

Series 61

Characteristics

The compact 16mm 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
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Pushbutton	11
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Keylock switch	16
Selector switch	25
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Raised design

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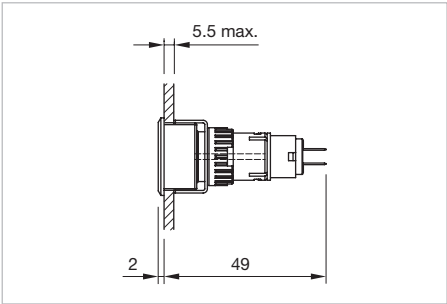
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61 Flush design

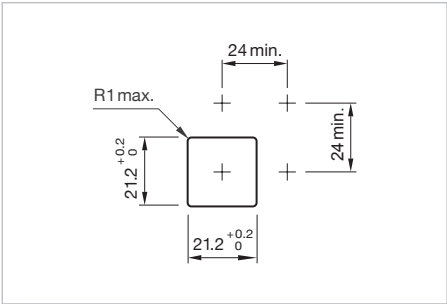
Indicator complete square, IP 65



Product can differ from the current configuration.



Dimensions [mm]



Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

	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
 Indicator actuator complete square Solder 2.8 x 0.5 mm	61-0000.02	1	0.006 kg

x2+

x1-

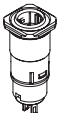
Wiring diagram 1

Indicator complete rectangular, IP 65

Equipment consisting of (schematic overview)

**Lens**
page 55

**LED**
page 80

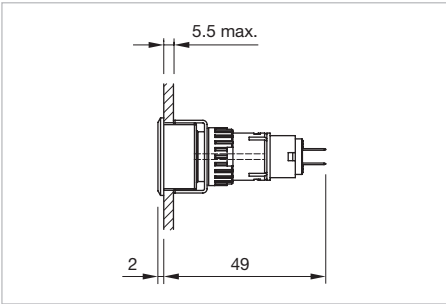
**Actuator**

**Front bezel set**
page 63

**Fixing nut**

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

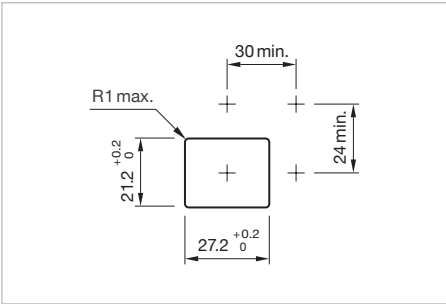
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Product can differ from the current configuration.



Mounting cut-outs [mm]

Additional Information

- For front dimension 24 x 30 mm

Terminal



Indicator actuator complete rectangular

Solder 2.8 x 0.5 mm

Part No.

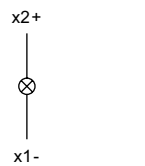
Wiring
diagram

Weight

61-0000.02

1

0.006 kg



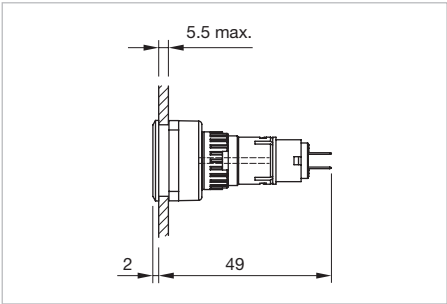
Wiring diagram 1

61 Flush design

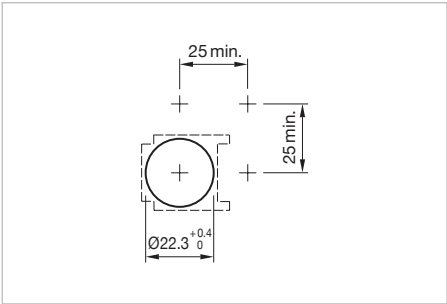
Indicator complete round, IP 65



Product can differ from the current configuration.



Dimensions [mm]



Mounting cut-outs [mm]

Additional Information

- For front dimension Ø 25 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
 Indicator actuator complete round			
Solder 2.8 x 0.5 mm	61-0000.02	1	0.006 kg

x2+
⊗
x1-
Wiring diagram 1

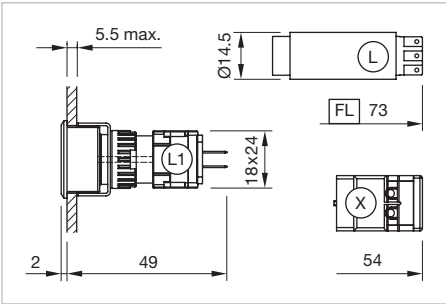
Indicator square, IP 65

Equipment consisting of (schematic overview)

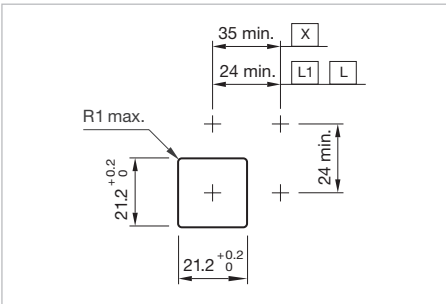
- **Lens** *page 55*
- **LED** *page 80*
- **Actuator**
- **Front bezel set** *page 63*
- **Front bezel set** *page 63*
- **Fixing nut**
- **Lamp element** *page 73*

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

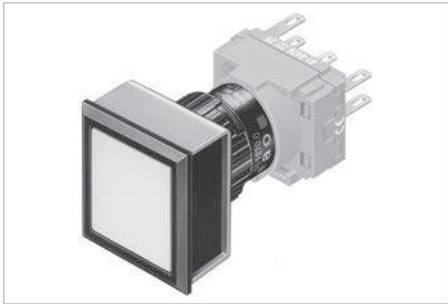
To obtain a complete unit, please select the red components from the pages shown.



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 24 x 24 mm

Part No.

Weight



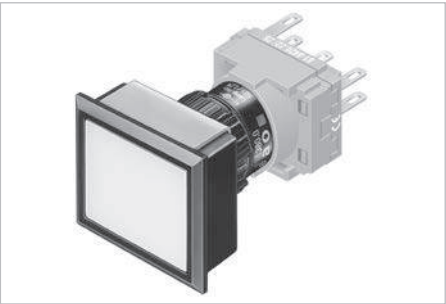
Indicator actuator square, flush design

61-0009.0

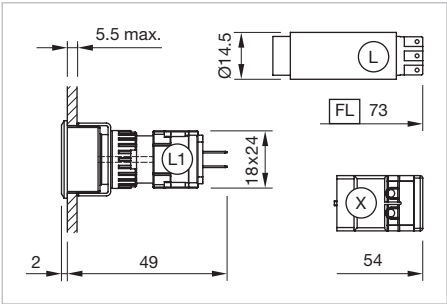
0.005 kg

61 Flush design

Indicator rectangular, IP 65



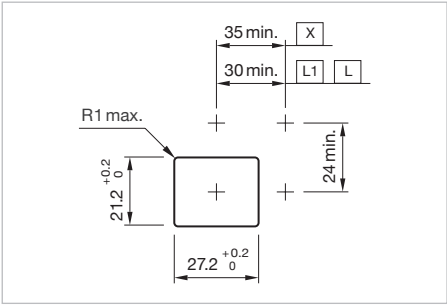
Product can differ from the current configuration.



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
Indicator actuator rectangular		
61-0009.0		0.005 kg

Indicator round, IP 65

Equipment consisting of (schematic overview)

**Lens**page 55

**LED**page 80

**Actuator**

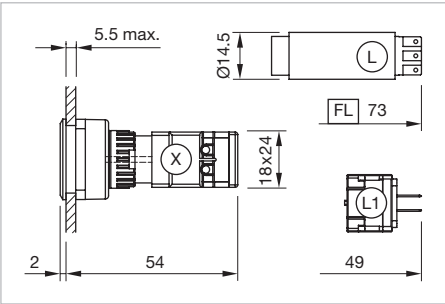
**Front bezel set**page 63

**Fixing nut**

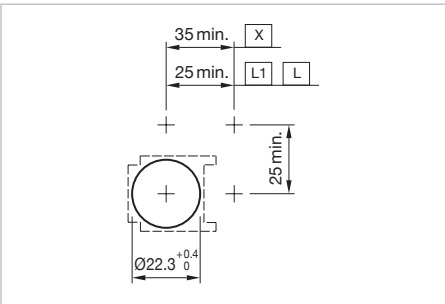
**Lamp element**page 73

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

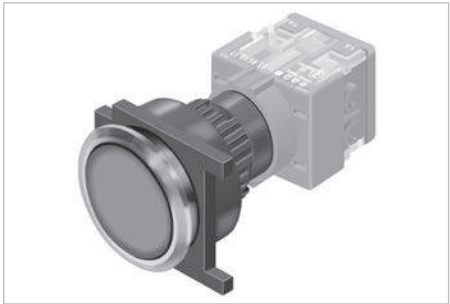
To obtain a complete unit, please select the red components from the pages shown.



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

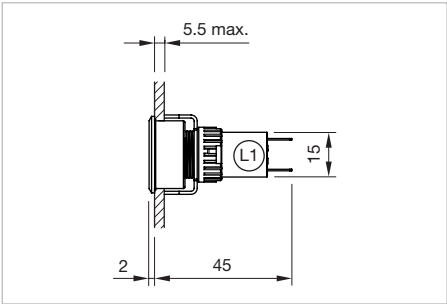
0.005 kg

61 Flush design

Buzzer, IP 40

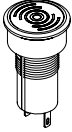


Product can differ from the current configuration.



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

Equipment consisting of (schematic overview)

**Actuator**

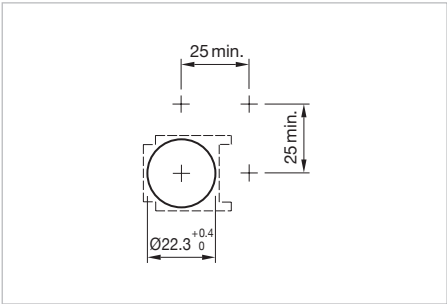
**Anti-twist ring**

**Fixing nut**

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

Additional Information

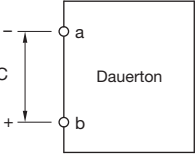
- Further information see «Technical data»

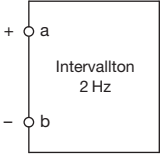


Mounting cut-outs [mm]

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

U = 10 - 26 VDC

**Dauerton**

**Intervallton
2 Hz**

Wiring diagram 1

Pushbutton round, IP 65

Equipment consisting of (schematic overview)

**Lens**
page 55

**Actuator**

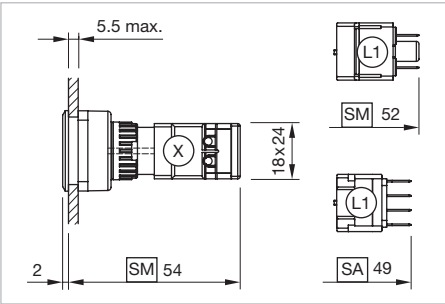
**Front bezel set**
page 63

**Fixing nut**

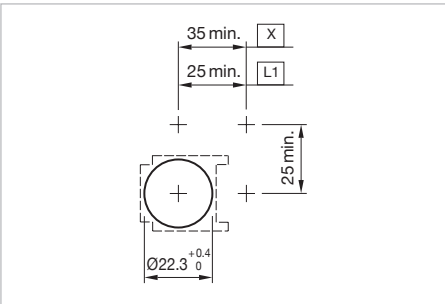
**Switching element**
page 74

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

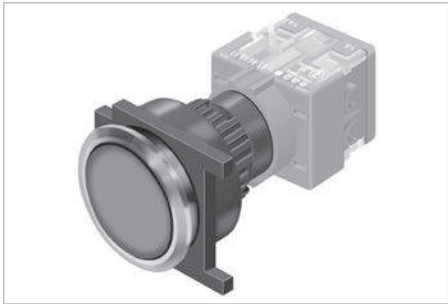
To obtain a complete unit, please select the red components from the pages shown.



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
 Pushbutton actuator round				
	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	0.005 kg

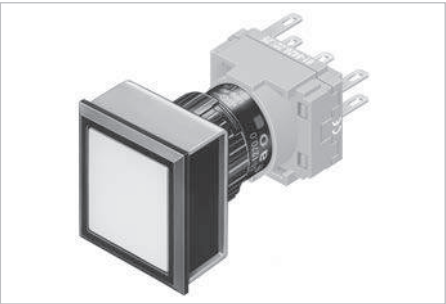
Switching action: B = Momentary, C= Maintained

**Wiring diagram 1**

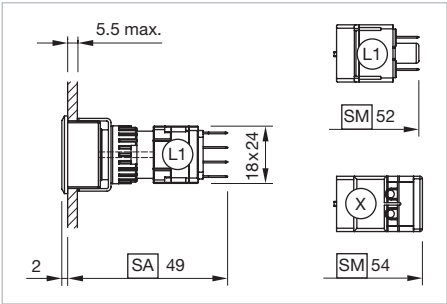
**Wiring diagram 2**

61 Flush design

Illuminated pushbutton square, IP 65



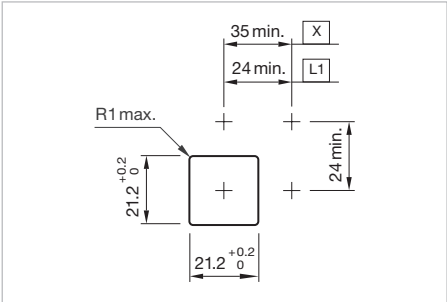
Product can differ from the current configuration.



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)

	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
	Illuminated pushbutton actuator square			
	B	61-1100.0	1	0.005 kg
	C	61-1200.0	2	0.005 kg
	B - C convertible from momentary to maintained action	61-1300.0	1	0.005 kg

Switching action: B = Momentary, C= Maintained

Wiring diagram 1	Wiring diagram 2

Illuminated pushbutton rectangular, IP 65

Equipment consisting of (schematic overview)

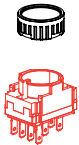
**Lens**
page 55

**LED**
page 80

**Actuator**

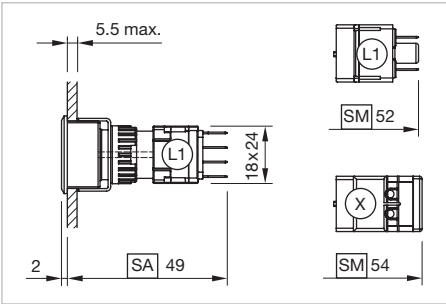
**Front bezel set**
page 63

**Fixing nut**

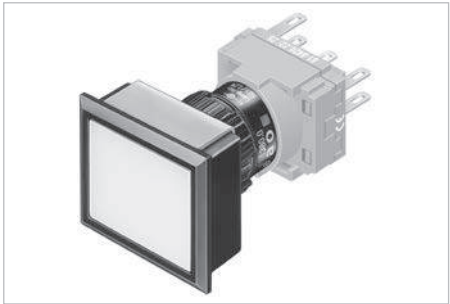
**Switching element**
page 74

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

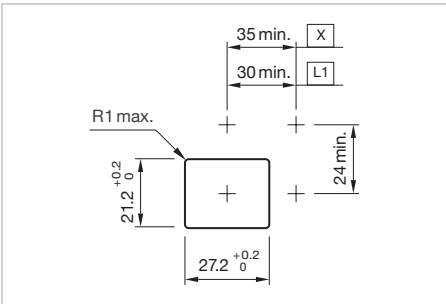
To obtain a complete unit, please select the red components from the pages shown.



