

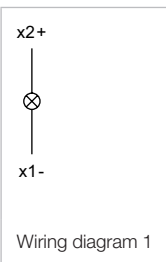


Mounting cut-outs [mm]

Additional Information

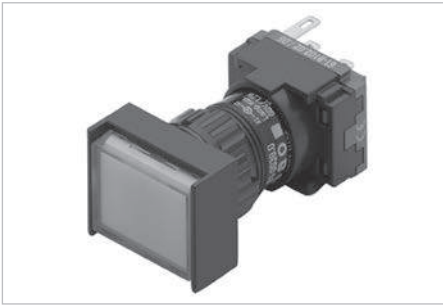
- Actuator housing plastic black

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



61 Raised design

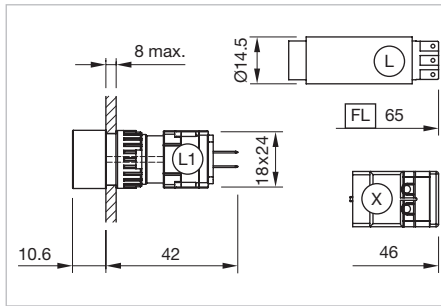
Indicator, IP 65



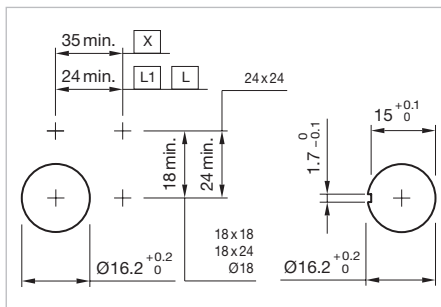
Product can differ from the current configuration.

Additional Information

- Actuator housing plastic black

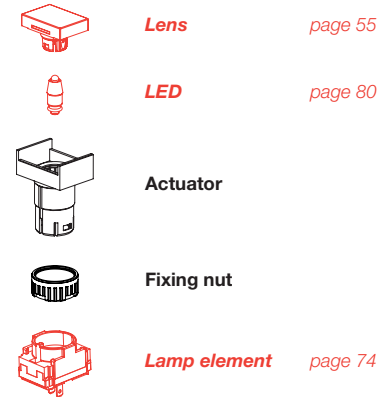


Dimensions [mm]
 L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
 L = Solder terminal,
 X = Screw terminal,
 FL = Flasher







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

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.

| 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 |

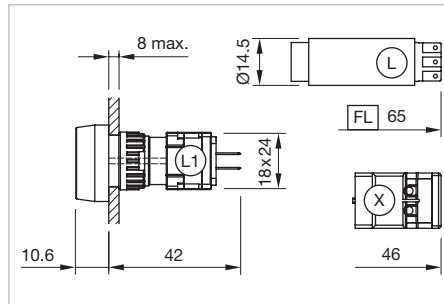
Indicator Ø 24 mm, IP 65

Equipment consisting of (schematic overview)

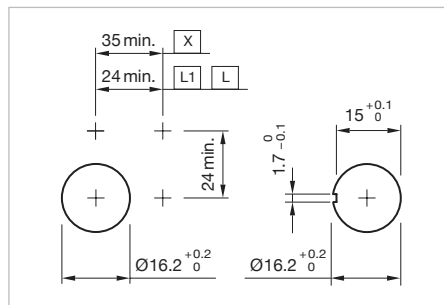
| | | |
|---|---------------------|----------------|
|  | Lens | <i>page 55</i> |
|  | Front ring | <i>page 66</i> |
|  | LED | <i>page 80</i> |
|  | Actuator | |
|  | Fixing nut | |
|  | Lamp element | <i>page 73</i> |

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/Plug-in terminal 2.8 x 0.5 mm,
 L = Solder terminal,
 X = Screw terminal,
 FL = Flasher



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



Product can differ from the current configuration.

Additional Information

- Actuator housing plastic black

Part No.

Weight



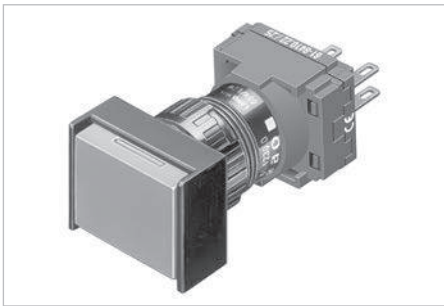
Indicator actuator Ø 24 mm

61-0049.0

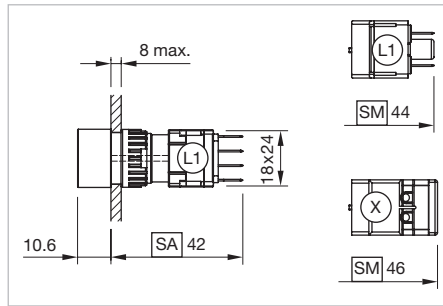
0.005 kg

61 Raised design

Illuminated pushbutton, IP 65

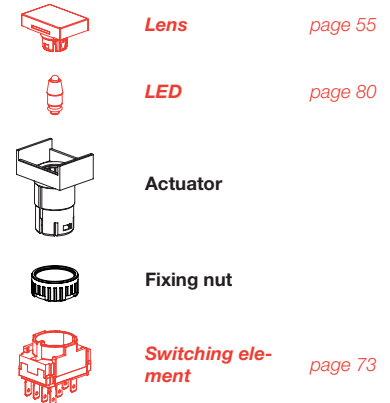


Product can differ from the current configuration.



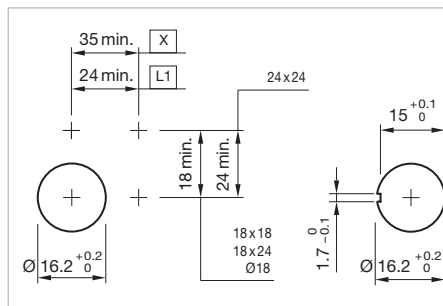
Dimensions [mm]
 L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
 SA = Snap-action switching element,
 SA = Slow-make switching element,
 X = Screw terminal

Equipment consisting of (schematic overview)



Additional Information




- Actuator housing plastic black




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

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 | |
|--|--|------------------|------------------|----------|----------|
|  <p>Illuminated pushbutton actuator, Front dimension 24 x 24 mm</p> | B | 61-1150.0 | 1 | 0.005 kg | |
| | C | 61-1250.0 | 2 | 0.005 kg | |
| | B-C convertible from momentary to maintained action | B - C | 61-1350.0 | 1 | 0.005 kg |
| |  <p>Illuminated pushbutton actuator, Front dimension 18 x 18 mm</p> | B | 61-1120.0 | 1 | 0.005 kg |
| C | | 61-1220.0 | 2 | 0.005 kg | |
| B-C convertible from momentary to maintained action | | B - C | 61-1320.0 | 1 | 0.005 kg |
|  <p>Illuminated pushbutton actuator, Front dimension 18 x 24 mm</p> | | B | 61-1130.0 | 1 | 0.005 kg |
| | C | 61-1230.0 | 2 | 0.005 kg | |
| | B-C convertible from momentary to maintained action | B - C | 61-1330.0 | 1 | 0.005 kg |

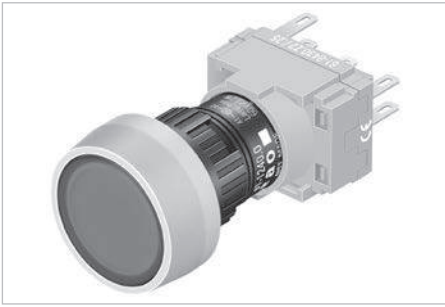
| Product attribute | Switching action | Part No. | Wiring diagram | Weight |
|--|------------------|------------------|----------------|----------|
|  <p>Illuminated pushbutton actuator, Front dimension Ø 18 mm</p> | | | | |
| | B | 61-1110.0 | 1 | 0.005 kg |
| | C | 61-1210.0 | 2 | 0.005 kg |
| B-C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

Switching action: B = Momentary, C= Maintained

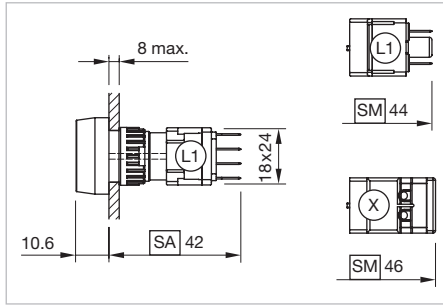
| | |
|------------------|------------------|
| E--- | E~--- |
| Wiring diagram 1 | Wiring diagram 2 |

61 Raised design

Illuminated pushbutton round Ø 24 mm, IP 65



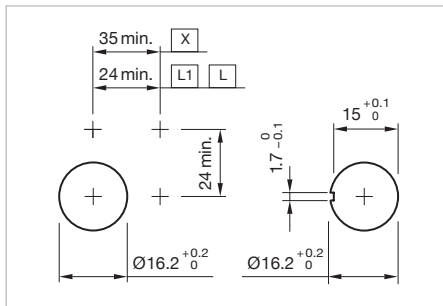
Product can differ from the current configuration.



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

Additional Information

- Actuator housing plastic black
- Lens Ø 19.7 mm




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

Equipment consisting of (schematic overview)

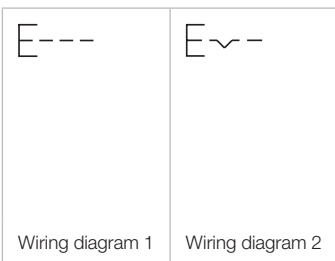
| | | |
|--|--------------------------|---------|
| | Lens | page 55 |
| | Front ring | page 66 |
| | LED | page 80 |
| | Actuator | |
| | Fixing nut | |
| | Switching element | page 74 |

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

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

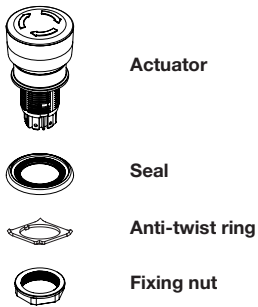
| Switching action | Part No. | Wiring diagram | Weight |
|---|------------------|----------------|----------|
|  <p>Indicator actuator Ø 24 mm</p> | 61-1140.0 | 1 | 0.005 kg |
| | 61-1240.0 | 2 | 0.005 kg |

Switching action: B = Momentary, C= Maintained



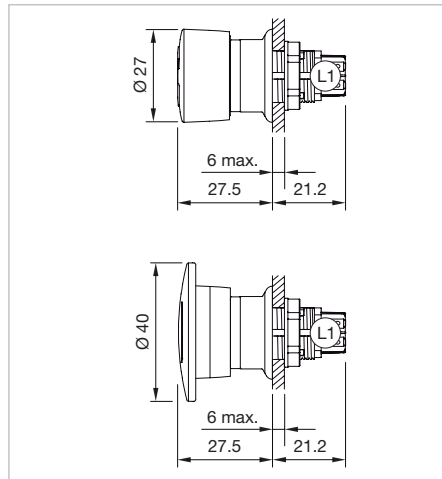
Emergency-stop switch compact, foolproof EN IEC 60947-5-5, IP67, IP69K

Equipment consisting of (schematic overview)

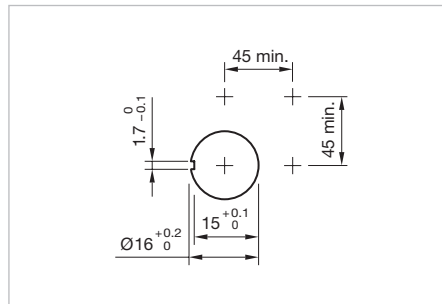


Each Part Number listed below includes all the black components shown in the 3D-drawing.

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



Dimensions [mm]
L1 = Solder/Plug-in terminal 2.8 x 0.5 mm





Mounting cut-outs [mm]




Product can differ from the current configuration.

