Series 61

Comprehensive. Intuitive and versatile.

https://eao.com/de/61



61 Information about the Series

Key advantages

- Wide, modular Series
- Modern design
- Range of switching elements and ease of mounting
- Custom marking possible
- Internationally recognised and approved series

Typical application areas

- Machinery
- Measurement and control engineering
- Process engineering (air conditioning systems and heating technology)
- Public transportation
- Laboratory instruments

Functions

- Pushbutton
- Illuminated pushbutton
- Mushroom-head pushbutton
- Selector switch
- Keylock switch
- Indicator
- Buzzer
- Potentiometer
- Stop switch
- Emergency stop switch

Design

- Flush
- Raised

IP front protection

- IP65
- IP66/IP67/IP69K (Emergency Stop)

Mounting cut-outs

- Ø 16.2 mm
- Ø 22.3 mm
- 21.2 mm x 21.2 mm
- 21.2 mm x 27.2 mm

Raitings

- 42 VAC (100 mA)
- 250 VAC (5 A)

Terminal

- Soldering terminal
- Screw terminal
- PCB (with PCB plug-in base)
- Cable

Lens Material

- Aluminium
- Plastic

Markings

- Engraving
- Laser marking
- Hot stamping
- Film insert/marking plate
- Pad printing
- Screen print

Approvals

- CB (IEC 61058)
- CB (IEC 60947)
- CSA
- ENEC (EN 61058)
- CQC
- CENELEC (IEC 60947-5-1)
- DNV
- GOST
- UL
- NFF

Conformities

- CE
- UKCA
- 2014/35/EU (LVD)
- 2011/65/EU (RoHS)



Flush design

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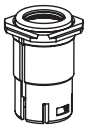
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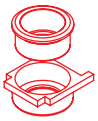
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Pushbutton round, IP65

Equipment consisting of (schematic overview)

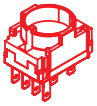

Lens — Page 759


Actuator


Front bezel set — Page 763

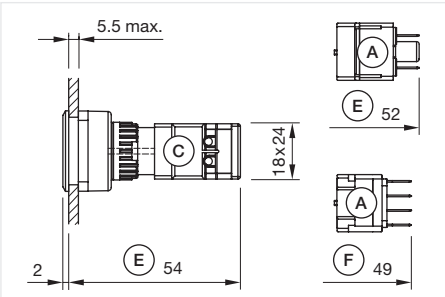

Anti-twist ring — Page 776


Fixing nut


Switching element — Page 767

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

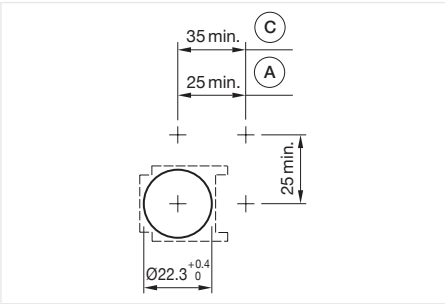
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element



Product can differ from the current configuration.



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal



Actuator, Front dimension Ø 25 mm

Switching action	Housing colour	Housing material	Product attributes	Part No.	Wiring diagram
Momentary	Black	Plastic		61-1100.0	72
Maintained	Black	Plastic		61-1200.0	73
Maintained or momentary	Black	Plastic	Convertible from momentary to maintained action	61-1300.0	72

Wiring diagrams


Wiring diagram 72

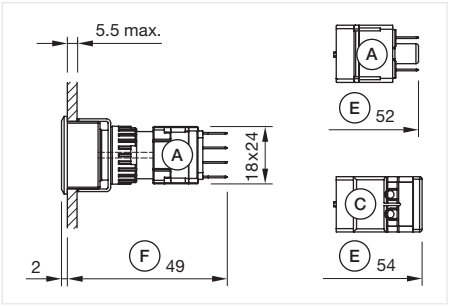

Wiring diagram 73

61 Flush design

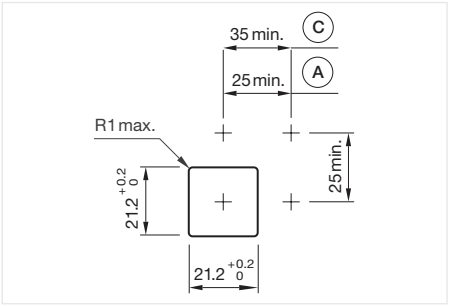
Illuminated pushbutton square, IP65



Product can differ from the current configuration.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element

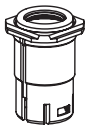


Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

Equipment consisting of (schematic overview)

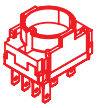

Lens — Page 759


LED — Page 765


Actuator


Front bezel set — Page 763


Fixing nut


Switching element — Page 767

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.



Actuator, Front dimension 24 mm x 24 mm

Switching action	Housing colour	Housing material	Product attributes	Part No.	Wiring diagram
Momentary	Black	Plastic		61-1100.0	72
Maintained	Black	Plastic		61-1200.0	73
Maintained or momentary	Black	Plastic	Convertible from momentary to maintained action	61-1300.0	72

Wiring diagrams


Wiring diagram 72

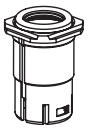

Wiring diagram 73

Illuminated pushbutton rectangular, IP65

Equipment consisting of (schematic overview)

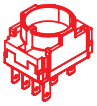

Lens — Page 759


LED — Page 765


Actuator

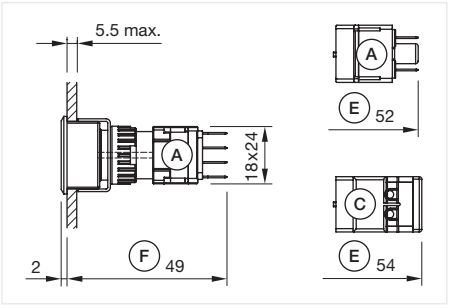

Front bezel set — Page 763


Fixing nut


Switching element — Page 767

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

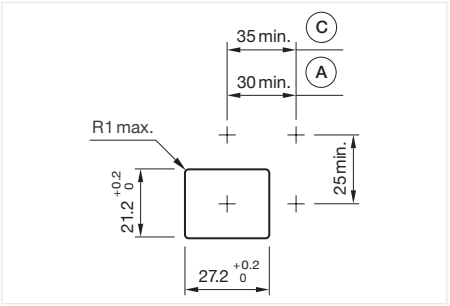
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element



Product can differ from the current configuration.



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal



Actuator, Front dimension 30 mm x 24 mm

Switching action	Housing colour	Housing material	Product attributes	Part No.	Wiring diagram
Momentary	Black	Plastic		61-1100.0	72
Maintained	Black	Plastic		61-1200.0	73
Maintained or momentary	Black	Plastic	Convertible from momentary to maintained action	61-1300.0	72

Wiring diagrams


Wiring diagram 72

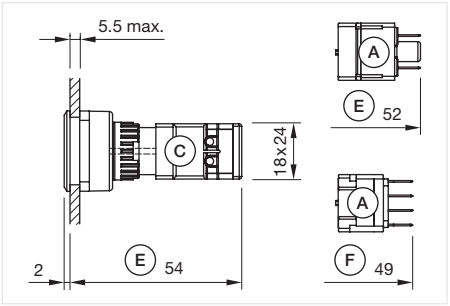

Wiring diagram 73

61 Flush design

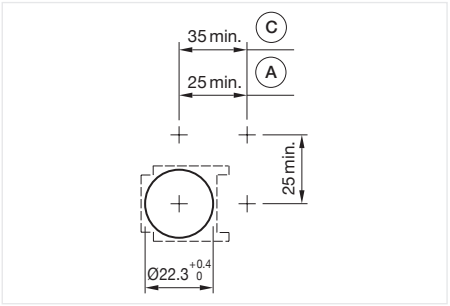
Illuminated pushbutton round, IP65



Product can differ from the current configuration.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element

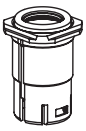


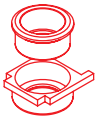
Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

Equipment consisting of (schematic overview)


Lens — Page 759

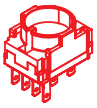

LED — Page 765


Actuator


Front bezel set — Page 763


Anti-twist ring — Page 776


Fixing nut


Switching element — Page 767

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.



Actuator, Front dimension Ø 25 mm

Switching action	Housing colour	Housing material	Product attributes	Part No.	Wiring diagram
Momentary	Black	Plastic		61-1100.0	72
Maintained	Black	Plastic		61-1200.0	73
Maintained or momentary	Black	Plastic	Convertible from momentary to maintained action	61-1300.0	72

Wiring diagrams

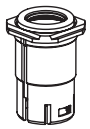

Wiring diagram 72

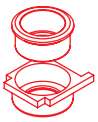

Wiring diagram 73

Mushroom-head pushbutton, IP65

Equipment consisting of (schematic overview)

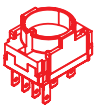

Lens — Page 759


Actuator


Front bezel set — Page 763

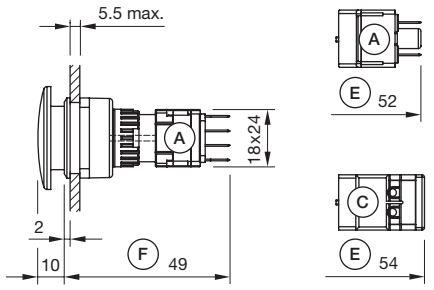

Anti-twist ring — Page 776


Fixing nut


Switching element — Page 767

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

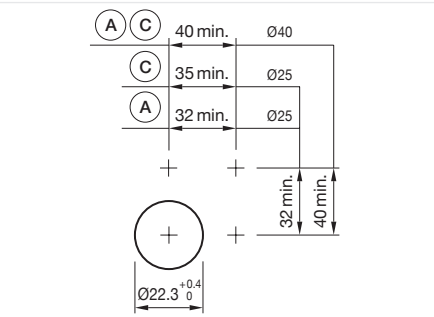
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element



Product can differ from the current configuration.



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
B = Solder terminal
C = Screw terminal



Actuator, Front dimension Ø 32 mm

Switching action	Housing colour	Housing material	Product attributes	Part No.	Wiring diagram
Momentary	Black	Plastic		61-1100.0	72
Maintained	Black	Plastic		61-1200.0	73
Maintained or momentary	Black	Plastic	Convertible from momentary to maintained action	61-1300.0	72

Wiring diagrams

Wiring diagram 72

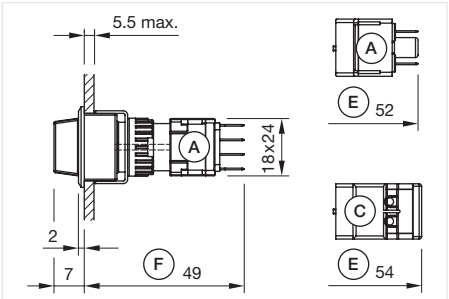
Wiring diagram 73

61 Flush design

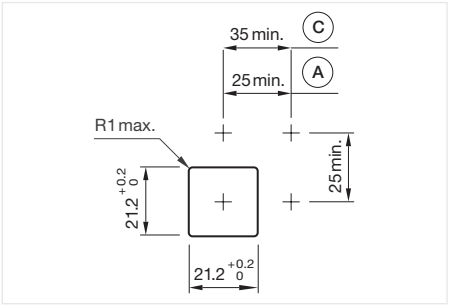
Selector switch 2 positions square, IP65



Product can differ from the current configuration.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element

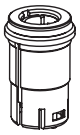


Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

Equipment consisting of (schematic overview)

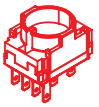

Lever Page 762


LED Page 765


Actuator

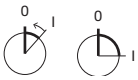

Front bezel set Page 763


Fixing nut


Switching element Page 767

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.

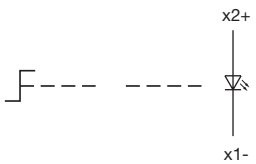




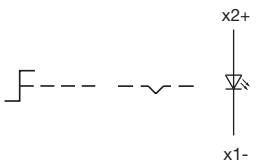
Actuator, Front dimension 24 mm x 24 mm

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Rest - Momentary	42° right	Illuminative	61-4110.0	296
Rest - Maintained	90° right	Illuminative	61-4210.0	297

Wiring diagrams



Wiring diagram 296



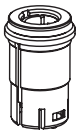
Wiring diagram 297

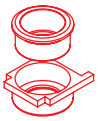
Selector switch 2 positions round, IP65

Equipment consisting of (schematic overview)


Lever — Page 762

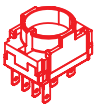
LED — Page 765


Actuator


Front bezel set — Page 763

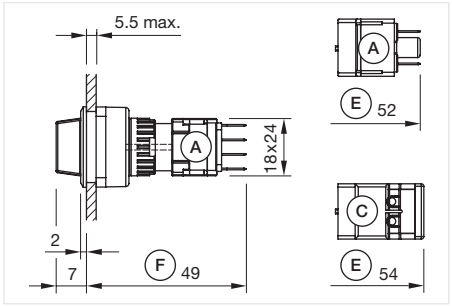

Anti-twist ring — Page 776


Fixing nut


Switching element — Page 767

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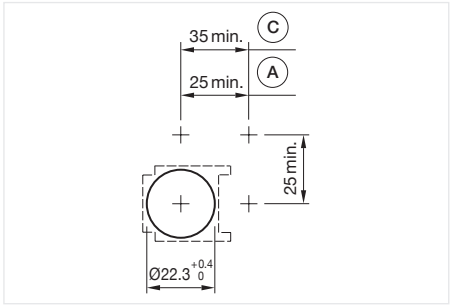
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element



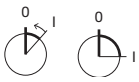
Product can differ from the current configuration.



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

General information

- When using the anti-twist ring, the maximum permitted panel thickness is reduced by 1.5 mm

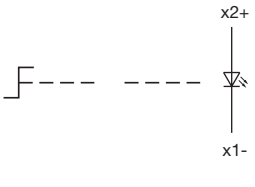




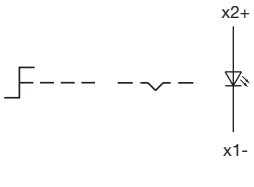
Actuator, Front dimension Ø 25 mm

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Rest - Momentary	42° right	Illuminative	61-4110.0	296
Rest - Maintained	90° right	Illuminative	61-4210.0	297

Wiring diagrams



Wiring diagram 296



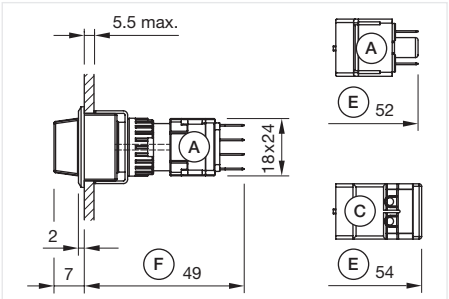
Wiring diagram 297

61 Flush design

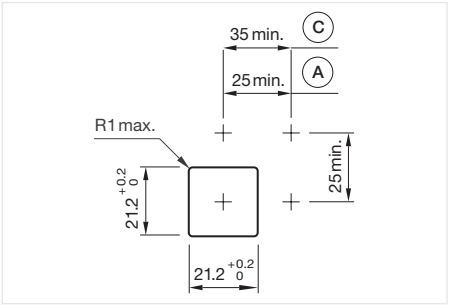
Selector switch 3 positions square, IP65



Product can differ from the current configuration.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element

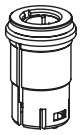


Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

Equipment consisting of (schematic overview)

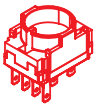

Lever — Page 762


LED — Page 765


Actuator


Front bezel set — Page 763


Fixing nut


Switching element — Page 771

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.

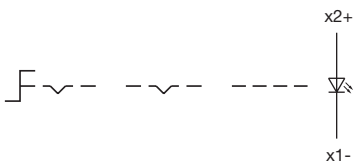




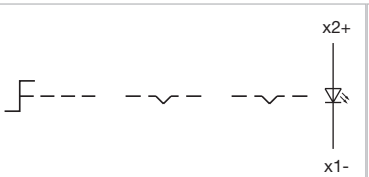
Actuator, Front dimension 24 mm x 24 mm

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Maintained - Rest - Maintained	90° left / 90° right	Illuminative	61-4610.0	301
Momentary - Rest - Maintained	42° left / 90° right	Illuminative	61-4710.0	300
Maintained - Rest - Momentary	90° left / 42° right	Illuminative	61-4810.0	299

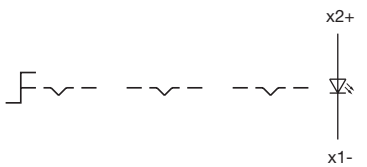
Wiring diagrams



Wiring diagram 299



Wiring diagram 300



Wiring diagram 301



Comprehensive, intuitive and versatile.
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- Modern design
- Ease of mounting
- Custom marking possible
- Internationally recognised and approved series

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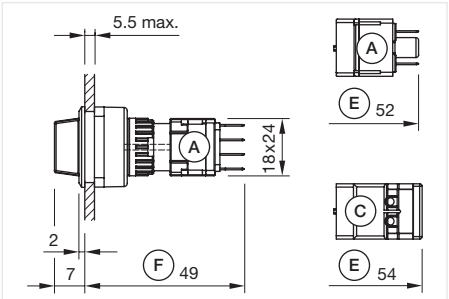
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61 Flush design

Selector switch 3 positions round, IP65



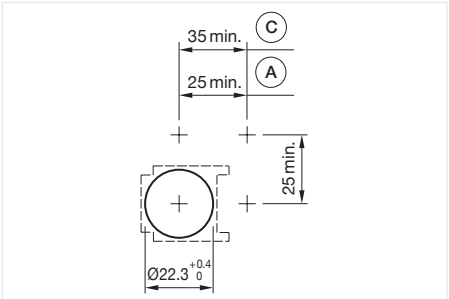
Product can differ from the current configuration.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element

General information

- When using the anti-twist ring, the maximum permitted panel thickness is reduced by 1.5 mm

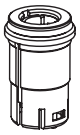


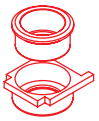
Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

Equipment consisting of (schematic overview)


Lever — Page 762

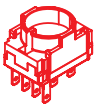

LED — Page 765


Actuator


Front bezel set — Page 763


Anti-twist ring — Page 776


Fixing nut


Switching element — Page 771

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.

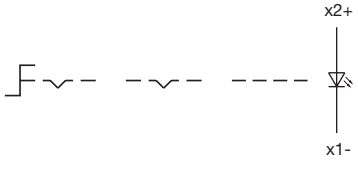




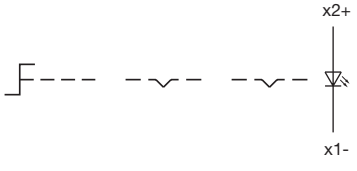
Actuator, Front dimension Ø 25 mm

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Maintained - Rest - Maintained	90° left / 90° right	Illuminative	61-4610.0	301
Momentary - Rest - Maintained	42° left / 90° right	Illuminative	61-4710.0	300
Maintained - Rest - Momentary	90° left / 42° right	Illuminative	61-4810.0	299

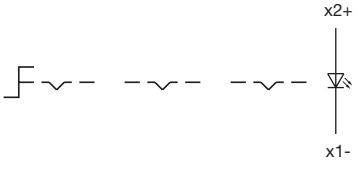
Wiring diagrams



Wiring diagram 299



Wiring diagram 300



Wiring diagram 301



Comprehensive, intuitive and versatile.
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A versatile and modern range for complex industrial applications.

- Wide, modular series
- Modern design
- Ease of mounting
- Custom marking possible
- Internationally recognised and approved series

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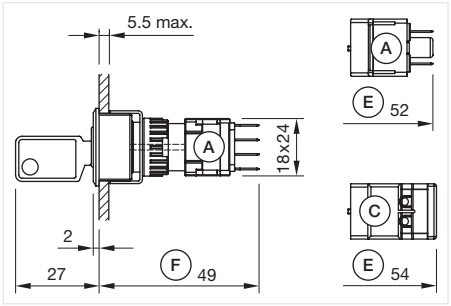
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61 Flush design

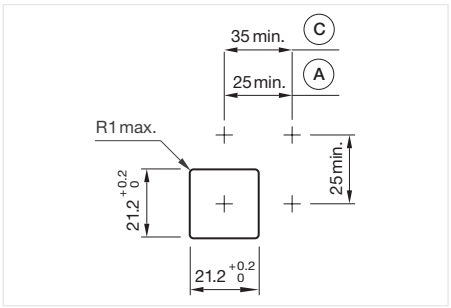
Keylock switch 2 positions square, IP65



Product can differ from the current configuration.

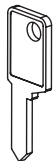


Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element

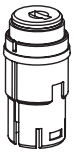


Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

Equipment consisting of (schematic overview)

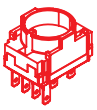

Key


Keylock front bezel Page 764


Actuator

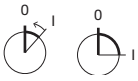

Front bezel set Page 763


Fixing nut


Switching element Page 767

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.



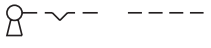


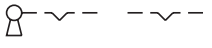
Actuator, Front dimension 24 mm x 24 mm

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Rest (a) - Momentary	42° right	Standard lock: DOM 311	61-2101.0/D	78
Rest (a) - Maintained	90° right	Standard lock: DOM 311	61-2201.0/D	79
Rest - Maintained (a)	90° right	Standard lock: DOM 311	61-2203.0/D	79
Rest (a) - Maintained (a)	90° right	Standard lock: DOM 311	61-2205.0/D	79

a = Key remove

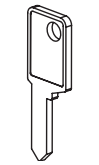
Wiring diagrams


Wiring diagram 78

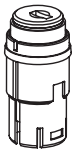

Wiring diagram 79

Keylock switch 2 positions rectangular, IP65

Equipment consisting of (schematic overview)

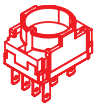

Key


Keylock front bezel Page 764


Actuator

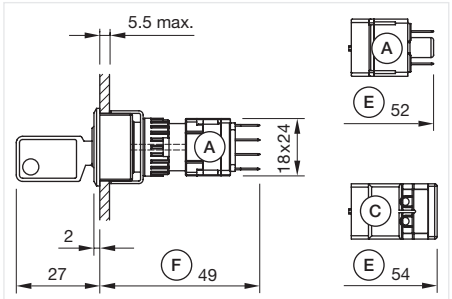

Front bezel set Page 763


Fixing nut


Switching element Page 767

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

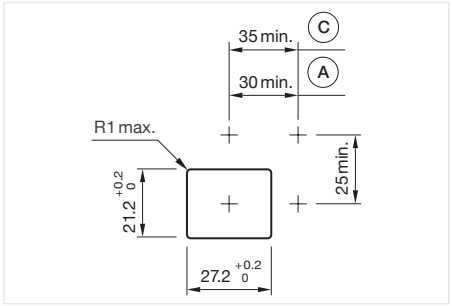
To obtain a complete unit, please select the red components from the pages shown.



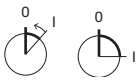
Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element



Product can differ from the current configuration.