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
 Illuminated pushbutton actuator rectangular	B	61-1100.0	1	0.005 kg
	C	61-1200.0	2	0.005 kg
	B - C	61-1300.0	1	0.005 kg
	B-C convertible from momentary to maintained action			

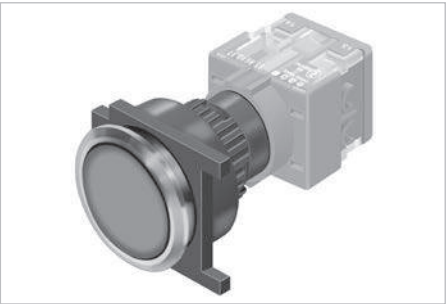
Switching action: B = Momentary, C= Maintained

**Wiring diagram 1**

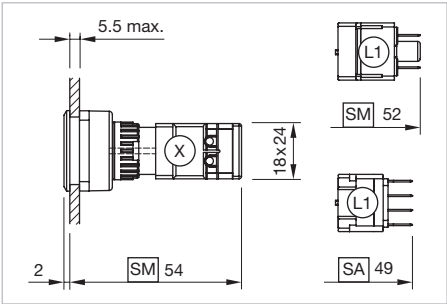
**Wiring diagram 2**

61 Flush design

Illuminated pushbutton round, IP 65



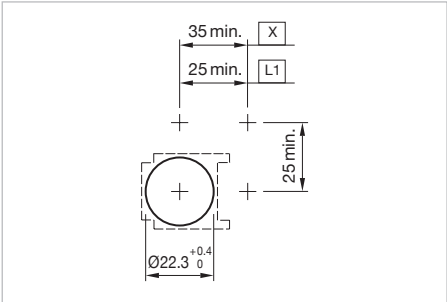
Product can differ from the current configuration.



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
	Illuminated pushbutton actuator round			
	B	61-1100.0	1	0.005 kg
	C	61-1200.0	2	0.005 kg
	B - C convertible from momentary to maintained action	61-1300.0	1	0.005 kg

Switching action: B = Momentary, C= Maintained

Wiring diagram 1	Wiring diagram 2

Mushroom-head pushbutton, IP 65

Equipment consisting of (schematic overview)

**Lens**
page 59

**Actuator**

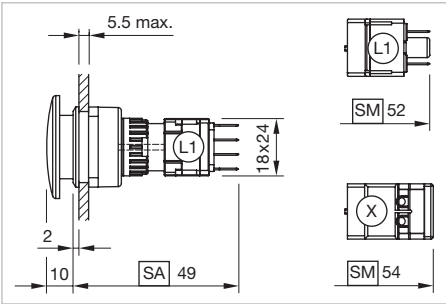
**Front bezel set**
page 64

**Fixing nut**

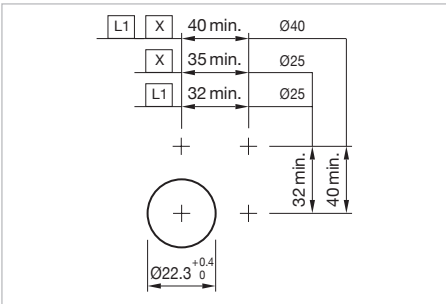
**Switching element**
page 74

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

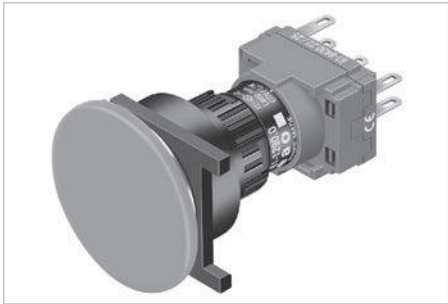
To obtain a complete unit, please select the red components from the pages shown.



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.

Product attribute	Switching action	Part No.	Wiring diagram	Weight
 Mushroom-head pushbutton actuator, Front dimension Ø 32 mm				
	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	0.005 kg

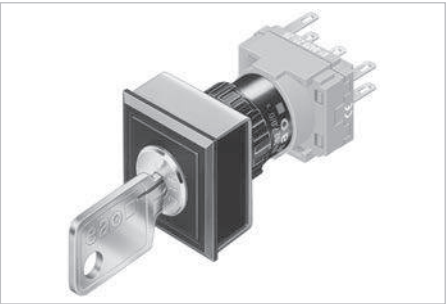
Switching action: B = Momentary, C= Maintained

**Wiring diagram 1**

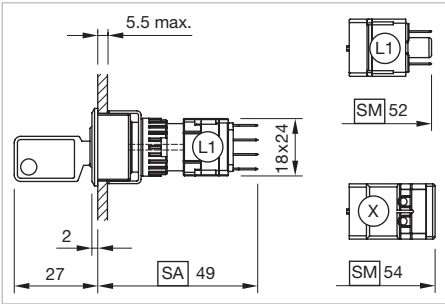
**Wiring diagram 2**

61 Flush design

Keylock switch 2 positions square, IP 65

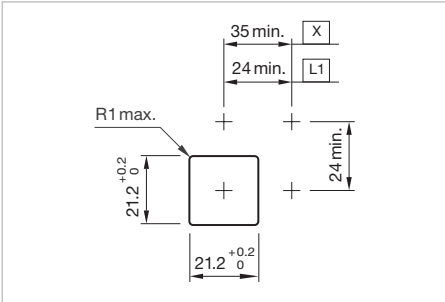


Product can differ from the current configuration.



Dimensions [mm]
L1 = Solder/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)

Key

Keylock front bezel *Seite 59*

Actuator

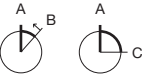
Front bezel set *Seite 64*

Fixing nut

Switching element *Seite 73*

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

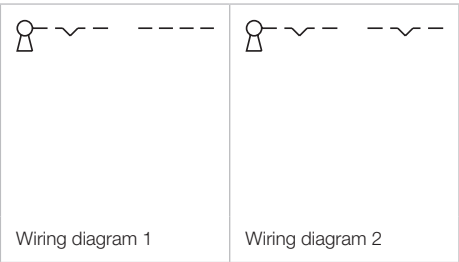
To obtain a complete unit, please select the red components from the pages shown.



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

Switching action	Switching angle	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*



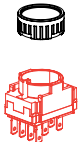
Actuator



Front bezel set *Seite 64*



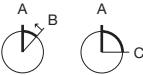
Fixing nut



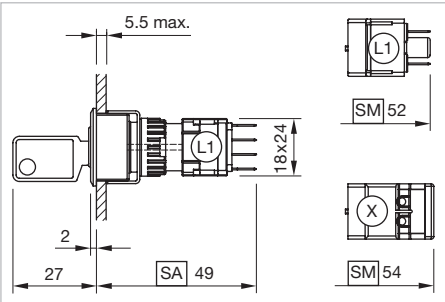
Switching element *Seite 73*

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

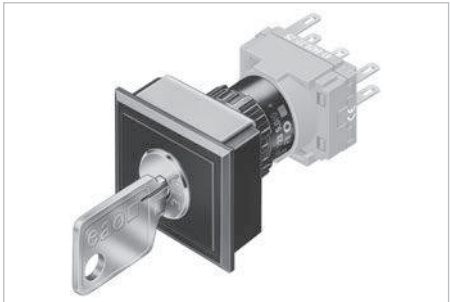
To obtain a complete unit, please select the red components from the pages shown.



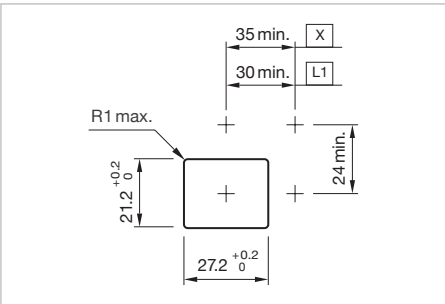
Switching positions (A = Rest, B = Momentary, C = Maintained)



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.



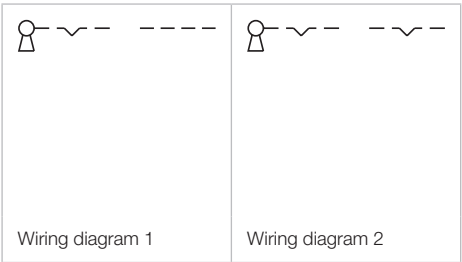
Mounting cut-outs [mm]
L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
X = Screw terminal

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

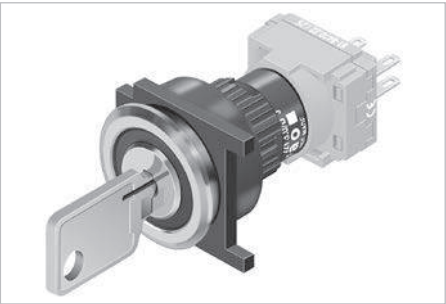
Switching action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
 Keylock switch actuator 2 positions rectangular					
A - B	B = 42°	A	61-2101.0/D	1	0.065 kg
A - C	C = 90°	A	61-2201.0/D	2	0.065 kg
		C	61-2203.0/D	2	0.065 kg
		A + C	61-2205.0/D	2	0.065 kg

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

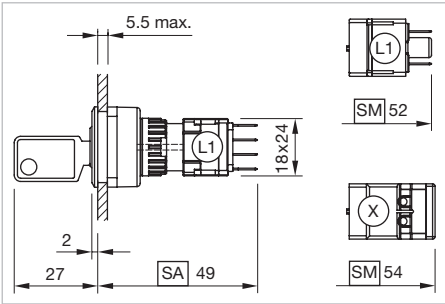


61 Flush design

Keylock switch actuator 2 positions round, IP 65

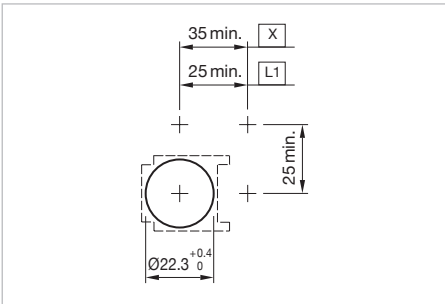


Product can differ from the current configuration.



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)

Schlüssel

Keylock front bezel Seite 59

Actuator

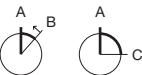
Front bezel set Seite 64

Fixing nut

Switching element Seite 73

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

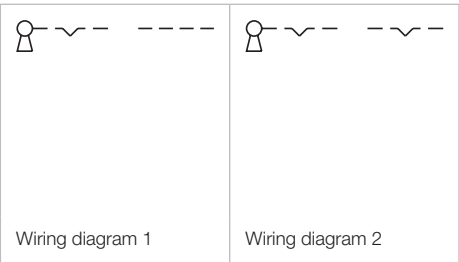
To obtain a complete unit, please select the red components from the pages shown.



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

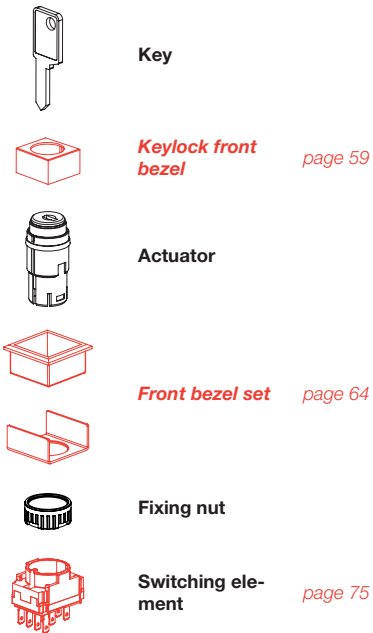
Switching action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
 Keylock switch actuator 2 positions round					
A - B	B = 42°	A	61-2101.0/D	1	0.065 kg
A - C	C = 90°	A	61-2201.0/D	2	0.065 kg
		C	61-2203.0/D	2	0.065 kg
		A + C	61-2205.0/D	2	0.065 kg

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



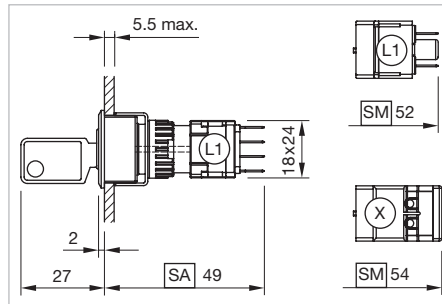
Keylock switch 3 positions square, IP 65

Equipment consisting of (schematic overview)

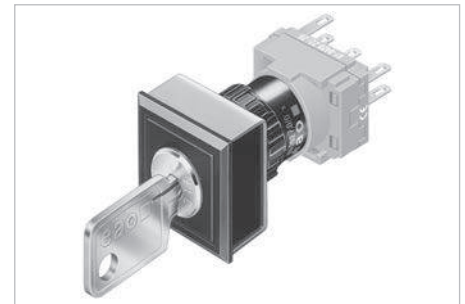


Each Part Number listed below includes all the black components shown in the 3D-drawing.

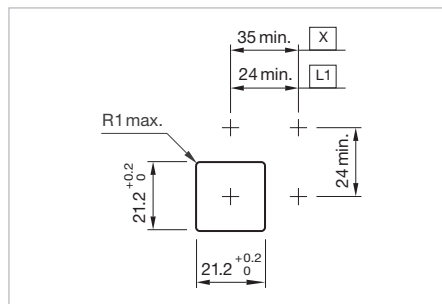
To obtain a complete unit, please select the red components from the pages shown.



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



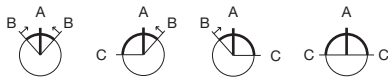
Product can differ from the current configuration.



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

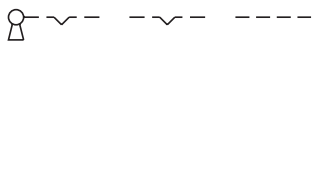
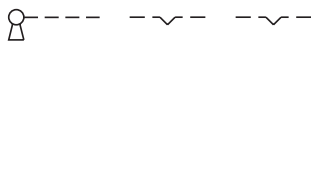
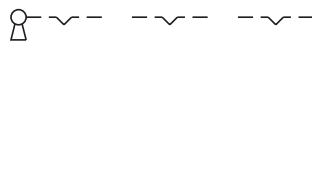


Switching positions (A = Rest, B = Momentary, C = Maintained)

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

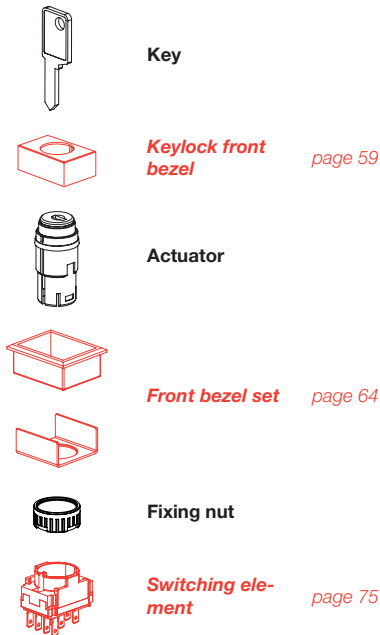
Switching positions A = Rest, B = Momentary, C = Maintained

61 Flush design

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

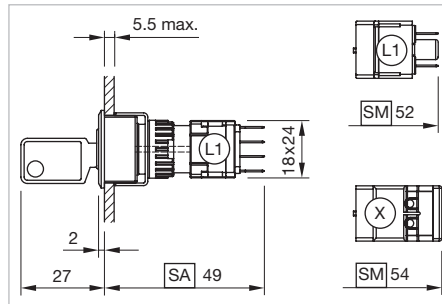
Keylock switch 3 positions rectangular, IP 65

Equipment consisting of (schematic overview)

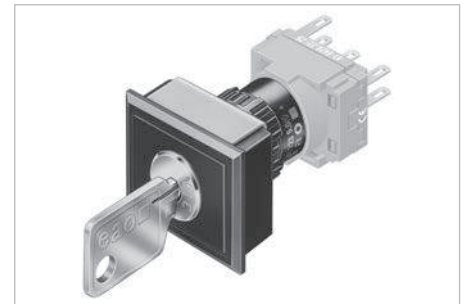


Each Part Number listed below includes all the black components shown in the 3D-drawing.

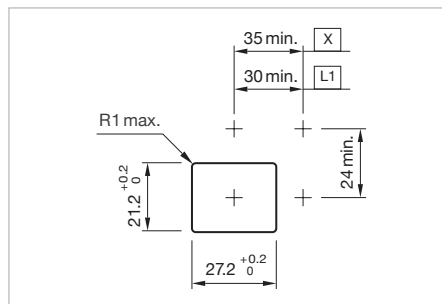
To obtain a complete unit, please select the red components from the pages shown.



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



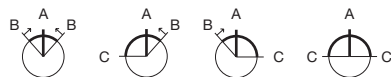
Product can differ from the current configuration.