Additional Information

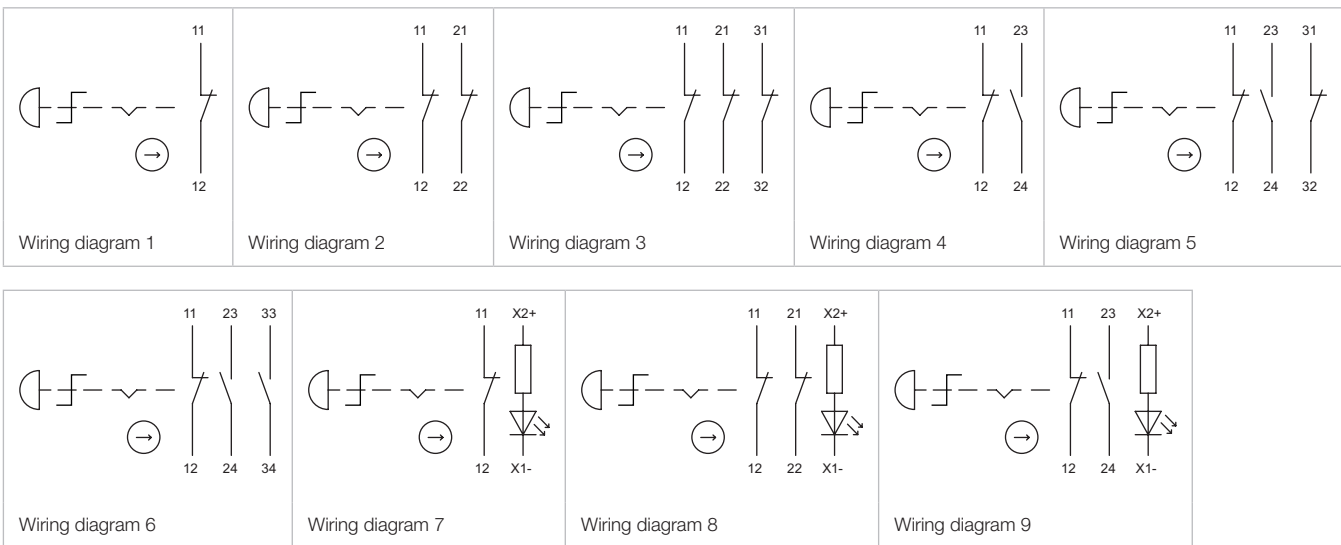
- Application as per DIN EN ISO 13850 and EN 60204-1
- Seal Part No. 61-9900
- Anti-twist ring No. 51-910
- Fixing nut No. 51-991
- Other accessories and spare parts see chapter «Accessories»

| Product attribute | Marking | Contacts | Switching action | Terminal | Part No. | Component layout | Wiring diagram | Weight |
|--|---------|-------------|------------------|---------------------|--------------|------------------|----------------|----------|
|  <p>Emergency-stop switch compact, foolproof EN IEC 60947-5-5, Front dimension Ø 27 mm</p> | | | | | | | | |
| Twist to unlock clockwise, position indication ring green | Arrows | 1 NC | C | Solder 2.8 x 0.5 mm | 61-6441.4047 | 41 | 1 | 0.018 kg |
| | Arrows | 2 NC | C | Solder 2.8 x 0.5 mm | 61-6441.4057 | 42 | 2 | 0.018 kg |
| | Arrows | 3 NC | C | Solder 2.8 x 0.5 mm | 61-6441.4067 | 43 | 3 | 0.018 kg |
| | Arrows | 1 NC + 1 NO | C | Solder 2.8 x 0.5 mm | 61-6441.4077 | 44 | 4 | 0.018 kg |
| | Arrows | 2 NC + 1 NO | C | Solder 2.8 x 0.5 mm | 61-6441.4087 | 45 | 5 | 0.018 kg |
| | Arrows | 1 NC + 2 NO | C | Solder 2.8 x 0.5 mm | 61-6441.4097 | 46 | 6 | 0.018 kg |
|  <p>Emergency-stop switch compact, foolproof EN IEC 60947-5-5, Front dimension Ø 27 mm</p> | | | | | | | | |
| Twist to unlock clockwise, position indication ring green | Arrows | 1 NC | C | Solder 2.8 x 0.5 mm | 61-6451.4247 | 47 | 7 | 0.018 kg |
| | Arrows | 2 NC | C | Solder 2.8 x 0.5 mm | 61-6451.4257 | 48 | 8 | 0.018 kg |
| | Arrows | 1 NC + 1 NO | C | Solder 2.8 x 0.5 mm | 61-6451.4277 | 49 | 9 | 0.018 kg |

61 Raised design

| Product attribute | Marking | Contacts | Switching action | Terminal | Part No. | Component layout | Wiring diagram | Weight |
|--|---------|-------------|------------------|---------------------|--------------|------------------|----------------|----------|
|  <p>Emergency-stop switch compact, foolproof EN IEC 60947-5-5, Front dimension Ø 40 mm</p> | | | | | | | | |
| Twist to unlock clockwise, position indication ring green | Arrows | 1 NC | C | Solder 2.8 x 0.5 mm | 61-6461.4047 | 41 | 1 | 0.018 kg |
| | Arrows | 2 NC | C | Solder 2.8 x 0.5 mm | 61-6461.4057 | 42 | 2 | 0.018 kg |
| | Arrows | 3 NC | C | Solder 2.8 x 0.5 mm | 61-6461.4067 | 43 | 3 | 0.018 kg |
| | Arrows | 1 NC + 1 NO | C | Solder 2.8 x 0.5 mm | 61-6461.4077 | 44 | 4 | 0.018 kg |
| | Arrows | 2 NC + 1 NO | C | Solder 2.8 x 0.5 mm | 61-6461.4087 | 45 | 5 | 0.018 kg |
| | Arrows | 1 NC + 2 NO | C | Solder 2.8 x 0.5 mm | 61-6461.4097 | 46 | 6 | 0.018 kg |

Switching action: C = Maintained
The component layouts you will find from page 90



Stop switch actuator, foolproof, IP 65

Equipment consisting of (schematic overview)



Actuator



Fixing nut

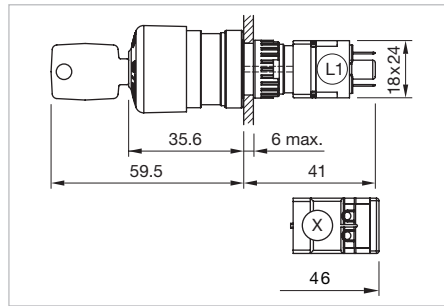


Switching element

Seite 76

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

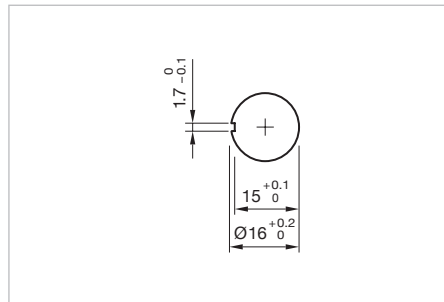
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]
L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
X = Screw terminal





Product can differ from the current configuration.



Mounting cut-outs [mm]





Additional Information

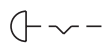
- Position indication ring black
- Standard lock KABA 1001
- Two keys are supplied with each key lock switch
- Optional lock numbers on request

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

Switching action: C = Maintain

61 Raised design

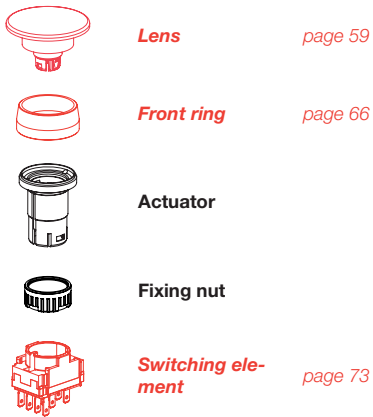
| Product attribute | Marking | Switching action | Part No. | Wiring diagram | Weight |
|---|---------------|------------------|--------------------|----------------|----------|
|  <p>Stop switch actuator, foolproof, Front dimension Ø 27 mm</p> | | | | | |
| Twist to unlock clockwise, position indication ring black | Arrows | C | 61-3440.4/1 | 1 | 0.02 kg |
|  <p>Stop switch actuator, foolproof, Front dimension Ø 27 mm</p> | | | | | |
| Twist to unlock clockwise, position indication ring black | Stop + Arrows | C | 61-3440.4/2 | 1 | 0.02 kg |
|  <p>Stop switch actuator, foolproof, Front dimension Ø 27 mm</p> | | | | | |
| Position indication ring black, twist to unlock clockwise, with metal fixing nut | Arrows | C | 61-3440.4/D | 1 | 0.02 kg |
|  <p>Stop switch actuator, foolproof, Front dimension Ø 27 mm</p> | | | | | |
| Key to unlock clockwise, position indication ring black | Stop | C | 61-5441.4/K | 1 | 0.033 kg |



Wiring diagram 1

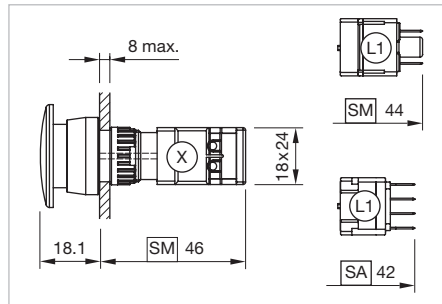
Mushroom-head pushbutton, IP 65

Equipment consisting of (schematic overview)



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

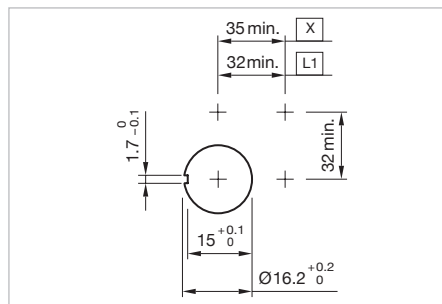
To obtain a complete unit, please select the red components from the pages shown.



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




Product can differ from the current configuration.



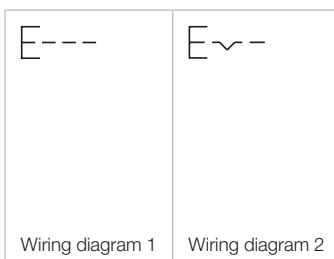
Mounting cut-outs [mm]
 L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
 X = Screw terminal

Additional Information

- For front dimension $\varnothing 32$ mm

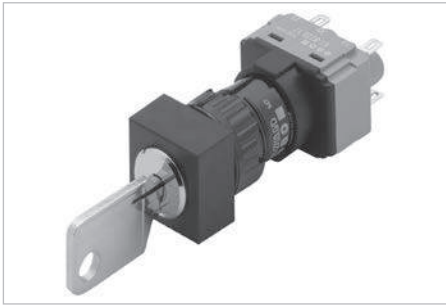
| Switching action | Part No. | Wiring diagram | Weight |
|---|-----------|----------------|----------|
|  <p>Mushroom-head pushbutton actuator</p> | | | |
| | B | 61-1140.0 | 1 |
| C | 61-1240.0 | 2 | 0.005 kg |

Switching action: B = Momentary, C= Maintained

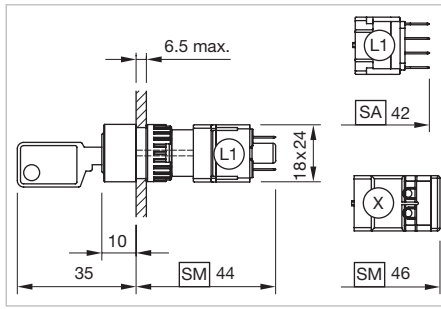


61 Raised design

Keylock switch 2 positions square, IP 65



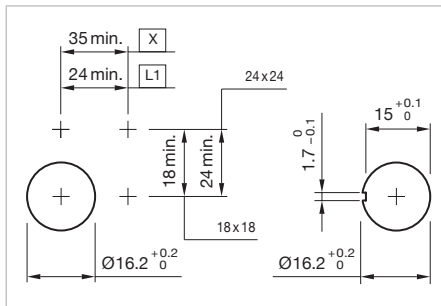
Product can differ from the current configuration.



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

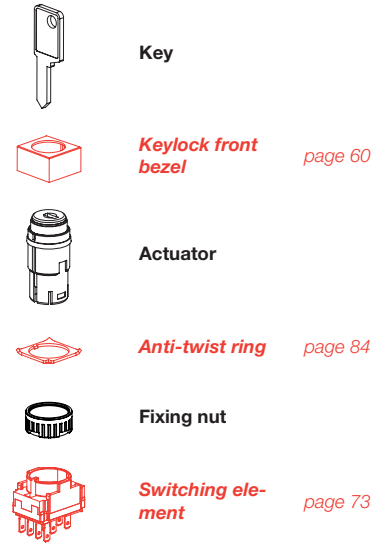
Additional Information

- For front dimensions 24 x 24 mm, 18 x 18 mm
- 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



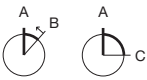
Mounting cut-outs [mm]
 L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
 X = Screw terminal

Equipment consisting of (schematic overview)




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

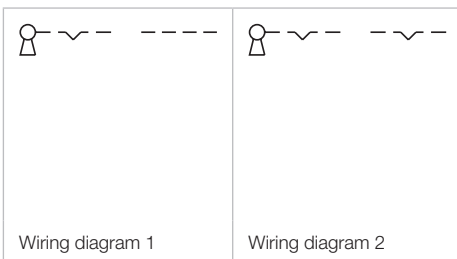
To obtain a complete unit, please select the red components from the pages shown.



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

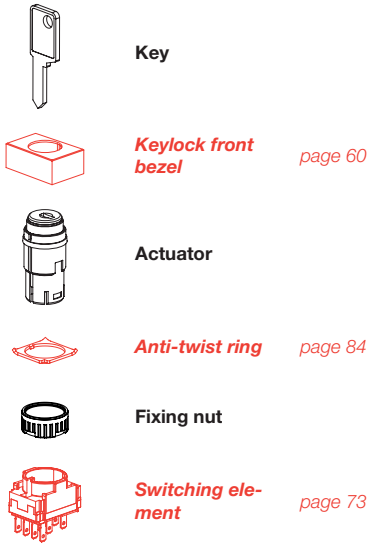
| Switching action | Switching angle | Key remove | Part No. | Wiring diagram | Weight |
|---|-----------------|------------|--------------------|----------------|----------|
|  Keylock switch actuator 2 positions square | | | | | |
| A - B | B = 42° | A | 61-2101.0/D | 1 | 0.065 kg |
| A - C | C = 90° | 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 positions A = Rest, B = Momentary, C = Maintained



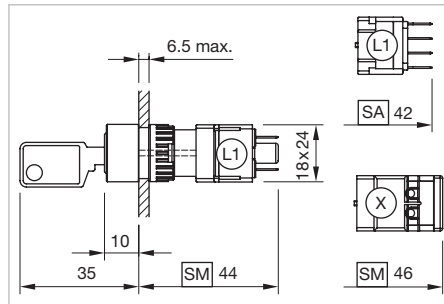
Keylock switch 2 positions rectangular, IP 65

Equipment consisting of (schematic overview)



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

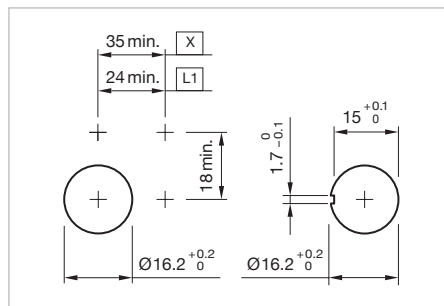
To obtain a complete unit, please select the red components from the pages shown.



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



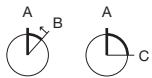
Product can differ from the current configuration.