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal



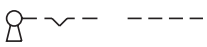


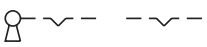
Actuator, Front dimension 30 mm x 24 mm

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Rest (a) - Momentary	42° right	Standard lock: DOM 311	61-2101.0/D	78
Rest (a) - Maintained	90° right	Standard lock: DOM 311	61-2201.0/D	79
Rest - Maintained (a)	90° right	Standard lock: DOM 311	61-2203.0/D	79
Rest (a) - Maintained (a)	90° right	Standard lock: DOM 311	61-2205.0/D	79

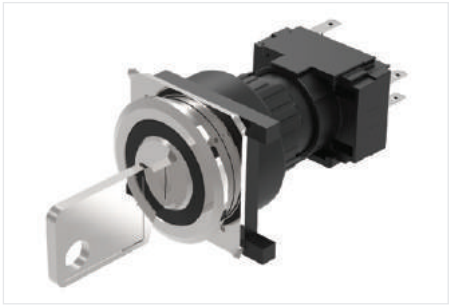
a = Key remove

Wiring diagrams

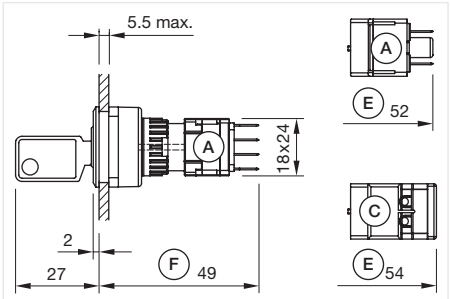

Wiring diagram 78


Wiring diagram 79

Keylock switch 2 positions round, IP65



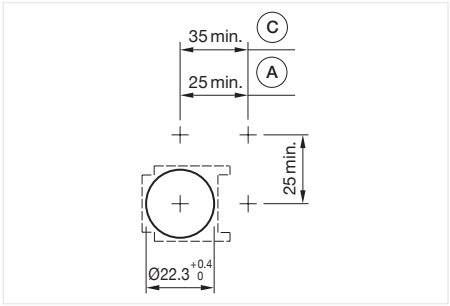
Product can differ from the current configuration.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element

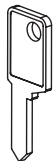
General information

- When using the anti-twist ring, the maximum permitted panel thickness is reduced by 1.5 mm

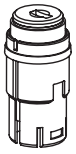


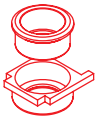
Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

Equipment consisting of (schematic overview)


Key

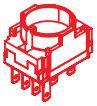

Keylock front bezel Page 764


Actuator


Front bezel set Page 763

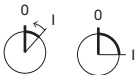

Anti-twist ring Page 776


Fixing nut


Switching element Page 767

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.



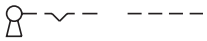


Actuator, Front dimension Ø 25 mm

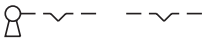
Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Rest (a) - Momentary	42° right	Standard lock: DOM 311	61-2101.0/D	78
Rest (a) - Maintained	90° right	Standard lock: DOM 311	61-2201.0/D	79
Rest - Maintained (a)	90° right	Standard lock: DOM 311	61-2203.0/D	79
Rest (a) - Maintained (a)	90° right	Standard lock: DOM 311	61-2205.0/D	79

a = Key remove

Wiring diagrams



Wiring diagram 78



Wiring diagram 79

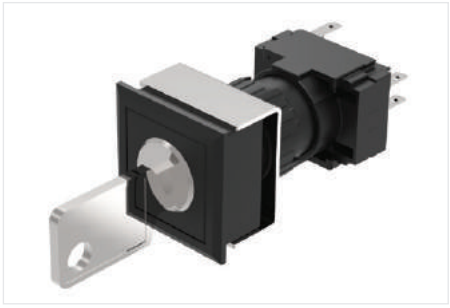


On our website you can download technical data, assembly instructions, catalogs, brochures *and much more.*

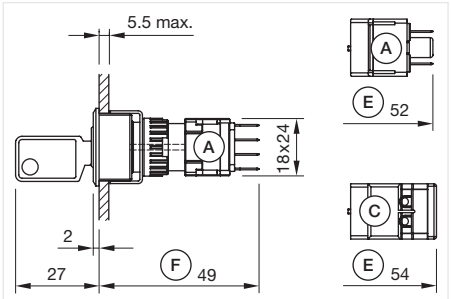
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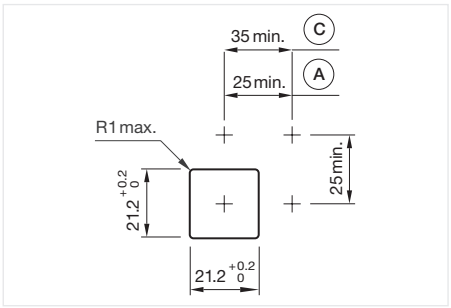
Keylock switch 3 positions square, IP65



Product can differ from the current configuration.

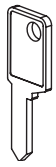


Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element

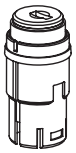


Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

Equipment consisting of (schematic overview)

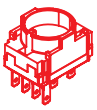

Key


Keylock front bezel Page 764


Actuator

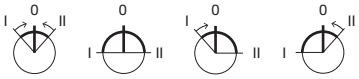

Front bezel set Page 763


Fixing nut


Switching element Page 771

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.





Actuator, Front dimension 24 mm x 24 mm

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Momentary - Rest (a) - Momentary	42° left / 42° right	Standard lock: DOM 311	61-2501.0/D	82
Maintained - Rest (a) - Maintained	90° left / 90° right	Standard lock: DOM 311	61-2601.0/D	83
Maintained (a) - Rest - Maintained	90° left / 90° right	Standard lock: DOM 311	61-2602.0/D	83
Maintained - Rest - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2603.0/D	83
Maintained (a) - Rest (a) - Maintained	90° left / 90° right	Standard lock: DOM 311	61-2604.0/D	83
Maintained - Rest (a) - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2605.0/D	83
Maintained (a) - Rest - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2606.0/D	83
Maintained (a) - Rest (a) - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2607.0/D	83
Momentary - Rest (a) - Maintained	42° left / 90° right	Standard lock: DOM 311	61-2701.0/D	80
Momentary - Rest (a) - Maintained (a)	42° left / 90° right	Standard lock: DOM 311	61-2705.0/D	80
Maintained - Rest (a) - Momentary	90° left / 42° right	Standard lock: DOM 311	61-2801.0/D	81
Maintained (a) - Rest - Momentary	90° left / 42° right	Standard lock: DOM 311	61-2802.0/D	81
Maintained (a) - Rest (a) - Momentary	90° left / 42° right	Standard lock: DOM 311	61-2804.0/D	81

a = Key remove

Wiring diagrams



Wiring diagram 80



Wiring diagram 81

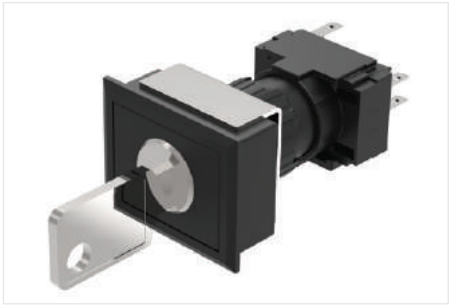


Wiring diagram 82

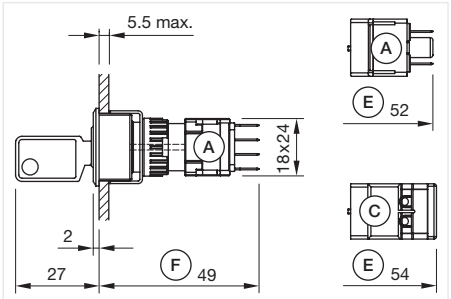


Wiring diagram 83

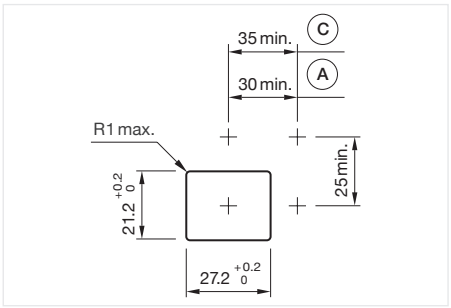
Keylock switch 3 positions rectangular, IP65



Product can differ from the current configuration.

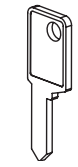


Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

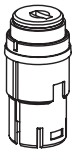
Equipment consisting of (schematic overview)



Key



Keylock front bezel Page 764



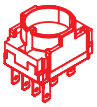
Actuator



Front bezel set Page 763



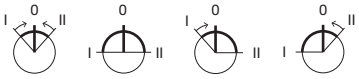
Fixing nut



Switching element Page 771

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.





Actuator, Front dimension 30 mm x 24 mm

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Momentary - Rest (a) - Momentary	42° left / 42° right	Standard lock: DOM 311	61-2501.0/D	82
Maintained - Rest (a) - Maintained	90° left / 90° right	Standard lock: DOM 311	61-2601.0/D	83
Maintained (a) - Rest - Maintained	90° left / 90° right	Standard lock: DOM 311	61-2602.0/D	83
Maintained - Rest - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2603.0/D	83
Maintained (a) - Rest (a) - Maintained	90° left / 90° right	Standard lock: DOM 311	61-2604.0/D	83
Maintained - Rest (a) - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2605.0/D	83
Maintained (a) - Rest - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2606.0/D	83
Maintained (a) - Rest (a) - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2607.0/D	83
Momentary - Rest (a) - Maintained	42° left / 90° right	Standard lock: DOM 311	61-2701.0/D	80
Momentary - Rest (a) - Maintained (a)	42° left / 90° right	Standard lock: DOM 311	61-2705.0/D	80
Maintained - Rest (a) - Momentary	90° left / 42° right	Standard lock: DOM 311	61-2801.0/D	81
Maintained (a) - Rest - Momentary	90° left / 42° right	Standard lock: DOM 311	61-2802.0/D	81
Maintained (a) - Rest (a) - Momentary	90° left / 42° right	Standard lock: DOM 311	61-2804.0/D	81

a = Key remove

Wiring diagrams



Wiring diagram 80



Wiring diagram 81

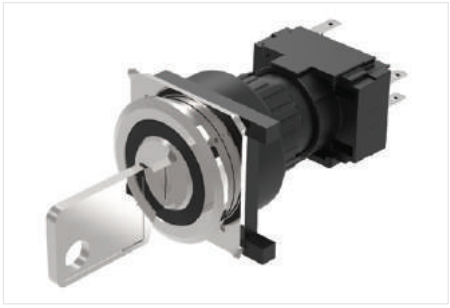


Wiring diagram 82

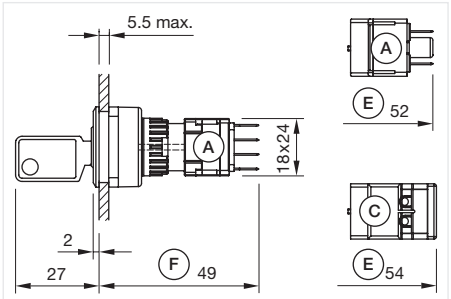


Wiring diagram 83

Keylock switch 3 positions round, IP65



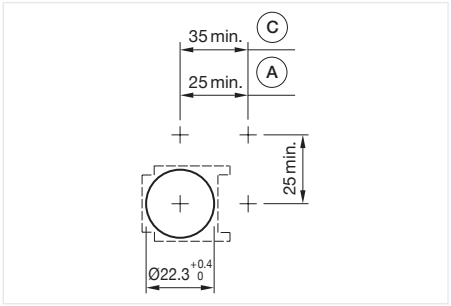
Product can differ from the current configuration.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element

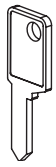
General information

- When using the anti-twist ring, the maximum permitted panel thickness is reduced by 1.5 mm

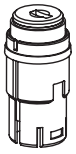


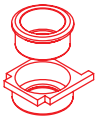
Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

Equipment consisting of (schematic overview)


Key

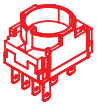

Keylock front bezel Page 764


Actuator


Front bezel set Page 763

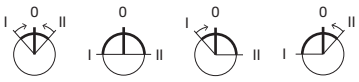

Anti-twist ring Page 776


Fixing nut


Switching element Page 771

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.





Actuator, Front dimension Ø 25 mm

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Momentary - Rest (a) - Momentary	42° left / 42° right	Standard lock: DOM 311	61-2501.0/D	82
Maintained - Rest (a) - Maintained	90° left / 90° right	Standard lock: DOM 311	61-2601.0/D	83
Maintained (a) - Rest - Maintained	90° left / 90° right	Standard lock: DOM 311	61-2602.0/D	83
Maintained - Rest - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2603.0/D	83
Maintained (a) - Rest (a) - Maintained	90° left / 90° right	Standard lock: DOM 311	61-2604.0/D	83
Maintained - Rest (a) - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2605.0/D	83
Maintained (a) - Rest - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2606.0/D	83
Maintained (a) - Rest (a) - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2607.0/D	83
Momentary - Rest (a) - Maintained	42° left / 90° right	Standard lock: DOM 311	61-2701.0/D	80
Momentary - Rest (a) - Maintained (a)	42° left / 90° right	Standard lock: DOM 311	61-2705.0/D	80
Maintained - Rest (a) - Momentary	90° left / 42° right	Standard lock: DOM 311	61-2801.0/D	81
Maintained (a) - Rest - Momentary	90° left / 42° right	Standard lock: DOM 311	61-2802.0/D	81
Maintained (a) - Rest (a) - Momentary	90° left / 42° right	Standard lock: DOM 311	61-2804.0/D	81

a = Key remove

Wiring diagrams



Wiring diagram 80



Wiring diagram 81



Wiring diagram 82



Wiring diagram 83



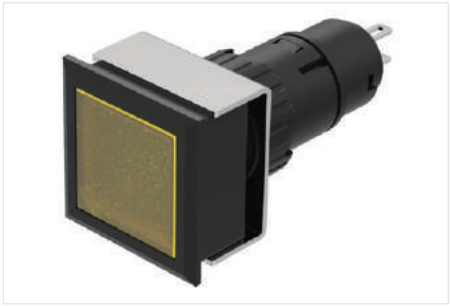
Come take a look at our LinkedIn profile today! *Be sure to give us a follow so that you can fully interact with us.*

https://www.linkedin.com/company/eao/

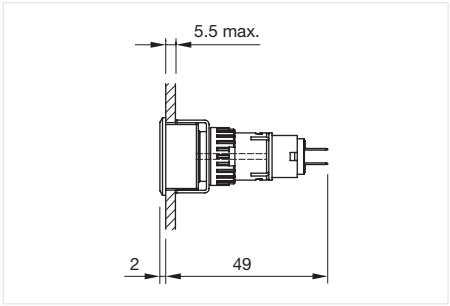
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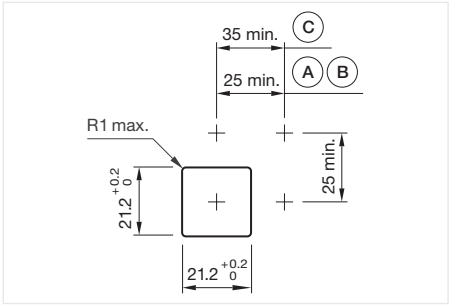
Indicator with lamp element square, IP65



Product can differ from the current configuration.



Dimensions [mm]

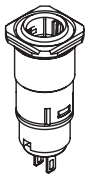


Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
B = Solder terminal
C = Screw terminal

Equipment consisting of (schematic overview)


Lens — Page 759


LED — Page 765


Actuator


Front bezel set — Page 763


Fixing nut

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

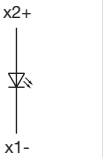
To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension 24 mm x 24 mm

Terminal	Part No.	Wiring diagram
Plug-in terminal	61-0000.02	4

Wiring diagrams



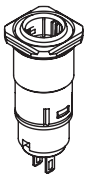
Wiring diagram 4

Indicator with lamp element rectangular, IP65

Equipment consisting of (schematic overview)


Lens — Page 759


LED — Page 765

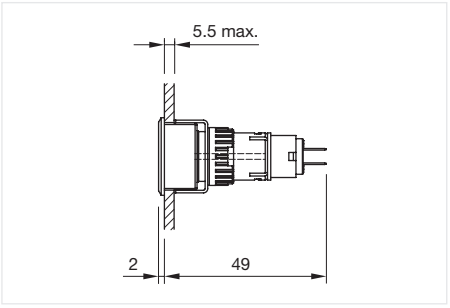

Actuator


Front bezel set — Page 763


Fixing nut

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

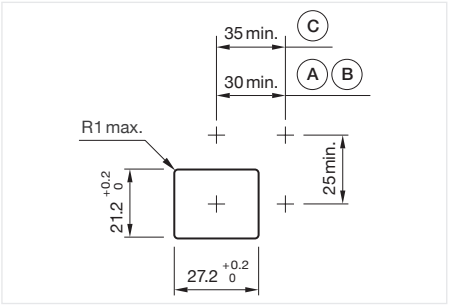
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Product can differ from the current configuration.



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
B = Solder terminal
C = Screw terminal



Actuator, Front dimension 30 mm x 24 mm

Terminal	Part No.	Wiring diagram
Plug-in terminal	61-0000.02	4

Wiring diagrams



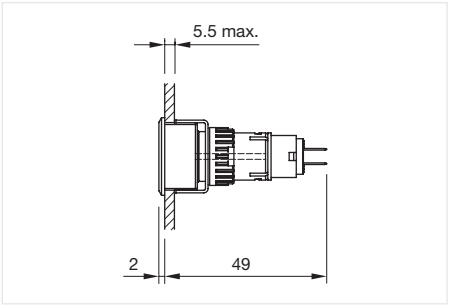
Wiring diagram 4

61 Flush design

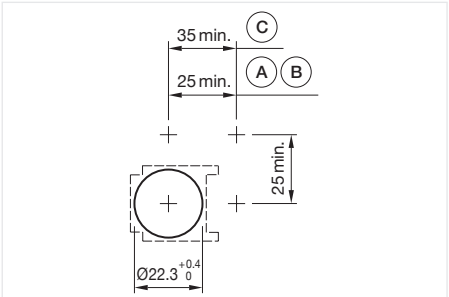
Indicator with lamp element round, IP65



Product can differ from the current configuration.



Dimensions [mm]

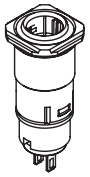


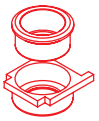
Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
B = Solder terminal
C = Screw terminal

Equipment consisting of (schematic overview)


Lens — Page 759


LED — Page 765


Actuator


Front bezel set — Page 763


Anti-twist ring — Page 776


Fixing nut

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

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



Actuator, Front dimension Ø 25 mm

Terminal	Part No.	Wiring diagram
Plug-in terminal	61-0000.02	4

Wiring diagrams



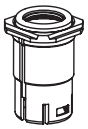
Wiring diagram 4

Indicator without lamp element square, IP65

Equipment consisting of (schematic overview)


Lens Page 759


LED Page 765


Actuator

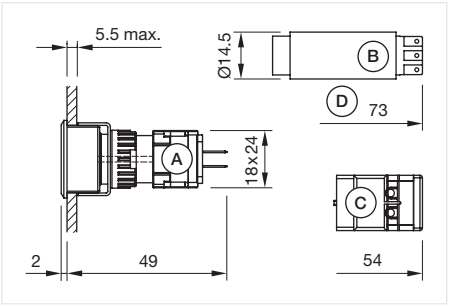

Front bezel set Page 763


Fixing nut

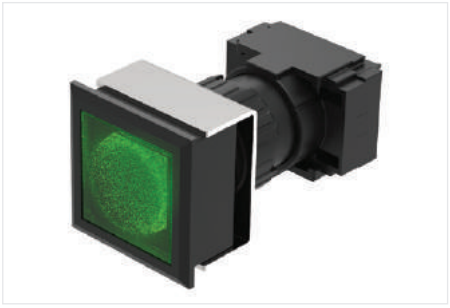

Lamp element Page 775

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

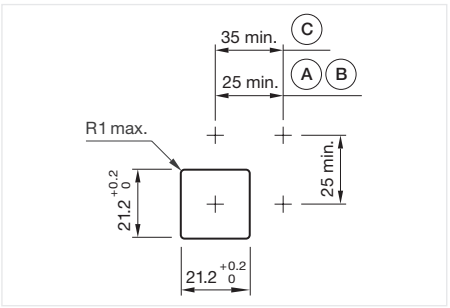
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
B = Solder terminal
C = Screw terminal
D = Flasher



Product can differ from the current configuration.



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
B = Solder terminal
C = Screw terminal



Actuator, Front dimension 24 mm x 24 mm

Housing material	Part No.	Wiring diagram
Plastic	61-0009.0	4

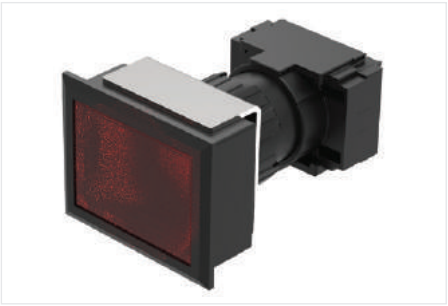
Wiring diagrams



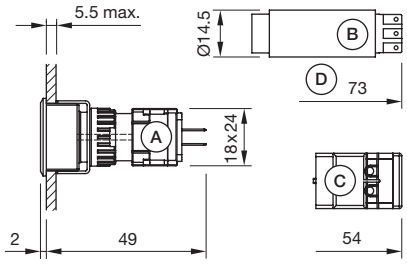
Wiring diagram 4

61 Flush design

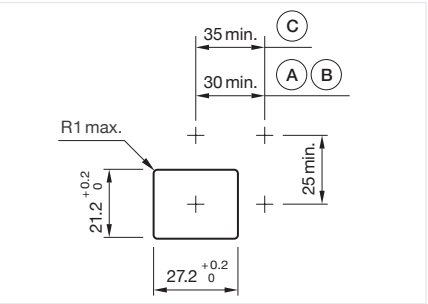
Indicator without lamp element rectangular, IP65



Product can differ from the current configuration.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
B = Solder terminal
C = Screw terminal
D = Flasher

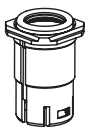


Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
B = Solder terminal
C = Screw terminal

Equipment consisting of (schematic overview)


Lens — Page 759


LED — Page 765


Actuator


Front bezel set — Page 763


Fixing nut


Lamp element — Page 775

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.



Actuator, Front dimension 30 mm x 24 mm

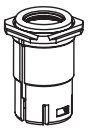
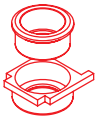
Housing material	Part No.	Wiring diagram
Plastic	61-0009.0	4

Wiring diagrams

Wiring diagram 4

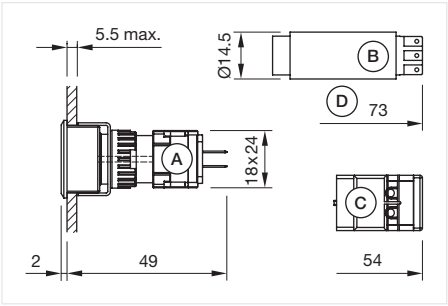
Indicator without lamp element round, IP65

Equipment consisting of (schematic overview)

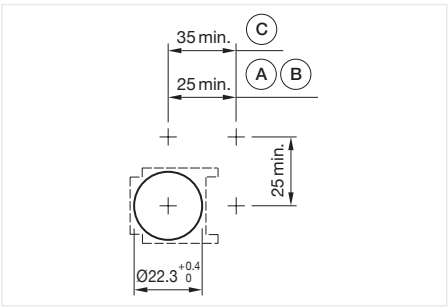
	Lens	Page 759
	LED	Page 765
	Actuator	
	Front bezel set	Page 763
	Anti-twist ring	Page 776
	Fixing nut	
	Lamp element	Page 775

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]
A = Plug-in terminal 2.8 mm x 0.5 mm
B = Solder terminal
C = Screw terminal
D = Flasher



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
B = Solder terminal
C = Screw terminal



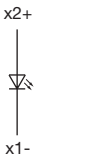
Product can differ from the current configuration.