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

Additional Information

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

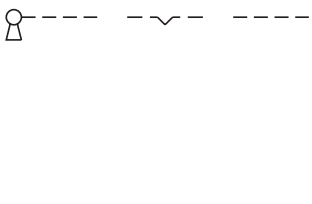
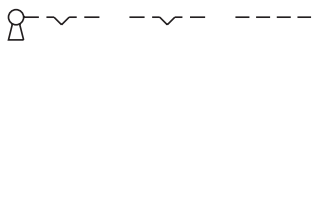
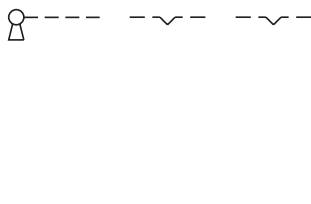
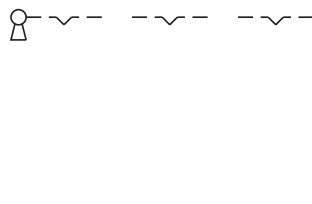


Switching positions (A = Rest, B = Momentary, C = Maintained)

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

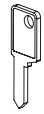
Switching positions A = Rest, B = Momentary, C = Maintained

61 Flush design

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

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

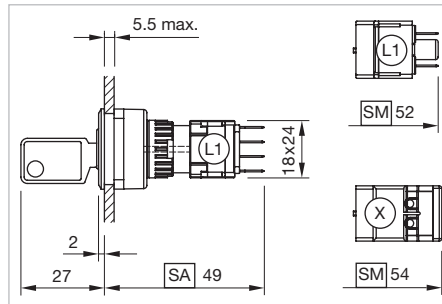


Switching element

page 75

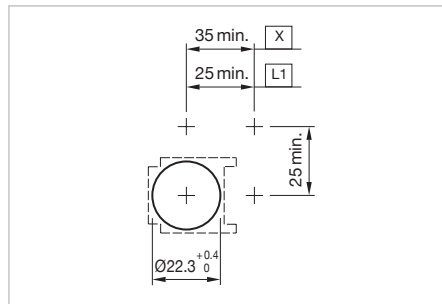
Each Part Number listed below includes all the black components shown in the 3D-drawing.

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



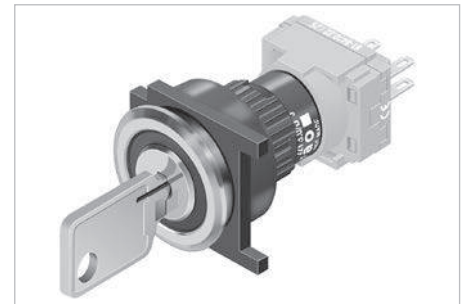
Dimensions [mm]

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]

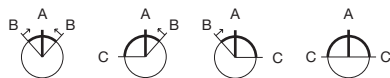
L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
X = Screw terminal



Product can differ from the current configuration.

Additional Information

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

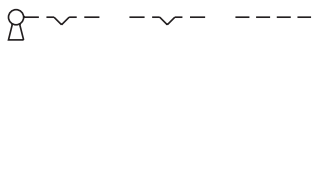
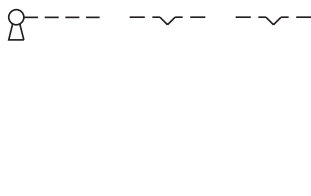
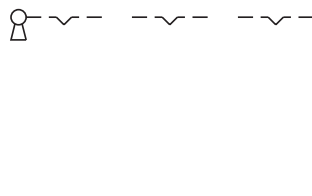


Switching positions (A = Rest, B = Momentary, C = Maintained)

Switching action	Switching angle	Key remove	Part No.	Wiring diagram	Weight
 Keylock switch actuator 3 positions 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	61-2804.0/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
		C + A + C	61-2607.0/D	4	0.065 kg

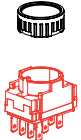
Switching positions A = Rest, B = Momentary, C = Maintained

61 Flush design

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

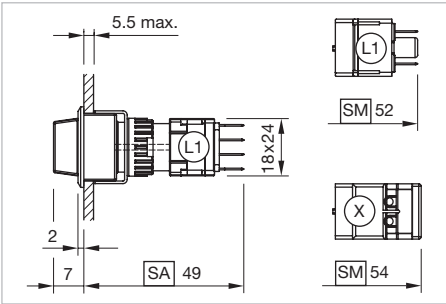
Selector switch 2 positions square, IP 65

Equipment consisting of (schematic overview)

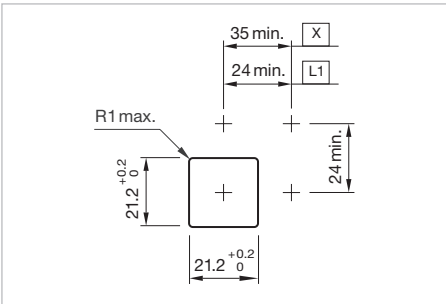
- **Lever** page 60
- **LED** page 80
- **Actuator**
- **Front bezel set** page 65
- **Fixing nut**
- **Switching element** page 73

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



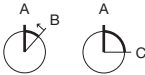
Mounting cut-outs [mm]
L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
X = Screw terminal



Product can differ from the current configuration.

Additional Information

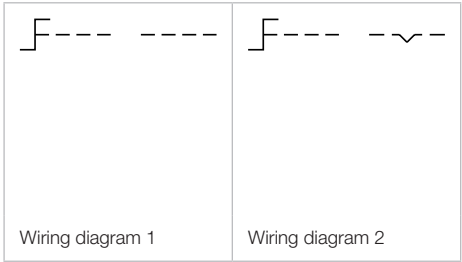
- For front dimension 24 x 24 mm
- illuminative



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

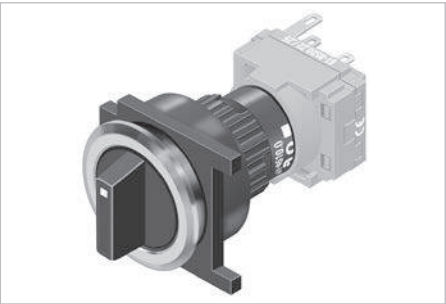
Switching action	Switching angle	Part No.	Wiring diagram	Weight
				
A - B	B = 42°	61-4110.0	1	0.006 kg
A - C	C = 90°	61-4210.0	2	0.006 kg

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

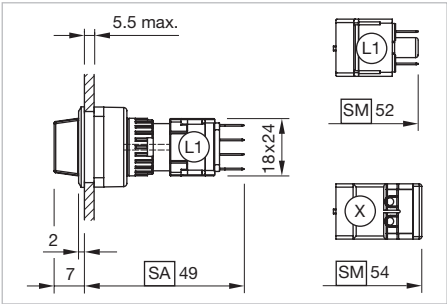


61 Flush design

Selector switch 2 positions round, IP 65



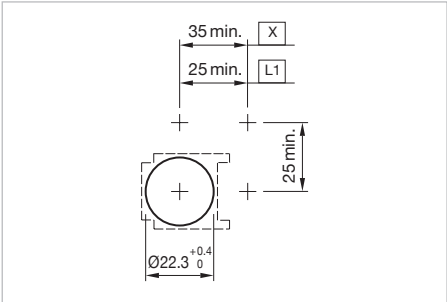
Product can differ from the current configuration.



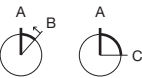
Dimensions [mm]
L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
SA = Snap-action switching element,
SA = Slow-make switching element,
X = Screw terminal

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



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

Equipment consisting of (schematic overview)

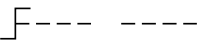
- Lever** page 60
- LED** page 80
- Actuator**
- Front bezel set** page 65
- Fixing nut**
- Switching element** page 76

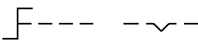
Each Part Number listed below includes all the black components shown in the 3D-drawing.

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

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


Wiring diagram 1


Wiring diagram 2

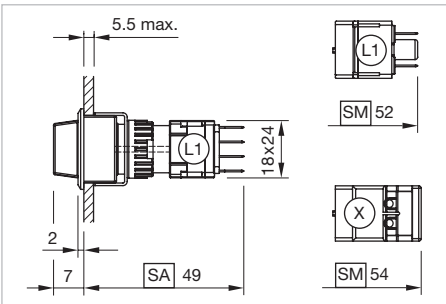
Selector switch 3 positions square, IP 65

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.

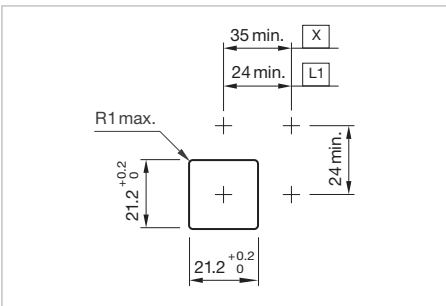
To obtain a complete unit, please select the red components from the pages shown.



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



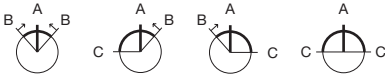
Product can differ from the current configuration.



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)

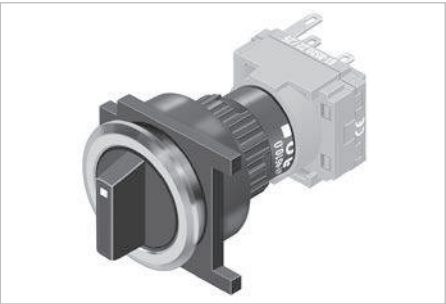
Switching action	Switching angle	Part No.	Wiring diagram	Weight
				
Selector switch actuator 3 positions square				
B - A - B	B = 42° / 42°	61-4510.0	1	0.006 kg
C - A - B	C = 90°, B = 42°	61-4810.0	2	0.006 kg
B - A - C	B = 42°, C = 90°	61-4710.0	3	0.006 kg
C - A - C	C = 90° / 90°	61-4610.0	4	0.006 kg

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

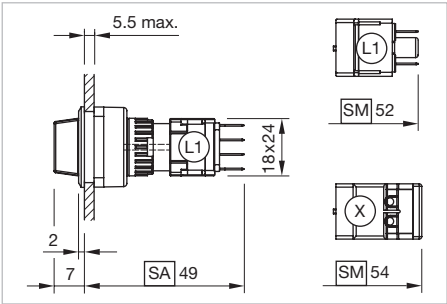
			
Wiring diagram 1	Wiring diagram 2	Wiring diagram 3	Wiring diagram 4

61 Flush design

Selector switch 3 positions round, IP 65



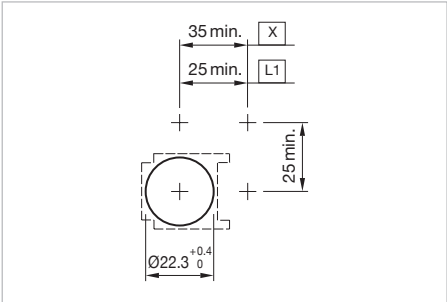
Product can differ from the current configuration.



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)

- Lever** page 60
- LED** page 80
- Actuator**
- Front bezel set** page 65
- 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.

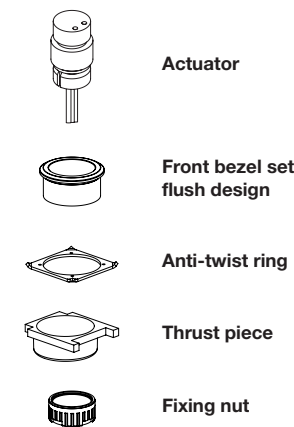
Switching action	Switching angle	Part No.	Wiring diagram	Weight
 Selector switch 3 positions round				
B - A - B	B = 42° / 42°	61-4510.0	1	0.006 kg
C - A - B	C = 90°, B = 42°	61-4810.0	2	0.006 kg
B - A - C	B = 42°, C = 90°	61-4710.0	3	0.006 kg
C - A - C	C = 90° / 90°	61-4610.0	4	0.006 kg

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

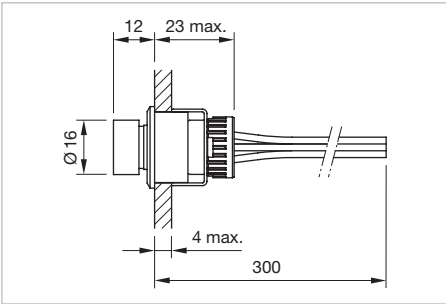
Wiring diagram 1	Wiring diagram 2	Wiring diagram 3	Wiring diagram 4

Potentiometer, IP 65

Equipment consisting of (schematic overview)



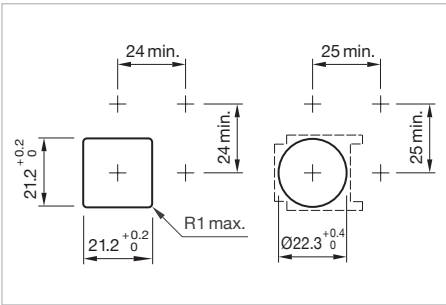
Each Part Number listed below includes all the black components shown in the 3D-drawing.



Dimensions [mm]



Product can differ from the current configuration.



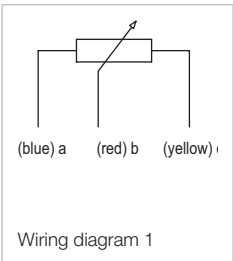
Mounting cut-outs [mm]

Additional Information

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

Front bezel	Terminal	Part No.	Compo- nent 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

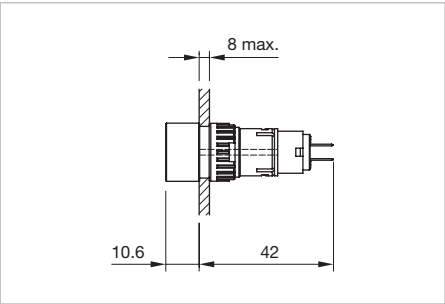


61 Raised design

Indicator complete, IP 65

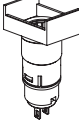


Product can differ from the current configuration.



Dimensions [mm]

Equipment consisting of (schematic overview)

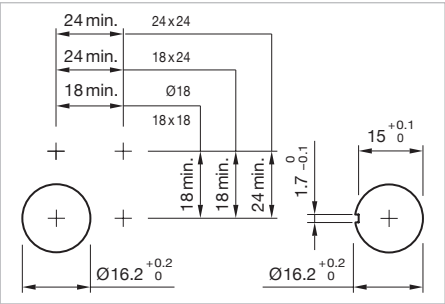
	Lens	page 55
	LED	page 80
	Actuator	
	Fixing nut	

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.

Additional Information

- Actuator housing plastic black



Mounting cut-outs [mm]

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

x2+

⊗

x1-

Wiring diagram 1

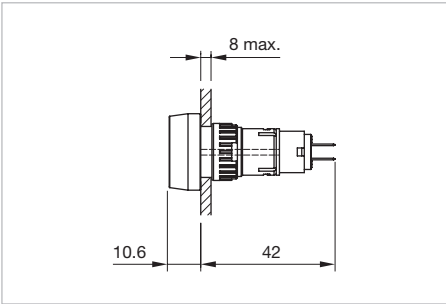
Indicator complete Ø 24 mm, IP 65

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.

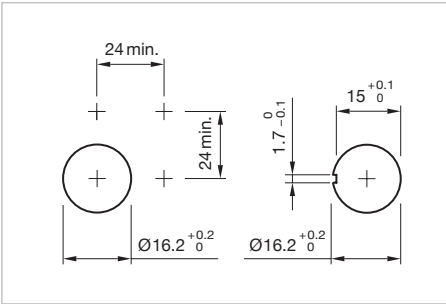
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Product can differ from the current configuration.



Mounting cut-outs [mm]

Additional Information

- Actuator housing plastic black

Terminal



Indicator actuator complete Ø 24 mm

Solder 2.8 x 0.5 mm

Part No.

