

## Series 14

*Attractive. Compact. Reliable.*

<https://eao.com/14>



# 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 feedback

## 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

## Rating

- 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)



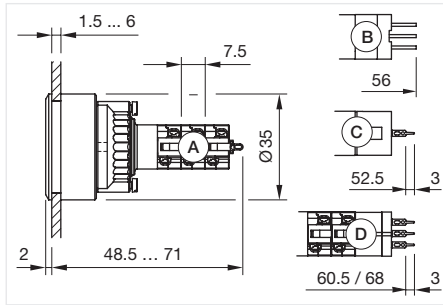
<b>Flush design</b>		
Illuminated pushbutton	282	01
Mushroom-head pushbutton	285	02
Mushroom-head pushbutton illuminated	288	03
Selector switch 2 positions	291	04
Keylock switch 2 positions	294	09
Indicator	297	14
Buzzer	299	17
<b>Raised design</b>		18
Illuminated pushbutton	300	19
Mushroom-head pushbutton	303	22
Mushroom-head pushbutton illuminated	306	31
Selector switch 2 positions	309	41
Keylock switch 2 positions	312	45
Indicator compact	315	51
Indicator full-face illumination	316	56
Indicator front illumination	318	57
Buzzer	320	61
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<b>Technical data</b>	335	82
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# 14 Flush design

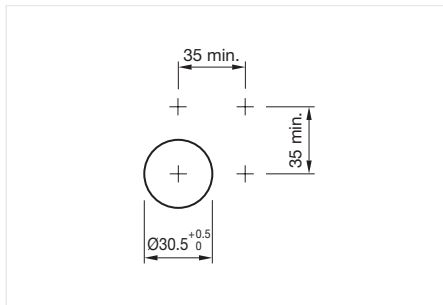
## Illuminated pushbutton, IP67



Product can differ from the current configuration.

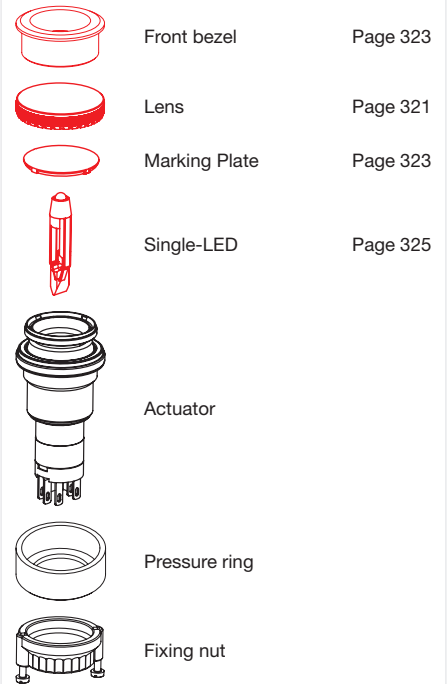


Dimensions [mm]  
 A = Solder terminal  
 B = Plug-in terminal 2.8 x 0.5 mm  
 C = Universal terminal 2.0 mm x 0.5 mm  
 Universal-Solder terminal



Mounting cut-outs [mm]

### Equipment consisting of (schematic overview)



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

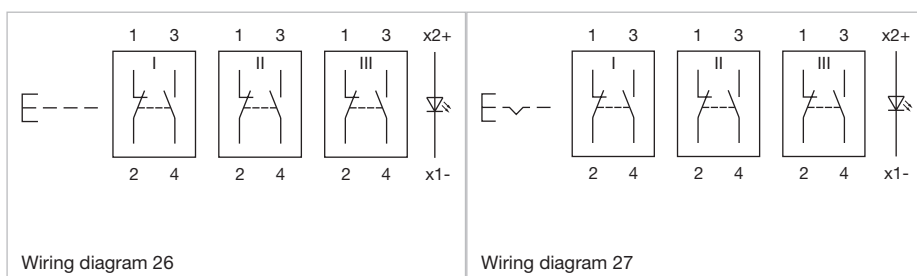
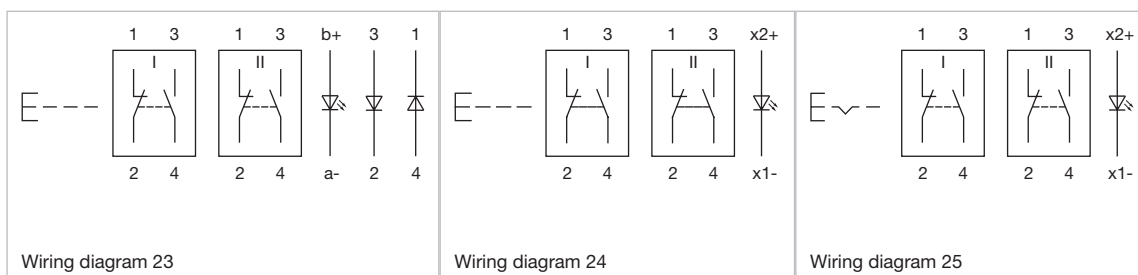
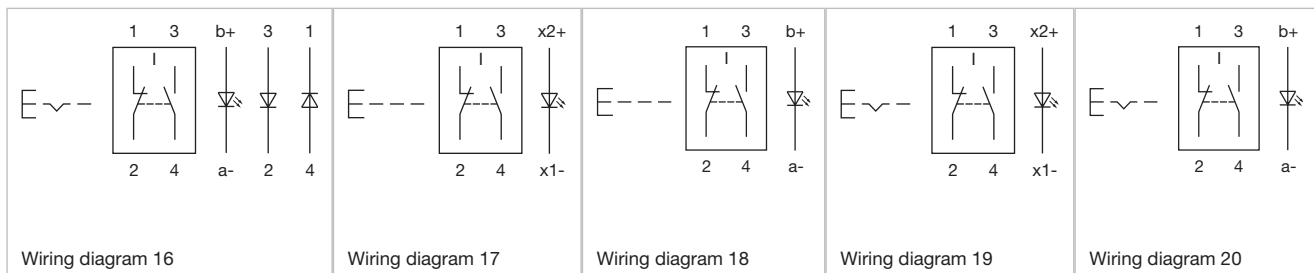
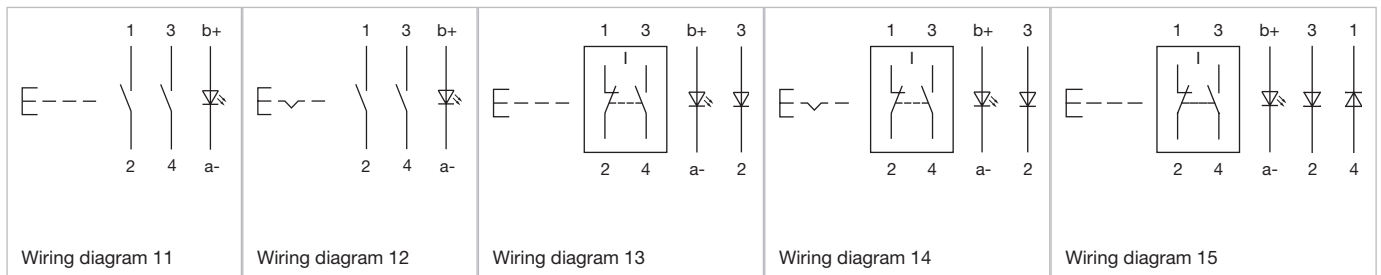
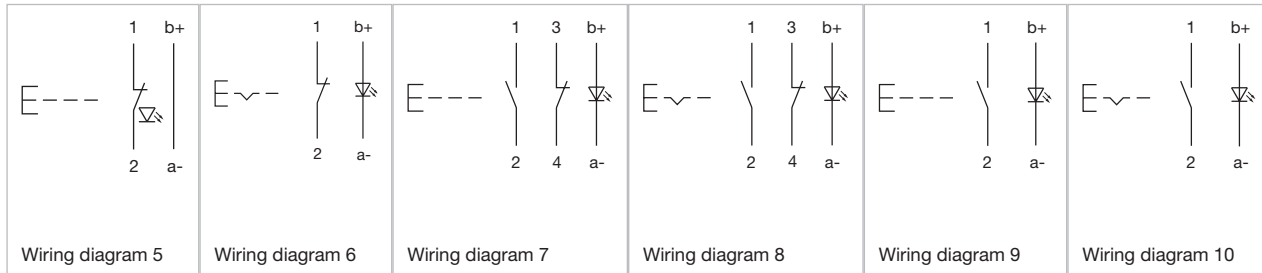
Switching action	Terminal	Switching system	Contacts	Diode 1N4007	Part No.	Wiring diagram	Component Layout
Momentary	Plug-in terminal	Snap-action switching element	1 NC / 1 NO		14-131.022	18	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO		14-131.0252	17	
	Soldering terminal	Snap-action 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