Actuator, Front dimension Ø 25 mm

Housing material	Part No.	Wiring diagram
Plastic	61-0009.0	4

Wiring diagrams



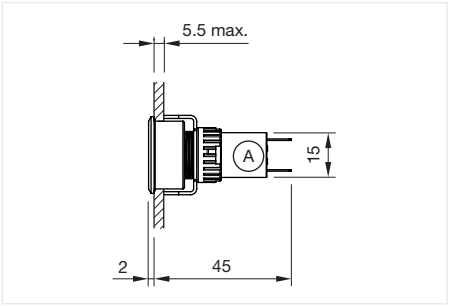
Wiring diagram 4

61 Flush design

Buzzer



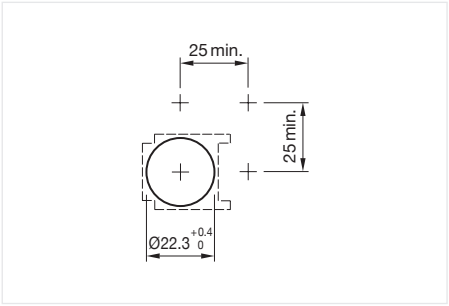
Product can differ from the current configuration.



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

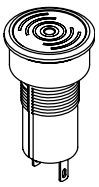
General information

- Change polarity for continuous or intermittent tone



Mounting cut-outs [mm]

Equipment consisting of (schematic overview)



Actuator



Thrust piece



Fixing nut

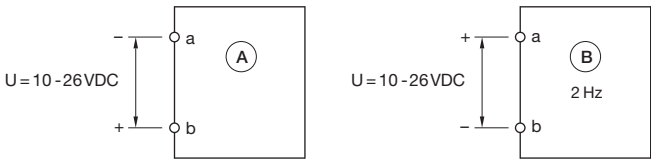
Each Part Number listed below includes all the black components shown in the 3D-drawing.



Actuator, Front dimension Ø 25 mm

Operating voltage	Terminal	IP front protection	Part No.	Wiring diagram
10 - 26 DC	Plug-in terminal	IP40	61-7000.02	172
	Plug-in terminal	IP65	61-7100.02	172

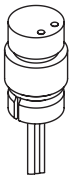
Wiring diagrams



Wiring diagram 172

Potentiometer square, IP65

Equipment consisting of (schematic overview)



Actuator

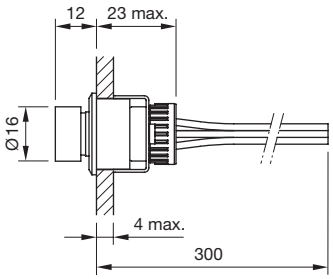


Front bezel



Fixing nut

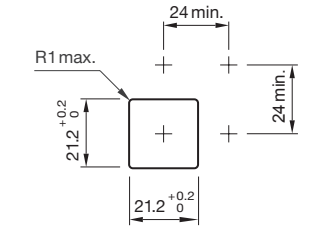
Each Part Number listed below includes all the black components shown in the 3D-drawing.



Dimensions [mm]



Product can differ from the current configuration.



Mounting cut-outs [mm]

General information

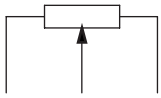
- Resistance 10 kOhms / linear



Actuator, Front dimension 24 mm x 24 mm

Terminal	Front bezel colour	Front bezel material	Housing material	Product attributes	Part No.	Wiring diagram	Component Layout
Flat ribbon cable	Black	Plastic	Plastic	Cable length 300 mm	61-4970.13	104	30

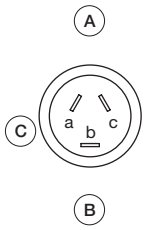
Wiring diagrams



Wiring diagram 104

61 Flush design

Component layouts



Component layout 30

A = Terminals (rear side)
B = Conductor colour of flat ribbon cable
C = a = blue, b = red, c = yellow



Compact, robust, reliable.
The Series 61 E-Stop compact.

UL-certified – safety in a compact design for handheld control units.

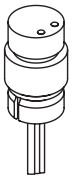
- Very low back panel depth (21.2 mm)
- High front protection IP69K and IP67
- Robust mono-block design
- Mechanically decoupled triggering
- Optional illumination available
- Up to three switching elements

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Potentiometer round, IP65

Equipment consisting of (schematic overview)



Actuator



Front bezel

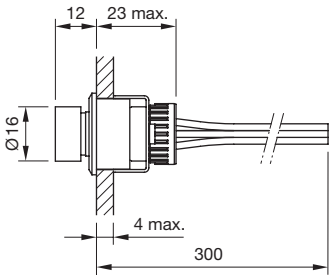


Anti-twist ring



Fixing nut

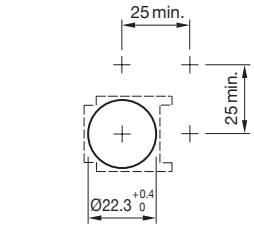
Each Part Number listed below includes all the black components shown in the 3D-drawing.



Dimensions [mm]



Product can differ from the current configuration.



Mounting cut-outs [mm]

General information

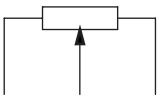
- Resistance 10 kOhms / linear



Actuator, Front dimension Ø 25 mm

Terminal	Front bezel colour	Front bezel material	Housing material	Product attributes	Part No.	Wiring diagram	Component Layout
Flat ribbon cable	Black	Plastic	Plastic	Cable length 300 mm	61-4970.10	104	30

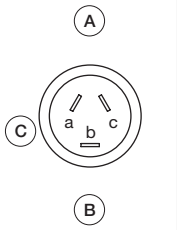
Wiring diagrams



Wiring diagram 104

61 Flush design

Component layouts



Component layout 30

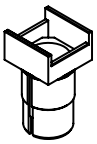
A = Terminals (rear side)
B = Conductor colour of flat ribbon cable
C = a = blue, b = red, c = yellow

Illuminated pushbutton square, IP65

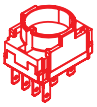
Equipment consisting of (schematic overview)


Lens Page 759


LED Page 765

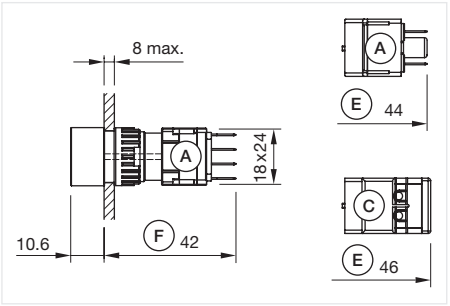

Actuator


Fixing nut


Switching element Page 767

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

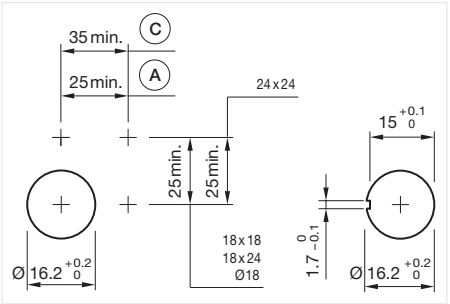
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element



Product can differ from the current configuration.



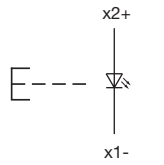
Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal



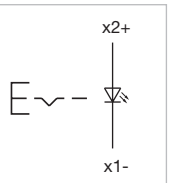
Actuator, Front dimension 18 mm x 18 mm

Switching action	Front bezel colour	Front bezel material	Housing colour	Housing material	Product attributes	Part No.	Wiring diagram
Momentary	Black	Plastic	Black	Plastic		61-1120.0	294
Maintained	Black	Plastic	Black	Plastic		61-1220.0	295
Maintained or momentary	Black	Plastic	Black	Plastic	Convertible from momentary to maintained action	61-1320.0	294

Wiring diagrams



Wiring diagram 294

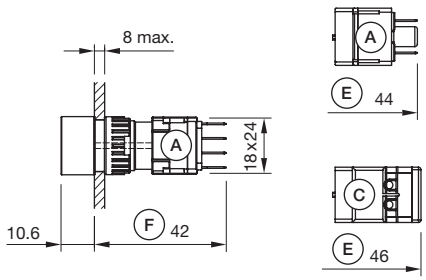


Wiring diagram 295

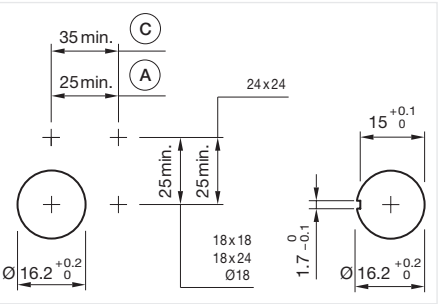
Illuminated pushbutton square, IP65



Product can differ from the current configuration.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element

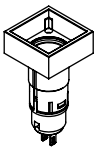


Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

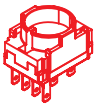
Equipment consisting of (schematic overview)


Lens Page 759


LED Page 765


Actuator


Fixing nut


Switching element Page 767

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

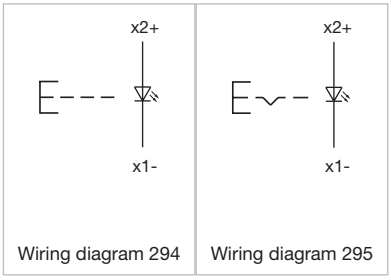
To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension 24 mm x 24 mm

Switching action	Front bezel colour	Front bezel material	Housing colour	Housing material	Product attributes	Part No.	Wiring diagram
Momentary	Black	Plastic	Black	Plastic		61-1150.0	294
Maintained	Black	Plastic	Black	Plastic		61-1250.0	295
Maintained or momentary	Black	Plastic	Black	Plastic	Convertible from momentary to maintained action	61-1350.0	294

Wiring diagrams



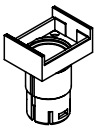
Wiring diagram 294 | Wiring diagram 295

Illuminated pushbutton rectangular, IP65

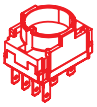
Equipment consisting of (schematic overview)


Lens Page 759


LED Page 765

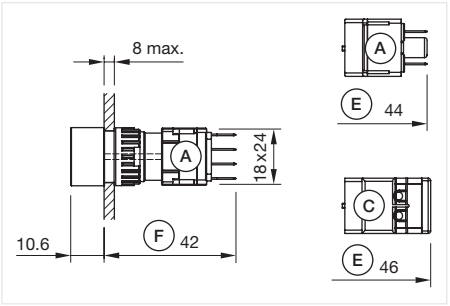

Actuator


Fixing nut


Switching element Page 767

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

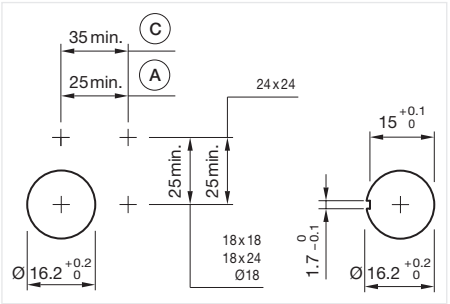
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element



Product can differ from the current configuration.



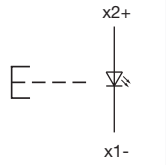
Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal



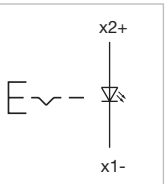
Actuator, Front dimension 24 mm x 18 mm

Switching action	Front bezel colour	Front bezel material	Housing colour	Housing material	Product attributes	Part No.	Wiring diagram
Momentary	Black	Plastic	Black	Plastic		61-1130.0	294
Maintained	Black	Plastic	Black	Plastic		61-1230.0	295
Maintained or momentary	Black	Plastic	Black	Plastic	Convertible from momentary to maintained action	61-1330.0	294

Wiring diagrams



Wiring diagram 294

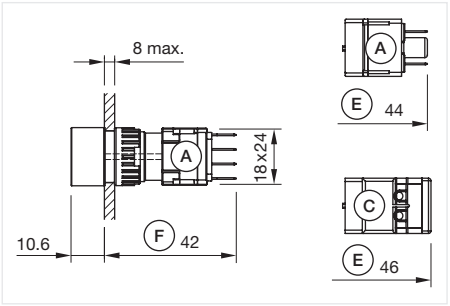


Wiring diagram 295

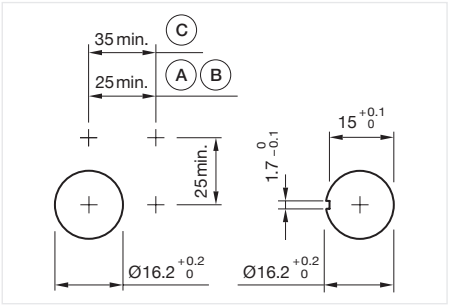
Illuminated pushbutton round, IP65



Product can differ from the current configuration.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element

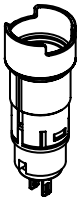


Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
B = Solder terminal
C = Screw terminal

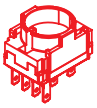
Equipment consisting of (schematic overview)


Lens Page 759


LED Page 765


Actuator


Fixing nut


Switching element Page 767

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

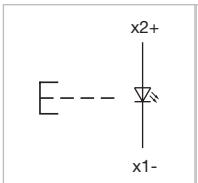
To obtain a complete unit, please select the red components from the pages shown.



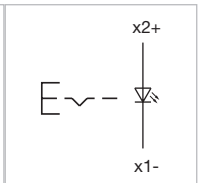
Actuator, Front dimension Ø 18 mm

Switching action	Front bezel colour	Front bezel material	Housing colour	Housing material	Product attributes	Part No.	Wiring diagram
Momentary	Black	Plastic	Black	Plastic		61-1110.0	294
Maintained	Black	Plastic	Black	Plastic		61-1210.0	295
Maintained or momentary	Black	Plastic	Black	Plastic	Convertible from momentary to maintained action	61-1310.0	294

Wiring diagrams



Wiring diagram 294



Wiring diagram 295

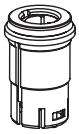
Illuminated pushbutton without front bezel round, IP65

Equipment consisting of (schematic overview)

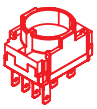

Lens — Page 759


Front bezel — Page 764


LED — Page 765

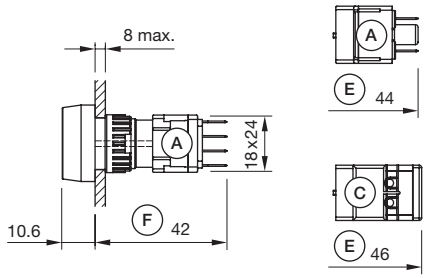

Actuator


Fixing nut

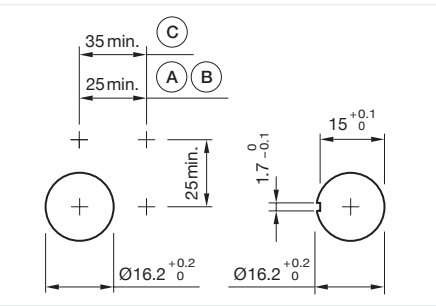

Switching element — Page 767

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]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
B = Solder terminal
C = Screw terminal



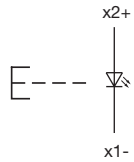
Product can differ from the current configuration.



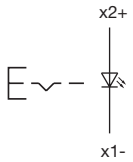
Actuator, Front dimension Ø 24 mm

Switching action	Front bezel colour	Front bezel material	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Black	Plastic	Black	Plastic	61-1140.0	294
Maintained	Black	Plastic	Black	Plastic	61-1240.0	295

Wiring diagrams



Wiring diagram 294

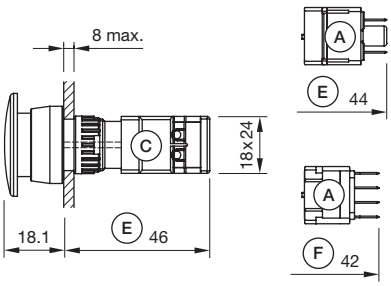


Wiring diagram 295

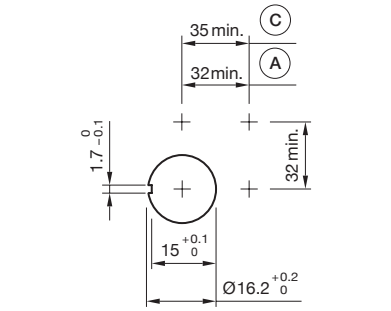
Mushroom-head pushbutton, IP65



Product can differ from the current configuration.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

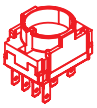
Equipment consisting of (schematic overview)


Lens Page 759


Front bezel Page 764


Actuator


Fixing nut


Switching element Page 767

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

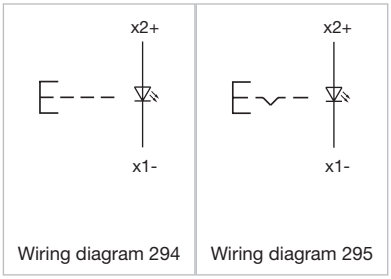
To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension Ø 32 mm

Switching action	Front bezel colour	Front bezel material	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Black	Plastic	Black	Plastic	61-1140.0	294
Maintained	Black	Plastic	Black	Plastic	61-1240.0	295

Wiring diagrams



Wiring diagram 294 | Wiring diagram 295

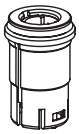
Selector switch 2 positions square, IP65

Equipment consisting of (schematic overview)


Lever — Page 762

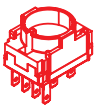

Front bezel — Page 763

LED — Page 765


Actuator

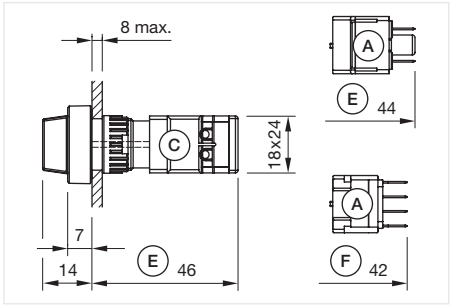

Anti-twist ring — Page 776


Fixing nut


Switching element — Page 767

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

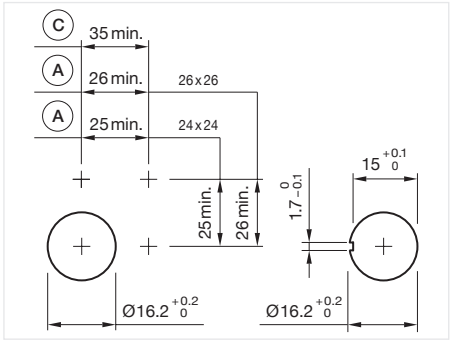
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element



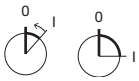
Product can differ from the current configuration.



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

General information

- If mounted with anti-twist device, the lug is on the left side
- For front dimensions 26 mm x 26 mm, 24 mm x 24 mm

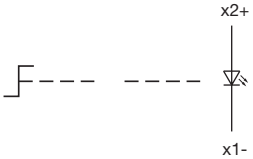




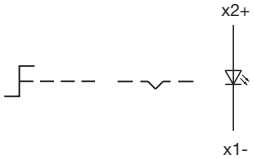
Actuator

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Rest - Momentary	42° right	Illuminative	61-4110.0	296
Rest - Maintained	90° right	Illuminative	61-4210.0	297

Wiring diagrams



Wiring diagram 296

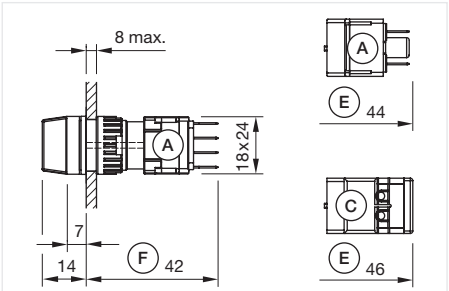


Wiring diagram 297

Selector switch 2 positions round, IP65



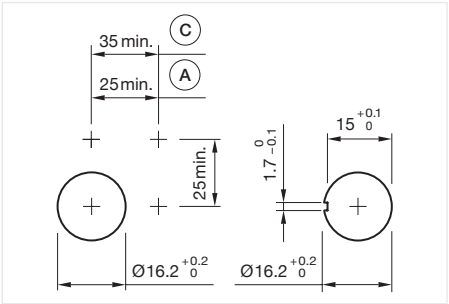
Product can differ from the current configuration.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element

General information

- If mounted with anti-twist device, the lug is on the left side

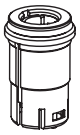


Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

Equipment consisting of (schematic overview)

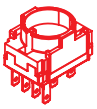

Lever — Page 762


LED — Page 765


Actuator

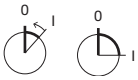

Anti-twist ring — Page 776


Fixing nut


Switching element — Page 767

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.





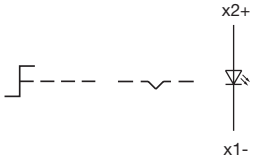
Actuator, Front dimension Ø 18 mm

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Rest - Momentary	42° right	Illuminative	61-4110.0	296
Rest - Maintained	90° right	Illuminative	61-4210.0	297

Wiring diagrams



Wiring diagram 296



Wiring diagram 297

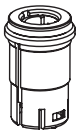
Selector switch 3 positions square, IP65

Equipment consisting of (schematic overview)


Lever — Page 762

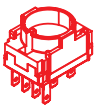

Front bezel — Page 763

LED — Page 765


Actuator

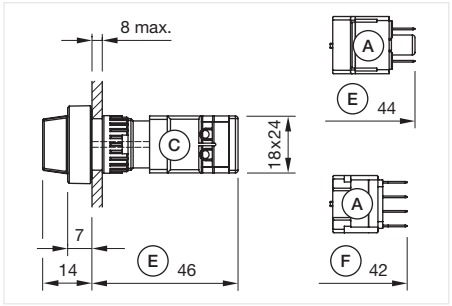

Anti-twist ring — Page 776


Fixing nut


Switching element — Page 771

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

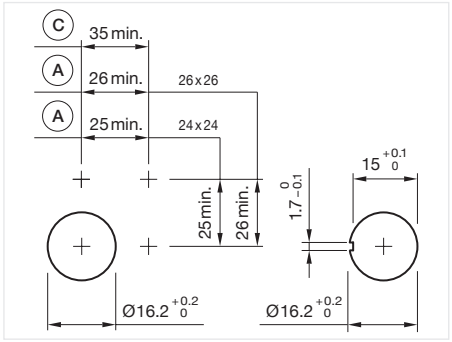
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element



Product can differ from the current configuration.



