TecnelSystem S.p.A.

equipaggiamenti elettrici industriali

UNI EN ISO9001:2015
Nr. 9101.TNLS

Series 14

Attractive. Compact. Reliable.

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Cert.CSQ-IQNet ISO9001:2015 N. 9101TNLS www.tecnelsystem.it e-mail: tecnel@tecnelsystem.it

14 Information about the Series

Key advantages

- Attractive 22.5 mm or 30.5 mm design (flush)
- Up to 4 NO and 4 NC contacts
- Low back panel depth
- High IP67 protection
- Low-level switching possible
- Excellent tactile feeback

Typical application areas

- Industrial machinery and process automation
- Panel building
- Lifting and moving
- Public transportation
- Construction machinery and special vehicles

Functions

- Pushbutton
- Illuminated pushbutton
- Mushroom-head pushbutton
- Selector switch
- Keylock switch
- Indicator
- Buzzer

Design

- Flush
- Raised

IP front protection

- IP40
- IP65
- IP67

Raitings

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

Mounting cut-outs

- Ø 22.3 mm
- Ø 30.5 mm

Terminal

- Soldering terminal
- Plug-in terminal
- Soldering/plug-in terminal
- PCB (with PCB plug-in base)
- Cable
- Push-in terminal (PIT)

Lens Material

- Aluminium
- Stainless steel
- Plastic

Markings

- Engraving
- Hot stamping
- Pad printing
- Screen print

Approvals

- CB (IEC 61058)
- CSA
- CQC
- ENEC (EN 61058)
- DNV GL (previously Germanischer Lloyd)
- UL

Conformities

- CE
- 2014/35/EU (LVD)
- 2011/65/EU (RoHS)
- 2014/30/EU (EMC)

Flush design	
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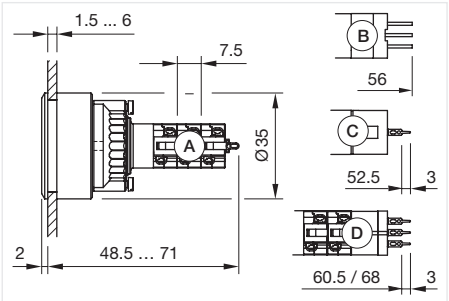
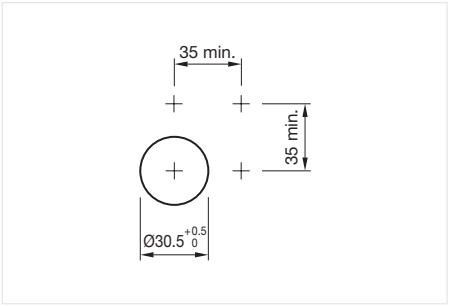
14 Flush design

Illuminated pushbutton, IP67

Product can differ from the current configuration.



Dimensions [mm]
A = Solder terminal
B = Plug-in terminal 2.8 x 0.5 mm
C = Universal terminal 2.0 mm x 0.5 mm
Universal-Solder terminal



Mounting cut-outs [mm]

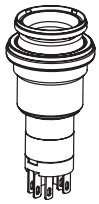
Equipment consisting of (schematic overview)

Front bezel — Page 323

Lens — Page 321

Marking Plate — Page 323

Single-LED — Page 325


Actuator

Pressure ring

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 35 mm

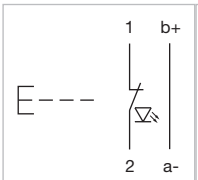
Switching action	Terminal	Switching system	Contacts	Diode 1N4007	Part No.	Wiring diagram	Component Layout
Momentary	Plug-in terminal	Snap-action switching element	1 NC / 1 NO		14-131.022	18	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO		14-131.0252	17	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO		14-132.0252	24	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO		14-133.0252	26	
	Soldering terminal	Snap-action switching element	4 NC / 4 NO		14-134.0252	28	
Maintained	Plug-in terminal	Snap-action switching element	1 NC / 1 NO		14-271.022	20	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO		14-271.0252	19	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO		14-272.0252	25	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO		14-273.0252	27	
	Soldering terminal	Snap-action switching element	4 NC / 4 NO		14-274.0252	29	
Momentary	Universal terminal	Low-level element	2 NO		14-431.036	11	5
	Universal terminal	Low-level element	2 NC		14-432.036	30	5
	Universal terminal	Low-level element	1 NC / 1 NO		14-433.036	7	5
	Universal terminal	Low-level element	1 NO		14-435.036	9	5
	Universal terminal	Low-level element	1 NC		14-436.036	5	5
Maintained	Universal terminal	Low-level element	2 NO		14-471.036	12	5
	Universal terminal	Low-level element	2 NC		14-472.036	31	5
	Universal terminal	Low-level element	1 NC / 1 NO		14-473.036	8	5
	Universal terminal	Low-level element	1 NO		14-475.036	10	5
	Universal terminal	Low-level element	1 NC		14-476.036	6	5
Momentary	Universal terminal	Snap-action switching element	1 NC / 1 NO	1	14-743.0292	13	5
	Universal terminal	Snap-action switching element	1 NC / 1 NO	2	14-744.0292	15	5

Contacts: NC = Normally closed, NO = Normally open

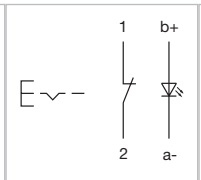
Switching action	Terminal	Switching system	Contacts	Diode 1N4007	Part No.	Wiring diagram	Component Layout
Momentary	Universal terminal	Snap-action switching element	2 NC / 2 NO	2	14-746.0292	23	5
Maintained	Universal terminal	Snap-action switching element	1 NC / 1 NO	1	14-747.0292	14	5
	Universal terminal	Snap-action switching element	1 NC / 1 NO	2	14-748.0292	16	5

Contacts: NC = Normally closed, NO = Normally open

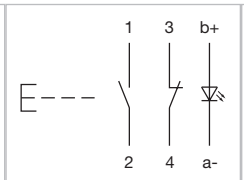
Wiring diagrams



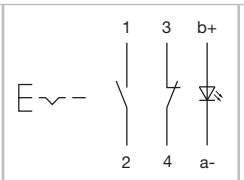
Wiring diagram 5



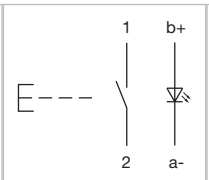
Wiring diagram 6



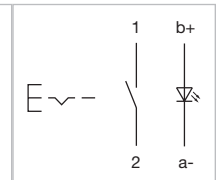
Wiring diagram 7



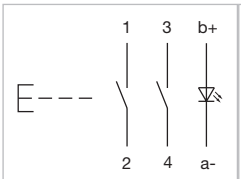
Wiring diagram 8



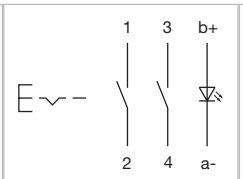
Wiring diagram 9



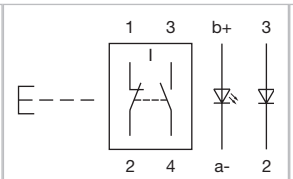
Wiring diagram 10



Wiring diagram 11



Wiring diagram 12



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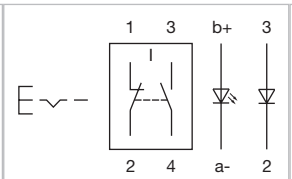
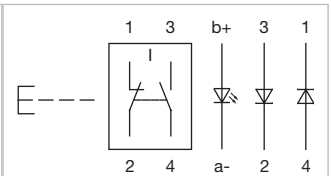
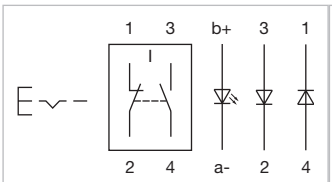


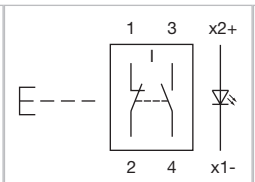
Wiring diagram 14



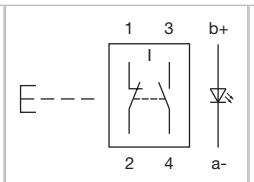
Wiring diagram 15



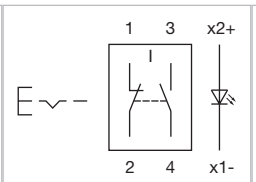
Wiring diagram 16



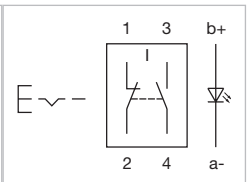
Wiring diagram 17



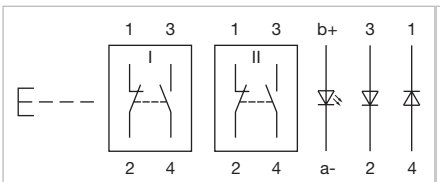
Wiring diagram 18



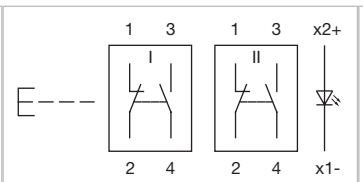
Wiring diagram 19



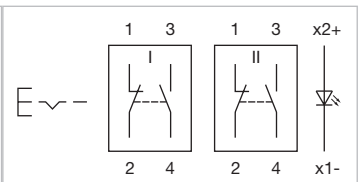
Wiring diagram 20



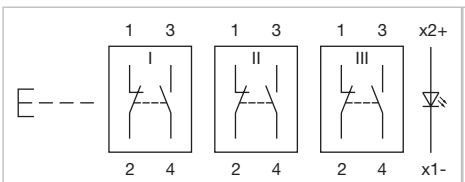
Wiring diagram 23



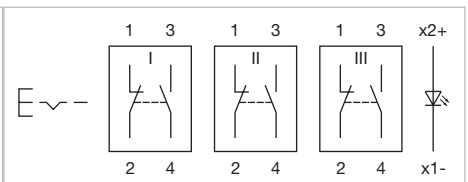
Wiring diagram 24



Wiring diagram 25



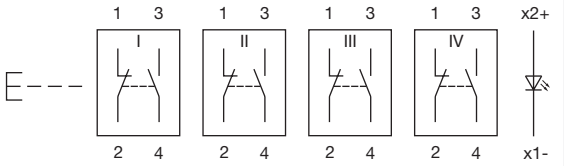
Wiring diagram 26



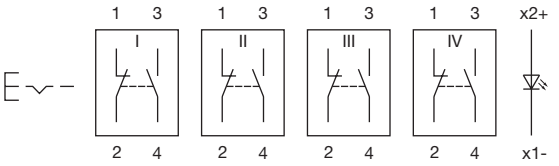
Wiring diagram 27

14 Flush design

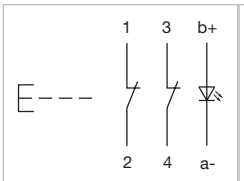
Wiring diagrams



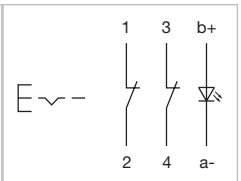
Wiring diagram 28



Wiring diagram 29

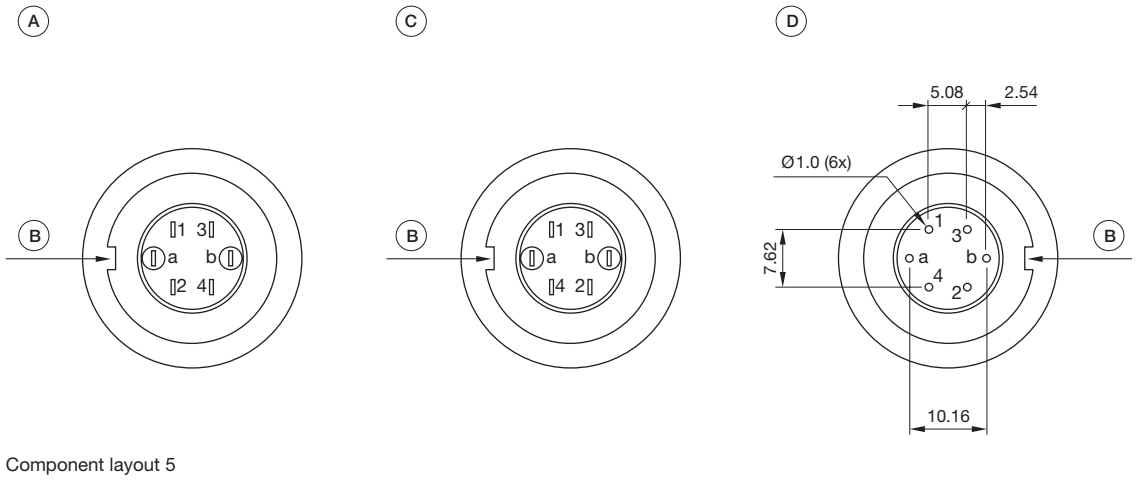


Wiring diagram 30



Wiring diagram 31

Component layouts



Component layout 5

Dimensions [mm]
A = Terminals (rear side)
B = Anti twist device
C = Diode block
D = Drilling plan (component side)

Mushroom-head pushbutton, IP67

Equipment consisting of (schematic overview)

Lens — Page 321

Front bezel set — Page 323

Marking Plate — Page 323

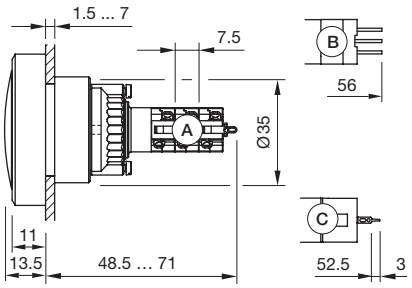
Actuator

Pressure ring

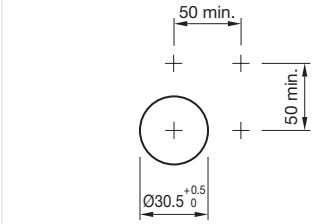
Fixing nut

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]
A = Solder terminal
B = Plug-in terminal 2.8 mm x 0.5 mm
C = Universal terminal 2.0 mm x 0.5 mm



Mounting cut-outs [mm]

Product can differ from the current configuration.

Actuator, Front dimension Ø 35 mm

Switching action	Terminal	Switching system	Contacts	Part No.	Wiring diagram	Component Layout
Momentary	Plug-in terminal	Snap-action switching element	1 NC / 1 NO	14-131.022	18	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	14-131.0252	17	
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	Soldering terminal	Snap-action switching element	3 NC / 3 NO	14-133.0252	26	
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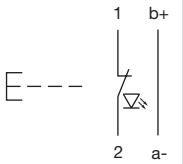
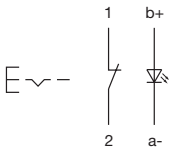
	Universal terminal	Low-level element	1 NC / 1 NO	14-473.036	8	5
	Universal terminal	Low-level element	1 NO	14-475.036	10	5
	Universal terminal	Low-level element	1 NC	14-476.036	6	5

Contacts: NC = Normally closed, NO = Normally open

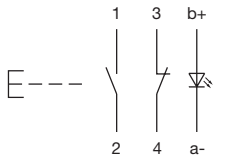
Wiring diagrams



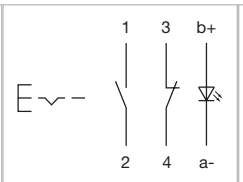
Wiring diagram 5



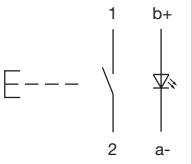
Wiring diagram 6



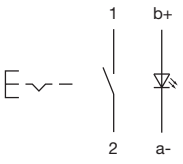
Wiring diagram 7



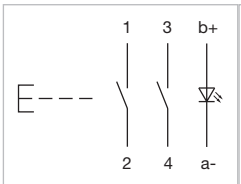
Wiring diagram 8



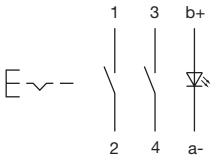
Wiring diagram 9



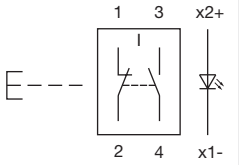
Wiring diagram 10



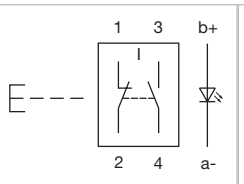
Wiring diagram 11



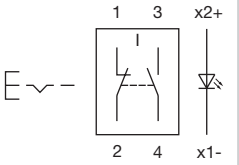
Wiring diagram 12



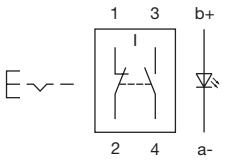
Wiring diagram 17



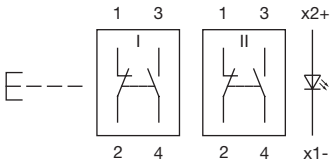
Wiring diagram 18



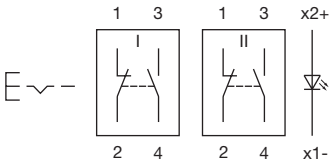
Wiring diagram 19



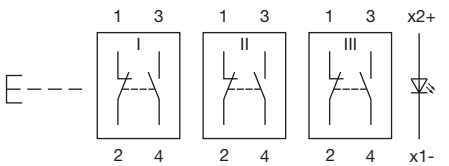
Wiring diagram 20



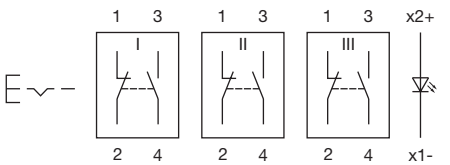
Wiring diagram 24



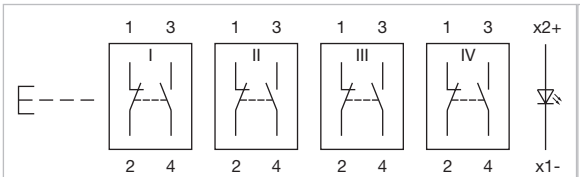
Wiring diagram 25



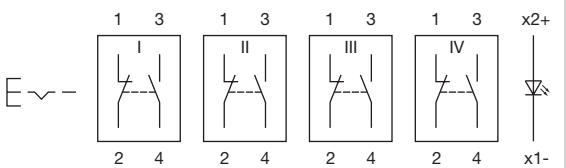
Wiring diagram 26



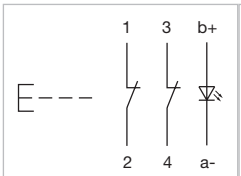
Wiring diagram 27



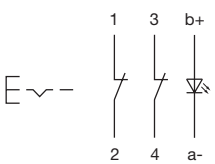
Wiring diagram 28



Wiring diagram 29

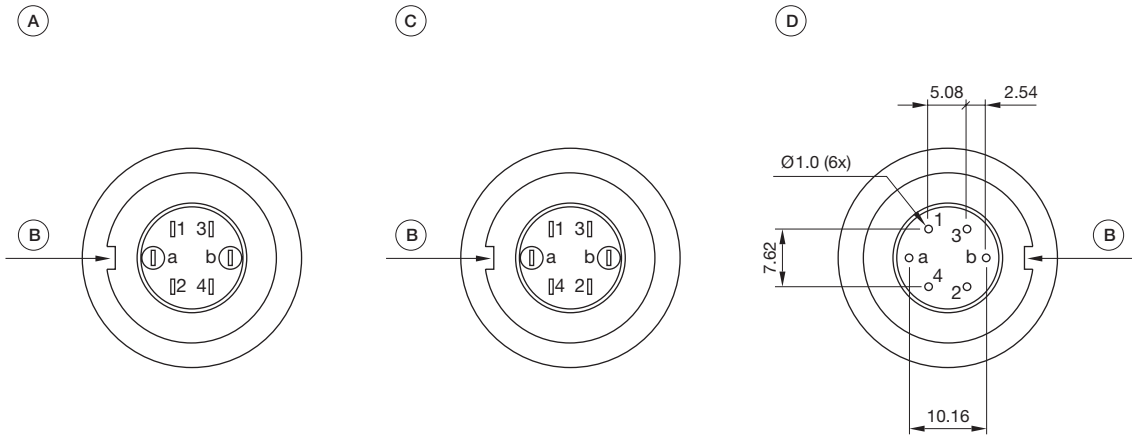


Wiring diagram 30



Wiring diagram 31

Component layouts



Component layout 5

Dimensions [mm]
A = Terminals (rear side)
B = Anti twist device
C = Diode block
D = Drilling plan (component side)

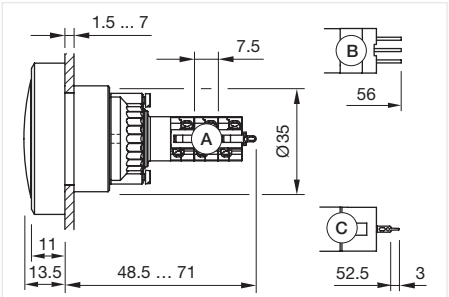
eao

Your Expert Partner for **Human Machine Interfaces**

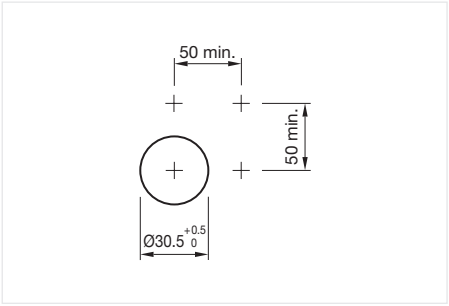
14 Flush design

Mushroom-head pushbutton illuminated, IP67

Product can differ from the current configuration.



