

Series 44

Characteristics

The modular 22.5 mm Series 44 is especially suited for:

- Flush design
- Raised design

Up to three of these special switching elements can be arranged next to each other and can be combined in any way on up to two levels.

Functions

The Series 44 incorporates the following functions:

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

Market segments

The EAO Series 44 is especially suited for applications in the segments:

- 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.

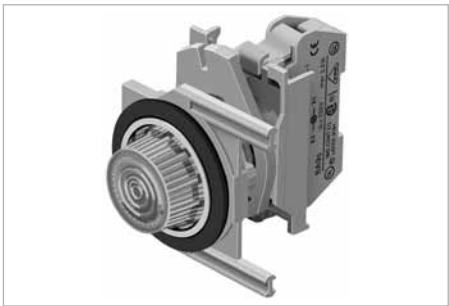


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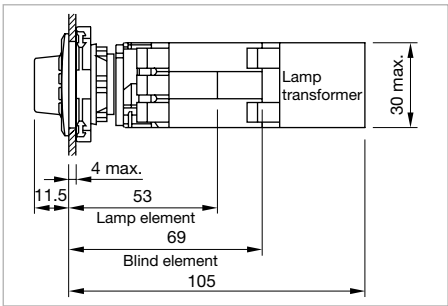
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44 Flush design

Indicator full face illumination, IP 65



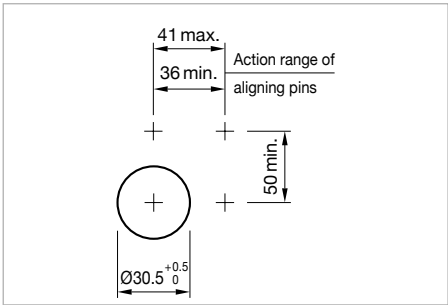
Product can differ from the current configuration.



Dimensions [mm]

Additional Information

- For front dimensions 36 x 36 mm, Ø 36 mm
- Non-markable




Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

- Lens cap**
- Actuator**
- Front bezel set** *page 424*
- Fixing nut**
- Front adapter** *page 430*
- Single-LED** *page 435*
- Lamp element** *page 432*


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


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


| Front ring | Lens cap | Part No. | Weight |
|---|--------------------|-----------|----------|
| <div></div> <div>Indicator actuator full-face illumination</div> | | | |
| Plastic matt grey | Plastic red | 44-750.62 | 0.008 kg |
| | Plastic yellow | 44-750.64 | 0.008 kg |
| | Plastic green | 44-750.65 | 0.008 kg |
| | Plastic blue | 44-750.66 | 0.008 kg |
| | Plastic colourless | 44-750.67 | 0.008 kg |
| Plastic matt chrome | Plastic red | 44-750.22 | 0.008 kg |
| | Plastic yellow | 44-750.24 | 0.008 kg |
| | Plastic green | 44-750.25 | 0.008 kg |
| | Plastic blue | 44-750.26 | 0.008 kg |
| | Plastic colourless | 44-750.27 | 0.008 kg |


Indicator front illumination, IP 65


Equipment consisting of (schematic overview)

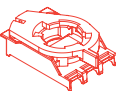
**Lens cap**


**Marking plate**


**Actuator**

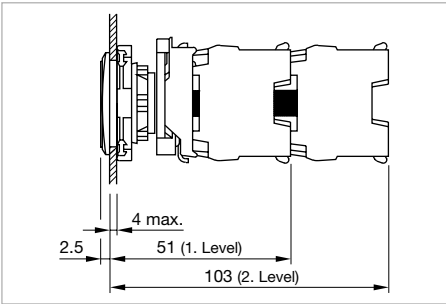
**Front bezel set** *page 424*

**Fixing nut**

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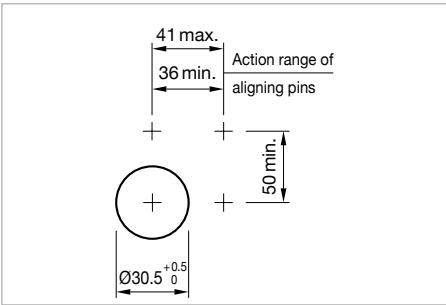
**Lamp element** *page 432*



Dimensions [mm]



Product can differ from the current configuration.




Mounting cut-outs [mm]

Additional Information

- For front dimensions 36 x 36 mm, Ø 36 mm
- Markable with text plate translucent white

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

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

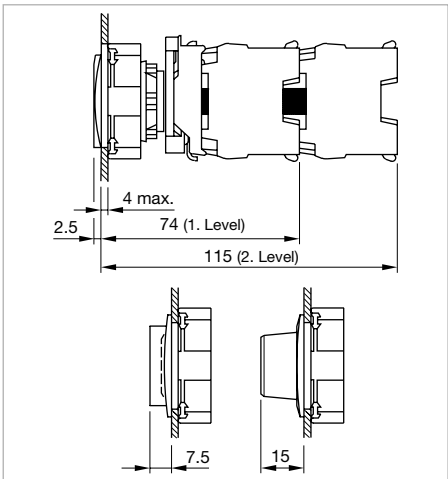
| Front ring | Lens cap | Part No. | Weight |
|--|----------------|------------------|----------|
|  Indicator actuator front illumination | | | |
| Plastic matt grey | Plastic red | 44-751.62 | 0.007 kg |
| | Plastic yellow | 44-751.64 | 0.007 kg |
| | Plastic green | 44-751.65 | 0.007 kg |
| | Plastic blue | 44-751.66 | 0.007 kg |
| | Plastic white | 44-751.69 | 0.007 kg |
| Plastic matt chrome | Plastic red | 44-751.22 | 0.007 kg |
| | Plastic yellow | 44-751.24 | 0.007 kg |
| | Plastic green | 44-751.25 | 0.007 kg |

44 Flush design

Pushbutton, IP 65



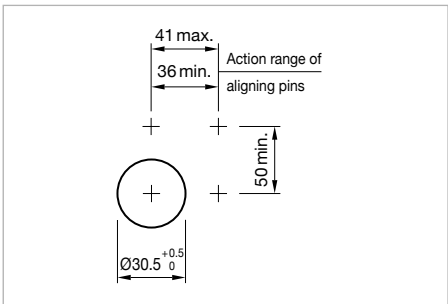
Product can differ from the current configuration.



Dimensions [mm]


Additional Information


- For front dimensions 36 x 36 mm, Ø 36 mm
- Non-markable
- Up to 3 switching elements with maintain action





Mounting cut-outs [mm]


Equipment consisting of (schematic overview)


**Front ring**


**Lens**

**Actuator**

**Front bezel set** *page 424*


**Fixing nut**

**Front adapter** *page 430*

**Switching element** *page 430*

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

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

| Mounting type | Front ring | Lens | Switching action | Part No. | Wiring diagram | Weight |
|---|------------------|---------------------|------------------|----------|------------------|------------|
|  Pushbutton actuator | level with bezel | Plastic matt grey | Plastic black | B | 44-701.60 | 1 0.013 kg |
| | | Plastic matt chrome | Plastic red | B | 44-701.62 | 1 0.013 kg |
| | | | Plastic yellow | B | 44-701.64 | 1 0.013 kg |
| | | | Plastic green | B | 44-701.65 | 1 0.013 kg |
| | | | Plastic blue | B | 44-701.66 | 1 0.013 kg |
| | | | Plastic white | B | 44-701.69 | 1 0.013 kg |
| | level with bezel | Plastic matt chrome | Plastic black | B | 44-701.20 | 1 0.013 kg |
| | | | Plastic red | B | 44-701.22 | 1 0.013 kg |
| | | | Plastic yellow | B | 44-701.24 | 1 0.013 kg |
| | | | Plastic green | B | 44-701.25 | 1 0.013 kg |
| | | | Plastic blue | B | 44-701.26 | 1 0.013 kg |
| | | | Plastic white | B | 44-701.29 | 1 0.013 kg |
| | level with bezel | Plastic matt grey | Plastic black | C | 44-702.60 | 2 0.013 kg |
| | | | Plastic red | C | 44-702.62 | 2 0.013 kg |
| | | | Plastic yellow | C | 44-702.64 | 2 0.013 kg |
| | | | Plastic green | C | 44-702.65 | 2 0.013 kg |
| | | | Plastic blue | C | 44-702.66 | 2 0.013 kg |

| Mounting type | Front ring | Lens | Switching action | Part No. | Wiring diagram | Weight |
|------------------|---------------------|----------------|------------------|------------------|----------------|----------|
| level with bezel | Plastic matt grey | Plastic white | C | 44-702.69 | 2 | 0.013 kg |
| | Plastic matt chrome | Plastic black | C | 44-702.20 | 2 | 0.013 kg |
| | | Plastic red | C | 44-702.22 | 2 | 0.013 kg |
| | | Plastic yellow | C | 44-702.24 | 2 | 0.013 kg |
| | | Plastic green | C | 44-702.25 | 2 | 0.013 kg |
| | | Plastic blue | C | 44-702.26 | 2 | 0.013 kg |
| | | Plastic white | C | 44-702.29 | 2 | 0.013 kg |



Pushbutton actuator

| | | | | | | |
|------------------|---------------------|----------------|---|------------------|---|----------|
| lower than bezel | Plastic matt grey | Plastic black | B | 44-703.60 | 1 | 0.015 kg |
| | | Plastic red | B | 44-703.62 | 1 | 0.015 kg |
| | | Plastic yellow | B | 44-703.64 | 1 | 0.015 kg |
| | | Plastic green | B | 44-703.65 | 1 | 0.015 kg |
| | | Plastic blue | B | 44-703.66 | 1 | 0.015 kg |
| | | Plastic white | B | 44-703.69 | 1 | 0.015 kg |
| | Plastic matt chrome | Plastic black | B | 44-703.20 | 1 | 0.015 kg |
| | | Plastic red | B | 44-703.22 | 1 | 0.015 kg |
| | | Plastic yellow | B | 44-703.24 | 1 | 0.015 kg |
| | | Plastic green | B | 44-703.25 | 1 | 0.015 kg |
| | | Plastic blue | B | 44-703.26 | 1 | 0.015 kg |
| | | Plastic white | B | 44-703.29 | 1 | 0.015 kg |



Pushbutton actuator

| | | | | | | |
|--------------------|---------------------|----------------|---|------------------|---|----------|
| raised above bezel | Plastic matt grey | Plastic black | B | 44-704.60 | 1 | 0.015 kg |
| | | Plastic red | B | 44-704.62 | 1 | 0.015 kg |
| | | Plastic yellow | B | 44-704.64 | 1 | 0.015 kg |
| | | Plastic green | B | 44-704.65 | 1 | 0.015 kg |
| | | Plastic blue | B | 44-704.66 | 1 | 0.015 kg |
| | | Plastic white | B | 44-704.69 | 1 | 0.015 kg |
| | Plastic matt chrome | Plastic black | B | 44-704.20 | 1 | 0.015 kg |
| | | Plastic red | B | 44-704.22 | 1 | 0.015 kg |
| | | Plastic yellow | B | 44-704.24 | 1 | 0.015 kg |
| | | Plastic green | B | 44-704.25 | 1 | 0.015 kg |
| | | Plastic blue | B | 44-704.26 | 1 | 0.015 kg |
| | | Plastic white | B | 44-704.29 | 1 | 0.015 kg |

Switching action: B = Momentary, C = Maintain

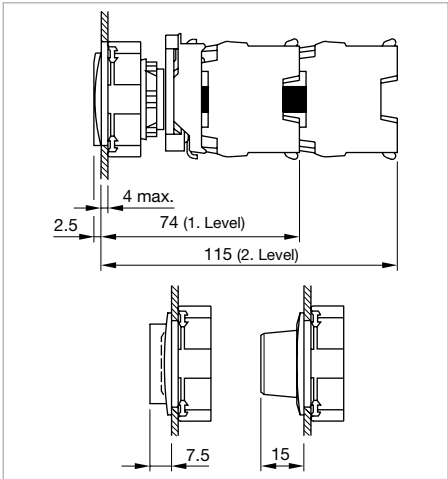
| | |
|------------------|------------------|
| E--- | E~-- |
| Wiring diagram 1 | Wiring diagram 2 |

44 Flush design

Pushbutton markable, IP 65



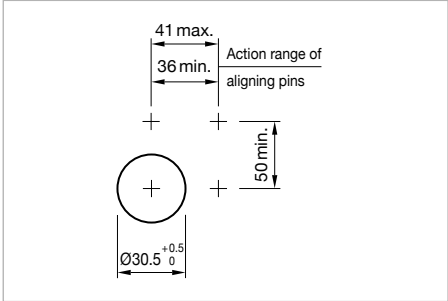
Product can differ from the current configuration.



Dimensions [mm]

Additional Information

- For front dimensions 36 x 36 mm, Ø 36 mm




Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

- Front ring
- Lens
- Marking plate *page 423*
- Actuator
- Front bezel set *page 424*
- Fixing nut
- Front adapter *page 430*
- Switching element *page 430*

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

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

| Product attribute | Front ring | Lens | Switching action | Part No. | Wiring diagram | Weight |
|---|---------------------|--------------------|------------------|-----------|----------------|----------|
|  Pushbutton actuator markable | | | | | | |
| Colour of lens is determined by the colour of text plate | Plastic matt chrome | Plastic colourless | B | 44-701.27 | 1 | 0.012 kg |

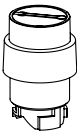
Switching action: B = Momentary

E---


Wiring diagram 1

Pushbutton lockable, IP 65

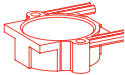
Equipment consisting of (schematic overview)



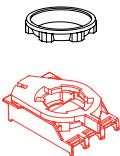
Actuator



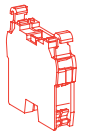
Front bezel set *page 424*



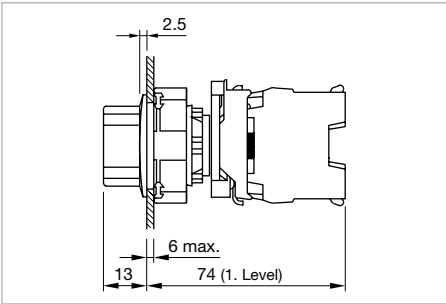
Fixing nut



Front adapter *page 430*



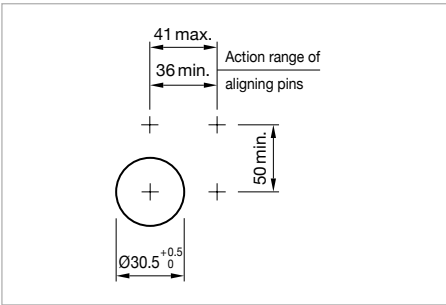
Switching element *page 430*



Dimensions [mm]



Product can differ from the current configuration.




Mounting cut-outs [mm]

Additional Information

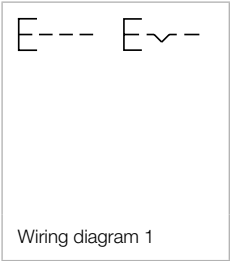
- For front dimensions 36 x 36 mm, Ø 36 mm
- In activated state locked by turning to the right, otherwise momentary action
- Up to 3 switching elements at 1. level

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

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

| Lever | Front ring | Switching action | Part No. | Wiring diagram | Weight |
|---|---------------------|------------------|-----------|----------------|----------|
| <div><p>Pushbutton actuator lockable</p></div> | | | | | |
| Plastic black | Plastic matt chrome | B - C | 44-742.20 | 1 | 0.020 kg |
| Plastic red | Plastic matt chrome | B - C | 44-742.22 | 1 | 0.02 kg |

Switching action: B = Momentary, C = Maintain

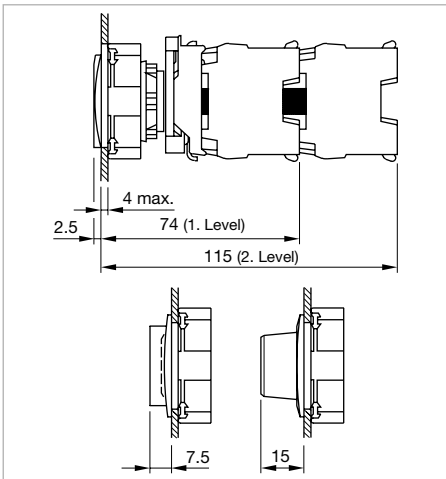


44 Flush design

Illuminated pushbutton, IP 65



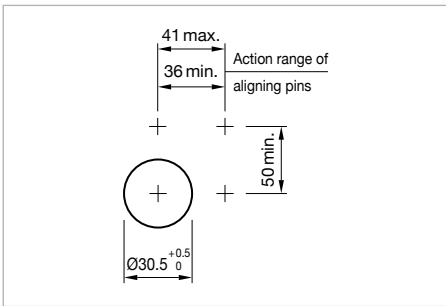
Product can differ from the current configuration.



Dimensions [mm]

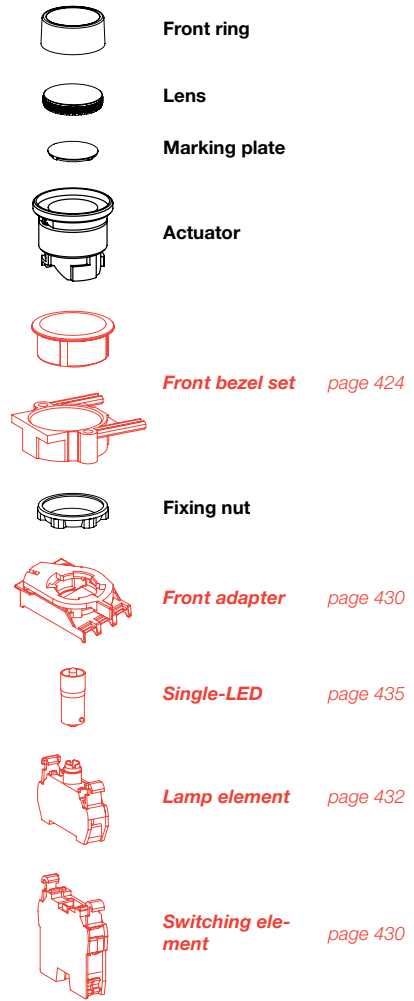
Additional Information

- For front dimensions 36 x 36 mm, Ø 36 mm
- Markable with text plate translucent white
- Up to 3 switching elements with maintain action




Mounting cut-outs [mm]

Equipment consisting of (schematic overview)



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

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

| Front ring | Lens | Switching action | Part No. | Wiring diagram | Weight |
|--|----------------|------------------|------------------|----------------|----------|
|  Illuminated pushbutton actuator | Plastic red | B | 44-746.62 | 1 | 0.012 kg |
| | Plastic yellow | B | 44-746.64 | 1 | 0.012 kg |
| | Plastic green | B | 44-746.65 | 1 | 0.012 kg |
| | Plastic blue | B | 44-746.66 | 1 | 0.012 kg |
| | Plastic white | B | 44-746.69 | 1 | 0.012 kg |
| Plastic matt chrome | Plastic red | B | 44-746.22 | 1 | 0.012 kg |
| | Plastic yellow | B | 44-746.24 | 1 | 0.012 kg |
| | Plastic green | B | 44-746.25 | 1 | 0.012 kg |
| | Plastic blue | B | 44-746.26 | 1 | 0.012 kg |
| | Plastic white | B | 44-746.29 | 1 | 0.012 kg |

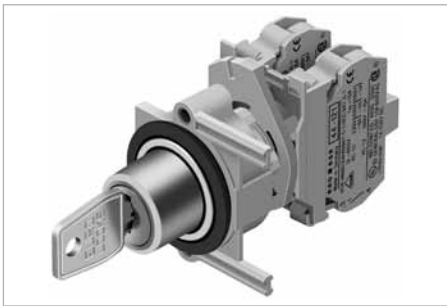
| Front ring | Lens | Switching action | Part No. | Wiring diagram | Weight |
|---------------------|----------------|------------------|-----------|----------------|----------|
| Plastic matt grey | Plastic red | C | 44-747.62 | 2 | 0.012 kg |
| | Plastic yellow | C | 44-747.64 | 2 | 0.012 kg |
| | Plastic green | C | 44-747.65 | 2 | 0.012 kg |
| | Plastic blue | C | 44-747.66 | 2 | 0.012 kg |
| | Plastic white | C | 44-747.69 | 2 | 0.012 kg |
| Plastic matt chrome | Plastic red | C | 44-747.22 | 2 | 0.012 kg |
| | Plastic yellow | C | 44-747.24 | 2 | 0.012 kg |
| | Plastic green | C | 44-747.25 | 2 | 0.012 kg |
| | Plastic blue | C | 44-747.26 | 2 | 0.012 kg |
| | Plastic white | C | 44-747.29 | 2 | 0.012 kg |

Switching action: B = Momentary, C = Maintain

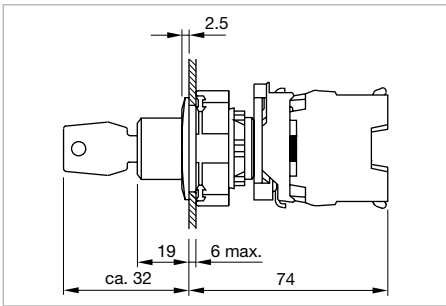
| | |
|------------------|------------------|
| E--- | E~-- |
| Wiring diagram 1 | Wiring diagram 2 |

44 Flush design

Keylock switch 2 positions, IP 65



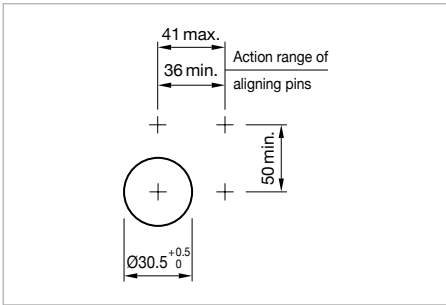
Product can differ from the current configuration.