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

General information

- If mounted with anti-twist device, the lug is on the left side
- For front dimensions 26 mm x 26 mm, 24 mm x 24 mm

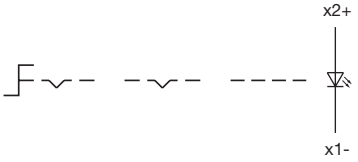




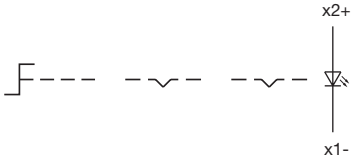
Actuator, Front dimension

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Maintained - Rest - Maintained	90° left / 90° right	Illuminative	61-4610.0	301
Momentary - Rest - Maintained	42° left / 90° right	Illuminative	61-4710.0	300
Maintained - Rest - Momentary	90° left / 42° right	Illuminative	61-4810.0	299

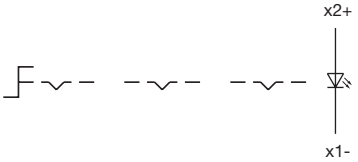
Wiring diagrams



Wiring diagram 299



Wiring diagram 300



Wiring diagram 301



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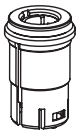
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Selector switch 3 positions round, IP65

Equipment consisting of (schematic overview)

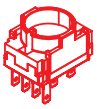

Lever Page 762


LED Page 765


Actuator

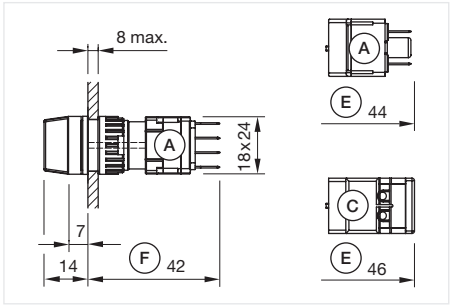

Anti-twist ring Page 776


Fixing nut


Switching element Page 771

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

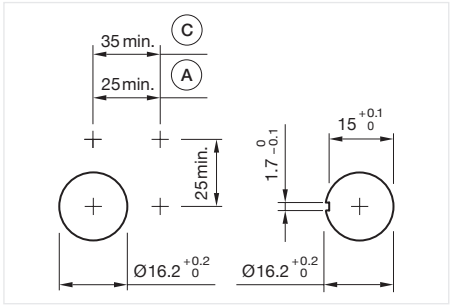
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element



Product can differ from the current configuration.



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

General information

- If mounted with anti-twist device, the lug is on the left side

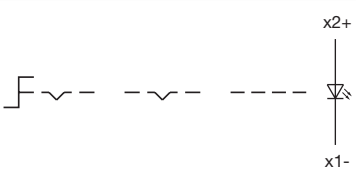




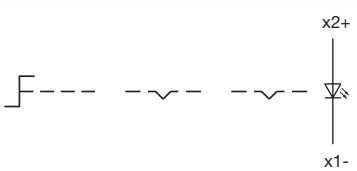
Actuator, Front dimension Ø 18 mm

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Maintained - Rest - Maintained	90° left / 90° right	Illuminative	61-4610.0	301
Momentary - Rest - Maintained	42° left / 90° right	Illuminative	61-4710.0	300
Maintained - Rest - Momentary	90° left / 42° right	Illuminative	61-4810.0	299

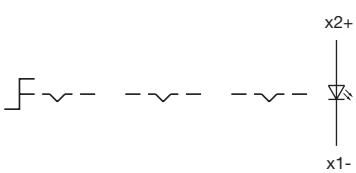
Wiring diagrams



Wiring diagram 299



Wiring diagram 300



Wiring diagram 301



On our website you can download technical data, assembly instructions, catalogs, brochures *and much more.*

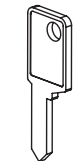
eao

www.eao.com

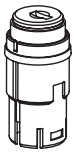
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Keylock switch 2 positions square, IP65

Equipment consisting of (schematic overview)

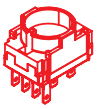

Key


Keylock front bezel Page 764


Actuator

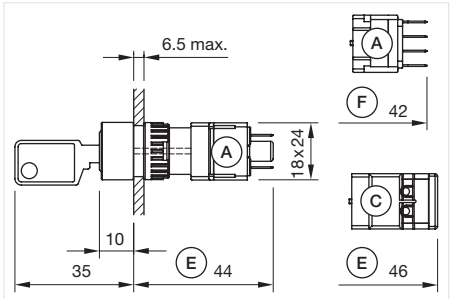

Anti-twist ring Page 776


Fixing nut

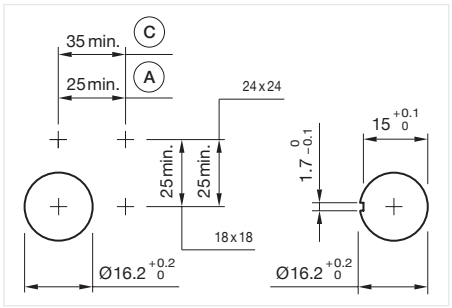

Switching element Page 767

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]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element



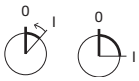
Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal



Product can differ from the current configuration.

General information

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





Actuator

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Rest (a) - Momentary	42° right	Standard lock: DOM 311	61-2101.0/D	78
Rest (a) - Maintained	90° right	Standard lock: DOM 311	61-2201.0/D	79
Rest - Maintained (a)	90° right	Standard lock: DOM 311	61-2203.0/D	79
Rest (a) - Maintained (a)	90° right	Standard lock: DOM 311	61-2205.0/D	79

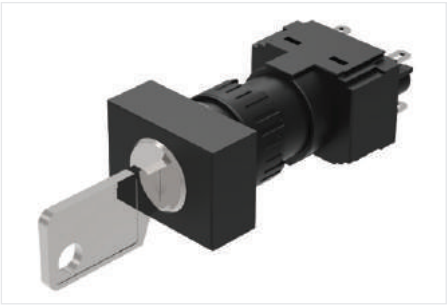
a = Key remove

Wiring diagrams

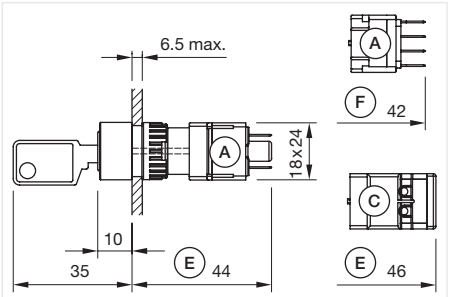

Wiring diagram 78


Wiring diagram 79

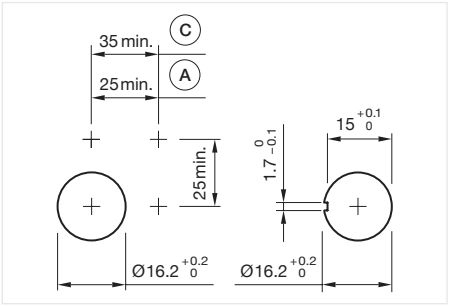
Keylock switch 2 positions rectangular, IP65



Product can differ from the current configuration.

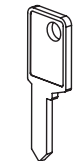


Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element

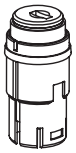


Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

Equipment consisting of (schematic overview)

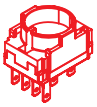

Key


Keylock front bezel Page 764


Actuator

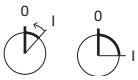

Anti-twist ring Page 776


Fixing nut


Switching element Page 767

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.



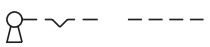


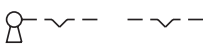
Actuator, Front dimension 24 mm x 18 mm

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Rest (a) - Momentary	42° right	Standard lock: DOM 311	61-2101.0/D	78
Rest (a) - Maintained	90° right	Standard lock: DOM 311	61-2201.0/D	79
Rest - Maintained (a)	90° right	Standard lock: DOM 311	61-2203.0/D	79
Rest (a) - Maintained (a)	90° right	Standard lock: DOM 311	61-2205.0/D	79

a = Key remove

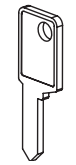
Wiring diagrams


Wiring diagram 78

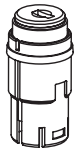

Wiring diagram 79

Keylock switch 2 positions round, IP65

Equipment consisting of (schematic overview)

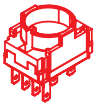

Key


Keylock front bezel Page 764


Actuator

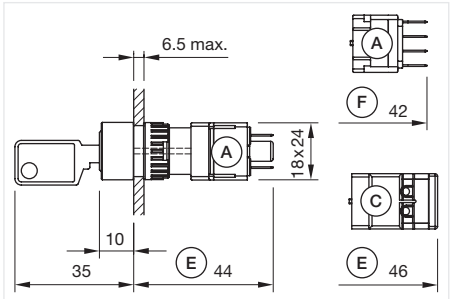

Anti-twist ring Page 776


Fixing nut

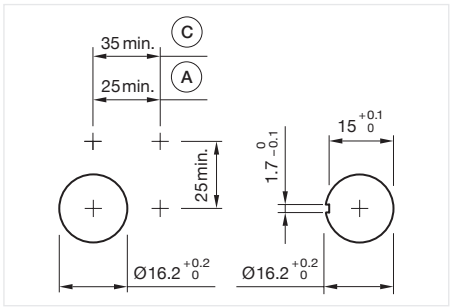

Switching element Page 767

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.



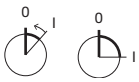
Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal



Product can differ from the current configuration.





Actuator, Front dimension Ø 18 mm

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Rest (a) - Momentary	42° right	Standard lock: DOM 311	61-2101.0/D	78
Rest (a) - Maintained	90° right	Standard lock: DOM 311	61-2201.0/D	79
Rest - Maintained (a)	90° right	Standard lock: DOM 311	61-2203.0/D	79
Rest (a) - Maintained (a)	90° right	Standard lock: DOM 311	61-2205.0/D	79

a = Key remove

Wiring diagrams

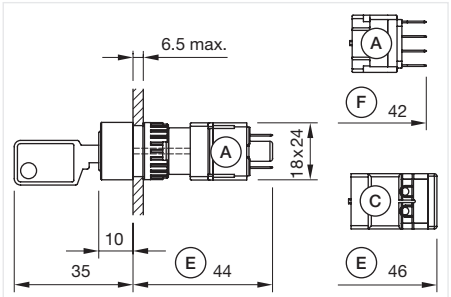

Wiring diagram 78


Wiring diagram 79

Keylock switch 3 positions square, IP65



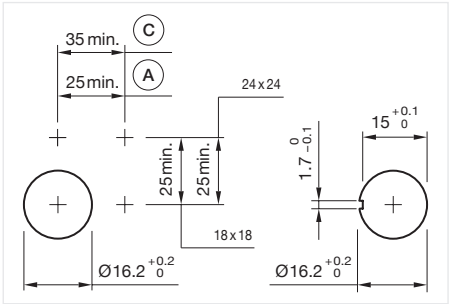
Product can differ from the current configuration.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element

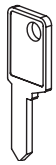
General information

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

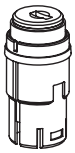


Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

Equipment consisting of (schematic overview)

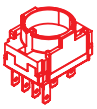

Key


Keylock front bezel Page 764


Actuator

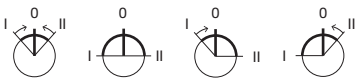

Anti-twist ring Page 776


Fixing nut


Switching element Page 771

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.





Actuator

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Momentary - Rest (a) - Momentary	42° left / 42° right	Standard lock: DOM 311	61-2501.0/D	82
Maintained - Rest (a) - Maintained	90° left / 90° right	Standard lock: DOM 311	61-2601.0/D	83
Maintained (a) - Rest - Maintained	90° left / 90° right	Standard lock: DOM 311	61-2602.0/D	83
Maintained - Rest - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2603.0/D	83
Maintained (a) - Rest (a) - Maintained	90° left / 90° right	Standard lock: DOM 311	61-2604.0/D	83
Maintained - Rest (a) - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2605.0/D	83
Maintained (a) - Rest - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2606.0/D	83
Maintained (a) - Rest (a) - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2607.0/D	83
Momentary - Rest (a) - Maintained	42° left / 90° right	Standard lock: DOM 311	61-2701.0/D	80
Momentary - Rest (a) - Maintained (a)	42° left / 90° right	Standard lock: DOM 311	61-2705.0/D	80
Maintained - Rest (a) - Momentary	90° left / 42° right	Standard lock: DOM 311	61-2801.0/D	81
Maintained (a) - Rest - Momentary	90° left / 42° right	Standard lock: DOM 311	61-2802.0/D	81
Maintained (a) - Rest (a) - Momentary	90° left / 42° right	Standard lock: DOM 311	61-2804.0/D	81

a = Key remove

Wiring diagrams



Wiring diagram 80



Wiring diagram 81

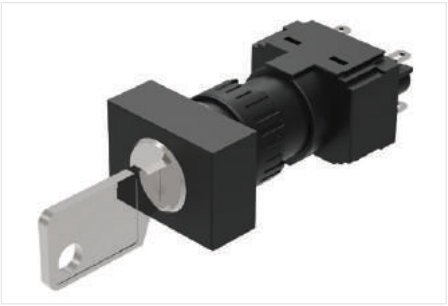


Wiring diagram 82

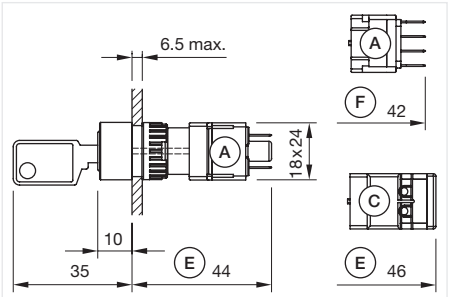


Wiring diagram 83

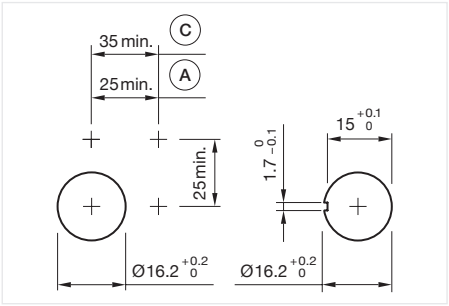
Keylock switch 3 positions rectangular, IP65



Product can differ from the current configuration.

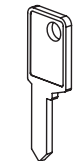


Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

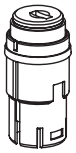
Equipment consisting of (schematic overview)



Key



Keylock front bezel Page 764



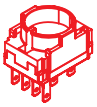
Actuator



Anti-twist ring Page 776



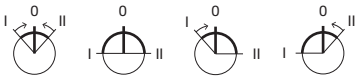
Fixing nut



Switching element Page 771

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.





Actuator, Front dimension 24 mm x 18 mm

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Momentary - Rest (a) - Momentary	42° left / 42° right	Standard lock: DOM 311	61-2501.0/D	82
Maintained - Rest (a) - Maintained	90° left / 90° right	Standard lock: DOM 311	61-2601.0/D	83
Maintained (a) - Rest - Maintained	90° left / 90° right	Standard lock: DOM 311	61-2602.0/D	83
Maintained - Rest - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2603.0/D	83
Maintained (a) - Rest (a) - Maintained	90° left / 90° right	Standard lock: DOM 311	61-2604.0/D	83
Maintained - Rest (a) - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2605.0/D	83
Maintained (a) - Rest - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2606.0/D	83
Maintained (a) - Rest (a) - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2607.0/D	83
Momentary - Rest (a) - Maintained	42° left / 90° right	Standard lock: DOM 311	61-2701.0/D	80
Momentary - Rest (a) - Maintained (a)	42° left / 90° right	Standard lock: DOM 311	61-2705.0/D	80
Maintained - Rest (a) - Momentary	90° left / 42° right	Standard lock: DOM 311	61-2801.0/D	81
Maintained (a) - Rest - Momentary	90° left / 42° right	Standard lock: DOM 311	61-2802.0/D	81
Maintained (a) - Rest (a) - Momentary	90° left / 42° right	Standard lock: DOM 311	61-2804.0/D	81

a = Key remove

Wiring diagrams



Wiring diagram 80



Wiring diagram 81



Wiring diagram 82



Wiring diagram 83



Come take a look at our YouTube profile today! *Be sure to give us a follow so that you can fully interact with us.*

https://www.youtube.com/user/eaoswitches

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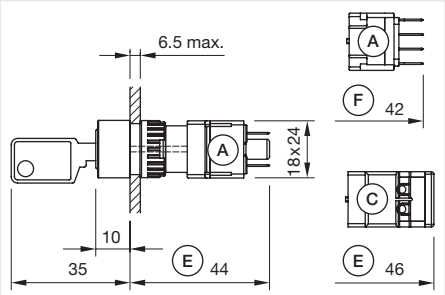
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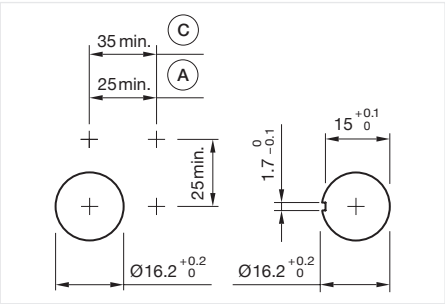
Keylock switch 3 positions round, IP65



Product can differ from the current configuration.

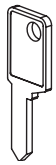


Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal
E = Slow-make switching element
F = Snap-action switching element

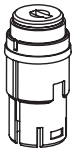


Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

Equipment consisting of (schematic overview)

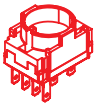

Key


Keylock front bezel Page 764


Actuator

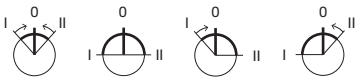

Anti-twist ring Page 776


Fixing nut


Switching element Page 771

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.





Actuator, Front dimension Ø 18 mm

Switching action	Switching angle	Product attributes	Part No.	Wiring diagram
Momentary - Rest (a) - Momentary	42° left / 42° right	Standard lock: DOM 311	61-2501.0/D	82
Maintained - Rest (a) - Maintained	90° left / 90° right	Standard lock: DOM 311	61-2601.0/D	83
Maintained (a) - Rest - Maintained	90° left / 90° right	Standard lock: DOM 311	61-2602.0/D	83
Maintained - Rest - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2603.0/D	83
Maintained (a) - Rest (a) - Maintained	90° left / 90° right	Standard lock: DOM 311	61-2604.0/D	83
Maintained - Rest (a) - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2605.0/D	83
Maintained (a) - Rest - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2606.0/D	83
Maintained (a) - Rest (a) - Maintained (a)	90° left / 90° right	Standard lock: DOM 311	61-2607.0/D	83
Momentary - Rest (a) - Maintained	42° left / 90° right	Standard lock: DOM 311	61-2701.0/D	80
Momentary - Rest (a) - Maintained (a)	42° left / 90° right	Standard lock: DOM 311	61-2705.0/D	80
Maintained - Rest (a) - Momentary	90° left / 42° right	Standard lock: DOM 311	61-2801.0/D	81
Maintained (a) - Rest - Momentary	90° left / 42° right	Standard lock: DOM 311	61-2802.0/D	81
Maintained (a) - Rest (a) - Momentary	90° left / 42° right	Standard lock: DOM 311	61-2804.0/D	81

a = Key remove

Wiring diagrams



Wiring diagram 80



Wiring diagram 81



Wiring diagram 82

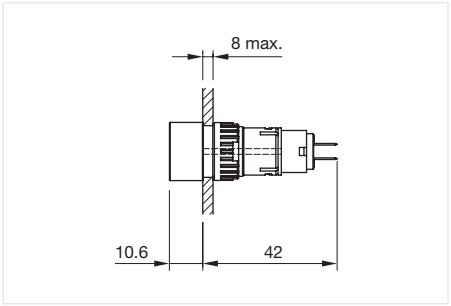


Wiring diagram 83

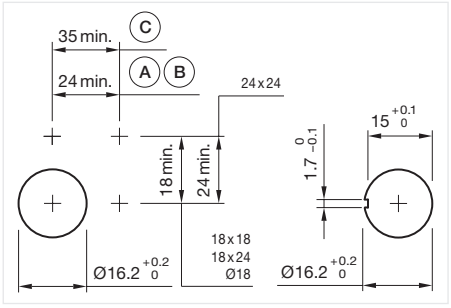
Indicator with lamp element square, IP65



Product can differ from the current configuration.



Dimensions [mm]



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
B = Solder terminal
C = Screw terminal

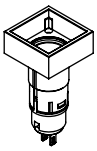
Equipment consisting of (schematic overview)



Lens Page 759



LED Page 765



Actuator



Fixing nut

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

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



Actuator

Terminal	Housing colour	Housing material	Dimensions	Part No.	Wiring diagram
Plug-in terminal	Black	Plastic	18 mm x 18 mm	61-0020.02	4
	Black	Plastic	24 mm x 24 mm	61-0050.02	4

Wiring diagrams



Wiring diagram 4

Indicator with lamp element rectangular, IP65

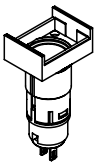
Equipment consisting of (schematic overview)



Lens — Page 759



LED — Page 765



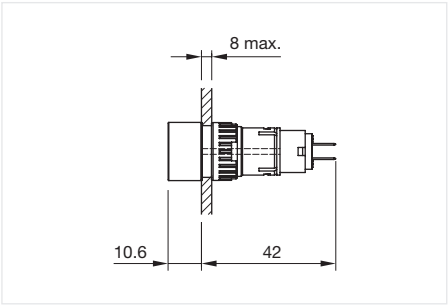
Actuator



Fixing nut

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

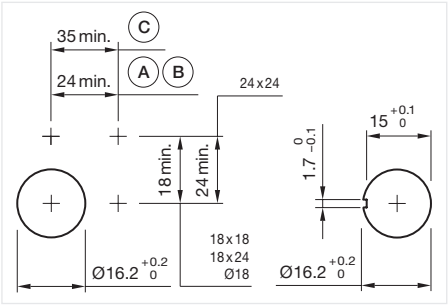
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Product can differ from the current configuration.



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
B = Solder terminal
C = Screw terminal



Actuator, Front dimension 24 mm x 18 mm

Terminal	Housing colour	Housing material	Part No.	Wiring diagram
Plug-in terminal	Black	Plastic	61-0030.02	4

Wiring diagrams

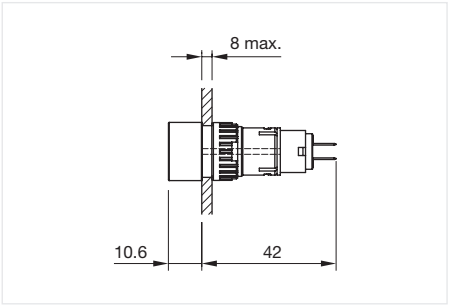


Wiring diagram 4

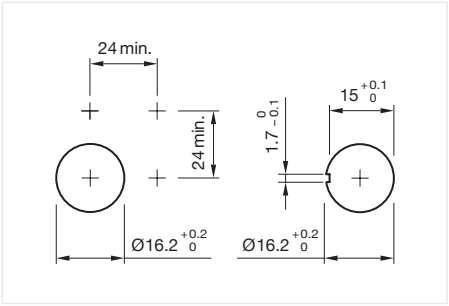
Indicator with lamp element round, Ø 18 mm, IP65



Product can differ from the current configuration.