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

Additional Information

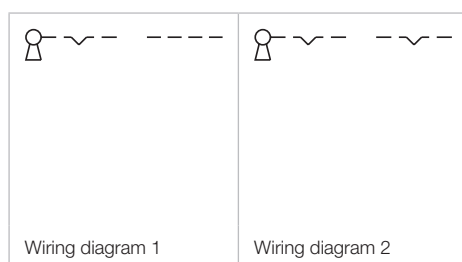
- For front dimension 18 x 24 mm
- Standard lock: DOM 311
- Two keys are supplied with each key lock switch
- Optional lock numbers on request
- If mounted with anti-twist device, the lug is on the left side
- Anti-twist ring not needed by using anti-twist device



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

| Switching action | Switching angle | Key remove | Part No. | Wiring diagram | Weight |
|---|-----------------|------------|--------------------|----------------|----------|
|  Keylock switch actuator 2 positions rectangular | | | | | |
| 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 positions A = Rest, B = Momentary, C = Maintained

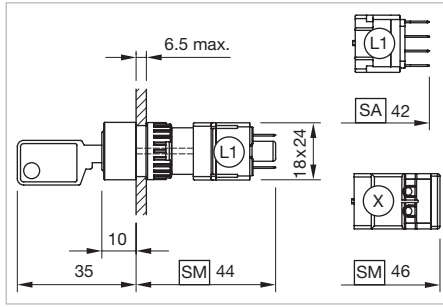


61 Raised design

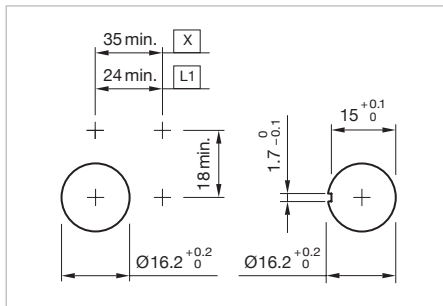
Keylock switch actuator 2 positions round, IP 65



Product can differ from the current configuration.

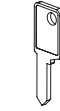


Dimensions [mm]
 L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
 SA = Snap-action switching element,
 SA = Slow-make switching element,
 X = Screw terminal



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

Equipment consisting of (schematic overview)



Key



Keylock front bezel *page 60*



Actuator



Anti-twist ring *page 84*



Fixing nut



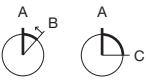
Switching element *page 74*

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


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

Additional Information

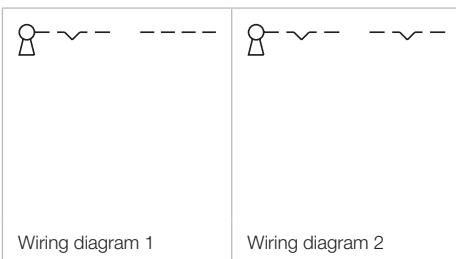
- For front dimension Ø 18 mm
- Standard lock: DOM 311
- Two keys are supplied with each key lock switch
- Optional lock numbers on request
- If mounted with anti-twist device, the lug is on the left side
- Anti-twist ring not needed by using anti-twist device



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

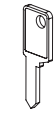
| Switching action | Switching positions | Switching angle | Key remove | Part No. | Wiring diagram | Weight |
|--|--------------------------|-----------------|------------|--------------------|----------------|----------|
|  Keylock switch actuator 2 positions round | | | | | | |
| A - B | A = Rest, C = Momentary | B = 42° | A | 61-2101.0/D | 1 | 0.065 kg |
| A - C | A = Rest, C = Maintained | 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 positions A = Rest, B = Momentary, C = Maintained



Keylock switch 3 positions square, IP 65

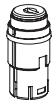
Equipment consisting of (schematic overview)



Key



Keylock front bezel *page 60*



Actuator



Anti-twist ring *page 84*



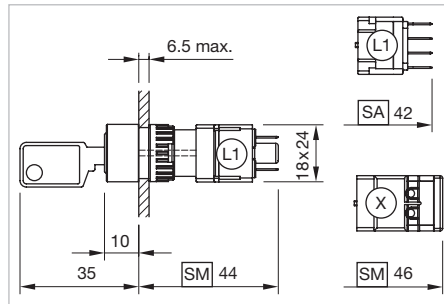
Fixing nut



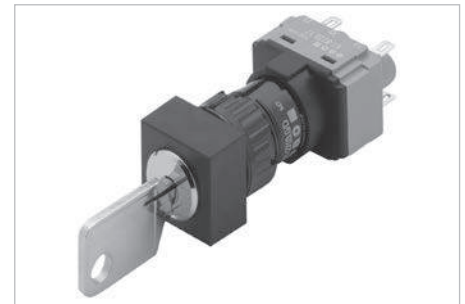
Switching element *page 75*

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

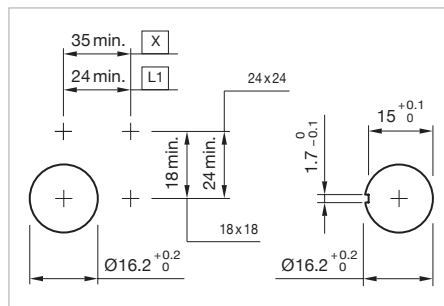
To obtain a complete unit, please select the red components from the pages shown.



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



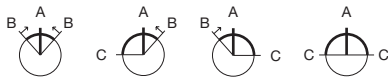
Product can differ from the current configuration.




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

Additional Information

- For front dimensions 24 x 24 mm, 18 x 18 mm
- 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

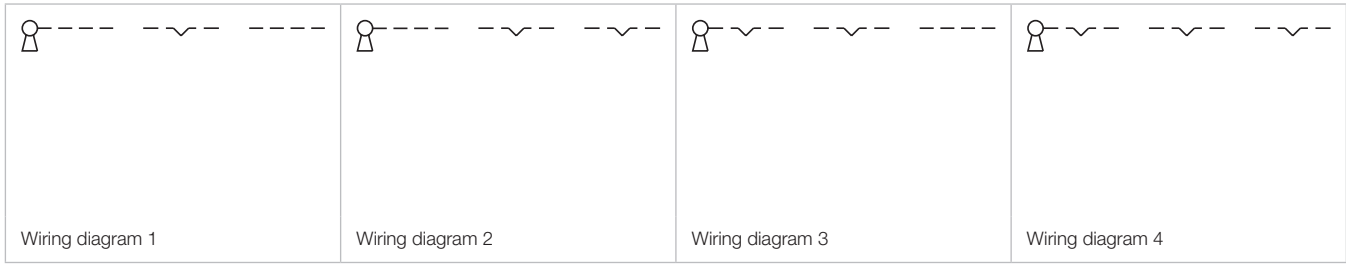


Switching positions (A = Rest, B = Momentary, C = Maintained)

| Switching action | Switching angle | Key remove | Part No. | Wiring diagram | Weight |
|--|------------------|------------|--------------------|----------------|----------|
|  Keylock switch actuator 3 positions square | | | | | |
| 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 |

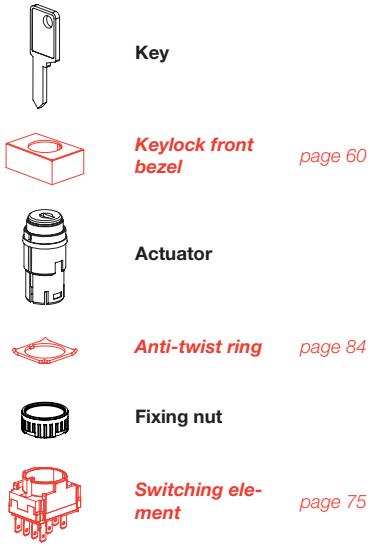
Switching positions A = Rest, B = Momentary, C = Maintained

61 Raised design



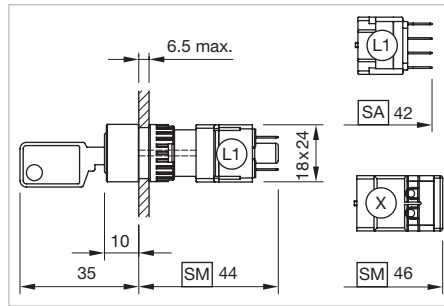
Keylock switch 3 positions rectangular, IP 65

Equipment consisting of (schematic overview)

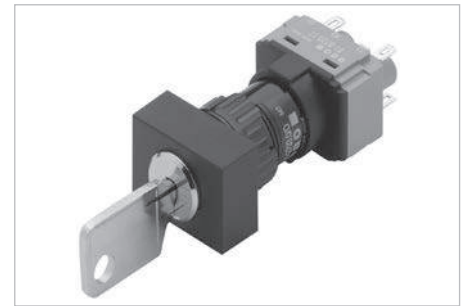


Each Part Number listed below includes all the black components shown in the 3D-drawing.

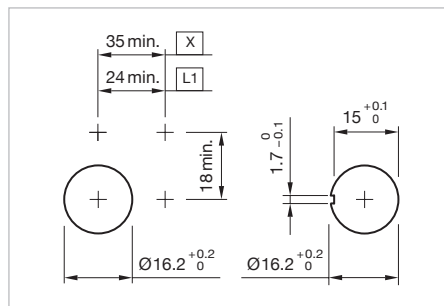
To obtain a complete unit, please select the red components from the pages shown.



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



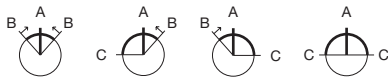
Product can differ from the current configuration.




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

Additional Information

- For front dimension 18 x 24 mm
- 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

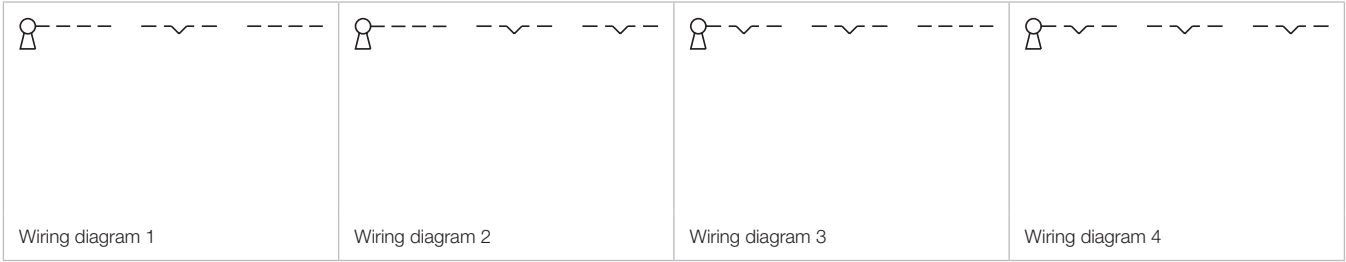


Switching positions (A = Rest, B = Momentary, C = Maintained)

| 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 | 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 |

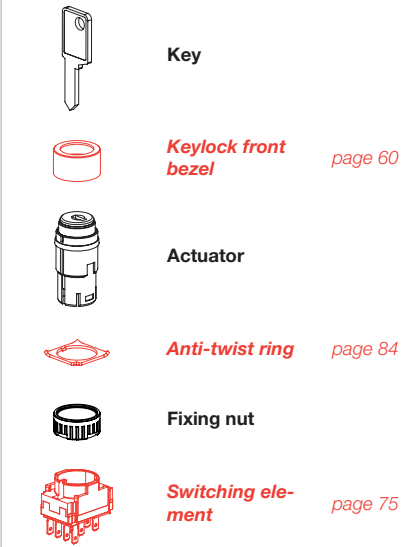
Switching positions A = Rest, B = Momentary, C = Maintained

61 Raised design



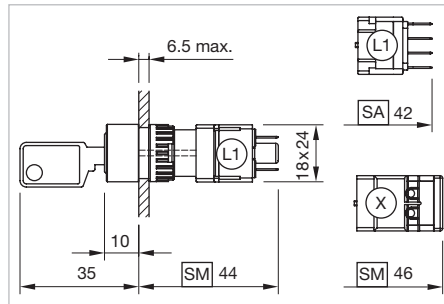
Keylock switch 3 positions round, IP 65

Equipment consisting of (schematic overview)



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

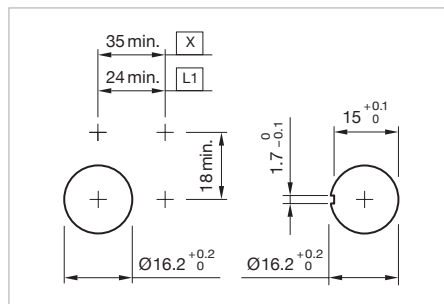
To obtain a complete unit, please select the red components from the pages shown.



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



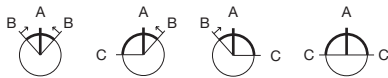
Product can differ from the current configuration.