Dimensions [mm]

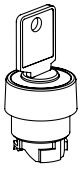
Additional Information

- For front dimensions 36 x 36 mm, Ø 36 mm
- The standard lock: Euro-Locks 9500
- Two keys are supplied with each key lock switch
- Optional lock numbers on request
- Up to 3 switching elements at 1. level with main-tain action




Mounting cut-outs [mm]

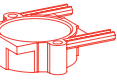
Equipment consisting of (schematic overview)



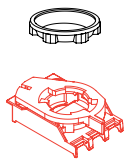
Vorsatz




Front bezel set page 424



Fixing nut



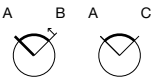
Front adapter page 430




Switching ele-
ment page 430

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

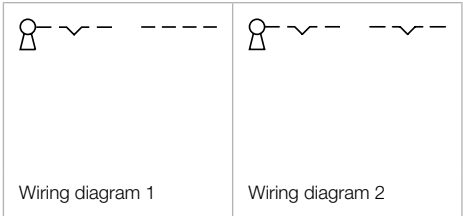
To obtain a complete unit, please select the red components from the pages shown.



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

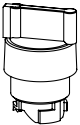
| Front ring | Switching action | Switching angle | Key remove | Part No. | Compo- nent layout | Wiring diagram | Weight |
|---|------------------|-----------------|------------|-----------|-----------------------|-------------------|----------|
|  Keylock switch actuator 2 positions | | | | | | | |
| Plastic matt chrome | A - B | B = 90° | A | 44-732.21 | 5 | 1 | 0.051 kg |
| Plastic matt grey | A - B | B = 90° | A | 44-732.61 | 5 | 1 | 0.051 kg |
| Plastic matt chrome | A - C | C = 90° | A | 44-730.21 | 5 | 2 | 0.051 kg |
| | | | A + C | 44-730.22 | 5 | 2 | 0.051 kg |
| Plastic matt grey | A - C | C = 90° | A | 44-730.61 | 5 | 2 | 0.051 kg |
| | | | A + C | 44-730.62 | 5 | 2 | 0.051 kg |

Switching action: A = Rest, B = Momentary, C = Maintain
The component layouts you will find from page 442




Selector switch 2 positions, IP 65


Equipment consisting of (schematic overview)



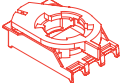
Actuator




Front bezel set *page 424*



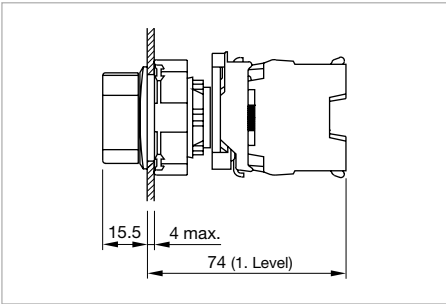
Fixing nut



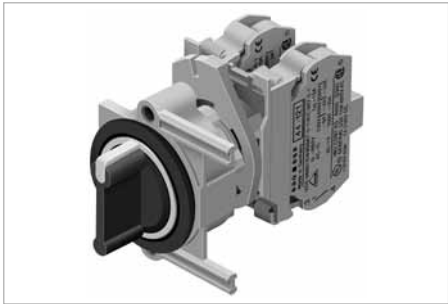
Front adapter *page 430*



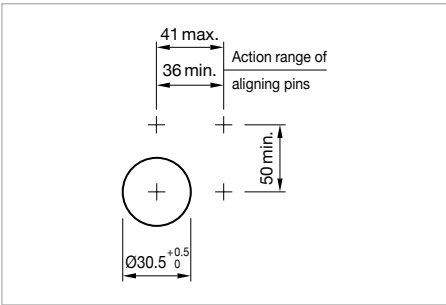
Switching element *page 430*



Dimensions [mm]



Product can differ from the current configuration.



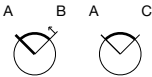
Mounting cut-outs [mm]

Additional Information


- For front dimensions 36 x 36 mm, Ø 36 mm
- Up to 3 switching elements at 1. level

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

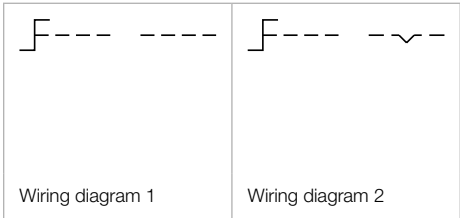
To obtain a complete unit, please select the red components from the pages shown.



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

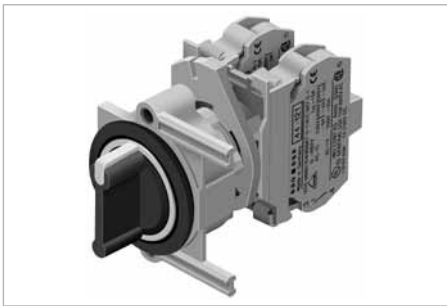
| Lever | Front ring | Switching action | Switching angle | Part No. | Component layout | Wiring diagram | Weight |
|---|---------------------|------------------|-----------------|-----------|------------------|----------------|----------|
| <div><p>Selector switch actuator 2 positions</p></div> | | | | | | | |
| Plastic black | Plastic matt chrome | A - B | B = 90° | 44-722.20 | 5 | 1 | 0.021 kg |
| Plastic grey | Plastic matt grey | A - B | B = 90° | 44-722.68 | 5 | 1 | 0.021 kg |
| Plastic black | Plastic matt chrome | A - C | C = 90° | 44-720.20 | 5 | 2 | 0.021 kg |
| Plastic red | Plastic matt chrome | A - C | C = 90° | 44-720.22 | 5 | 2 | 0.021 kg |
| | Plastic matt grey | A - C | C = 90° | 44-720.62 | 5 | 2 | 0.021 kg |
| Plastic grey | Plastic matt grey | A - C | C = 90° | 44-720.68 | 5 | 2 | 0.021 kg |

Switching action: A = Rest, B = Momentary, C = Maintain
The component layouts you will find from page 442

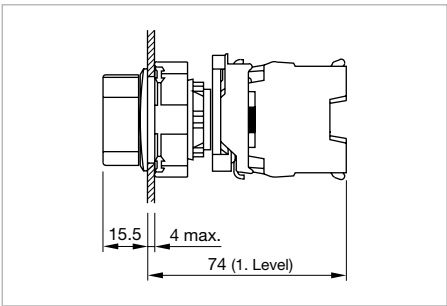


44 Flush design

Selector switch 3 positions, IP 65



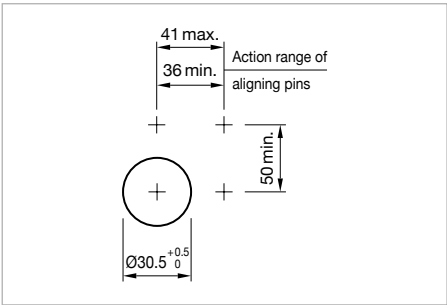
Product can differ from the current configuration.



Dimensions [mm]

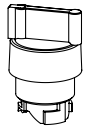
Additional Information


- For front dimensions 36 x 36 mm, Ø 36 mm
- Up to 3 switching elements at 1. level

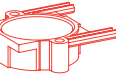



Mounting cut-outs [mm]

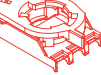
Equipment consisting of (schematic overview)

**Actuator**

**Front bezel set** *page 424*

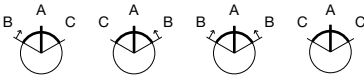
**Fixing nut**

**Front adapter** *page 430*


**Switching element** *page 430*

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

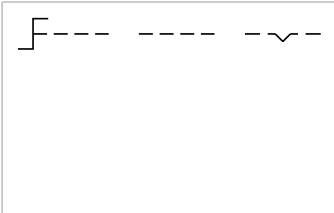
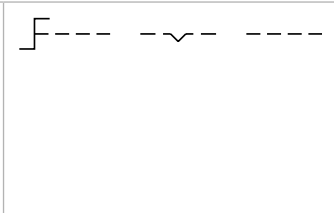

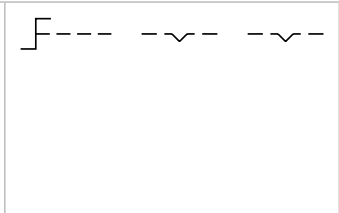
To obtain a complete unit, please select the red components from the page s shown.



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

| Lever | Front ring | Switching action | Switching angle | Part No. | Compo- nent layout | Wiring diagram | Weight |
|---|---------------------|------------------|------------------|------------------|-----------------------|-------------------|----------|
|  Selector switch actuator 3 positions | | | | | | | |
| Plastic black | Plastic matt chrome | B - A - C | B = 60°, C = 60° | 44-727.20 | 4 | 1 | 0.021 kg |
| Plastic grey | Plastic matt grey | B - A - C | B = 60°, C = 60° | 44-727.68 | 4 | 1 | 0.021 kg |
| Plastic black | Plastic matt chrome | C - A - B | C = 60°, B = 60° | 44-726.20 | 4 | 2 | 0.021 kg |
| Plastic grey | Plastic matt grey | C - A - B | C = 60°, B = 60° | 44-726.68 | 4 | 2 | 0.021 kg |
| Plastic black | Plastic matt chrome | B - A - B | B = 60° / 60° | 44-725.20 | 4 | 3 | 0.021 kg |
| Plastic grey | Plastic matt grey | B - A - B | B = 60° / 60° | 44-725.68 | 4 | 3 | 0.021 kg |
| Plastic black | Plastic matt chrome | C - A - C | C = 60° / 60° | 44-724.20 | 4 | 4 | 0.021 kg |
| Plastic grey | Plastic matt grey | C - A - C | C = 60° / 60° | 44-724.68 | 4 | 4 | 0.021 kg |

Switching action: A = Rest, B = Momentary, C = Maintain
The component layouts you will find from page 442

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

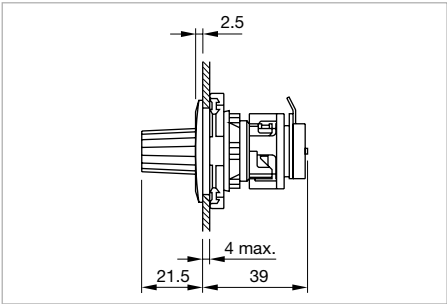
| |
|-----------|
| 01 |
| 02 |
| 03 |
| 04 |
| 10 |
| 14 |
| 17 |
| 18 |
| 19 |
| 22 |
| 31 |
| 41 |
| 44 |
| 51 |
| 56 |
| 57 |
| 61 |
| 70 |
| 71 |
| 82 |
| 84 |
| 92 |
| 95 |
| 96 |
| 97 |
| 99 |
| ST |

44 Flush design

Potentiometer, IP 65

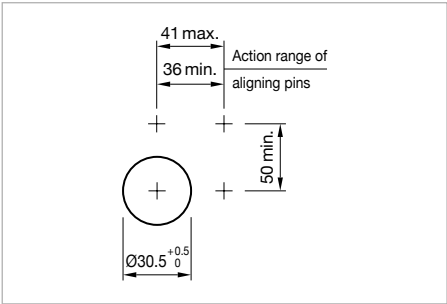


Product can differ from the current configuration.







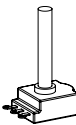
Dimensions [mm]

- Additional Information**
- For front dimensions 36 x 36 mm, Ø 36 mm
 - Resistor 10 kOhm / linear, series E3
 - Power 0.4 W
 - Slewing range 300°



Mounting cut-outs [mm]

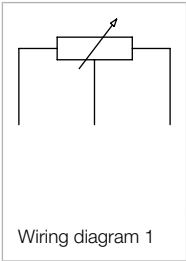
Equipment consisting of (schematic overview)

-  **Knob**
-  **Actuator**
-  **Front bezel set** *page 424*
-  **Fixing nut**
-  **Potentiometer**

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

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

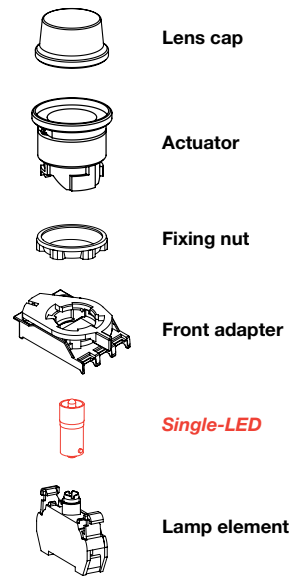
| Product attribute | Front ring | Terminal | Part No. | Wiring diagram | Weight |
|--|---------------------|----------|-----------------------|----------------|----------|
|  | | | | | |
| Potentiometer | | | | | |
| with potentiometer | Plastic matt chrome | Solder | 44-745.20-10K1 | 1 | 0.030 kg |
| | Plastic matt grey | Solder | 44-745.60-10K1 | 1 | 0.030 kg |
| without potentiometer, specification for potentiometer: Shaft = length 32 mm, shaft end = Form A, Ø = 6 mm | Plastic matt chrome | | 44-744.20 | | 0.016 kg |
| | Plastic matt grey | | 44-744.60 | | 0.016 kg |



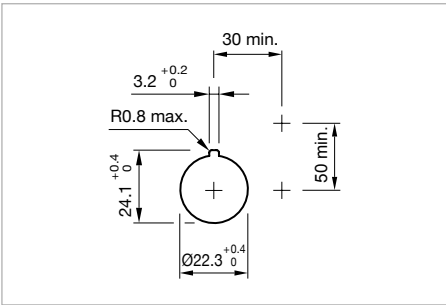
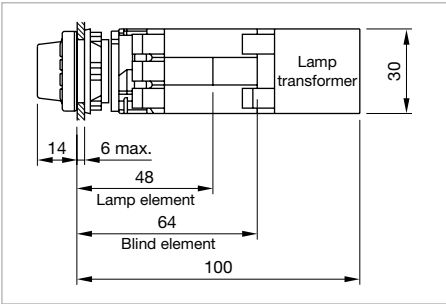
Wiring diagram 1

Indicator full-face illumination complete, IP 65

Equipment consisting of (schematic overview)



page 435




Product can differ from the current configuration.

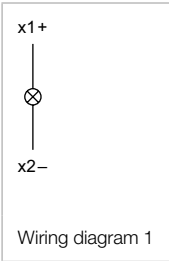
Additional Information

- Non-markable

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

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

| Front ring | Lens cap | Terminal | Part No. | Wiring diagram | Weight |
|---|--------------------|----------|---------------|----------------|----------|
|  Indicator full-face illumination complete, Front dimension Ø 28 mm | | | | | |
| Plastic matt chrome | Plastic red | Screw | 44-750.22.000 | 1 | 0.025 kg |
| | Plastic yellow | Screw | 44-750.24.000 | 1 | 0.025 kg |
| | Plastic green | Screw | 44-750.25.000 | 1 | 0.025 kg |
| | Plastic colourless | Screw | 44-750.27.000 | 1 | 0.025 kg |

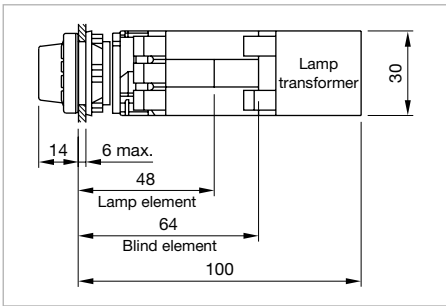


44 Raised design

Indicator full face illumination, IP 65



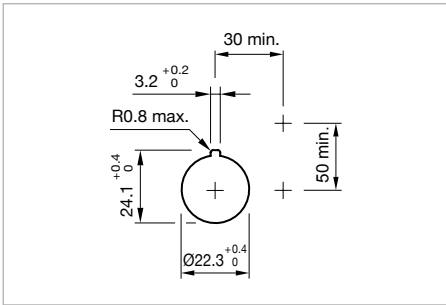
Product can differ from the current configuration.



Dimensions [mm]

Additional Information

- Non-markable



Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

Lens cap

Actuator

Fixing nut

Front adapter

page 430

Single-LED


page 435

Lamp element

page 432


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


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


| Front ring | Lens cap | Part No. | Weight |
|--|--------------------|-----------|----------|
| <div><div>Indicator actuator full-face illumination, Front dimension Ø 28 mm</div></div> | | | |
| Plastic matt grey | Plastic red | 44-750.62 | 0.008 kg |
| | Plastic yellow | 44-750.64 | 0.008 kg |
| | Plastic green | 44-750.65 | 0.008 kg |
| | Plastic blue | 44-750.66 | 0.008 kg |
| | Plastic colourless | 44-750.67 | 0.008 kg |
| Plastic matt chrome | Plastic red | 44-750.22 | 0.008 kg |
| | Plastic yellow | 44-750.24 | 0.008 kg |
| | Plastic green | 44-750.25 | 0.008 kg |
| | Plastic blue | 44-750.26 | 0.008 kg |
| | Plastic colourless | 44-750.27 | 0.008 kg |


Indicator front illumination complete, IP 65

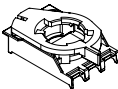
Equipment consisting of (schematic overview)


**Lens cap**


**Marking plate**

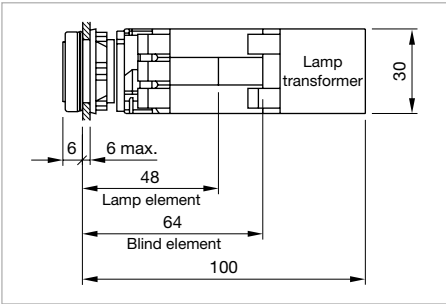
**Actuator**

**Fixing nut**

**Front adapter**

**Single-LED** *page 435*

**Lamp element**



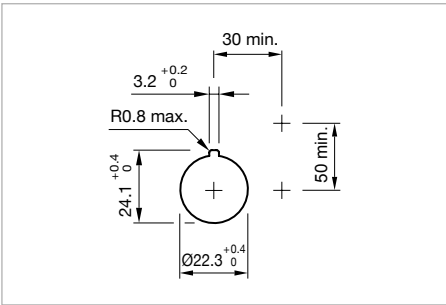
Dimensions [mm]



Product can differ from the current configuration.