Dimensions [mm]
A = Solder terminal
B = Plug-in terminal 2.8 mm x 0.5 mm
C = Universal terminal 2.0 mm x 0.5 mm



Mounting cut-outs [mm]

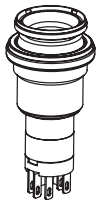
Equipment consisting of (schematic overview)

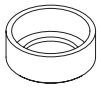
Lens — Page 321

Front bezel set — Page 323

Marking Plate — Page 323

Single-LED — Page 325


Actuator


Pressure ring

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 35 mm

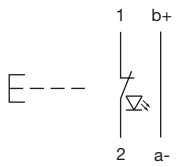
Switching action	Terminal	Switching system	Contacts	Diode 1N4007	Part No.	Wiring diagram	Component Layout
Momentary	Plug-in terminal	Snap-action switching element	1 NC / 1 NO		14-131.022	18	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO		14-131.0252	17	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO		14-132.0252	24	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO		14-133.0252	26	
	Soldering terminal	Snap-action switching element	4 NC / 4 NO		14-134.0252	28	
Maintained	Plug-in terminal	Snap-action switching element	1 NC / 1 NO		14-271.022	20	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO		14-271.0252	19	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO		14-272.0252	25	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO		14-273.0252	27	
	Soldering terminal	Snap-action switching element	4 NC / 4 NO		14-274.0252	29	
Momentary	Universal terminal	Low-level element	2 NO		14-431.036	11	5
	Universal terminal	Low-level element	2 NC		14-432.036	30	5
	Universal terminal	Low-level element	1 NC / 1 NO		14-433.036	7	5
	Universal terminal	Low-level element	1 NO		14-435.036	9	5
	Universal terminal	Low-level element	1 NC		14-436.036	5	5
Maintained	Universal terminal	Low-level element	2 NO		14-471.036	12	5
	Universal terminal	Low-level element	2 NC		14-472.036	31	5
	Universal terminal	Low-level element	1 NC / 1 NO		14-473.036	8	5
	Universal terminal	Low-level element	1 NO		14-475.036	10	5
	Universal terminal	Low-level element	1 NC		14-476.036	6	5
Momentary	Universal terminal	Snap-action switching element	1 NC / 1 NO	1	14-743.0292	13	5

Contacts: NC = Normally closed, NO = Normally open

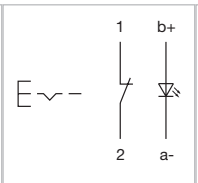
Switching action	Terminal	Switching system	Contacts	Diode 1N4007	Part No.	Wiring diagram	Component Layout
Momentary	Universal terminal	Snap-action switching element	1 NC / 1 NO	2	14-744.0292	15	5
	Universal terminal	Snap-action switching element	2 NC / 2 NO	2	14-746.0292	23	5
Maintained	Universal terminal	Snap-action switching element	1 NC / 1 NO	1	14-747.0292	14	5
	Universal terminal	Snap-action switching element	1 NC / 1 NO	2	14-748.0292	16	5

Contacts: NC = Normally closed, NO = Normally open

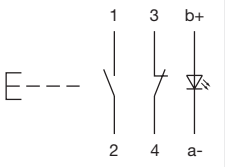
Wiring diagrams



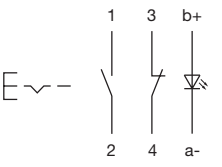
Wiring diagram 5



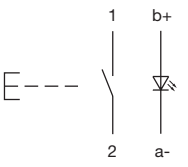
Wiring diagram 6



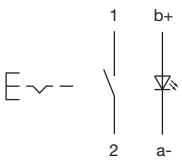
Wiring diagram 7



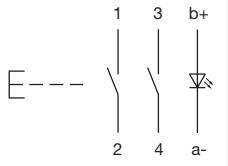
Wiring diagram 8



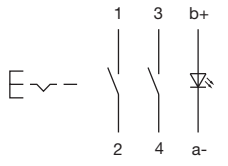
Wiring diagram 9



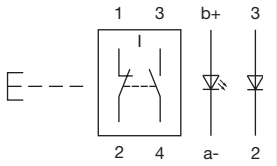
Wiring diagram 10



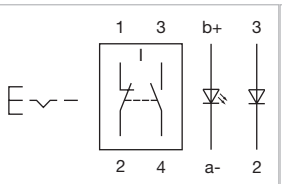
Wiring diagram 11



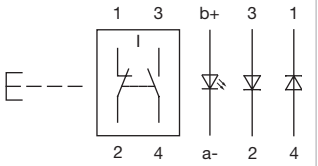
Wiring diagram 12



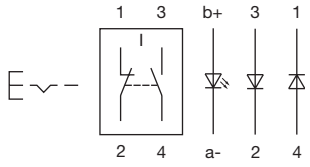
Wiring diagram 13



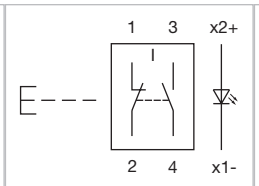
Wiring diagram 14



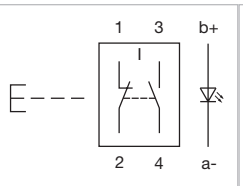
Wiring diagram 15



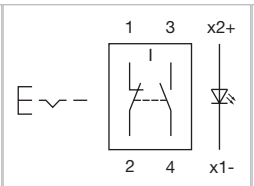
Wiring diagram 16



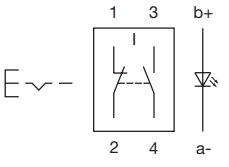
Wiring diagram 17



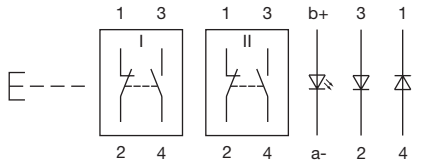
Wiring diagram 18



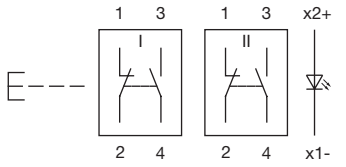
Wiring diagram 19



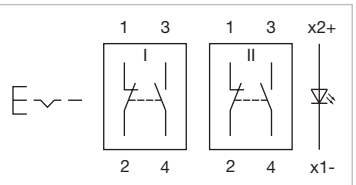
Wiring diagram 20



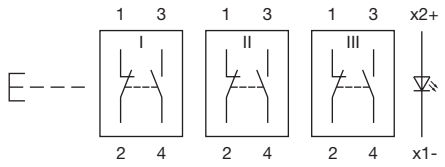
Wiring diagram 23



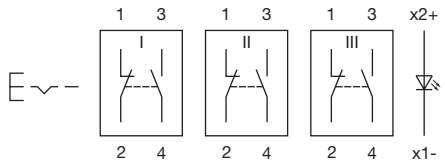
Wiring diagram 24



Wiring diagram 25



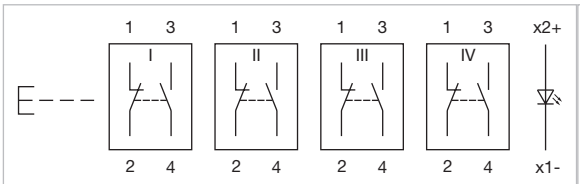
Wiring diagram 26



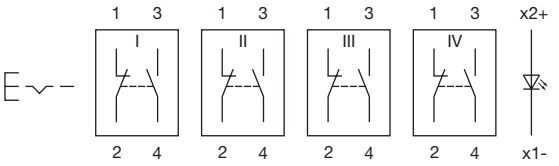
Wiring diagram 27

14 Flush design

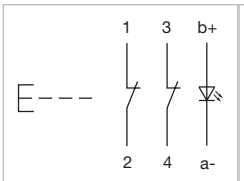
Wiring diagrams



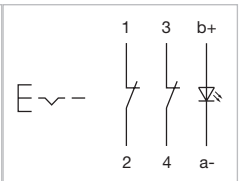
Wiring diagram 28



Wiring diagram 29

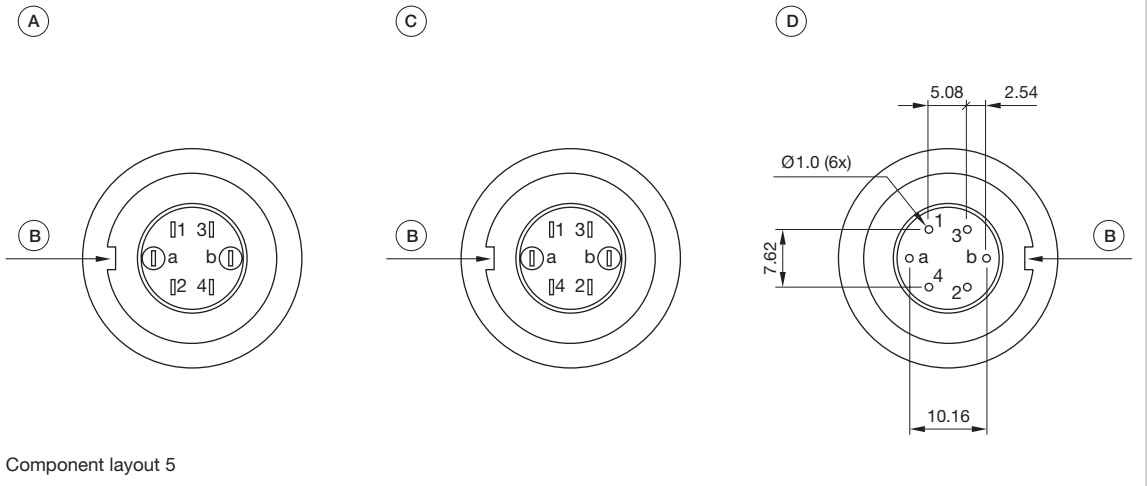


Wiring diagram 30



Wiring diagram 31

Component layouts



Component layout 5

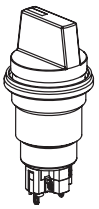
Dimensions [mm]
A = Terminals (rear side)
B = Anti twist device
C = Diode block
D = Drilling plan (component side)

Selector switch 2 positions, IP67

Equipment consisting of (schematic overview)

Front bezel Page 323

Anti-twist device Page 326

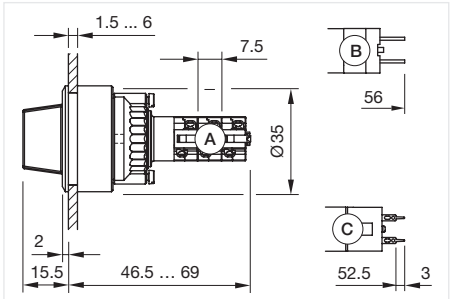

Actuator

Pressure ring

Fixing nut

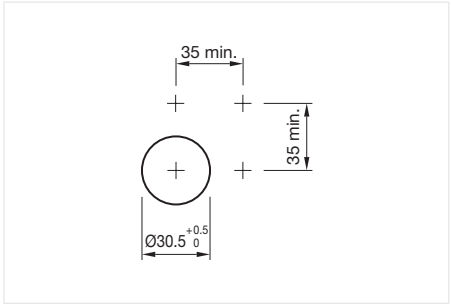
Each Part Number listed below includes all the black components shown in the 3D-drawing.

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

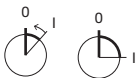


Dimensions [mm]
A = Solder terminal
B = Plug-in terminal 2.8 x 0.5 mm
C = Universal terminal 2.0 mm x 0.5 mm

Product can differ from the current configuration.



Mounting cut-outs [mm]

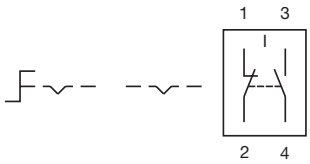


Actuator, Front dimension Ø 35 mm

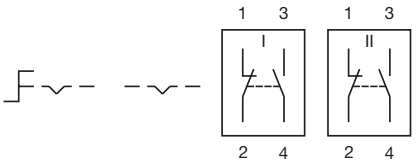
Switching action	Terminal	Switching system	Contacts	Switching angle	Lever shape	Part No.	Wiring diagram	Component Layout
Rest - Momentary	Plug-in terminal	Snap-action switching element	1 NC / 1 NO	42° right	short	14-501.0220	124	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	42° right	short	14-501.02502	124	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO	42° right	short	14-502.02502	125	
Rest - Maintained	Plug-in terminal	Snap-action switching element	1 NC / 1 NO	90° right	short	14-506.0220	117	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	90° right	short	14-506.02502	117	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO	90° right	short	14-507.02502	118	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO	90° right	short	14-508.02502	126	
	Soldering terminal	Snap-action switching element	4 NC / 4 NO	90° right	short	14-509.02502	127	
Rest - Momentary	Universal terminal	Low-level element	2 NO	42° right	short	14-515.0360	122	5
	Universal terminal	Low-level element	1 NC / 1 NO	42° right	short	14-517.0360	119	5
Rest - Maintained	Universal terminal	Low-level element	2 NO	90° right	short	14-520.0360	123	5
	Universal terminal	Low-level element	2 NC	90° right	short	14-521.0360	121	5
	Universal terminal	Low-level element	1 NC / 1 NO	90° right	short	14-522.0360	120	5

Contacts: NC = Normally closed, NO = Normally open

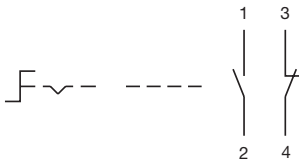
Wiring diagrams



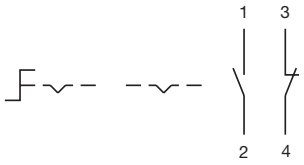
Wiring diagram 117



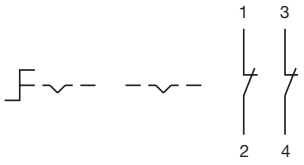
Wiring diagram 118



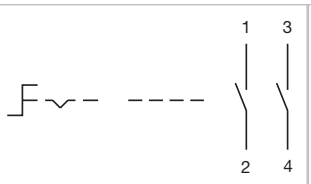
Wiring diagram 119



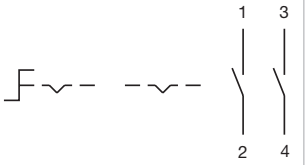
Wiring diagram 120



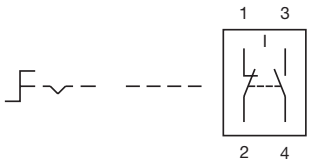
Wiring diagram 121



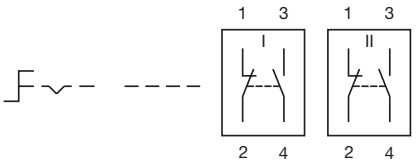
Wiring diagram 122



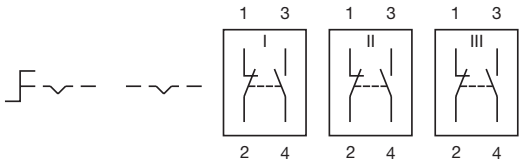
Wiring diagram 123



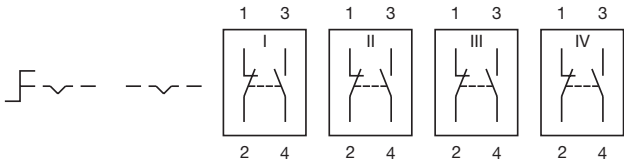
Wiring diagram 124



Wiring diagram 125

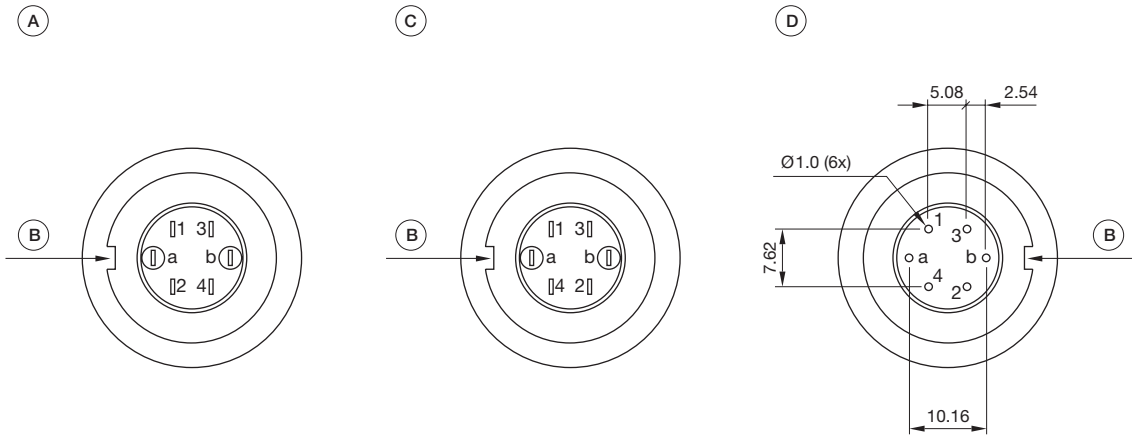


Wiring diagram 126



Wiring diagram 127

Component layouts



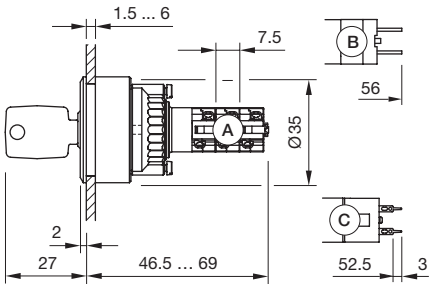
Component layout 5

Dimensions [mm]
A = Terminals (rear side)
B = Anti twist device
C = Diode block
D = Drilling plan (component side)

14 Flush design

Keylock switch 2 positions, IP65

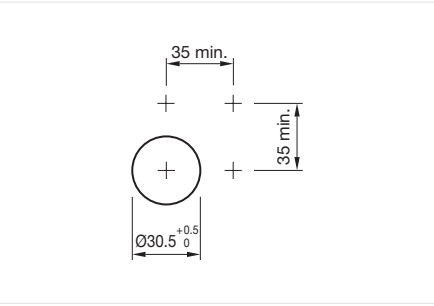
Product can differ from the current configuration.