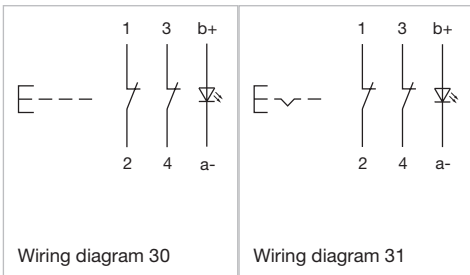
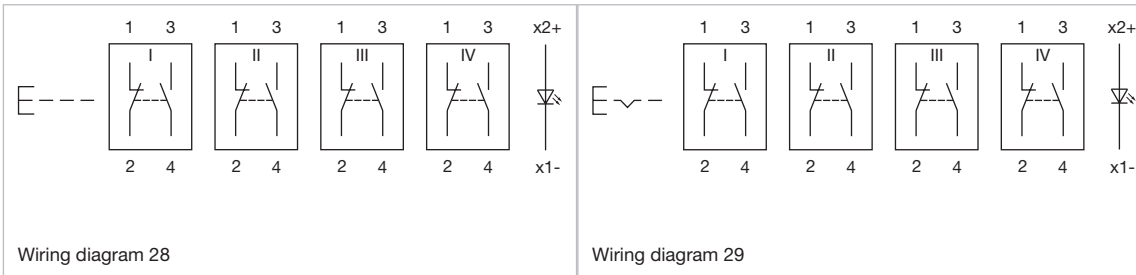
Contacts: NC = Normally closed, NO = Normally open

## Wiring diagrams

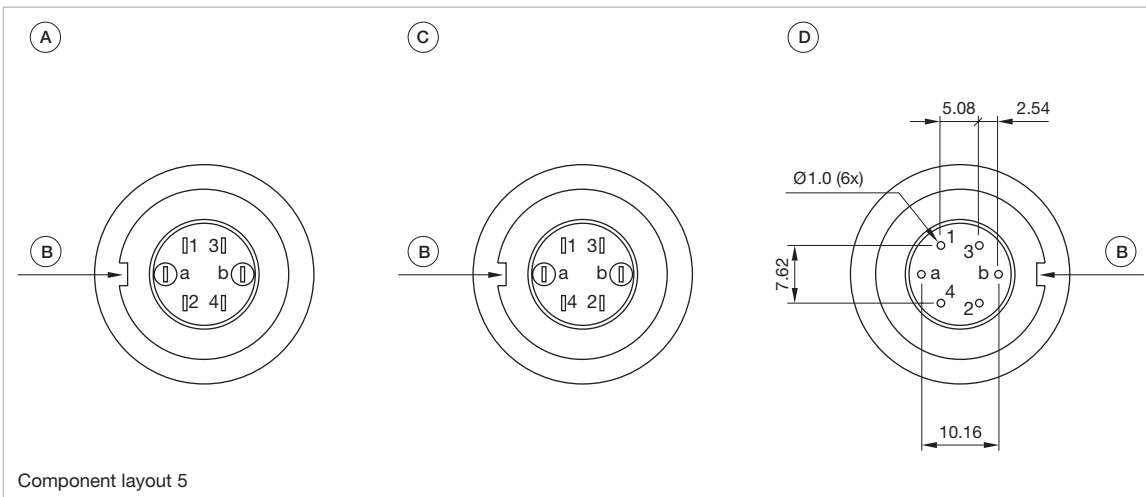


# 14 Flush design

## Wiring diagrams



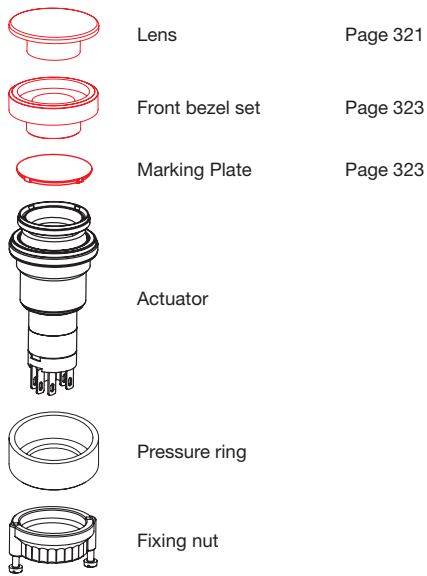
## Component layouts



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

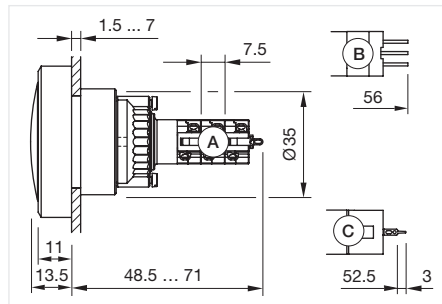
## Mushroom-head pushbutton, IP67

### Equipment consisting of (schematic overview)



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

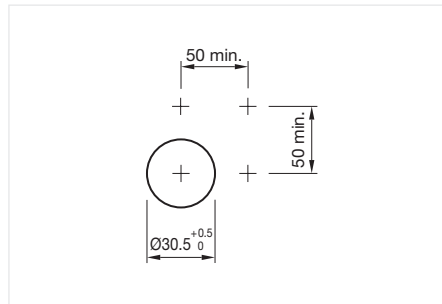
To obtain a complete unit, please select the red components from the pages shown.



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



Product can differ from the current configuration.



Mounting cut-outs [mm]



### Actuator, Front dimension Ø 35 mm

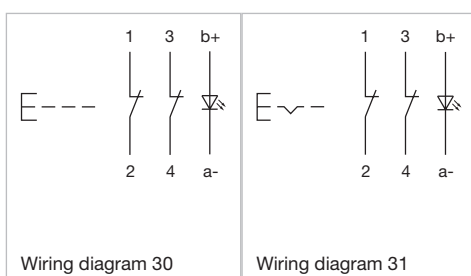
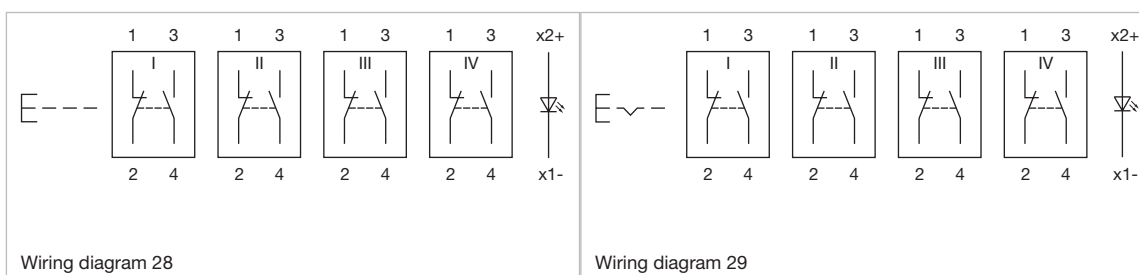
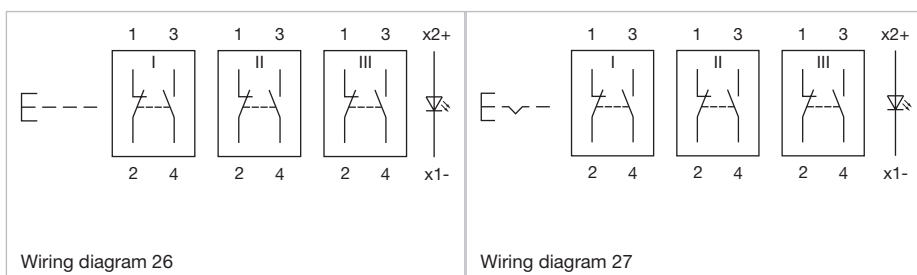
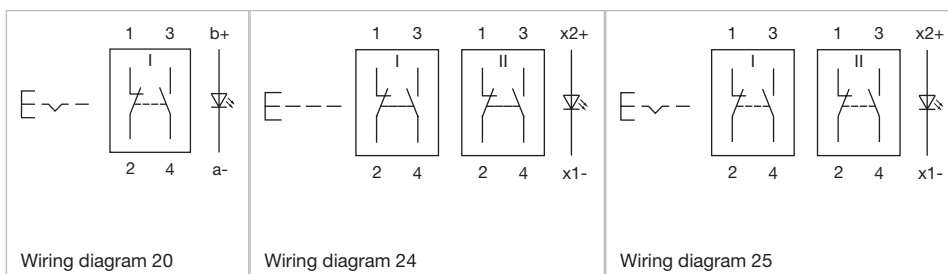
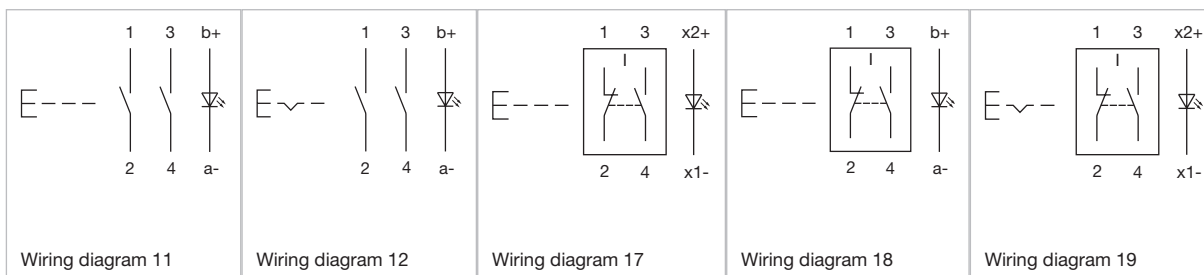
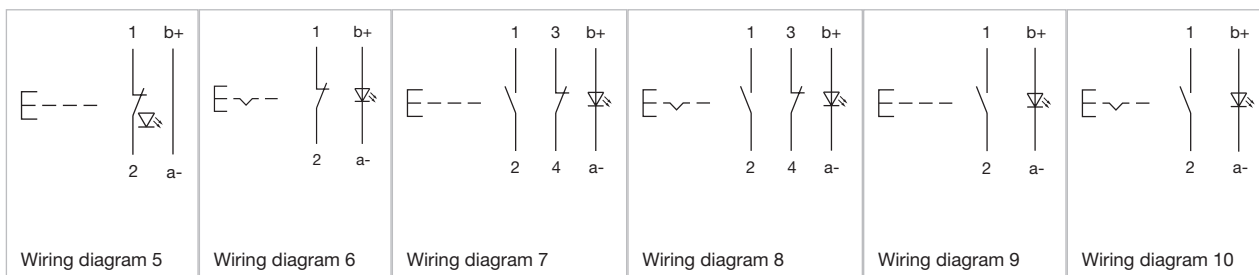
Switching action	Terminal	Switching system	Contacts	Part No.	Wiring diagram	Component Layout
Momentary	Plug-in terminal	Snap-action switching element	1 NC / 1 NO	14-131.022	18	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	14-131.0252	17	
	Soldering terminal	Snap-action switching element	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