Additional Information


- Markable with text plate translucent white

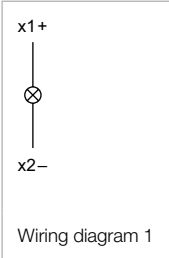


Mounting cut-outs [mm]

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

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

| Front ring | Lens cap | Terminal | Part No. | Wiring diagram | Weight |
|---|----------------|----------|---------------|----------------|----------|
|  Indicator front illumination complete, Front dimension Ø 28 mm | | | | | |
| Plastic matt chrome | Plastic red | Screw | 44-751.22.000 | 1 | 0.025 kg |
| | Plastic yellow | Screw | 44-751.24.000 | 1 | 0.025 kg |
| | Plastic green | Screw | 44-751.25.000 | 1 | 0.025 kg |
| | Plastic white | Screw | 44-751.29.000 | 1 | 0.025 kg |

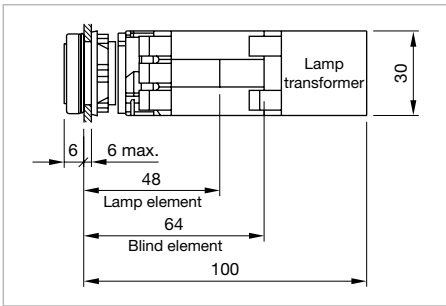


44 Raised design

Indicator front illumination, IP 65



Product can differ from the current configuration.



Dimensions [mm]

Equipment consisting of (schematic overview)

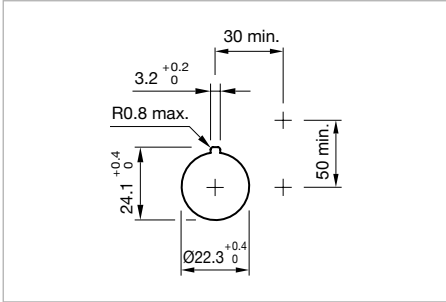
| | | |
|--|----------------------|-----------------|
| | Lens cap | |
| | Marking plate | |
| | Actuator | |
| | Fixing nut | |
| | Front adapter | <i>page 430</i> |
| | Single-LED | <i>page 435</i> |
| | Lamp element | <i>page 432</i> |

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.

Additional Information

- Markable with text plate translucent white

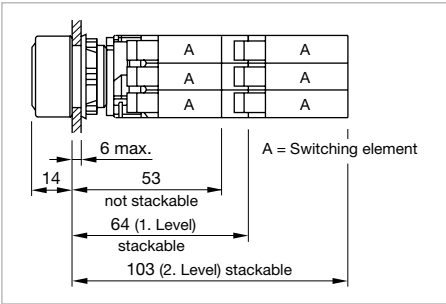
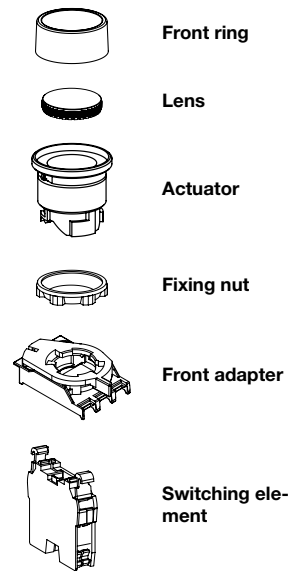


Mounting cut-outs [mm]

| Front ring | Lens cap | Part No. | Weight |
|---------------------|---|------------------|---------------------------|
| | Indicator actuator front illumination, Front dimension Ø 28 mm | | |
| | Plastic matt grey | Plastic red | 44-751.62 0.007 kg |
| | | Plastic yellow | 44-751.64 0.007 kg |
| | | Plastic green | 44-751.65 0.007 kg |
| | | Plastic blue | 44-751.66 0.007 kg |
| | | Plastic white | 44-751.69 0.007 kg |
| Plastic matt chrome | Plastic red | 44-751.22 | 0.007 kg |
| | Plastic yellow | 44-751.24 | 0.007 kg |
| | Plastic green | 44-751.25 | 0.007 kg |

Pushbutton complete, IP 65

Equipment consisting of (schematic overview)



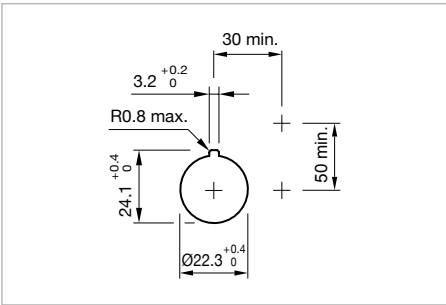
Dimensions [mm]



Product can differ from the current configuration.


Additional Information

- Switching system slow-make element
- Non-markable

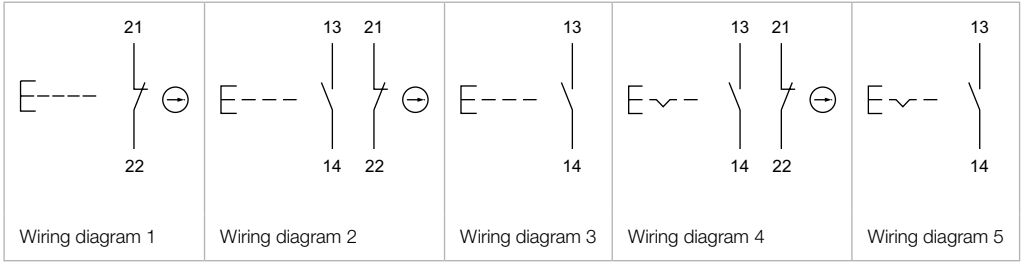


Mounting cut-outs [mm]

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

| Front ring | Lens | Contacts | Switching action | Terminal | Part No. | Wiring diagram | Weight |
|---|----------------|-------------|------------------|----------|---------------|----------------|----------|
|  Pushbutton complete, Front dimension Ø 28 mm | | | | | | | |
| Plastic matt chrome | Plastic red | 1 NC | B | Screw | 44-701.22.001 | 1 | 0.030 kg |
| | Plastic black | 1 NC + 1 NO | B | Screw | 44-701.20.100 | 2 | 0.037 kg |
| | Plastic yellow | 1 NO | B | Screw | 44-701.24.010 | 3 | 0.030 kg |
| | Plastic green | 1 NO | B | Screw | 44-701.25.010 | 3 | 0.030 kg |
| | Plastic white | 1 NO | B | Screw | 44-701.29.010 | 3 | 0.030 kg |
| | Plastic black | 1 NC + 1 NO | C | Screw | 44-702.20.100 | 4 | 0.037 kg |
| | Plastic green | 1 NO | C | Screw | 44-702.25.010 | 5 | 0.030 kg |

Contacts: NC = Normally closed, NO = Normally open
Switching action: B = Momentary, C = Maintain

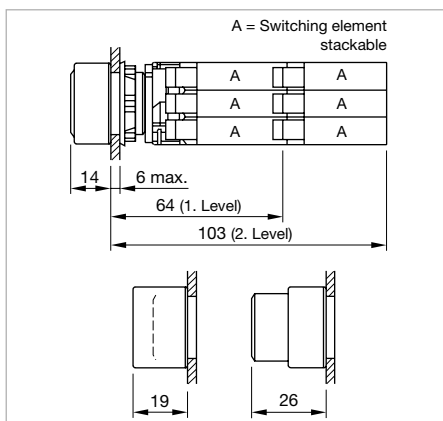


44 Raised design

Pushbutton, IP 65



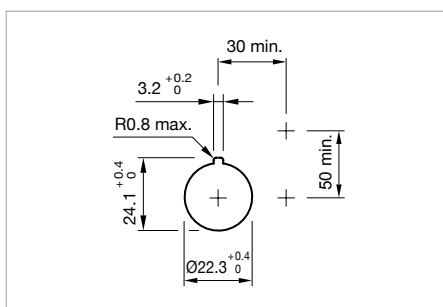
Product can differ from the current configuration.



Dimensions [mm]

Additional Information

- Non-markable
- Up to 3 switching elements with maintain action



Mounting cut-outs [mm]

Equipment consisting of (schematic overview)



Front ring



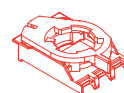
Lens



Actuator



Fixing nut




Front adapter *page 430*





Switching element *page 430*



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

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

| Mounting type | Front ring | Lens | Switching action | Part No. | Wiring diagram | Weight |
|--|---------------------|----------------|------------------|-----------|----------------|----------|
|  | | | | | | |
| Pushbutton actuator, Front dimension Ø 28 mm | | | | | | |
| level with bezel | Plastic matt chrome | Plastic black | B | 44-701.20 | 1 | 0.013 kg |
| | | Plastic red | B | 44-701.22 | 1 | 0.013 kg |
| | | Plastic yellow | B | 44-701.24 | 1 | 0.013 kg |
| | | Plastic green | B | 44-701.25 | 1 | 0.013 kg |
| | | Plastic blue | B | 44-701.26 | 1 | 0.013 kg |
| | | Plastic white | B | 44-701.29 | 1 | 0.013 kg |
| | Plastic matt grey | Plastic black | B | 44-701.60 | 1 | 0.013 kg |
| | | Plastic red | B | 44-701.62 | 1 | 0.013 kg |
| | | Plastic yellow | B | 44-701.64 | 1 | 0.013 kg |
| | | Plastic green | B | 44-701.65 | 1 | 0.013 kg |
| | | Plastic blue | B | 44-701.66 | 1 | 0.013 kg |
| | | Plastic white | B | 44-701.69 | 1 | 0.013 kg |
| | Plastic matt chrome | Plastic black | C | 44-702.20 | 2 | 0.013 kg |
| | | Plastic red | C | 44-702.22 | 2 | 0.013 kg |
| | | Plastic yellow | C | 44-702.24 | 2 | 0.013 kg |
| | | Plastic green | C | 44-702.25 | 2 | 0.013 kg |
| | | Plastic blue | C | 44-702.26 | 2 | 0.013 kg |
| | | Plastic white | C | 44-702.29 | 2 | 0.013 kg |
| | Plastic matt grey | Plastic black | C | 44-702.60 | 2 | 0.013 kg |
| | | Plastic red | C | 44-702.62 | 2 | 0.013 kg |
| | | Plastic yellow | C | 44-702.64 | 2 | 0.013 kg |

| Mounting type | Front ring | Lens | Switching action | Part No. | Wiring diagram | Weight | | |
|--|---------------------|---|---------------------|---------------|----------------|-----------|---|----------|
| level with bezel | Plastic matt grey | Plastic green | C | 44-702.65 | 2 | 0.013 kg | | |
| | | Plastic blue | C | 44-702.66 | 2 | 0.013 kg | | |
| | | Plastic white | C | 44-702.69 | 2 | 0.013 kg | | |
| <div></div> <div>Pushbutton actuator, Front dimension Ø 28 mm</div> | | | | | | | | |
| lower than bezel | Plastic matt chrome | Plastic black | B | 44-703.20 | 1 | 0.013 kg | | |
| | | Plastic red | B | 44-703.22 | 1 | 0.013 kg | | |
| | | Plastic yellow | B | 44-703.24 | 1 | 0.013 kg | | |
| | | Plastic green | B | 44-703.25 | 1 | 0.013 kg | | |
| | | Plastic blue | B | 44-703.26 | 1 | 0.013 kg | | |
| | | Plastic white | B | 44-703.29 | 1 | 0.013 kg | | |
| | Plastic matt grey | Plastic black | B | 44-703.60 | 1 | 0.013 kg | | |
| | | Plastic red | B | 44-703.62 | 1 | 0.013 kg | | |
| | | Plastic yellow | B | 44-703.64 | 1 | 0.013 kg | | |
| | | Plastic green | B | 44-703.65 | 1 | 0.013 kg | | |
| | | Plastic blue | B | 44-703.66 | 1 | 0.013 kg | | |
| | | Plastic white | B | 44-703.69 | 1 | 0.013 kg | | |
| | | <div></div> <div>Pushbutton actuator, Front dimension Ø 28 mm</div> | | | | | | |
| | | raised above bezel | Plastic matt chrome | Plastic black | B | 44-704.20 | 1 | 0.013 kg |
| | | | | Plastic red | B | 44-704.22 | 1 | 0.013 kg |
| Plastic yellow | B | | | 44-704.24 | 1 | 0.013 kg | | |
| Plastic green | B | | | 44-704.25 | 1 | 0.013 kg | | |
| Plastic blue | B | | | 44-704.26 | 1 | 0.013 kg | | |
| Plastic white | B | | | 44-704.29 | 1 | 0.013 kg | | |
| Plastic matt grey | Plastic black | | B | 44-704.60 | 1 | 0.013 kg | | |
| | Plastic red | | B | 44-704.62 | 1 | 0.013 kg | | |
| | Plastic yellow | | B | 44-704.64 | 1 | 0.013 kg | | |
| | Plastic green | | B | 44-704.65 | 1 | 0.013 kg | | |
| | Plastic blue | | B | 44-704.66 | 1 | 0.013 kg | | |
| | Plastic white | | B | 44-704.69 | 1 | 0.013 kg | | |

Switching action: B = Momentary, C = Maintain

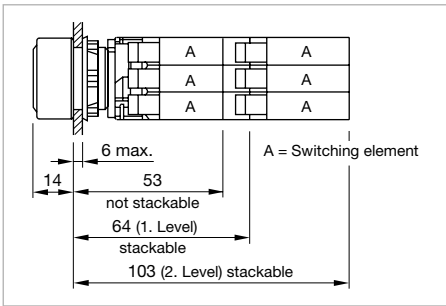
| | |
|---|---|
|  |  |
| Wiring diagram 1 | Wiring diagram 2 |

44 Raised design

Pushbutton markable, IP 65



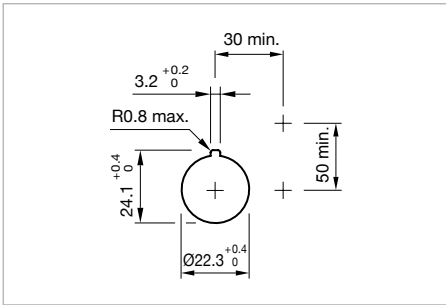
Product can differ from the current configuration.



Dimensions [mm]






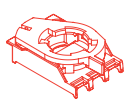

Additional Information

- Colour of lens is determined by the colour of text plate, up to 3 Switching elements max.




Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

-  **Front ring**
-  **Lens**
-  **Marking plate** *page 423*
-  **Actuator**
-  **Fixing nut**
-  **Front adapter** *page 430*
-  **Switching element** *page 430*

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

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

| Front ring | Lens | Switching action | Part No. | Wiring diagram | Weight |
|--|--------------------|------------------|-----------|----------------|----------|
|  Pushbutton actuator markable, Front dimension Ø 28 mm | | | | | |
| Plastic matt chrome | Plastic colourless | B | 44-701.27 | 1 | 0.012 kg |

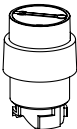
Switching action: B = Momentary

E---


Wiring diagram 1

Pushbutton lockable, IP 65

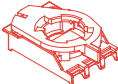
Equipment consisting of (schematic overview)




Actuator



Fixing nut



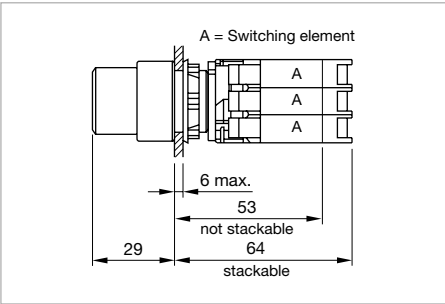
Front adapter *page 430*



Switching element *page 430*

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

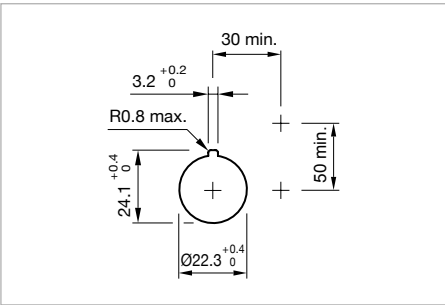
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]




Product can differ from the current configuration.



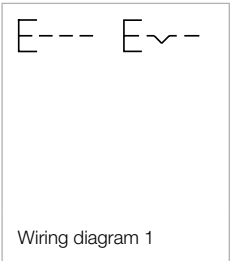
Mounting cut-outs [mm]

Additional Information

- In activated state locked by turning to the right, otherwise momentary action
- Up to 3 switching elements at 1. level

| Lever | Front ring | Switching action | Part No. | Wiring diagram | Weight |
|---|---------------------|------------------|-----------|----------------|----------|
|  Pushbutton actuator lockable, Front dimension Ø 28 mm | | | | | |
| Plastic black | Plastic matt chrome | B - C | 44-742.20 | 1 | 0.020 kg |
| Plastic red | Plastic matt chrome | B - C | 44-742.22 | 1 | 0.020 kg |

Switching action: B = Momentary, C = Maintain

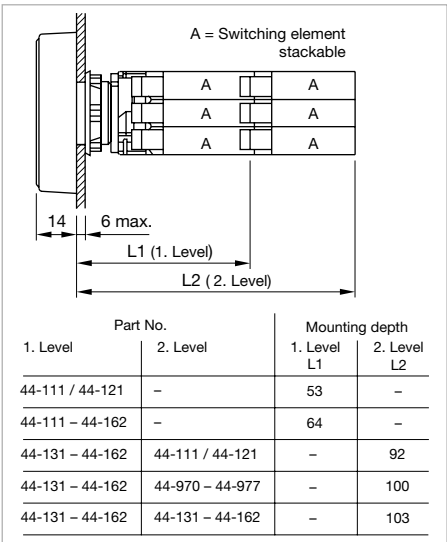


44 Raised design

Double pushbutton, IP 65



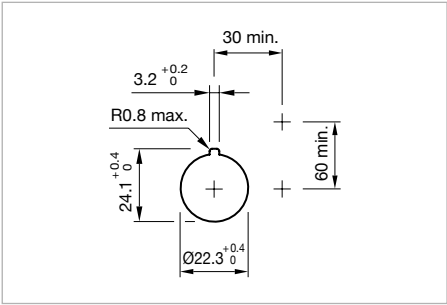
Product can differ from the current configuration.