Dimensions [mm]
A = Solder terminal
B = Plug-in terminal 2.8 x 0.5 mm
C = Universal terminal 2.0 mm x 0.5 mm

General information

- Lock numbers 1001, lock type KABA
- Front plastic black

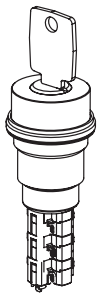


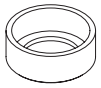
Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

Front bezel Page 323

Anti-twist device Page 326


Actuator


Pressure ring

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 35 mm

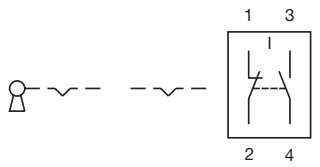
Switching action	Terminal	Switching system	Contacts	Switching angle	Part No.	Wiring diagram	Component Layout
Rest (a) - Maintained (a)	Soldering terminal	Snap-action switching element	1 NC / 1 NO	90° right	14-135.022K	107	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	90° right	14-135.025K2	107	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO	90° right	14-136.025K2	108	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO	90° right	14-137.025K2	115	
	Soldering terminal	Snap-action switching element	4 NC / 4 NO	90° right	14-138.025K2	116	
Rest (a) - Momentary	Soldering terminal	Snap-action switching element	1 NC / 1 NO	42° right	14-141.022K	113	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	42° right	14-141.025K2	113	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO	42° right	14-142.025K2	113	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO	42° right	14-143.025K2	114	
Rest (a) - Maintained	Soldering terminal	Snap-action switching element	1 NC / 1 NO	90° right	14-235.022K	107	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	90° right	14-235.025K2	107	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO	90° right	14-236.025K2	108	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO	90° right	14-237.025K2	115	
	Soldering terminal	Snap-action switching element	4 NC / 4 NO	90° right	14-238.025K2	116	
Rest - Maintained (a)	Soldering terminal	Snap-action switching element	1 NC / 1 NO	90° right	14-335.022K	107	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	90° right	14-335.025K2	107	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO	90° right	14-336.025K2	108	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO	90° right	14-337.025K2	115	
	Soldering terminal	Snap-action switching element	4 NC / 4 NO	90° right	14-338.025K2	116	
Rest (a) - Maintained (a)	Universal terminal	Low-level element	2 NO	90° right	14-411.036K	112	5
	Universal terminal	Low-level element	1 NC / 1 NO	90° right	14-412.036K	111	5

Contacts: NC = Normally closed, NO = Normally open
a = Key remove

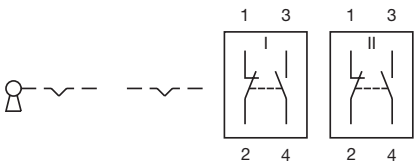
Switching action	Terminal	Switching system	Contacts	Switching angle	Part No.	Wiring diagram	Component Layout
Rest (a) - Maintained	Universal terminal	Low-level element	2 NO	90° right	14-414.036K	112	5
	Universal terminal	Low-level element	1 NC / 1 NO	90° right	14-415.036K	111	5
Rest - Maintained (a)	Universal terminal	Low-level element	2 NO	90° right	14-417.036K	112	5
	Universal terminal	Low-level element	1 NC / 1 NO	90° right	14-418.036K	111	5
Rest (a) - Momentary	Universal terminal	Low-level element	2 NO	42° right	14-437.036K	109	5
	Universal terminal	Low-level element	1 NC / 1 NO	42° right	14-438.036K	110	5

Contacts: NC = Normally closed, NO = Normally open
a = Key remove

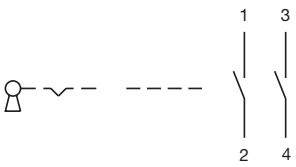
Wiring diagrams



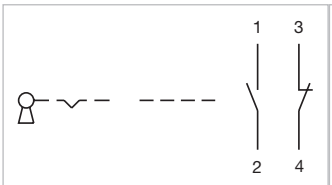
Wiring diagram 107



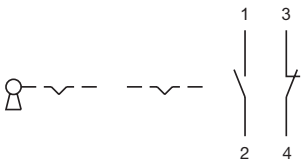
Wiring diagram 108



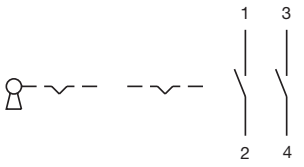
Wiring diagram 109



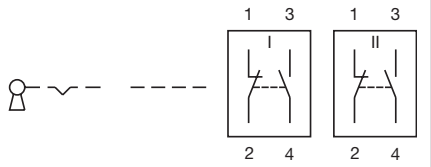
Wiring diagram 110



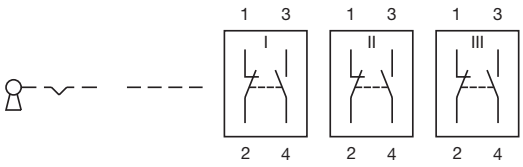
Wiring diagram 111



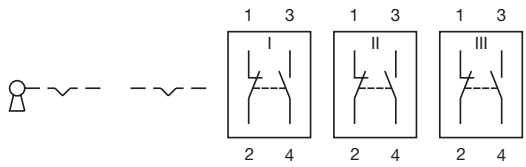
Wiring diagram 112



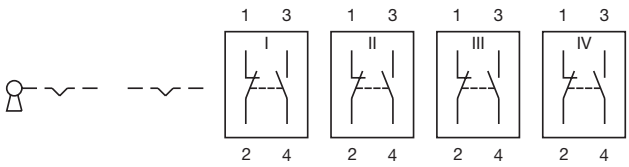
Wiring diagram 113



Wiring diagram 114



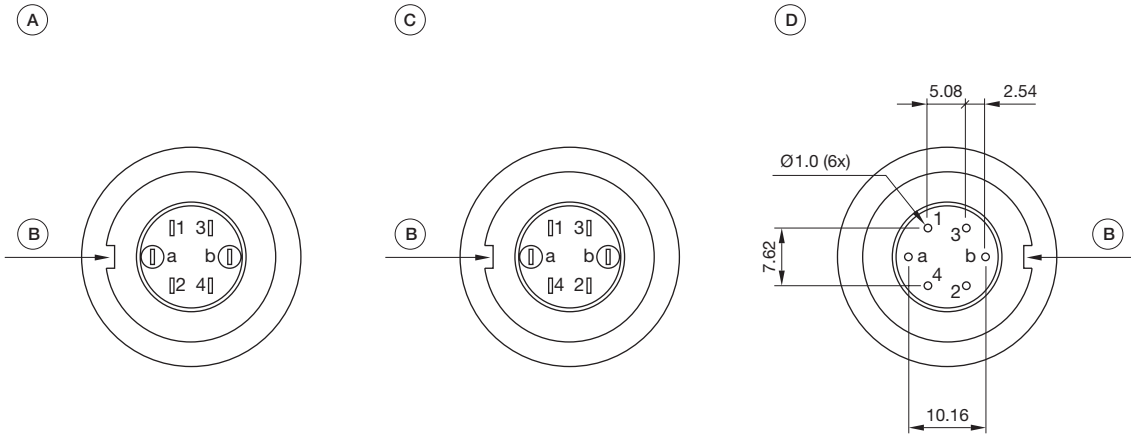
Wiring diagram 115



Wiring diagram 116

14 Flush design

Component layouts



Component layout 5

Dimensions [mm]
A = Terminals (rear side)
B = Anti twist device
C = Diode block
D = Drilling plan (component side)

High-intensity illuminated and robust.
EAO Series 14 Indicator compact.

Ideal for safe status indications, such as of production robots – thanks to excellent visibility.

- High-intensity illumination
- Compact, space-saving design
- 180° all-round visibility
- Easy mounting with reliable PIT terminal
- IP69K protection

eao

Your Expert Partner for **Human Machine Interfaces**

Indicator, IP67

Equipment consisting of (schematic overview)

Front bezel — Page 323

Lens — Page 321

Marking Plate — Page 323

Single-LED — Page 325

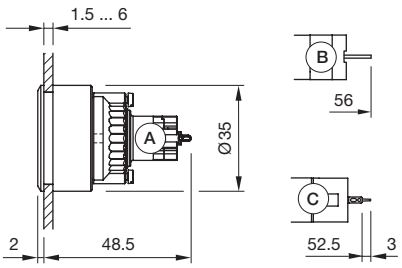
Actuator

Pressure ring

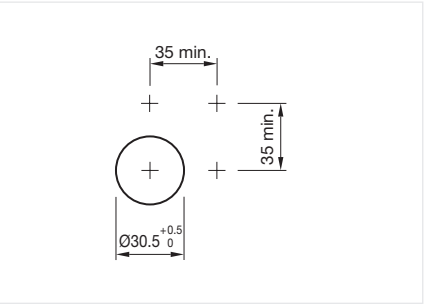
Fixing nut

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]
A = Solder terminal
B = Plug-in terminal 2.8 x 0.5 mm
C = Universal terminal 2.0 mm x 0.5 mm



Mounting cut-outs [mm]

Product can differ from the current configuration.

Actuator, Front dimension Ø 35 mm

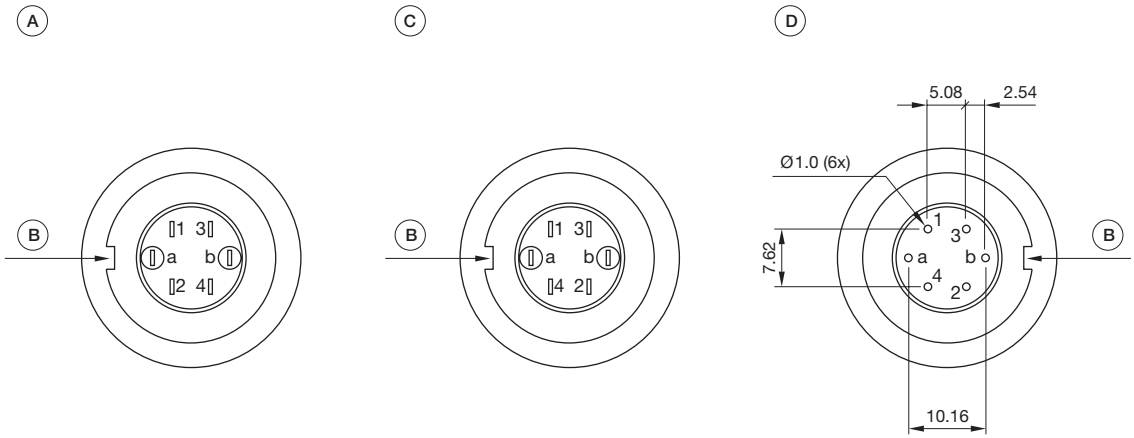
Terminal	Part No.	Wiring diagram	Component Layout
Plug-in terminal	14-040.002	3	
Soldering terminal	14-040.005	3	
Universal terminal	14-041.006	3	5

Wiring diagrams

Wiring diagram 3

14 Flush design

Component layouts

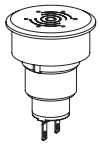


Component layout 5

Dimensions [mm]
A = Terminals (rear side)
B = Anti twist device
C = Diode block
D = Drilling plan (component side)

Buzzer, IP40

Equipment consisting of (schematic overview)

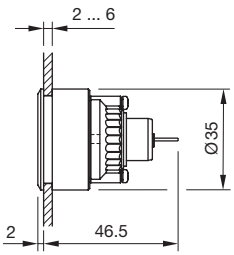


Actuator

Pressure ring

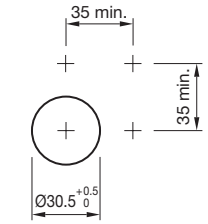
Fixing nut

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]

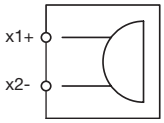
General information

- For PCB application use adaptor Part-No. 31-942
- The colour of anodised aluminium parts can vary due to technical production reasons

Actuator, Front dimension Ø 35 mm

Terminal	Operating voltage	Front cap colour	Front cap material	Front cap surface	Part No.	Wiring diagram
Plug-in terminal	24 V DC	Black	Aluminium	anodised	14-810.910	71
	24 V DC	Nature	Aluminium	anodised	14-810.918	71

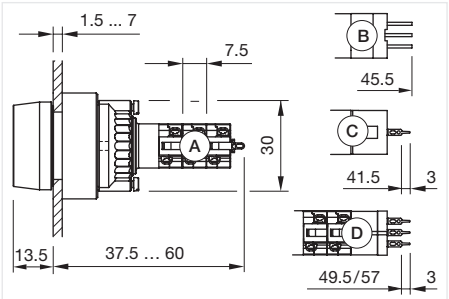
Wiring diagrams



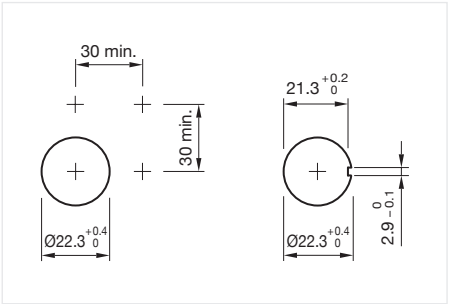
Wiring diagram 71

Illuminated pushbutton, IP67

Product can differ from the current configuration.



Dimensions [mm]
A = Solder terminal
B = Plug-in terminal 2.8 x 0.5 mm
C = Universal terminal 2.0 mm x 0.5 mm
D = Universal-Solder terminal



Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

Front bezel	Page 323
Lens	Page 321
Marking Plate	Page 323
Single-LED	Page 325
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 29 mm

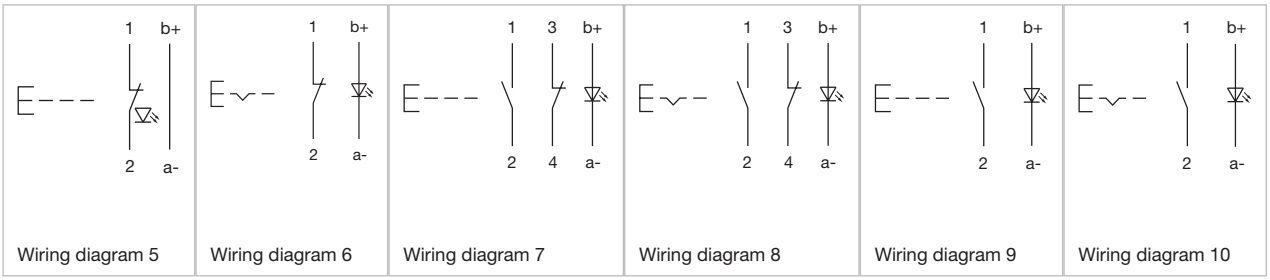
Switching action	Terminal	Switching system	Contacts	Diode 1N4007	Part No.	Wiring diagram	Component Layout
Momentary	Plug-in terminal	Snap-action switching element	1 NC / 1 NO		14-131.022	18	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO		14-131.0252	17	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO		14-132.0252	24	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO		14-133.0252	26	
	Soldering terminal	Snap-action switching element	4 NC / 4 NO		14-134.0252	28	
Maintained	Plug-in terminal	Snap-action switching element	1 NC / 1 NO		14-271.022	20	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO		14-271.0252	19	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO		14-272.0252	25	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO		14-273.0252	27	
	Soldering terminal	Snap-action switching element	4 NC / 4 NO		14-274.0252	29	
Momentary	Universal terminal	Low-level element	2 NO		14-431.036	11	5
	Universal terminal	Low-level element	2 NC		14-432.036	30	5
	Universal terminal	Low-level element	1 NC / 1 NO		14-433.036	7	5
	Universal terminal	Low-level element	1 NO		14-435.036	9	5
	Universal terminal	Low-level element	1 NC		14-436.036	5	5
Maintained	Universal terminal	Low-level element	2 NO		14-471.036	12	5
	Universal terminal	Low-level element	2 NC		14-472.036	31	5
	Universal terminal	Low-level element	1 NC / 1 NO		14-473.036	8	5
	Universal terminal	Low-level element	1 NO		14-475.036	10	5
	Universal terminal	Low-level element	1 NC		14-476.036	6	5
Momentary	Universal terminal	Snap-action switching element	1 NC / 1 NO	1	14-743.0292	13	5
	Universal terminal	Snap-action switching element	1 NC / 1 NO	2	14-744.0292	15	5
	Universal terminal	Snap-action switching element	2 NC / 2 NO	2	14-746.0292	23	5
Maintained	Universal terminal	Snap-action switching element	1 NC / 1 NO	1	14-747.0292	14	5

Contacts: NC = Normally closed, NO = Normally open

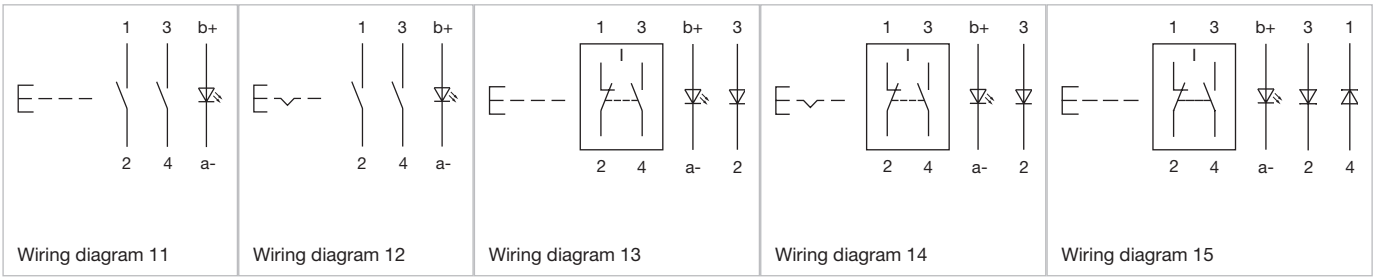
Switching action	Terminal	Switching system	Contacts	Diode 1N4007	Part No.	Wiring diagram	Component Layout
Maintained	Universal terminal	Snap-action switching element	1 NC / 1 NO	2	14-748.0292	16	5

Contacts: NC = Normally closed, NO = Normally open

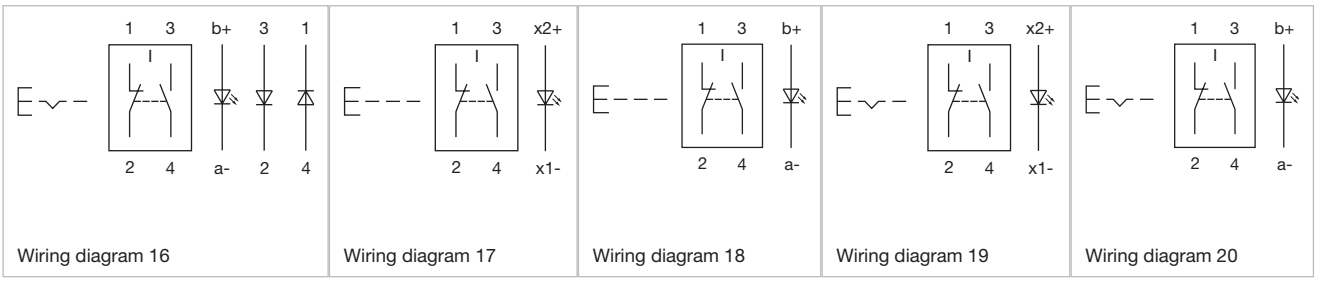
Wiring diagrams



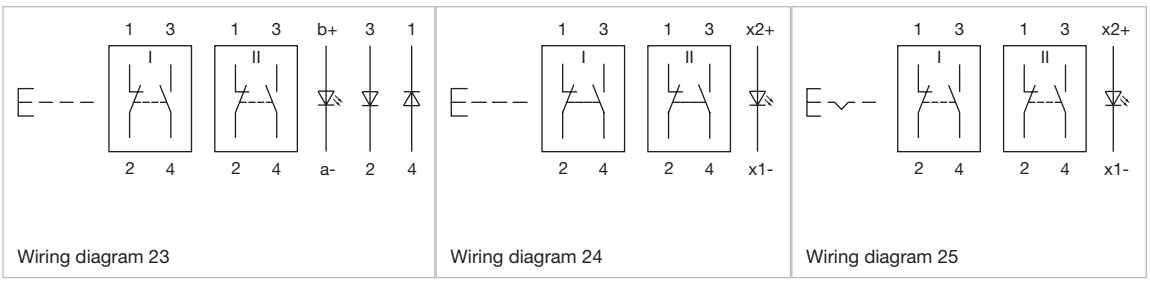
Wiring diagram 5 | Wiring diagram 6 | Wiring diagram 7 | Wiring diagram 8 | Wiring diagram 9 | Wiring diagram 10