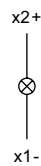
Wiring
diagram

Weight

61-0040.02

1

0.005 kg



Wiring diagram 1

61 Raised design

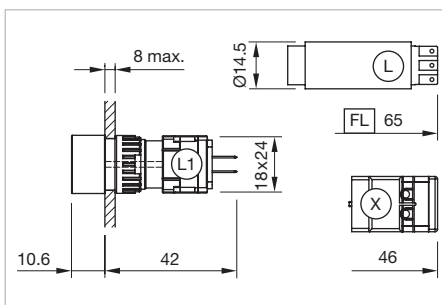
Indicator, IP 65



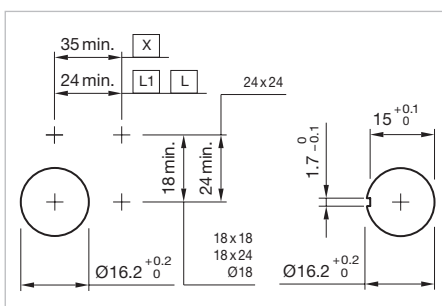
Product can differ from the current configuration.

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)

	Lens	<i>page 55</i>
	LED	<i>page 80</i>
	Actuator	
	Fixing nut	
	Lamp element	<i>page 74</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.

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

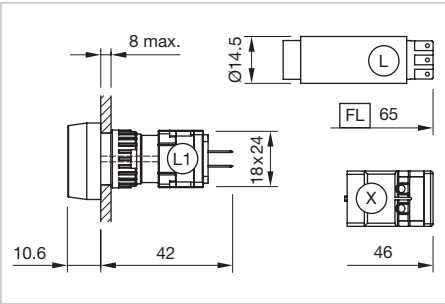
Indicator Ø 24 mm, IP 65

Equipment consisting of (schematic overview)

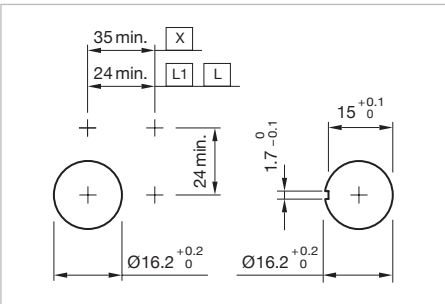
	Lens	page 55
	Front ring	page 66
	LED	page 80
	Actuator	
	Fixing nut	
	Lamp element	page 73

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

- Actuator housing plastic black

Part No.

Weight



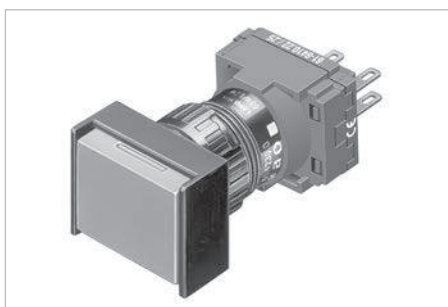
Indicator actuator Ø 24 mm

61-0049.0

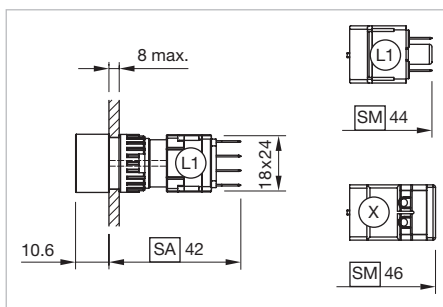
0.005 kg

61 Raised design

Illuminated pushbutton, IP 65



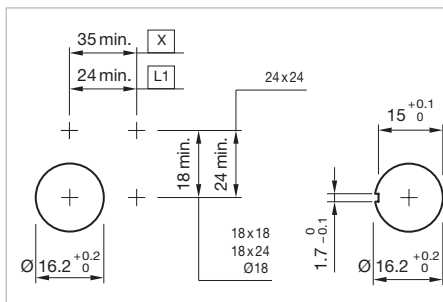
Product can differ from the current configuration.



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

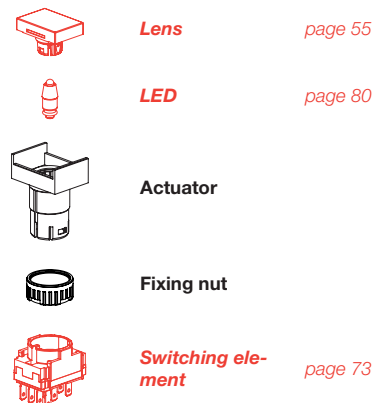
Additional Information

- Actuator housing plastic black



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
 Illuminated pushbutton actuator, Front dimension 24 x 24 mm				
	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
 Illuminated pushbutton actuator, Front dimension 18 x 18 mm				
	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
 Illuminated pushbutton actuator, Front dimension 18 x 24 mm				
	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

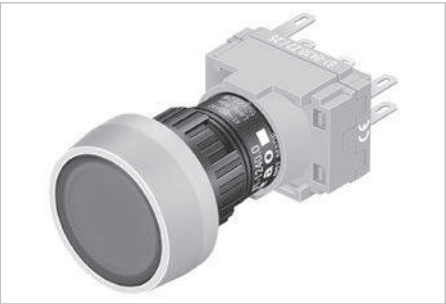
Product attribute	Switching action	Part No.	Wiring diagram	Weight
 Illuminated pushbutton actuator, Front dimension Ø 18 mm				
B-C convertible from momentary to maintained action	B	61-1110.0	1	0.005 kg
	C	61-1210.0	2	0.005 kg
	B - C	61-1310.0	1	0.005 kg

Switching action: B = Momentary, C= Maintained

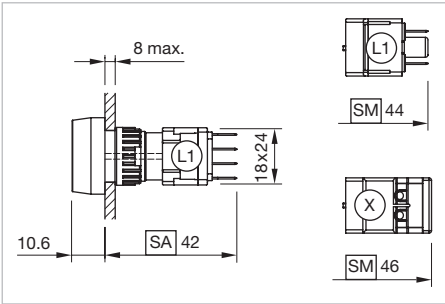
	
Wiring diagram 1	Wiring diagram 2

61 Raised design

Illuminated pushbutton round Ø 24 mm, IP 65

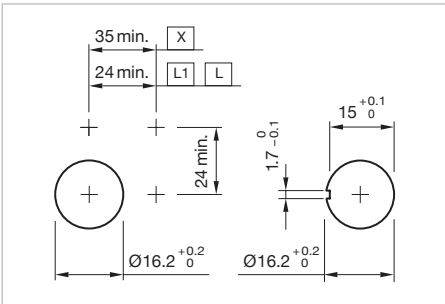


Product can differ from the current configuration.



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.

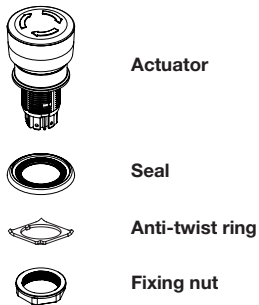
Switching action	Part No.	Wiring diagram	Weight
 Indicator actuator Ø 24 mm			
	B	61-1140.0	1 0.005 kg
	C	61-1240.0	2 0.005 kg

Switching action: B = Momentary, C= Maintained

Wiring diagram 1	Wiring diagram 2

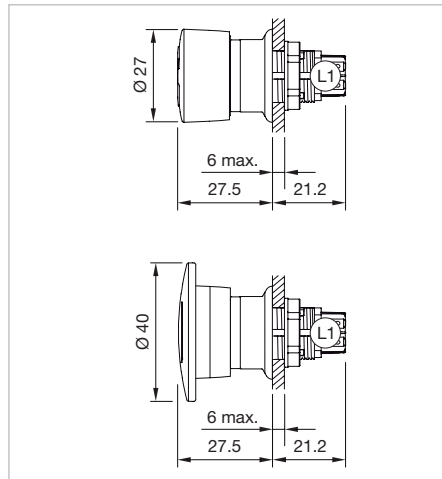
Emergency-stop switch compact, foolproof EN IEC 60947-5-5, IP67, IP69K

Equipment consisting of (schematic overview)

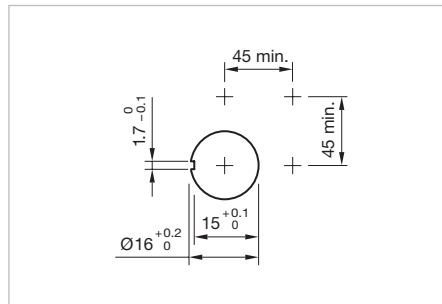


Each Part Number listed below includes all the black components shown in the 3D-drawing.

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»

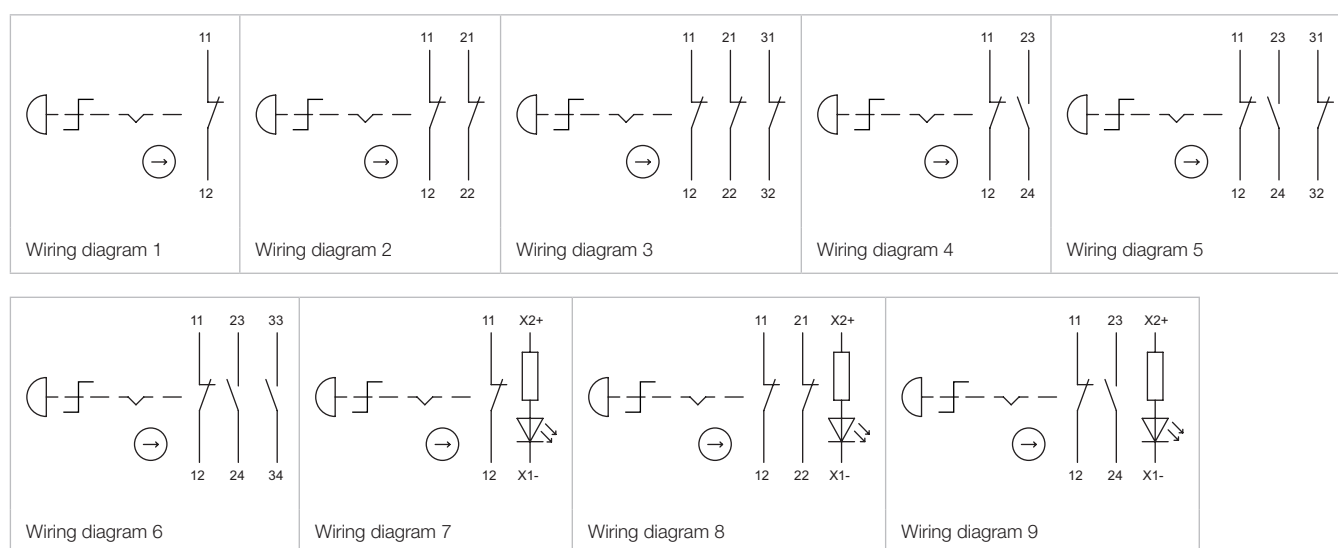
Product attribute	Marking	Contacts	Switching action	Terminal	Part No.	Component layout	Wiring diagram	Weight
 Emergency-stop switch compact, foolproof EN IEC 60947-5-5, Front dimension Ø 27 mm								
Twist to unlock clockwise, position indication ring green	Arrows	1 NC	C	Solder 2.8 x 0.5 mm	61-6441.4047	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
 Emergency-stop switch compact, foolproof EN IEC 60947-5-5, Front dimension Ø 27 mm								
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
 Emergency-stop switch compact, foolproof EN IEC 60947-5-5, Front dimension Ø 40 mm								
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

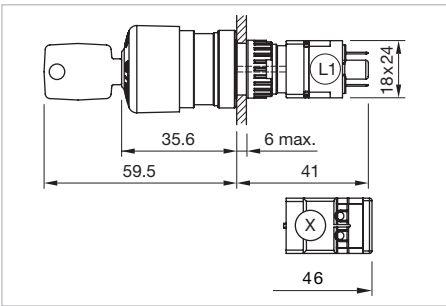


Switching element

Seite 76

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

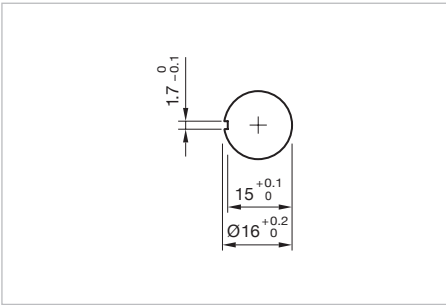
To obtain a complete unit, please select the red components from the pages shown.



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
 Stop switch actuator, foolproof, Front dimension Ø 27 mm						
Twist to unlock clockwise, position indication ring black	Plastic grey	Arrows	C	61-3440.4/8	1	0.02 kg
 Stop switch actuator, foolproof, Front dimension Ø 27 mm						
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
 Stop switch actuator, foolproof, Front dimension Ø 27 mm					
Twist to unlock clockwise, position indication ring black	Arrows	C	61-3440.4/1	1	0.02 kg
 Stop switch actuator, foolproof, Front dimension Ø 27 mm					
Twist to unlock clockwise, position indication ring black	Stop + Arrows	C	61-3440.4/2	1	0.02 kg
 Stop switch actuator, foolproof, Front dimension Ø 27 mm					
Position indication ring black, twist to unlock clockwise, with metal fixing nut	Arrows	C	61-3440.4/D	1	0.02 kg
 Stop switch actuator, foolproof, Front dimension Ø 27 mm					
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)

**Lens**
page 59

**Front ring**
page 66

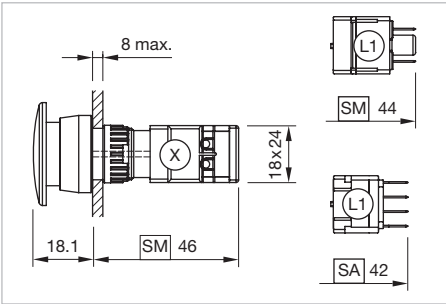
**Actuator**

**Fixing nut**

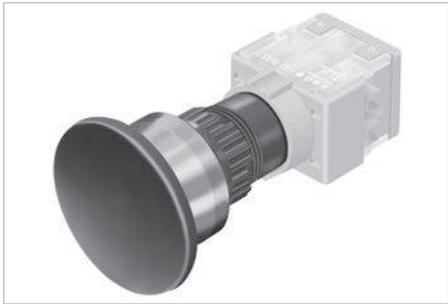
**Switching element**
page 73

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

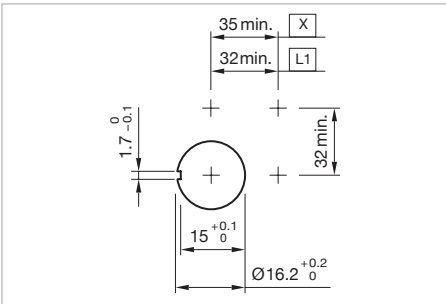
To obtain a complete unit, please select the red components from the pages shown.



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 dimension Ø 32 mm

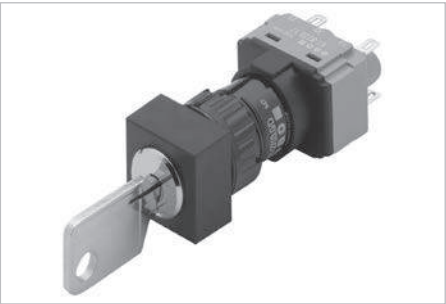
Switching action	Part No.	Wiring diagram	Weight
 Mushroom-head pushbutton actuator			
B	61-1140.0	1	0.005 kg
C	61-1240.0	2	0.005 kg

Switching action: B = Momentary, C= Maintained

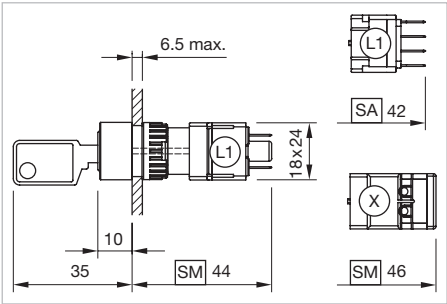
	
Wiring diagram 1	Wiring diagram 2

61 Raised design

Keylock switch 2 positions square, IP 65



Product can differ from the current configuration.