01  
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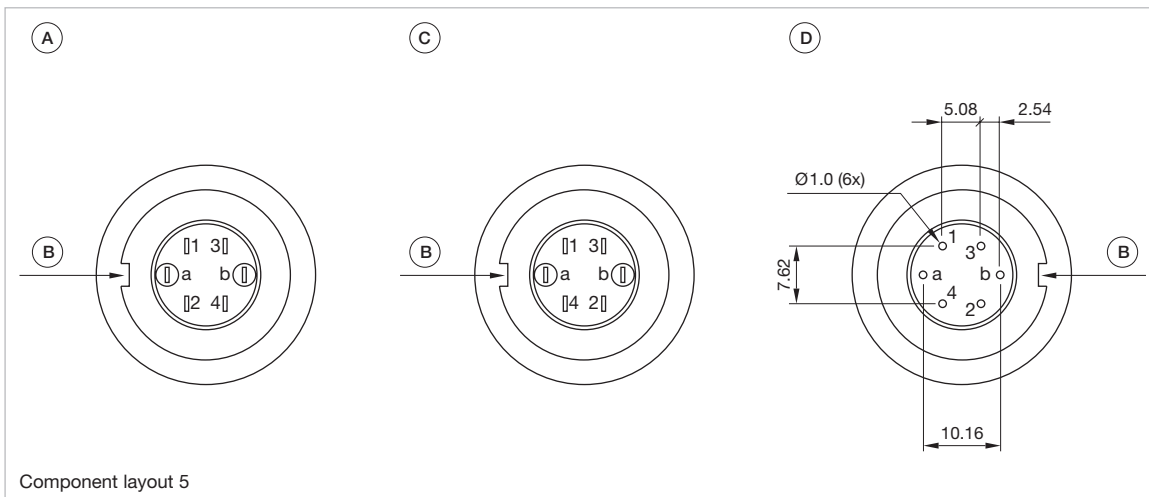
# 14 Flush design

## Wiring diagrams






## Component layouts





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

01  
02  
03  
04  
09  
14  
17  
18  
19  
22



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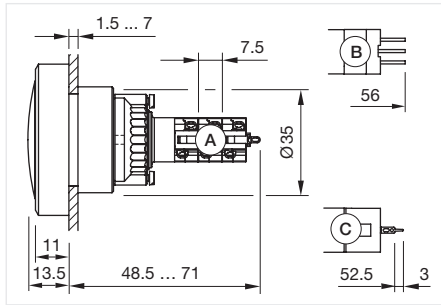
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# 14 Flush design

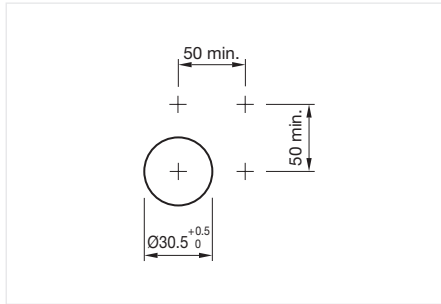
## Mushroom-head pushbutton illuminated, IP67



Product can differ from the current configuration.

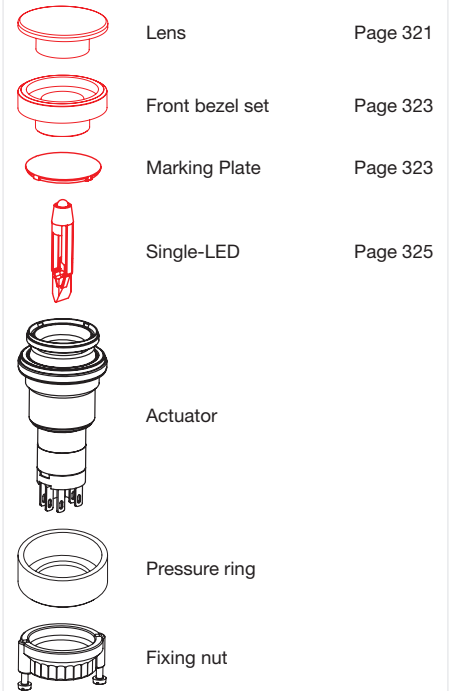


Dimensions [mm]  
 A = Solder terminal  
 B = Plug-in terminal 2.8 mm x 0.5 mm  
 C = Universal terminal 2.0 mm x 0.5 mm



Mounting cut-outs [mm]

### Equipment consisting of (schematic overview)



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

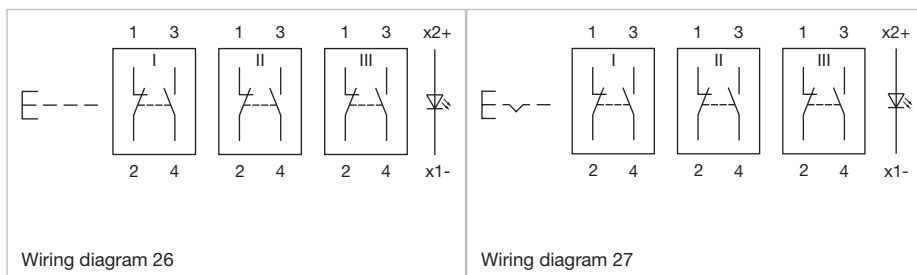
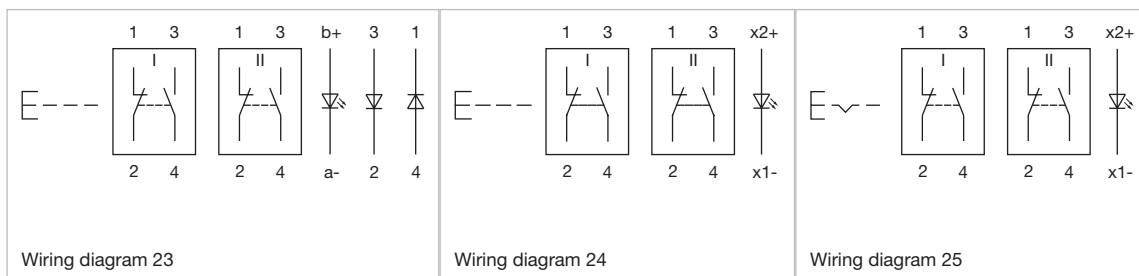
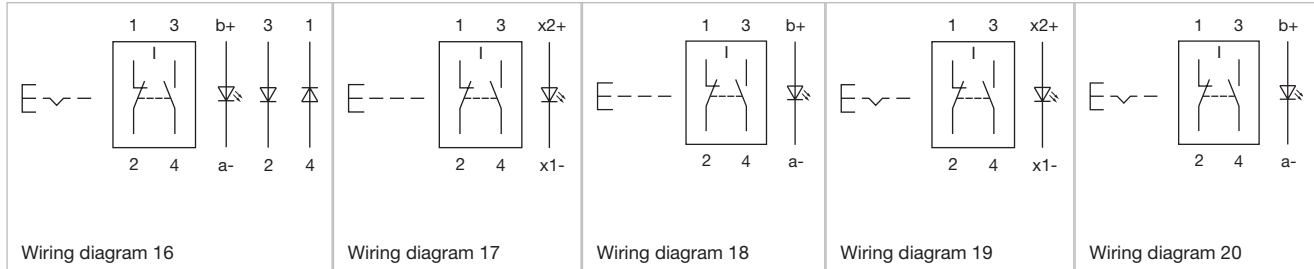
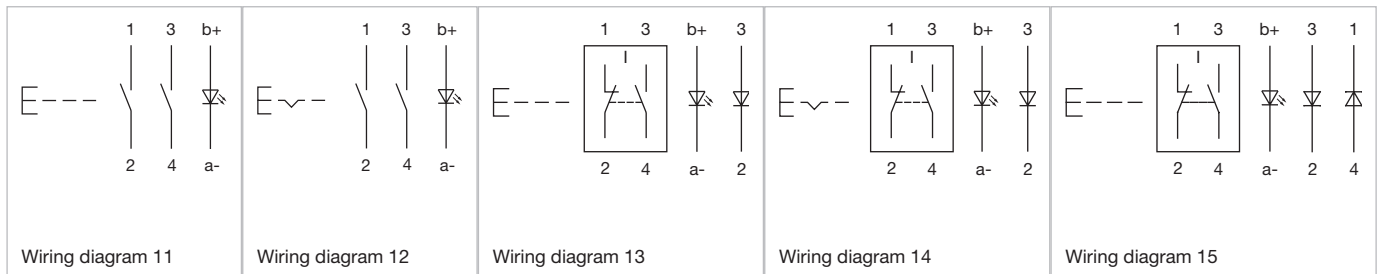
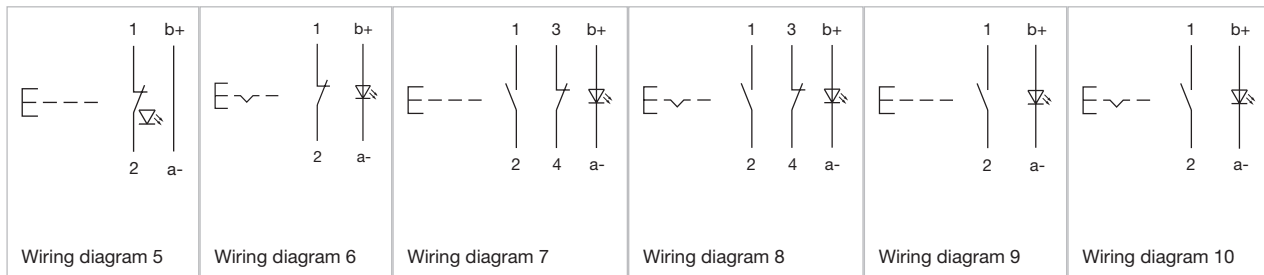
Switching action	Terminal	Switching system	Contacts	Diode 1N4007	Part No.	Wiring diagram	Component Layout
Momentary	Plug-in terminal	Snap-action switching element	1 NC / 1 NO		14-131.022	18	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO		14-131.0252	17	
	Soldering terminal	Snap-action 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