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

Additional Information

- For front dimension Ø 18 mm
- 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

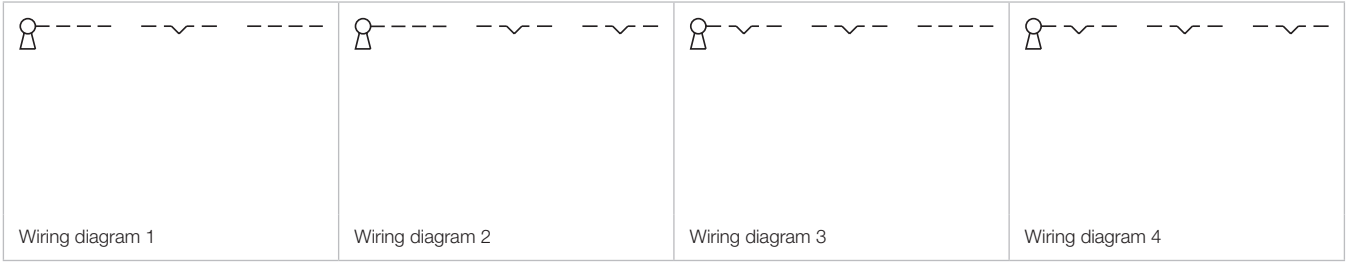


Switching positions (A = Rest, B = Momentary, C = Maintained)

| Switching action | Switching angle | Key remove | Part No. | Wiring diagram | Weight |
|---|------------------|------------|--------------------|----------------|----------|
|  Keylock switch actuator 3 positions round | | | | | |
| 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 positions A = Rest, B = Momentary, C = Maintained

61 Raised design



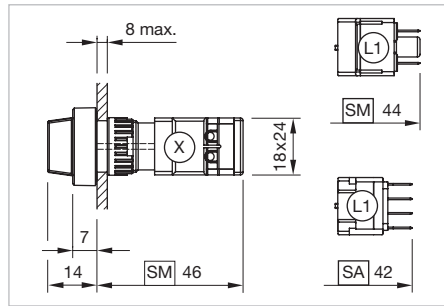
Selector switch 2 positions square, IP 65

Equipment consisting of (schematic overview)

-  **Lever** page 61
-  **Front bezel** page 65
-  **LED** page 79
-  **Actuator**
-  **Anti-twist ring** page 84
-  **Fixing nut**
-  **Switching element** page 73

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

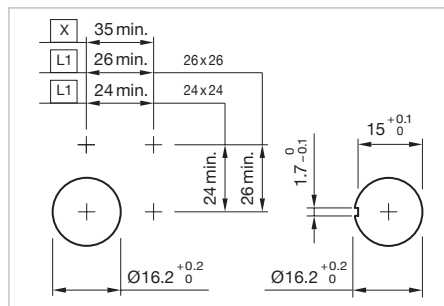
To obtain a complete unit, please select the red components from the pages shown.



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



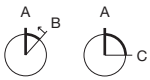
Product can differ from the current configuration.




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

Additional Information

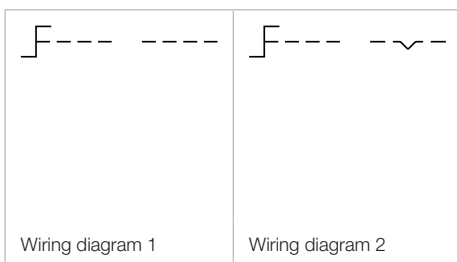
- For front dimensions 26 x 26 mm, 24 x 24 mm
- illuminative
- If mounted with anti-twist device, the lug is on the left side
- Anti-twist ring not needed by using anti-twist device



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

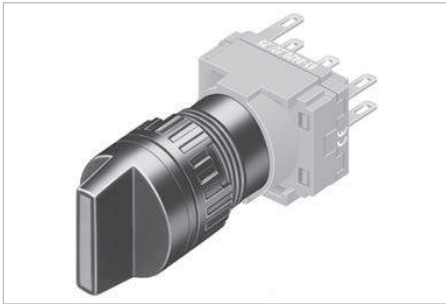
| Switching action | Switching angle | Part No. | Wiring diagram | Weight |
|---|-----------------|------------------|----------------|----------|
|  Selector switch actuator 2 positions square | | | | |
| A - B | B = 42° | 61-4110.0 | 1 | 0.006 kg |
| A - C | C = 90° | 61-4210.0 | 2 | 0.006 kg |

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

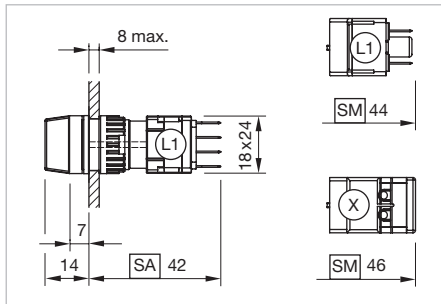


61 Raised design

Selector switch 2 positions round, IP 65



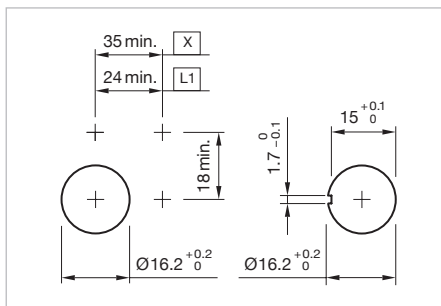
Product can differ from the current configuration.



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







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



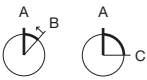
Mounting cut-outs [mm]
 L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
 X = Screw terminal

Equipment consisting of (schematic overview)


-  **Lever** page 61
-  **LED** page 80
-  **Actuator**
-  **Anti-twist ring** page 84
-  **Fixing nut**
-  **Switching element** page 73

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

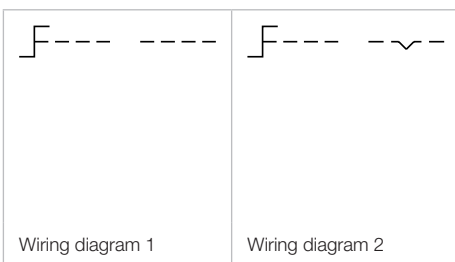
To obtain a complete unit, please select the red components from the pages shown.



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

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

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










Wiring diagram 1

Wiring diagram 2

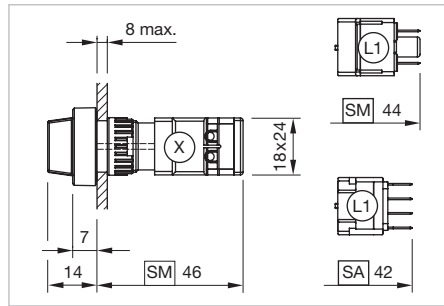
Selector switch 3 positions square, IP 65

Equipment consisting of (schematic overview)

-  **Lever** page 61
-  **Front bezel** page 65
-  **LED** page 80
-  **Actuator**
-  **Anti-twist ring** page 84
-  **Fixing nut**
-  **Switching element** page 73

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

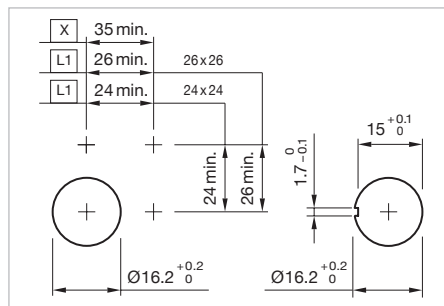
To obtain a complete unit, please select the red components from the pages shown.



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



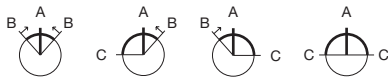
Product can differ from the current configuration.




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

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)

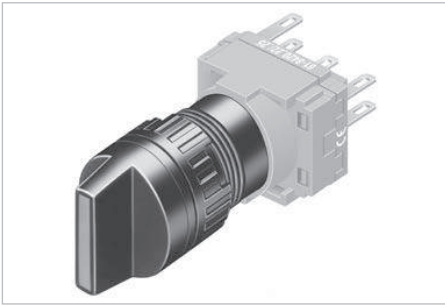
| Switching action | Switching angle | Part No. | Wiring diagram | Weight |
|---|------------------|------------------|----------------|----------|
|  Selector switch actuator 3 positions square | | | | |
| B - A - B | B = 42° / 42° | 61-4510.0 | 1 | 0.006 kg |
| C - A - B | C = 90°, B = 42° | 61-4810.0 | 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 positions A = Rest, B = Momentary, C = Maintained

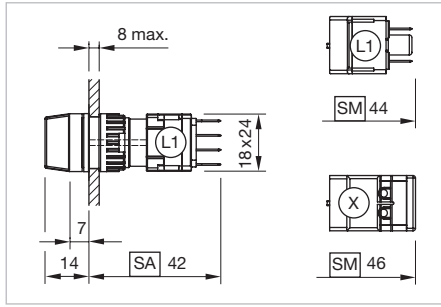
| | | | |
|---|---|--|---|
|  |  |  |  |
| Wiring diagram 1 | Wiring diagram 2 | Wiring diagram 3 | Wiring diagram 4 |

61 Raised design

Selector switch 3 positions round, IP 65



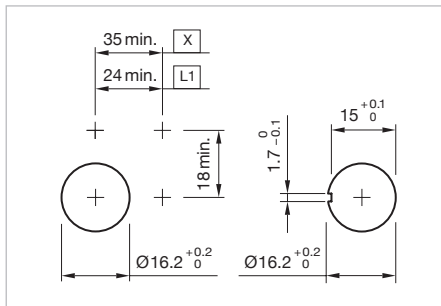
Product can differ from the current configuration.



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

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



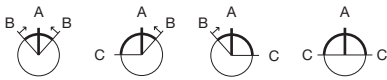
Mounting cut-outs [mm]
 L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
 X = Screw terminal

Equipment consisting of (schematic overview)


- Lever** page 61
- LED** page 80
- Actuator**
- Anti-twist ring** page 84
- Fixing nut**
- Switching element** page 75

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

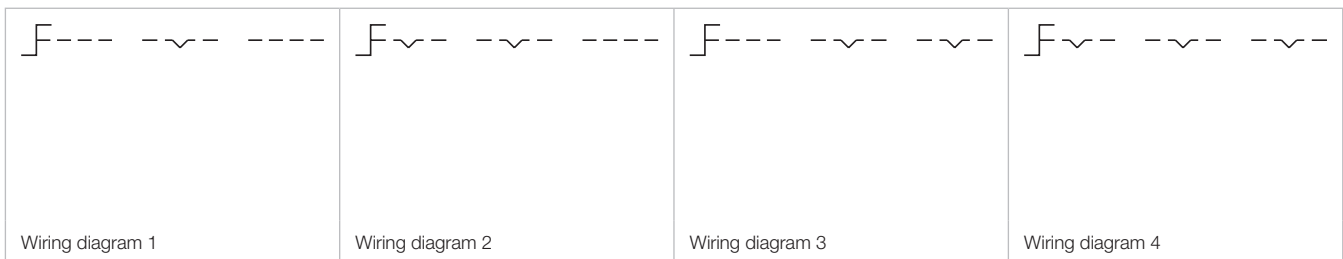
To obtain a complete unit, please select the red components from the pages shown.



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

| Switching action | Switching angle | Part No. | Wiring diagram | Weight |
|---|------------------|------------------|----------------|----------|
|  Selector switch 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 positions A = Rest, B = Momentary, C = Maintained



Front

Lens flush design




- Lens surface matt
- Lens profile flat

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

Lens plastic with symbol


Additional Information

- illuminative
- Lens surface matt
- Lens profile flat
- Lenses are suitable for devices with front dimensions \varnothing 24 mm raised design or \varnothing 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 |
|---|------------------------|----------|--------------------|----------|
|  <p>Lens plastic with symbol</p> | | | | |
| \varnothing 19.7 mm | red transparent | Ring | 61-9643.201 | 0.002 kg |
| | orange transparent | Ring | 61-9643.301 | 0.002 kg |
| | yellow transparent | Ring | 61-9643.401 | 0.002 kg |
| | green transparent | Ring | 61-9643.501 | 0.002 kg |
| | blue transparent | Ring | 61-9643.601 | 0.002 kg |
| | colourless transparent | Ring | 61-9643.701 | 0.002 kg |
|  <p>Lens plastic with symbol</p> | | | | |
| \varnothing 19.7 mm | red transparent | ON/OFF | 61-9643.202 | 0.002 kg |
| | green transparent | ON/OFF | 61-9643.502 | 0.002 kg |
| | blue transparent | ON/OFF | 61-9643.602 | 0.002 kg |
| | colourless transparent | ON/OFF | 61-9643.702 | 0.002 kg |
|  <p>Lens plastic with symbol</p> | | | | |
| \varnothing 19.7 mm | red transparent | Stand by | 61-9643.203 | 0.002 kg |
| | green transparent | Stand by | 61-9643.503 | 0.002 kg |
| | blue transparent | Stand by | 61-9643.603 | 0.002 kg |
| | colourless transparent | Stand by | 61-9643.703 | 0.002 kg |


Lens metal with dot
Additional Information

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



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

Lens raised design

- Lens surface matt

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



61 Accessories

| Product attribute | Dimension | Lens | Part No. | Weight |
|---|----------------|------------------------|------------------|----------|
| flat, illuminative | 15.3 x 15.3 mm | 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 |
| | | white translucent | 61-9221.9 | 0.002 kg |
|  <p>Lens plastic, raised design</p> | | | | |
| concave, illuminative | 15.3 x 15.3 mm | colourless transparent | 61-9326.7 | 0.002 kg |
|  <p>Lens plastic, raised design</p> | | | | |
| 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 |
| | | white translucent | 61-9231.9 | 0.002 kg |
|  <p>Lens plastic, raised design</p> | | | | |
| concave, illuminative | 15.3 x 21.5 mm | red transparent | 61-9336.2 | 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 |
|  <p>Lens plastic, raised design</p> | | | | |
| 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 |
| | Ø 15.8 mm | smoked transparent | 61-9311.1 | 0.002 kg |
| | | red transparent | 61-9311.2 | 0.002 kg |
| | | orange transparent | 61-9311.3 | 0.002 kg |
| | | yellow transparent | 61-9311.4 | 0.002 kg |
| | | green transparent | 61-9311.5 | 0.002 kg |
| | | blue transparent | 61-9311.6 | 0.002 kg |
| | | colourless transparent | 61-9311.7 | 0.002 kg |
| flat, non-illuminative | Ø 15.8 mm | black opaque | 61-9211.0 | 0.002 kg |
| | | white translucent | 61-9211.9 | 0.002 kg |