Dimensions [mm]
L1 = Solder/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)

Key

Keylock front bezel

page 60

Actuator

Anti-twist ring

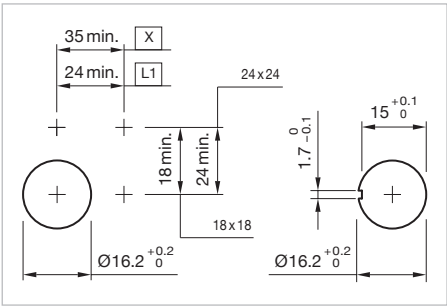
page 84

Fixing nut

Switching element

page 73

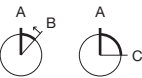
- Additional Information
- For front dimensions 24 x 24 mm, 18 x18 mm
 - Standard lock: DOM 311
 - Two keys are supplied with each key lock switch
 - Optional lock numbers on request
 - If mounted with anti-twist device, the lug is on the left side
 - Anti-twist ring not needed by using anti-twist device



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

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

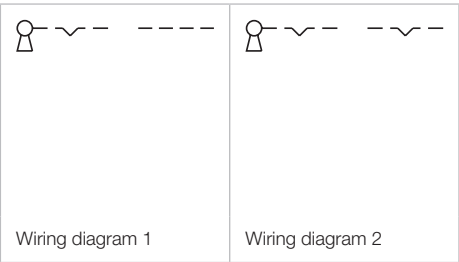
To obtain a complete unit, please select the red components from the pages shown.



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 *page 60*



Actuator



Anti-twist ring *page 84*



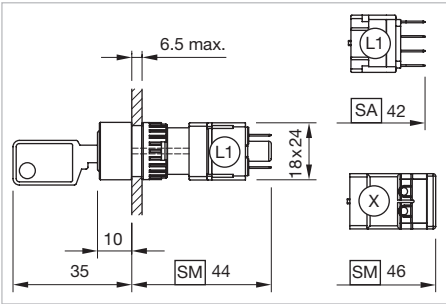
Fixing nut



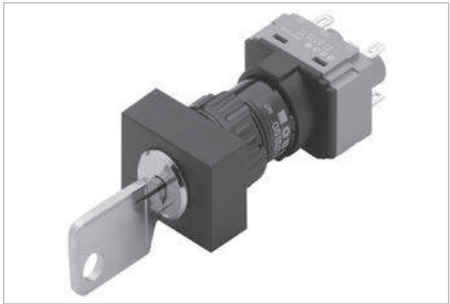
Switching element *page 73*

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

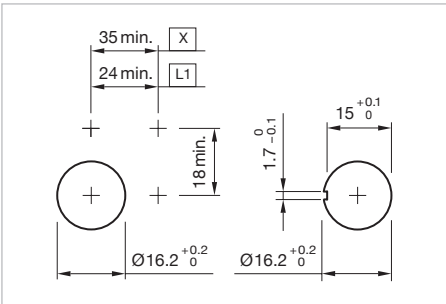
To obtain a complete unit, please select the red components from the pages shown.



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



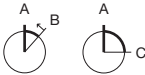
Product can differ from the current configuration.



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

Additional Information

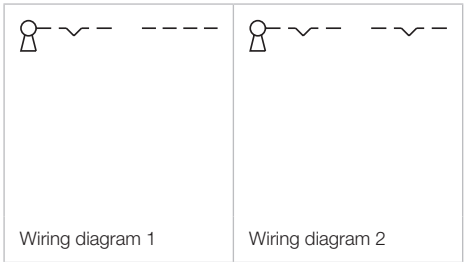
- For front dimension 18 x 24 mm
- Standard lock: DOM 311
- Two keys are supplied with each key lock switch
- Optional lock numbers on request
- If mounted with anti-twist device, the lug is on the left side
- Anti-twist ring not needed by using anti-twist device



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

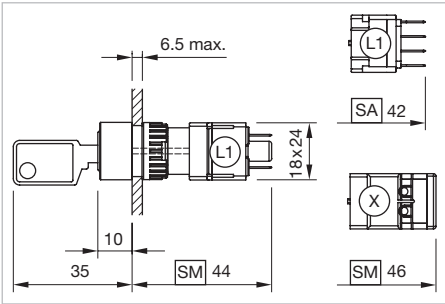


61 Raised design

Keylock switch actuator 2 positions round, IP 65

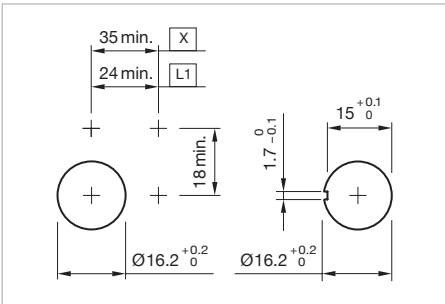


Product can differ from the current configuration.

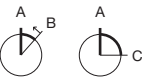


Dimensions [mm]
L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
SA = Snap-action switching element,
SA = Slow-make switching element,
X = Screw terminal

- 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



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)

Key

Keylock front bezel *page 60*

Actuator

Anti-twist ring *page 84*

Fixing nut

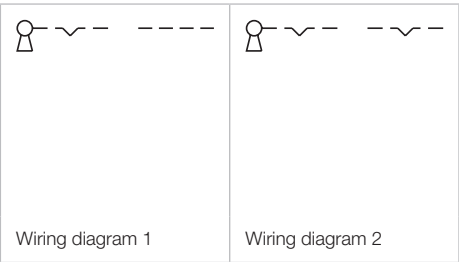
Switching element *page 74*

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.

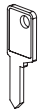
Switching action	Switching positions	Switching angle	Key remove	Part No.	Wiring diagram	Weight
 Keylock switch actuator 2 positions round	A - B	A = Rest, C = Momentary B = 42°	A	61-2101.0/D	1	0.065 kg
	A - C	A = Rest, C = Maintained C = 90°	A	61-2201.0/D	2	0.065 kg
			C	61-2203.0/D	2	0.065 kg
			A +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

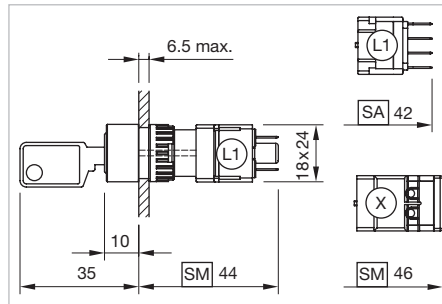


Switching element

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.



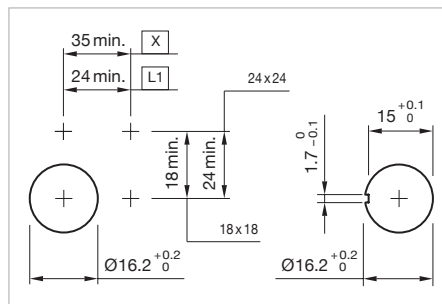
Dimensions [mm]

L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,

SA = Snap-action switching element,

SA = Slow-make switching element,

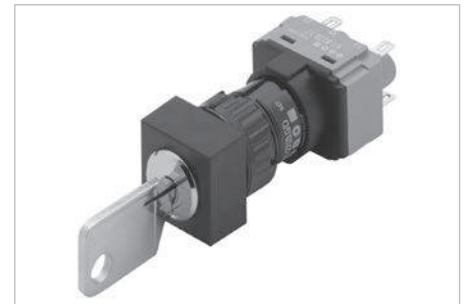
X = Screw terminal



Mounting cut-outs [mm]

L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,

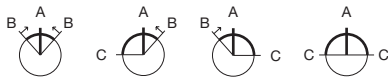
X = Screw terminal



Product can differ from the current configuration.

Additional Information

- For front 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



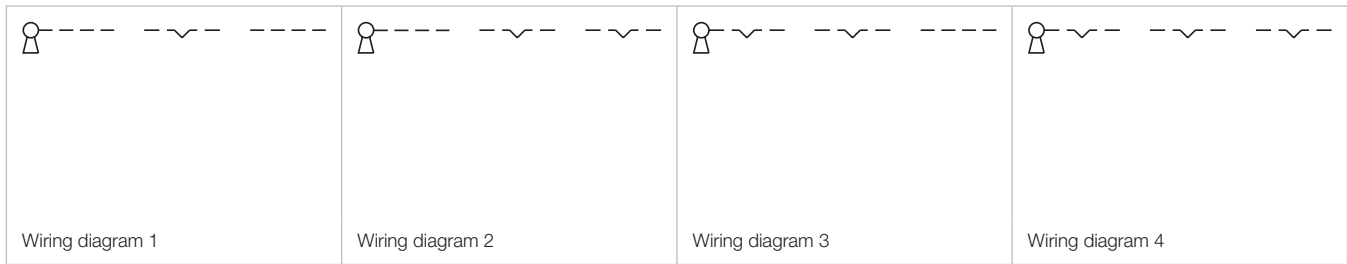
Switching positions (A = Rest, B = Momentary, C = Maintained)

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

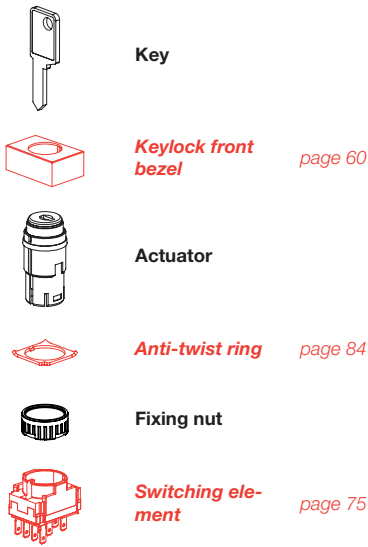
61

Raised design



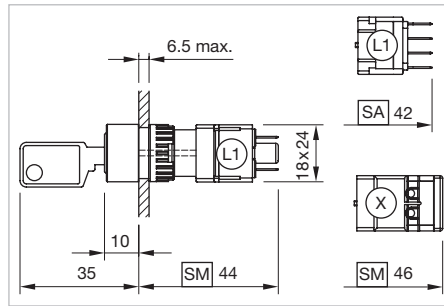
Keylock switch 3 positions rectangular, IP 65

Equipment consisting of (schematic overview)

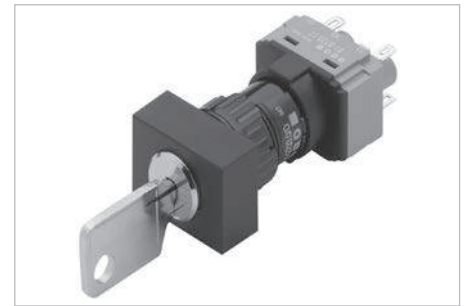


Each Part Number listed below includes all the black components shown in the 3D-drawing.

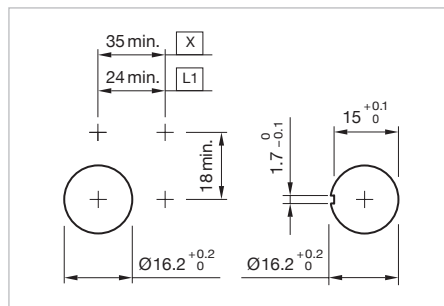
To obtain a complete unit, please select the red components from the pages shown.



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



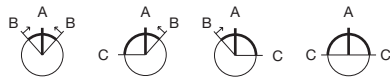
Product can differ from the current configuration.



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



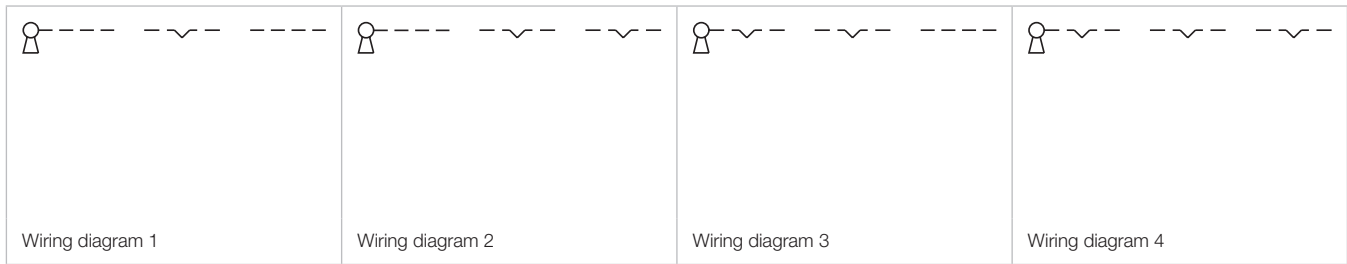
Switching positions (A = Rest, B = Momentary, C = Maintained)

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

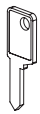
61

Raised design



Keylock switch 3 positions round, IP 65

Equipment consisting of (schematic overview)

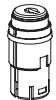


Key



Keylock front bezel

page 60



Actuator



Anti-twist ring

page 84



Fixing nut

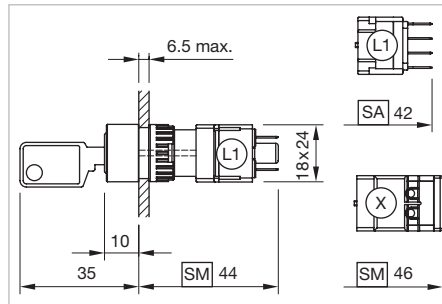


Switching element

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.



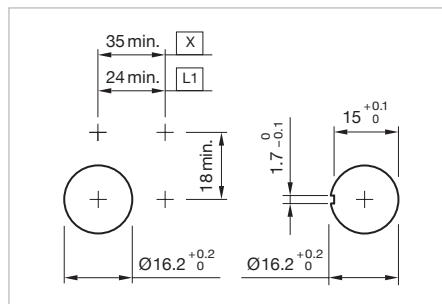
Dimensions [mm]

L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,

SA = Snap-action switching element,

SA = Slow-make switching element,

X = Screw terminal



Mounting cut-outs [mm]

L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,

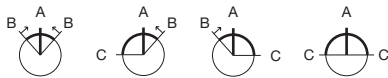
X = Screw terminal



Product can differ from the current configuration.

Additional Information

- For front dimension Ø 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

Wiring diagram 1

Wiring diagram 2

Wiring diagram 3

Wiring diagram 4

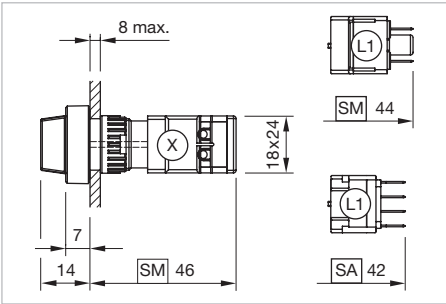
Selector switch 2 positions square, IP 65

Equipment consisting of (schematic overview)

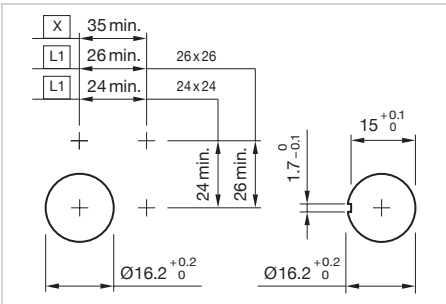
	Lever	page 61
	Front bezel	page 65
	LED	page 79
	Actuator	
	Anti-twist ring	page 84
	Fixing nut	
	Switching element	page 73

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



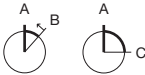
Mounting cut-outs [mm]
L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
X = Screw terminal



Product can differ from the current configuration.