Dimensions [mm]

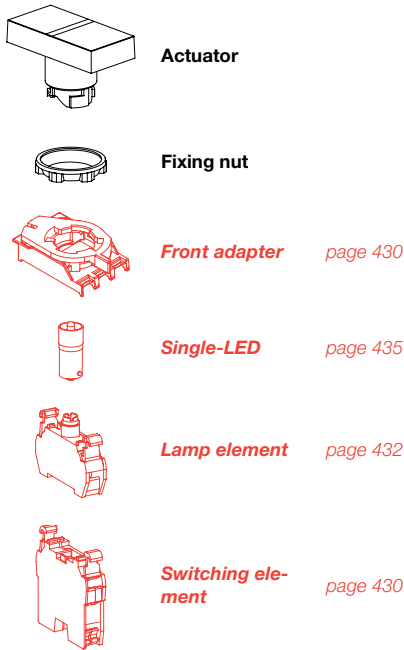
Additional Information

- With illuminative centre window



Mounting cut-outs [mm]

Equipment consisting of (schematic overview)



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

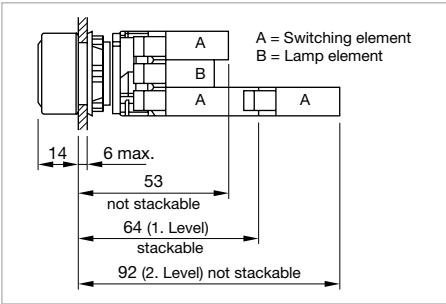
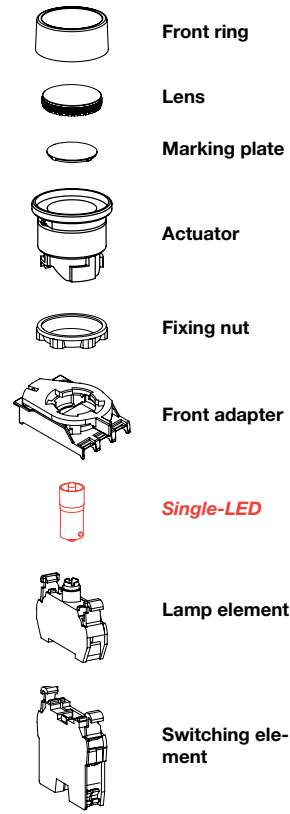
To obtain a complete unit, please select the red components from the pages shown.

| Front bezel | Lens | Marking | Switching action | Part No. | Component layout | Weight |
|-------------|---|---------|------------------|-----------------|------------------|----------|
| | Double pushbutton actuator, Front dimension 29.5 x 56 mm | | | | | |
| | Plastic green-red | | B | 44-770.2 | 3 | 0.018 kg |
| | | I - O | B | 44-771.2 | 3 | 0.018 kg |
| | Plastic white-black | | B | 44-773.2 | 3 | 0.018 kg |
| | | I - O | B | 44-774.2 | 3 | 0.018 kg |

Switching action: B = Momentary
The component layouts you will find from page 442

Illuminated pushbutton complete, IP 65

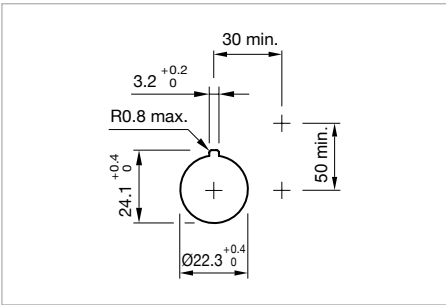
Equipment consisting of (schematic overview)



Dimensions [mm]



Product can differ from the current configuration.




Mounting cut-outs [mm]

Additional Information

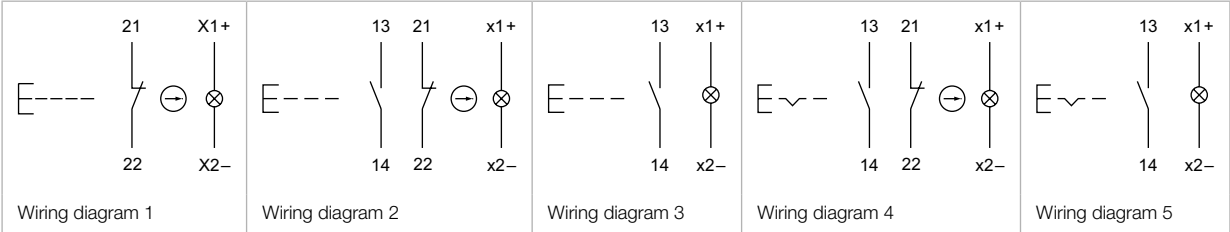
- Switching system slow-make element
- Markable

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

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

| Front ring | Lens | Contacts | Switching action | Terminal | Part No. | Wiring diagram | Weight |
|--|----------------|-------------|------------------|----------|----------------------|----------------|----------|
|  Illuminated pushbutton complete, Front dimension Ø 28 mm | | | | | | | |
| Plastic matt chrome | Plastic red | 1 NC | B | Screw | 44-746.22.001 | 1 | 0.040 kg |
| | Plastic white | 1 NC + 1 NO | B | Screw | 44-746.29.100 | 2 | 0.047 kg |
| | Plastic yellow | 1 NO | B | Screw | 44-746.24.010 | 3 | 0.040 kg |
| | Plastic green | 1 NO | B | Screw | 44-746.25.010 | 3 | 0.040 kg |
| | Plastic white | 1 NC + 1 NO | C | Screw | 44-747.29.100 | 4 | 0.047 kg |
| | Plastic green | 1 NO | C | Screw | 44-747.25.010 | 5 | 0.040 kg |

Contacts: NC = Normally closed, NO = Normally open
Switching action: B = Momentary, C = Maintain

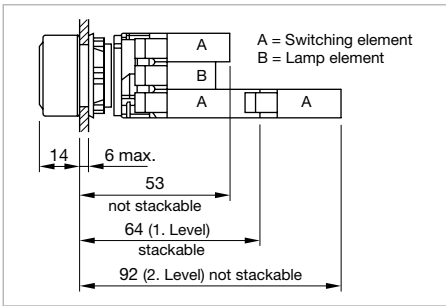


44 Raised design

Illuminated pushbutton, IP 65

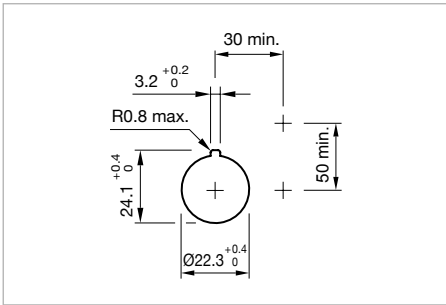


Product can differ from the current configuration.



Dimensions [mm]

- Additional Information**
- Markable with text plate translucent white
 - Up to 3 switching elements with maintain action




Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

- Front ring**
- Lens**
- Marking plate**
- Actuator**
- Fixing nut**
- Front adapter** *page 430*
- Single-LED** *page 435*
- Lamp element** *page 432*
- Switching element** *page 430*

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

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

| Front ring | Lens | Switching action | Part No. | Wiring diagram | Weight |
|--|----------------|------------------|------------------|----------------|----------|
|  Illuminated pushbutton actuator, Front dimension Ø 28 mm | | | | | |
| Plastic matt grey | Plastic red | B | 44-746.62 | 1 | 0.012 kg |
| | Plastic yellow | B | 44-746.64 | 1 | 0.012 kg |
| | Plastic green | B | 44-746.65 | 1 | 0.012 kg |
| | Plastic blue | B | 44-746.66 | 1 | 0.012 kg |
| | Plastic white | B | 44-746.69 | 1 | 0.012 kg |
| Plastic matt chrome | Plastic red | B | 44-746.22 | 1 | 0.012 kg |
| | Plastic yellow | B | 44-746.24 | 1 | 0.012 kg |
| | Plastic green | B | 44-746.25 | 1 | 0.012 kg |
| | Plastic blue | B | 44-746.26 | 1 | 0.012 kg |
| | Plastic white | B | 44-746.29 | 1 | 0.012 kg |
| Plastic matt grey | Plastic red | C | 44-747.62 | 2 | 0.012 kg |
| | Plastic yellow | C | 44-747.64 | 2 | 0.012 kg |
| | Plastic green | C | 44-747.65 | 2 | 0.012 kg |
| | Plastic blue | C | 44-747.66 | 2 | 0.012 kg |

| Front ring | Lens | Switching action | Part No. | Wiring diagram | Weight |
|---------------------|----------------|------------------|-----------|----------------|----------|
| Plastic matt grey | Plastic white | C | 44-747.69 | 2 | 0.012 kg |
| Plastic matt chrome | Plastic red | C | 44-747.22 | 2 | 0.012 kg |
| | Plastic yellow | C | 44-747.24 | 2 | 0.012 kg |
| | Plastic green | C | 44-747.25 | 2 | 0.012 kg |
| | Plastic blue | C | 44-747.26 | 2 | 0.012 kg |
| | Plastic white | C | 44-747.29 | 2 | 0.012 kg |

Switching action: B = Momentary, C = Maintain

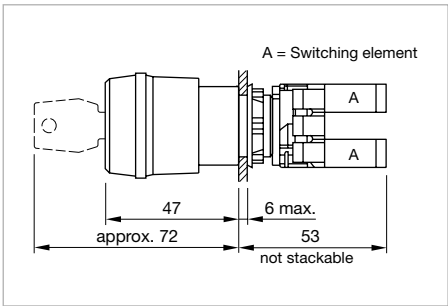
| | |
|------------------|------------------|
| | |
| Wiring diagram 1 | Wiring diagram 2 |

44 Raised design

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

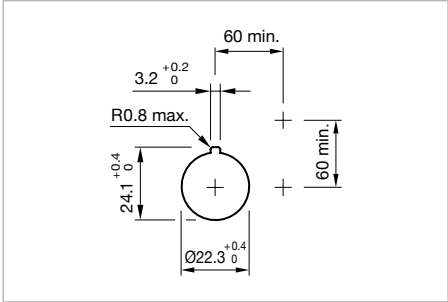


Product can differ from the current configuration.



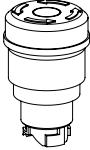
Dimensions [mm]

- Additional Information**
- Switching system slow-make element
 - Anwendung nach DIN EN ISO 13850 und EN 60204-1
 - Shaft yellow
 - The standard lock: Euro-Locks 9500
 - Two keys are supplied with each key lock switch
 - Optional lock numbers on request




Mounting cut-outs [mm]

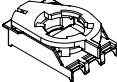
Equipment consisting of (schematic overview)



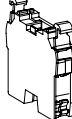
Vorsatz



Fixing nut





Front adapter

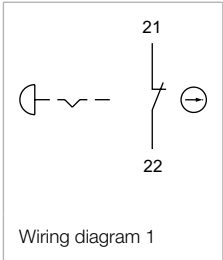


Switching element

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

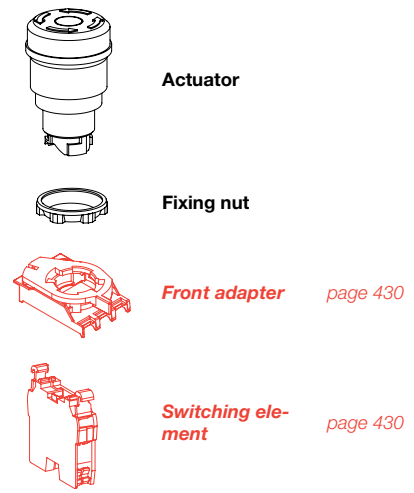
| Product attribute | Lens | Contacts | Switching action | Terminal | Part No. | Wiring diagram | Weight |
|--|-------------|----------|------------------|----------|------------|----------------|----------|
|  Emergency-stop switch complete, foolproof EN IEC 60947-5-5, Front dimension Ø 37 mm | | | | | | | |
| Twist to unlock anti-clockwise | Plastic red | 1 NC | C | Screw | 44-712.001 | 1 | 0.047 kg |
|  Emergency-stop switch complete, foolproof EN IEC 60947-5-5, Front dimension Ø 37 mm | | | | | | | |
| Key to unlock anti-clockwise | Plastic red | 1 NC | C | Screw | 44-713.001 | 1 | 0.083 kg |

Contacts: NC = Normally closed
Switching action: C = Maintain



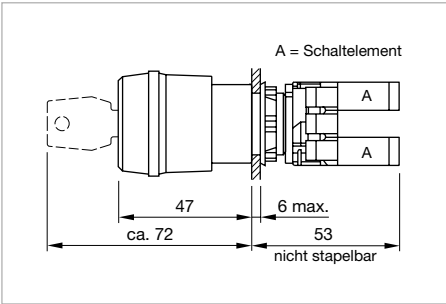
Emergency-stop switch foolproof, EN IEC 60947-5-5, IP 65

Equipment consisting of (schematic overview)

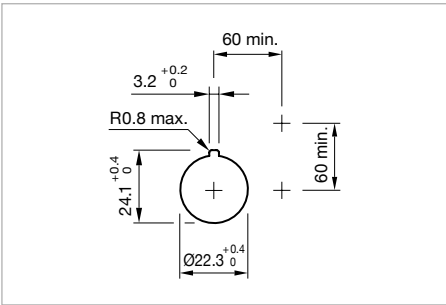


Each Part Number listed below includes all the black components shown in the 3D-drawing.

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



Dimensions [mm]





Mounting cut-outs [mm]



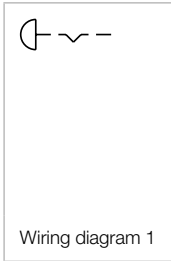
Product can differ from the current configuration.

Additional Information

- Application as per DIN EN ISO 13850 and EN 60204-1
- Shaft yellow
- The standard lock: Euro-Locks 9500
- Two keys are supplied with each key lock switch
- Optional lock numbers on request
- Up to 3 switching elements at 1. level

| Product attribute | Lens | Switching action | Part No. | Wiring diagram | Weight |
|---|-------------|------------------|----------|----------------|----------|
|  Emergency-stop switch actuator, foolproof EN IEC 60947-5-5, Front dimension Ø 37 mm | | | | | |
| Twist to unlock anti-clockwise | Plastic red | C | 44-712 | 1 | 0.040 kg |
|  Emergency-stop switch actuator, foolproof EN IEC 60947-5-5, Front dimension Ø 37 mm | | | | | |
| Key to unlock anti-clockwise | Plastic red | C | 44-713 | 1 | 0.066 kg |

Switching action: C = Maintain

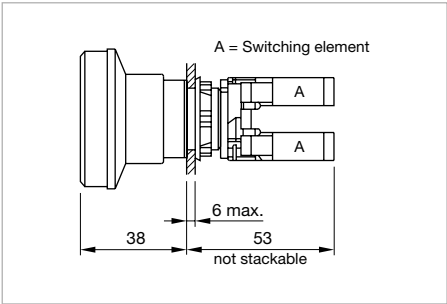


44 Raised design

Stop switch complete, IP 65



Product can differ from the current configuration.



Dimensions [mm]

Equipment consisting of (schematic overview)

Vorsatz

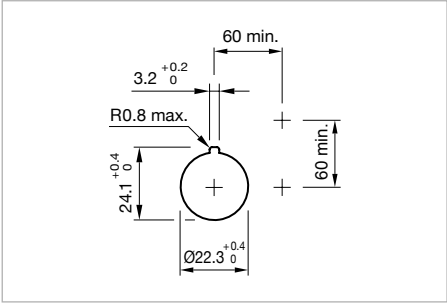
Fixing nut

Front adapter

Switching element

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

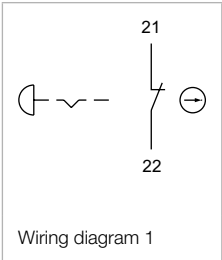
- Additional Information**
- Switching system slow-make element
 - Shaft yellow
 - Twist to unlock anti-clockwise



Mounting cut-outs [mm]

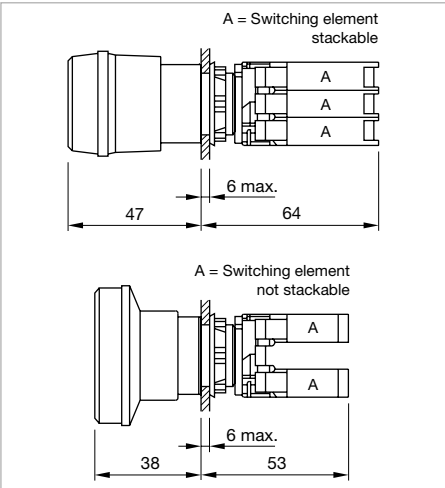
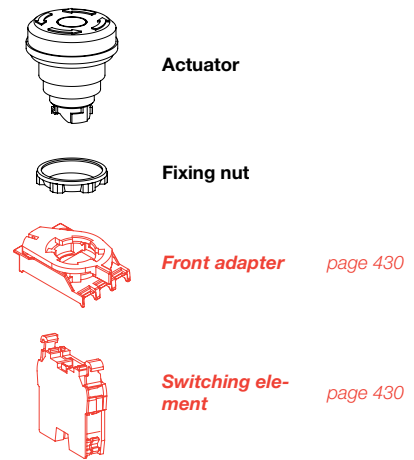
| Lens | Contacts | Switching action | Terminal | Part No. | Wiring diagram | Weight |
|-------------|----------|------------------|----------|------------|----------------|----------|
| | | | | | | |
| Plastic red | 1 NC | C | Screw | 44-710.001 | 1 | 0.057 kg |

Contacts: NC = Normally closed
Switching action: C = Maintain



Stop switch, IP 65

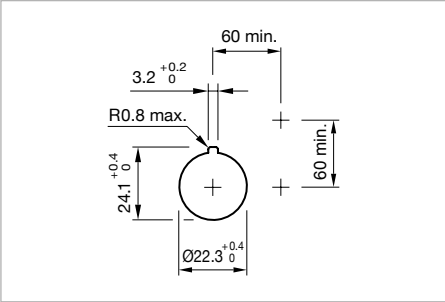
Equipment consisting of (schematic overview)



Product can differ from the current configuration.

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

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



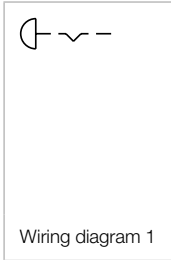
Mounting cut-outs [mm]

Additional Information

- Shaft yellow
- Twist to unlock anti-clockwise
- Up to 3 switching elements at 1. level

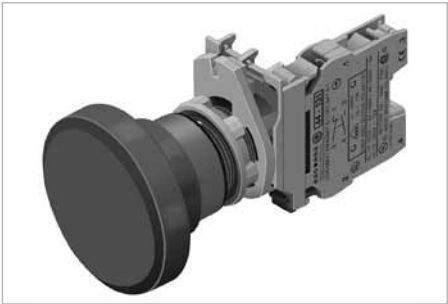
| Lens | Switching action | Part No. | Wiring diagram | Weight |
|---|------------------|----------|----------------|----------|
|  | | | | |
| Stop switch actuator, Front dimension Ø 50 mm | | | | |
| Plastic red | C | 44-710 | 1 | 0.040 kg |
|  | | | | |
| Stop switch actuator, Front dimension Ø 37 mm | | | | |
| Plastic red | C | 44-711 | 1 | 0.035 kg |

Switching action: C = Maintain

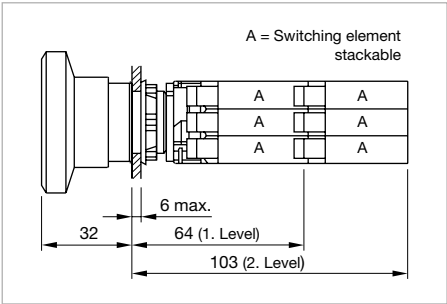


44 Raised design

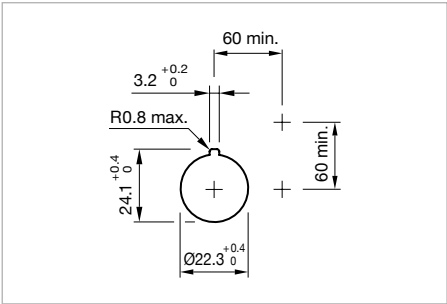
Mushroom-head pushbutton, IP 65



Product can differ from the current configuration.