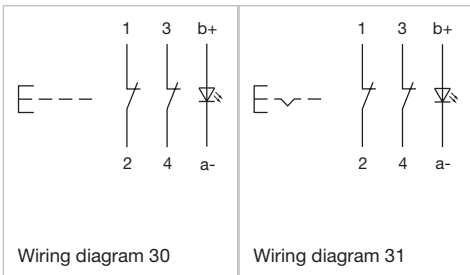
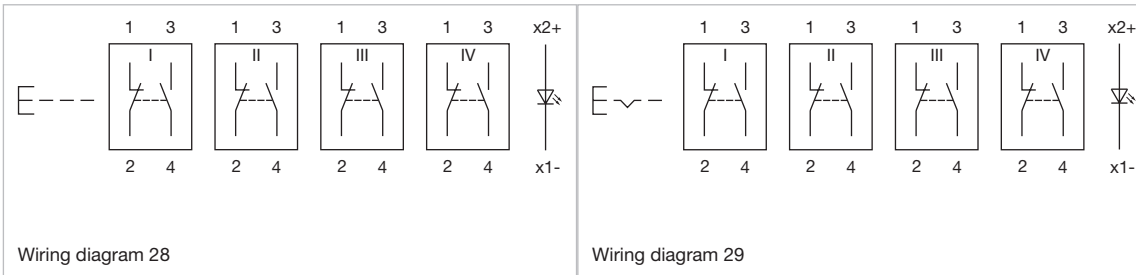
Contacts: NC = Normally closed, NO = Normally open

## Wiring diagrams

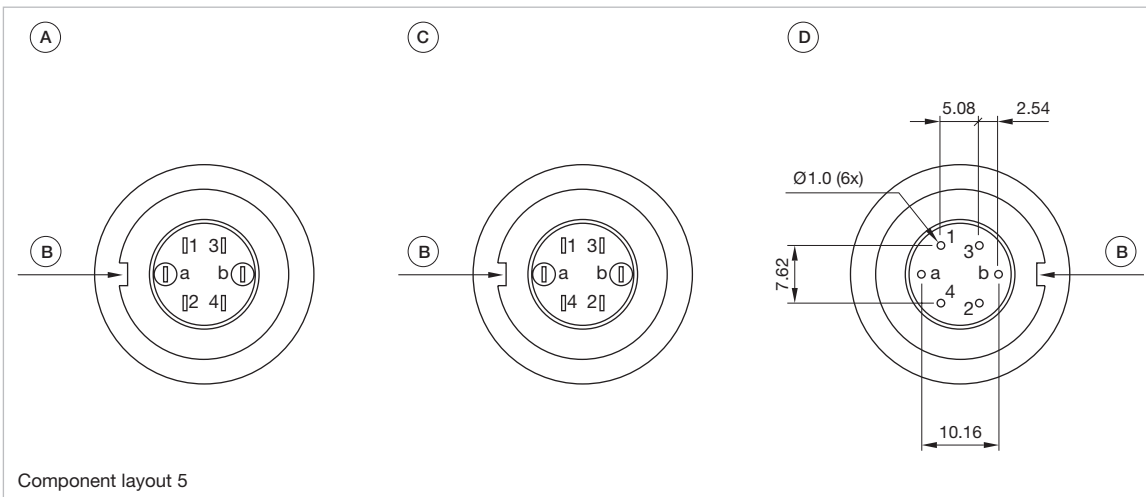


# 14 Flush design

## Wiring diagrams



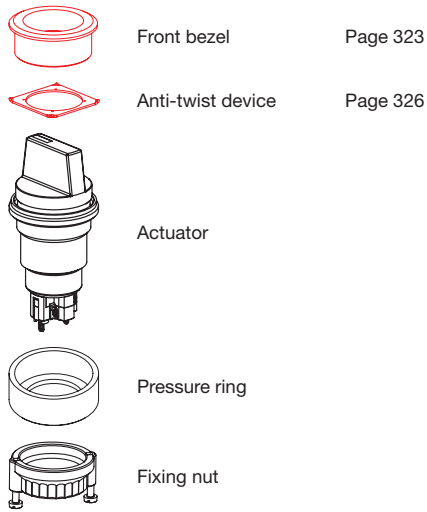
## Component layouts



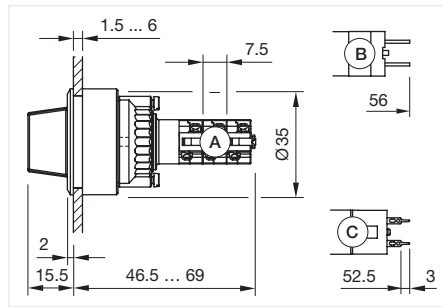
Dimensions [mm]  
 A = Terminals (rear side)  
 B = Anti twist device  
 C = Diode block  
 D = Drilling plan (component side)

## Selector switch 2 positions, IP67

### Equipment consisting of (schematic overview)



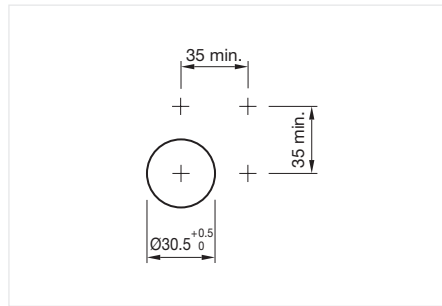
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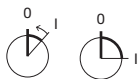
Dimensions [mm]  
A = Solder terminal  
B = Plug-in terminal 2.8 x 0.5 mm  
C = Universal terminal 2.0 mm x 0.5 mm



Product can differ from the current configuration.