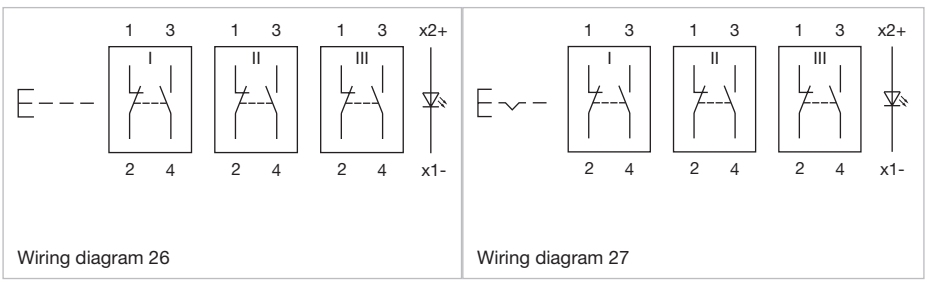
Wiring diagram 11 | Wiring diagram 12 | Wiring diagram 13 | Wiring diagram 14 | Wiring diagram 15



Wiring diagram 16 | Wiring diagram 17 | Wiring diagram 18 | Wiring diagram 19 | Wiring diagram 20



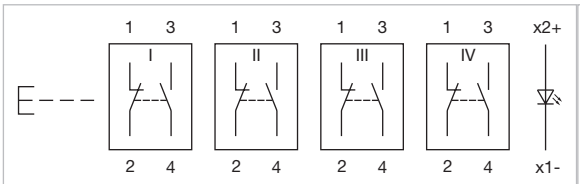
Wiring diagram 23 | Wiring diagram 24 | Wiring diagram 25



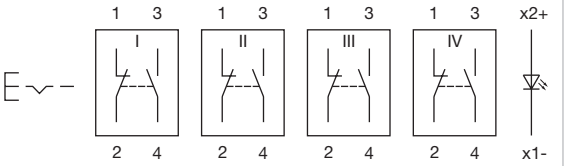
Wiring diagram 26 | Wiring diagram 27

14 Raised design

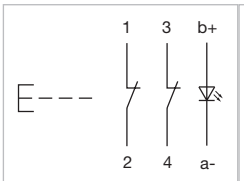
Wiring diagrams



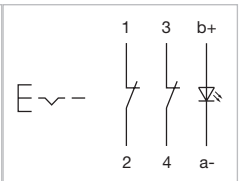
Wiring diagram 28



Wiring diagram 29

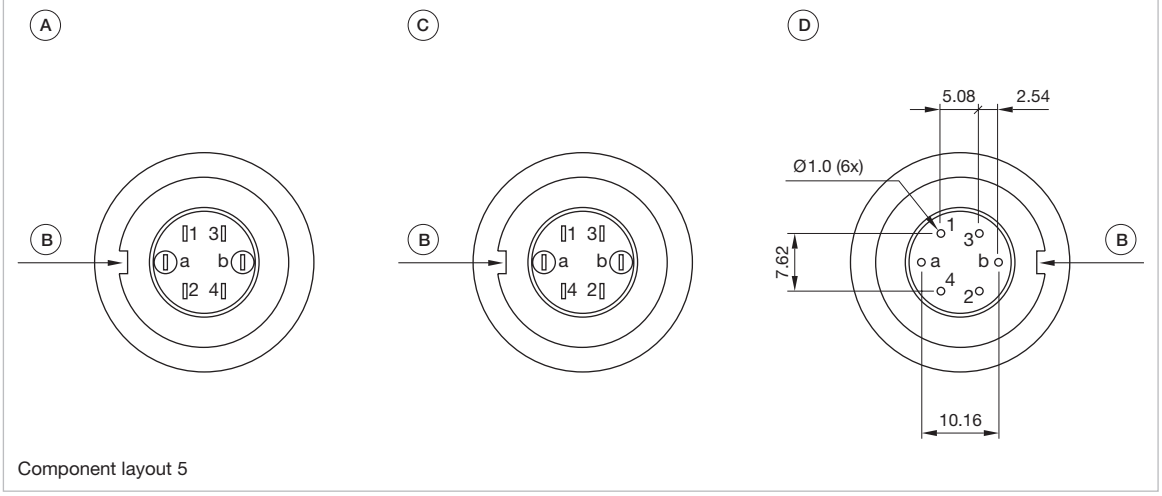


Wiring diagram 30



Wiring diagram 31

Component layouts



Component layout 5

Dimensions [mm]
A = Terminals (rear side)
B = Anti twist device
C = Diode block
D = Drilling plan (component side)

Mushroom-head pushbutton, IP67

Equipment consisting of (schematic overview)

Lens Page 321

Front bezel Page 323

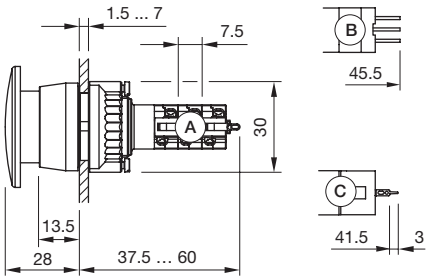
Marking Plate Page 323

Actuator

Fixing nut

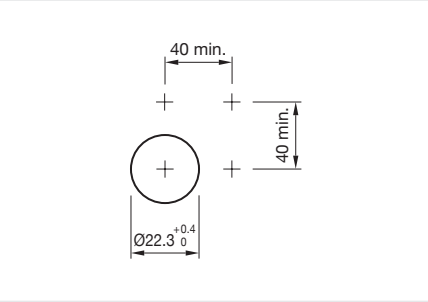
Each Part Number listed below includes all the black components shown in the 3D-drawing.

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



Dimensions [mm]
A = Solder terminal
B = Plug-in terminal 2.8 x 0.5 mm
C = Universal terminal 2.0 mm x 0.5 mm

Product can differ from the current configuration.



Mounting cut-outs [mm]

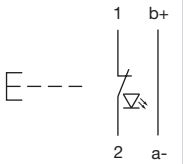
Actuator, Front dimension Ø 40 mm

Switching action	Terminal	Switching system	Contacts	Part No.	Wiring diagram	Component Layout
Momentary	Plug-in terminal	Snap-action switching element	1 NC / 1 NO	14-131.022	18	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	14-131.0252	17	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO	14-132.0252	24	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO	14-133.0252	26	
	Soldering terminal	Snap-action switching element	4 NC / 4 NO	14-134.0252	28	
Maintained	Plug-in terminal	Snap-action switching element	1 NC / 1 NO	14-271.022	20	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	14-271.0252	19	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO	14-272.0252	25	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO	14-273.0252	27	
	Soldering terminal	Snap-action switching element	4 NC / 4 NO	14-274.0252	29	
Momentary	Universal terminal	Low-level element	2 NO	14-431.036	11	5
	Universal terminal	Low-level element	2 NC	14-432.036	30	5
	Universal terminal	Low-level element	1 NC / 1 NO	14-433.036	7	5
	Universal terminal	Low-level element	1 NO	14-435.036	9	5
	Universal terminal	Low-level element	1 NC	14-436.036	5	5
Maintained	Universal terminal	Low-level element	2 NO	14-471.036	12	5
	Universal terminal	Low-level element	2 NC	14-472.036	31	5
	Universal terminal	Low-level element	1 NC / 1 NO	14-473.036	8	5
	Universal terminal	Low-level element	1 NO	14-475.036	10	5
	Universal terminal	Low-level element	1 NC	14-476.036	6	5

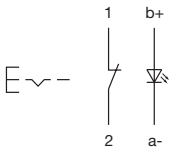
Contacts: NC = Normally closed, NO = Normally open

14 Raised design

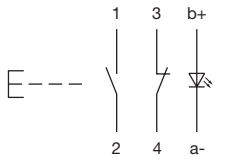
Wiring diagrams



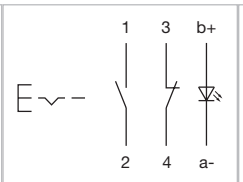
Wiring diagram 5



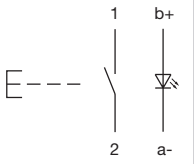
Wiring diagram 6



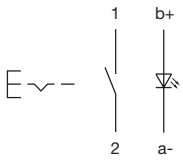
Wiring diagram 7



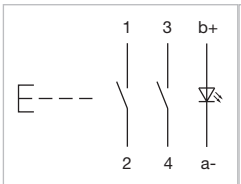
Wiring diagram 8



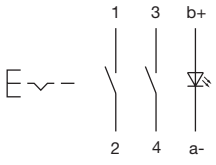
Wiring diagram 9



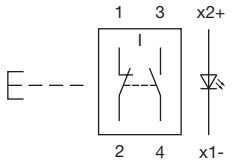
Wiring diagram 10



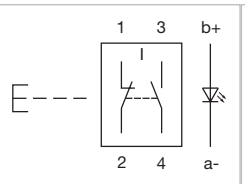
Wiring diagram 11



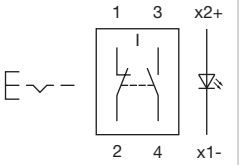
Wiring diagram 12



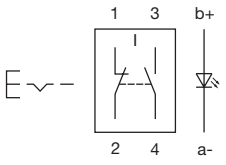
Wiring diagram 17



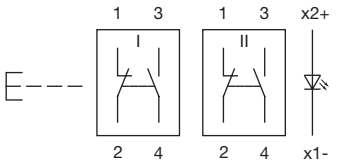
Wiring diagram 18



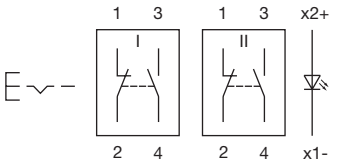
Wiring diagram 19



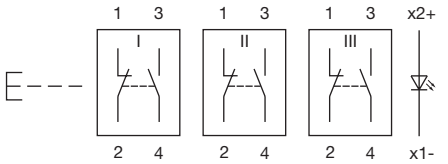
Wiring diagram 20



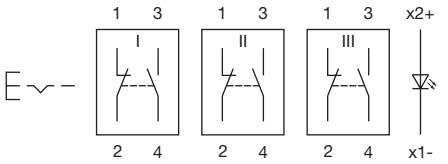
Wiring diagram 24



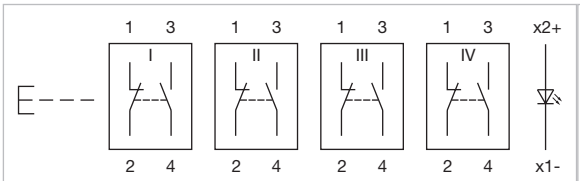
Wiring diagram 25



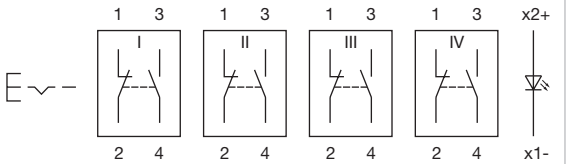
Wiring diagram 26



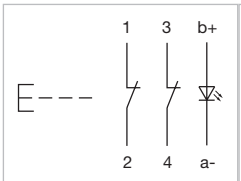
Wiring diagram 27



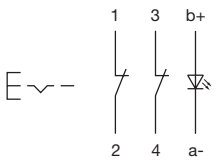
Wiring diagram 28



Wiring diagram 29

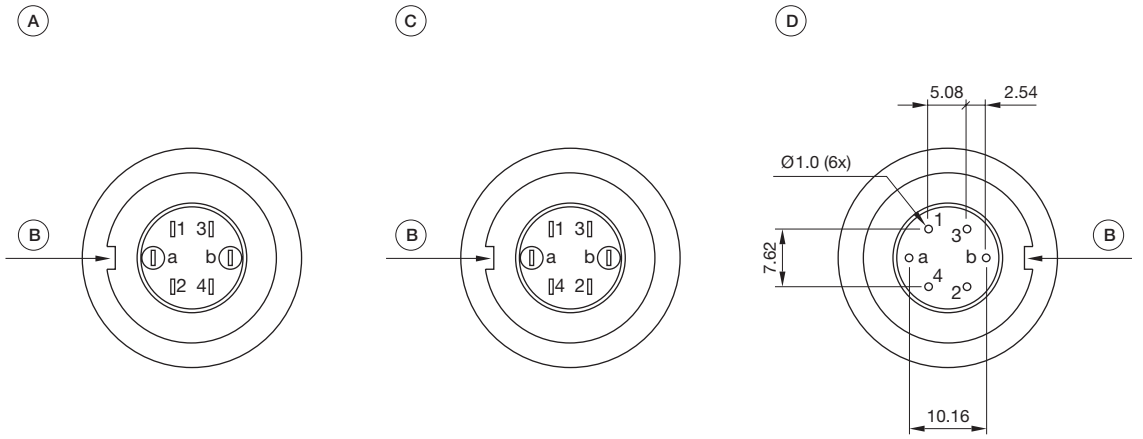


Wiring diagram 30



Wiring diagram 31

Component layouts



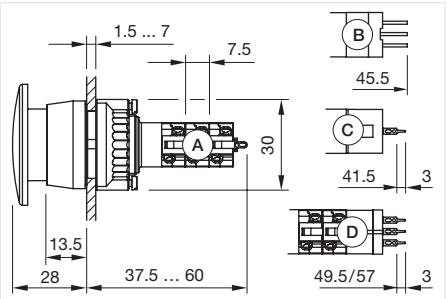
Component layout 5

Dimensions [mm]
A = Terminals (rear side)
B = Anti twist device
C = Diode block
D = Drilling plan (component side)

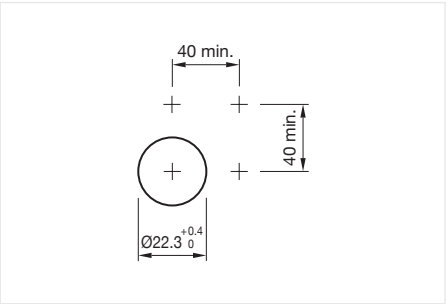
Your Expert Partner for **Human Machine Interfaces**

Mushroom-head pushbutton illuminated, IP67

Product can differ from the current configuration.



Dimensions [mm]
A = Solder terminal
B = Plug-in terminal 2.8 x 0.5 mm
C = Universal terminal 2.0 mm x 0.5 mm
D = Universal-Solder terminal



Mounting cut-outs [mm]

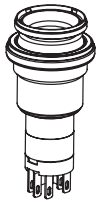
Equipment consisting of (schematic overview)

Lens — Page 321

Front bezel — Page 323

Marking Plate — Page 323

Single-LED — Page 325


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 40 mm

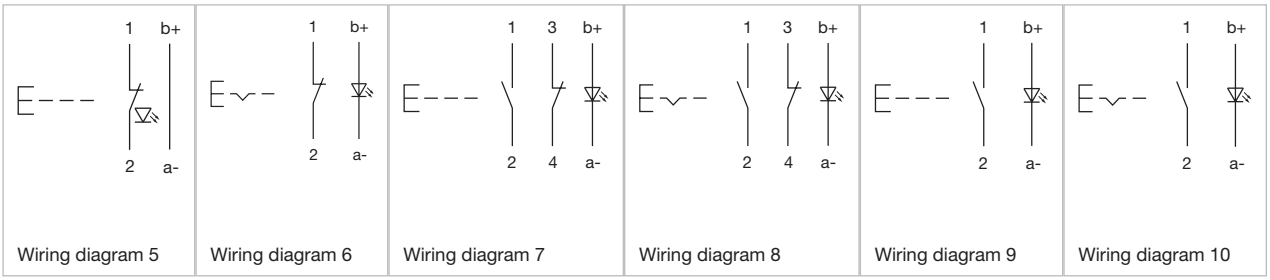
Switching action	Terminal	Switching system	Contacts	Diode 1N4007	Part No.	Wiring diagram	Component Layout
Momentary	Plug-in terminal	Snap-action switching element	1 NC / 1 NO		14-131.022	18	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO		14-131.0252	17	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO		14-132.0252	24	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO		14-133.0252	26	
	Soldering terminal	Snap-action switching element	4 NC / 4 NO		14-134.0252	28	
Maintained	Plug-in terminal	Snap-action switching element	1 NC / 1 NO		14-271.022	20	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO		14-271.0252	19	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO		14-272.0252	25	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO		14-273.0252	27	
	Soldering terminal	Snap-action switching element	4 NC / 4 NO		14-274.0252	29	
Momentary	Universal terminal	Low-level element	2 NO		14-431.036	11	5
	Universal terminal	Low-level element	2 NC		14-432.036	30	5
	Universal terminal	Low-level element	1 NC / 1 NO		14-433.036	7	5
	Universal terminal	Low-level element	1 NO		14-435.036	9	5
	Universal terminal	Low-level element	1 NC		14-436.036	5	5
Maintained	Universal terminal	Low-level element	2 NO		14-471.036	12	5
	Universal terminal	Low-level element	2 NC		14-472.036	31	5
	Universal terminal	Low-level element	1 NC / 1 NO		14-473.036	8	5
	Universal terminal	Low-level element	1 NO		14-475.036	10	5
	Universal terminal	Low-level element	1 NC		14-476.036	6	5
Momentary	Universal terminal	Snap-action switching element	1 NC / 1 NO	1	14-743.0292	13	5
	Universal terminal	Snap-action switching element	1 NC / 1 NO	2	14-744.0292	15	5
	Universal terminal	Snap-action switching element	2 NC / 2 NO	2	14-746.0292	23	5
Maintained	Universal terminal	Snap-action switching element	1 NC / 1 NO	1	14-747.0292	14	5

Contacts: NC = Normally closed, NO = Normally open

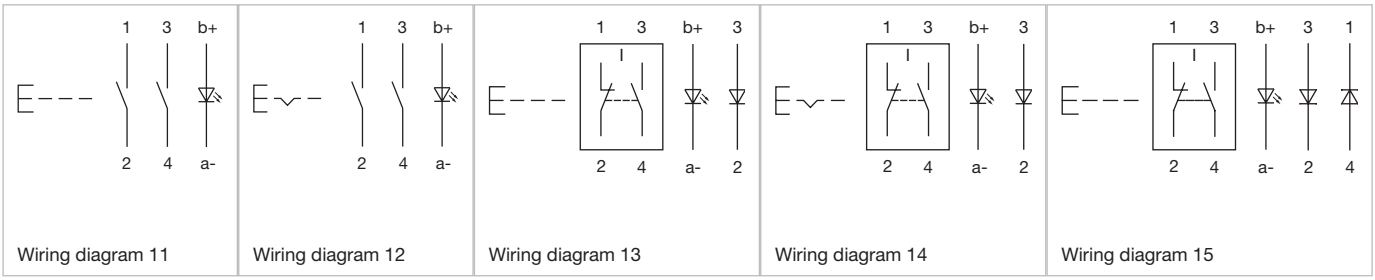
Switching action	Terminal	Switching system	Contacts	Diode 1N4007	Part No.	Wiring diagram	Component Layout
Maintained	Universal terminal	Snap-action switching element	1 NC / 1 NO	2	14-748.0292	16	5