Dimensions [mm]



Mounting cut-outs [mm]

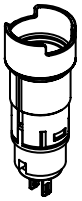
Equipment consisting of (schematic overview)



Lens Page 759



LED Page 765



Actuator



Fixing nut

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

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



Actuator, Front dimension Ø 18 mm

Terminal	Housing colour	Housing material	Part No.	Wiring diagram
Plug-in terminal	Black	Plastic	61-0010.02	4

Wiring diagrams



Wiring diagram 4

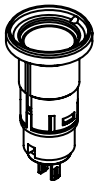
Indicator without front bezel round, Ø 24 mm, IP65

Equipment consisting of (schematic overview)


Lens — Page 759


Front bezel — Page 764

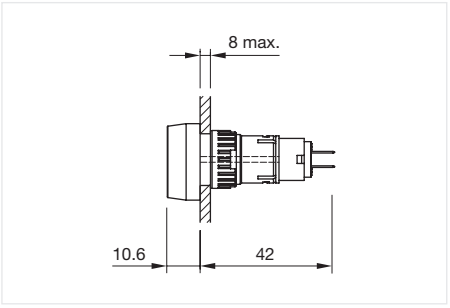
LED — Page 765


Actuator


Fixing nut

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

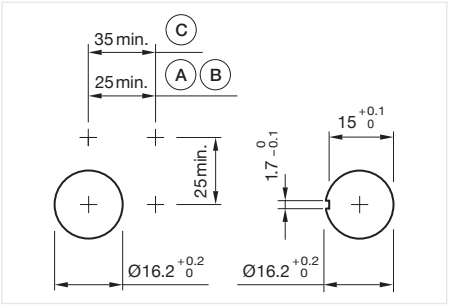
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Product can differ from the current configuration.



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
B = Solder terminal
C = Screw terminal



Actuator, Front dimension Ø 24 mm

Terminal	Housing colour	Housing material	Part No.	Wiring diagram
Plug-in terminal	Black	Plastic	61-0040.02	4

Wiring diagrams



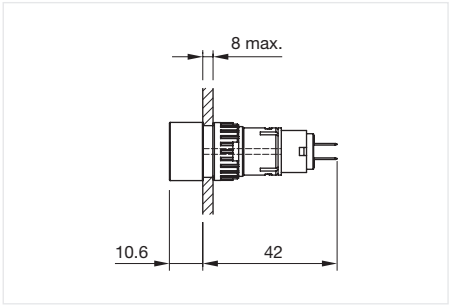
Wiring diagram 4

61 Raised design

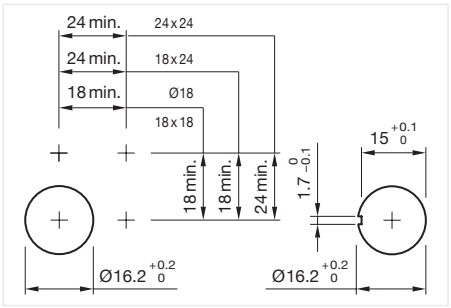
Indicator without lamp element square, IP65



Product can differ from the current configuration.



Dimensions [mm]



Mounting cut-outs [mm]

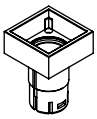
Equipment consisting of (schematic overview)



Lens Page 759



LED Page 765



Actuator



Fixing nut



Lamp element Page 775

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.



Actuator

Housing colour	Housing material	Dimensions	Part No.	Wiring diagram
Black	Plastic	18 mm x 18 mm	61-0029.0	4
	Plastic	24 mm x 24 mm	61-0059.0	4

Wiring diagrams



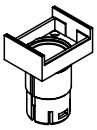
Wiring diagram 4

Indicator without lamp element rectangular, IP65

Equipment consisting of (schematic overview)


Lens Page 759


LED Page 765

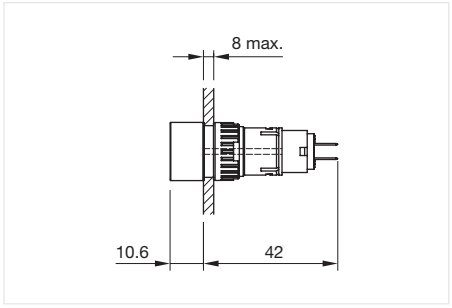

Actuator


Fixing nut


Lamp element Page 775

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

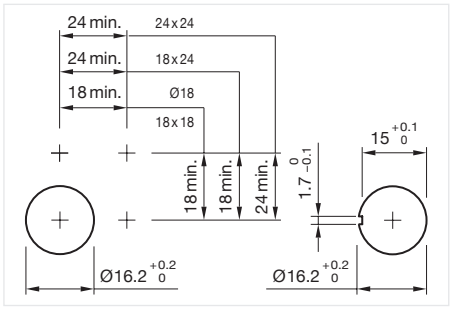
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



Product can differ from the current configuration.



Mounting cut-outs [mm]



Actuator, Front dimension 24 mm x 18 mm

Housing colour	Housing material	Part No.	Wiring diagram
Black	Plastic	61-0039.0	4

Wiring diagrams

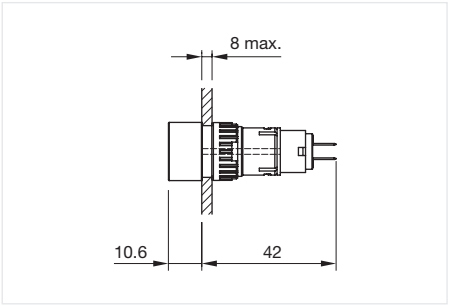


Wiring diagram 4

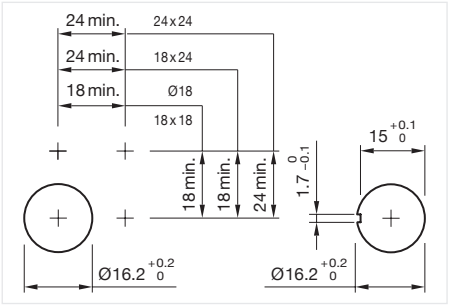
Indicator without lamp element round, IP65



Product can differ from the current configuration.



Dimensions [mm]



Mounting cut-outs [mm]

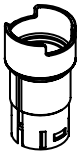
Equipment consisting of (schematic overview)



Lens Page 759



LED Page 765





Fixing nut



Lamp element Page 775

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.



Actuator, Front dimension Ø 18 mm

Housing colour	Housing material	Part No.	Wiring diagram
Black	Plastic	61-0019.0	4

Wiring diagrams



Wiring diagram 4

Indicator without front bezel round, IP65

Equipment consisting of (schematic overview)


Lens Page 759


Front bezel Page 764

LED Page 765

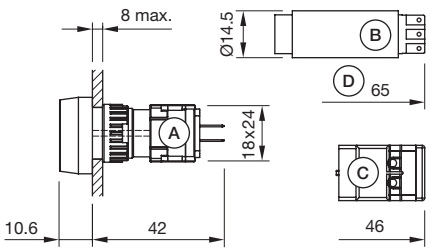

Actuator


Fixing nut

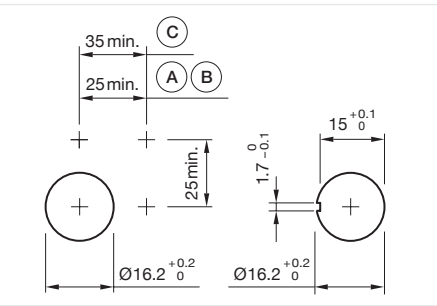

Lamp element Page 775

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]
A = Plug-in terminal 2.8 mm x 0.5 mm
B = Solder terminal
C = Screw terminal
D = Flasher



Mounting cut-outs [mm]
A = Solder/Plug-in terminal 2.8 mm x 0.5 mm
B = Solder terminal
C = Screw terminal



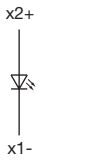
Product can differ from the current configuration.



Actuator, Front dimension Ø 24 mm

Housing colour	Housing material	Part No.	Wiring diagram
Black	Plastic	61-0049.0	4

Wiring diagrams

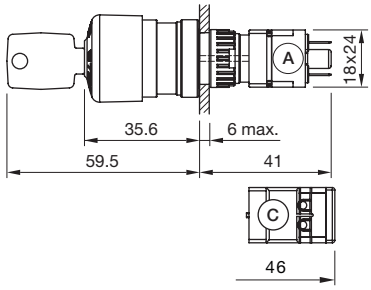


Wiring diagram 4

Stop switch, IP65



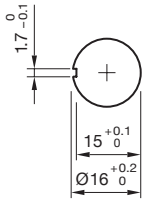
Product can differ from the current configuration.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

General information

- Position indication ring black
- Twist to unlock clockwise



Mounting cut-outs [mm]

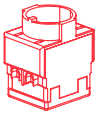
Equipment consisting of (schematic overview)



Actuator



Fixing nut



Switching element Page 767

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.



Actuator, Front dimension Ø 27 mm

Switching action	Lens colour	Lens material	Marking	Housing colour	Housing material	Product attributes	Part No.	Wiring diagram
Maintained	Red	Plastic	Arrows	Yellow	Plastic	Twist to unlock clockwise	61-3440.4/1	76
	Red	Plastic	Stop + Arrows	Yellow	Plastic	Twist to unlock clockwise	61-3440.4/2	76
	Grey	Plastic	Arrows	Grey	Plastic	Twist to unlock clockwise	61-3440.4/8	76
	Red	Plastic	Arrows	Yellow	Plastic	Twist to unlock clockwise, with fixing nut metal	61-3440.4/D	76
	Black	Plastic	–	Yellow	Plastic	Key to unlock clockwise	61-5441.0/KA	76
	Red	Plastic	Stop	Yellow	Plastic	Key to unlock clockwise	61-5441.4/K	76

Wiring diagrams



Wiring diagram 76

Emergency stop switch compact, foolprof, EN IEC 60947-5-5, IP66, IP67, IP69K

Equipment consisting of (schematic overview)



Actuator



Seal

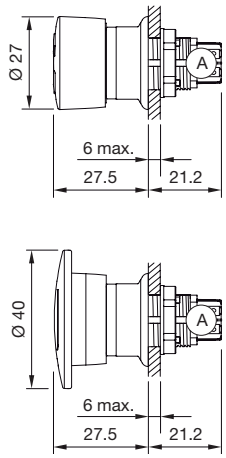


Anti-twist ring



Fixing nut

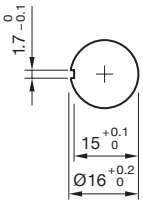
Each Part Number listed below includes all the black components shown in the 3D-drawing.



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



Product can differ from the current configuration.



Mounting cut-outs [mm]

General information

- Application as per DIN EN ISO 13850 and EN 60204-1
- Twist to unlock clockwise



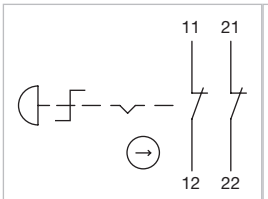
Actuator

Contacts	Switching action	Terminal	Lens colour	Lens material	Type of illumination	Dimensions	Part No.	Wiring diagram	Component Layout
1 NC	Maintained	Plug-in terminal	Red	Plastic	non illuminated	Ø 27 mm	61-6441.4047	425	70
2 NC	Maintained	Plug-in terminal	Red	Plastic	non illuminated	Ø 27 mm	61-6441.4057	322	71
3 NC	Maintained	Plug-in terminal	Red	Plastic	non illuminated	Ø 27 mm	61-6441.4067	323	72
1 NC / 1 NO	Maintained	Plug-in terminal	Red	Plastic	non illuminated	Ø 27 mm	61-6441.4077	324	73
2 NC / 1 NO	Maintained	Plug-in terminal	Red	Plastic	non illuminated	Ø 27 mm	61-6441.4087	325	74
1 NC / 2 NO	Maintained	Plug-in terminal	Red	Plastic	non illuminated	Ø 27 mm	61-6441.4097	326	75
1 NC	Maintained	Plug-in terminal	Red	Plastic	illuminated	Ø 27 mm	61-6451.4247	327	76
2 NC	Maintained	Plug-in terminal	Red	Plastic	illuminated	Ø 27 mm	61-6451.4257	328	77
1 NC / 1 NO	Maintained	Plug-in terminal	Red	Plastic	illuminated	Ø 27 mm	61-6451.4277	329	78
1 NC	Maintained	Plug-in terminal	Red	Plastic	non illuminated	Ø 40 mm	61-6461.4047	425	70
2 NC	Maintained	Plug-in terminal	Red	Plastic	non illuminated	Ø 40 mm	61-6461.4057	322	71
3 NC	Maintained	Plug-in terminal	Red	Plastic	non illuminated	Ø 40 mm	61-6461.4067	323	72
1 NC / 1 NO	Maintained	Plug-in terminal	Red	Plastic	non illuminated	Ø 40 mm	61-6461.4077	324	73
2 NC / 1 NO	Maintained	Plug-in terminal	Red	Plastic	non illuminated	Ø 40 mm	61-6461.4087	325	74

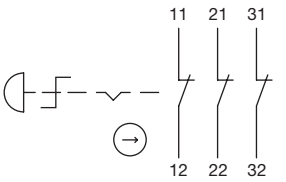
61 Raised design

Contacts	Switching action	Terminal	Lens colour	Lens material	Type of illumination	Dimensions	Part No.	Wiring diagram	Component Layout
1 NC / 2 NO	Maintained	Plug-in terminal	Red	Plastic	non illuminated	Ø 40 mm	61-6461.4097	326	75

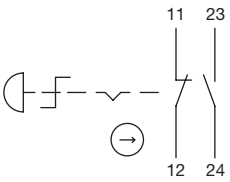
Wiring diagrams



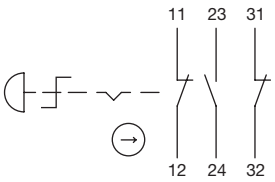
Wiring diagram 322



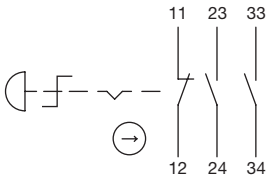
Wiring diagram 323



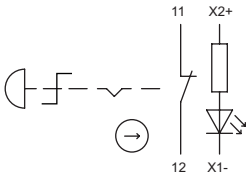
Wiring diagram 324



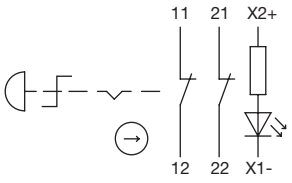
Wiring diagram 325



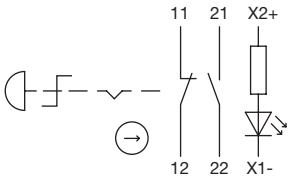
Wiring diagram 326



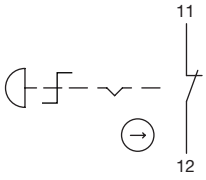
Wiring diagram 327



Wiring diagram 328

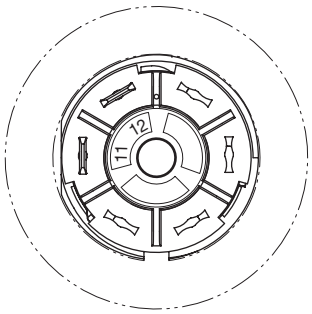


Wiring diagram 329

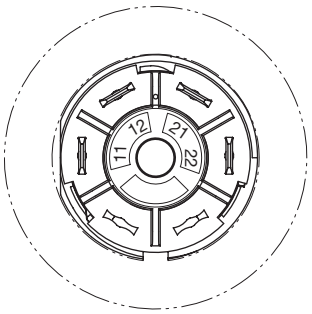


Wiring diagram 425

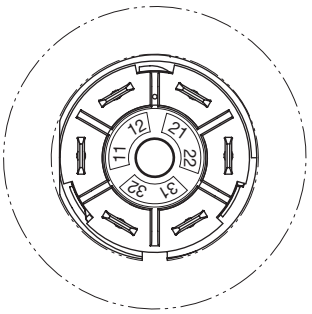
Component layouts



Component layout 70

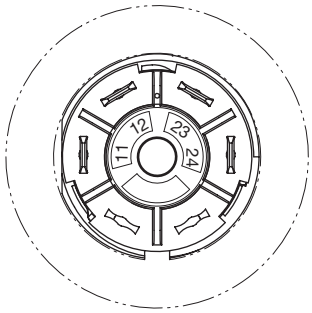


Component layout 71

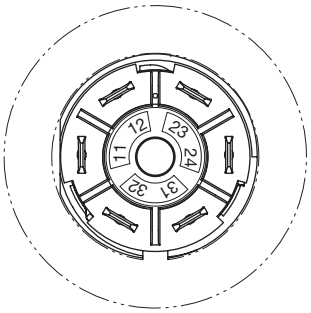


Component layout 72

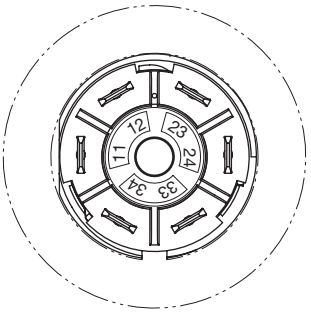
Component layouts



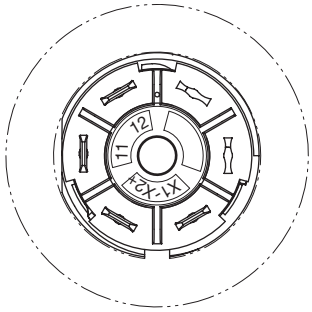
Component layout 73



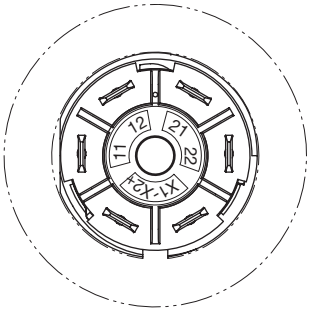
Component layout 74



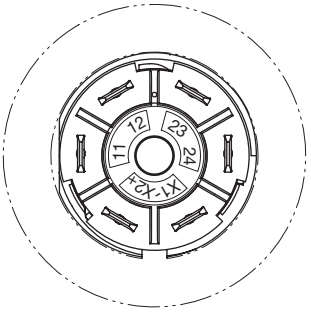
Component layout 75



Component layout 76



Component layout 77



Component layout 78



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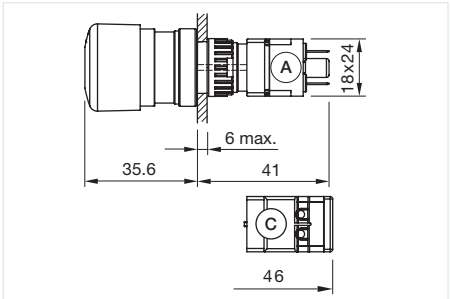
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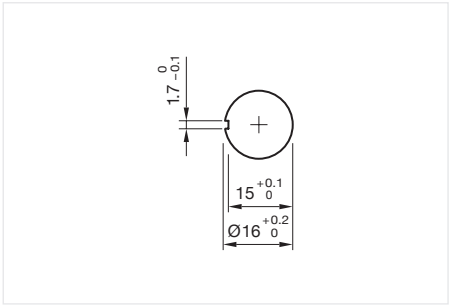
Product can differ from the current configuration.



Dimensions [mm]
A = Plug-in terminal 2.8 mm x 0.5 mm
C = Screw terminal

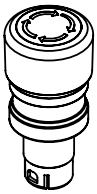
General information

- Application as per DIN EN ISO 13850 and EN 60204-1



Mounting cut-outs [mm]

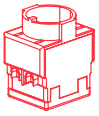
Equipment consisting of (schematic overview)



Actuator



Fixing nut



Switching element Page 767

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.



Actuator, Front dimension Ø 27 mm

Switching action	Lens colour	Lens material	Marking	Housing colour	Housing material	Product attributes	Part No.	Wiring diagram
Maintained	Red	Plastic	Arrows	Yellow	Plastic	Twist to unlock clockwise	61-3440.4/3	76

Wiring diagrams



Wiring diagram 76



Lens square, raised design

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Dimensions	Part No.
Plastic	Smokey black	transparent	flush	illuminative	20 mm x 20 mm	61-9351.1
	Red	transparent	flush	illuminative	20 mm x 20 mm	61-9351.2
	Orange	transparent	flush	illuminative	20 mm x 20 mm	61-9351.3
	Yellow	transparent	flush	illuminative	20 mm x 20 mm	61-9351.4
	Green	transparent	flush	illuminative	20 mm x 20 mm	61-9351.5
	Blue	transparent	flush	illuminative	20 mm x 20 mm	61-9351.6
	Colourless	transparent	flush	illuminative	20 mm x 20 mm	61-9351.7
	Black	opaque	flush	non illuminative	20 mm x 20 mm	61-9251.0
	White	translucent	flush	non illuminative	20 mm x 20 mm	61-9251.9
	Smokey black	transparent	flush	illuminative	15.3 mm x 15.3 mm	61-9321.1
	Red	transparent	flush	illuminative	15.3 mm x 15.3 mm	61-9321.2
	Orange	transparent	flush	illuminative	15.3 mm x 15.3 mm	61-9321.3
	Yellow	transparent	flush	illuminative	15.3 mm x 15.3 mm	61-9321.4
	Green	transparent	flush	illuminative	15.3 mm x 15.3 mm	61-9321.5
	Blue	transparent	flush	illuminative	15.3 mm x 15.3 mm	61-9321.6
	Colourless	transparent	flush	illuminative	15.3 mm x 15.3 mm	61-9321.7
			flush	non illuminative	20 mm	61-9221.0
			flush	non illuminative	20 mm	61-9221.9
	Colourless	transparent	flush	illuminative	15,3 mm x 15,3 mm	61-9326.7



Lens rectangular, raised design

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Dimensions	Part No.
Plastic	Smokey black	opaque	flush	illuminative	21,5	61-9331.1
	Red	transparent	flush	illuminative	21,5	61-9331.2
	Orange	transparent	flush	illuminative	21,5	61-9331.3
	Yellow	transparent	flush	illuminative	21,5	61-9331.4
	Green	transparent	flush	illuminative	21,5	61-9331.5
	Blue	transparent	flush	illuminative	21,5	61-9331.6
	Colourless	transparent	flush	illuminative	21,5	61-9331.7
	Black	opaque	flush	non illuminative	21,5	61-9231.0
	White	transparent	flush	non illuminative	21,5	61-9231.9
	Red	transparent	concave	illuminative	15.3 mm x 21.5 mm	61-9336.2
	Colourless	transparent	concave	illuminative	15.3 mm x 21.5 mm	61-9336.7
	White	translucent	concave	non illuminative	15.3 mm x 21.5 mm	61-9236.9



Lens round, raised design

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Dimensions	Part No.
Plastic	Smokey black	transparent	flush	illuminative	Ø 19,7 mm	61-9642.1
	Red	transparent	flush	illuminative	Ø 19,7 mm	61-9642.2
	Orange	transparent	flush	illuminative	Ø 19,7 mm	61-9642.3
	Yellow	transparent	flush	illuminative	Ø 19,7 mm	61-9642.4
	Green	transparent	flush	illuminative	Ø 19,7 mm	61-9642.5
	Blue	transparent	flush	illuminative	Ø 19,7 mm	61-9642.6
	Colourless	transparent	flush	illuminative	Ø 19,7 mm	61-9642.7
	Smokey black	transparent	flush	illuminative	15,8	61-9311.1
	Red	transparent	flush	illuminative	15,8	61-9311.2
	Orange	transparent	flush	illuminative	15,8	61-9311.3
	Yellow	transparent	flush	illuminative	15,8	61-9311.4
	Colourless	transparent	flush	illuminative	15,8	61-9311.5
	Black	transparent	flush	illuminative	15,8	61-9311.6
	White	transparent	flush	illuminative	15,8	61-9311.7
	Black	opaque	flush	non illuminative	15,8	61-9211.0
	White	translucent	flush	non illuminative	15,8	61-9211.9