Dimensions [mm]



Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

Vorsatz

Fixing nut

Front adapter *page 430*

Switching element *page 430*

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

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

| Front ring | Lens | Switching action | Part No. | Wiring diagram | Weight |
|------------|---|------------------|----------|----------------|------------|
| | Mushroom-head pushbutton actuator, Front dimension Ø 50 mm | | | | |
| | Plastic matt chrome | Plastic black | B | 44-707.20 | 1 0.028 kg |
| | | Plastic red | B | 44-707.22 | 1 0.028 kg |
| | | Plastic green | B | 44-707.25 | 1 0.028 kg |

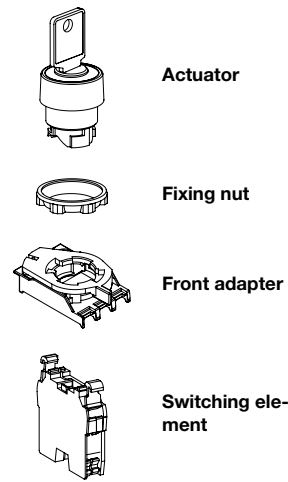
Switching action: B = Momentary

E---

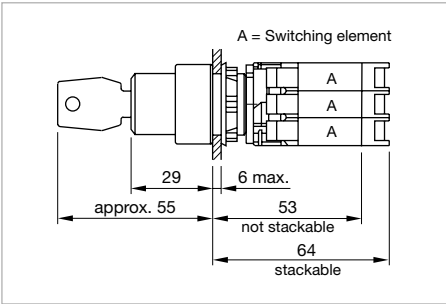
Wiring diagram 1

Key lock switch 2 positions complete, IP 65

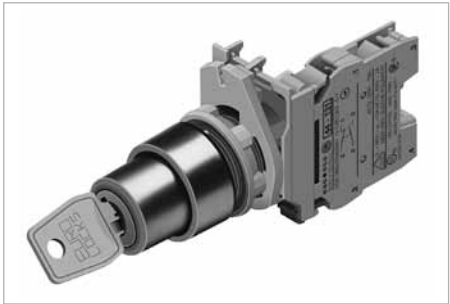
Equipment consisting of (schematic overview)



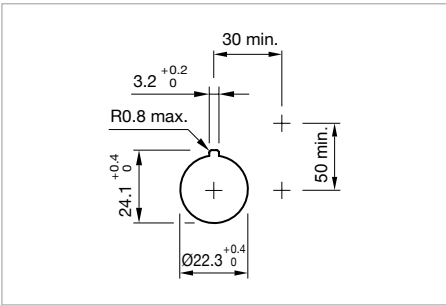
Each Part Number listed below includes all the black components shown in the 3D-drawing.



Dimensions [mm]



Product can differ from the current configuration.



Mounting cut-outs [mm]


Additional Information

- Switching system slow-make element
- Front ring plastic matchchrome
- The standard lock: Euro-Locks 9500
- Two keys are supplied with each key lock switch
- Optional lock numbers on request

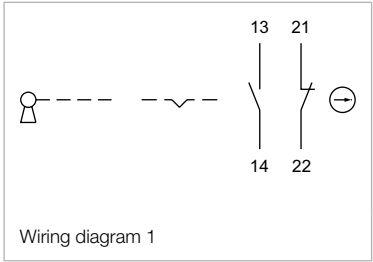
A C



Switching positions (A = Rest, C = Maintained)

| Contacts | Switching action | Switching angle | Key remove | Terminal | Part No. | Wiring diagram | Weight |
|---|------------------|-----------------|------------|----------|---------------|----------------|----------|
|  Key lock switch 2 positions complete, Front dimension Ø 28 mm | | | | | | | |
| 1 NC + 1 NO | A - C | C = 90° | A | Screw | 44-730.21.100 | 1 | 0.075 kg |
| | | | A + C | Screw | 44-730.22.100 | 1 | 0.075 kg |

Contacts: NC = Normally closed, NO = Normally open
Switching action: A = Rest, C = Maintain

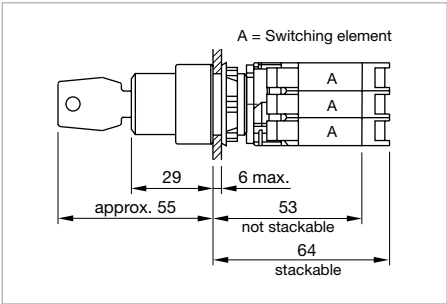


44 Raised design

Keylock switch 2 positions, IP 65

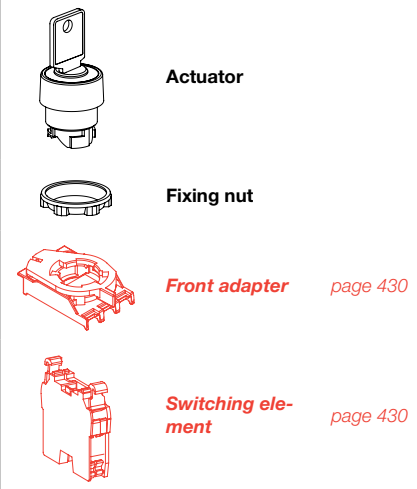


Product can differ from the current configuration.



Dimensions [mm]

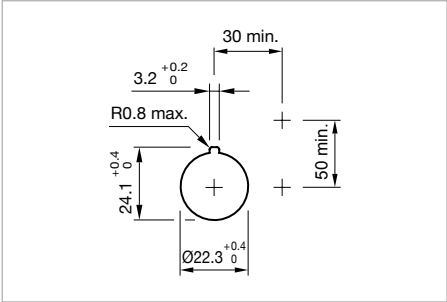
Equipment consisting of (schematic overview)



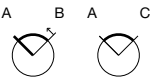
Each Part Number listed below includes all the black components shown in the 3D-drawing.

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


- Zusätzliche Informationen**
- The standard lock: Euro-Locks 9500
 - Two keys are supplied with each key lock switch
 - Optional lock numbers on request
 - Up to 3 switching elements at 1. level



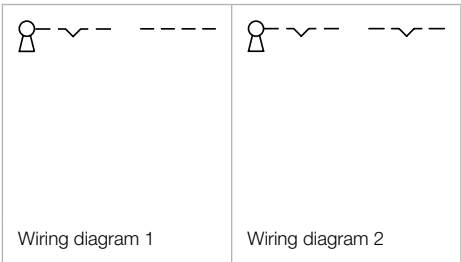
Mounting cut-outs [mm]



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

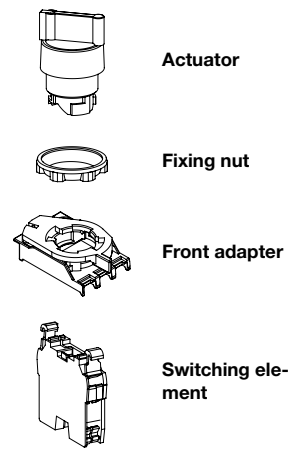
| Front ring | Switching action | Switching angle | Key remove | Part No. | Component layout | Wiring diagram | Weight |
|--|------------------|-----------------|------------|------------------|------------------|----------------|----------|
|  Keylock switch actuator 2 positions, Front dimension Ø 28 mm | | | | | | | |
| Plastic matt chrome | A - B | B = 90° | A | 44-732.21 | 5 | 1 | 0.051 kg |
| Plastic matt grey | A - B | B = 90° | A | 44-732.61 | 5 | 1 | 0.051 kg |
| Plastic matt chrome | A - C | C = 90° | A | 44-730.21 | 5 | 2 | 0.051 kg |
| | | | A + C | 44-730.22 | 5 | 2 | 0.051 kg |
| Plastic matt grey | A - C | C = 90° | A | 44-730.61 | 5 | 2 | 0.051 kg |
| | | | A + C | 44-730.62 | 5 | 2 | 0.051 kg |

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

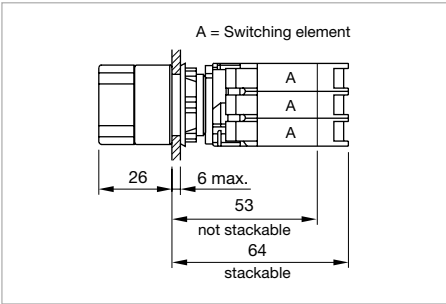


Selector switch 2 positions complete, IP 65

Equipment consisting of (schematic overview)



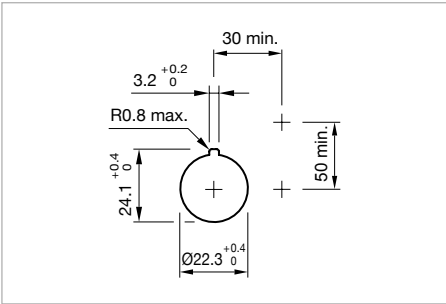
Each Part Number listed below includes all the black components shown in the 3D-drawing.



Dimensions [mm]



Product can differ from the current configuration.




Mounting cut-outs [mm]

Additional Information

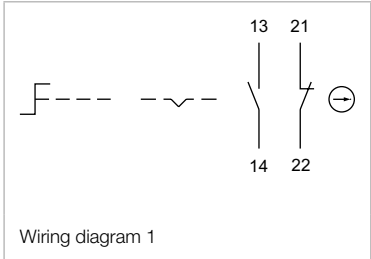
- Switching system slow-make element



Switching positions (A = Rest, C = Maintained)

| Lever | Front ring | Contacts | Switching action | Switching angle | Terminal | Part No. | Wiring diagram | Weight |
|---|---------------------|-------------|------------------|-----------------|----------|---------------|----------------|----------|
|  Selector switch 2 positions complete, Front dimension Ø 28 mm | | | | | | | | |
| Plastic black | Plastic matt chrome | 1 NC + 1 NO | A - C | C = 90° | Screw | 44-720.20.100 | 1 | 0.045 kg |

Contacts: NC = Normally closed, NO = Normally open
Switching action: A = Rest, C = Maintain

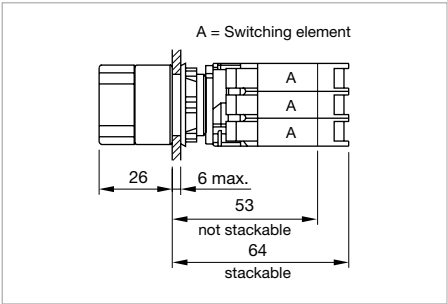


44 Raised design

Selector switch 2 positions, IP 65

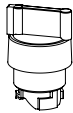



Product can differ from the current configuration.

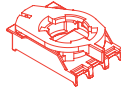



Dimensions [mm]

Equipment consisting of (schematic overview)

**Actuator**

**Fixing nut**

**Front adapter** *page 430*

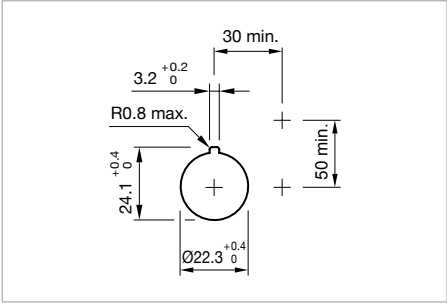
**Switching element** *page 430*

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

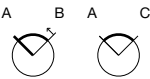
To obtain a complete unit, please select the red components from the pages shown.

Additional Information


- Up to 3 switching elements at 1. level



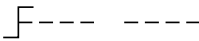
Mounting cut-outs [mm]

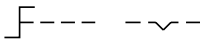


Switching positions (A = Rest, B = Momentary, C = Maintained)

| Lever | Front ring | Switching action | Switching angle | Part No. | Component layout | Wiring diagram | Weight |
|---|---------------------|------------------|-----------------|------------------|------------------|----------------|----------|
|  Selector switch actuator 2 positions, Front dimension Ø 28 mm | | | | | | | |
| Plastic black | Plastic matt chrome | A - B | B = 90° | 44-722.20 | 5 | 1 | 0.021 kg |
| Plastic grey | Plastic matt grey | A - B | B = 90° | 44-722.68 | 5 | 1 | 0.021 kg |
| Plastic black | Plastic matt chrome | A - C | C = 90° | 44-720.20 | 5 | 2 | 0.021 kg |
| Plastic red | Plastic matt chrome | A - C | C = 90° | 44-720.22 | 5 | 2 | 0.021 kg |
| | Plastic matt grey | A - C | C = 90° | 44-720.62 | 5 | 2 | 0.021 kg |
| Plastic grey | Plastic matt grey | A - C | C = 90° | 44-720.68 | 5 | 2 | 0.021 kg |

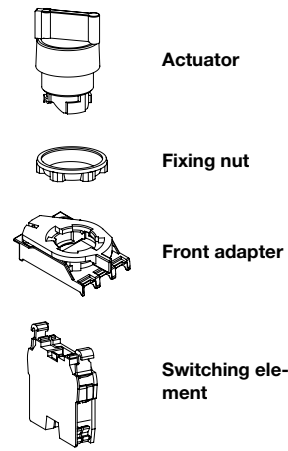
Switching action: A = Rest, B = Momentary, C = Maintain
The component layouts you will find from page 442


Wiring diagram 1

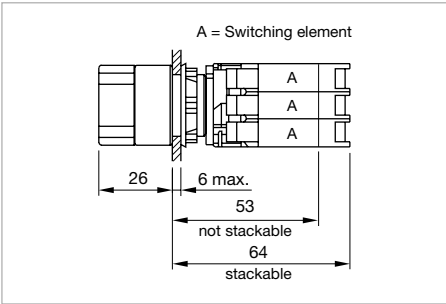

Wiring diagram 2

Selector switch 3 positions complete, IP 65

Equipment consisting of (schematic overview)



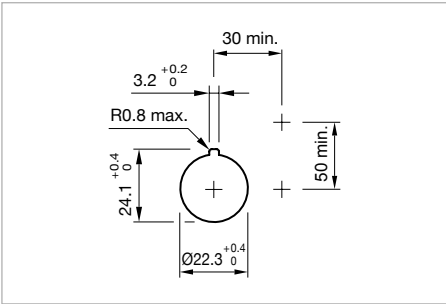
Each Part Number listed below includes all the black components shown in the 3D-drawing.



Dimensions [mm]



Product can differ from the current configuration.




Mounting cut-outs [mm]

Additional Information

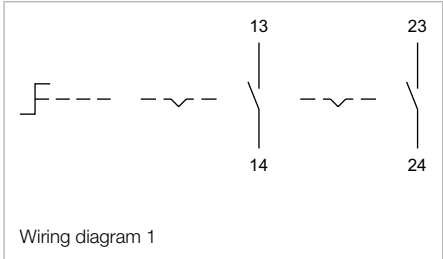
- Switching system slow-make element



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

| Lever | Front ring | Contacts | Switching action | Switching angle | Terminal | Part No. | Wiring diagram | Weight |
|--|---------------------|----------|------------------|-----------------|----------|---------------|----------------|----------|
|  Selector switch 3 positions complete, Front dimension Ø 28 mm | | | | | | | | |
| Plastic black | Plastic matt chrome | 2 NO | C - A - C | C = 60° / 60° | Screw | 44-724.20.020 | 1 | 0.048 kg |

Contacts: 1 Normally open
Switching action: A = Rest, C = Maintain

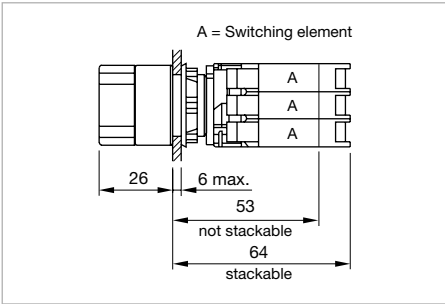


44 Raised design

Selector switch 3 positions, IP 65

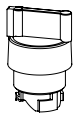



Product can differ from the current configuration.

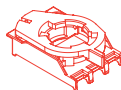



Dimensions [mm]

Equipment consisting of (schematic overview)

**Actuator**

**Fixing nut**

**Front adapter** *page 430*

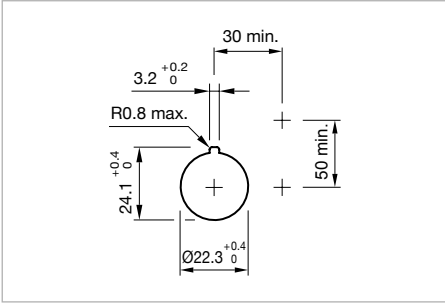
**Switching element** *page 430*

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

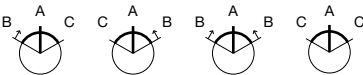
To obtain a complete unit, please select the red components from the pages shown.

Additional Information


- Up to 3 switching elements at 1. level



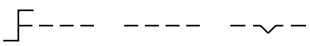
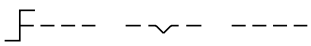
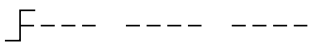
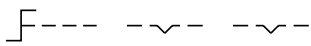
Mounting cut-outs [mm]



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

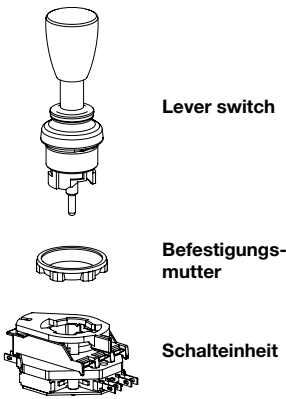
| Lever | Front ring | Switching action | Switching angle | Part No. | Component layout | Wiring diagram | Weight |
|--|---------------------|------------------|------------------|------------------|------------------|----------------|----------|
| <div></div> Selector switch actuator 3 positions, Front dimension Ø 28 mm | | | | | | | |
| Plastic black | Plastic matt chrome | B - A - C | B = 60°, C = 60° | 44-727.20 | 4 | 1 | 0.021 kg |
| Plastic grey | Plastic matt grey | B - A - C | B = 60°, C = 60° | 44-727.68 | 4 | 1 | 0.021 kg |
| Plastic black | Plastic matt chrome | C - A - B | C = 60°, B = 60° | 44-726.20 | 4 | 2 | 0.021 kg |
| Plastic grey | Plastic matt grey | C - A - B | C = 60°, B = 60° | 44-726.68 | 4 | 2 | 0.021 kg |
| Plastic black | Plastic matt chrome | B - A - B | B = 60° / 60° | 44-725.20 | 4 | 3 | 0.021 kg |
| Plastic grey | Plastic matt grey | B - A - B | B = 60° / 60° | 44-725.68 | 4 | 3 | 0.021 kg |
| Plastic black | Plastic matt chrome | C - A - C | C = 60° / 60° | 44-724.20 | 4 | 4 | 0.021 kg |
| Plastic grey | Plastic matt grey | C - A - C | C = 60° / 60° | 44-724.68 | 4 | 4 | 0.021 kg |

Switching action: A = Rest, B = Momentary, C = Maintain
The component layouts you will find from page 442

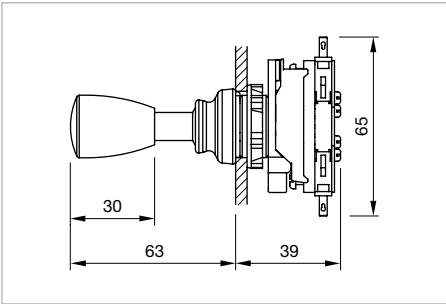
| | | | |
|---|---|--|---|
|  |  |  |  |
| Wiring diagram 1 | Wiring diagram 2 | Wiring diagram 3 | Wiring diagram 4 |

Lever switch, IP 65

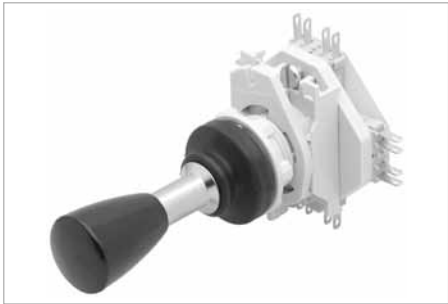
Equipment consisting of (schematic overview)



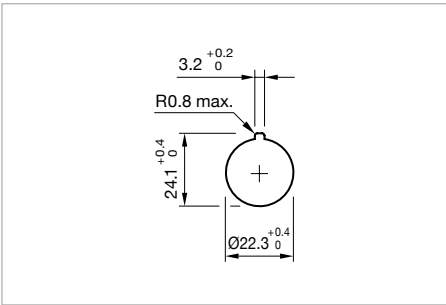
Each Part Number listed below includes all the black components shown in the 3D-drawing.