Mounting cut-outs [mm]



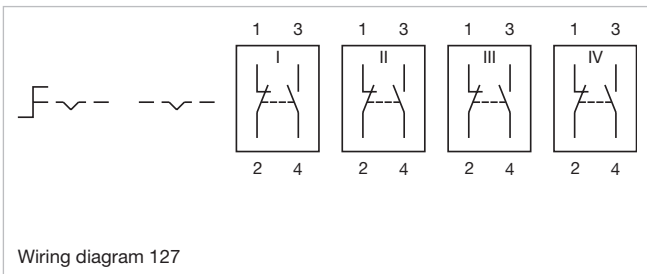
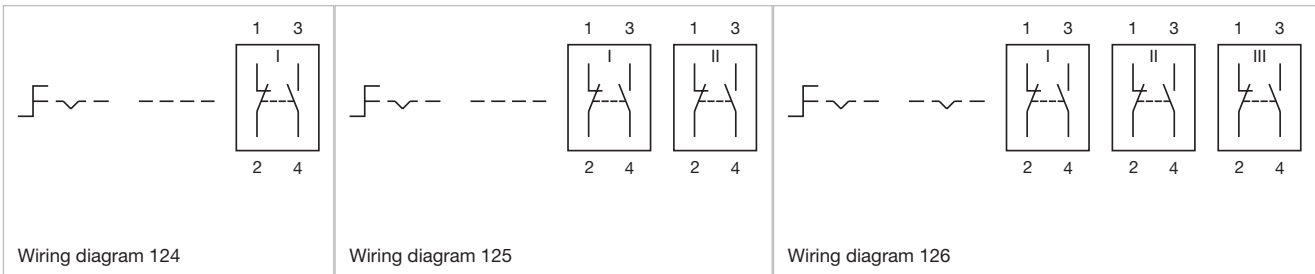
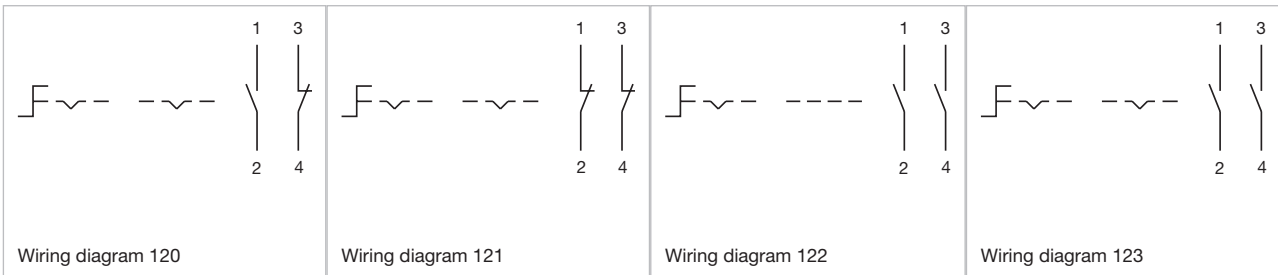
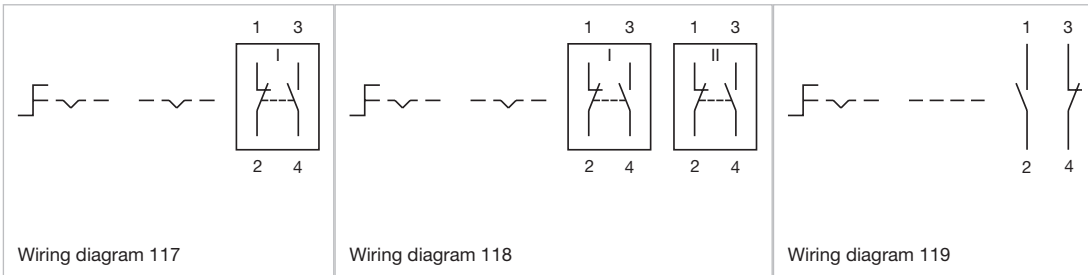
### Actuator, Front dimension Ø 35 mm

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

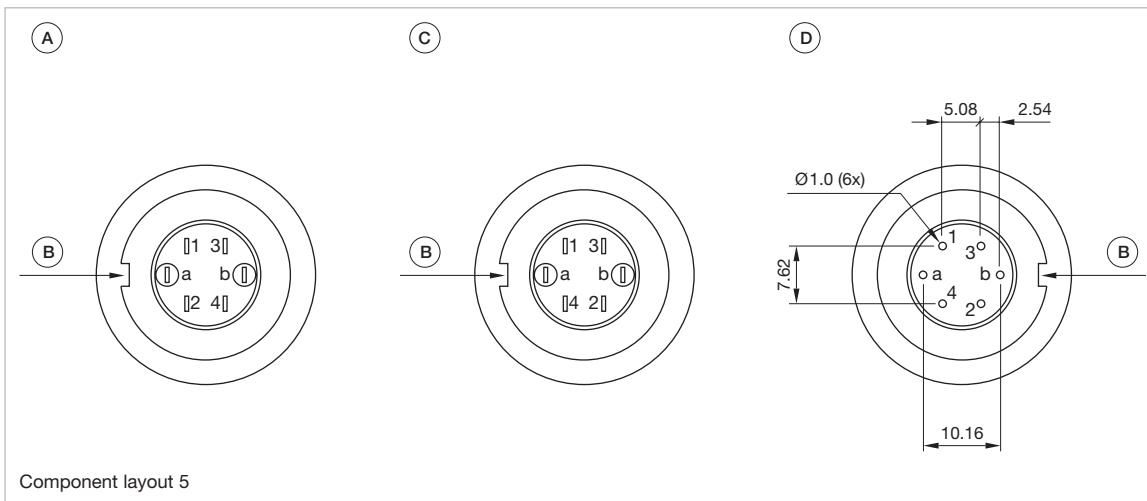
Contacts: NC = Normally closed, NO = Normally open

# 14 Flush design

## Wiring diagrams



## Component layouts



Component layout 5

Dimensions [mm]

A = Terminals (rear side)

B = Anti twist device

C = Diode block

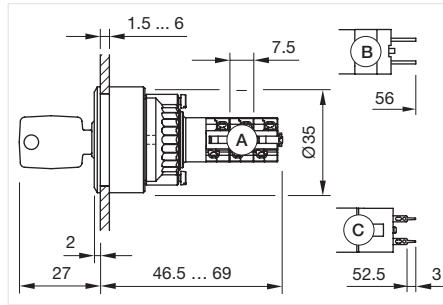
D = Drilling plan (component side)

# 14 Flush design

## Keylock switch 2 positions, IP65



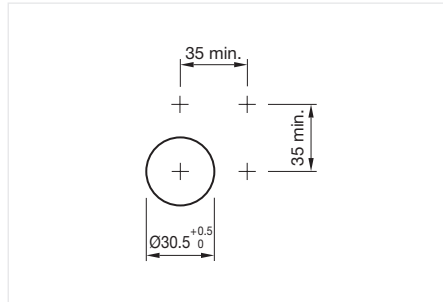
Product can differ from the current configuration.



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

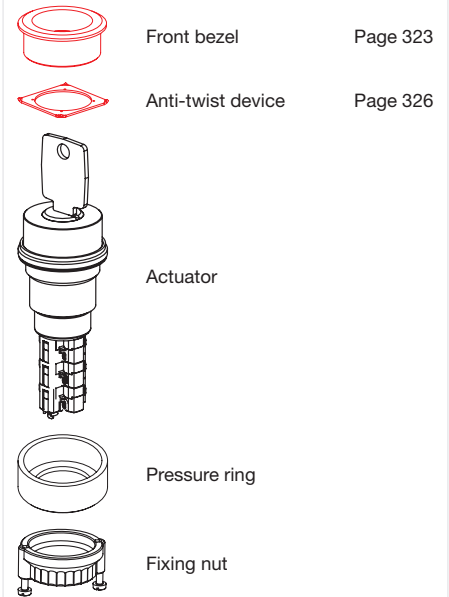
### General information

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



Mounting cut-outs [mm]

### Equipment consisting of (schematic overview)



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  $\varnothing$  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

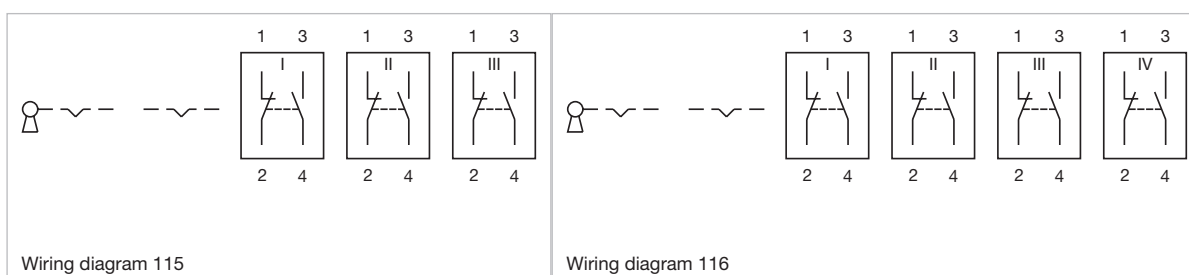
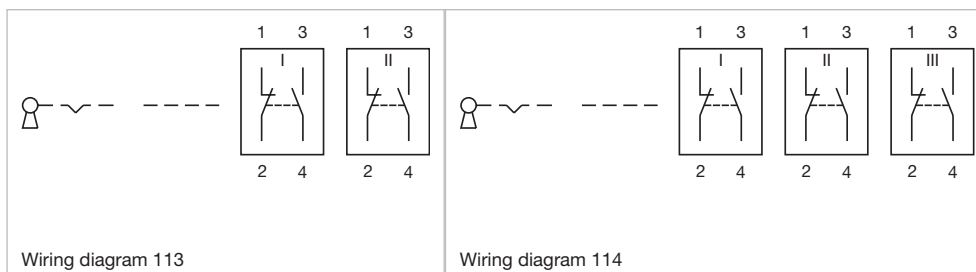
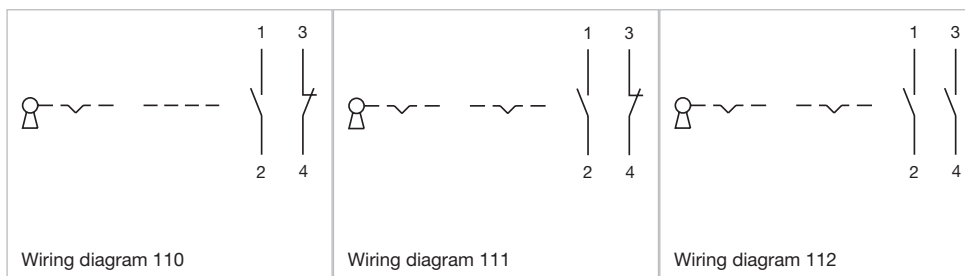
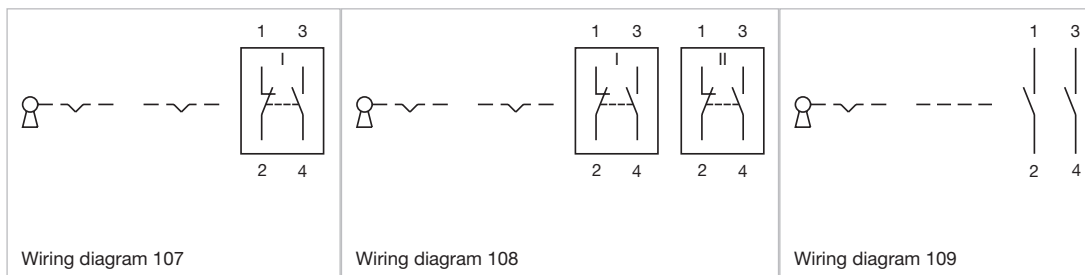
Contacts: NC = Normally closed, NO = Normally open  
 a = Key remove