Contacts: NC = Normally closed, NO = Normally open

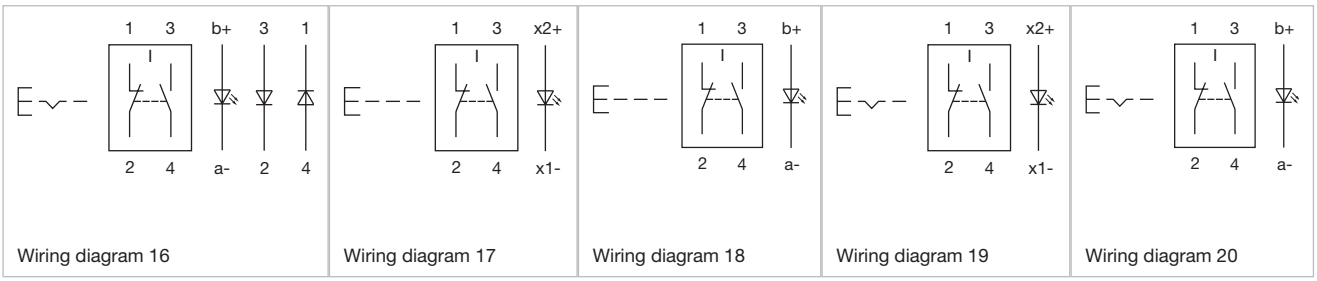
Wiring diagrams



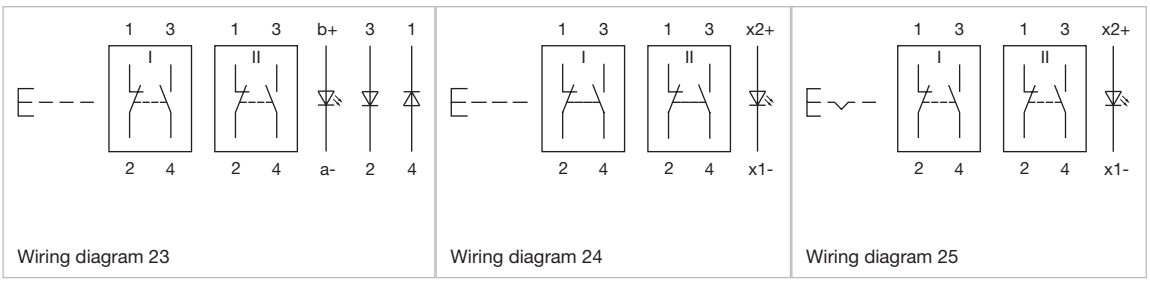
Wiring diagram 5 | Wiring diagram 6 | Wiring diagram 7 | Wiring diagram 8 | Wiring diagram 9 | Wiring diagram 10



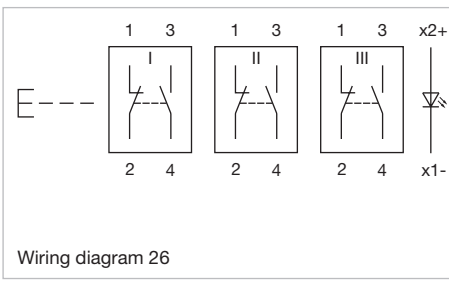
Wiring diagram 11 | Wiring diagram 12 | Wiring diagram 13 | Wiring diagram 14 | Wiring diagram 15



Wiring diagram 16 | Wiring diagram 17 | Wiring diagram 18 | Wiring diagram 19 | Wiring diagram 20



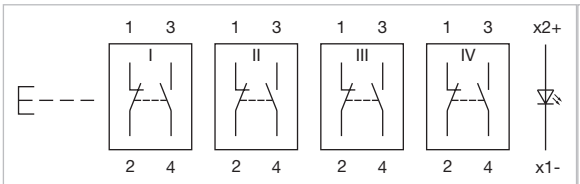
Wiring diagram 23 | Wiring diagram 24 | Wiring diagram 25



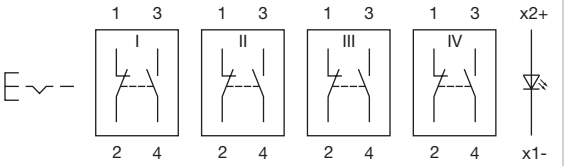
Wiring diagram 26 | Wiring diagram 27

14 Raised design

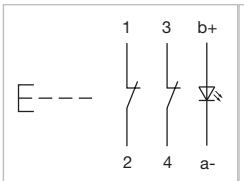
Wiring diagrams



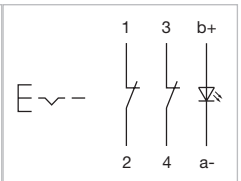
Wiring diagram 28



Wiring diagram 29

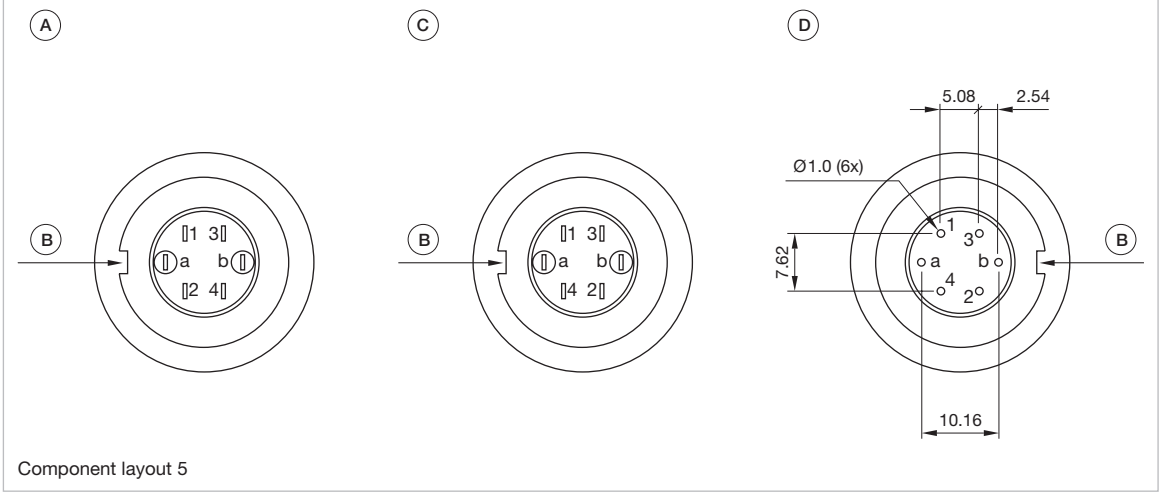


Wiring diagram 30



Wiring diagram 31

Component layouts



Component layout 5

Dimensions [mm]
A = Terminals (rear side)
B = Anti twist device
C = Diode block
D = Drilling plan (component side)

Selector switch 2 positions, IP67

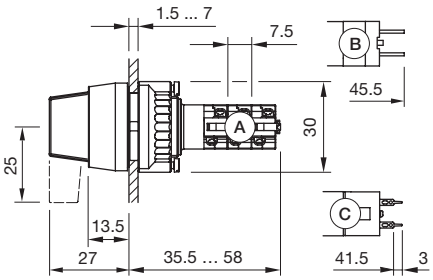
Equipment consisting of (schematic overview)

Front bezel

Actuator

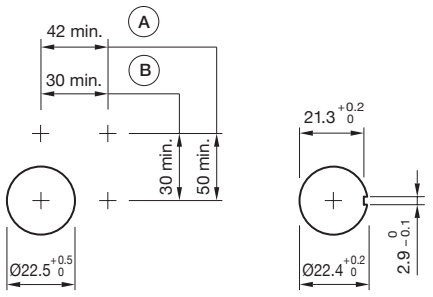
Fixing nut

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



Dimensions [mm]
A = Solder terminal
B = Plug-in terminal 2.8 x 0.5 mm
C = Universal terminal 2.0 mm x 0.5 mm

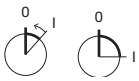
Product can differ from the current configuration.



Mounting cut-outs [mm]
A = Long lever
B = Short lever

General information

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



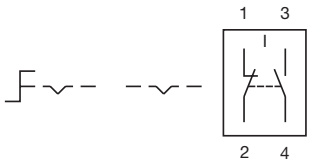
Actuator, Front dimension Ø 29 mm

Switching action	Terminal	Switching system	Contacts	Switching angle	Lever shape	Part No.	Wiring diagram	Component Layout
Rest - Momentary	Plug-in terminal	Snap-action switching element	1 NC / 1 NO	42° right	short	14-501.0220	124	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	42° right	short	14-501.02502	124	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO	42° right	short	14-502.02502	125	
Rest - Maintained	Plug-in terminal	Snap-action switching element	1 NC / 1 NO	90° right	short	14-506.0220	117	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	90° right	short	14-506.02502	117	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO	90° right	short	14-507.02502	118	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO	90° right	short	14-508.02502	126	
	Soldering terminal	Snap-action switching element	4 NC / 4 NO	90° right	short	14-509.02502	127	
Rest - Momentary	Universal terminal	Low-level element	2 NO	42° right	short	14-515.0360	122	5
	Universal terminal	Low-level element	1 NC / 1 NO	42° right	short	14-517.0360	119	5
Rest - Maintained	Universal terminal	Low-level element	2 NO	90° right	short	14-520.0360	123	5
	Universal terminal	Low-level element	2 NC	90° right	short	14-521.0360	121	5
	Universal terminal	Low-level element	1 NC / 1 NO	90° right	short	14-522.0360	120	5
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	90° right	long	14-556.0220	117	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	90° right	long	14-556.02502	117	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO	90° right	long	14-557.02502	118	
	Universal terminal	Low-level element	2 NO	90° right	long	14-570.0360	123	1
	Universal terminal	Low-level element	1 NC / 1 NO	90° right	long	14-572.0360	120	1

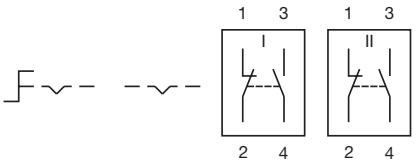
Contacts: NC = Normally closed, NO = Normally open

14 Raised design

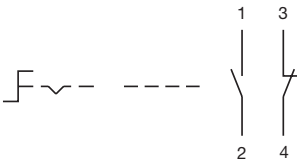
Wiring diagrams



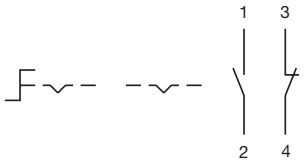
Wiring diagram 117



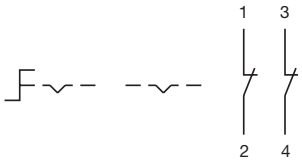
Wiring diagram 118



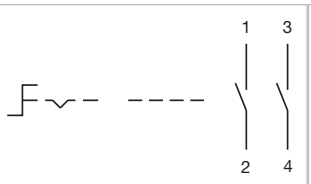
Wiring diagram 119



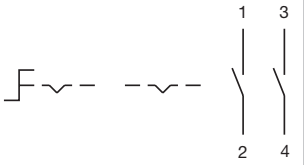
Wiring diagram 120



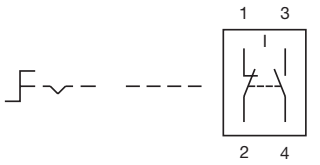
Wiring diagram 121



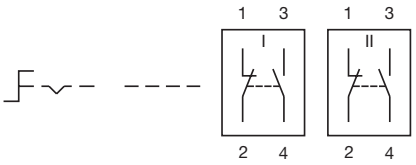
Wiring diagram 122



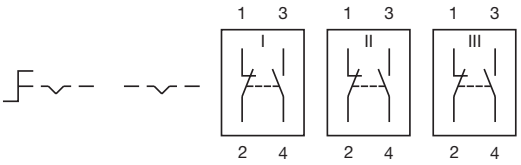
Wiring diagram 123



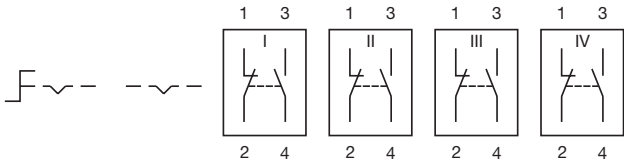
Wiring diagram 124



Wiring diagram 125

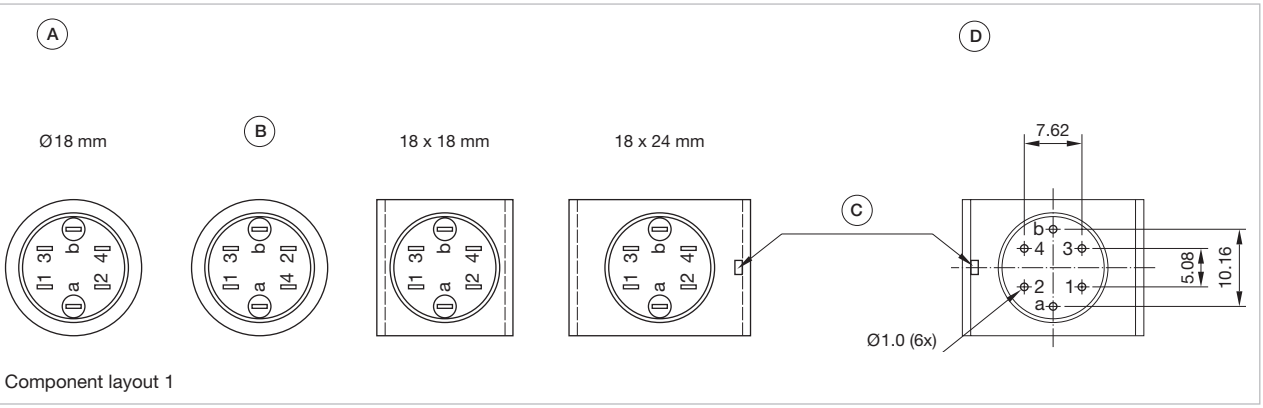


Wiring diagram 126



Wiring diagram 127

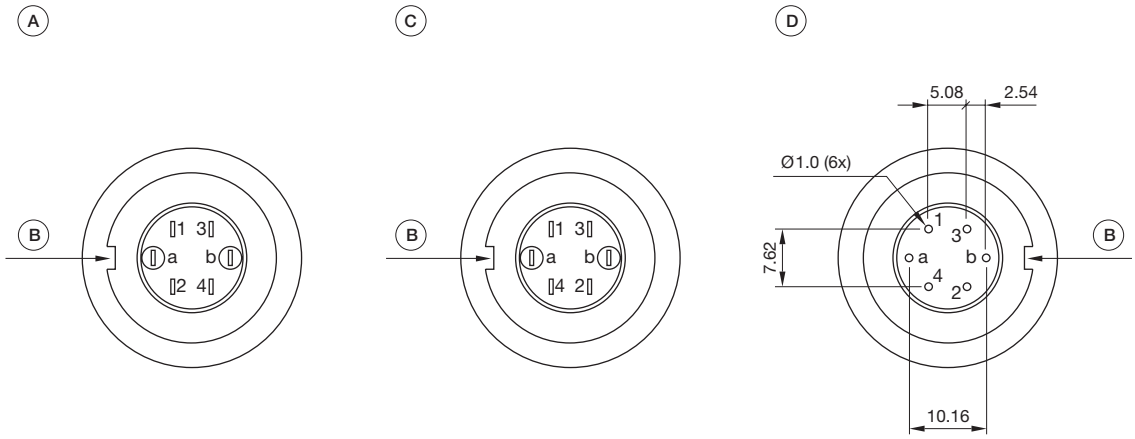
Component layouts



Component layout 1

Dimensions [mm]
A = Terminals (rear side)
B = Diode block
C = Anti twist device only 18 x 24 mm
D = Drilling plan (component side)

Component layouts

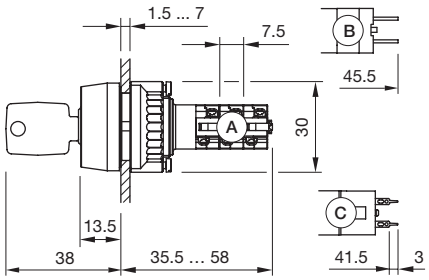


Component layout 5

Dimensions [mm]
A = Terminals (rear side)
B = Anti twist device
C = Diode block
D = Drilling plan (component side)

Keylock switch 2 positions, IP65

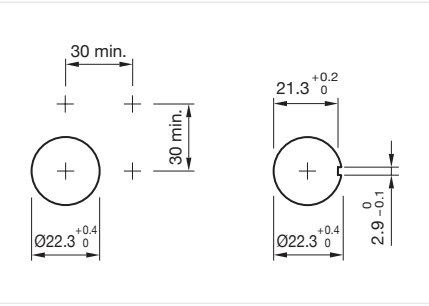
Product can differ from the current configuration.



Dimensions [mm]
A = Solder terminal
B = Plug-in terminal 2.8 mm x 0.5 mm
C = Universal terminal 2.0 mm x 0.5 mm

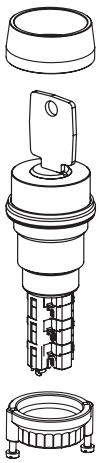
General information

- Lock numbers 1001, lock type KABA
- Front plastic black



Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

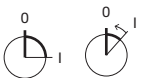


Front bezel

Actuator

Fixing nut

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



Actuator, Front dimension Ø 29 mm

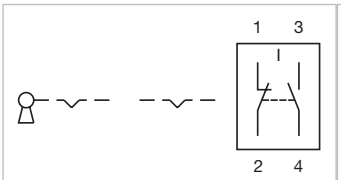
Switching action	Terminal	Switching system	Contacts	Switching angle	Part No.	Wiring diagram	Component Layout
Rest (a) - Maintained (a)	Soldering terminal	Snap-action switching element	1 NC / 1 NO	90° right	14-135.022K	107	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	90° right	14-135.025K2	107	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO	90° right	14-136.025K2	108	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO	90° right	14-137.025K2	115	
	Soldering terminal	Snap-action switching element	4 NC / 4 NO	90° right	14-138.025K2	116	
Rest (a) - Momentary	Soldering terminal	Snap-action switching element	1 NC / 1 NO	42° right	14-141.022K	113	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	42° right	14-141.025K2	113	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO	42° right	14-142.025K2	113	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO	42° right	14-143.025K2	114	
Rest (a) - Maintained	Soldering terminal	Snap-action switching element	1 NC / 1 NO	90° right	14-235.022K	107	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	90° right	14-235.025K2	107	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO	90° right	14-236.025K2	108	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO	90° right	14-237.025K2	115	
	Soldering terminal	Snap-action switching element	4 NC / 4 NO	90° right	14-238.025K2	116	
Rest - Maintained (a)	Soldering terminal	Snap-action switching element	1 NC / 1 NO	90° right	14-335.022K	107	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	90° right	14-335.025K2	107	
	Soldering terminal	Snap-action switching element	2 NC / 2 NO	90° right	14-336.025K2	108	
	Soldering terminal	Snap-action switching element	3 NC / 3 NO	90° right	14-337.025K2	115	
	Soldering terminal	Snap-action switching element	4 NC / 4 NO	90° right	14-338.025K2	116	
Rest (a) - Maintained (a)	Universal terminal	Low-level element	2 NO	90° right	14-411.036K	112	5
	Universal terminal	Low-level element	1 NC / 1 NO	90° right	14-412.036K	111	5
Rest (a) - Maintained	Universal terminal	Low-level element	2 NO	90° right	14-414.036K	112	5

Contacts: NC = Normally closed, NO = Normally open
a = Key remove

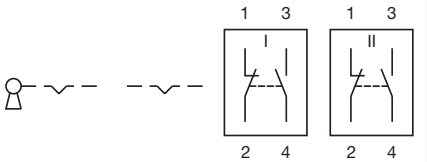
Switching action	Terminal	Switching system	Contacts	Switching angle	Part No.	Wiring diagram	Component Layout
Rest (a) - Maintained	Universal terminal	Low-level element	1 NC / 1 NO	90° right	14-415.036K	111	5
Rest - Maintained (a)	Universal terminal	Low-level element	2 NO	90° right	14-417.036K	112	5
	Universal terminal	Low-level element	1 NC / 1 NO	90° right	14-418.036K	111	5
Rest (a) - Momentary	Universal terminal	Low-level element	2 NO	42° right	14-437.036K	109	5
	Universal terminal	Low-level element	1 NC / 1 NO	42° right	14-438.036K	110	5