Lens square, flush design

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Dimensions	Part No.
Plastic	Smokey black	transparent	flush	illuminative	18 mm x 18 mm	61-9671.1
	Red	transparent	flush	illuminative	18 mm x 18 mm	61-9671.2
	Orange	transparent	flush	illuminative	18 mm x 18 mm	61-9671.3
	Yellow	transparent	flush	illuminative	18 mm x 18 mm	61-9671.4
	Green	transparent	flush	illuminative	18 mm x 18 mm	61-9671.5
	Blue	transparent	flush	illuminative	18 mm x 18 mm	61-9671.6
	Colourless	transparent	flush	illuminative	18 mm x 18 mm	61-9671.7
	Black	opaque	flush	non illuminative	18 mm x 18 mm	61-9771.0
	White	translucent	flush	non illuminative	18 mm x 18 mm	61-9771.9



Lens rectangular, flush design

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Dimensions	Part No.
Plastic	Smokey black	transparent	flush	illuminative	18 mm x 24 mm	61-9681.1
	Red	transparent	flush	illuminative	18 mm x 24 mm	61-9681.2
	Orange	transparent	flush	illuminative	18 mm x 24 mm	61-9681.3
	Yellow	transparent	flush	illuminative	18 mm x 24 mm	61-9681.4
	Green	transparent	flush	illuminative	18 mm x 24 mm	61-9681.5
	Blue	transparent	flush	illuminative	18 mm x 24 mm	61-9681.6
	Colourless	transparent	flush	illuminative	18 mm x 24 mm	61-9681.7
	Black	opaque	flush	non illuminative	18 mm x 24 mm	61-9781.0
	White	translucent	flush	non illuminative	18 mm x 24 mm	61-9781.9



Lens plastic with symbol

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Symbol	Dimensions	Part No.
Plastic	Red	transparent	flush	illuminative	Ring	Ø 19,7 mm	61-9643.201
	Orange	transparent	flush	illuminative	Ring	Ø 19,7 mm	61-9643.301
	Yellow	transparent	flush	illuminative	Ring	Ø 19,7 mm	61-9643.401
	Green	transparent	flush	illuminative	Ring	Ø 19,7 mm	61-9643.501
	Blue	transparent	flush	illuminative	Ring	Ø 19,7 mm	61-9643.601
	Colourless	transparent	flush	illuminative	Ring	Ø 19,7 mm	61-9643.701
	Green	transparent	flush	illuminative	ON/OFF	Ø 19,7 mm	61-9643.502
	Blue	transparent	flush	illuminative	ON/OFF	Ø 19,7 mm	61-9643.602
	Colourless	transparent	flush	illuminative	ON/OFF	Ø 19,7 mm	61-9643.702
	Green	transparent	flush	illuminative	Standby	Ø 19,7 mm	61-9643.503
	Blue	transparent	flush	illuminative	Standby	Ø 19,7 mm	61-9643.603
	Colourless	transparent	flush	illuminative	Standby	Ø 19,7 mm	61-9643.703

Additional information

- The silvery coat is being applied on the lens (screen print) with an additional protective lacquer. Further information see Technical data



Lens metal

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Dimensions	Part No.
Aluminium	Black	opaque	flush	non illuminative	Ø 19,7 mm	61-9841.0
	Red	opaque	flush	non illuminative	Ø 19,7 mm	61-9841.2
	Gold	opaque	flush	non illuminative	Ø 19,7 mm	61-9841.4
	Olive green	opaque	flush	non illuminative	Ø 19,7 mm	61-9841.5
	Blue	opaque	flush	non illuminative	Ø 19,7 mm	61-9841.6
	Nature	opaque	flush	non illuminative	Ø 19,7 mm	61-9841.8
	Black	opaque	convex	non illuminative	Ø 19,7 mm	61-9842.0
	Red	opaque	convex	non illuminative	Ø 19,7 mm	61-9842.2
	Olive green	opaque	convex	non illuminative	Ø 19,7 mm	61-9842.5
	Nature	opaque	convex	non illuminative	Ø 19,7 mm	61-9842.8

Additional information

- The colour of anodised aluminium parts can vary due to technical production reasons



Lens metal with spot

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Dimensions	Part No.
Aluminium	Black	opaque	flush	illuminative	Ø 19,7 mm	61-9841.0A
	Red	opaque	flush	illuminative	Ø 19,7 mm	61-9841.2A
	Gold	opaque	flush	illuminative	Ø 19,7 mm	61-9841.4A
	Olive green	opaque	flush	illuminative	Ø 19,7 mm	61-9841.5A
	Blue	opaque	flush	illuminative	Ø 19,7 mm	61-9841.6A
	Nature	opaque	flush	illuminative	Ø 19,7 mm	61-9841.8A

Additional information

- The colour of anodised aluminium parts can vary due to technical production reasons



Mushroom-head cap

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Part No.
Plastic	Black	opaque	flush	non illuminative	61-9593.0
	Red	opaque	flush	non illuminative	61-9593.2



Lever raised design

Lever material	Lever colour	Lever illumination	Lever bar colour	Lever shape	Part No.
plastic	Black	illuminative	Red	short	52-928.20
	Black	illuminative	Orange	short	52-928.30
	Black	illuminative	Yellow	short	52-928.40
	Black	illuminative	Green	short	52-928.50
	Black	illuminative	Blue	short	52-928.60
	Grey	illuminative	Red	short	52-929.20
	Grey	illuminative	Green	short	52-929.50
	Black	non illuminative	Black	short	52-928.0
	Black	non illuminative	White	short	52-928.9
	Grey	non illuminative	Grey	short	52-929.8
	Grey	non illuminative	White	short	52-929.9

Additional information

- With bar and marking dot



Lever flush design

Lever material	Lever colour	Lever illumination	Lever bar colour	Part No.
plastic	Black	illuminative	Red	61-9028.20
	Black	illuminative	Yellow	61-9028.40
	Black	illuminative	Green	61-9028.50
	Black	illuminative	Blue	61-9028.60
	Grey	illuminative	Orange	61-9029.30
	Black	non illuminative		61-9028.0
	Black	illuminative	White	61-9028.9

Additional information

- With bar and marking dot



Marking plate

Marking plate material	Marking plate colour	Marking plate optics	Marking plate illumination	Part No.
Plastic	Colourless	transparent	illuminative	61-9707.7

Additional information

- Can be hot stamped



Front bezel set flush design

Product attributes	Front bezel material	Front bezel colour	Front bezel surface	Mounting cut-out	Dimensions	Part No.
For indicator illuminated pushbutton and keylock switch	Plastic	Black		21 mm x 21 mm	24 mm x 24 mm	61-9930.0
	Plastic	Silver		21 mm x 21 mm	24 mm x 24 mm	61-9930.4
	Plastic	Black		21 mm x 27 mm	24 mm x 30 mm	61-9931.0
	Plastic	Silver		21 mm x 27 mm	24 mm x 30 mm	61-9931.4
For selector switch	Aluminium	Nature	anodised	Ø 22.5 mm	Ø 25 mm	61-9932.0
For indicator, illuminated pushbutton and push-button	Aluminium	Nature	anodised	Ø 22.3 mm	Ø 25 mm	61-9933.0
	Aluminium	Black	anodised	Ø 22.3 mm	Ø 25 mm	61-9933.1
	Aluminium	Red	anodised	Ø 22.3 mm	Ø 25 mm	61-9933.2
	Plastic	Black		Ø 22.3 mm	Ø 25 mm	61-9933.10
For selector switch and keylock switch	Aluminium	Black	anodised	Ø 22.5 mm	Ø 25 mm	61-9932.1
	Plastic	Black	anodised	Ø 22.5 mm	Ø 25 mm	61-9932.10
	Plastic	Black		21 mm x 21 mm	24 mm x 24 mm	61-9936.0

Additional information

- The colour of anodised aluminium parts can vary due to technical production reasons



Front bezel Lever switch

Front bezel material	Front bezel colour	Dimensions	Part No.
Plastic	Black	24 mm x 24 mm	52-950.0
	Black	26 mm x 26 mm	52-952.0



Front bezel set mushroom head pushbutton

Front bezel material	Front bezel colour	Front bezel type	Dimensions	Part No.
Aluminium	Nature	flush	Ø 40 mm	61-9934.8

Additional information

- The colour of anodised aluminium parts can vary due to technical production reasons



Keylock front bezel

Material	Colour	Dimensions	Part No.
plastic	Black	18 mm x 18 mm	61-9220.0
	Black	24 mm x 18 mm	61-9230.0
	Black	Ø 18 mm	61-9210.0
	Black	24 mm x 24 mm	61-9250.0



Front bezel raised

Front bezel material	Front bezel colour	Front bezel shape	Part No.
Aluminium	Black	raised	61-9600.0
	Nature		61-9600.1

Additional information

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

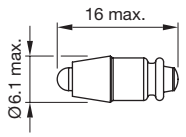


Single-LED, T1 3/4 MG

Illumination colour	Operating voltage	Operation current	Lumi. Intensity	Dom. Wavelength	Part No.	Wiring diagram
Red	6 V DC +10%	15 mA ±15 %	350 mcd	630 nm	10-2J06.3142	55
	12 V AC/DC +10%	7 - 14 mA ±15 %	330 mcd	630 nm	10-2J09.1062	55
	24 V AC/DC +10%	7 - 14 mA ±15 %	330 mcd	630 nm	10-2J12.1062	55
	28 V AC/DC +10%	7 - 14 mA ±15 %	330 mcd	630 nm	10-2J13.1062	55
	48 V AC/DC +10%	4 - 8 mA ±15 %	200 mcd	630 nm	10-2J19.1042	55
Yellow	6 V DC +10%	15 mA ±15 %	300 mcd	587 nm	10-2J06.3144	55
	12 V AC/DC +10%	7 - 14 mA ±15 %	280 mcd	587 nm	10-2J09.1064	55
	24 V AC/DC +10%	7 - 14 mA ±15 %	280 mcd	587 nm	10-2J12.1064	55
	28 V AC/DC +10%	7 - 14 mA ±15 %	280 mcd	587 nm	10-2J13.1064	55
	48 V AC/DC +10%	4 - 8 mA ±15 %	180 mcd	587 nm	10-2J19.1044	55
Green	6 V DC +10%	7 mA ±15 %	1050 mcd	525 nm	10-2J06.3145	55
	12 V AC/DC +10%	4 - 7 mA ±15 %	1050 mcd	525 nm	10-2J09.1065	55
	24 V AC/DC +10%	4 - 7 mA ±15 %	1050 mcd	525 nm	10-2J12.1065	55
	28 V AC/DC +10%	4 - 7 mA ±15 %	1050 mcd	525 nm	10-2J13.1065	55
	48 V AC/DC +10%	2 - 4 mA ±15 %	600 mcd	525 nm	10-2J19.1045	55
Blue	6 V DC +10%	15 mA ±15 %	680 mcd	470 nm	10-2J06.3146	55
	12 V AC/DC +10%	4 - 14 mA ±15 %	650 mcd	470 nm	10-2J09.1066	55
	24 V AC/DC +10%	7 - 14 mA ±15 %	650 mcd	470 nm	10-2J12.1066	55
	28 V AC/DC +10%	7 - 14 mA ±15 %	650 mcd	470 nm	10-2J13.1066	55
	48 V AC/DC +10%	4 - 8 mA ±15 %	400 mcd	470 nm	10-2J19.1046	55
White	6 V DC +10%	6 mA ±15 %	900 mcd	x: 0,31 / y: 0,32 nm	10-2J06.3149	55
	12 V AC/DC +10%	3 - 6 mA ±15 %	900 mcd	x: 0.31 / y: 0.32 nm	10-2J09.1069	55
	24 V AC/DC +10%	2,5 - 5 mA ±15 %	750 mcd	x: 0.31 / y: 0.32 nm	10-2J12.1069	55
	28 V AC/DC +10%	2,5 - 5 mA ±15 %	750 mcd	x: 0.31 / y: 0.32 nm	10-2J13.1069	55
	48 V AC/DC +10%	2 - 4 mA ±15 %	600 mcd	x: 0.31 / y: 0.32 nm	10-2J19.1049	55

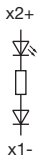
Additional information

- Due to high surface temperatures, the series resistor must not be soldered directly to the terminals of the equipment (use a terminal plate)
- When using AC/DC types with AC operation, slight flickering can occur
- The luminous intensity stated is for when used with DC
- Electrical and optical data are measured at 25 °C
- The specified versions are built with a protection diode (halve wave rectifier) in series and the LED
- Luminosity and wave length variations caused by LED manufacturing processes may cause slight differences regarding the illumination. The customer has to decide what resistor shall be used to the LED
- Where supply voltages are over 48 V, a voltage-reduction element (external protective series resistor) must be used.
- Keep to the country specific safety instructions



Dimensions [mm]

Wiring diagrams



Wiring diagram 55

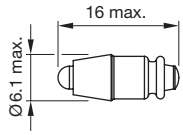


Bi-colour LED, BA9s

Illumination colour	Operating voltage	Operation current	Lumi. Intensity	Dom. Wavelength	Part No.	Wiring diagram
Red / Green	24 V DC +10%	15/14 mA ±15 %	600/630 mcd	625 / 525 nm	10-A312.314A	171

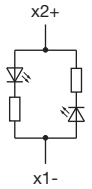
Additional information

- Due to high surface temperatures, the series resistor must not be soldered directly to the terminals of the equipment (use a terminal plate)
- When using AC/DC types with AC operation, slight flickering can occur
- The luminous intensity stated is for when used with DC
- Electrical and optical data are measured at 25 °C
- The specified versions are built with a protection diode (halve wave rectifier) in series and the LED
-
- Luminosity and wave length variations caused by LED manufacturing processes may cause slight differences regarding the illumination. The customer has to decide what resistor shall be used to the LED
- Where supply voltages are over 48 V, a voltage-reduction element (external protective series resistor) must be used.



Dimensions [mm]

Wiring diagrams



Wiring diagram 171



Snap-action switching element 2 positions with plug-in terminal

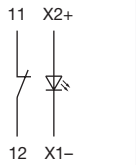
Switching voltage	Switching current	Contacts	Contact material	Diode 1N4007	Part No.	Wiring diagram	Component Layout
250 V	5 A	1 NO	Silver	2	61-8212.12	311	36
	5 A	1 NO	Gold-plated silver	2	61-8212.22	311	36
	5 A	1 NO	Silver		61-8410.12	310	40
	5 A	1 NO	Gold-plated silver		61-8410.22	310	41
	5 A	2 NO	Silver		61-8420.12	317	43
	5 A	2 NO	Gold-plated silver		61-8420.22	317	43
	5 A	3 NO	Silver		61-8430.12	318	45
	5 A	3 NO	Gold-plated silver		61-8430.22	318	45
	5 A	1 NC	Silver		61-8440.12	306	37
	5 A	1 NC	Gold-plated silver		61-8440.22	306	37
	5 A	2 NC	Silver		61-8450.12	307	41
	5 A	2 NC	Gold-plated silver		61-8450.22	307	41
	5 A	3 NC	Silver		61-8460.12	308	44
	5 A	3 NC	Gold-plated silver		61-8460.22	308	44
	5 A	1 NC / 1 NO	Silver		61-8470.12	313	38
	5 A	1 NC / 1 NO	Gold-plated silver		61-8470.22	313	38
	5 A	2 NC / 1 NO	Silver		61-8480.12	314	42
	5 A	2 NC / 1 NO	Gold-plated silver		61-8480.22	314	42
	5 A	1 NC / 2 NO	Silver		61-8490.12	315	39
	5 A	1 NC / 2 NO	Gold-plated silver		61-8490.22	315	39

Contacts: NC = Normally closed, NO = Normally open

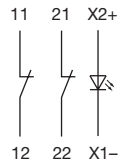
Additional information

- With lamp terminal

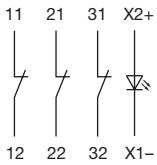
Wiring diagrams



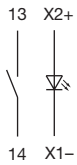
Wiring diagram 306



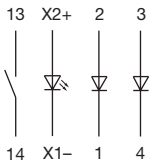
Wiring diagram 307



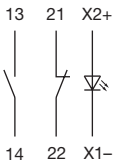
Wiring diagram 308



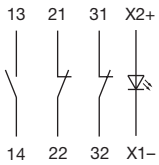
Wiring diagram 310



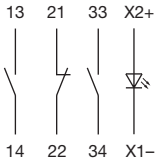
Wiring diagram 311



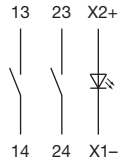
Wiring diagram 313



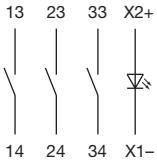
Wiring diagram 314



Wiring diagram 315

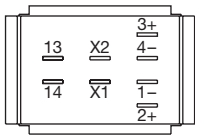


Wiring diagram 317

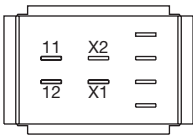


Wiring diagram 318

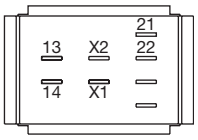
Component layouts



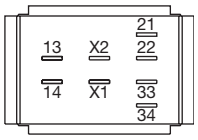
Component layout 36



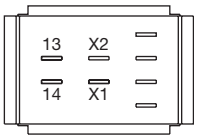
Component layout 37



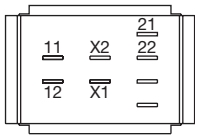
Component layout 38



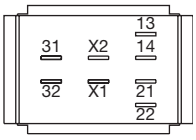
Component layout 39



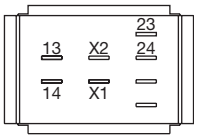
Component layout 40



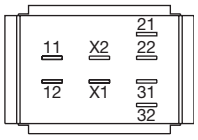
Component layout 41



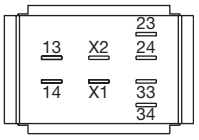
Component layout 42



Component layout 43



Component layout 44



Component layout 45



Slow-make switching switching element 2 positions with plug-in terminal

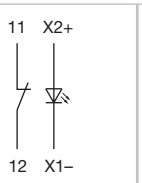
Switching voltage	Switching current	Contacts	Contact material	Part No.	Wiring diagram	Component Layout
250 V	5 A	1 NO	Silver	61-8610.17	310	49
	5 A	2 NO	Silver	61-8620.17	317	52
	5 A	1 NC	Silver	61-8640.17	306	46
	5 A	2 NC	Silver	61-8650.17	307	51
	5 A	1 NC / 1 NO	Silver	61-8670.17	313	48
50 V	0.3 A	1 NO	Gold-plated silver	61-8610.37	310	49
	0.3 A	2 NO	Gold-plated silver	61-8620.37	317	52
	0.3 A	1 NC	Gold-plated silver	61-8640.37	306	46
	0.3 A	2 NC	Gold-plated silver	61-8650.37	307	51
	0.3 A	1 NC / 1 NO	Gold-plated silver	61-8670.37	313	48

Contacts: NC = Normally closed, NO = Normally open

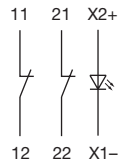
Additional information

- With lamp terminal

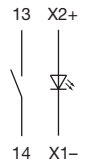
Wiring diagrams



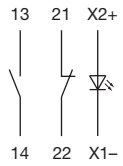
Wiring diagram 306



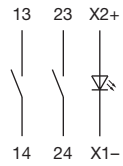
Wiring diagram 307



Wiring diagram 310

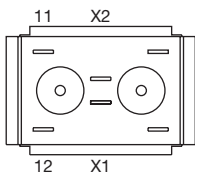


Wiring diagram 313

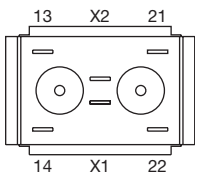


Wiring diagram 317

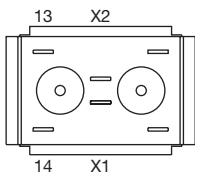
Component layouts



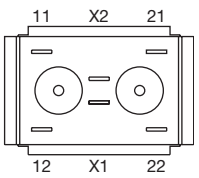
Component layout 46



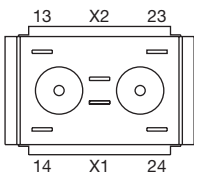
Component layout 48



Component layout 49



Component layout 51



Component layout 52

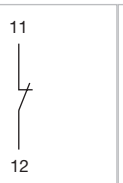


Slow-make switching switching element 2 positions with screw terminal

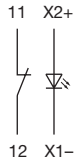
Switching voltage	Switching current	Contacts	Contact material	Part No.	Wiring diagram	Component Layout
250 V	5 A	1 NO	Silver	61-8610.11	310	50
	5 A	1 NC	Silver	61-8640.11	306	47
	5 A	1 NO	Silver	61-8615.11	309	55
	5 A	2 NO	Silver	61-8625.11	316	57
	5 A	1 NC	Silver	61-8645.11	305	53
	5 A	2 NC	Silver	61-8655.11	319	56
	5 A	1 NC / 1 NO	Silver	61-8675.11	312	54

Contacts: NC = Normally closed, NO = Normally open

Wiring diagrams



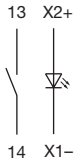
Wiring diagram 305



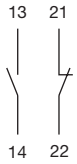
Wiring diagram 306



Wiring diagram 309



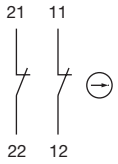
Wiring diagram 310



Wiring diagram 312

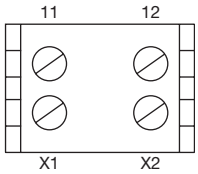


Wiring diagram 316

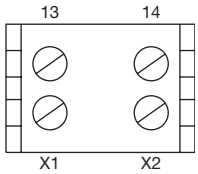


Wiring diagram 319

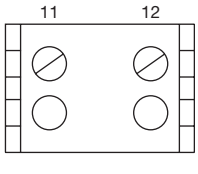
Component layouts



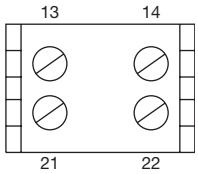
Component layout 47



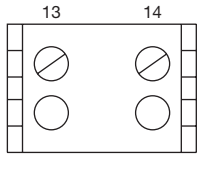
Component layout 50



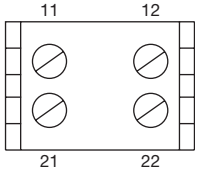
Component layout 53



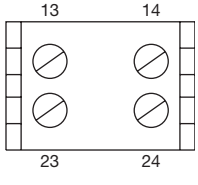
Component layout 54



Component layout 55



Component layout 56



Component layout 57



Snap-action switching element 3 positions with plug-in terminal

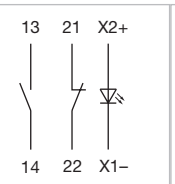
Contacts	Contact material	Part No.	Wiring diagram	Component Layout
2 NO	Silver	61-8520.12	317	60
	Gold	61-8520.22	317	60
1 NC / 1 NO	Gold	61-8574.22	313	58
	Silver	61-8574.12	313	58