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

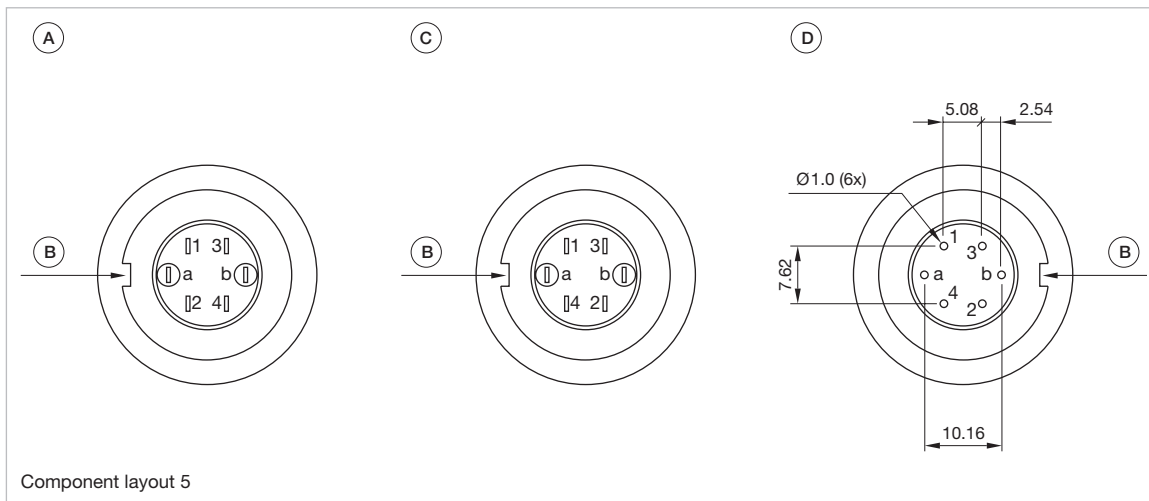
Contacts: NC = Normally closed, NO = Normally open  
a = Key remove

## Wiring diagrams



# 14 Flush design

## Component layouts



Dimensions [mm]

A = Terminals (rear side)

B = Anti twist device

C = Diode block

D = Drilling plan (component side)



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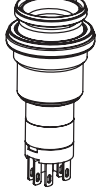


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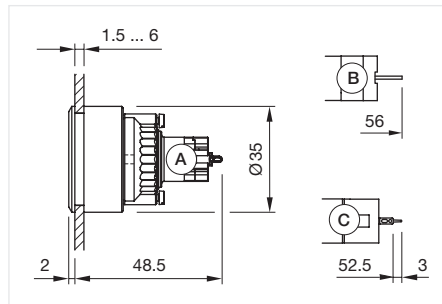
## Indicator, IP67

### 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.

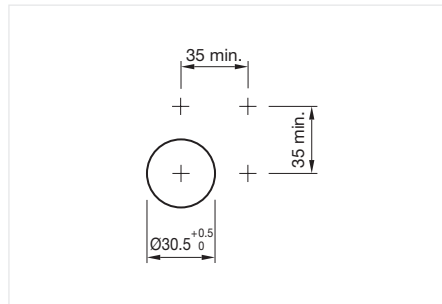
To obtain a complete unit, please select the red components from the pages shown.



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



Product can differ from the current configuration.



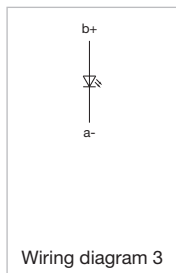
Mounting cut-outs [mm]



Actuator, Front dimension Ø 35 mm

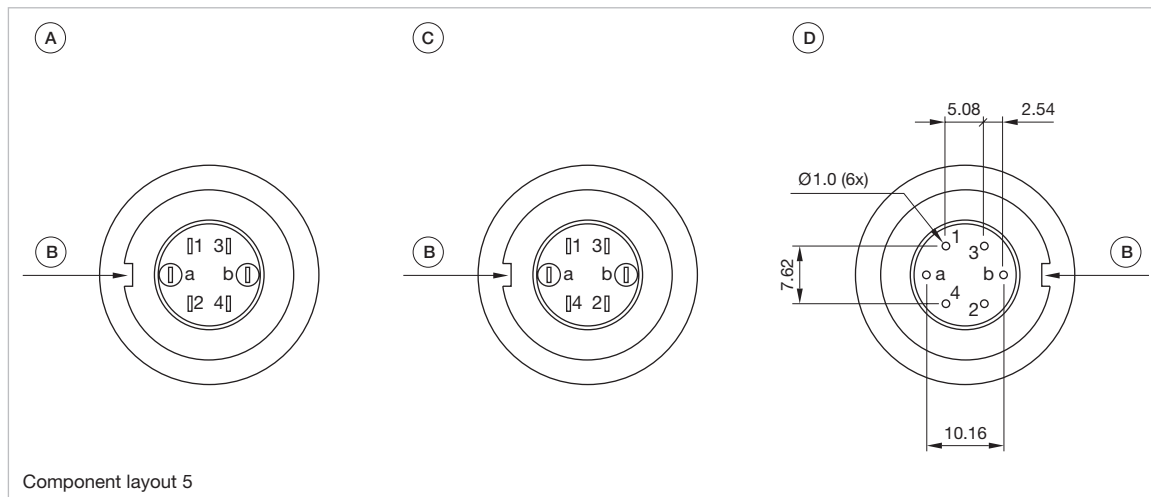
Terminal	Part No.	Wiring diagram	Component Layout
Plug-in terminal	14-040.002	3	
Soldering terminal	14-040.005	3	
Universal terminal	14-041.006	3	5

## Wiring diagrams



# 14 Flush design

## Component layouts



Dimensions [mm]

A = Terminals (rear side)

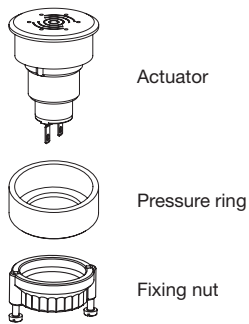
B = Anti twist device

C = Diode block

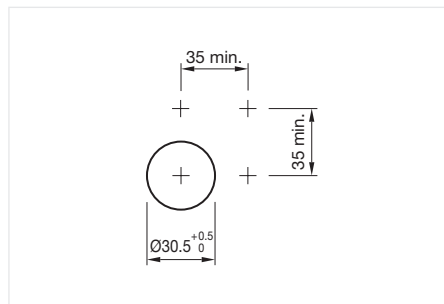
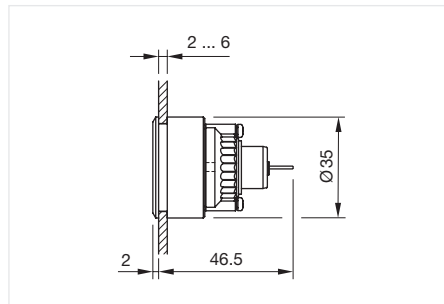
D = Drilling plan (component side)

## Buzzer, IP40

### Equipment consisting of (schematic overview)



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



### General information

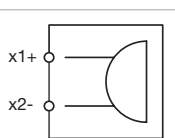
- For PCB application use adaptor Part-No. 31-942
- The colour of anodised aluminium parts can vary due to technical production reasons



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



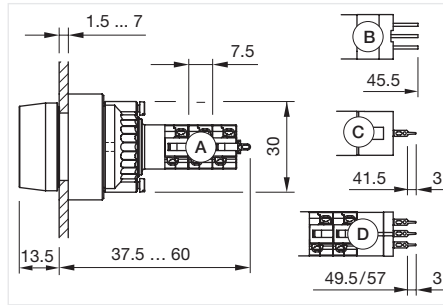
Wiring diagram 71

# 14 Raised design

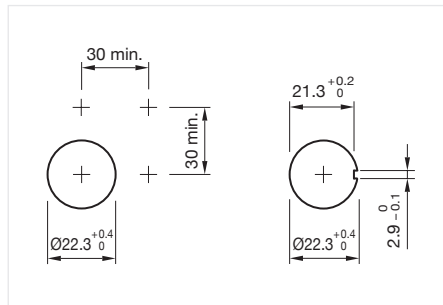
## Illuminated pushbutton, IP67



Product can differ from the current configuration.