Contacts: NC = Normally closed, NO = Normally open
a = Key remove

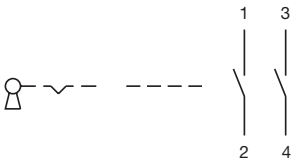
Wiring diagrams



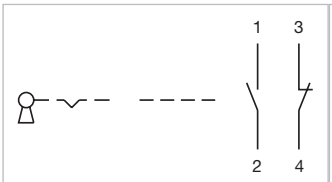
Wiring diagram 107



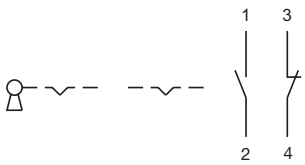
Wiring diagram 108



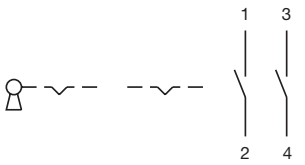
Wiring diagram 109



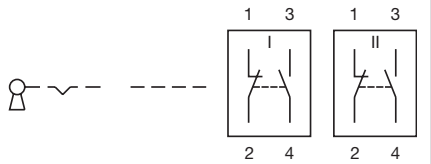
Wiring diagram 110



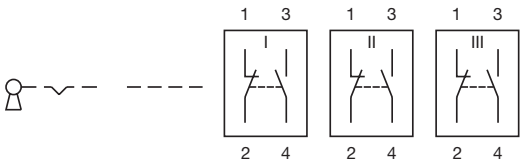
Wiring diagram 111



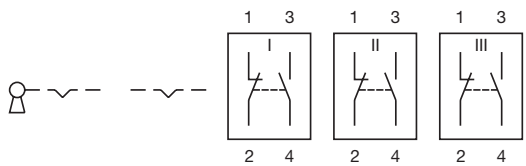
Wiring diagram 112



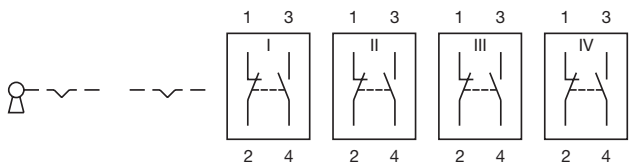
Wiring diagram 113



Wiring diagram 114



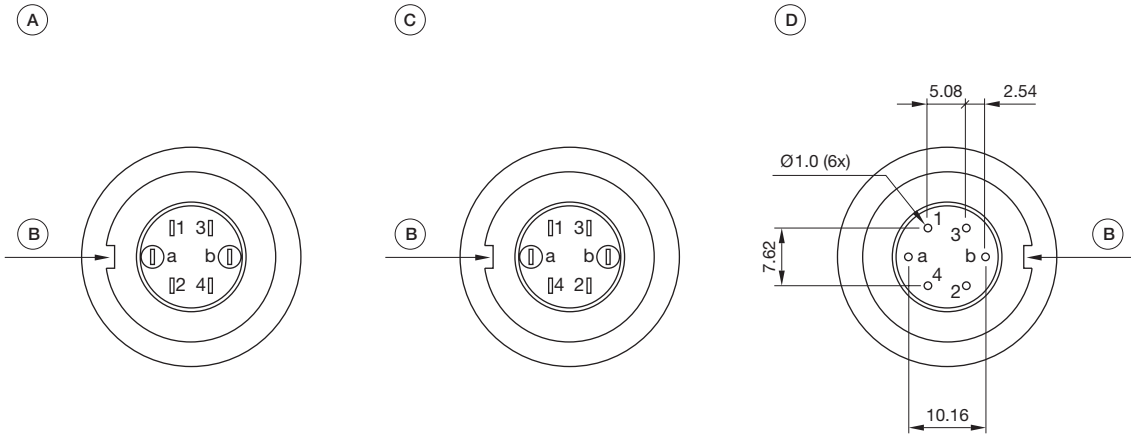
Wiring diagram 115



Wiring diagram 116

14 Raised design

Component layouts



Component layout 5

Dimensions [mm]
A = Terminals (rear side)
B = Anti twist device
C = Diode block
D = Drilling plan (component side)

High-intensity illuminated and robust.
EAO Series 14 Indicator compact.

Ideal for safe status indications – thanks to excellent visibility.

- High-intensity illumination
- Compact, space-saving design
- 180° all-round visibility
- Easy mounting with reliable PIT terminal
- IP69K protection

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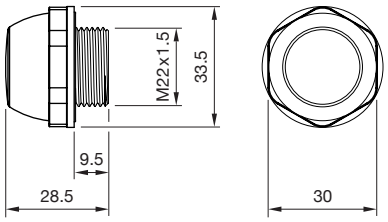
Indicator compact, IP65, IP67, IP69K

Equipment consisting of (schematic overview)

Indicator

Fixing nut

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

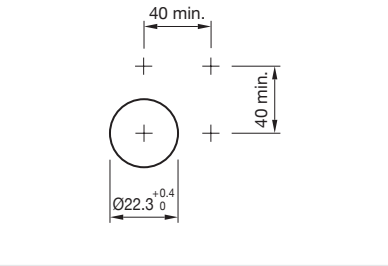


Dimensions [mm]

Product can differ from the current configuration.

General information

- Low back panel depth



Mounting cut-outs [mm]

Actuator, Front dimension Ø 34 mm

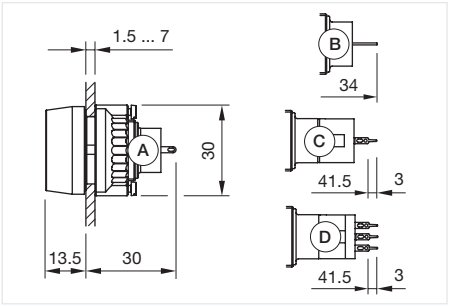
Terminal	Illuminative colour	Operating voltage	Part No.	Wiring diagram
Push-in terminal	Red	24 V AC/DC	14-060.207	4
	Orange	24 V AC/DC	14-060.307	4
	Green	24 V AC/DC	14-060.507	4
	Blue	24 V AC/DC	14-060.607	4
	White	24 V AC/DC	14-060.907	4

Wiring diagrams

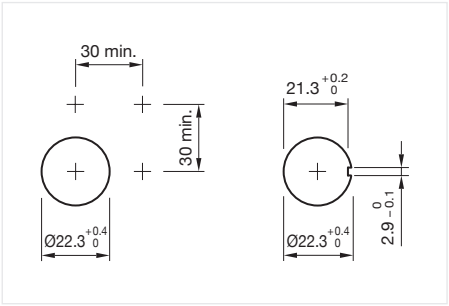
Wiring diagram 4

Indicator full-face illumination, IP67

Product can differ from the current configuration.



Dimensions [mm]
A = Solder terminal
B = Plug-in terminal 2.8 x 0.5 mm
C = Universal terminal 2.0 mm x 0.5 mm
D = Universal-Solder terminal



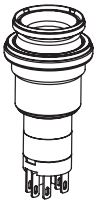
Mounting cut-outs [mm]

Equipment consisting of (schematic overview)

Lens cap — Page 322

Marking cap — Page 323

Single-LED — Page 325



Actuator

Fixing nut

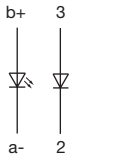
Each Part Number listed below includes all the black components shown in the 3D-drawing.

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

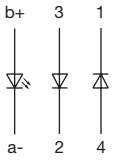
Actuator, Front dimension Ø 29 mm

Terminal	Diode 1N4007	Part No.	Wiring diagram	Component Layout
Plug-in terminal		14-030.002	3	
Soldering terminal		14-030.005	3	
Universal terminal		14-031.006	3	5
	1	14-741.006	1	5
	2	14-742.006	2	5

Wiring diagrams



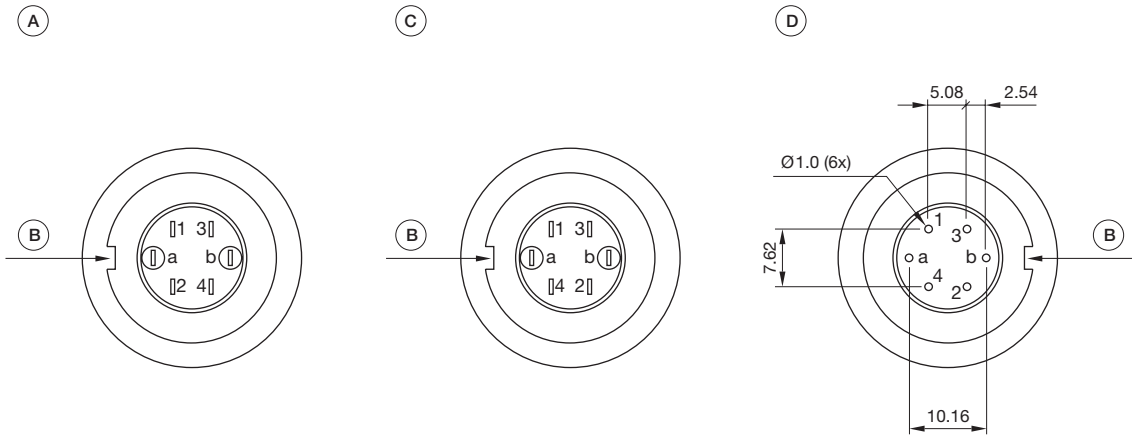
Wiring diagram 1



Wiring diagram 2

Wiring diagram 3

Component layouts

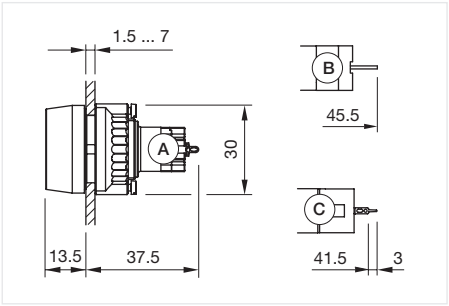


Component layout 5

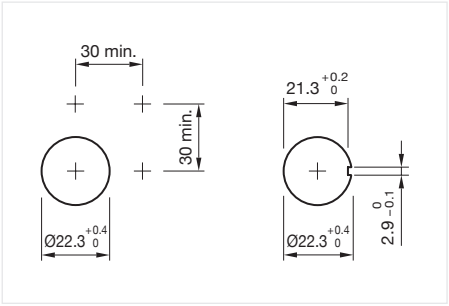
Dimensions [mm]
A = Terminals (rear side)
B = Anti twist device
C = Diode block
D = Drilling plan (component side)

Indicator front illumination, IP67

Product can differ from the current configuration.



Dimensions [mm]
A = Solder terminal
B = Plug-in terminal 2.8 x 0.5 mm
C = Universal terminal 2.0 mm x 0.5 mm



Mounting cut-outs [mm]

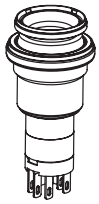
Equipment consisting of (schematic overview)

Front bezel — Page 323

Lens — Page 321

Marking Plate — Page 323

Single-LED — Page 325



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.

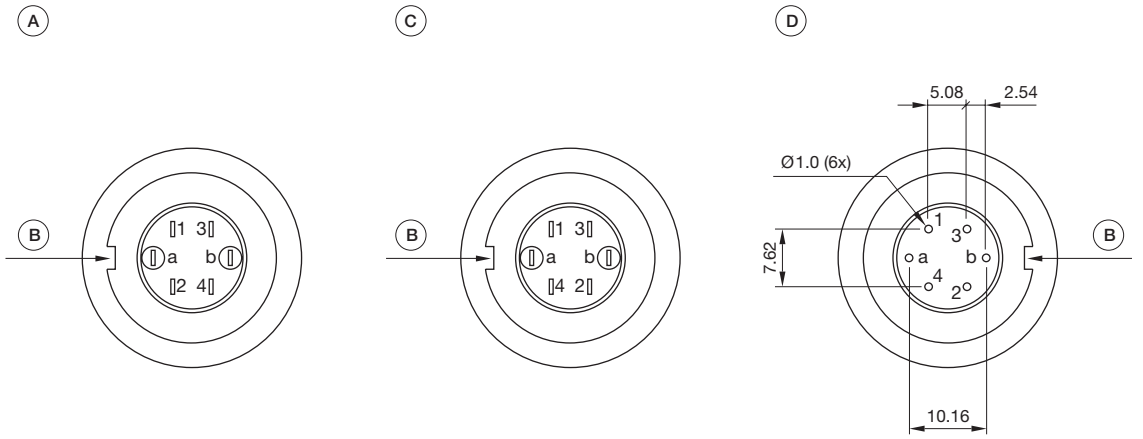
Actuator, Front dimension Ø 29 mm

Terminal	Part No.	Wiring diagram	Component Layout
Plug-in terminal	14-040.002	3	
Soldering terminal	14-040.005	3	
Universal terminal	14-041.006	3	5

Wiring diagrams

Wiring diagram 3

Component layouts



Component layout 5

Dimensions [mm]
A = Terminals (rear side)
B = Anti twist device
C = Diode block
D = Drilling plan (component side)

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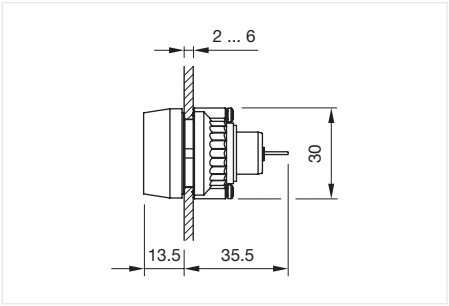
14 Raised design

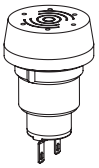
Buzzer, IP65

Product can differ from the current configuration.



Dimensions [mm]

Equipment consisting of (schematic overview)



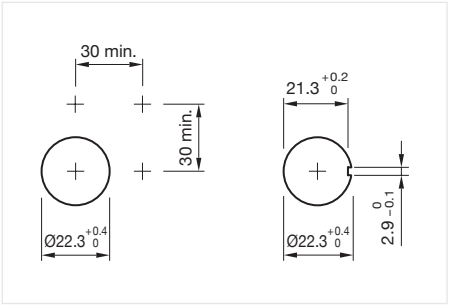
Actuator

Fixing nut

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

General information

- For PCB application use adaptor Part-No. 31-942

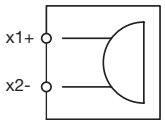


Mounting cut-outs [mm]

Actuator, Front dimension Ø 29 mm

Terminal	Operating voltage	Front cap colour	Front cap material	Front cap surface	Part No.	Wiring diagram
Plug-in terminal	24 V DC	Black	Plastic		14-810.002	71
	24 V DC	Nature	Aluminium	anodised	14-810.902	71

Wiring diagrams



Wiring diagram 71

Lens plastic

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Symbol	Dimensions	Part No.
Plastic	Black	opaque	flush	non illuminative		Ø 23.7 mm	704.602.0
	Red	transparent	flush	illuminative		Ø 23,7 mm	704.602.2
	Yellow	transparent	flush	illuminative		Ø 23,7 mm	704.602.4
	Green	transparent	flush	illuminative		Ø 23,7 mm	704.602.5
	Blue	transparent	flush	illuminative		Ø 23,7 mm	704.602.6
	Colourless	transparent	flush	illuminative		Ø 23,7 mm	704.602.7
	Silver	transparent	flush	illuminative	Ring	Ø 23,7 mm	704.602.7A01

Additional information

- To obtain IP67, use marking plate Part No. 704.609.9
- To obtain IP67 use marking plate Part No. 704.609.9A01 (ring illumination)

Lens plastic encreased

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Dimensions	Part No.
Plastic	Red	transparent	flush	illuminative	Ø 23,7 mm	704.611.2
	Yellow	transparent	flush	illuminative	Ø 23,7 mm	704.611.4
	Green	transparent	flush	illuminative	Ø 23,7 mm	704.611.5
	Blue	transparent	flush	illuminative	Ø 23,7 mm	704.611.6
	Colourless	transparent	flush	illuminative	Ø 23,7 mm	704.611.7

Additional information

- To obtain IP67, use marking plate Part Nr. 704.610.X

Lens metal

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Dimensions	Part No.
Aluminium	Black	opaque	flush	non illuminative	Ø 23,7 mm	704.601.0
	Red	opaque	flush	non illuminative	Ø 23,7 mm	704.601.2
	Gold	opaque	flush	non illuminative	Ø 23,7 mm	704.601.4
	Olive green	opaque	flush	non illuminative	Ø 23,7 mm	704.601.5
	Blue	opaque	flush	non illuminative	Ø 23,7 mm	704.601.6
	Nature	opaque	flush	non illuminative	Ø 23,7 mm	704.601.8
Stainless steel	Nature	opaque	flush	non illuminative	Ø 23,7 mm	704.601.9

Additional information

- The colour of anodised aluminium parts can vary due to technical production reasons
- To obtain IP65, it is necessary to use marking plate Part No.. 704.609.X

Lens metal round spot round

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Dimensions	Part No.
Aluminium	Black	opaque	flush	illuminative	Ø 23,7 mm	704.601.01
	Red	opaque	flush	illuminative	Ø 23,7 mm	704.601.21
	Gold	opaque	flush	illuminative	Ø 23,7 mm	704.601.41
	Olive green	opaque	flush	illuminative	Ø 23,7 mm	704.601.51
	Blue	opaque	flush	illuminative	Ø 23,7 mm	704.601.61
	Nature	opaque	flush	illuminative	Ø 23,7 mm	704.601.81
Stainless steel	Nature	opaque	flush	illuminative	Ø 23,7 mm	704.601.91

Additional information

- The colour of anodised aluminium parts can vary due to technical production reasons
- To obtain IP65, it is necessary to use marking plate Part No.. 704.609.X

Mushroom-head cap

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Dimensions	Part No.
Plastic	Black	opaque	mushroom-head	non illuminative	Ø 40 mm	704.604.0
	Red	opaque	mushroom-head	non illuminative	Ø 40 mm	704.604.2
	Yellow	opaque	mushroom-head	non illuminative	Ø 40 mm	704.604.4
	Green	opaque	mushroom-head	non illuminative	Ø 40 mm	704.604.5

Additional information

- To obtain IP67, use marking plate Part No. 704.609.9

Mushroom-head cap illuminated

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Dimensions	Part No.
Plastic	Red	transparent	mushroom-head	illuminative	Ø 40 mm	704.614.2
	Yellow	transparent	mushroom-head	illuminative	Ø 40 mm	704.614.4
	Green	transparent	mushroom-head	illuminative	Ø 40 mm	704.614.5
	Blue	transparent	mushroom-head	illuminative	Ø 40 mm	704.614.6
	Colourless	transparent	mushroom-head	illuminative	Ø 40 mm	704.614.7

Additional information

- To obtain IP67, use marking plate Part No. 704.609.9

Lens cap round for full face indicator

Lens cap material	Lens cap colour	Lens cap optical effect	Diameter	Part No.
Plastic	Red	transparent	29 mm	704.603.2
	Yellow	transparent	29 mm	704.603.4
	Green	transparent	29 mm	704.603.5
	Blue	transparent	29 mm	704.603.6
	Colourless	transparent	29 mm	704.603.7

Additional information

- To obtain IP67, use marking plate Part Nr. 704.608.X

Marking cap for front illumination

Marking cap material	Marking cap colour	Marking cap optics	Dimensions	Marking cap surface	Part No.
Plastic	Colourless	transparent	Ø 29 mm	ribbed	704.610.7
	White	translucent	Ø 29 mm		704.610.9

Marking cap for full face illumination

Marking cap material	Marking cap colour	Marking cap optics	Dimensions	Marking cap surface	Part No.
Plastic	Colourless	transparent	Ø 29 mm	ribbed	704.608.7
	White	translucent	Ø 29 mm		704.608.9

Marking plate

Marking plate material	Marking plate colour	Marking plate optics	Marking plate illumination	Diameter	Part No.
Plastic	Black	opaque	non illuminative	20 mm	704.609.0
	Colourless	transparent	illuminative	20 mm	704.609.7
	White	translucent	illuminative	20 mm	704.609.9
	White	translucent	ring illumination	20 mm	704.609.9A01

Additional information

- For front bezel set 24 mm x 30 mm, flush design

Front bezel round, raised design

Front bezel material	Front bezel colour	Front bezel surface	Dimensions	Part No.
Plastic	Black		Ø 29 mm	704.600.0
	Grey		Ø 29 mm	704.600.6
Aluminium	Nature	anodised	Ø 29 mm	704.600.1
	Black	anodised	Ø 29 mm	704.600.1A
Stainless steel	Nature		Ø 29 mm	704.600.9