Contacts: NC = Normally closed, NO = Normally open

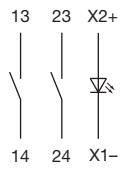
Additional information

- With lamp terminal

Wiring diagrams

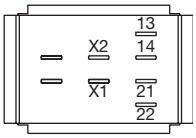


Wiring diagram 313

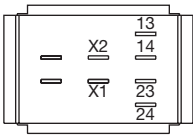


Wiring diagram 317

Component layouts



Component layout 58



Component layout 60



Slow-make switching switching element 3 positions with plug-in terminal

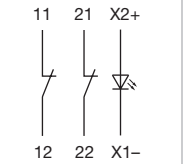
Contacts	Contact material	Part No.	Wiring diagram	Component Layout
2 NC	Silver	61-8750.17	307	62
2 NO	Gold	61-8720.37	317	63
2 NC	Gold	61-8750.37	307	62
1 NC / 1 NO	Gold	61-8770.37	313	61

Contacts: NC = Normally closed, NO = Normally open

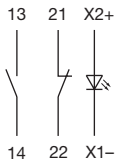
Additional information

- With lamp terminal

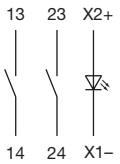
Wiring diagrams



Wiring diagram 307

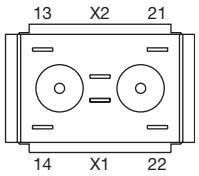


Wiring diagram 313

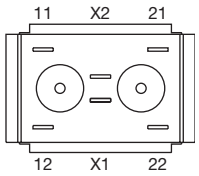


Wiring diagram 317

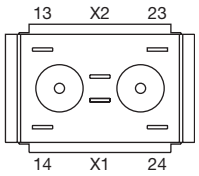
Component layouts



Component layout 61



Component layout 62



Component layout 63



Slow-make switching switching element 3 positions with screw terminal

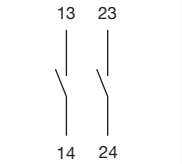
Switching voltage	Switching current	Contacts	Contact material	Part No.	Wiring diagram	Component Layout
250 V	5 A	2 NO	Silver	61-8725.11	316	57
	5 A	2 NC	Silver	61-8755.11	319	56
	5 A	1 NC / 1 NO	Silver	61-8775.11	320	54

Contacts: NC = Normally closed, NO = Normally open

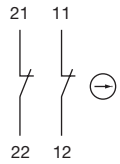
Additional information

- Without lamp terminal

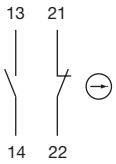
Wiring diagrams



Wiring diagram 316

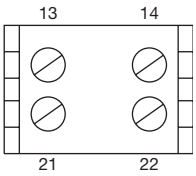


Wiring diagram 319

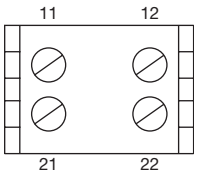


Wiring diagram 320

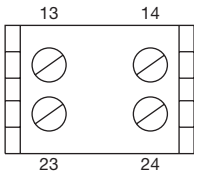
Component layouts



Component layout 54



Component layout 56



Component layout 57



Switching element E-stop

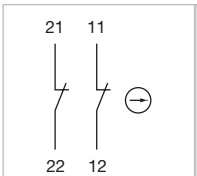
Switching voltage	Switching current	Contacts	Contact material	Terminal	Part No.	Wiring diagram	Component Layout
250 V	5 A	1 NC	Silver	Screw terminal	61-8745.11	321	53
	5 A	2 NC	Silver	Screw terminal	61-8755.11	319	56
	5 A	1 NC / 1 NO	Silver	Screw terminal	61-8775.11	320	54
	5 A	1 NC	Silver	Plug-in terminal	61-8745.17	321	64
	5 A	2 NC	Silver	Plug-in terminal	61-8755.17	319	66

Contacts: NC = Normally closed, NO = Normally open

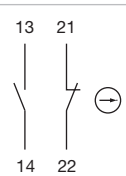
Additional information

- Without lamp terminal

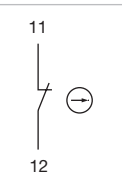
Wiring diagrams



Wiring diagram 319

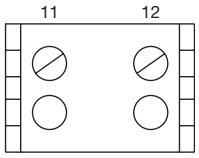


Wiring diagram 320

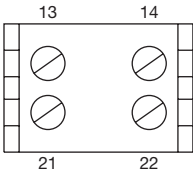


Wiring diagram 321

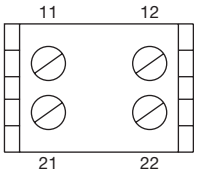
Component layouts



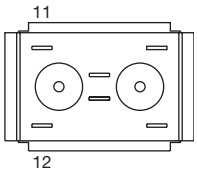
Component layout 53



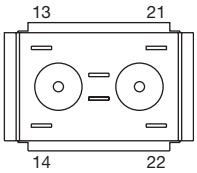
Component layout 54



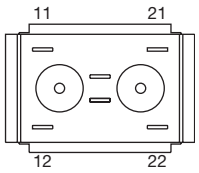
Component layout 56



Component layout 64



Component layout 65



Component layout 66

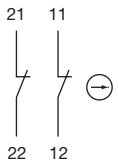


Switching element Stop switch

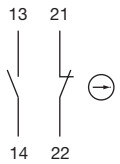
Switching system	Contacts	Contact material	Terminal	Part No.	Wiring diagram	Component Layout
Slow-make switching element	1 NC	Gold	Plug-in terminal	61-8745.37	321	64
	2 NC	Gold	Plug-in terminal	61-8755.37	319	66
	1 NC / 1 NO	Gold	Plug-in terminal	61-8775.37	320	65

Contacts: NC = Normally closed, NO = Normally open

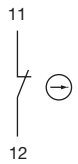
Wiring diagrams



Wiring diagram 319

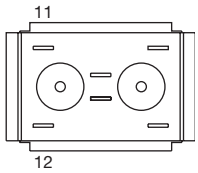


Wiring diagram 320

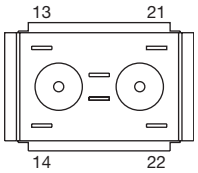


Wiring diagram 321

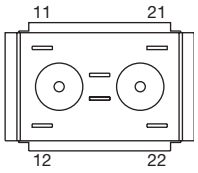
Component layouts



Component layout 64



Component layout 65



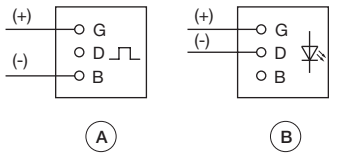
Component layout 66



Flasher element

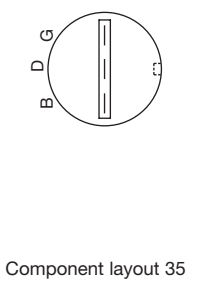
Product attributes	Terminal	Part No.	Wiring diagram	Component Layout
Only for Indicator actuator (without indicator complete)	Soldering terminal	61-8000.05	304	35

Wiring diagrams



Wiring diagram 304

Component layouts



Component layout 35



Lamp element

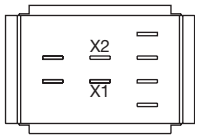
Terminal	Part No.	Wiring diagram	Component Layout
Screw terminal	61-8006.01	4	32
Soldering terminal	61-8006.02	4	31

Wiring diagrams

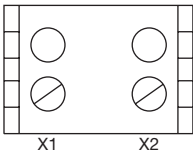


Wiring diagram 4

Component layouts



Component layout 31



Component layout 32



Anti-twist ring

Material	Mounting cut-out	Part No.
metal	Ø 16.2 mm	51-910
	Ø 22.3 mm	61-9912.0

Front side

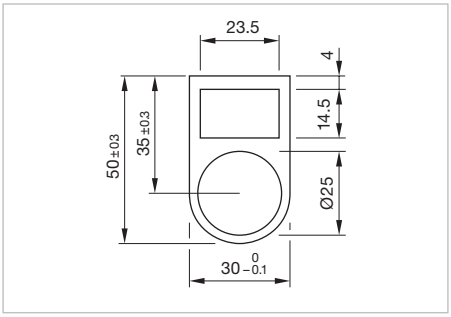


Legend frame

Dimensions	Material	Colour	Surface	Mounting type	Part No.
30 mm x 50 mm	aluminium	Black	anodised	adhesive	61-9980.0

Additional information

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



Dimensions [mm]



Legend plate

Product attributes	Dimensions	Material	Colour	Surface	Mounting type	Marking	Part No.
	Ø 43 mm	plastic	Yellow			without marking	61-9970.0
	Ø 43 mm	plastic	Yellow			NOT AUS	61-9970.1
	Ø 43 mm	plastic	Yellow			EMERGENCY STOP	61-9970.2
	Ø 43 mm	plastic	Yellow			ARRET D'URGENCE	61-9970.3
	Ø 43 mm	plastic	Yellow			NOT HALT	61-9970.6
	Ø 43 mm	plastic	Yellow			Symbol EN ISO 13850 symbol (Stop switch)	61-9970.9
For legend frame Part No.704.968.2 and 704.968.3	14.5 mm x 23.5 mm	aluminium	Nature	anodised	adhesive		704.968.0
	14.5 mm x 23.5 mm	aluminium	Black	anodised	adhesive		704.968.1

Additional information

- The colour of anodised aluminium parts can vary due to technical production reasons



Blind plug raised design

Dimensions	Material	Colour	Mounting cut-out	Part No.
24 mm x 24 mm	plastic	Black		61-9450.0
18 mm x 18 mm	plastic	Black	Ø 16.2 mm	51-948.0
18 mm x 24 mm	plastic	Black	Ø 16.2 mm	51-947.0
Ø 18 mm	plastic	Black	Ø 16.2 mm	51-949.0

Additional information

- Blind plugs fit also in mounting cut-outs with anti-twist device

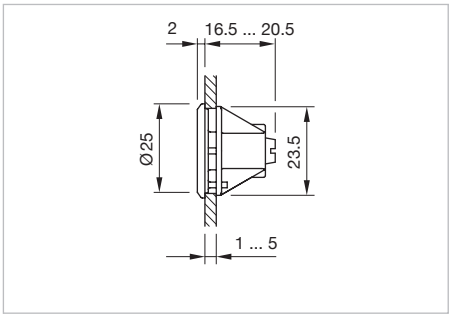


Blind plug flush design

Dimensions	Material	Colour	Mounting cut-out	Part No.
24 mm x 24 mm	plastic	Black	21 mm x 21 mm	61-9451.0
24 mm x 30 mm	plastic	Black	21 mm x 27 mm	61-9452.0
Ø 25 mm	plastic	Black	Ø 25 mm	61-9453.0

Additional information

- Please note that bigger minimum distances are necessary



Dimensions [mm]
for Part No. 61-9453.0



Key protection cap

Product attributes	Material	Colour	Part No.
For standard lock: DOM	plastic	Black	31-985.0



Spare key

Product attributes	Material	Part No.
Standard lock KABA 1001		14-987.1001
Standard lock: DOM 311	metal	31-989.311

Additional information

- Optional lock numbers on request



Protective cap

Product attributes	Material	Colour	Optics	Part No.
For front bezel set 24 mm x 30 mm, flush design	silicone	Colourless	transparent	61-9927.2
For front bezel Ø 25 mm	silicone	Colourless	transparent	84-9103.7

Additional information

- For flat lens profil only
- When using the front protection cover the external sealing in the actuator has to be removed



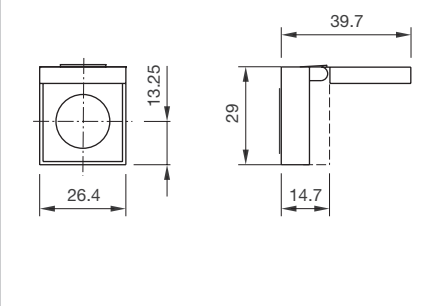
Master key

Product attributes	Material	Part No.
For standard lock: DOM 311 … 445	metal	31-989.300

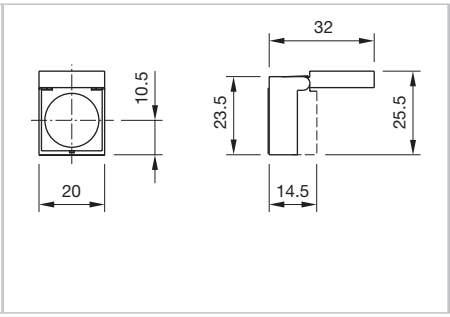


Protective cover raised design

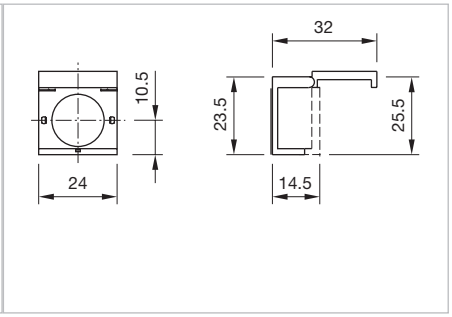
Product attributes	Dimensions	Material	Colour	Optics	Part No.
Hinged, with cover locking hole	24 mm x 24 mm	plastic	Colourless	transparent	61-9920.0
Hinged, with means for sealing	18 mm x 18 mm	plastic	Colourless	transparent	51-920
	18 mm x 24 mm	plastic	Colourless	transparent	51-925



Dimensions [mm]



Dimensions [mm]

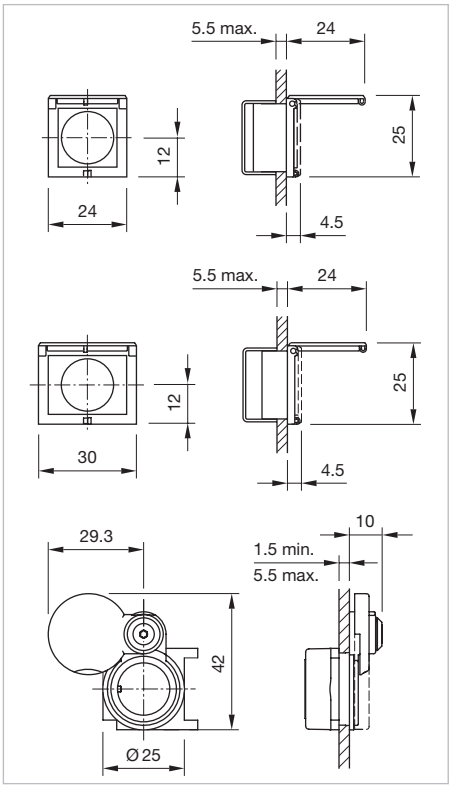


Dimensions [mm]



Protective cover flush design

Product attributes	Dimensions	Material	Colour	Optics	Mounting cut-out	Part No.
Hinged, with means for sealing, for device with front dimension 24 mm x 24 mm	24 mm x 24 mm	plastic	Colourless	transparent	21 mm x 21 mm	61-9921.0
Hinged, with means for sealing, for device with front dimension 24 mm x 30 mm	30 mm x 24 mm	plastic	Colourless	transparent	27 mm x 21 mm	61-9922.0
Slide by side, without cover locking hole, for device with front dimension Ø 25 mm	Ø 25 mm	plastic	Colourless	transparent	Ø 22.3 mm	61-9924.0



Dimensions [mm]

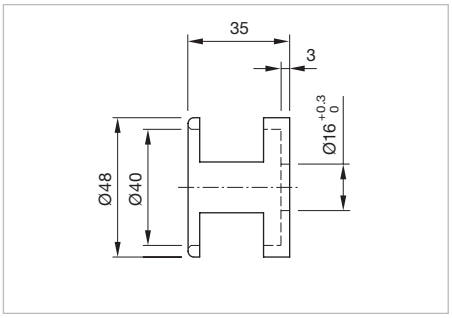


Protective shroud

Material	Colour	Surface	Part No.
aluminium	Yellow	anodised	61-9965

Additional information

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



Dimensions [mm]

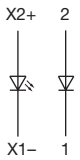
Rear side



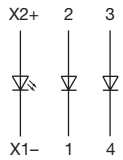
Diode element

Terminal	Diode	Part No.	Wiring diagram	Component Layout
Plug-in terminal	1	61-8101.02	302	33
	2	61-8102.02	303	34

Wiring diagrams

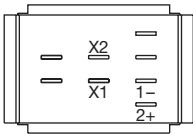


Wiring diagram 302

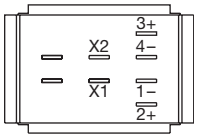


Wiring diagram 303

Component layouts



Component layout 33



Component layout 34



Flat receptacle

Product attributes	Material	Part No.
2.8 x 0.5 mm plug-in terminal	metal	31-946
2.8 x 0.5 mm in combination with multi-plug housing	metal	51-943.1
Plug-in terminal 2.8 x 0.5 mm, partial isolated AWG-20-18 DIN 46245, set of 250 pieces, in combination with crimping tool, Part No. 61-9902	metal / plastic	61-9901



Insulation sleeve

Product attributes	Material	Part No.
For flat receptacle 2.8 mm	plastic	31-929

61 Accessories



Terminal cover

Product attributes	Material	Part No.
For snap-action switching element with soldering terminal	plastic	61-9830.2



Side terminal plate empty

Product attributes	Dimensions	Part No.
5 spaces	62.5 mm x 15 mm x 60 mm	02-912.1
10 spaces	125 mm x 15 mm x 60 mm	02-912.2
15 spaces	187.6 mm x 15 mm x 60 mm	02-912.3
20 spaces	250 mm x 15 mm x 60 mm	02-912.4



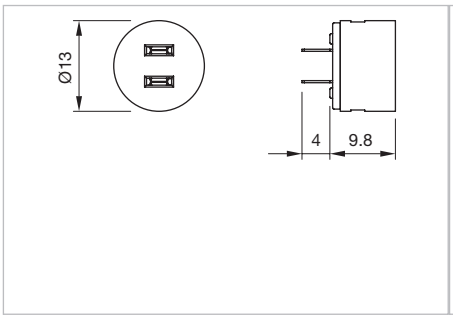
Multi-plug housing

Product attributes	Material	Part No.
For snap-action switching element, max. 6 connections possible	plastic	61-9830

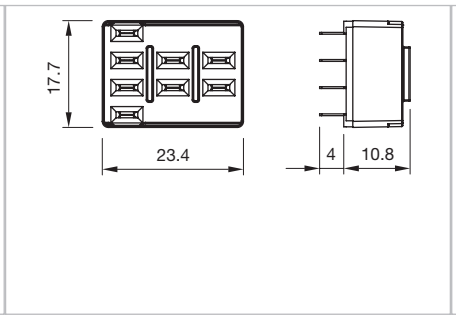


PCB plug-in base

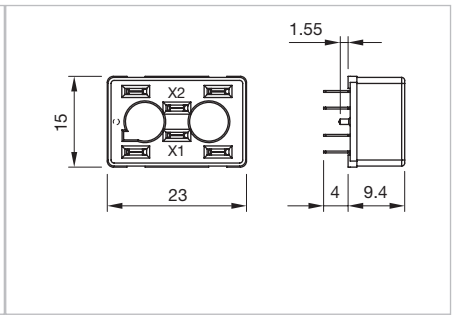
Product attributes	Terminal	Pins	Part No.	Com-ponent Layout
For indicator complete	PCB terminal	Axial	61-9820.1	69
For snap-action switching element, indicator- and diode element	PCB terminal	Axial	61-9821.1	67
For slow-make switching element	PCB terminal	Axial	61-9823	68
For emergency stop switch	PCB terminal	Axial	61-9903	108



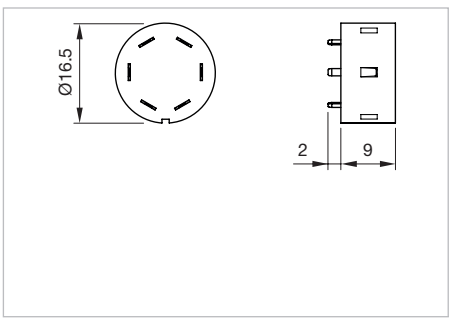
Dimensions [mm]
For Part No. 61-9820.1



Dimensions [mm]
For Part No. 61-9821.1

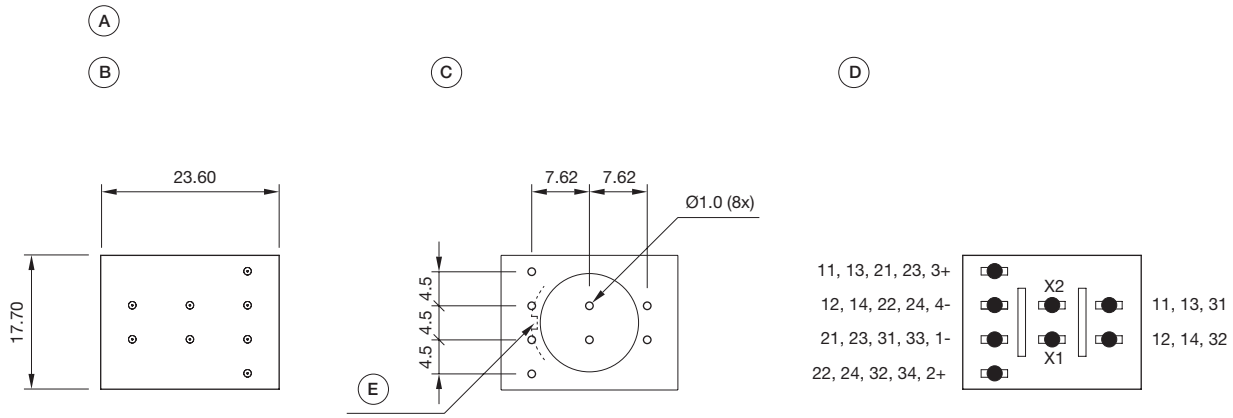


Dimensions [mm]
For Part No. 61-9823



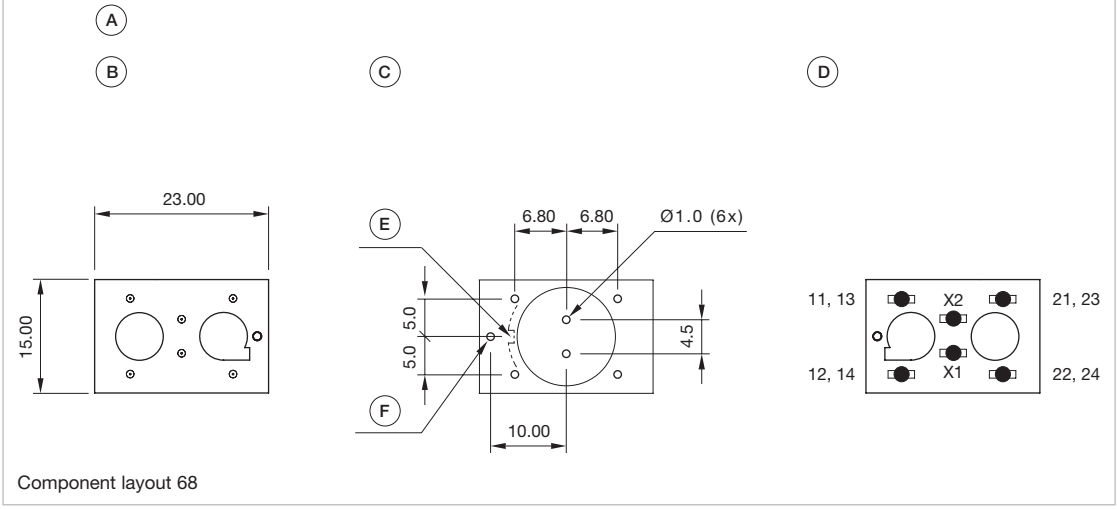
Dimensions [mm]
For Part No. 61-9903

Component layouts



Component layout 67

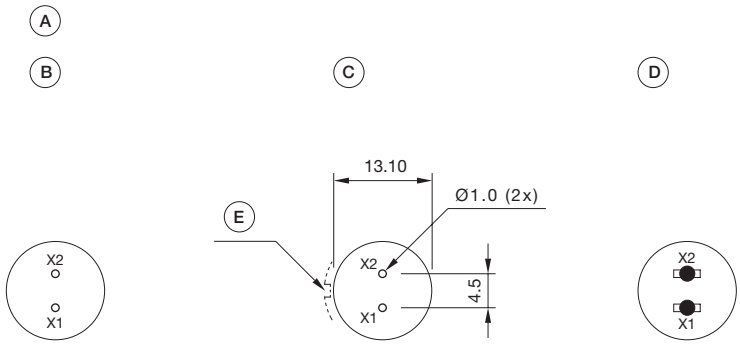
Dimensions [mm]
A = PCB plug-in base
B = Terminals (rear side)
C = Drilling plan (component side)
D = Occupancy plan (component side)
E = Anti-rotation device