Additional Information

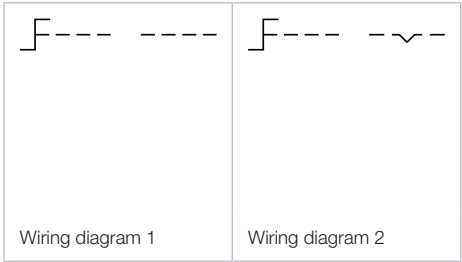
- For front dimensions 26 x 26 mm, 24 x 24 mm
- illuminative
- If mounted with anti-twist device, the lug is on the left side
- Anti-twist ring not needed by using anti-twist device



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

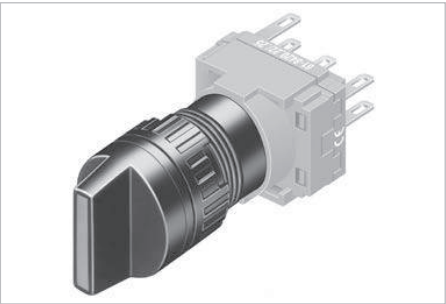
Switching action	Switching angle	Part No.	Wiring diagram	Weight
				
Selector switch actuator 2 positions square				
A - B	B = 42°	61-4110.0	1	0.006 kg
A - C	C = 90°	61-4210.0	2	0.006 kg

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

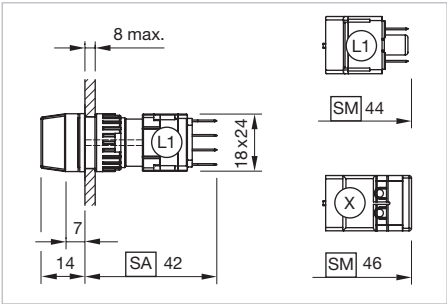


61 Raised design

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

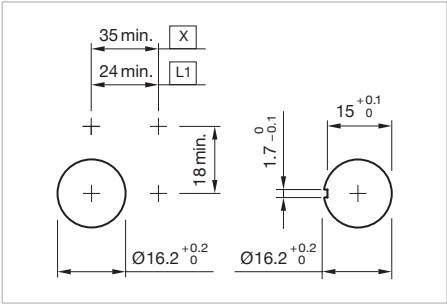
Equipment consisting of (schematic overview)

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

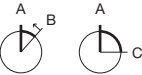
Each Part Number listed below includes all the black components shown in the 3D-drawing.

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

- 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



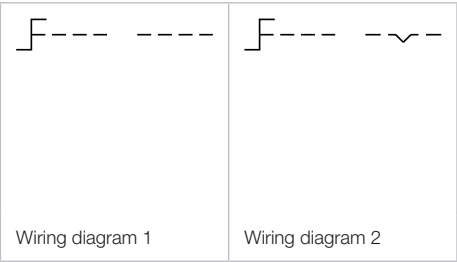
Mounting cut-outs [mm]
L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
X = Screw terminal



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

Switching action	Switching angle	Part No.	Wiring diagram	Weight
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



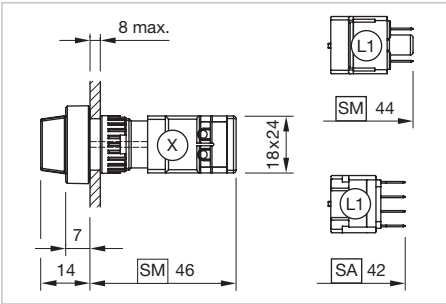
Selector switch 3 positions square, IP 65

Equipment consisting of (schematic overview)

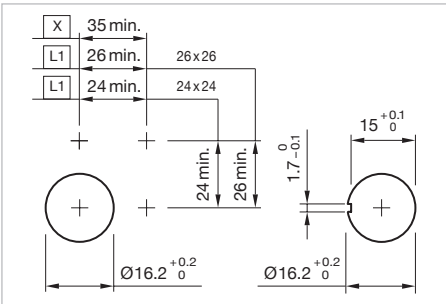
	Lever	page 61
	Front bezel	page 65
	LED	page 80
	Actuator	
	Anti-twist ring	page 84
	Fixing nut	
	Switching element	page 73

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



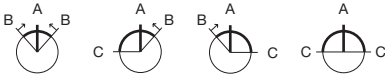
Mounting cut-outs [mm]
L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
X = Screw terminal



Product can differ from the current configuration.

Additional Information

- 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)

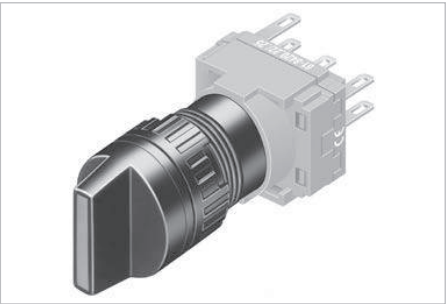
Switching action	Switching angle	Part No.	Wiring diagram	Weight
				
Selector switch actuator 3 positions square				
B - A - B	B = 42° / 42°	61-4510.0	1	0.006 kg
C - A - B	C = 90°, B = 42°	61-4810.0	2	0.006 kg
B - A - C	B = 42°, C = 90°	61-4710.0	3	0.006 kg
C - A - C	C = 90° / 90°	61-4610.0	4	0.006 kg

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

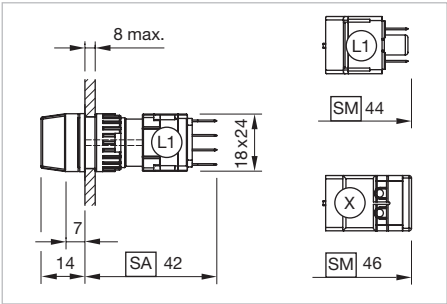
			
Wiring diagram 1	Wiring diagram 2	Wiring diagram 3	Wiring diagram 4

61 Raised design

Selector switch 3 positions round, IP 65

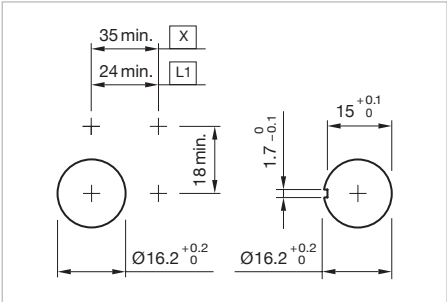


Product can differ from the current configuration.

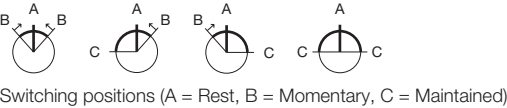


Dimensions [mm]
L1 = Solder/Plug-in terminal 2.8 x 0.5 mm,
SA = Snap-action switching element,
SA = Slow-make switching element,
X = Screw terminal

- 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 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

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

Front

Lens flush design

- Lens surface matt
- Lens profile flat

Product attribute	Dimension	Lens	Part No.	Weight
 Lens plastic, flush design				
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
 Lens plastic, flush design				
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
 Lens plastic, flush design				
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 Ø 24 mm raised design or Ø 25 mm flush design
- The silvery coat is being applied on the lens (screen print) with an additional protective lacquer. Further information see «Technical data»

Dimension	Lens	Symbol	Part No.	Weight
 Lens plastic with symbol				
Ø 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
 Lens plastic with symbol				
Ø 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
 Lens plastic with symbol				
Ø 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 Ø 24 mm raised design or Ø 25 mm flush design
- The colour of anodized aluminium parts can vary due to technical production reasons

Dimension	Lens	Part No.	Weight
 Lens metal with dot			
Ø 19.7 mm	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

Lens raised design

- Lens surface matt

Product attribute	Dimension	Lens	Part No.	Weight
 Lens plastic, raised design				
flat, illuminative	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
 Lens plastic, raised design				
concave, illuminative	15.3 x 15.3 mm	colourless transparent	61-9326.7	0.002 kg
 Lens plastic, raised design				
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
 Lens plastic, raised design				
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
 Lens plastic, raised design				
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
Lens metal				
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
Lens metal				
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
 Mushroom-head cap round, 32 mm		
Plastic black	61-9593.0	0.004 kg
Plastic red	61-9593.2	0.004 kg

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Marking plate

Additional Information

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

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

Keylock front bezel flush design

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

Lever raised design

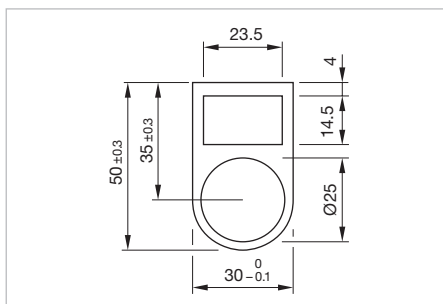
Additional Information

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



Dimensions [mm]

Dimension	Material	Colour	Mounting type	Part No.	Weight
 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
 Legend plate for legend frame					
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
 Front bezel set for indicator, pushbutton, illuminated pushbutton, flush design square, 24 x 24 mm			
21 x 21 mm	Plastic black	61-9930.0	0.008 kg
	Plastic silver	61-9930.4	0.008 kg
 Front bezel set for indicator, pushbutton, illuminated pushbutton, flush design rectangular, 24 x 30 mm			
21 x 27 mm	Plastic black	61-9931.0	0.008 kg
	Plastic silver	61-9931.4	0.008 kg
 Frontrahmen-Set zu Leuchtmelder, Druck-, Leuchtdrucktaste, flache Bauform round, 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 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
 Front bezel set for keylock switch, flush design square, 24 x 24 mm			
21 x 21 mm	Plastic black	61-9930.0	0.008 kg
	Plastic silver	61-9930.4	0.008 kg
 Front bezel set for keylock switch, flush design rectangular, 24 x 30 mm			
21 x 27 mm	Plastic black	61-9931.0	0.008 kg
	Plastic silver	61-9931.4	0.008 kg
 Frontrahmen-Set zu Schlüsselschalter, 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 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
 Front ring round, 24 mm		
	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**

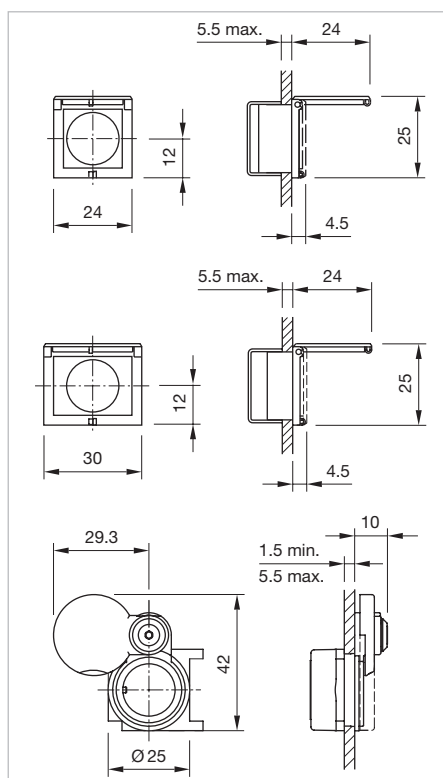
- For flat lens profil only
- When using the front protection cover for push buttons the external sealing in the front bezel set and the silicone bellows in the actuator are to be removed

Product attribute	Material	Colour	Optics	Part No.	Weight
 Front protective cap					
	for front bezel set 24 x 30 mm, flush design	Silicone	colourless	transparent	61-9927.2 0.001 kg
 Front protective cap					
	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



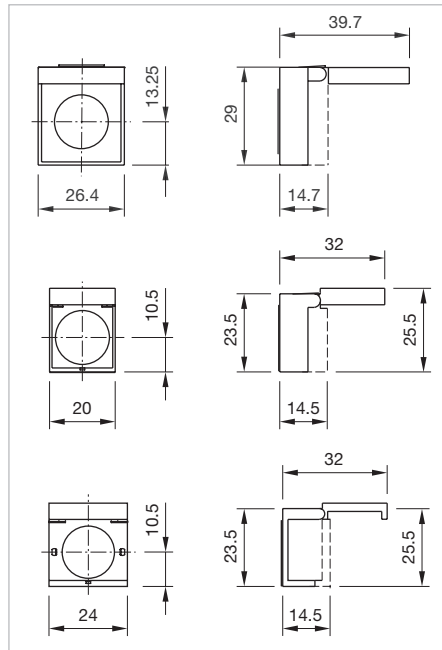
Dimensions [mm]

Product attribute	Mounting cut-out	Material	Optics	Part No.	Weight
 Protective cover flush design 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
 Protective cover flush design 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
 Protective cover flush design 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



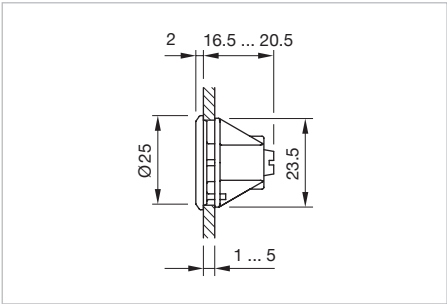
Dimensions [mm]

Product attribute	Mounting cut-out	Material	Optics	Part No.	Weight
 Protective cover					
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
 Protective cover raised design					
hinged, with means for sealing, for device with front dimension 18 x 18 mm	Ø 16 mm	Plastic	transparent	51-920	0.002 kg
 Protective cover raised design					
hinged, with means for sealing, for device with front dimension 18 x 24 mm	Ø 16 mm	Plastic	transparent	51-925	0.002 kg

Blind plug flush design

Additional Information

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



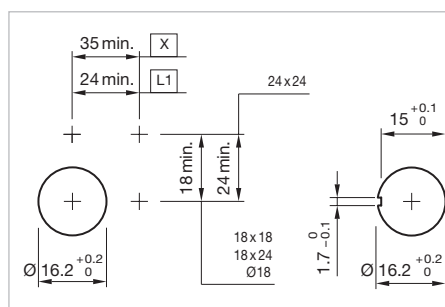
Dimensions [mm]

Dimension	Mounting cut-out	Material	Colour	Part No.	Weight
	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
 Master key	
31-989.300	0.006 kg

Spare key

Additional Information

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

Product attribute	Part No.	Weight
 Spare key		
for emergency-stop switch, standard lock: KABA 1001	14-987.1001	0.006 kg
 Spare key		
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

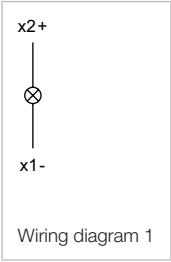
Part No.	Weight
 EMC key protection cap	
31-985.0	0.005 kg

Rear side

Lamp element

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

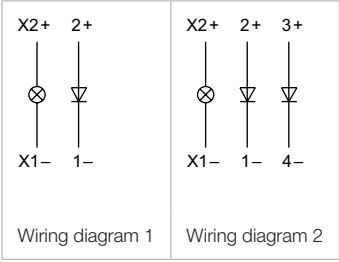
The component layouts you will find from page 90



Diode element

Diode	Terminal	Part No.	Compo- nent layout	Wiring diagram	Weight
 Diode element					
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



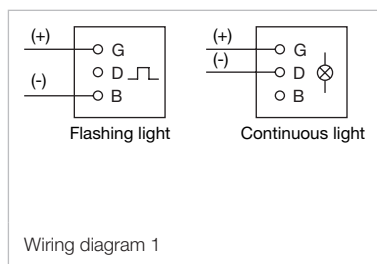
Flasher element

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	20	5	0.008 kg
					2 NO	Gold	Solder 2.8 x 0.5 mm	61-8620.37	23	8	0.008 kg
					1 NC	Gold	Solder 2.8 x 0.5 mm	61-8640.37	17	2	0.008 kg
					2 NC	Gold	Solder 2.8 x 0.5 mm	61-8650.37	22	6	0.008 kg
					1 NC + 1 NO	Gold	Solder 2.8 x 0.5 mm	61-8670.37	19	3	0.008 kg