Dimensions [mm]




Product can differ from the current configuration.



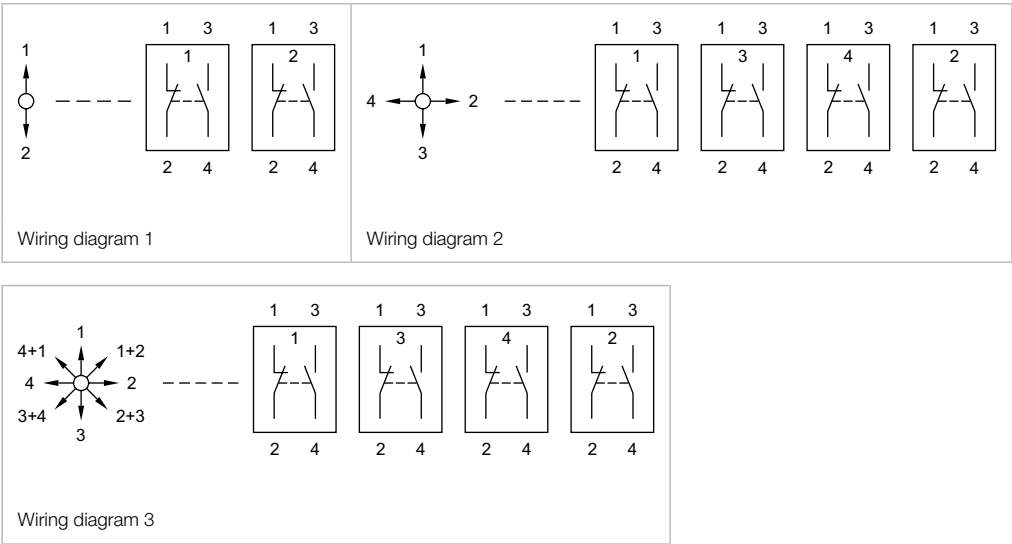
Mounting cut-outs [mm]

Additional Information

- Lever plastic black
- With flat receptacle, VDE 0630 (SEV) specify use of insulating sleeve Part No. 280-0010-00

| Product attribute | Switching system | Contacts | Switching action | Terminal | Part No. | Component layout | Wiring diagram | Weight |
|---|-------------------------------|-------------|------------------|---------------------|-----------------|------------------|----------------|----------|
|  Lever switch complete, Front dimension Ø 22 mm | | | | | | | | |
| 2 positions without latch position | Snap-action switching element | 2 NC + 2 NO | B | Solder 2.8 x 0.5 mm | 44-800.2 | 1 | 1 | 0.080 kg |
| 4 positions without latch position | Snap-action switching element | 4 NC + 4 NO | B | Solder 2.8 x 0.5 mm | 44-800.4 | 2 | 2 | 0.085 kg |
| 8 positions without latch position and lever guidance (omni directional) | Snap-action switching element | 4 NC + 4 NO | B | Solder 2.8 x 0.5 mm | 44-800.8 | 2 | 3 | 0.085 kg |

Contacts: NC = Normally closed, NO = Normally open
Switching action: B = Momentary
The component layouts you will find from page 442

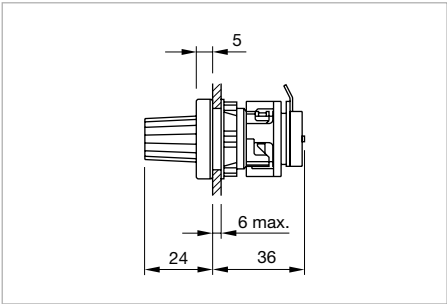


44 Raised design

Potentiometer, IP 65



Product can differ from the current configuration.



Dimensions [mm]

Gerät besteht aus (schematische Übersicht)



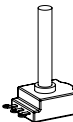
Knob



Actuator



Fixing nut

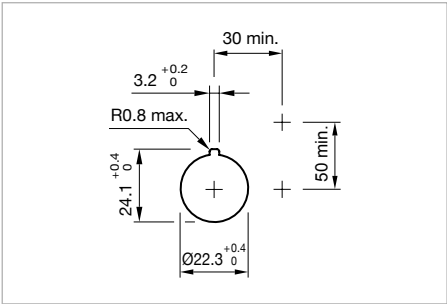


Potentiometer


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

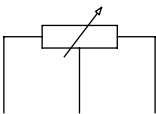
Additional Information

- Resistor 10 kOhm / linear, series E3
- Power 0.4 W
- Slewing range 300°



Mounting cut-outs [mm]


| Product attribute | Front ring | Terminal | Part No. | Wiring diagram | Weight |
|---|---------------------|----------|-----------------------|----------------|----------|
|  Potentiometer, Front dimension Ø 28 mm | Plastic matt chrome | Solder | 44-745.20-10K1 | 1 | 0.03 kg |
| | Plastic matt grey | Solder | 44-745.60-10K1 | 1 | 0.03 kg |
| without potentiometer, specification for potentiometer: Shaft = length 32 mm, shaft end = Form A, Ø = 6 mm | Plastic matt chrome | Solder | 44-744.20 | | 0.016 kg |
| | Plastic matt grey | Solder | 44-744.60 | | 0.016 kg |



Wiring diagram 1


Front**Lens****Additional Information**

- For indicator and illuminated pushbutton with front illumination und pushbutton markable

| Dimension | Lens | Part No. | Weight |
|--|--------------------------------|-----------------|----------|
|  Lens Ø 23 mm | Plastic red transparent | 44-966.2 | 0.001 kg |
| | Plastic yellow transparent | 44-966.4 | 0.001 kg |
| | Plastic green transparent | 44-966.5 | 0.001 kg |
| | Plastic blue transparent | 44-966.6 | 0.001 kg |
| | Plastic colourless transparent | 44-966.7 | 0.001 kg |
| | | | |

Marking plate for lens**Additional Information**


- Marking information see «Marking»

| Product attribute | Marking plate | Part No. | Weight |
|--|-------------------|-----------------|----------|
|  Marking plate for lens for pushbutton markable | black opaque | 44-961.0 | 0.001 kg |
| | red opaque | 44-961.2 | 0.001 kg |
| | yellow opaque | 44-961.4 | 0.001 kg |
| | green opaque | 44-961.5 | 0.001 kg |
| | blue opaque | 44-961.6 | 0.001 kg |
| | | | |
| for indicator and illuminated pushbutton with front illumination und pushbutton markable | white translucent | 44-962.9 | 0.001 kg |

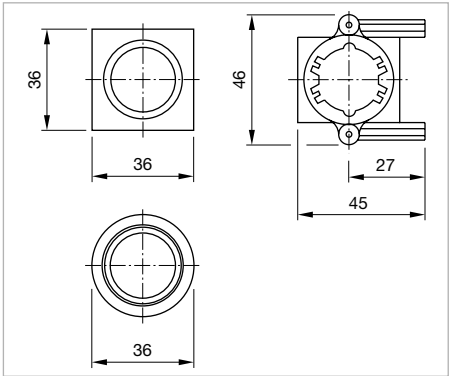
Lens cap

Additional Information



- For indicator with full face illumination, with sealing ring

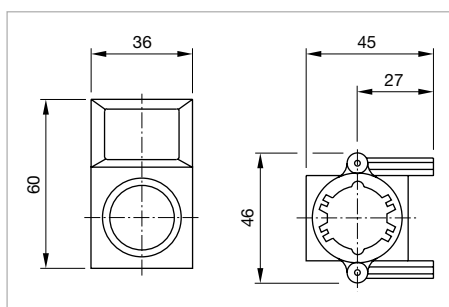
| Dimension | Lens cap | Part No. | Weight |
|--|--------------------------------|----------|----------|
|  Lens cap Ø 23 mm | Plastic red transparent | 44-965.2 | 0.003 kg |
| | Plastic yellow transparent | 44-965.4 | 0.003 kg |
| | Plastic green transparent | 44-965.5 | 0.003 kg |
| | Plastic blue transparent | 44-965.6 | 0.003 kg |
| | Plastic colourless transparent | 44-965.7 | 0.003 kg |

Front bezel set without legend




Dimensions [mm]

| Product attribute | Mounting cut-out | Front bezel | Part No. | Weight |
|---|------------------|---------------|-------------|----------|
|  Front bezel set without legend support, flush design, Front dimension 36 x 36 mm | | | | |
| for indicator and potentiometer, the mounting depth extends for 3 mm | Ø 30.5 mm | Plastic black | 44-946.01 | 0.006 kg |
| for illuminated pushbutton and pushbutton, selector- and keylock switch, interlocking pushbutton, the mounting depth extends for 12 mm | Ø 30.5 mm | Plastic black | 44-946.03 | 0.010 kg |
|  Front bezel set without legend support, flush design, Front dimension Ø 36 mm | | | | |
| for indicator and potentiometer, the mounting depth extends for 3 mm | Ø 30.5 mm | Plastic black | 44-946.01-A | 0.006 kg |
| for illuminated pushbutton and pushbutton, selector- and keylock switch, interlocking pushbutton, the mounting depth extends for 12 mm | Ø 30.5 mm | Plastic black | 44-946.03-A | 0.010 kg |


Front bezel set with legend

Dimensions [mm]

| Product attribute | Mounting cut-out | Front bezel | Part No. | Weight |
|--|------------------|---------------|------------------|----------|
|  Front bezel set with legend support, flush design, Front dimension 36 x 60 mm | | | | |
| for indicator and potentiometer, the mounting depth extends for 3 mm | Ø 30.5 mm | Plastic black | 44-946.02 | 0.007 kg |
| for illuminated pushbutton and pushbutton, selector- and keylock switch, interlocking pushbutton, the mounting depth extends for 12 mm | Ø 30.5 mm | Plastic black | 44-946.04 | 0.011 kg |

Legend plate for legend support**Additional Information**

- Marking information see «Marking»

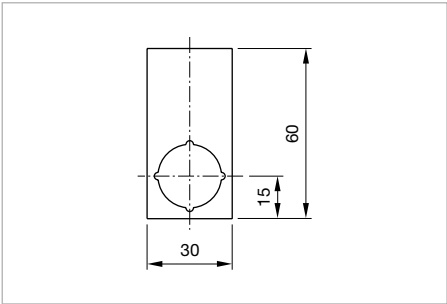
| Dimension | Material | Colour | Mounting type | Part No. | Weight |
|---|-----------------------|-----------------|---------------|-----------------|----------|
|  Legend plate for front bezel set with legend support, flush design | | | | | |
| 27 x 18 mm | plastic, double layer | aluminium/black | adhesive | 44-946 | 0.001 kg |
| | | black/white | adhesive | 44-946.0 | 0.001 kg |

44 Accessories


Legend plate, IP 40

Additional Information

- For engraving
- The colour of anodized aluminium parts can vary due to technical production reasons



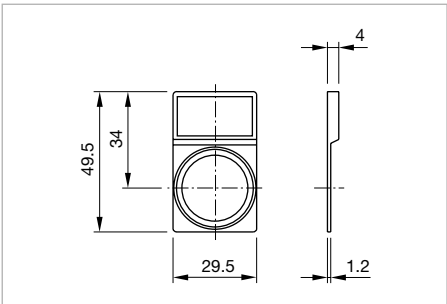
Dimensions [mm]

| Dimension | Material | Colour | Part No. | Weight |
|---|-----------|------------------|---------------|----------|
|  Legend plate | | | | |
| 30 x 60 mm | Aluminium | natural anodized | 44-955 | 0.001 kg |

Legend support without legend

Additional Information

- Label to be ordered separatly Part No. 44-960
- Remove sealing ring from actuator

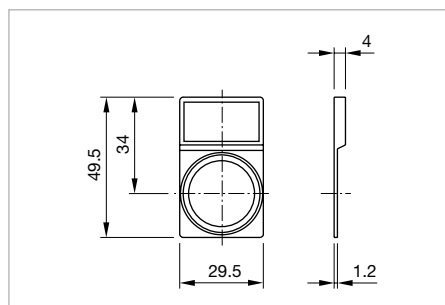


Dimensions [mm]

| Dimension | Material | Colour | Part No. | Weight |
|--|----------|--------|------------------|----------|
|  Legend support without legend | | | | |
| 29.5 x 49.5 mm | Plastic | black | 44-944.00 | 0.002 kg |
| | | grey | 44-944.08 | 0.002 kg |

Legend support with legend**Additional Information**

- Label unmarked, remove sealing ring from actuator



Dimensions [mm]

| Dimension | Material | Colour | Part No. | Weight |
|---|----------|--------|------------------|----------|
|  Legend support with legend | Plastic | black | 44-945.00 | 0.002 kg |
| | | grey | 44-945.08 | 0.002 kg |
| | | | | |

Legend plate for legend support**Additional Information**

- Marking information see «Marking»
- The colour of anodized aluminium parts can vary due to technical production reasons

| Dimension | Material | Colour | Part No. | Weight |
|--|-----------|----------------|---------------|----------|
|  Legend plate for legend support with legend | Aluminium | black anodized | 44-960 | 0.001 kg |
| | | | | |

Front ring**Additional Information**

- For illuminated pushbutton- and pushbutton actuator

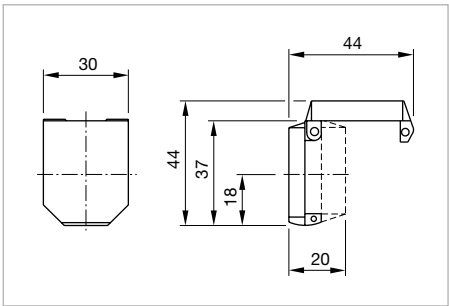
| Front ring | Part No. | Weight |
|---|---------------------|-----------------|
|  Front ring | | |
| | Plastic matt chrome | 44-967.2 |
| | Plastic matt grey | 44-967.6 |

44 Accessories

Protective cover, IP 65

Additional Information

- Hinged, with means for sealing
- Front panel thickness up to 3 mm max
- Remove anti-twisting nose from the actuator
- The dimensions of the mounting cut-outs are shown in the product details
- Please note that bigger minimum distances are necessary




Dimensions [mm]

| Front protection | Mounting cut-out | Material | Optics | Part No. | Weight |
|--|------------------|----------|-------------|---------------|----------|
|  | | | | | |
| Protective cover | | | | | |
| IP 65 | Ø 22.5 mm | Plastic | transparent | 44-922 | 0.007 kg |

Front protective cap, IP 68


Additional Information

- Only in connection with flush front ring. Protection when used under adverse ambient conditions. Remove gasket from the actuator. Cannot be used with the label support.

| Material | Colour | Optics | Part No. | Weight |
|---|------------|-------------|------------------|----------|
|  | | | | |
| Front protective cap | | | | |
| Silicone | colourless | transparent | 44-917.07 | 0.002 kg |

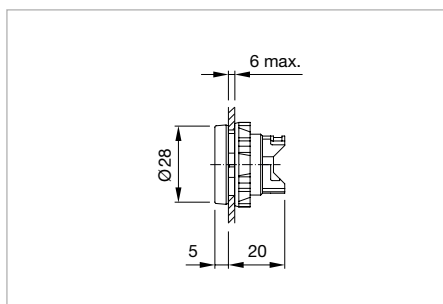
Keylock cap**Additional Information**

- For keylock pushbutton raised design. Protection when used under adverse ambient conditions
- Remove sealing ring from actuator
- Can not be used with the label support

| Material | Colour | Part No. | Weight |
|--|--------|------------------|----------|
|  Keylock cap | black | 44-921.00 | 0.004 kg |
| | grey | 44-921.08 | 0.004 kg |

Blind plug**Additional Information**

- Lamp transformer can be mounted with front adaptor
- The dimensions of the mounting cut-outs are shown in the product details



Dimensions [mm]

| Mounting cut-out | Material | Colour | Part No. | Weight |
|---|----------|--------|---------------|----------|
|  Blind plug | Plastic | grey | 44-915 | 0.008 kg |
| Ø 22.5 mm | | | | |

Spare key**Zusätzliche Informationen**

- For standard lock: Euro-Locks 9500
- Optional lock numbers on request

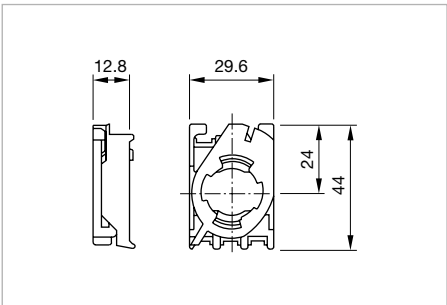
| Part No. | Weight |
|--|----------|
|  Spare key | 0.007 kg |
| 44-919 | |

Rear side


Front adapter front mounting

Additional Information

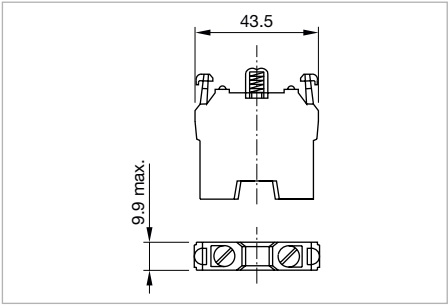
- Front adaptor marking: Terminal marking and distinctive number as per DIN EN 50013. The operating characters are marked on the switching elements beside the screw terminals




Dimensions [mm]

| Product attribute | Marking | Part No. | Weight |
|---|---------|---------------|----------|
|  Front adapter front mounting | | | |
| for switching element or lamp element | without | 44-900 | 0.007 kg |
| for switching elements in 1. level | | 44-901 | 0.007 kg |
| for switching elements in 2. level | | 44-902 | 0.007 kg |
| for switching elements in 3. level | | 44-903 | 0.007 kg |

Slow-make element stackable

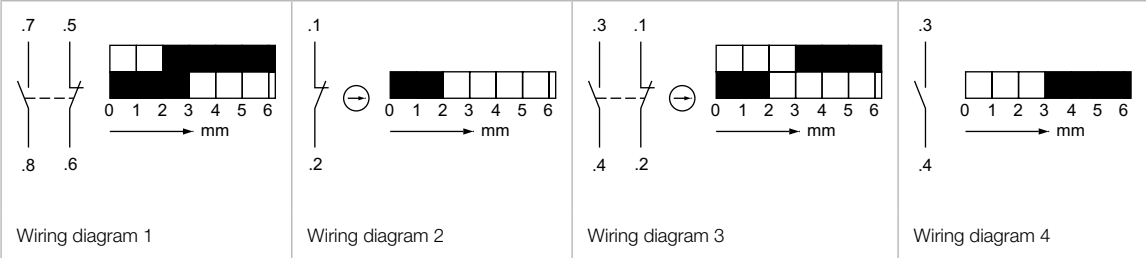


Dimensions [mm]