Lens metal


Additional Information

- Non-illuminative
- Lens surface matt
- 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 |
|--|-----------|--------------------------------|------------------|----------|
|  <p>Lens metal</p> | | | | |
| flat | Ø 19.7 mm | Aluminium black anodized | 61-9841.0 | 0.002 kg |
| | | Aluminium red anodized | 61-9841.2 | 0.002 kg |
| | | Aluminium gold anodized | 61-9841.4 | 0.002 kg |
| | | Aluminium olive-green anodized | 61-9841.5 | 0.002 kg |
| | | Aluminium blue anodized | 61-9841.6 | 0.002 kg |
| | | Aluminium natural anodized | 61-9841.8 | 0.002 kg |
|  <p>Lens metal</p> | | | | |
| convex (domed) | Ø 19.7 mm | Aluminium black anodized | 61-9842.0 | 0.003 kg |
| | | Aluminium red anodized | 61-9842.2 | 0.003 kg |
| | | Aluminium olive-green anodized | 61-9842.5 | 0.003 kg |
| | | Aluminium blue anodized | 61-9842.6 | 0.003 kg |
| | | Aluminium natural anodized | 61-9842.8 | 0.003 kg |

Mushroom-head cap

- Non-illuminative


| Mushroom-head cap | Part No. | Weight |
|--|------------------|----------|
|  <p>Mushroom-head cap round, 32 mm</p> | | |
| Plastic black | 61-9593.0 | 0.004 kg |
| Plastic red | 61-9593.2 | 0.004 kg |

61 Accessories




Marking plate

Additional Information





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

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

Keylock front bezel flush design

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


Keylock front bezel raised design

| Material | Colour | Part No. | Weight |
|--|--|------------------|----------|
|  | Keylock front bezel for keylock switch, raised design square, 24 x 24 mm | | |
| Plastic | black | 61-9250.0 | 0.001 kg |
|  | Keylock front bezel for keylock switch, raised design square, 18 x 18 mm | | |
| Plastic | black | 61-9220.0 | 0.001 kg |
|  | Keylock front bezel for keylock switch, raised design rectangular, 18 x 24 mm | | |
| Plastic | black | 61-9230.0 | 0.001 kg |
|  | Keylock front bezel for keylock switch, raised design round, 18 mm | | |
| Plastic | black | 61-9210.0 | 0.001 kg |

Lever flush design

Additional Information

- With bar and marking dot


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

61 Accessories

Lever raised design

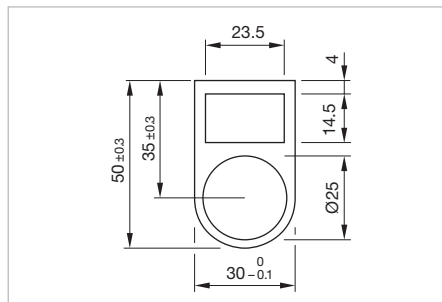
Additional Information

- With bar and marking dot


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

Legend frame

- For devices with front dimension $\varnothing 25$ 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 |
|---|-----------|----------------|---------------|------------------|----------|
|  Legend frame | | | | | |
| 30 x 50 mm | Aluminium | black anodized | adhesive | 61-9980.0 | 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 |
|---|-----------|------------------|---------------|------------------|----------|
|  <p>Legend plate for legend frame</p> | | | | | |
| 14.5 x 23.5 mm | Aluminium | natural anodized | adhesive | 704.968.0 | 0.001 kg |
| | | black anodized | adhesive | 704.968.1 | 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 |
|---|--------------------------------|-------------------|----------|
|  <p>Front bezel set for indicator, pushbutton, illuminated pushbutton, flush design square, 24 x 24 mm</p> | | | |
| 21 x 21 mm | Plastic black | 61-9930.0 | 0.008 kg |
| | Plastic silver | 61-9930.4 | 0.008 kg |
|  <p>Front bezel set for indicator, pushbutton, illuminated pushbutton, flush design rectangular, 24 x 30 mm</p> | | | |
| 21 x 27 mm | Plastic black | 61-9931.0 | 0.008 kg |
| | Plastic silver | 61-9931.4 | 0.008 kg |
|  <p>Frontrahmen-Set zu Leuchtmelder, Druck-, Leuchtdrucktaste, flache Bauform round, 25 mm</p> | | | |
| Ø 22.5 mm | Aluminium natural anodized | 61-9933.0 | 0.006 kg |
| | Aluminium black anodized | 61-9933.1 | 0.006 kg |
| | Aluminium red anodized | 61-9933.2 | 0.006 kg |
| | Aluminium gold anodized | 61-9933.4 | 0.006 kg |
| | Aluminium olive-green anodized | 61-9933.5 | 0.006 kg |
| | Aluminium blue anodized | 61-9933.6 | 0.006 kg |
| | Plastic black | 61-9933.10 | 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 |
|--|--|--------------------------------|-------------------|----------|
|  | Front bezel set for mushroom-head pushbutton, flush design round, 40 mm | | | |
| | Ø 22.5 mm | Aluminium natural anodized | 61-9934.8 | 0.013 kg |
|  | Front bezel set for mushroom-head pushbutton, flush design | | | |
| Ø 25 mm | Ø 22.5 mm | Aluminium natural anodized | 61-9933.0 | 0.006 kg |
| | | Aluminium black anodized | 61-9933.1 | 0.006 kg |
| | | Aluminium red anodized | 61-9933.2 | 0.006 kg |
| | | Aluminium gold anodized | 61-9933.4 | 0.006 kg |
| | | Aluminium olive-green anodized | 61-9933.5 | 0.006 kg |
| | | Aluminium blue anodized | 61-9933.6 | 0.006 kg |
| | | Plastic black | 61-9933.10 | 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 |
|--|--------------------------------|-------------------|----------|
|  <p>Front bezel set for keylock switch, flush design square, 24 x 24 mm</p> | Plastic black | 61-9930.0 | 0.008 kg |
| | Plastic silver | 61-9930.4 | 0.008 kg |
|  <p>Front bezel set for keylock switch, flush design rectangular, 24 x 30 mm</p> | Plastic black | 61-9931.0 | 0.008 kg |
| | Plastic silver | 61-9931.4 | 0.008 kg |
|  <p>Frontrahmen-Set zu Schlüsselschalter, flache Bauform round, 25 mm</p> | Aluminium natural anodized | 61-9932.0 | 0.006 kg |
| | Aluminium black anodized | 61-9932.1 | 0.006 kg |
| | Aluminium red anodized | 61-9932.2 | 0.006 kg |
| | Aluminium gold anodized | 61-9932.4 | 0.006 kg |
| | Aluminium olive-green anodized | 61-9932.5 | 0.006 kg |
| | Aluminium blue anodized | 61-9932.6 | 0.006 kg |
| | Plastic black | 61-9932.10 | 0.008 kg |

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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 |
|--|---|-------------------|----------|
|  | Front bezel set for selector switch, flush design square, 24 x 24 mm | | |
| 21 x 21 mm | Plastic black | 61-9936.0 | 0.007 kg |
|  | Frontrahmen-Set zu Wahlschalter, flache Bauform round, 25 mm | | |
| Ø 22.5 mm | Aluminium natural anodized | 61-9932.0 | 0.006 kg |
| | Aluminium black anodized | 61-9932.1 | 0.006 kg |
| | Aluminium red anodized | 61-9932.2 | 0.006 kg |
| | Aluminium gold anodized | 61-9932.4 | 0.006 kg |
| | Aluminium olive-green anodized | 61-9932.5 | 0.006 kg |
| | Aluminium blue anodized | 61-9932.6 | 0.006 kg |
| | Plastic black | 61-9932.10 | 0.008 kg |

Front bezel selector switch square

Additional Information


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

| Dimension | Front bezel | Part No. | Weight |
|---|--|-----------------|----------|
|  | Front bezel for selector switch square, raised design | | |
| 24 x 24 mm | Plastic black | 52-950.0 | 0.001 kg |
| 26 x 26 mm | Plastic black | 52-952.0 | 0.001 kg |

Front ring

Zusätzliche Informationen



- For devices with front dimension Ø 24 mm, raised design
- The colour of anodized aluminium parts can vary due to technical production reasons
- Lens Ø 19.7 mm

| Front ring | Part No. | Weight |
|---|------------------|----------|
|  <p>Front ring round, 24 mm</p> | | |
| Aluminium black anodized | 61-9600.0 | 0.003 kg |
| Aluminium natural anodized | 61-9600.1 | 0.003 kg |

Front protective cap, IP 68

Additional Information

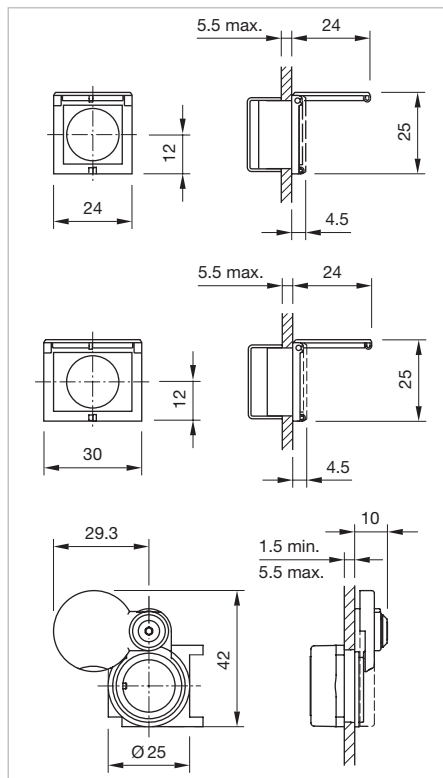
- For flat lens profil only
- When using the front protection cover for push buttons the external sealing in the front bezel set and the silicone bellows in the actuator are to be removed

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



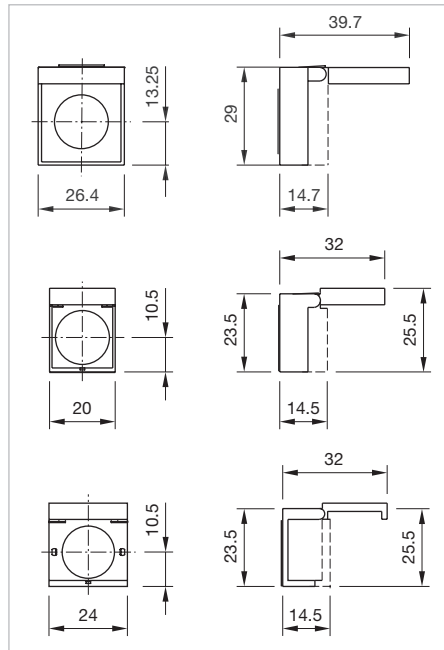
Dimensions [mm]

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

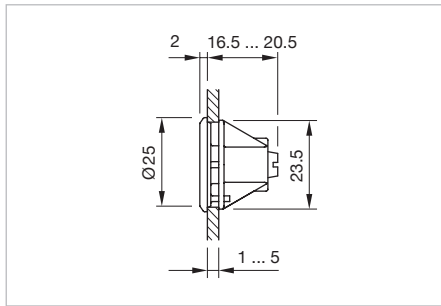
| Product attribute | Mounting cut-out | Material | Optics | Part No. | Weight |
|--|------------------|----------------|------------------------|------------------|---------------------|
|  <p>Protective cover</p> | | | | | |
| hinged, with means not for sealing, for device with front dimension 24 x 24 mm | Ø 16 mm | PlasticPlastic | transparenttransparent | 61-9920.0 | 0.0040.004 kg kg |
|  <p>Protective cover raised design</p> | | | | | |
| hinged, with means for sealing, for device with front dimension 18 x 18 mm | Ø 16 mm | Plastic | transparent | 51-920 | 0.002 kg |
|  <p>Protective cover raised design</p> | | | | | |
| hinged, with means for sealing, for device with front dimension 18 x 24 mm | Ø 16 mm | Plastic | transparent | 51-925 | 0.002 kg |

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Blind plug flush design

Additional Information

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



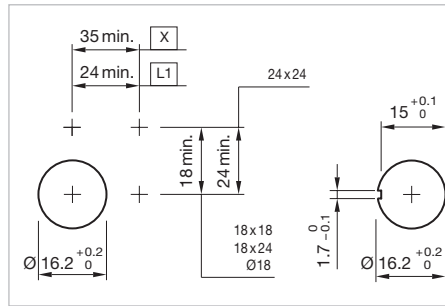
Dimensions [mm]

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




Blind plug raised design

Additional Information

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



Mounting cut-outs [mm]


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

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Master key

Additional Information



- For standard lock: DOM 311 ... 445

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

Spare key

Additional Information


- Standard lock: DOM 311
- Optional lock numbers on request

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

EMC key protection cap



Additional Information

- For standard lock: DOM
- Plastic black

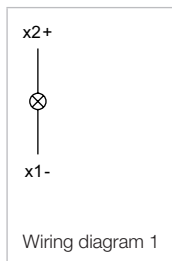
| Part No. | Weight |
|---|----------|
|  <p>EMC key protection cap</p> | |
| 31-985.0 | 0.005 kg |

Rear side


Lamp element

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

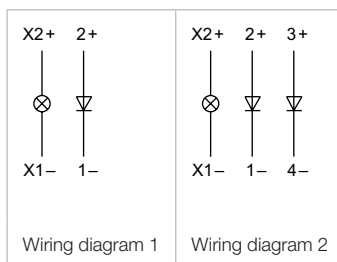
The component layouts you will find from page 90



Diode element

| Diode | Terminal | Part No. | Component layout | Wiring diagram | Weight |
|---|---------------------|-------------------|------------------|----------------|----------|
|  <p>Diode element</p> | | | | | |
| 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 90




61 Accessories

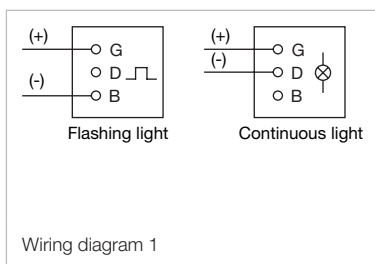
Flasher element

Additional Information

- Only for Indicator actuator (without indicator complete)
- Flashing frequency 1 Hz
- Further information see «Technical data»
- Do not connect terminal B and D simultaneously when powered up.