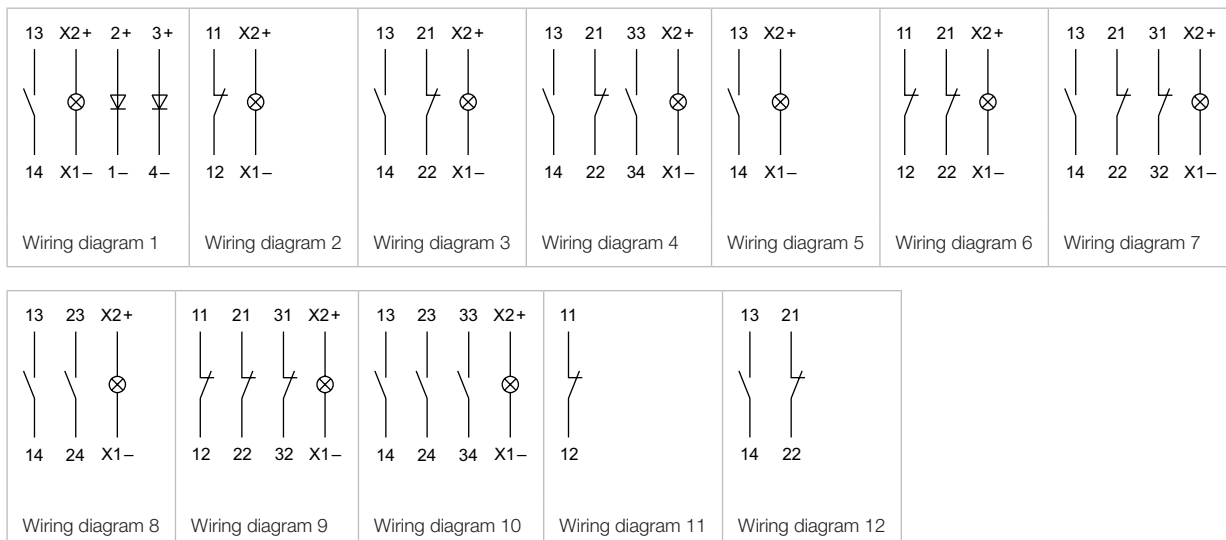


Switching element for pushbutton and keylock- and selector switch 2 positions

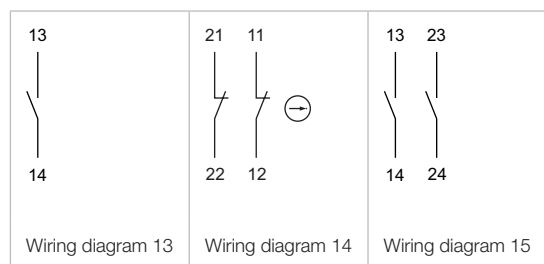
with lamp terminal		250 VAC/DC	5 A	Slow-make switching element	1 NO	Silver	Screw	61-8610.11	21	5	0.008 kg
					1 NC	Silver	Screw	61-8640.11	18	2	0.008 kg
without lamp terminal		250 VAC/DC	5 A	Slow-make switching element	1 NO	Silver	Screw	61-8615.11	26	13	0.008 kg
					2 NO	Silver	Screw	61-8625.11	28	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

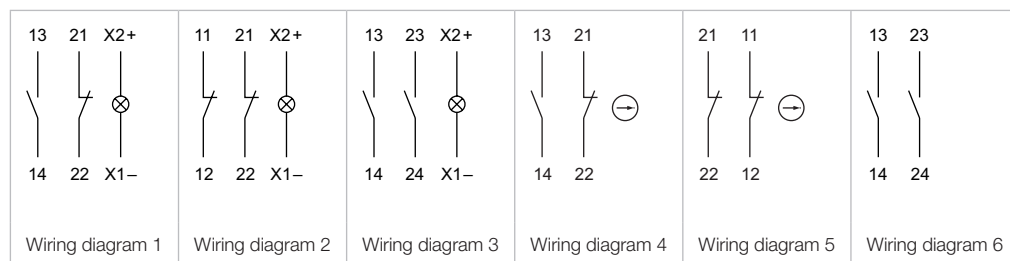
Additional Information

- 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
with lamp terminal	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
		0.3 A	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
			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

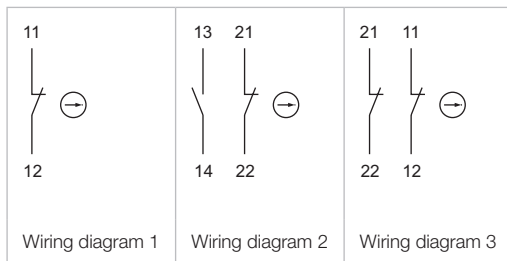
The component layouts you will find from page 90



Switching element E-stop & Stop

Switching voltage	Switching current	Switching system	Contacts	Contact material	Terminal	Part No.	Component layout	Wiring diagram	Weight
 Switching element for emergency-stop switch, foolproof EN IEC 60947-5-5									
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
 Switching element for emergency-stop switch, foolproof EN IEC 60947-5-5									
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

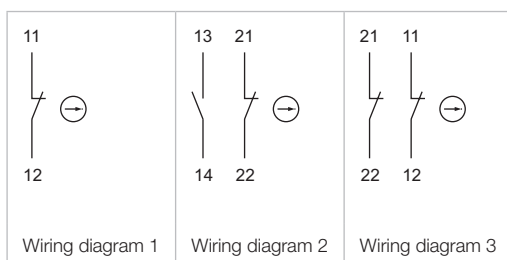
Kontakte: Ö = Öffner, S = Schliesser
The component layouts you will find from page 90



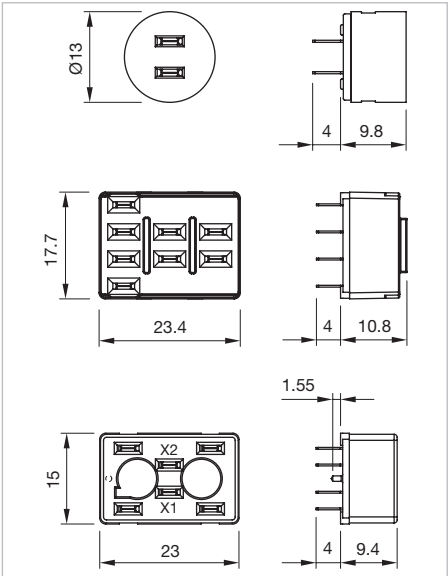
Switching element stop switch

Switching voltage	Switching current	Switching system	Contacts	Contact material	Terminal	Part No.	Component layout	Wiring diagram	Weight
 Switching element for stop switch, foolproof									
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



PCB plug-in base



Dimensions [mm]

Product attribute	Pins	Terminal	Part No.	Compo- nent layout	Weight
 PCB plug-in base for indicator complete	axial	PCB	61-9820.1	40	0.002 kg
 PCB plug-in base for snap-action switching element, indicator- and diode element	axial	PCB	61-9821.1	38	0.003 kg
 PCB plug-in base 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
 Multi-plug housing	
61-9830	0.002 kg

Flat receptacle

Product attribute	Part No.	Weight
 Flat receptacle		
2.8 x 0.5 mm plug-in terminal	31-946	0.001 kg
 Flat receptacle		
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
 Insulation sleeve		
for flat receptacle 2.8 mm	31-929	0.001 kg

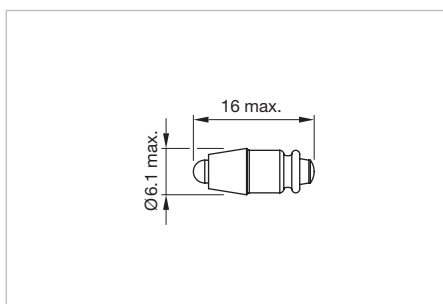
Terminal cover

Product attribute	Part No.	Weight
 Terminal cover		
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
 Single-LED						
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
 Bi-colour LED						
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
 Filament lamp			
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
 Series resistor			
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

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

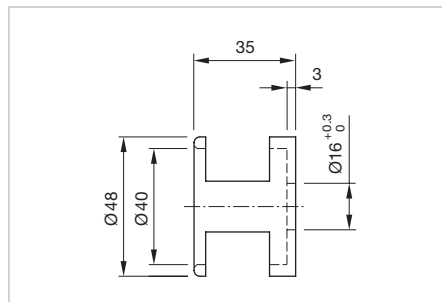
Emergency-stop legend

Dimension	Mounting cut-out	Marking	Colour	Part No.	Weight
 Emergency-stop legend					
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
 Emergency-stop legend					
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]

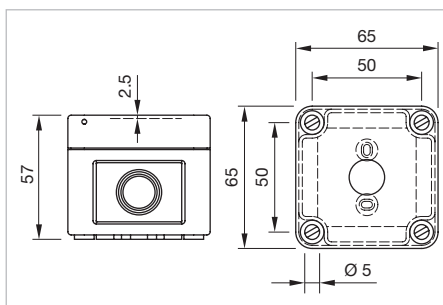
Material	Colour	Part No.	Weight
 E-stop protective shroud			
Aluminium anodised	yellow varnished	61-9965	0.036 kg

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 Ø 16 mm, without anti-twist device
- Openings for cable gland M16 or M20



Dimensions [mm]

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

Cable gland, IP 68

Additional Information

- With traction relief
- With fixing nut

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

Flat receptacle

Product attribute	Part No.	Weight
 Flat receptacle		
	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
 Fixing nut special recommended for keylock switches	Metal	31-991	0.005 kg
 Fixing nut Standard delivery	Plastic	61-9915.0	0.002 kg

Anti-twist ring

Mounting cut-out	Part No.	Weight
		
Ø 16 mm	51-910	0.001 kg
Ø 22.5 mm	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
 Reducing ring	
61-9960	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
 Tool set	
K61-999.100	0.048 kg

Lens remover

Product attribute	Part No.	Weight
 Lens remover		
for raised design	02-905	0.011 kg
 Lens remover		
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
 Lamp remover	
61-9740.0	0.003 kg

Mounting tool**Additional Information**

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

Part No.	Weight
 Mounting tool	
01-907	0.020 kg

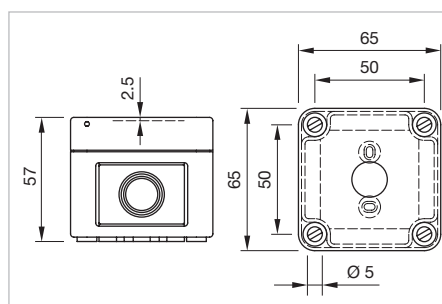
Dismantling tool**Additional Information**

- For dismantling of the switching element

Part No.	Weight
 Dismantling tool	
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 Ø 16 mm, without anti-twist device



Dimensions [mm]

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

61 Accessories

Cable gland, IP 68

Additional Information

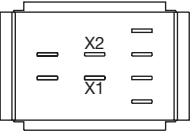
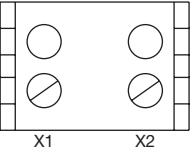
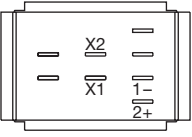
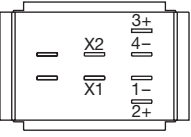
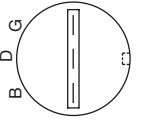
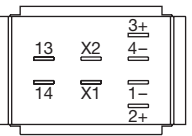
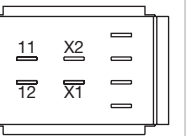
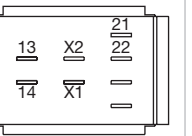
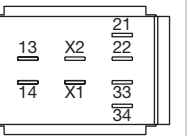
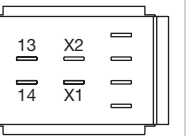
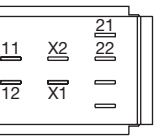
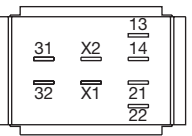
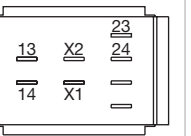
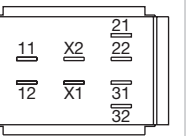
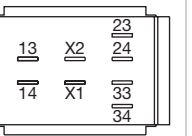
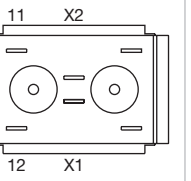
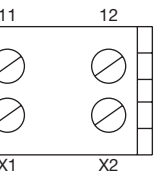
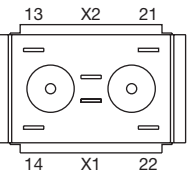
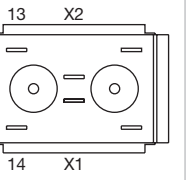
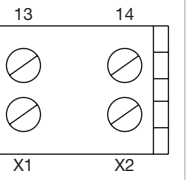
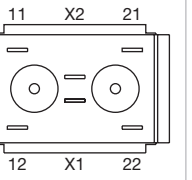
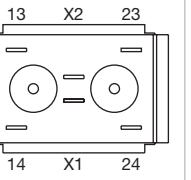
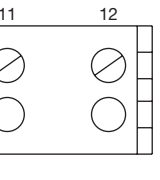
- With traction relief
- With fixing nut

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

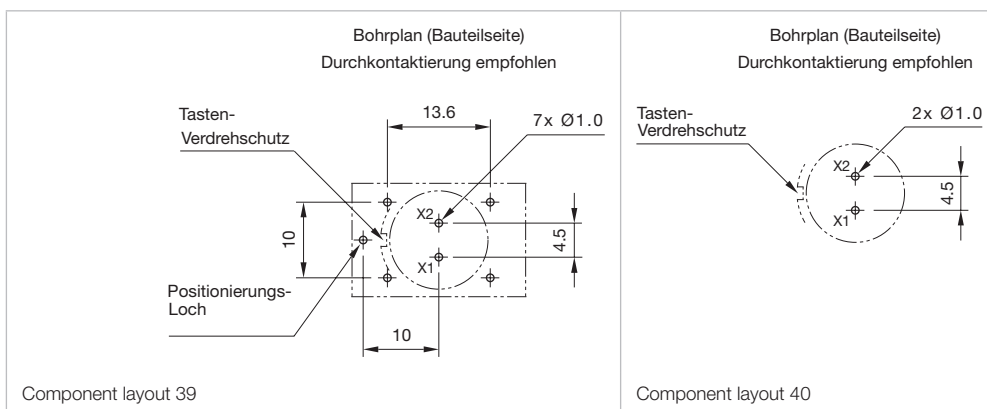
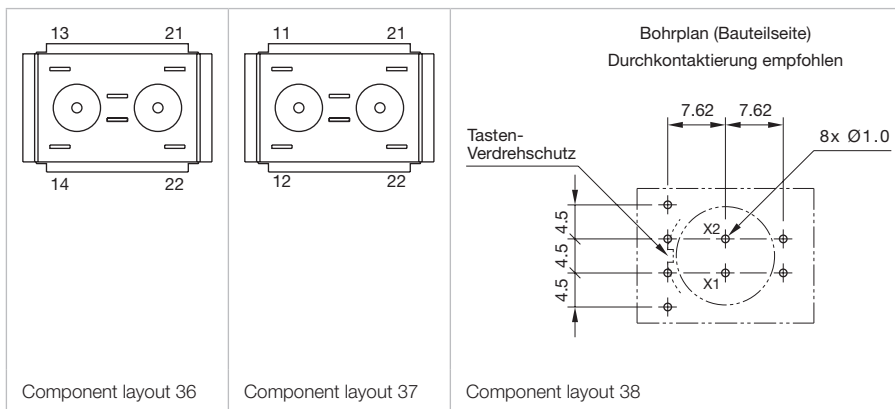
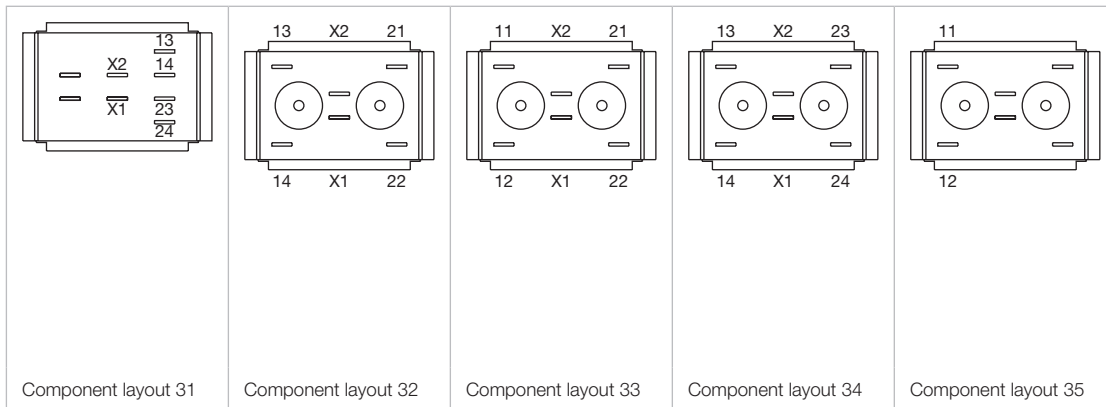
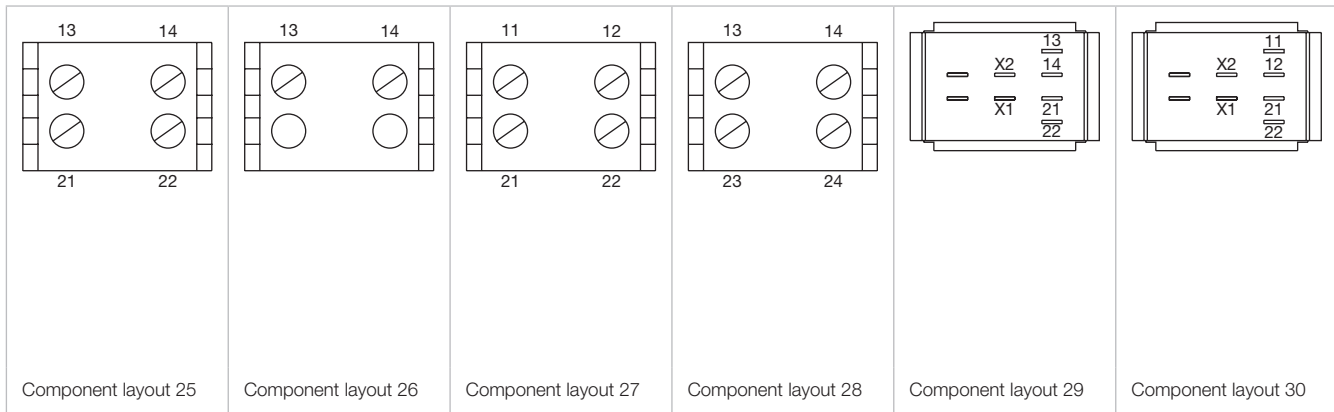
Crimping tool AWG 20-10