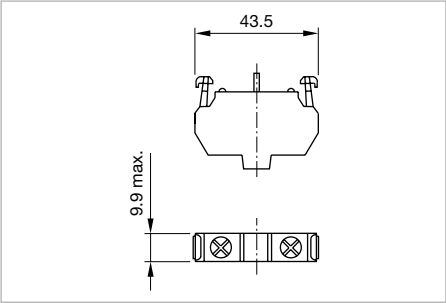
| Product attribute | Switching voltage | Switching current | Contacts | Contact material | Terminal | Part No. | Wiring diagram | Weight |
|---|-------------------|-------------------|-------------|------------------|----------|---------------|----------------|----------|
|  Slow-make switching element front mounting stackable | | | | | | | | |
| overlapping, not to use with EMERGENCY-STOP switch | 500 VAC | 10 A | 1 NC + 1 NO | Silver | Screw | 44-141 | 1 | 0.017 kg |
| Zwangsöffnung nach EN IEC 60947-5-1 | 500 VAC | 10 A | 1 Ö + 1 S | Silber | Schraub | 44-131 | 3 | 0.017 kg |
| | | | | Gold | Screw | 44-132 | 3 | 0.017 kg |
| | | | 1 NC | Silver | Screw | 44-151 | 2 | 0.014 kg |

| Product attribute | Switching voltage | Switching current | Contacts | Contact material | Terminal | Part No. | Wiring diagram | Weight |
|--------------------------------------|-------------------|-------------------|----------|------------------|----------|---------------|----------------|----------|
| Forced opening as per EN IEC 947-5-1 | 500 VAC | 10 A | 1 NC | Gold | Screw | 44-152 | 2 | 0.014 kg |
| | | | 1 NO | Silver | Screw | 44-161 | 4 | 0.014 kg |
| | | | | Gold | Screw | 44-162 | 4 | 0.014 kg |


Contacts: NC = Normally closed, NO = Normally open



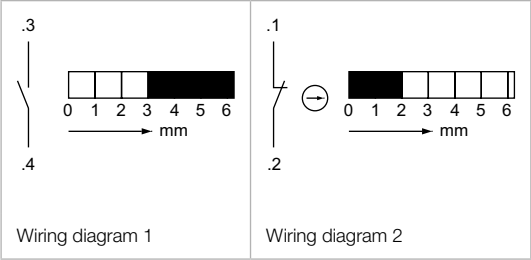
Slow make element non-stackable



Dimensions [mm]

| Product attribute | Switching voltage | Switching current | Contacts | Contact material | Terminal | Part No. | Wiring diagram | Weight |
|--|-------------------|-------------------|----------|------------------|----------|---------------|----------------|----------|
|  Slow-make switching element front mounting non-stackable | | | | | | | | |
| Forced opening as per EN IEC 947-5-1 | 500 VAC | 10 A | 1 NC | Silver | Screw | 44-111 | 2 | 0.010 kg |
| | 500 VAC | 10 A | 1 NO | Silver | Screw | 44-121 | 1 | 0.010 kg |

Contacts: NC = Normally closed, NO = Normally open

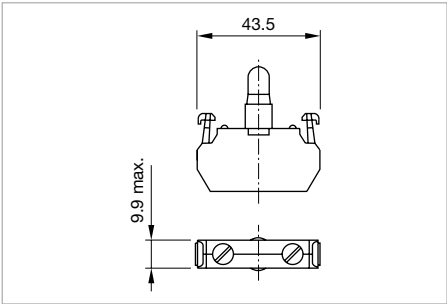


44 Accessories


Lamp element front mounting

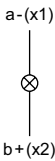
Additional Information

- Lamp socket BA9s, max. 2.6 W



Dimensions [mm]

| Terminal | Part No. | Wiring diagram | Weight |
|--|----------|----------------|----------|
|  Lamp element front mounting | | | |
| Screw | 44-524 | 1 | 0.011 kg |




Wiring diagram 1

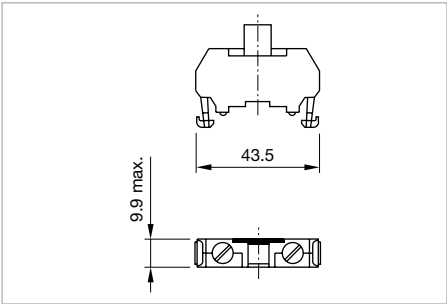
Base adaptor

Additional Information


- Front adaptor marking: Terminal marking and distinctive number as per DIN EN 50013. The operating characters are marked on the switching elements beside the screw terminals

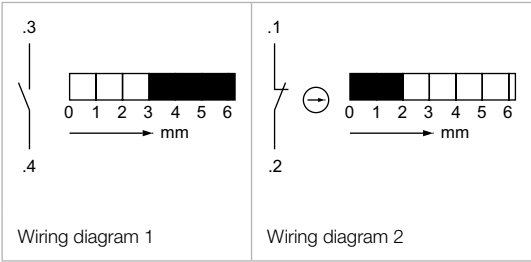
| Marking | Part No. | Weight |
|---|----------|----------|
|  Base adaptor | | |
| | 44-905 | 0.006 kg |

Slow-make element base mountingung



Dimensions [mm]

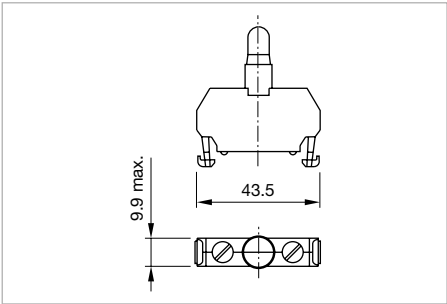
| Product attribute | Switching voltage | Switching current | Contacts | Contact material | Terminal | Part No. | Wiring diagram | Weight |
|--|-------------------|-------------------|----------|------------------|----------|---------------|----------------|----------|
|  Slow-make switching element base mounting non-stackable | | | | | | | | |
| Forced opening as per EN IEC 947-5-1 | 500 VAC | 10 A | 1 NC | Silver | Screw | 44-211 | 2 | 0.010 kg |
| | 500 VAC | 10 A | 1 NO | Silver | Screw | 44-221 | 1 | 0.010 kg |




Lamp base mounting

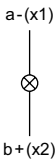
Additional Information

- Lamp socket BA9s, max. 2.6 W



Dimensions [mm]

| Terminal | Part No. | Wiring diagram | Weight |
|---|----------|----------------|----------|
|  Lamp base mounting | | | |
| Screw | 44-525 | 1 | 0.011 kg |

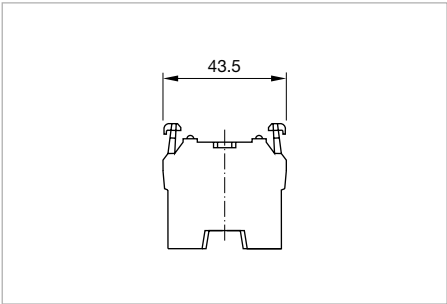


Wiring diagram 1

Blind element

Additional Information

- For mounting of lamp transformer

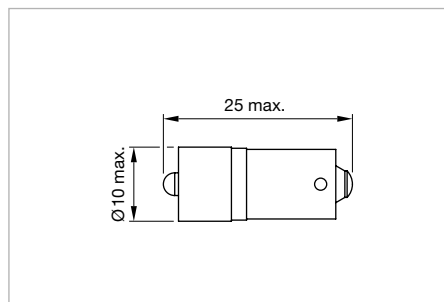


Dimensions [mm]

| Part No. | Weight |
|--|----------|
|  Blind element | |
| 44-940 | 0.008 kg |

Illumination**Single-LED, BA9s****Additional Information**

- Luminous intensity data of the LEDs on direct voltage
- Electrical and optical data are measured at 25 °C
- The specified 6 VDC, 130 VAC, 130 DC und 230 VAC versions are built with a protection diode
- The specified 12, 24, 28, 48 VAC/DC versions are built with a bridge rectifier
- Luminosity and wave length scattering caused by LED manufacturing processes may cause slight variations in the illumination
- The specified 130 VAC types are developed to run on a supply voltage of 130 VAC only. An operation at a higher supply voltage using commercial lampholders with integrated resistors, is not approved



Dimensions [mm]

| LED colour | Operating voltage | Operation current | Lumi. intensity | Dom. wavelength | Part No. | Weight |
|--|-------------------|-------------------|-----------------|-----------------|---------------------|----------|
|  Single-LED | | | | | | |
| red | 6 VDC +10 % | 17 mA±15 % | 400 mcd | 630 nm | 10-2506.1082 | 0.002 kg |
| | 12 VAC/DC +10 % | 16 mA±15 % | 390 mcd | 630 nm | 10-2509.1142 | 0.002 kg |
| | 24 VAC/DC +10 % | 15 mA±15 % | 350 mcd | 630 nm | 10-2512.1142 | 0.002 kg |
| | 28 VAC/DC +10 % | 13 mA±15 % | 300 mcd | 630 nm | 10-2513.1142 | 0.002 kg |
| | 48 VAC/DC +10 % | 8 mA±15 % | 200 mcd | 630 nm | 10-2519.1052 | 0.002 kg |
| | 130 VDC +10 % | 3 mA±15 % | 120 mcd | 630 nm | 10-2524.3042 | 0.002 kg |
| | 130 VAC +10 % | 5 mA±15 % | 180 mcd | 630 nm | 10-2H24.2052 | 0.002 kg |
| | 230 VAC +10 % | 3 mA±15 % | 120 mcd | 630 nm | 10-2H25.2042 | 0.002 kg |
| yellow | 6 VDC +10 % | 17 mA±15 % | 340 mcd | 587 nm | 10-2506.1084 | 0.002 kg |
| | 12 VAC/DC +10 % | 16 mA±15 % | 340 mcd | 587 nm | 10-2509.1144 | 0.002 kg |
| | 24 VAC/DC +10 % | 15 mA±15 % | 300 mcd | 587 nm | 10-2512.1144 | 0.002 kg |
| | 28 VAC/DC +10 % | 13 mA±15 % | 270 mcd | 587 nm | 10-2513.1144 | 0.002 kg |
| | 48 VAC/DC +10 % | 8 mA±15 % | 180 mcd | 587 nm | 10-2519.1054 | 0.002 kg |
| | 130 VDC +10 % | 3 mA±15 % | 110 mcd | 587 nm | 10-2524.3044 | 0.002 kg |
| | 130 VAC +10 % | 5 mA±15 % | 160 mcd | 587 nm | 10-2H24.2054 | 0.002 kg |
| | 230 VAC +10 % | 3 mA±15 % | 110 mcd | 587 nm | 10-2H25.2044 | 0.002 kg |
| green | 6 VDC +10 % | 7 mA±15 % | 1050 mcd | 525 nm | 10-2506.1085 | 0.002 kg |
| | 12 VAC/DC +10 % | 7 mA±15 % | 1050 mcd | 525 nm | 10-2509.1145 | 0.002 kg |
| | 24 VAC/DC +10 % | 7 mA±15 % | 1050 mcd | 525 nm | 10-2512.1145 | 0.002 kg |
| | 28 VAC/DC +10 % | 7 mA±15 % | 1050 mcd | 525 nm | 10-2513.1145 | 0.002 kg |
| | 48 VAC/DC +10 % | 4 mA±15 % | 600 mcd | 525 nm | 10-2519.1055 | 0.002 kg |
| | 130 VDC +10 % | 2 mA±15 % | 300 mcd | 525 nm | 10-2524.3045 | 0.002 kg |
| | 130 VAC +10 % | 3 mA±15 % | 450 mcd | 525 nm | 10-2H24.2055 | 0.002 kg |
| | 230 VAC +10 % | 2 mA±15 % | 300 mcd | 525 nm | 10-2H25.2045 | 0.002 kg |


44 Accessories

| LED colour | Operating voltage | Operation current | Lumi. intensity | Dom. wavelength | Part No. | Weight |
|------------|-------------------|-------------------|-----------------|-----------------|---------------------|----------|
| blue | 6 VDC +10 % | 17 mA±15 % | 780 mcd | 470 nm | 10-2506.1086 | 0.002 kg |
| | 12 VAC/DC +10 % | 16 mA±15 % | 720 mcd | 470 nm | 10-2509.1146 | 0.002 kg |
| | 24 VAC/DC +10 % | 15 mA±15 % | 680 mcd | 470 nm | 10-2512.1146 | 0.002 kg |
| | 28 VAC/DC +10 % | 13 mA±15 % | 590 mcd | 470 nm | 10-2513.1146 | 0.002 kg |
| | 48 VAC/DC +10 % | 8 mA±15 % | 400 mcd | 470 nm | 10-2519.1056 | 0.002 kg |
| | 130 VDC +10 % | 3 mA±15 % | 200 mcd | 470 nm | 10-2524.3046 | 0.002 kg |
| | 130 VAC +10 % | 5 mA±15 % | 230 mcd | 470 nm | 10-2H24.2056 | 0.002 kg |
| | 230 VAC +10 % | 3 mA±15 % | 200 mcd | 470 nm | 10-2H25.2046 | 0.002 kg |
| white | 6 VDC +10 % | 5 mA ±15 % | 750 mcd | x0.31/y0.32 nm | 10-2506.1089 | 0.002 kg |
| | 12 VAC/DC +10 % | 8 mA ±15 % | 1200 mcd | x0.31/y0.32 nm | 10-2509.1149 | 0.002 kg |
| | 24 VAC/DC +10 % | 7 mA ±15 % | 1050 mcd | x0.31/y0.32 nm | 10-2512.1149 | 0.002 kg |
| | 28 VAC/DC +10 % | 5 mA ±15 % | 750 mcd | x0.31/y0.32 nm | 10-2513.1149 | 0.002 kg |
| | 48 VAC/DC +10 % | 5 mA ±15 % | 750 mcd | x0.31/y0.32 nm | 10-2519.1059 | 0.002 kg |
| | 130 VDC +10 % | 1.5 mA ±15 % | 225 mcd | x0.31/y0.32 nm | 10-2524.3049 | 0.002 kg |
| | 130 VAC +10 % | 2 mA ±15 % | 300 mcd | x0.31/y0.32 nm | 10-2H24.2059 | 0.002 kg |
| | 230 VAC +10 % | 1.5 mA ±15 % | 225 mcd | x0.31/y0.32 nm | 10-2H25.2049 | 0.002 kg |

Filament lamp, BA9s

Additional Information

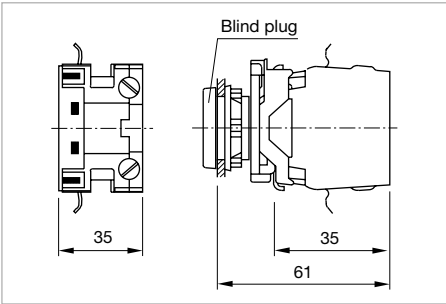
- The max. overall length of the lamp may not exceed 28 mm

| Operating voltage | Operation current | Part No. | Weight |
|--|-------------------|---------------------|----------|
|  Filament lamp | | | |
| 6 VAC/DC | 200 mA ±10 % | 10-1406.1369 | 0.002 kg |
| 12 VAC/DC | 100 mA ±10 % | 10-1409.1329 | 0.002 kg |
| 24 VAC/DC | 50 mA ±10 % | 10-1412.1279 | 0.002 kg |
| 36 VAC/DC | 56 mA ±10 % | 10-1416.1289 | 0.002 kg |
| 48 VAC/DC | 42 mA ±10 % | 10-1419.1249 | 0.002 kg |
| 60 VAC/DC | 33 mA ±10 % | 10-1420.1219 | 0.002 kg |
| 110 VAC/DC | 22 mA ±10 % | 10-1422.1179 | 0.002 kg |
| 130 VAC/DC | 20 mA ±10 % | 10-1424.1179 | 0.002 kg |


Lamp transformer

Additional Information

- Short-circuit proof, 1.2 VA, 50/60 Hz, for front or base mounting



Dimensions [mm]


| Operating voltage | Terminal | Part No. | Weight |
|---|----------|----------|----------|
|  <p>Lamp transformer</p> | | | |
| | Screw | 44-976 | 0.102 kg |
| | Screw | 44-977 | 0.102 kg |

Emergency-stop switch

Emergency-stop legend

Additional Information

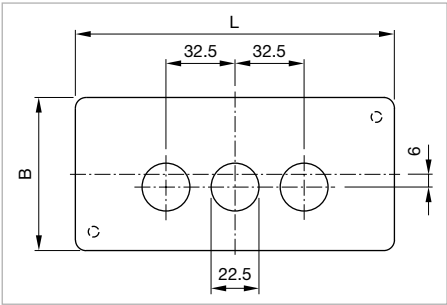
- Front protection IP 65 only ensured after protection foil is removed

| Dimension | Marking | Colour | Mounting type | Part No. | Weight |
|--|-----------------|--------|---------------|-----------------|----------|
|  Emergency-stop legend | | | | | |
| Ø 45 x 1 mm | without | yellow | adhesive | 44-951 | 0.002 kg |
| | NOT-AUS | yellow | adhesive | 44-951.1 | 0.002 kg |
| | EMERGENCY-STOP | yellow | adhesive | 44-951.2 | 0.002 kg |
| | ARRET-D'URGENCE | yellow | adhesive | 44-951.3 | 0.002 kg |
| | NOT - HALT | yellow | adhesive | 44-951.4 | 0.002 kg |
| Ø 60 x 1 mm | without | yellow | adhesive | 44-950 | 0.004 kg |
| | NOT-AUS | yellow | adhesive | 44-950.1 | 0.004 kg |
| | EMERGENCY-STOP | yellow | adhesive | 44-950.2 | 0.004 kg |
| | ARRET-D'URGENCE | yellow | adhesive | 44-950.3 | 0.004 kg |
| | NOT - HALT | yellow | adhesive | 44-950.4 | 0.004 kg |
| Ø 90 x 1 mm | without | yellow | adhesive | 44-949 | 0.009 kg |
| | NOT-AUS | yellow | adhesive | 44-949.1 | 0.009 kg |
| | EMERGENCY-STOP | yellow | adhesive | 44-949.2 | 0.009 kg |
| | ARRET-D'URGENCE | yellow | adhesive | 44-949.3 | 0.009 kg |
| | NOT - HALT | yellow | adhesive | 44-949.4 | 0.009 kg |

Emergency-stop enclosure

Additional Information


- 1 mounting hole, with adaptor for base mounting



Dimensions [mm]

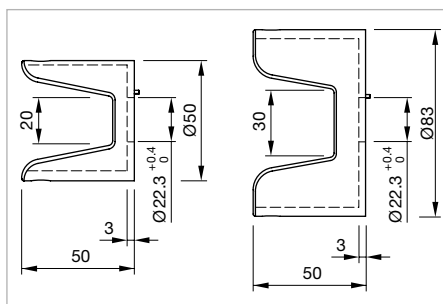
| Dimension | Colour | Part No. | Weight |
|---|--------|-----------------|----------|
|  Emergency-stop enclosure | | | |
| L 84 x B 72 x H 64 mm | yellow | 44-001.4 | 0.174 kg |