| Operating voltage | Terminal | Part No. | Component layout | Wiring diagram | Weight |
|--|----------|-------------------|------------------|----------------|----------|
|  Flasher element | | | | | |
| 12 ... 28 ±10 % VAC/DC | Solder | 61-8000.05 | 6 | 1 | 0.005 kg |


The component layouts you will find from page 90



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 |
|---|--------------|-------------------|---------------------|-------------------------------|----------|------------------|---------------------|-------------------|------------------|----------------|----------|
|  Switching element for pushbutton and keylock- and selector switch 2 positions | | | | | | | | | | | |
| with lamp terminal | 2 | 250 VAC/DC | 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/DC | 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 |
| | | | | | 1 NC | 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 | | | | |
| | 2 NC | Gold | Solder 2.8 x 0.5 mm | 61-8450.22 | 12 | 6 | 0.007 kg | | | | |

| Product attribute | Diode 1N4007 | Switching voltage | Switching current | Switching system | Contacts | Contact material | Terminal | Part No. | Component layout | Wiring diagram | Weight |
|--------------------|--------------|---------------------|-------------------|-------------------------------|-------------|------------------|---------------------|-------------------|------------------|----------------|----------|
| with lamp terminal | | 250 VAC/DC | 5 A | Snap-action switching element | 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 | | | | | |



Switching element for pushbutton and keylock- and selector switch 2 positions

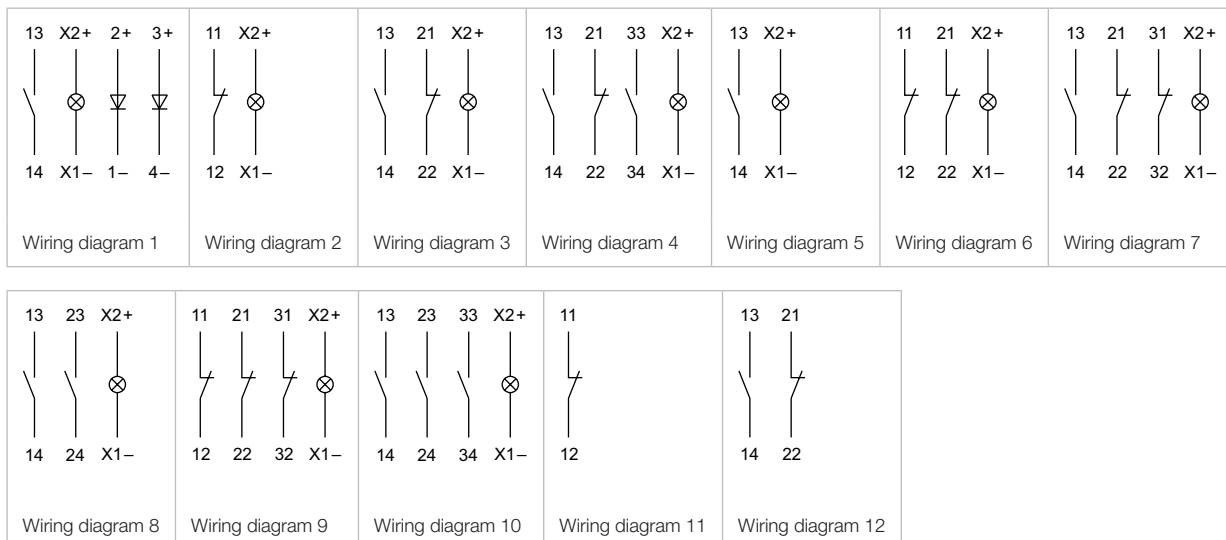
| | | | | | | | | | | | |
|--------------------|------|---------------------|-------------------|-----------------------------|-------------|--------|-----------------------------|-------------------|----------|---------------------|-------------------|
| with lamp terminal | | 250 VAC/DC | 5 A | Slow-make 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 |
| | | | | | 50 VAC/DC | 0.3 A | Slow-make switching element | 1 NO | Gold | Solder 2.8 x 0.5 mm | 61-8610.37 |
| 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 | | |



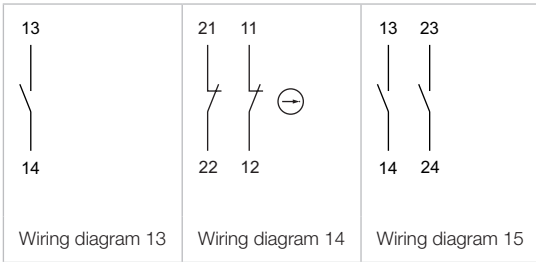
Switching element for pushbutton and keylock- and selector switch 2 positions

| | | | | | | | | | | | |
|-----------------------|--|------------|-----|-----------------------------|-------------|--------|-------|-------------------|----|----|----------|
| with lamp terminal | | 250 VAC/DC | 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 | 2 | 0.008 kg |
| without lamp terminal | | 250 VAC/DC | 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 |

Kontakte: Ö = Öffner, S = Schliesser
The component layouts you will find from page 90



61 Accessories



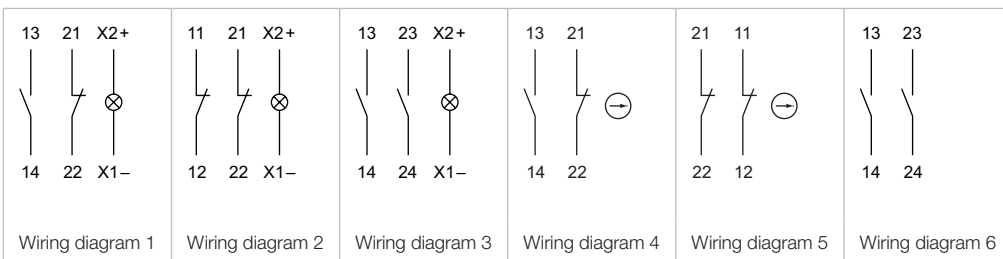
Switching element 3 positions

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 | Part No. | Component layout | Wiring diagram | Weight |
|-------------------|-------------------|-------------------|-------------------------------|-------------|------------------|---------------------|-------------------|------------------|----------------|----------|
| | 250 VAC/DC | 5 A | Snap-action switching element | 2 NO | Silver | Solder 2.8 x 0.5 mm | 61-8520.12 | 31 | 3 | 0.008 kg |
| | | | | | Gold | Solder 2.8 x 0.5 mm | 61-8520.22 | 31 | 3 | 0.008 kg |
| | | | | 2 NC | Silver | Solder 2.8 x 0.5 mm | 61-8550.12 | 30 | 2 | 0.008 kg |
| | | | | | Gold | Solder 2.8 x 0.5 mm | 61-8550.22 | 30 | 2 | 0.008 kg |
| | | | | 1 NC + 1 NO | Gold | Solder 2.8 x 0.5 mm | 61-8574.22 | 29 | 1 | 0.008 kg |
| | | | | | Silver | Solder 2.8 x 0.5 mm | 61-8574.12 | 29 | 1 | 0.008 kg |
| | | | Slow-make switching element | 2 NO | Silver | Solder 2.8 x 0.5 mm | 61-8720.17 | 31 | 3 | 0.008 kg |
| | | | | 2 NC | Silver | Solder 2.8 x 0.5 mm | 61-8750.17 | 31 | 2 | 0.008 kg |
| | | | | 1 NC + 1 NO | Silver | Solder 2.8 x 0.5 mm | 61-8770.17 | 32 | 1 | 0.008 kg |
| | | 0.3 A | Slow-make switching element | 2 NO | Gold | Solder 2.8 x 0.5 mm | 61-8720.37 | 34 | 3 | 0.008 kg |
| | | | | 2 NC | Gold | Solder 2.8 x 0.5 mm | 61-8750.37 | 33 | 2 | 0.008 kg |
| | | | | 1 NC + 1 NO | Gold | Solder 2.8 x 0.5 mm | 61-8770.37 | 32 | 1 | 0.008 kg |
| | | 5 A | Slow-make switching element | 2 NO | Silver | Screw | 61-8725.11 | 28 | 6 | 0.008 kg |
| | | | | 2 NC | Silver | Screw | 61-8755.11 | 27 | 5 | 0.008 kg |
| | | | | 1 NC + 1 NO | Silver | Screw | 61-8775.11 | 25 | 4 | 0.008 kg |

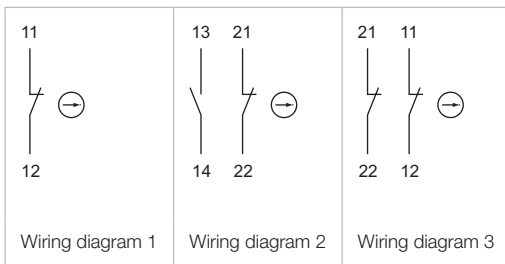
Kontakte: Ö = Öffner, S = Schliesser
The component layouts you will find from page 90




Switching element E-stop & Stop

| Switching voltage | Switching current | Switching system | Contacts | Contact material | Terminal | Part No. | Component layout | Wiring diagram | Weight |
|---|-------------------|-----------------------------|-------------|------------------|---------------------|-------------------|------------------|----------------|----------|
|  <p>Switching element for emergency-stop switch, foolproof EN IEC 60947-5-5</p> | | | | | | | | | |
| 250 VAC/DC | 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 |
|  <p>Switching element for emergency-stop switch, foolproof EN IEC 60947-5-5</p> | | | | | | | | | |
| 250 VAC/DC | 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 |

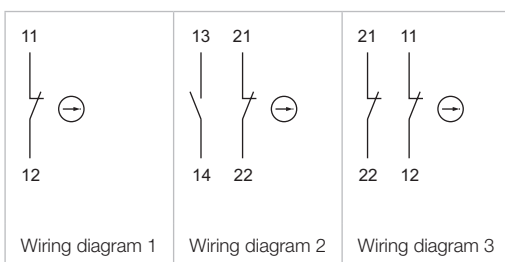
Kontakte: Ö = Öffner, S = Schliesser
 The component layouts you will find from page 90



Switching element stop switch

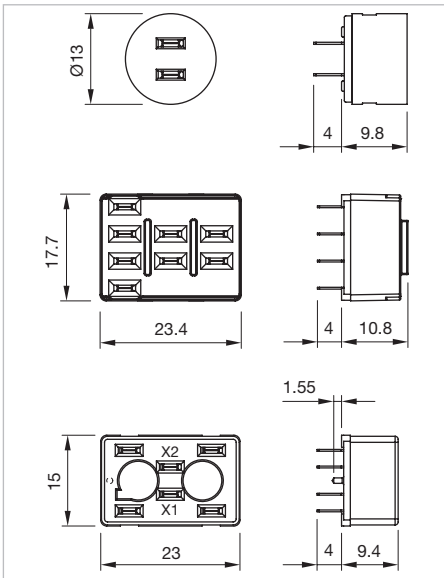
| Switching voltage | Switching current | Switching system | Contacts | Contact material | Terminal | Part No. | Component layout | Wiring diagram | Weight |
|--|-------------------|-----------------------------|-------------|------------------|---------------------|-------------------|------------------|----------------|----------|
|  <p>Switching element for stop switch, foolproof</p> | | | | | | | | | |
| 50 VAC/DC | 0.3 A | Slow-make switching element | 1 NC | Gold | Solder 2.8 x 0.5 mm | 61-8745.37 | 35 | 1 | 0.008 kg |
| | | | 2 NC | Gold | Solder 2.8 x 0.5 mm | 61-8755.37 | 37 | 3 | 0.008 kg |
| | | | 1 NC + 1 NO | Gold | Solder 2.8 x 0.5 mm | 61-8775.37 | 36 | 2 | 0.008 kg |

Kontakte: Ö = Öffner, S = Schliesser
 The component layouts you will find from page 90






61 Accessories

PCB plug-in base



Dimensions [mm]


| Product attribute | Pins | Terminal | Part No. | Component layout | Weight |
|--|-------|----------|------------------|------------------|----------|
|  <p>PCB plug-in base</p> | | | | | |
| for indicator complete | axial | PCB | 61-9820.1 | 40 | 0.002 kg |
|  <p>PCB plug-in base</p> | | | | | |
| for snap-action switching element, indicator- and diode element | axial | PCB | 61-9821.1 | 38 | 0.003 kg |
|  <p>PCB plug-in base</p> | | | | | |
| for slow-make switching element | axial | PCB | 61-9823 | 39 | 0.002 kg |

The component layouts you will find from page 90



Multi-plug housing

Additional Information


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

| Part No. | Weight |
|--|----------|
|  <p>Multi-plug housing</p> | |
| 61-9830 | 0.002 kg |


Flat receptacle

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

Insulation sleeve

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

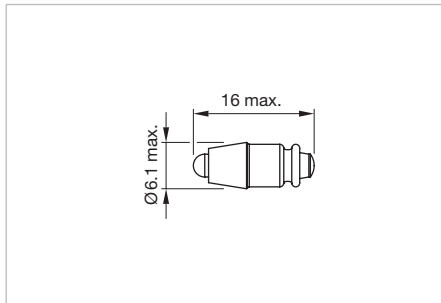
Terminal cover

| Product attribute | Part No. | Weight |
|--|-----------|----------|
|  <p>Terminal cover</p> | | |
| for snap-action switching element with soldering terminal | 61-9830.2 | 0.002 kg |


LED, T1 3/4 MG


Additional Information

- Due to high surface temperatures, the series resistor must not be soldered directly to the terminals of the equipment (use a terminal plate)
- 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 48 V, it is necessary to use a voltage reduction element (external series resistor or transformer)




Dimensions [mm]