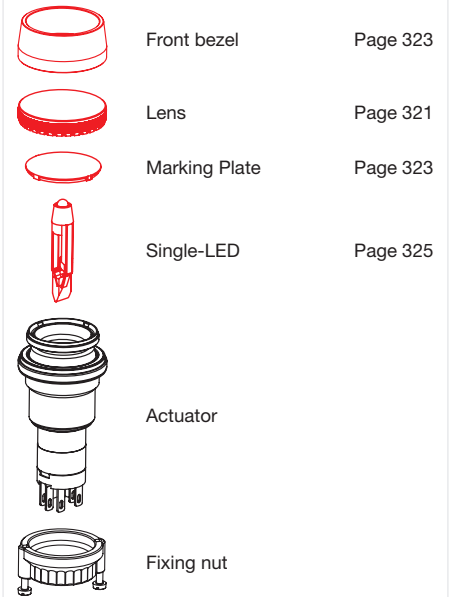


Dimensions [mm]  
 A = Solder terminal  
 B = Plug-in terminal 2.8 x 0.5 mm  
 C = Universal terminal 2.0 mm x 0.5 mm  
 D = Universal-Solder terminal



Mounting cut-outs [mm]

### Equipment consisting of (schematic overview)



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

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



Actuator, Front dimension Ø 29 mm

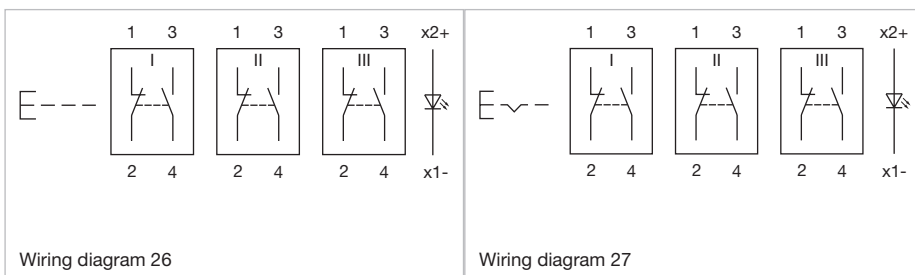
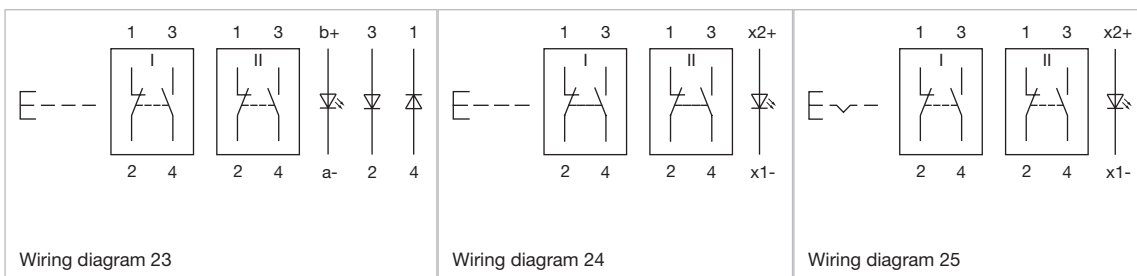
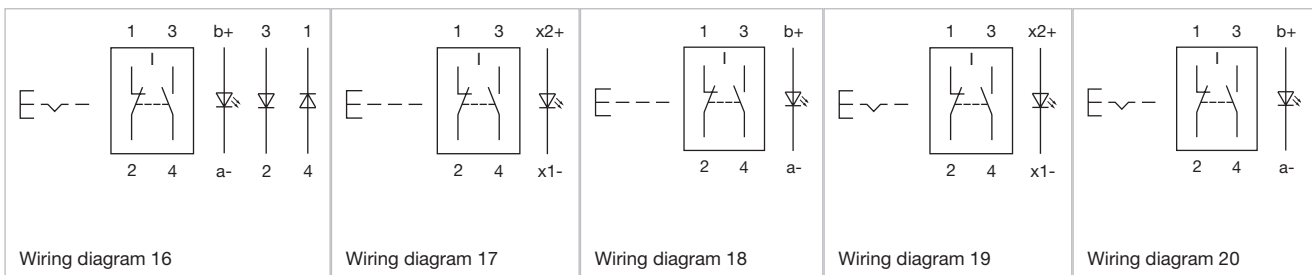
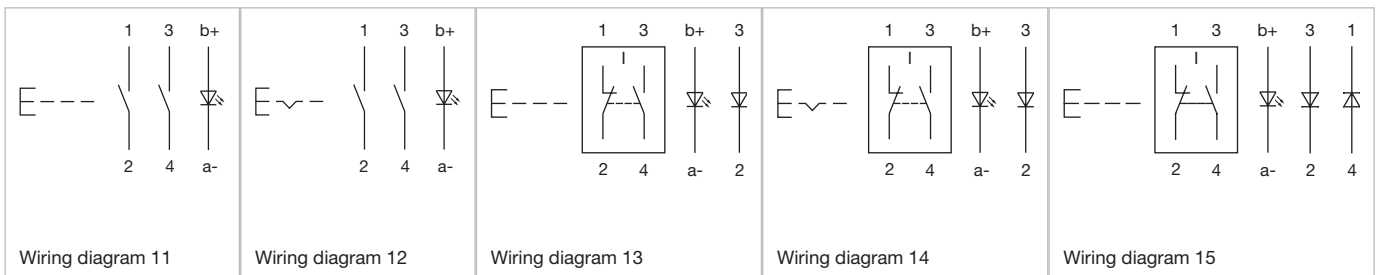
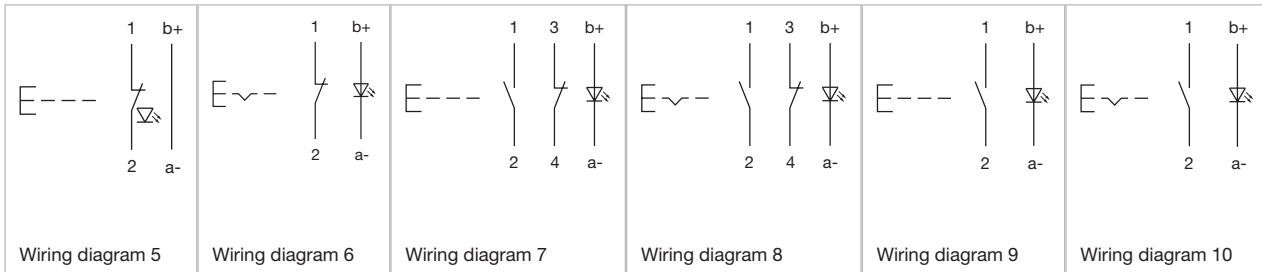
Switching action	Terminal	Switching system	Contacts	Diode 1N4007	Part No.	Wiring diagram	Component Layout
Momentary	Plug-in terminal	Snap-action switching element	1 NC / 1 NO		14-131.022	18	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO		14-131.0252	17	
	Soldering terminal	Snap-action 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

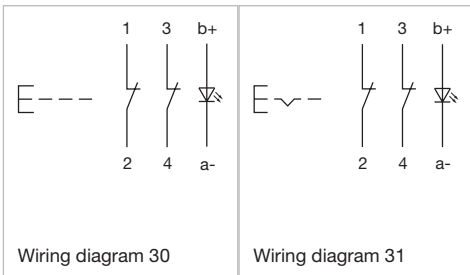
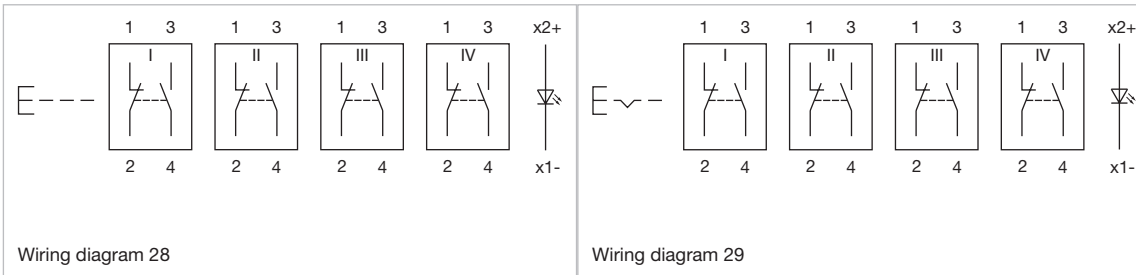
Contacts: NC = Normally closed, NO = Normally open