Cable gland, IP 68



| Product attribute | Thread | Material | Colour | Part No. | Weight |
|--|-----------|----------|--------|---------------|----------|
|  Cable gland | | | | | |
| with nut and sealing, clamping range Ø 7 ... 13 mm, thread length 10 mm | M20 x 1.5 | Plastic | grey | 44-956 | 0.009 kg |

E-stop protective shroud, IP 65**Additional Information**

- Use only for Part No. 44-712, 44-713, 44-712.001 and 44-713.001
- The protection shroud is not suitable for a proper use of emergency-stop. It can obstruct a spontaneous operation of the emergency-stop

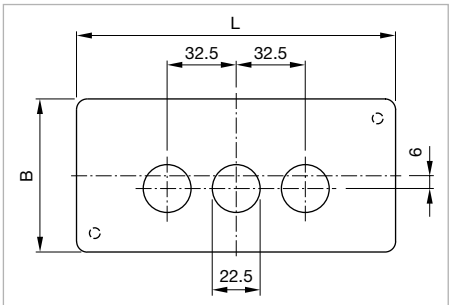


Dimensions [mm]


| Dimension | Material | Colour | Standard | Part No. | Weight |
|---|----------|--------|-------------------|------------------|----------|
|  E-stop protective shroud | | | | | |
| Ø 50 mm | Plastic | yellow | | 704.927.8 | 0.052 kg |
|  E-stop protective shroud | | | | | |
| Ø 83 mm | Plastic | yellow | SEMI S2-93/12.4.c | 704.927.9 | 0.067 kg |

Mounting

Enclosure



Dimensions [mm]


| Product attribute | Dimension | Colour | Part No. | Weight |
|--|------------------------|------------|-----------------|----------|
|  Enclosure | | | | |
| 1 mounting hole, with adaptor for base mounting | L 84 x B 72 x H 64 mm | light grey | 44-001.8 | 0.175 kg |
| 2 mounting holes, with adaptor for base mounting | L 117 x B 72 x H 64 mm | light grey | 44-002.8 | 0.199 kg |
| 3 mounting holes, with adaptor for base mounting | H 150 x B 72 x H 64 mm | light grey | 44-003.8 | 0.252 kg |
| 5 mounting holes, with adaptor for base mounting | L 215 x B 72 x H 64 mm | light grey | 44-005.8 | 0.332 kg |

Legend for enclosure

| Additional Information |
|------------------------|
| • Not marked |


| Dimension | Material | Mounting type | Part No. | Weight |
|---|--------------------------------------|---------------|---------------|----------|
|  Legend for enclosure | | | | |
| 19 x 19 mm | plastic / aluminium plated (natural) | adhesive | 44-963 | 0.001 kg |

Cable gland, IP 68

| Product attribute | Thread | Material | Colour | Part No. | Weight |
|--|-----------|----------|--------|---------------|----------|
|  Cable gland | | | | | |
| with nut and sealing, clamping range Ø 7 ... 13 mm, thread length 10 mm | M20 x 1.5 | Plastic | grey | 44-956 | 0.009 kg |


Reducing ring**Additional Information**

- For mounting of Ø 22.5 mm device into Ø 30.5 mm mounting cut-out
- The colour of anodized aluminium parts can vary due to technical production reasons

| Material | Colour | Part No. | Weight |
|--|------------------|---------------|----------|
|  Reducing ring | | | |
| Aluminium | natural anodized | 44-925 | 0.003 kg |

Mounting tool**Additional Information**

- For fixing nut, transparent lens, lens caps and illumination

| Part No. | Weight |
|--|----------|
|  Mounting tool | |
| 44-935 | 0.037 kg |

Component layout 1

Component layout 2

Arrangement switching element corresponds to designation of front adaptor

| | | |
|---|---|---|
| 1 | 3 | 2 |
|---|---|---|

Switching action red (black) button pressed
 green (white) button pressed

| | | |
|--|--|--|
| | | |
| | | |

Switching element actuated

Component layout 3

Arrangement switching element corresponds to designation of front adaptor

| | | |
|---|----|---|
| 1 | 3* | 2 |
|---|----|---|

90° O
Switching action I

| | | |
|--|--|--|
| | | |
| | | |

Switching element actuated

* By using of not stackable switching elements, please cover the outside positions 1 and 2 of front adaptor

Component layout 5

Arrangement switching element corresponds to designation of front adaptor

| | | |
|---|----|---|
| 1 | 3* | 2 |
|---|----|---|

Switching function I
 O
 II

| | | |
|--|--|--|
| | | |
| | | |
| | | |

Switching element actuated

* By using of not stackable switching elements, please cover the outside positions 1 and 2 of front adaptor

Component layout 4

Snap-action switching element Control Switch

Switching system

Is equipped with double-break jump contacts. Owing to the large cleaning path, outstanding self-cleaning is possible. The multilayer contacts are designed for universal use. They are gilded with a 2 µm gold coating. Each snap-action switching element comprises a NC (normally closed contact) and a NO (normally open contact).

Material

Housing

Polyethylene terephthalate (PETP), as per UL 94 V0

Contacts

AgNi, 2 µm gold plated

Contact carrier

Brass or CuBe

Mechanical characteristics

Terminals

Soldering terminal (also pluggable 2.8 x 0.5 mm), Brass gold plated
Wire cross-section 1.0 mm² max.

Actuating force

For each snap-action switching element approx. 2 N

Rebound time

typically 0.5 µs

Contact opening width

2 x 0.65 mm

Contact cleaning path

2 x 0.6 mm

Mechanical lifetime

2 million cycles of operation

Electrical characteristics

Contact resistance

New state with gold plated contact $\leq 50 \text{ m}\Omega$, statically

Electrical life

> 10 000 cycles of operation

Switch rating

as per EN IEC 61058-1
250 VAC, 5 A $\cos\phi$ 0.7 ... 0.8
250 VDC, 0.5 A
110 VDC, 2 A
75 VDC, 5 A
5 VAC/DC, 1 mA min.

Protection class

Indicators and switches, fit for mounting into devices with protection class II

Approvals

Approbations

CSA
ENEC (EN 61058)
UL
VDE

Declaration of conformity

CE

Slow-make switching element

Switching system

The double-break switching system can be supplied for the following switching functions: 1 normally closed, 1 normally open or 1 changeover contact with or without overlap.

The normally closed contacts have forced opening according to DIN 0660, IEC 60947-5-1 and DIN VDE 0113.

The switching element exhibits high reliability due to its H-contact system with relative friction. The normally open and normally closed contacts can be used electrically separated.

The standard version is ideal for high breaking capacities. For lower capacities a special version can be supplied.

Material

Material of contact

Standard version: Ag-Ni alloy
special version: Gold/Silver

Plastics

UL listed, Cd-free

Switching element

PC, PA 6.6 self-extinguishing

Mechanical characteristics

Actuating force

per switching element $\leq 5 \text{ N}$
Illuminated pushbutton actuator $\leq 10 \text{ N}$
Stop pushbutton actuator $\leq 20 \text{ N}$
Emergency-stop pushbutton actuator foolproof $\leq 70 \text{ N}$
Double pushbutton $\leq 12 \text{ N}$ per contact surface

Actuating travel

approx. 6 mm

44 Technical data

Mechanical lifetime

| | |
|--|--|
| Slow-make switching element | 10 x 10 ⁶ switching operations |
| Pushbutton momentary action | 5 x 10 ⁶ switching operations |
| Pushbutton maintained action | 1 x 10 ⁶ cycles of operation |
| Illuminated pushbutton momentary action | 3 x 10 ⁶ switching operations |
| Illuminated pushbutton maintained action | 1 x 10 ⁶ cycles of operation |
| Interlocking pushbutton | 2 x 10 ⁵ switching operations |
| Stop pushbutton not foolproof | 1 x 10 ⁵ cycles of operation |
| Emergency-stop foolproof | > 6050 cycles of operation |
| Keylock switch | 2 x 10 ⁵ cycles of operation |
| Selector switch | 2 x 10 ⁵ cycles of operation |
| Double pushbutton | 2 x 10 ⁵ switching operations per contact surface |

Electrical characteristics

Rated Insulation Voltage U_i

| | |
|-----------------------------|-------|
| Slow-make switching element | 660 V |
| Lamp element | 250 V |
| Lamp transformer | 660 V |

Rated Operational Voltage U_e

| | |
|-------------------|--|
| AC 15 (inductive) | |
| 120 V, ~6 A | |
| 230 V, ~6 A | |
| 400 V, ~4 A | |
| 500 V, ~3 A | |
| 600 V, ~1.2 A | |
| DC 13 | |
| 24 V, 3 A | |
| 60 V, 1.3 A | |
| 120 V, 0.6 A | |
| 250 V, 0.3 A | |

Rated Impulse Withstand Voltage U_{imp}

| | |
|--|--------|
| Lamp element | 2.5 kV |
| Lamp transformer | 6 kV |
| Slow-make switching element | 6 kV |
| Between the electrically separated normally closed contacts and normally open contacts for slow-make switching elements. | |
| 1 NC + 1 NO without overlap | |
| U _e > 400 V, same polarity | |
| U _{imp} = 4000 V | |
| 1 NC + 1 NO with overlap | |
| U _e > 250 V, same polarity | |
| U _{imp} = 4000 V | |

Rated Operational Current I_e

| | |
|-------------------|--|
| AC-12 (resistive) | |
| 500 V, ~5 A | |
| DC-12 | |
| 24 V, 10 A | |
| 60 V, 8 A | |
| 125 V, 3 A | |
| 250 V, 1 A | |

Contact resistance

Starting value (initial) ≤ 50 mΩ

Electrical life

| | |
|---|--|
| AC-15 | |
| 400 V, ~2 A, 1 x 10 ⁶ switching operations | |

Conventional free air thermal current

I_{th2} = 10 A

Short-circuit protection

max. series fuse to be provided 10 A gL
lamp transformer is short-circuit-protected

Switch rating

| | |
|--------------------|---|
| Ag-Ni alloy | |
| (Standard version) | minimal 6 V, 20 mA minimal 12 V, 10 mA |
| Gold/Silver | |
| (Special version) | minimal 5 V, 1 mA maximum 42 V, 100 mA |

Degree of pollution

3, as per EN IEC 60947-1

Protection class

Indicators and switches, fit for mounting into devices with protection class II

Environmental conditions

Storage temperature

-40 °C ... +70 °C

Operating temperature

-25 °C, as per EN IEC 60068-2-1
+60 °C, as per EN IEC 60068-2-2

Protection degree

Actuators at front and enclosure IP 65, as per EN IEC 60529

Shock resistance

40 g (duration 6 ms), as per EN IEC 60 68-2-27

Vibration resistance

sinusoidal, 5 g at 10–500 Hz, as per EN IEC 60068-2-6

Climate resistance

Humidity and heat constant, as per EN IEC 60068-2-3
Humidity and heat cyclic, as per EN IEC 60068-2-30

Approvals

Approbations

CSA
Germanischer Lloyd
UL
VDE

Declaration of conformity

CE

Control Switch

General

Design

Modular, Actuator and Switch part separated

Operation

2-/4-/8-positions, each approx. 12°

Mounting position

In any way

Mechanical characteristics

Mechanical lifetime

2 million cycles of operation

Environmental conditions

Storage temperature

-40 °C ... +85 °C, as per EN IEC 60068

Operating temperature

-25 °C ... +55 °C, as per EN IEC 60068-2

Protection degree

IP 65 front side, as per IEC 60529

Shock resistance

40g, 6ms regarding mechanical destruction

Climate resistance

Damp heat state/cyclic as per EN IEC 60068-2

Actuator

Material

Adapter and enclosure

PC

Front parts

PA 6, PA 12, PC, chromium-plated ABS

EAO reserves the right to alter specifications without further notice.

44 Marking



















Label marking for label support

Label black anodized

| Standard text | Text-No. | Standard text | Text-No. | Standard text | Text-No. |
|---------------|----------|---------------|----------|---------------|----------|
| 0 | T 01 | Forwards | T 14 | Set up | T 22 |
| I | T 02 | Revers | T 15 | Raise | T 23 |
| 0 I | T 03 | Right | T 16 | Lower | T 24 |
| I 0 II | T 04 | Left | T 17 | Hand | T 25 |
| OFF | T 10 | Halt | T 18 | STOP | T 26 |
| ON | T 11 | Close | T 19 | START | T 27 |
| Up | T 12 | Fast | T 20 | HAND/AUTO | T 28 |
| Down | T 13 | Slow | T 21 | OFF/ON | T 29 |

Standard texts for marking plates and marking caps for Indicator and Illuminated Pushbutton

Height of letters 6 mm

































| | | | |
|--|--|--|--|
|  Part No. 44-962.9-T1 |  Part No. 44-962.9-T2 |  Part No. 44-962.9-T3 |  Part No. 44-962.9-T4 |
|  Part No. 44-962.9-T5 |  Part No. 44-962.9-T6 |  Part No. 44-962.9-T7 |  Part No. 44-962.9-T8 |
|  Part No. 44-962.9-T9 |  Part No. 44-962.9-T10 |  Part No. 44-962.9-T11 |  Part No. 44-962.9-T12 |
|  Part No. 44-962.9-T13 |  Part No. 44-962.9-T14 |  Part No. 44-962.9-T15 |  Part No. 44-962.9-T16 |
|  Part No. 44-962.9-T17 |  Part No. 44-962.9-T18 | | |

Symbols for marking plates and marking caps for Indicator and Illuminated Pushbutton

All marking plates with the printed Part Numbers are available for flat lenses, marking cap only on request.

| | | | | | | | |
|---|---|---|--|---|---|---|---|
|  | Part No. 44-962.9-1 Direction of linear rectilinear motion (also for $\rightarrow \updownarrow$) |  | Part No. 44-962.9-2 Linear motion in 2 directions (also for \downarrow) |  | Part No. 44-962.9-3 Interrupted linear motion \updownarrow (also for $\leftarrow \leftarrow \updownarrow$) |  | Part No. 44-962.9-4 Limited linear motion (also for $\leftarrow \updownarrow$) |
|  | Part No. 44-962.9-5 Limited linear motion and return |  | Part No. 44-962.9-6 Oscillating linear motion (continuous) |  | Part No. 44-962.9-7 Direction of continuous rotation (right) |  | Part No. 44-962.9-7.1 Direction of continuous rotation (left) |
|  | Part No. 44-962.9-8 Rotation in 2 directions |  | Part No. 44-962.9-9 Direction of interrupted rotation (right) |  | Part No. 44-962.9-9.1 Direction of interrupted rotation (left) |  | Part No. 44-962.9-10 Limited rotation (right) |
|  | Part No. 44-962.9-10.1 Limited rotation (left) |  | Part No. 44-962.9-11 Limited rotation and return |  | Part No. 44-962.9-12 Oscillating rotary movement (continuous) |  | Part No. 44-962.9-13 Direction of spindle rotation |
|  | Part No. 44-962.9-14 One revolution |  | Part No. 44-962.9-15 Number of revolutions per minute (spindle speed) |  | Part No. 44-962.9-16 Feed |  | Part No. 44-962.9-17 Feed per revolution |
|  | Part No. 44-962.9-18 Feed per minute |  | Part No. 44-962.9-19 Reduced feed |  | Part No. 44-962.9-20 Rapid feed |  | Part No. 44-962.9-21 Normal feed |
|  | Part No. 44-962.9-22 Direction of feed (orientation not specified) |  | Part No. 44-962.9-24 Transverse feed |  | Part No. 44-962.9-25 Vertical feed |  | Part No. 44-962.9-26 Rapid traverse |
|  | Part No. 44-962.9-27 Threading |  | Part No. 44-962.9-28 Increase of value (speed, for instance) |  | Part No. 44-962.9-29 Decrease of value (speed, for instance) |  | Part No. 44-962.9-30 Speed of planing cut |
|  | Part No. 44-962.9-31 Speed of turning cut |  | Part No. 44-962.9-32 Speed of drilling cut |  | Part No. 44-962.9-33 Speed of milling cut (similar symbol for speed of grinding) |  | Part No. 44-962.9-34 Conventional milling |
|  | Part No. 44-962.9-35 Climb milling (down milling) |  | Part No. 44-962.9-41 Electric motor |  | Part No. 44-962.9-42 Rectangular work table or slide element |  | Part No. 44-962.9-43 Round work table or rotating element |
|  | Part No. 44-962.9-44 Turning spindle |  | Part No. 44-962.9-45 Drilling spindle |  | Part No. 44-962.9-46 Milling spindle |  | Part No. 44-962.9-47 Schleifscheibenfutter |
|  | Part No. 44-962.9-48 Pump (general symbol) |  | Part No. 44-962.9-49 Cooling pump |  | Part No. 44-962.9-50 Lubricant pump |  | Part No. 44-962.9-51 Hydraulic system pump |
|  | Part No. 44-962.9-52 Hydraulic motor |  | Part No. 44-962.9-53 Tracer |  | Part No. 44-962.9-61 Stepless regulation |  | Part No. 44-962.9-62 Adjustable |

44 Marking

| | | | | | | | |
|---|---|---|---|---|---|---|---|
|  | Part No. 44-962.9-63.1 Lock or tighten |  | Part No. 44-962.9-63.2 Lock or tighten |  | Part No. 44-962.9-64.1 Unlock, unclamp |  | Part No. 44-962.9-64.2 Unlock, unclamp |
|  | Part No. 44-962.9-65 Brake on |  | Part No. 44-962.9-66 Brake off |  | Part No. 44-962.9-67 Automatic (or semi-automatic) cycle |  | Part No. 44-962.9-68 Hand control |
|  | Part No. 44-962.9-69 Start, on |  | Part No. 44-962.9-70 Stop, off |  | Part No. 44-962.9-71 Start and stop with same button |  | Part No. 44-962.9-72 In action as long as button is operated |
|  | Part No. 44-962.9-74 Engaging (mechanical start) |  | Part No. 44-962.9-75 Disengaging (mechanical stop) |  | Part No. 44-962.9-76 Close lock-nut |  | Part No. 44-962.9-77 Open lock-nut |
|  | Part No. 44-962.9-78 Engage sensor |  | Part No. 44-962.9-79 Disengage sensor |  | Part No. 44-962.9-80 Change speed only in stopped position |  | Part No. 44-962.9-81 Change speed only in motion |
|  | Part No. 44-962.9-91 Shear pin construction |  | Part No. 44-962.9-92 Danger (high voltage)! |  | Part No. 44-962.9-93 Caution! |  | Part No. 44-962.9-94 Main switch |
|  | Part No. 44-962.9-101 Coolant fluid |  | Part No. 44-962.9-102 Machine lighting |  | Part No. 44-962.9-103 Weight |  | Part No. 44-962.9-104 Filter opening |
|  | Part No. 44-962.9-105 Overflow |  | Part No. 44-962.9-106 Drain |  | Part No. 44-962.9-107 Oil, lubricant |  | Part No. 44-962.9-108 Blast |
|  | Part No. 44-962.9-109 Suction | | | | | | |

Suppressor circuits

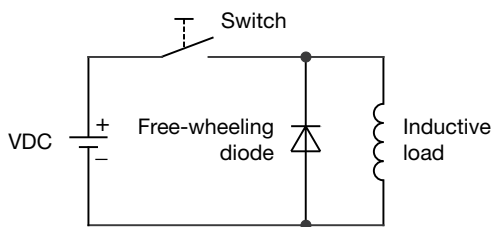
When switching inductive loads such as relays, DC motors, and DC solenoids, it is always important to absorb surges (e.g. with a diode) to protect the contacts. When these inductive loads are switched off, a counter emf can severely damage switch contacts and greatly shorten lifetime.

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