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

| LED colour | Operating voltage | Operation current | Lumi. intensity | Dom. wavelength | Part No. | Weight |
|---|-------------------|-------------------|-----------------|-----------------|---------------------|----------|
|  <p style="text-align: center;">Bi-colour LED</p> | | | | | | |
| Bi-colour LED red/green | 24 VDC +10 %DC | 15/14 mA ±15 % | 600/630 mcd | 625/525 nm | 10-A312.314A | 0.002 kg |


Filament lamp, T1 3/4 MG

| Operating voltage | Operation current | Part No. | Weight |
|---|-------------------|---------------------|----------|
|  <p style="text-align: center;">Filament lamp</p> | | | |
| 12 VAC/DC | 75 mA±10 % | 10-1309.1309 | 0.001 kg |
| 14 VAC/DC | 80 mA±10 % | 10-1310.1319 | 0.001 kg |
| 24 VAC/DC | 35 mA±10 % | 10-1312.1229 | 0.001 kg |
| 28 VAC/DC | 30 mA±10 % | 10-1313.1209 | 0.001 kg |
| 28 VAC/DC | 40 mA±10 % | 10-1313.1249 | 0.001 kg |
| 36 VAC/DC | 20 mA±10 % | 10-1316.1179 | 0.001 kg |
| 36 VAC/DC | 30 mA±10 % | 10-1316.1209 | 0.001 kg |
| 48 VAC/DC | 25 mA±10 % | 10-1319.1199 | 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


| Operating voltage | Resistance | Part No. | Weight |
|---|------------|-----------------|----------|
|  <p style="text-align: center;">Series resistor</p> | | | |
| 110 VAC | 2.7 kOhm | 02-904.0 | 0.003 kg |
| 125 VAC | 3.3 kOhm | 02-904.1 | 0.003 kg |
| 145 VAC | 4.7 kOhm | 02-904.3 | 0.003 kg |
| 240 VAC | 10 kOhm | 02-904.7 | 0.003 kg |

61 Accessories

Terminal plate empty



Additional Information

- For fitting with series resistors

| Product attribute | Dimension | Part No. | Weight |
|---|--------------------|-----------------|----------|
|  Terminal plate empty | | | |
| 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

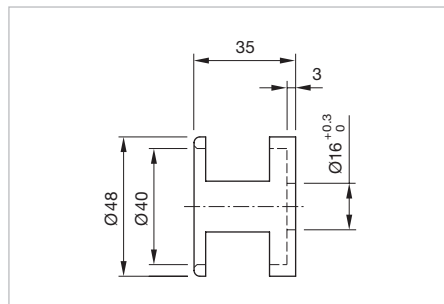
Emergency-stop legend

| Dimension | Mounting cut-out | Marking | Colour | Part No. | Weight |
|---|------------------|--------------------|--------|-----------|----------|
|  <p>Emergency-stop legend</p> | | | | | |
| Ø 43 x 1.7 mm | Ø 16 mm | without marking | yellow | 61-9970.0 | 0.002 kg |
| Ø 43 x 1.7 mm | Ø 16 mm | NOT AUS | yellow | 61-9970.1 | 0.002 kg |
| Ø 43 x 1.7 mm | Ø 16 mm | EMERGENCY STOP | yellow | 61-9970.2 | 0.002 kg |
| Ø 43 x 1.7 mm | Ø 16 mm | ARRET D'URGENCE | yellow | 61-9970.3 | 0.002 kg |
| Ø 43 x 1.7 mm | Ø 16 mm | NOT HALT | yellow | 61-9970.6 | 0.002 kg |
| Ø 43 x 1.7 mm | Ø 16 mm | PARO DE EMERGENZIA | yellow | 61-9970.7 | 0.002 kg |
| Ø 43 x 1.7 mm | Ø 16 mm | NÖDSTOP | yellow | 61-9970.8 | 0.002 kg |
|  <p>Emergency-stop legend</p> | | | | | |
| Ø 43 x 1.7 mm | Ø 16 mm | Symbol | yellow | 61-9970.9 | 0.002 kg |


E-stop protective shroud

Additional Information

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



Dimensions [mm]

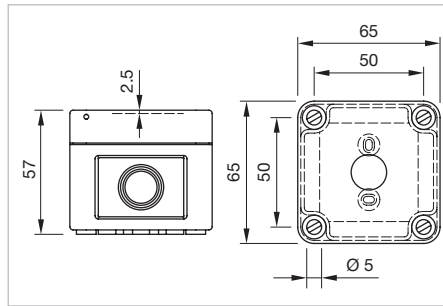
| Material | Colour | Part No. | Weight |
|--|------------------|----------|----------|
|  <p>E-stop protective shroud</p> | | | |
| Aluminium anodised | yellow varnished | 61-9965 | 0.036 kg |

61 Accessories


Emergency-stop enclosure, IP 66

Additional Information

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




Dimensions [mm]

| Dimension | Part No. | Weight |
|---|------------------|----------|
|  <p>Emergency-stop enclosure</p> <p>65 x 65 x 57 mm</p> | 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 |
|---|-----------|----------|--------|------------------|----------|
|  <p>Cable gland</p> | | | | | |
| Clamping range \varnothing 4 ... 10 mm, thread length 8 mm | M16 x 1.5 | Plastic | grey | 61-9481.6 | 0.007 kg |
| Clamping range \varnothing 6 ... 12 mm, thread length 9 mm | M20 x 1.5 | Plastic | grey | 704.945.6 | 0.011 kg |

Flat receptacle


| Product attribute | Part No. | Weight |
|--|----------------|----------|
|  <p>Flat receptacle</p> | | |
| Plug-in terminal 2.8 x 0.5 mm, partial isolated AWG-20-18 DIN 46245, in combination with crimping tool, Part No. 61-9902 | 61-9901 | 0.001 kg |

Mounting

Fixing nut

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


Anti-twist ring

| Mounting cut-out | Part No. | Weight |
|--|------------------|----------|
|  <p>Ø 16 mm</p> | 51-910 | 0.001 kg |
| <p>Ø 22.5 mm</p> | 61-9912.0 | 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 |
|---|----------|
|  <p>Reducing ring</p> <p>61-9960</p> | 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 |
|--|----------|
|  <p>Tool set</p> | |
| K61-999.100 | 0,048 kg |


Lens remover

| Product attribute | Part No. | Weight |
|---|------------------|----------|
|  <p>Lens remover</p> | | |
| for raised design | 02-905 | 0,011 kg |
|  <p>Lens remover</p> | | |
| 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 |
|---|----------|
|  <p>Lamp remover</p> | |
| 61-9740.0 | 0,003 kg |

Mounting tool

Additional Information


- For device with mounting cut-out \varnothing 16 mm
- for tightening or loosening of the fixing nut

| Part No. | Weight |
|---|----------|
|  <p>Mounting tool</p> | |
| 01-907 | 0.020 kg |

Dismantling tool

Additional Information

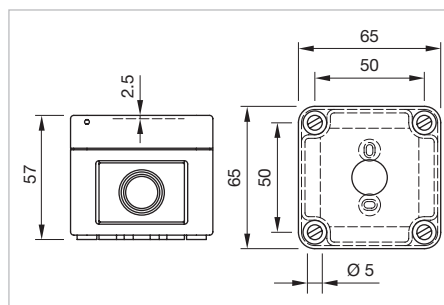
- For dismantling of the switching element

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

Enclosure, IP 66

Additional Information

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



Dimensions [mm]


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

61 Accessories


Cable gland, IP 68

Additional Information


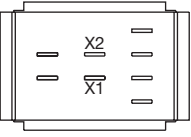
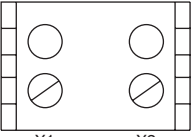
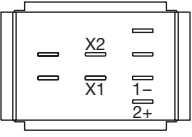
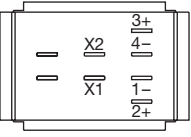
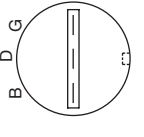
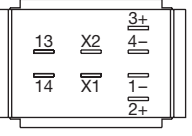
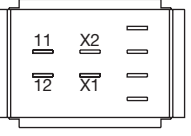
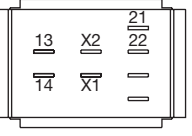
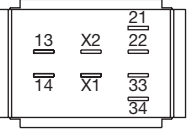
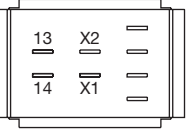
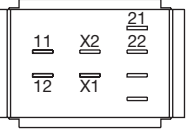
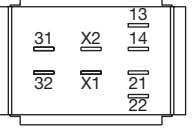
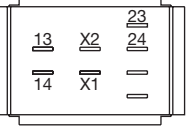
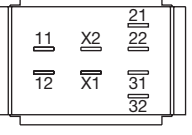
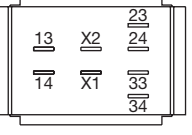
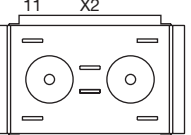
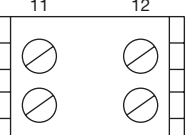
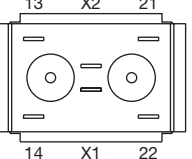
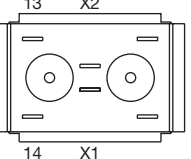
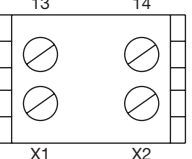
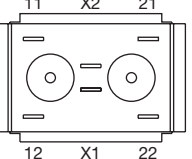
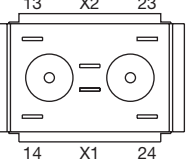
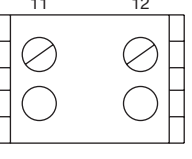
- With traction relief
- With fixing nut

| Product attribute | Thread | Material | Colour | Part No. | Weight |
|--|-----------|----------|--------|------------------|----------|
|  <p>Cable gland</p> | | | | | |
| 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 |

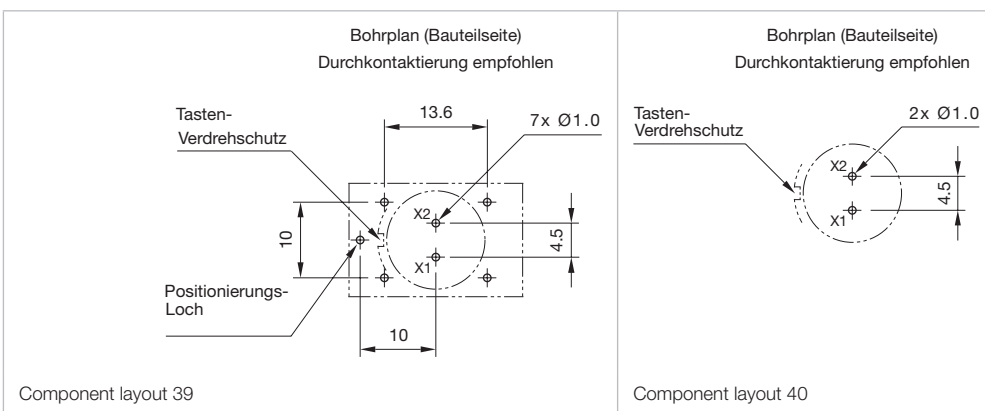
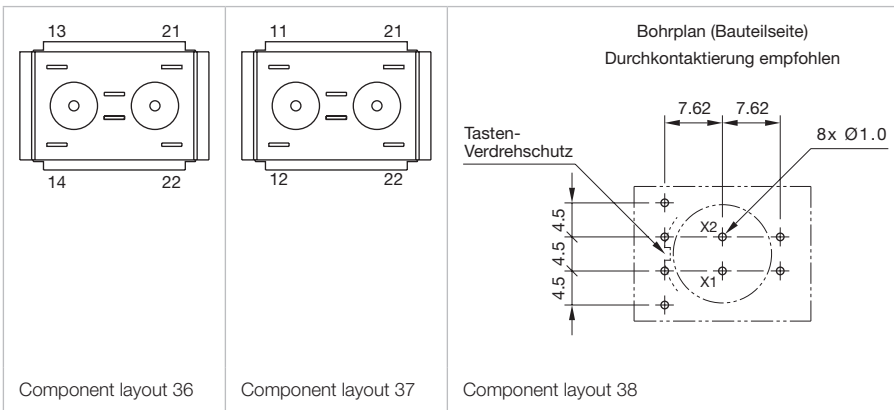
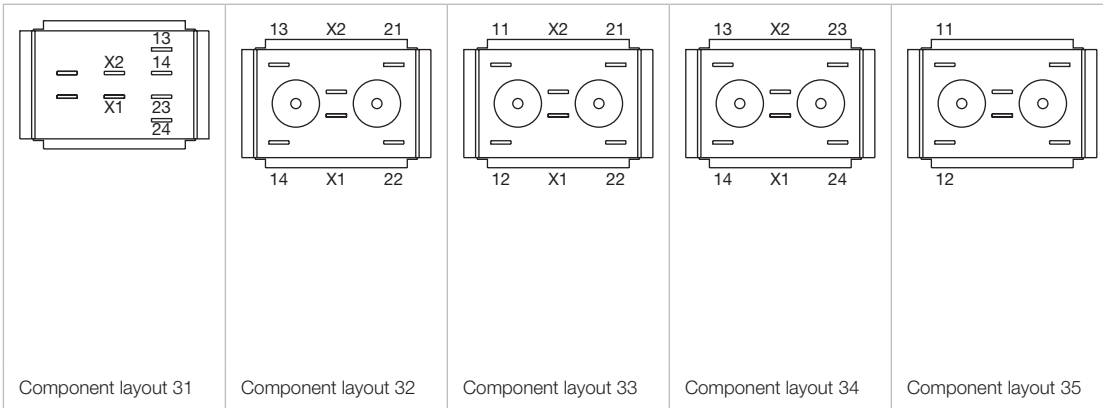
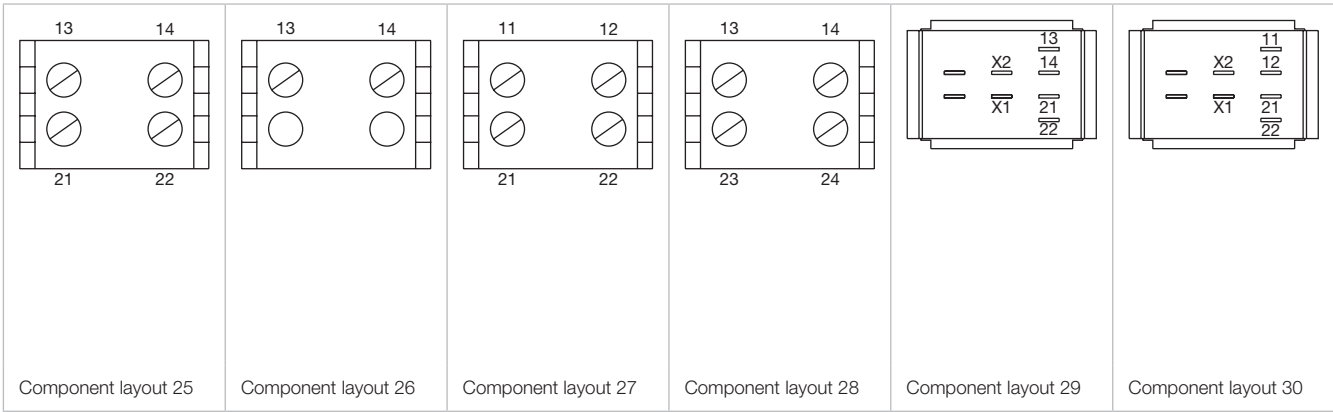
Crimping tool AWG 20-10