Additional information

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

Front bezel set

Front bezel material	Front bezel colour	Front bezel surface	Mounting cut-out	Dimensions	Part No.
Aluminium	Black	anodised	Ø 30.5 mm	Ø 35 mm	14-955.0
	Nature	anodised	Ø 30.5 mm	Ø 35 mm	14-955.1
Stainless steel	Nature		Ø 30.5 mm	Ø 35 mm	14-955.9

Additional information

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

14 Components

Front bezel set protective membrane

Product attributes	Front bezel material	Front bezel colour	Front bezel surface	Mounting cut-out	Dimensi-ons	Part No.
With transparent silicone membrane	Aluminium	Nature	anodised	Ø 30.5 mm	Ø 35 mm	14-955.3
	Aluminium	Black	anodised	Ø 30.5 mm	Ø 35 mm	14-955.4
With transparent silicone membrane, resistant to sea water	Stainless steel	Nature		Ø 30.5 mm	Ø 35 mm	14-955.9E

Additional information

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

Front bezel set mushroom head pushbutton

Product attributes	Front bezel material	Front bezel colour	Front bezel surface	Mounting cut-out	Part No.
For front bezel set 24 mm x 30 mm, flush design	Aluminium	Nature	anodised	Ø 30.5 mm	14-958.8
	Aluminium	Black	anodised	Ø 30.5 mm	14-958.0

Additional information

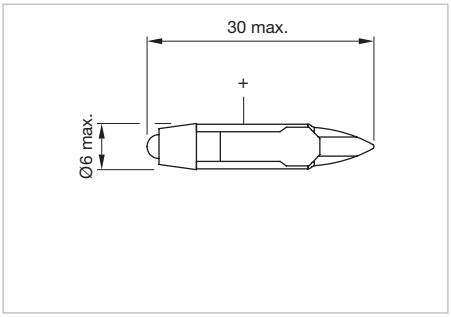
- The colour of anodised aluminium parts can vary due to technical production reasons

Single-LED, T5.7

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	10-2106.3142	33
	12 V AC/DC +10%	7 - 14 mA ±15 %	330 mcd	630 nm	10-2109.1062	33
	24 V AC/DC +10%	7 - 14 mA ±15 %	330 mcd	630 nm	10-2112.1062	33
	28 V AC/DC +10%	7 - 14 mA ±15 %	330 mcd	630 nm	10-2113.1062	33
	48 V AC/DC +10%	4 - 8 mA ±15 %	200 mcd	630 nm	10-2119.1042	33
Yellow	6 V DC +10%	15 mA ±15 %	300 mcd	587 nm	10-2106.3144	33
	12 V AC/DC +10%	7 - 14 mA ±15 %	280 mcd	587 nm	10-2109.1064	33
	24 V AC/DC +10%	7 - 14 mA ±15 %	280 mcd	587 nm	10-2112.1064	33
	28 V AC/DC +10%	7 - 14 mA ±15 %	280 mcd	587 nm	10-2113.1064	33
	48 V AC/DC +10%	4 - 8 mA ±15 %	180 mcd	587 nm	10-2119.1044	33
Green	6 V DC +10%	7 mA ±15 %	1050 mcd	525 nm	10-2106.3145	33
	12 V AC/DC +10%	4 - 7 mA ±15 %	1050 mcd	525 nm	10-2109.1065	33
	24 V AC/DC +10%	4 - 7 mA ±15 %	1050 mcd	525 nm	10-2112.1065	33
	28 V AC/DC +10%	4 - 7 mA ±15 %	1050 mcd	525 nm	10-2113.1065	33
	48 V AC/DC +10%	2 - 4 mA ±15 %	600 mcd	525 nm	10-2119.1045	33
Blue	6 V DC +10%	15 mA ±15 %	680 mcd	470 nm	10-2106.3146	33
	12 V AC/DC +10%	4 - 14 mA ±15 %	650 mcd	470 nm	10-2109.1066	33
	24 V AC/DC +10%	7 - 14 mA ±15 %	650 mcd	470 nm	10-2112.1066	33
	28 V AC/DC +10%	7 - 14 mA ±15 %	650 mcd	470 nm	10-2113.1066	33
	48 V AC/DC +10%	4 - 8 mA ±15 %	400 mcd	470 nm	10-2119.1046	33
White	6 V DC +10%	6 mA ±15 %	900 mcd	x: 0.31 / y: 0.32 nm	10-2106.3149	33
	12 V AC/DC +10%	3 - 6 mA ±15 %	900 mcd	x: 0.31 / y: 0.32 nm	10-2109.1069	33
	24 V AC/DC +10%	2,5 - 5 mA ±15 %	750 mcd	x: 0.31 / y: 0.32 nm	10-2112.1069	33
	28 V AC/DC +10%	2,5 - 5 mA ±15 %	750 mcd	x: 0.31 / y: 0.32 nm	10-2113.1069	33
	48 V AC/DC +10%	2 - 4 mA ±15 %	600 mcd	x: 0.31 / y: 0.32 nm	10-2119.1049	33

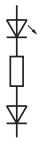
Additional information

- For LED element fitting information see Application guidelines, LED polarity
- 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]

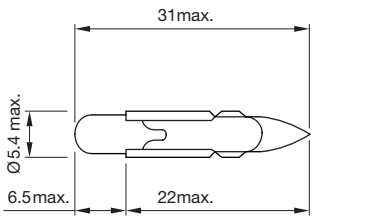
Wiring diagrams



Wiring diagram 33

Filament lamp

Operating voltage	Operation current	Part No.	Wiring diagram
6 V AC/DC	200 mA	10-1106.1369	34
12 V AC/DC	100 mA	10-1109.1329	34
24 V AC/DC	50 mA	10-1112.1279	34
28 V AC/DC	40 mA	10-1113.1249	34
30 V AC/DC	40 mA	10-1114.1249	34
36 V AC/DC	35 mA	10-1116.1229	34
48 V AC/DC	25 mA	10-1119.1199	34



Dimensions [mm]

Wiring diagrams

Wiring diagram 34

Anti-twist ring

Material	Mounting cut-out	Part No.
steel plate	Ø 30 mm	704.954.0

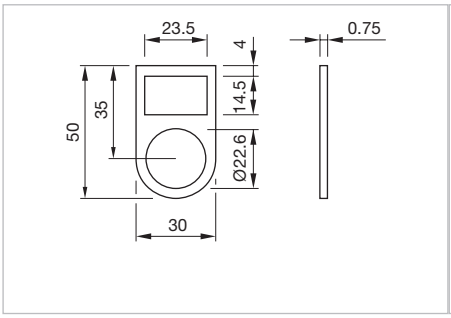
Front side

Legend frame

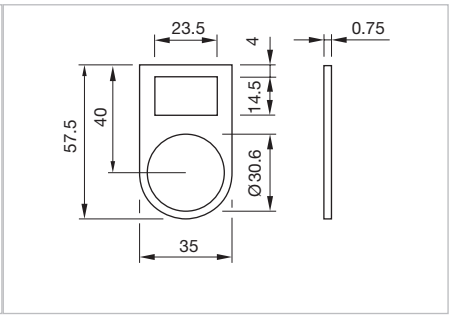
Product attributes	Dimensions	Material	Colour	Surface	Mounting type	Part No.
For raised design	30 mm x 0.75 mm x 50 mm	aluminium	Black	anodised	adhesive	704.968.2
For flush design	35 mm x 0.75 mm x 57.5 mm	aluminium	Black	anodised	adhesive	704.968.3

Additional information

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



Dimensions [mm]
for Part No. 704.968.2



Dimensions [mm]
for Part No. 704.968.3

Legend plate

Dimensions	Material	Colour	Surface	Mounting type	Part No.
14.5 mm x 23.5 mm	aluminium	Nature	anodised	adhesive	704.968.0
	aluminium	Black	anodised	adhesive	704.968.1

Additional information

- For legend frame Part No.704.968.2 and 704.968.3
- The colour of anodised aluminium parts can vary due to technical production reasons

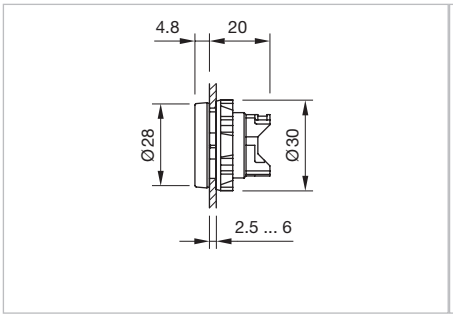
14 Accessories

Blind plug

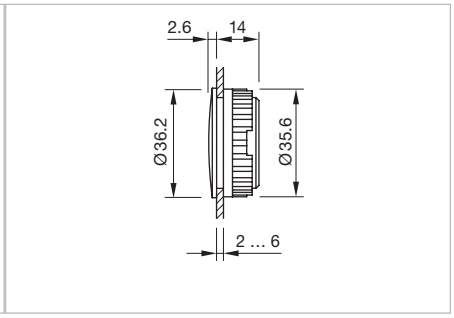
Dimensions	Material	Colour	Mounting cut-out	Part No.
Ø 28 mm	plastic	Black	Ø 22.3 mm	704.960.4
Ø 36 mm	plastic	Black	Ø 30.5 mm	704.964.8

Additional information

- Please note that bigger minimum distances are necessary



Dimensions [mm]
for Part No. 704.960.4



Dimensions [mm]
for Part No. 704.964.8

Spare key

Product attributes	Part No.
Standard lock KABA 1001	14-987.1001

Protective cap

Product attributes	Material	Colour	Optics	Part No.
Only together with lenses Part No. 704.602.X, 704.601.X and front rings Part No. 704.600.X	silicone	Colourless	transparent	704.953.0

Additional information

- For Indicator and Illuminated pushbutton for IP68 protection

Protective ring

Product attributes	Material	Colour	Surface	Part No.
With transparent silicone membrane (resistant to sea water), temperature resistance -40 °C … +85 °C	brass		chrome	704.600.2
	aluminium	Nature	anodised	704.600.3
With transparent Pebax membrane, temperature resistance -40 °C … +85 °C	aluminium	Nature	anodised	704.600.5/A

Additional information

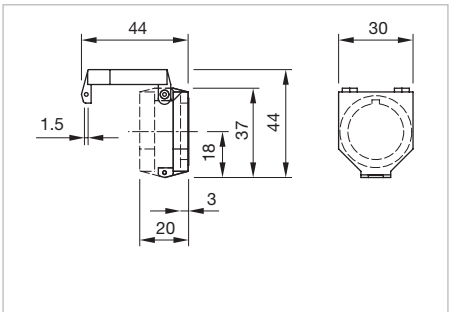
- For Illuminated pushbutton for front protection IP 67
- The colour of anodised aluminium parts can vary due to technical production reasons

Protective cover raised design

Product attributes	Material	Optics	Part No.
For pushbutton	plastic	transparent	704.925.0
For pushbutton, with spring fitted	plastic	transparent	704.925.3
For selector switch	plastic	transparent	704.925.2

Additional information

- Hinged, with means for sealing



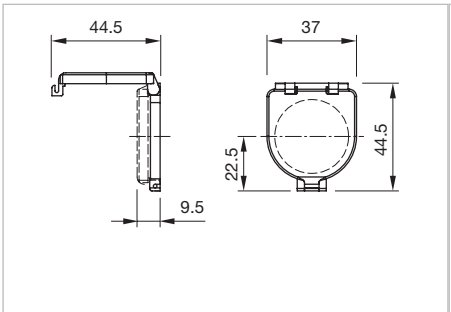
Dimensions [mm]

Protective cover flush design

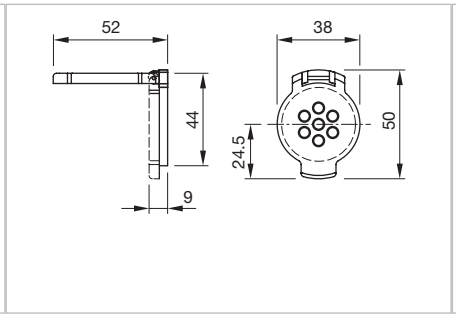
Product attributes	Dimensions	Material	Colour	Surface	Part No.
With means for sealing, for pushbutton with mounting cut-outs Ø 30.5 mm	37 mm x 44.5 mm	plastic	Colourless		704.925.7
Without cover locking hole, with spring fitted, with window, for pushbuttonwith mounting cut-outs Ø 30.5 mm	38 mm x 50 mm	aluminium	Nature	anodised	704.928.18
Without cover locking hole, for pushbutton and selector switch short lever with mounting cut-outs Ø 30.5 mm	38 mm x 50 mm	aluminium	Nature	anodised	704.928.28
With means for sealing, for pushbutton and selector switch short lever with mounting cut-outs Ø 30.5 mm	38 mm x 50 mm	aluminium	Nature	anodised	704.928.38

Additional information

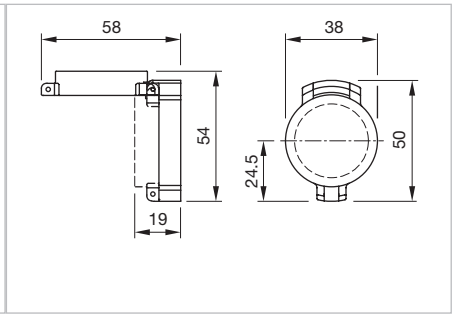
- Hinged
- Front panel thickness reduces by 2 mm
- Please note that bigger minimum distances are necessary
- The colour of anodised aluminium parts can vary due to technical production reasons



Dimensions [mm]
for Part No. 704.925.7



Dimensions [mm]
for Part No. 704.928.18



Dimensions [mm]
for Part No. 704.928.28, 704.928.38

14 Accessories

Rear side

Flat receptacle

Product attributes	Material	Part No.
2.0 x 0.5 mm plug-in terminal	metal	31-945
2.8 x 0.5 mm plug-in terminal	metal	31-946

Insulation sleeve

Product attributes	Material	Part No.
For flat receptacle 2.0 mm	plastic	31-928
For flat receptacle 2.8 mm	plastic	31-929
Cover plug-in terminals for snap-action switching element 2.8 mm	plastic	01-928

Terminal cover

Product attributes	Material	Part No.
For snap-action switching element	plastic	01-929

Side terminal plate empty

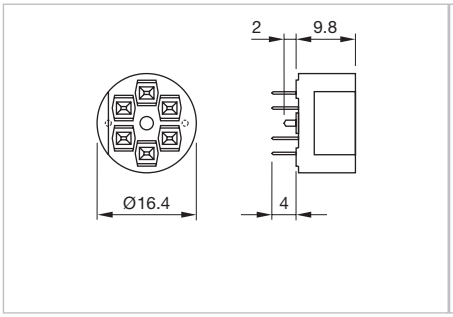
Product attributes	Dimensions	Part No.
5 spaces	62.5 mm x 15 mm x 60 mm	02-912.1
10 spaces	125 mm x 15 mm x 60 mm	02-912.2
15 spaces	187.6 mm x 15 mm x 60 mm	02-912.3
20 spaces	250 mm x 15 mm x 60 mm	02-912.4

PCB plug-in base

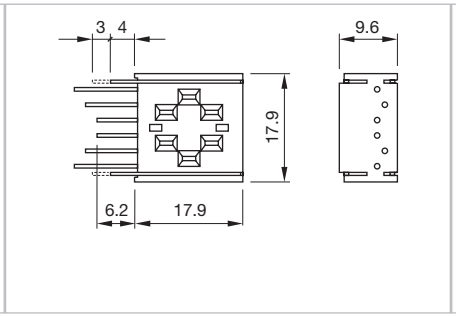
Product attributes	Terminal	Pins	Part No.	Component Layout
For low level switching element	PCB terminal	Axial	31-940	3
	PCB terminal	90° angled	31-941	2
For snap-action switching element 2.8 mm	PCB terminal	Axial	31-942	4

Additional information

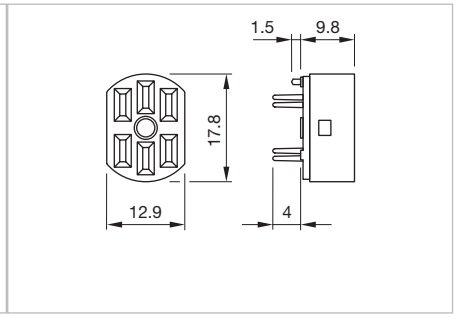
- PCB plug-in base pins right-angle: With the extendable mounting the distance between plug-in base and PCB can be varied up to 3 mm



Dimensions [mm]
for Part No. 31-940

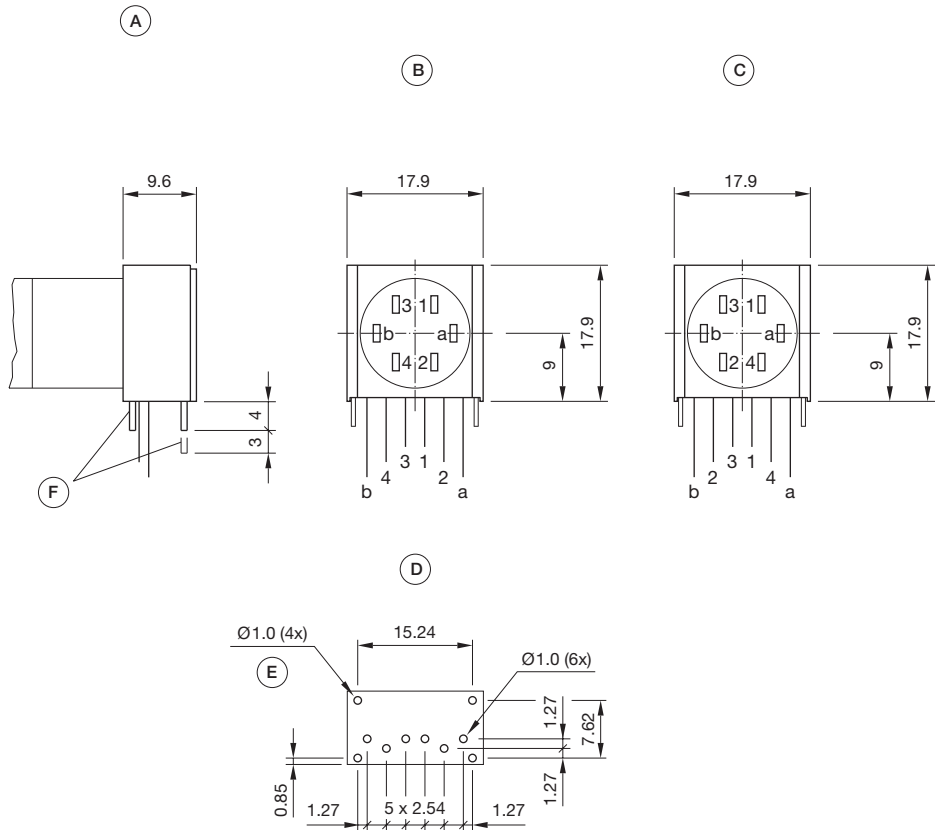


Dimensions [mm]
for Part No. 31-941



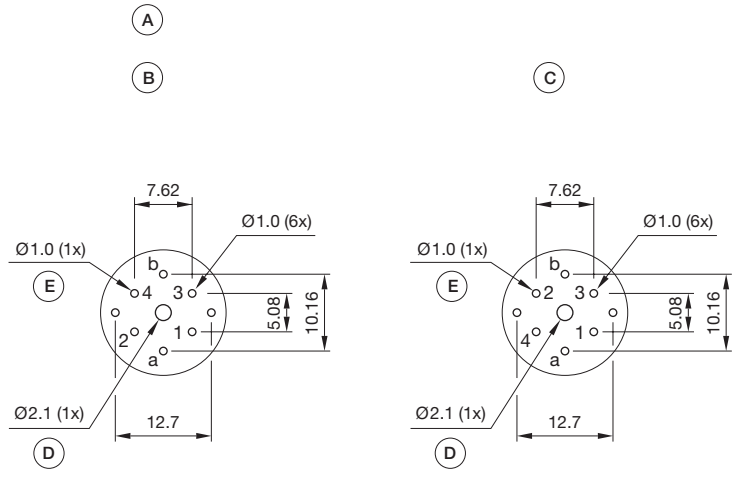
Dimensions [mm]
for Part No. 31-942

Component layouts



Component layout 2

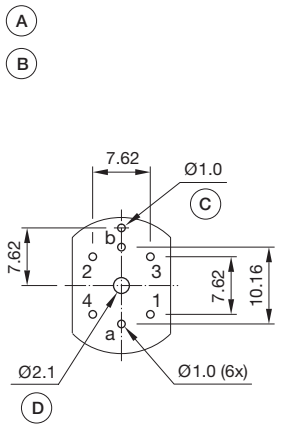
Dimensions [mm]
A = Socket 90° angled
B = Occupancy plan (component side)
C = Diode block
D = Drilling plan (component side)
E = Non-metallic
F = Extendable mounting pins