Component layout 68

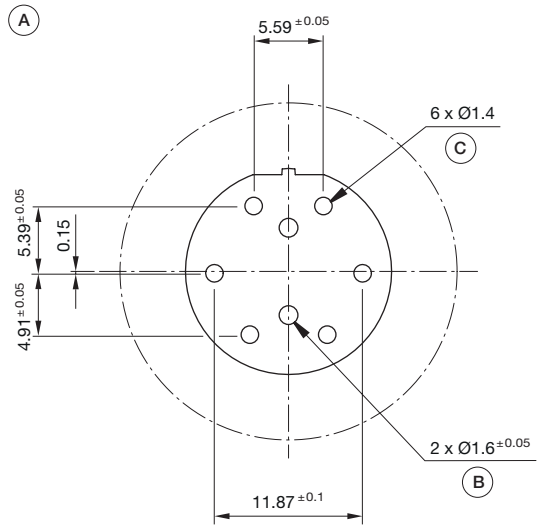
Dimensions [mm]
A = PCB plug-in base
B = Terminals (rear side)
C = Drilling plan (component side)
D= Occupancy plan (component side)
E = Anti-rotation device
F = Positioning hole

Component layouts



Component layout 69

Dimensions in [mm]
A = PCB plug-in base
B = Terminals (rear side)
C = Drilling plan (component side)
D = Occupancy plan (component side)
E = Anti-rotation device
F = Positioning hole



Component layout 108

Dimensions in [mm]
A = Drilling plan (component side)
B = Positioning hole
C = Pins for contacts/LED



Series resistor

Operating voltage	Resistance	Part No.
110 V AC	2.7 kOhm	02-904.0
125 V AC	3.3 kOhm	02-904.1
145 V AC	4.7 kOhm	02-904.3
240 V AC	10 kOhm	02-904.7

Additional information

- Only for filament lamp 48 VAC, 25 mA
- Due to high surface temperatures, the series resistor must not be soldered directly to the terminals of the equipment (use a terminal plate)
- Keep to the country specific safety instructions

Mounting

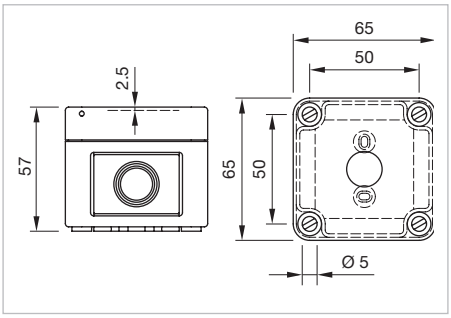


Enclosure

Dimensions	Material	IP Protection	Part No.
65 mm x 57 mm x 65 mm	plastic	IP66	61-9480.5

Additional information

- Bottom grey similar RAL 7035; cover lead-sealable, yellow similar RAL 1004



Dimensions [mm]



Fixing nut

Product attributes	Dimensions	Material	Colour	Part No.
Special recommended for keylock switches	Ø 16 mm	metal	Silver	31-991
Standard delivery	Ø 16 mm	plastic	Black	61-9915.0



Crimping tool AWG 20-10

Product attributes	Part No.
In combination with flat receptacle, Part No.Nr. 61-9901	61-9902



Dismantling tool

Product attributes	Part No.
For dismantling of the switching element	61-9711.0



Lens remover

Product attributes	Material	Part No.
For raised design	metal	02-905
For flush design	metal / plastic	61-9730.0



Cable gland

Product attributes	Material	Colour	IP Protection	Thread	Part No.
With traction relief	plastic	Grey	IP68	M20 x 1.5 mm	704.945.6

61 Accessories



Lamp remover

Product attributes	Material	Part No.
A switching action may occur when replacing the lamp	plastic	61-9740.0



Mounting adapter

Material		Part No.
Plastic		61-9904



Mounting tool

Product attributes	Dimensions	Material	Part No.
For tightening or loosening of the fixing nut Ø 16 mm	Ø 16 mm	metal	01-907

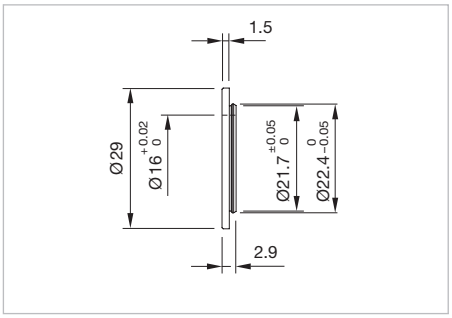


Reducing ring

Material	Mounting cut-out	Part No.
aluminium	Ø 22.3 mm	61-9960

Additional information

- Only for use of devices with front size 24 x 24 mm and Ø 24 mm, mounting cut-out Ø 22.3 mm to Ø 16.2 mm, without keylock- and selector switch



Dimensions [mm]



Tool set

Material	Part No.
metal / plastic	K61-999.100

Additional information

- Consists of lens remover, lamp-and LED remover, mounting tool and dismantling tool

Actuator with snap-action switching element

Switching system

Self-cleaning, double-break snap-action switching system with contact opening width 2 mm x 0.5 mm (switch with small contact opening width as per EN IEC 61058-1).

The switching elements are optionally equipped with the following switching functions
One to three normally open (NO) or normally closed (NC), or any combination of NO and NC plus connections for T1 3/4 LED or lamp.

The number of switching elements cannot exceed three.
The switching elements provided for the 3-position switch actuators are equipped with max. 2 NC or 2 NO or any combination. The number of switching elements cannot exceed two.

Material

Lens
Raised mounting Plastic, as per UL 94 HB,
flush mounting Plastic, as per UL 94 V0, or Aluminium anodized

Front bezel
Plastic, as per UL 94 V0, or Aluminium anodized

Material of contact
Silver or silver with gold plating

Switching element
Plastic, as per UL 94 V0

Actuator housing
Plastic, as per UL 94 V0, self-extinguishing

Mechanical characteristics

Terminals

Solder/Plug-in	rigid	flexible	superflexible
1 wire	0.5 … 1.5 mm²	0.5 … 0.75 mm²	0.5 mm²
2 wires	0.75 mm²	0.5 mm²	

Tightening torque
For fixing nut max. 0.5 Nm

Actuating torque
Selector-/Keylock switch 0.025 … 0.1 Nm

Actuating force
Pushbutton 3 … 5 N

Actuating travel
Pushbutton approx. 3 mm

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

Mechanical lifetime
as per DIN/IEC 60512-5-6 and EN/IEC 60947-5-1

Pushbutton maintained action	1 million cycles of operation
Pushbutton momentary action	2 million cycles of operation
Keylock switch	50 000 cycles of operation
Selector switch	100 000 cycles of operation

Electrical characteristics

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

Rated Operational Voltage U_e
250 VAC/DC as per EN/IEC 60947-1

Rated Insulation Voltage U_i
320 VAC, as per EN/IEC 60947-5-1

Rated Impulse Withstand Voltage U_{imp}
4 kV, as per EN/IEC 60947-5-1

Electrical lifetime
≥ 50 000 cycles of operation at 250 VAC, 2 A, cosφ 0.95,
as per EN/IEC 60947-5-1

Electrostatic discharge (ESD)
Keylock switch 11 kV

Thermal current I_{th}
5 A

Switching voltage and switching current
Switch rating AC with silver contact or silver contact with gold plating, service category AC-15, as per EN/IEC 60947-5-1

Voltage	125 VAC	250 VAC
Current	2.5 A	2 A

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

Voltage	250 VDC
Current	0.15 A

Recommended minimum operational data

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

Electric strength
2500 VAC, 50 Hz, 1 minute, as per DIN/IEC 60512-2-11 between all terminals and earth

Overvoltage category
III, as per EN/IEC 60947-5-1

Protection class
II, as per EN/IEC 61058-1

Degree of pollution
3, as per EN/IEC 60947-1

Ambient conditions

Storage temperature
–40 °C … +85 °C

Operating temperature
–25 °C … +55 °C

Protection degree
As per EN/IEC 60529
IP65 front side
IP40 rear side

Shock resistance
(semi-sinusoidal)
Max. 100 m/s², pulse width 11 ms, 3-axis, as per EN/IEC 60068-2-27

Vibration resistance
(sinusoidal)
Max. 100 m/s² at 10 Hz … 500 Hz, as per EN/IEC 60068-2-6

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

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

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

Approvals

Approbations
CB (IEC 61058)
CB (IEC 60947)
CSA
ENEC (EN 61058)
CQC
CENELEC (IEC 60947-5-1)
DNV GL (previously Germanischer Lloyd)
GOST
UL
NFF

Conformities
CE

Actuator with slow-make switching element

Switching system

Double-break slow-make system, contact opening width 2 x 1.5 mm, with 2 x 2 contact points per switching element.

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

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

Material

Lens
Raised mounting Plastic, as per UL 94 HB,
Flush mounting Plastic, as per UL 94 V0, or Aluminium anodized

Front bezel
Plastic, as per UL 94 V0, or Aluminium anodized

Material of contact
Silver or gold (specified for operation for low level switching)

Switching element
Plastic, as per UL 94 V0

Actuator housing
Plastic, as per UL 94 V0, self-extinguishing

Mechanical characteristics

Terminals

– Solder/Plug-in terminal

	rigid	flexible	superflexible
1 wire	0.5 … 1.5 mm²	0.5 … 0.75 mm²	0.5 mm²
2 wires	0.75 mm²	0.5 mm²	

– Screw terminal

1 wire	0.5 … 1.5 mm²	0.5 … 0.75 mm²	0.5 mm²
2 wires	0.75 mm²	0.5 mm²	0.5 mm²

Tightening torque

For fixing nut max. 0.5 Nm

Actuating torque

Selector-/Keylock switch 0.04 … 0.16 Nm

Actuating force

Pushbutton 3.5 … 11 N

Emergency stop switch max. 65 N

Actuating travel

Pushbutton approx. 3 mm

Emergency stop switch approx. 10 mm

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

Mechanical lifetime

as per DIN/IEC 60512-5-6 and EN/IEC 60947-5-1

Pushbutton maintained action	1 million cycles of operation
Pushbutton momentary action	2 million cycles of operation
Emergency-stop switch	50 000 cycles of operation
Keylock switch	50 000 cycles of operation
Selector switch	100 000 cycles of operation

Electrical characteristics

Standards

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

Electrical life

≥ 50 000 cycles of operation at 250 VAC, 2 A, cosφ 0.95, as per EN/IEC 60947-5-1

Switching element of emergency stop 6050 cycles of operation, as per EN/IEC 60947-5-5

Electrostatic discharge (ESD)

Keylock switch 11 kV

Electric strength

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

Overvoltage category

III, as per EN/IEC 60947-5-1

Protection class

II, as per EN/IEC 61058-1

Degree of pollution

3, as per EN/IEC 60947-5-1

Electrical characteristics for silver contacts

Rated Operational Voltage U_e

250 VAC/DC as per EN/IEC 60947-5-1

Rated Insulation Voltage U_i

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

Rated Impulse Withstand Voltage U_{imp}

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

Contact resistance

New state ≤ 50 mΩ, as per DIN/IEC 60512-2-4, measured at 100 mA, 10 V

Thermal current I_{th}

5 A

Switching voltage and switching current

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

Voltage	125 VAC	250 VAC
Current	3 A	2 A

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

Voltage	250 VDC
Current	0.2 A

Recommended minimum operational data

20 VAC/DC, 100 mA

Electrical characteristics for gold contacts

Rated Operational Voltage U_e

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

Rated Insulation Voltage U_i

U_i = 320 VAC, as per EN/IEC 60947-5-1

Rated Impulse Withstand Voltage U_{imp}

0.8 kV, as per EN/IEC 60947-1

Thermal current I_{th}

3 A, as per EN/IEC 60947-5-1

61 Technical data

Switching voltage and switching current
Switch rating AC with gold contact, service category AC-15, as per EN/IEC 60947-5-1

Voltage 50 VAC
Current 0.5 A

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

Voltage 50 VDC
Current 0.1 A

Recommended minimum operational data
Voltage 10 mVAC/DC
Current 2 mA

Ambient conditions

Storage temperature
–40 °C … +85 °C

Operating temperature
–25 °C … +55 °C

Protection degree
As per EN/IEC 60529
IP65 frontside
IP40 rear side

Shock resistance
(semi-sinusoidal)
Max. 100 m/s², pulse width 11 ms, 3-axis, as per EN/IEC 60068-2-27

Vibration resistance
(sinusoidal)
Max. 100 m/s² at 10 Hz … 500 Hz, as per EN/IEC 60068-2-6

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

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

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

Approvals

Approbations
CB (IEC 61058-1)
CB (IEC 60947-5-1)
CSA
ENEC (EN 61058-1)
CQC
DNV GL (previously Germanischer Lloyd)
EAC
UL
NFF
CENELEC (EN 60947-5-1)

Conformities
CE
2014/35/EC (LVD)
2011/65/EC (RoHS)

Actuator with flasher element

Material

Lens
Raised mounting plastic, as per UL 94 HB,
Flush mounting plastic, as per UL 94 V0

Actuator housing
Plastic, as per UL 94 V0, self-extinguishing

Flasher element
Plastic, as per UL 94 V0

Mechanical characteristics

Terminals
Soldering terminal

Tightening torque
For fixing nut max. 0.5 Nm

Electrical characteristics

Illumination

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

Flashing frequency
1 Hz ± 0.25 Hz

Pulse duty factor
Approx. 50 %

Operating voltage
12 … 28 VAC / DC ±10 %

Ambient conditions

Operating temperature
0 °C … + 45 °C

Protection degree
As per EN / IEC 60529
IP65 front side
IP40 rear side

Approvals

Conformities
CE
2011 / 65 / EG (RoHS)

Buzzer

Buzzer system

Electronic non-contacting buzzer with IC oscillator

Material

Buzzer case
Plastic

Front bezel
Plastic

Mechanical characteristics

Terminals
Solder / Plug-in terminal 2.8 mm x 0.5 mm

Tightening torque
For fixing nut max. 0.5 Nm

Electrical characteristics

Frequency (tone)
Approx. 2.0 kHz

Interval frequency
2 Hz

Sound pressure
88 dB (A) ±8 dB at a distance of 0.1 m (IP 40)
82 dB (A) ±8 dB at a distance of 0.1 m (IP 65)
Volume variable with a 1 MΩ potentiometer or corresponding fixed resistor

Electrical characteristics

Operating voltage
10 … 26 VDC

Operating current
≤ 20 mA

Ambient conditions

Storage temperature
– 40 °C … + 85 °C

Service temperature
– 25 °C … + 55 °C

Protection degree
IP 40
IP 65

Approvals

Conformities
CE
2011 / 65 / EC (RoHS)

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

Materials

Mushroom head lens
Plastic

Actuator housing material
Plastic

Contact material
Metal (Silver palladium)

Mechanical characteristics

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

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

Mounting cut-out
Ø 16.2 mm

Tightening torque
Max. 0.8 Nm

Actuation force
30 N ± 4 N

Actuating distance
Approx. 4.2 mm

Mechanical life time
≥ 20 000 switching cycles

Electrical characteristics

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

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

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

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

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

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

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

Conventional therm. Current in free air I_{th}
0.5 A (EN IEC 60947-5-1 / maximum current in continuous operation at maximum + 55 degrees C)

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

Breaking capacities
Alternating current usage category AC-15
(EN IEC 60947-5-1)
50 VAC
0.2 A
DC usage category DC-13 (EN IEC 60947-5-1)
50 VDC
0.2 A

Minimum operating data

Voltage	1 VAC / DC
Current	1 mA

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

Protective class
II (EN IEC 60947-5)

Overvoltage category
II (EN IEC 60947-1)

Degree of pollution
3 (EN IEC 60947-1)

Electrical life time
≥ 20 000 switching cycles

Ambient conditions

Storage temperature
– 40 °C ... + 85 °C

Operating temperature
– 25 °C ... + 55 °C

Protection degree
IP66 front side
IP67 front side, in accordance with EN IEC 60529/A1:2010-04
IP69K front side, in accordance with EN IEC 60529/A1:2010-04
Panel surface roughness Ra1.6
IK07 (Cover D27)
IK06 (Cover D40)

Resistance to shock
Max. 150 m/s², pulse width 11 ms, 3-axis
(half sinusoidal EN IEC 60068-2-27)

Vibration resistance
Max. 100 m/s² from 10 Hz ... 500 Hz, 20 cycles, 3-axis
(sinusoidal EN IEC 60068-2-6)

Environmental resistance
Humid heat, constant, 56 days, +40 °C/93 % relative humidity (EN IEC 60068-2-78)
Dry heat, 96 hours, +55 °C (EN IEC 60068-2-2)
Cold, 96 hours, −25 °C (EN IEC 60068-2-1)
UV test, 56 days (EN 60068-2-5:1999)

Approvals

Approbations
UL NISD (cULus, UL EU) LISTED E-File no.: E341760
CB (EN 60947)

Conformities
CE

61 Marking

General notes

1. Engraving

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

2. Hot stamping

For larger series it is worth considering markings by means of hot stamping. We will pleased to advise you.

3. Film inserts

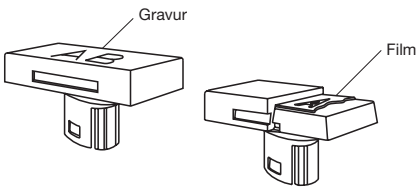
Instead of using engraving the lenses can be fitted with transparent film inserts, as an alternative. In the case of use of a smoke-black lens the fitted film becomes readable only if the lamp is on. The film thickness is 0.2 mm. For lenses Ø 24 mm and Ø 25 mm with Part No. 619642.x the marking takes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

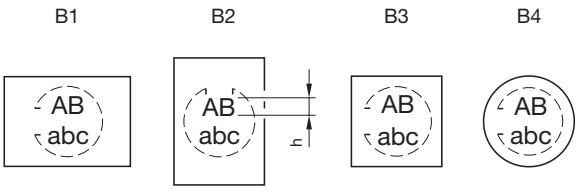
Important: Consider pushbutton mounting orientation befor specifying engraving characters!

Lenses for indicators and illuminated pushbuttons, raised mounting

All dimensions in mm

Front size (Lens)	Film insert max. size	Height of letters h	Number of lines	Number of capital letters per line (target value)	Number of small letters per line (target value)	Image
24 x 30 (18 x 24)	15.1 x 21	2.5	4	10	11	B1
		3	3	8	9	B1
		4	2	6	7	B1
		5	2	5	6	B1
		6	1	4	5	B1
		8	1	3	3	B1
		2.5	5	7	8	B2
		3	4	6	7	B2
		4	3	5	5	B2
		5	3	4	4	B2
		6	2	3	3	B2
		8	2	2	2	B2
24 x 24 (18 x 18)	15.1 x 15.1	2.5	4	7	8	B3
		3	3	6	7	B3
		4	2	5	5	B3
		5	2	4	4	B3
		6	1	3	3	B3
		8	1	2	2	B3
Ø 24 (Ø 18)	Marking plate (Ø 15.6)	2.5	3	6-7	6-8	B4
		3	3	4-6	5-7	B4
		4	2	4	4-5	B4
		5	2	2-3	3	B4
		6	2	2	2-3	B4
		8	1	2	2	B4

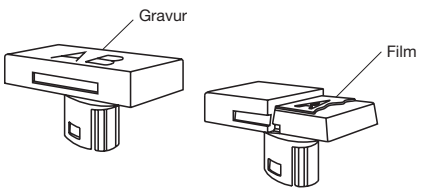


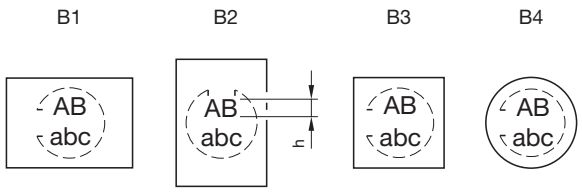


Lenses for indicators and illuminated pushbuttons, raised mounting

All dimensions in mm

Front size (Lens)	Film insert max. size	Height of letters h	Number of lines	Number of capital letters per line (target value)	Number of small letters per line (target value)	Image
18 x 24 (15.3 x 21.5)	12.7 x 18.7	2.5	3	9	10	B1
		3	3	8	8	B1
		4	2	5	6	B1
		5	2	4	5	B1
		6	1	4	4	B1
		8	1	3	3	B1
		2.5	5	6	7	B2
		3	4	5	6	B2
		4	3	4	4	B2
		5	3	3	3	B2
		6	2	2	3	B2
		8	1	2	2	B2
18 x 18 (15.3 x 15.3)	12.7 x 12.7	2.5	3	6	7	B3
		3	3	5	6	B3
		4	2	4	4	B3
		5	2	3	3	B3
		6	1	2	3	B3
		8	1	2	2	B3
24 x 24 (20 x 20)	16.9 x 16.9	2,5	4	8	9	B3
		3	4	7	7	B3
		4	3	5	5	B3
		5	2	4	4	B3
		6	2	3	4	B3
		8	1	2	3	B3
Ø 18 (Ø 15.8)	Ø 12.8	2,5	3	4-5	5-6	B4
		3	3	2-4	3-5	B4
		4	2	2-3	3-4	B4
		5	2	1-2	2-3	B4
		6	1	2	3	B4
		8	1	2	2	B4
Ø 24 (19.7)	Marking plate	2,5	3	6-7	6-8	B4
		3	3	4-6	5-7	B4
		4	2	4	4-5	B4
		5	2	2-3	3	B4
		6	2	2	2-3	B4
		8	1	2	2	B4



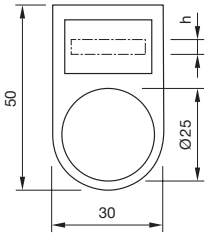


61 Marking

Engraving legend plates

All dimensions in mm

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



Suppressor circuits

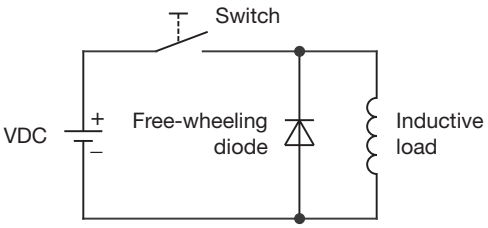
When switching inductive loads such as relays, DC motors, and DC solenoids, it is always important to absorb surges (e. g. with a diode) to protect the contacts. When these inductive loads are switched off, a counter emf can severely damage switch contacts and greatly shorten lifetime.

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