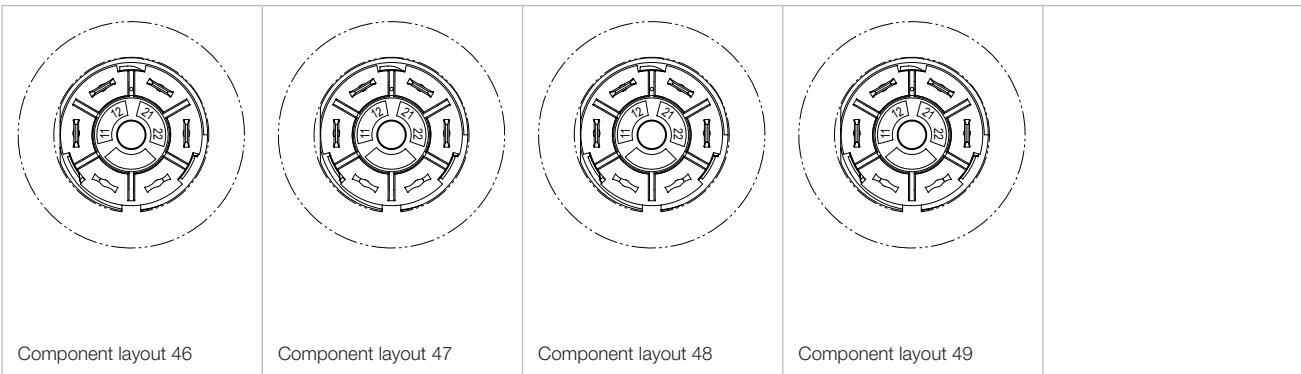
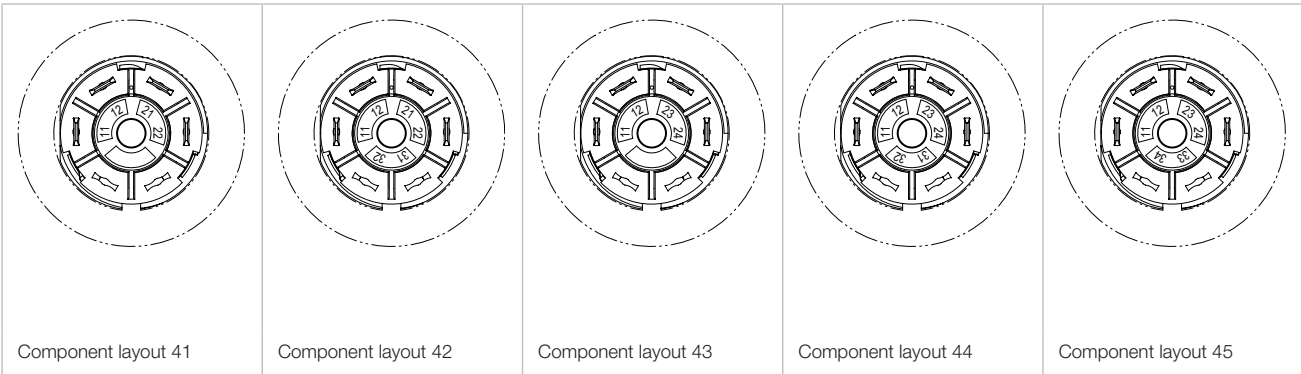
| Product attribute | Part No. | Weight |
|--|----------------|--------------|
|  <p>Crimping tool AWG 20-10</p> | | |
| in combination with flat receptacle, Part No. 61-9901 | 61-9902 | 0.500 |

Drawings

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

61 Drawings





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 ² | 0.5 ... 0.75 mm ² | 0.5 mm ² |
| 2 wires | 0.75 mm ² | 0.5 mm ² | |

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

| | 2 positions | 3 positions |
|--------------------------|-------------|-----------------|
| 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_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 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, $\cos\phi 0.95$,

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

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/s², pulse width 11 ms, 3-axis,
as per EN IEC 60068-2-27

Vibration resistance

(sinusoidal)
max. 100 m/s² 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/Plug-in | | | |
| 1 wire | 0.5 ... 1.5 mm ² | 0.5 ... 0.75 mm ² | 0.5 mm ² |
| 2 wires | 0.75 mm ² | 0.5 mm ² | |
| - Screw | | | |
| 1 wire | 0.5 ... 1.5 mm ² | 0.5 ... 0.75 mm ² | 0.5 mm ² |
| 2 wires | 0.75 mm ² | 0.5 mm ² | 0.5 mm ² |

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 50 000 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 ≤ 50 mΩ, 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 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 ≤ 50 mΩ
as per DIN IEC 60512-2-4, measured at 20 mV, 10 mA

Conventional free air thermal current I_{th}

0.3 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 |

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/s², pulse width 11 ms, 3-axis,
as per EN IEC 60068-2-27

Vibration resistance

(sinusoidal)
max. 100 m/s² 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

61 Technical data

Buzzer

Buzzer system

Electronic non-contacting buzzer with IC oscillator

Material

Alarm buzzer case
Polyetherimide

Front bezel
Polyamide

Mechanical characteristics

Terminals
Solder/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) ± 8 dB at a distance of 0.1 m (IP 40)
82 dB (A) ± 8 dB at a distance of 0.1 m (IP 65)
Volume variable with a 1 M Ω potentiometer or corresponding fixed resistor

Operation Voltage/Current

Typ. 10 VDC ... 26 VDC, ≤ 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

Emergency-stop switch compact, foolproof EN IEC 60947-5-5

Materials

Mushroom head lens
Plastic

Actuator housing material
Plastic

Contact material
Metal (Silver palladium)

Mechanical characteristics

Front plate thickness
1 ... < 4 mm with an anti-rotation ring
Maximum 6 mm without an anti-rotation ring

Terminals
Plug-in terminals 2.8 mm x 0.5 mm
(solderable, without UL certification)

Mounting cut-out
 $\varnothing 16.2$ mm

Tightening torque
Max. 0.8 Nm

Actuation force
30 N \pm 4 N

Actuating distance
4.2 mm

Mechanical life time
 $\geq 20\,000$ switching cycles

Electrical characteristics

Standards
EN 60947-5-1, EN 60947-5-5,
DIN EN ISO 13850, EN IEC 60204

Illumination
LED red with reverse polarity protection, constant current source
Operating voltage 6 VDC ... 32 VDC
Current consumption 10 mA ... 12 mA

Rated operating voltage U_o
50 VAC/DC (EN IEC 60947-1)

Rated insulation voltage U^i
250 V (EN IEC 60947-1)

Rated impulse withstand voltage U_{imp}
0.5 kV (EN IEC 60947-1)

Contact resistance test
At 20 mV, 100 mA (IEC 60512-2-1)

Insulation resistance

2 MΩ between the open contacts,
7 MΩ towards the panel (DIN IEC 60512-3-1)

Conventional therm. Current in free air I_{th}

0.5A (EN IEC 60947-5-1 / maximum current in continuous operation at maximum +55 degrees C)

Rated short-circuit current caused

1 000A, type of short-circuit device 2A gG
(EN 60947-5-1)

Breaking capacities

Alternating current usage category AC-15
(EN IEC 60947-5-1)

50VAC

0.2A

DC usage category DC-13 (EN IEC 60947-5-1)

50VDC

0.2A

Minimum operating data

Voltage 1 VAC/DC

Current 1 mA

Dielectric strength

500VAC, 50Hz, 1 min, (DIN IEC 60512-2)

Protective class

Class II (EN IEC 60947-5)

Overvoltage category

II (EN IEC 60947-1)

Degree of pollution

3 (EN IEC 60947-1)

Electrical life time

≥ 20 000 switching cycles

Ambient conditions

Storage temperature

-40 °C ... +85 °C

Operating temperature

-25 °C ... +55 °C

Front protection

IP67, in accordance with EN IEC 60529/A1:2010-04

IP69K, in accordance with EN IEC 60529/A1:2010-04

Panel surface roughness Ra1.6

IK07 (Cover D27)

IK06 (Cover D40)

Resistance to shock

Max. 150 m/s², pulse width 11 ms, 3-axis

(half sinusoidal EN IEC 60068-2-27)

Vibration resistance

Max. 100 m/s² from 10 Hz ... 500 Hz, 20 cycles, 3-axis

(sinusoidal EN IEC 60068-2-6)

Environmental resistance

Humid heat, constant, 56 days, +40 °C/93% relative humidity (EN IEC 60068-2-78)

Dry heat, 96 hours, +55 °C (EN IEC 60068-2-2)

Cold, 96 hours, -25 °C (EN IEC 60068-2-1)

UV test, 56 days (EN 60068-2-5:1999)

Certificates

Approvals

UL NISD (cULus, UL EU) LISTED E-File no.: E341760

CB (EN 60947)

Declaration of Conformity

CE

EAO reserves the right to alter specifications without further notice.

61 Marking

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 pleased to advise you. For letters and figures, typefaces with 2.5 mm, 3 mm and 4 mm are available.

3. Film inserts

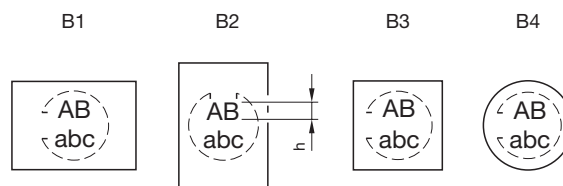
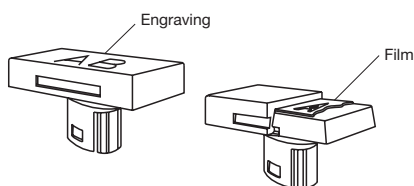
Instead of using engraving the lenses can be fitted with transparent film inserts, as an alternative. In the case of use of a smoke-black lens the fitted film becomes readable only if the lamp is on. The film thickness is 0.2 mm. For lenses Ø 24 mm and Ø 25 mm with Part No. 619642.x the marking takes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

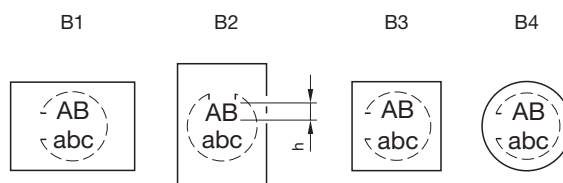
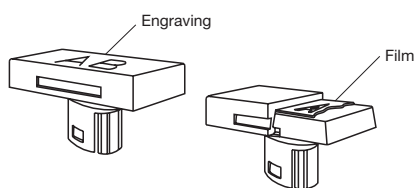
| Front size (Lens) | Film insert max. size | Height of letters h | Number of lines | Number of capital letters per line (target value) | Number of small letters per line (target value) | Image |
|-------------------|-----------------------|---------------------|-----------------|---|---|-------|
| 24 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 |
| | | | | 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 | | |

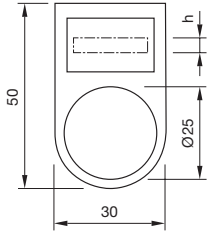


61 Marking

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

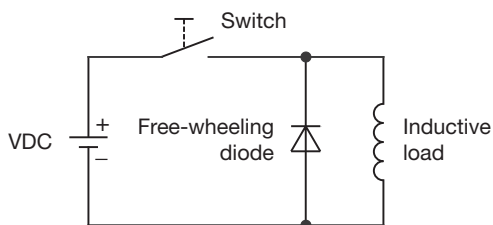
When switching inductive loads such as relays, DC motors, and DC solenoids, it is always important to absorb surges (e.g. with a diode) to protect the contacts. When these inductive loads are switched off, a counter emf can severely damage switch contacts and greatly shorten lifetime.

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.

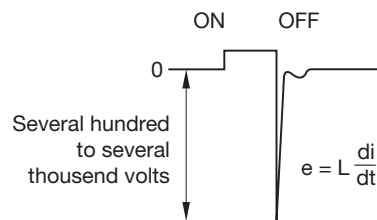
The free-wheeling diode should be chosen so that the reverse breakdown voltage is greater than the voltage driving the inductive load. The DC blocking voltage (V_R) of the free-wheeling diode can be found in the datasheet of a diode. The forward current should be equal or greater than the maximum current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



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