Component layout 3

Dimensions [mm]
A = Axial socket
B = Drilling-/occupancy plan (component side)
C = Diode block
D = For central mounting with M2 screw, if desired
E = Non-metallic

Component layouts



Component layout 4

Dimensions [mm]
A = Axial socket
B = Drilling-/occupancy plan (component side)
C = Non-metallic
D = For central mounting with M2 screw, if desired

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

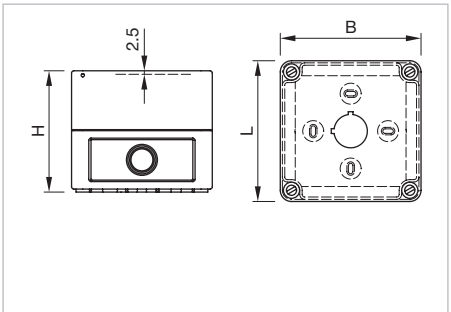
Additional information

- 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)

Mounting

Enclosure

Product attributes	Dimensions	Material	Colour	IP Protection	Part No.
With mounting cut-out 1 x Ø 22.5 mm, with anti-twist device	94 mm x 81 mm x 94 mm	plastic	Grey	IP66	704.945.1
With mounting cut-out 2 x Ø 22.3 mm, with anti-twist device	130 mm x 81 mm x 94 mm	plastic	Grey	IP66	704.945.2
With mounting cut-out 3 x Ø 22.3 mm, with anti-twist device	180 mm x 81 mm x 94 mm	plastic	Grey	IP66	704.945.3
With mounting cut-out 4 x Ø 22.3 mm, with anti-twist device	180 mm x 110 mm x 182 mm	plastic	Grey	IP66	704.945.4
With mounting cut-out 6 x Ø 22.3 mm, with anti-twist device	180 mm x 110 mm x 182 mm	plastic	Grey	IP66	704.945.5



Dimensions [mm]

Cable gland

Product attributes	Material	Colour	IP Protection	Thread	Part No.
With traction relief	plastic	Grey	IP68	M16 x 1.5 mm	61-9481.6
	plastic	Grey	IP68	M20 x 1.5 mm	704.945.6

Lens plug

Product attributes	Material	Part No.
For mounting and dismantling of the round lens, flush design	plastic	700.006.0

Lamp remover

Material	Part No.
Plastic	02-906

Additional information

- A switching action may occur when replacing the lamp

Positioning insert for anti-twist ring

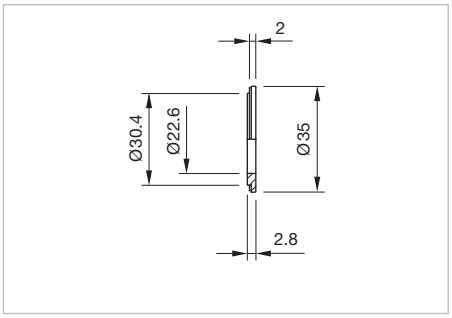
Material	Part No.
Plastic	14-910

Reducing ring

Material	Colour	Surface	Part No.
Aluminium	Black	anodised	704.960.0
	Nature	anodised	704.960.8

Additional information

- Devices Ø 22.3 mm in mounting cut-out Ø 30.5 mm
- The colour of anodised aluminium parts can vary due to technical production reasons



Dimensions [mm]

Actuator with snap-action switching element

Switching system

Self-cleaning, double-break, snap action switching system (with contact gap 2 mm x 0.5 mm).

1 normally closed or 1 normally open contact per element.

Snap-action switching elements with soldering terminals at the sides: up to 4 switching element can be on a pushbutton (max. 4 normally closed and 4 normally open contacts).

Snap-action switching element with axial plug-in terminals 2.8 mm stackable, only 1 switching element can be on a pushbutton.

Material

Material of contact
Gold plated silver

Switch housing
Plug-in-/soldering terminal Plastic
Heat-resistant and self-extinguishing
Soldering terminal Plastic

Actuator housing
Plastic

Mechanical characteristics

Terminals
Snap-action switching element with tinned soldering terminals at the sides:
Max. wire diameter 2 wires à 1.2 mm
Max. wire cross-section of stranded cable 1 x 1 mm²

Snap-action switching element with axial plug-in terminals, which can also be used as soldering terminals:
Plug-in terminal 2.8 mm x 0.5 mm

Soldering terminal:
Max. wire diameter 2 wires of 1 mm
Max. wire cross-section of stranded cable 2 x 0.75 mm² or 1 x 1.0 mm²

Tightening torque
For fixing nut max. 0.25 Nm

Actuating torque
0.025 Nm … 0.055 Nm, depending on the number of switching elements, measured at the key or lever of the keylock- or selector switch

Actuating force
Maintain 5 N … 8 N
Momentary 3 N … 6 N
depending on the number of switching elements

Actuating travel
Illuminated pushbutton approx. 3 mm

Switch actuator 2 positions
Momentary action 1 x ca. 42° deflection
Maintained action 1 x ca. 90° deflection

Mechanical lifetime
Momentary action 2 million cycles of operation
Maintained action 1 million cycles of operation

Electrical characteristics

Standards
The devices comply with EN IEC 61058-1

Rated voltage
250 VAC as per EN IEC 61058-1

Rated current
5 A

Electrostatic discharge (ESD)
Keylock switch 15 kV

Thermal current I_{th}
5 A

Switching voltage and switching current
250 VAC, 5 A (ohmic)
250 VAC, 2 A (inductive, cos(phi) = 0.7)
220 VDC, 0.1 A (inductive, L:R = 30 ms)
110 VDC, 0.2 A (inductive, L:R = 30 ms)
60 VDC, 0.7 A (inductive, L:R = 30 ms)
24 VDC, 2 A (inductive, L:R = 30 ms)

Electric strength
3000 VAC, 50 Hz, 1 minute between all terminals and earth, as per EN IEC 61058-1

Protection class
II

Electrical life
50 000 cycles of operation

Ambient conditions

Storage temperature
–40 °C … +85 °C

Service temperature
–25 °C … +55 °C
For indicators and illuminated pushbuttons mounted as a block, make sure the heat can escape freely.

14 Technical data

Protection degree
As per DIN EN 60529
IP67 front side, Indicator
IP67 front side, Illuminated pushbutton
IP67 front side, Mushroom-head pushbutton
IP67 front side, Selector switch
IP65 front side, Keylock switch

Shock resistance
(semi-sinusoidal)
Max. 150 m/s², pulse width 11 ms, 3-axis, as per DIN EN 60068-2-27

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

Climate resistance
Damp heat state as per DIN EN 60068-2-78
Damp heat cyclic as per DIN EN 60068-2-30

Approvals

Approbations
CB (IEC 61058-1)
CSA
CQC
ENEC (EN 61058-1)
DNV GL (previously Germanischer Lloyd)
UL

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

Actuator with low level switching element

Switching system

This low level switching element was designed for switching low powers in electronic circuits. The mechanism assures reliable switching of loads ranging from a few µA/µV up to 100 mA/ 42 VAC/DC.

Single-break momentary contact, as normally open or normally closed with 4 independent points of contact. 2 momentary contacts per switching element; combination of normally open and normally closed is possible. Special features are the long life, extremely short rebound time and stable contact resistance.

Material

Material of contact
Gold plated

Switch housing
Plastic, heat-resistant and self-extinguishing

Actuator housing
Plastic

Mechanical characteristics

Terminals
The universal terminals permit these units to be mounted on printed circuit boards (PCB). These terminals can also be used as soldering or plug-in terminals.

For these terminals we can also supply a plug-in base which, when soldered on to the board, enables the switch to be plugged in.

Soldering terminal
Max. wire diameter 2 wires of 1 mm
Max. wire cross-section of stranded cable 2 x 0.75 mm²

Plug-in terminal 2.0 mm x 0.5 mm

Tightening torque
For fixing nut max. 0.25 Nm

Actuating torque
0.025 Nm … 0.055 Nm, depending on the number of switching elements, measured at the key or lever of the keylock- or selector switch

Actuating force
3 … 4 N, depending on the number of switching elements

Actuating travel
Illuminated pushbutton: approx. 3 mm

Switch actuator 2 positions
Momentary action 1 x ca. 42° deflection momentary action
Maintained action 1 x ca. 90° deflection maintained action

Mechanical lifetime
Momentary action 5 million cycles of operation
Maintained action 1 million cycles of operation

Electrical characteristics

Electrostatic discharge (ESD)
Keylock switch 15 kV

Switching voltage and switching current
100 mA at 42 VAC / VDC

Electric strength
3000 VAC, 50 Hz, 1 min. between all terminals and earth, as per EN IEC 61058-1-15

Protection class
II

Ambient conditions

Storage temperature
–40 °C … +85 °C

Service temperature
–25 °C … +55 °C
For indicators and illuminated pushbuttons mounted as a block, make sure the heat can escape freely.

Protection degree
As per EN IEC 60529
IP67 front side, Indicator
IP67 front side, Illuminated pushbutton
IP67 front side, Mushroom-head pushbutton
IP67 front side, Selector switch
IP65 front side, Keylock switch

Shock resistance
(semi-sinusoidal)
Max. 150 m/s², pulse width 11 ms, 3-axis, as per DIN EN 60068-2-27

Approvals

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

Buzzer

Buzzer

System
Piezo disc

Material

Buzzer case
Plastic

Front cap
Flush design
Aluminium black anodised
Aluminium natural anodised

Raised design
Plastic
Metal = nickel-plated brass (sea-water proof)

Mechanical characteristics

Terminals
Plug-in terminal 2.8 mm x 0.5 mm

Tightening torque
For fixing nut max. 0.25 Nm

Acoustic characteristics

Frequency (tone)
Approx. 2.8 kHz continuous tone only

Sound pressure
95 db (A) ±8 dB at a distance of 0.1 m

Electrical characteristics

Operation Voltage/Current
Operation Voltage 24 VDC ±10 %
Operation Current ≤25 mA

Ambient conditions

Storage temperature
–40 °C … +85 °C

Operating temperature
–25 °C … +55 °C

Protection degree
As per EN IEC 60529
IP65 front side, Buzzer

14 Technical data

Approvals

Approbations
CQC
EMC

Conformities
CE
2014/30/EC (EMC)
2011/65/EC (RoHS)

Indicator compact

Material

Lens cap
Plastic

Housing
Plastic

Mechanical characteristics

Terminals
PIT push-in terminal
Skinning 8 mm
Wire cross-section:
Wire 0.2 to 1.0 mm²
Stranded wire 0.2 to 1.0 mm² without core and sleeve
Stranded wire 0.2 to 0.75 mm² with core and sleeve

Tightening torque
For fixing nut min. 0.8 Nm

Protection degree
As per EN IEC 60529
IP65, IP67, IP69K front side
IP20 rear side

Shock resistance
(semi-sinusoidal)
Max. 300 m/s², puls width 18 ms, 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

Electrical characteristics

Operation Voltage
24 VAC/DC (14…32 VAC/DC)

Operating current
< 50 mA

lifetime
50 000 h

Ambient conditions

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

Rapid temperature changes
5 cycles, –40 °C to +85 °C, as per EN 60068-2-14

Operating temperature
–25 °C … +60 °C

Storage temperature
–40 °C … +85 °C

Approvals

Approbations
UL

Declaration of conformity
CE

EAO reserves the right to alter specifications without further notice.

General notes

1. Engraving

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

2. Hot stamping

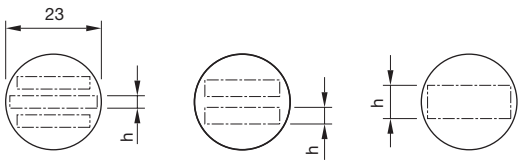
For larger series it is worth considering markings by means of hot stamping. We will pleased to advise you. For letters and figures, typefaces with 2.5 mm, 3 mm and 4 mm are available.

Engraving marking cap for Indicator round, full face illumination

All dimensions in mm

Height of text cap	Height of letters h	Number of lines	Number of capital letters per line (guide value)	Number of lowercase letters per line (guide value)	Picture
Text cap (Ø 23)	3	3	8-9	9-10	B1
	4	3	5-7	6-8	B1
	8	3	–	–	B1
	3	2	8	9	B2
	4	2	5	6	B2
	8	2	2	2	B2
	3	1	9	10	B3
	4	1	7	8	B3
	8	1	3	3-4	B3

B1 B2 B3



The gap between two words results in each case a letter less.

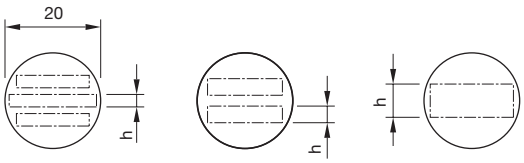
14 Marking

Engraving marking plate for Indicator and illuminated Pushbutton round, front illumination

All dimensions in mm

Height of marking plate	Height of letters h	Number of lines	Number of capital letters per line (guide value)	Number of lowercase letters per line (guide value)	Picture
Marking plate (Ø 20)	3	3	6-8	7-9	B1
	4	3	5-6	6-7	B1
	8	3	–	–	B1
	3	2	6	7	B2
	4	2	5	6	B2
	8	2	1	2	B2
	3	1	8	9	B3
	4	1	6	7	B3
	8	1	3	3	B3

B1 B2 B3



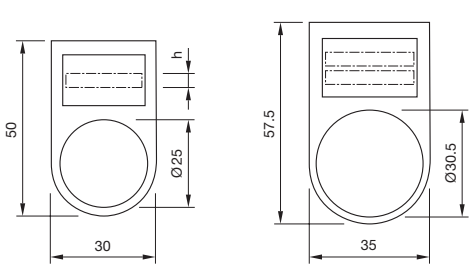
The gap between two words results in each case a letter less.

Engraving diffusor cap for Indicator square, full face illumination

All dimensions in mm

Dimension	Devices mounting style	Height of letters	Number of lines	Number of capital letters per line (guide value)	Number of lowercase letters per line (guide value)	Picture
30 x 50	round, raised	3	2	10	11	B1
30 x 50	round, raised	4	1	7	8	B1
30 x 50	round, raised	8	1	3	4	B1
35 x 57.5	round, flush	3	2	10	11	B2
35 x 57.5	round, flush	4	1	7	8	B2
35 x 57.5	round, flush	8	1	3	4	B2

B1 B2



The gap between two words results in each case a letter less.

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

Height of letters 6 mm

I Part No. 704.609.912001	II Part No. 704.609.912002	III Part No. 704.609.912003	O Part No. 704.609.912004
EIN Part No. 704.609.912005	AUS Part No. 704.609.912006	AUF Part No. 704.609.912007	AB Part No. 704.609.912008
START Part No. 704.609.912009	STOP Part No. 704.609.912010	HAND Part No. 704.609.912011	AUTO Part No. 704.609.912012
ZU Part No. 704.609.912013	ON Part No. 704.609.912014	OFF Part No. 704.609.912015	ARRET Part No. 704.609.912016
MARCHE Part No. 704.609.912017	RESET Part No. 704.609.912018		

14 Marking

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

All marking plates with the printed article-numbers are available for flat lenses, marking cap only on request.

Part No. 704.609.910001 Direction of linear rectilinear motion (also for ⭢ ⇅)	Part No. 704.609.910002 Linear motion in 2 directions (also for ↕)	Part No. 704.609.910004 Limited linear motion (also for ⭠ ⇅)	Part No. 704.609.910007 Direction of continuous rotation (right)
Part No. 704.609.9100071 Direction of continuous rotation (left)	Part No. 704.609.910008 Rotation in 2 directions	Part No. 704.609.910009 Direction of interrupted rotation (right)	Part No. 704.609.910010 Limited rotation (right)
Part No. 704.609.9100101 Limited rotation (left)	Part No. 704.609.910013 Direction of spindle rotation	Part No. 704.609.910026 Rapid traverse	Part No. 704.609.910028 Increase of value (speed, for instance)
Part No. 704.609.910029 Decrease of value (speed, for instance)	Part No. 704.609.910041 Electric motor	Part No. 704.609.910048 Pump (general symbol)	Part No. 704.609.9100631 Lock or tighten
Part No. 704.609.9100632 Lock or tighten	Part No. 704.609.9100641 Unlock, unclamp	Part No. 704.609.9100642 Unlock, unclamp	Part No. 704.609.910065 Brake on
Part No. 704.609.910066 Brake off	Part No. 704.609.910067 Automatic (or semi-automatic) cycle	Part No. 704.609.910068 Hand control	Part No. 704.609.910069 Start, on
Part No. 704.609.910070 Stop, off	Part No. 704.609.910071 Start and stop with same button	Part No. 704.609.910072 In action as long as button is operated	Part No. 704.609.910074 Engaging (mechanical start)
Part No. 704.609.910075 Disengaging (mechanical stop)	Part No. 704.609.910092 Danger (high voltage)!	Part No. 704.609.910093 Caution!	Part No. 704.609.910101 Coolant fluid
Part No. 704.609.910102 Machine lighting	Part No. 704.609.910108 Blast		

Suppressor circuits

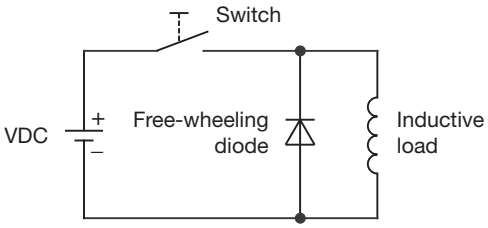
When switching inductive loads such as relays, DC motors, and DC solenoids, it is always important to absorb surges (e. g. with a diode) to protect the contacts. When these inductive loads are switched off, a counter emf can severely damage switch contacts and greatly shorten lifetime.

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.

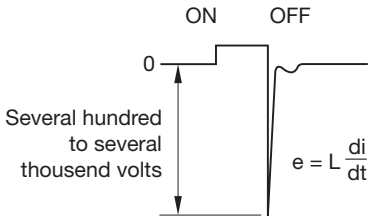
The free-wheeling diode should be chosen so that the reverse breakdown voltage is greater than the voltage driving the inductive load. The DC blocking voltage (VR) of the free-wheeling diode can be found in the datasheet of a diode. The forward current should be equal or greater than the maximum current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

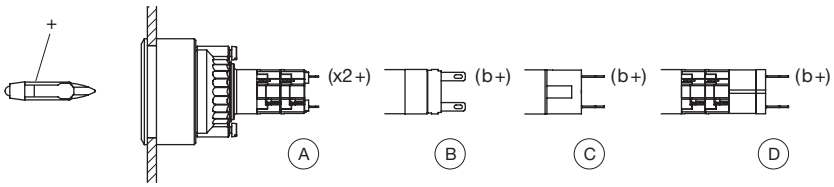


Counter EMF
over load without free-wheeling diode
Fig. 2



LED polarity

When fitting the LED element the polarity has to correspond with the respective terminal, (+) goes to +.



A = Solder terminal
B = Plug-in terminal 2.8 mm x 0.5 mm
C = Universal terminal 2.0 mm x 0.5 mm
D = Universal/Solder terminal

TecnelSystem S.p.A.

equipaggiamenti elettrici industriali

UNI EN ISO9001:2015
Nr. 9101.TNLS

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