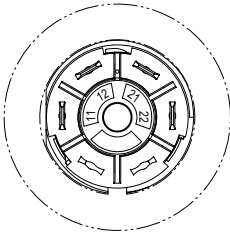
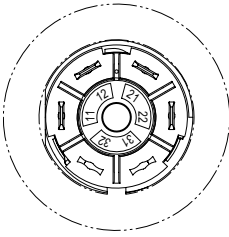
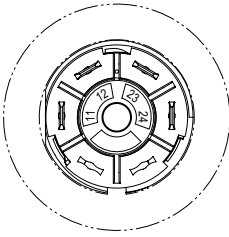
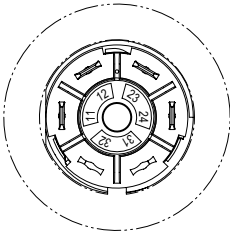
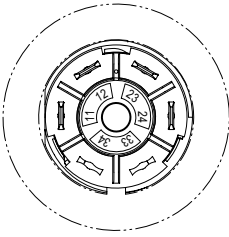
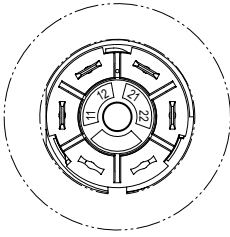
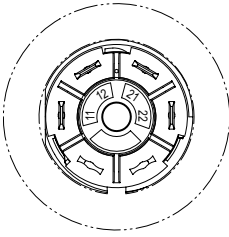
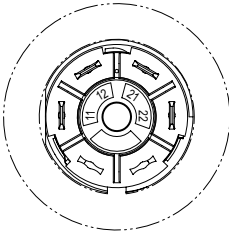
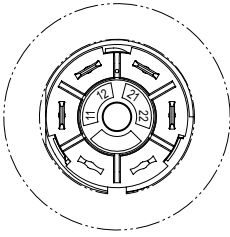
Product attribute	Part No.	Weight
 Crimping tool AWG 20-10		
in combination with flat receptacle, Part No. 61-9901	61-9902	0.500

Drawings

Rearview Potentiometer terminals  Conductor colour of flat ribbon cable a = blue, b = red, c = yellow 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



 Component layout 41	 Component layout 42	 Component layout 43	 Component layout 44	 Component layout 45
 Component layout 46	 Component layout 47	 Component layout 48	 Component layout 49	

61 Technical data

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

Solder/Plug-in	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

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

61 Technical data

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, $\cos\varphi$ 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}

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

Rated short-circuit current caused

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

Breaking capacities

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

50 VAC

0.2 A

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

50 VDC

0.2 A

Minimum operating data

Voltage 1 VAC/DC

Current 1 mA

Dielectric strength

500 VAC, 50 Hz, 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 be pleased to advise you. For letters and figures, typefaces with 2.5 mm, 3 mm and 4 mm are available.

3. Film inserts

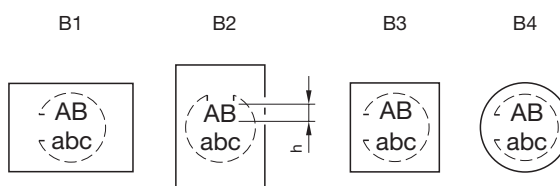
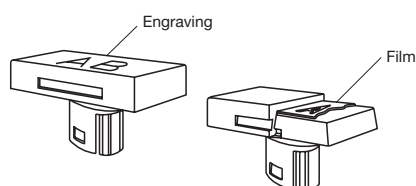
Instead of using engraving the lenses can be fitted with transparent film inserts, as an alternative. In the case of use of a smoke-black lens the fitted film becomes readable only if the lamp is on. The film thickness is 0.2 mm. For lenses Ø 24 mm and Ø 25 mm with Part No. 619642.x the marking takes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

Important: Consider pushbutton mounting orientation before specifying engraving characters!

Lenses for Indicators, Illuminated pushbuttons, flush mounting

All dimensions in mm

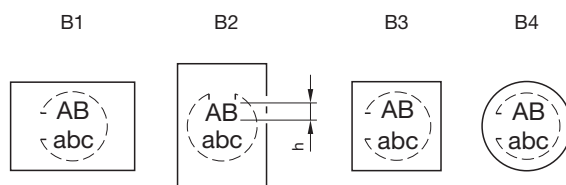
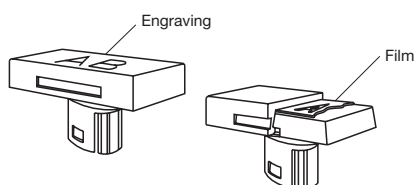
Front size (Lens)	Film insert max. size	Height of letters h	Number of lines	Number of capital letters per line (target value)	Number of small letters per line (target value)	Image
24 x 24 (18 x 18)	15.1 x 15.1	2	4	8-9	9	B3
		3	3	7-8	8	B3
		4	2	4-5	5	B3
		5	2	4	4-5	B3
		6	1	4	4	B3
		8	1	2-3	2-3	B3
24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



Lenses for Indicators, Illuminated pushbuttons, raised mounting

All dimensions in mm

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

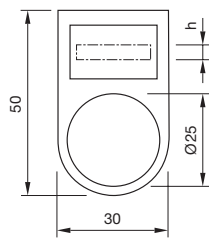


61 Marking

Engraving legend plates

All dimensions in mm

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



Suppressor circuits

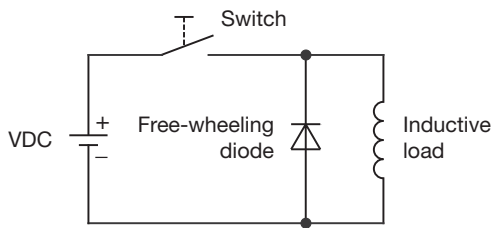
When switching inductive loads such as relays, DC motors, and DC solenoids, it is always important to absorb surges (e.g. with a diode) to protect the contacts. When these inductive loads are switched off, a counter emf can severely damage switch contacts and greatly shorten lifetime.

Fig. 1 shows an inductive load with a free-wheeling diode connected in parallel. This free-wheeling diode provides a path for the inductor current to flow when the current is interrupted by the switch. Without this free-wheeling diode, the voltage across the coil will be limited only by dielectric breakdown voltages of the circuit or parasitic elements of the coil. This voltage can be kilovolts in amplitude even when nominal circuit voltages are low (e.g. 12VDC) see Fig. 2.

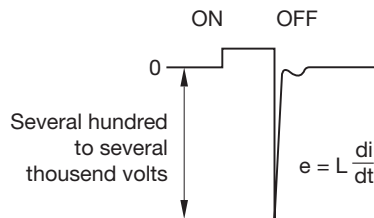
The free-wheeling diode should be chosen so that the reverse breakdown voltage is greater than the voltage driving the inductive load. The DC blocking voltage (V_R) of the free-wheeling diode can be found in the datasheet of a diode. The forward current should be equal or greater than the maximum current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

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

Switching with inductive load
Fig. 1



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



Index of Part No.

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02-904.1	82	61-0000.02	4	61-2601.0/D	19	61-3440.4/D	40	61-8610.11	76	61-9331.1	59
02-904.3	82	61-0000.02	5	61-2601.0/D	21	61-4110.0	25	61-8610.17	76	61-9331.2	59
02-904.7	82	61-0000.02	6	61-2601.0/D	23	61-4110.0	26	61-8610.37	76	61-9331.3	59
02-905	87	61-0009.0	7	61-2601.0/D	46	61-4110.0	52	61-8615.11	76	61-9331.4	59
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02-912.3	83	61-0010.02	30	61-2602.0/D	19	61-4210.0	26	61-8625.11	76	61-9331.7	59
02-912.4	83	61-0019.0	32	61-2602.0/D	21	61-4210.0	52	61-8640.11	76	61-9336.2	59
10-1306.1349	82	61-0020.02	30	61-2602.0/D	23	61-4210.0	53	61-8640.17	76	61-9336.7	59
10-1307.1369	82	61-0029.0	32	61-2602.0/D	46	61-4510.0	27	61-8640.37	76	61-9351.1	58
10-1309.1309	82	61-0030.02	30	61-2602.0/D	48	61-4510.0	28	61-8645.11	76	61-9351.2	58
10-1310.1319	82	61-0039.0	32	61-2602.0/D	50	61-4510.0	54	61-8650.17	76	61-9351.3	58
10-1311.1249	82	61-0040.02	31	61-2603.0/D	19	61-4510.0	55	61-8650.37	76	61-9351.4	58
10-1312.1229	82	61-0049.0	33	61-2603.0/D	21	61-4610.0	27	61-8655.11	76	61-9351.5	58
10-1313.1209	82	61-0050.02	30	61-2603.0/D	23	61-4610.0	28	61-8670.17	76	61-9351.6	58
10-1313.1249	82	61-0059.0	32	61-2603.0/D	46	61-4610.0	54	61-8670.37	76	61-9351.7	58
10-1316.1179	82	61-1100.0	11	61-2603.0/D	48	61-4610.0	55	61-8675.11	76	61-9450.0	72
10-1316.1209	82	61-1100.0	12	61-2603.0/D	50	61-4710.0	27	61-8720.17	77	61-9451.0	71
10-1319.1179	82	61-1100.0	13	61-2604.0/D	19	61-4710.0	28	61-8720.37	77	61-9452.0	71
10-1319.1199	82	61-1100.0	14	61-2604.0/D	21	61-4710.0	54	61-8725.11	77	61-9453.0	71
10-2J06.3142	81	61-1100.0	15	61-2604.0/D	23	61-4710.0	55	61-8745.11	78	61-9480.5	85
10-2J06.3144	81	61-1110.0	35	61-2604.0/D	46	61-4810.0	27	61-8745.17	78	61-9480.6	88
10-2J06.3145	81	61-1120.0	34	61-2604.0/D	48	61-4810.0	28	61-8745.37	78	61-9481.6	85
10-2J06.3146	81	61-1130.0	34	61-2604.0/D	50	61-4810.0	54	61-8750.17	77	61-9481.6	89
10-2J06.3149	81	61-1140.0	36	61-2605.0/D	19	61-4810.0	55	61-8750.37	77	61-9593.0	60
10-2J09.1062	81	61-1140.0	42	61-2605.0/D	21	61-4970.10	29	61-8755.11	77	61-9593.2	60
10-2J09.1064	81	61-1150.0	34	61-2605.0/D	23	61-4970.13	29	61-8755.11	78	61-9600.0	68
10-2J09.1065	81	61-1200.0	11	61-2605.0/D	46	61-5441.0/KA	41	61-8755.17	78	61-9600.1	68
10-2J09.1066	81	61-1200.0	12	61-2605.0/D	48	61-5441.4/K	40	61-8755.37	78	61-9642.1	56
10-2J09.1069	81	61-1200.0	13	61-2605.0/D	50	61-6441.4047	37	61-8770.17	77	61-9642.1	59
10-2J12.1062	81	61-1200.0	14	61-2606.0/D	19	61-6441.4057	37	61-8770.37	77	61-9642.2	56
10-2J12.1064	81	61-1200.0	15	61-2606.0/D	21	61-6441.4067	37	61-8775.11	77	61-9642.2	59
10-2J12.1065	81	61-1210.0	35	61-2606.0/D	23	61-6441.4077	37	61-8775.11	78	61-9642.3	56
10-2J12.1066	81	61-1220.0	34	61-2606.0/D	46	61-6441.4087	37	61-8775.17	78	61-9642.3	59
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10-2J13.1062	81	61-1240.0	36	61-2606.0/D	50	61-6451.4247	37	61-9028.0	62	61-9642.4	59
10-2J13.1064	81	61-1240.0	42	61-2607.0/D	19	61-6451.4257	37	61-9028.20	62	61-9642.5	56
10-2J13.1065	81	61-1250.0	34	61-2607.0/D	21	61-6451.4277	37	61-9028.40	62	61-9642.5	59
10-2J13.1066	81	61-1300.0	11	61-2607.0/D	23	61-6461.4047	38	61-9028.50	62	61-9642.6	56
10-2J13.1069	81	61-1300.0	12	61-2607.0/D	46	61-6461.4057	38	61-9028.60	62	61-9642.6	59
10-2J19.1042	81	61-1300.0	13	61-2607.0/D	48	61-6461.4067	38	61-9028.9	62	61-9642.7	56
10-2J19.1044	81	61-1300.0	14	61-2607.0/D	50	61-6461.4077	38	61-9029.20	62	61-9642.7	59
10-2J19.1045	81	61-1300.0	15	61-2701.0/D	19	61-6461.4087	38	61-9029.30	62	61-9643.201	57
10-2J19.1046	81	61-1310.0	35	61-2701.0/D	21	61-6461.4097	38	61-9029.40	62	61-9643.202	57
10-2J19.1049	81	61-1320.0	34	61-2701.0/D	23	61-7000.02	10	61-9029.8	62	61-9643.203	57
10-A312.314A	82	61-1330.0	34	61-2701.0/D	46	61-7100.02	10	61-9029.9	62	61-9643.301	57
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31-946	80	61-2101.0/D	17	61-2705.0/D	19	61-8006.02	74	61-9211.0	59	61-9643.502	57
31-985.0	73	61-2101.0/D	18	61-2705.0/D	21	61-8101.02	74	61-9211.9	59	61-9643.503	57
31-989.300	73	61-2101.0/D	43	61-2705.0/D	23	61-8102.02	74	61-9220.0	61	61-9643.601	57
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51-943.9	89	61-2201.0/D	44	61-2801.0/D	46	61-8430.12	75	61-9231.9	59	61-9671.2	56
51-947.0	72	61-2201.0/D	45	61-2801.0/D	48	61-8430.22	75	61-9236.9	59	61-9671.3	56
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52-928.20	63	61-2203.0/D	43	61-2802.0/D	23	61-8450.22	75	61-9311.1	59	61-9671.7	56
52-928.30	63	61-2203.0/D	44	61-2802.0/D	46	61-8460.12	76	61-9311.2	59	61-9681.1	56
52-928.40	63	61-2203.0/D	45	61-2802.0/D	48	61-8460.22	76	61-9311.3	59	61-9681.2	56
52-928.50	63	61-2205.0/D	16	61-2802.0/D	50	61-8470.12	76	61-9311.4	59	61-9681.3	56
52-928.60	63	61-2205.0/D	17	61-2804.0/D	19	61-8470.22	76	61-9311.5	59	61-9681.4	56
52-928.9	63	61-2205.0/D	18	61-2804.0/D	21	61-8480.12	76	61-9311.6	59	61-9681.5	56
52-929.20	63	61-2205.0/D	43	61-2804.0/D	23	61-8480.22	76	61-9311.7	59	61-9681.6	56
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