## Wiring diagrams

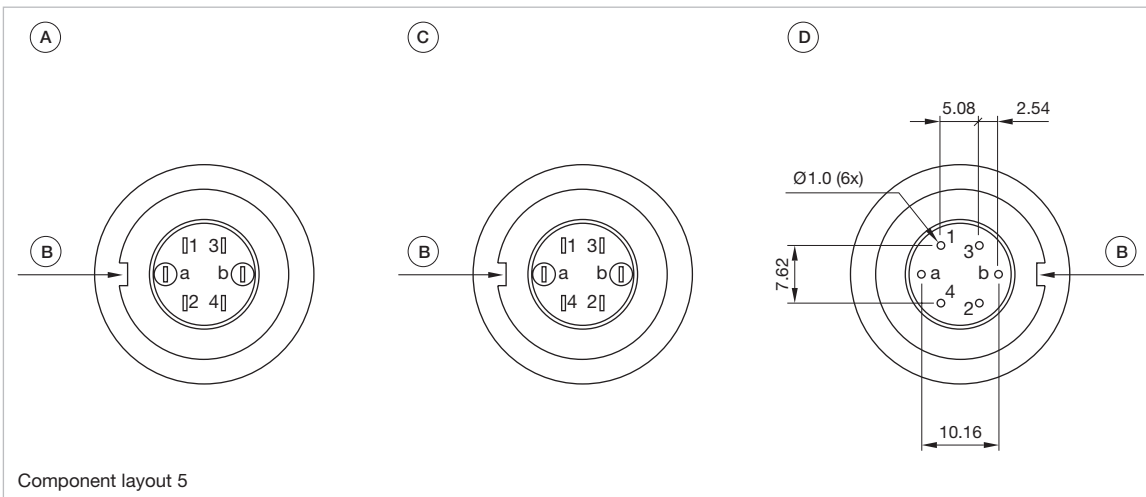


# 14 Raised design

## Wiring diagrams



## Component layouts

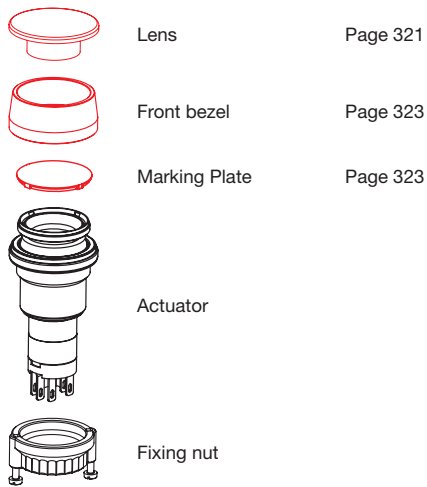


Dimensions [mm]  
 A = Terminals (rear side)  
 B = Anti twist device  
 C = Diode block  
 D = Drilling plan (component side)



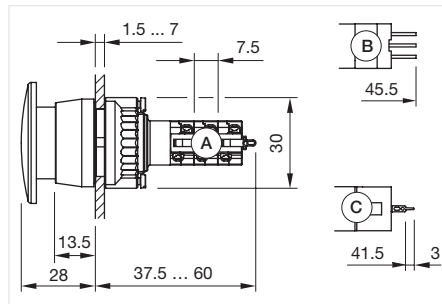
## Mushroom-head pushbutton, IP67

### Equipment consisting of (schematic overview)



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

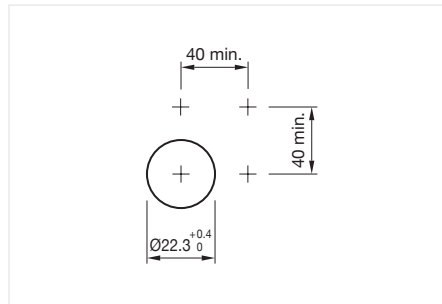
To obtain a complete unit, please select the red components from the pages shown.



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

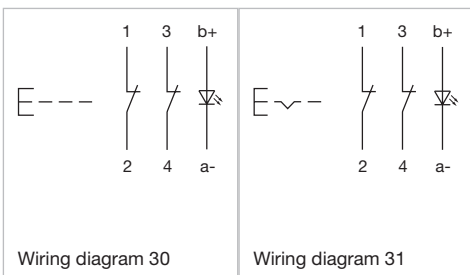
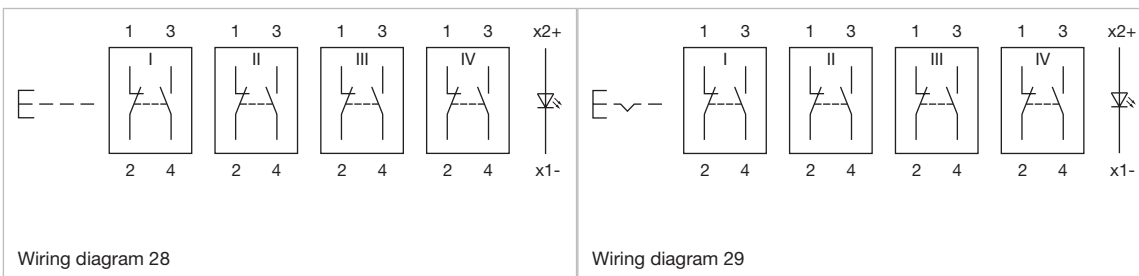
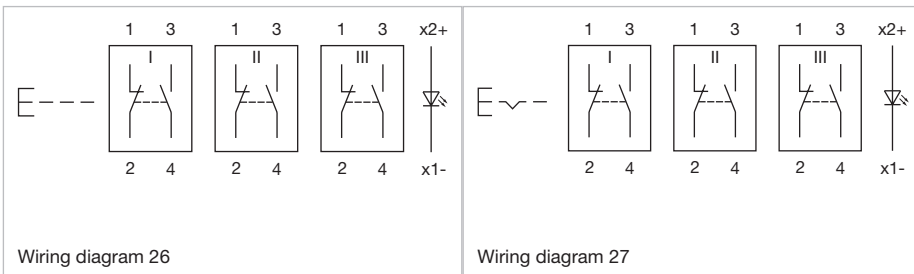
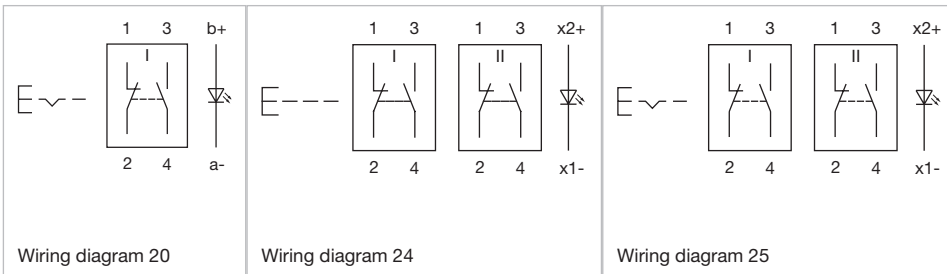
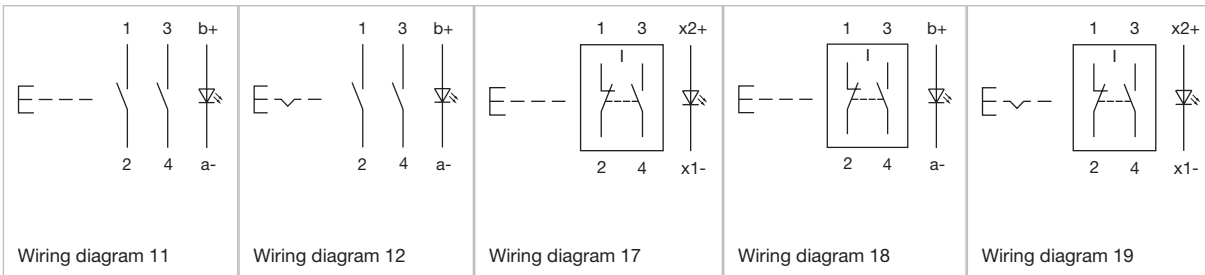
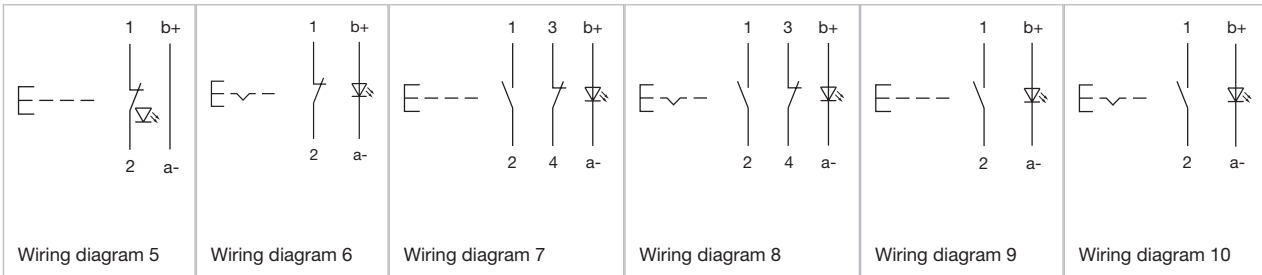
Switching action	Terminal	Switching system	Contacts	Part No.	Wiring diagram	Component Layout
Momentary	Plug-in terminal	Snap-action switching element	1 NC / 1 NO	14-131.022	18	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	14-131.0252	17	
	Soldering terminal	Snap-action switching element	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

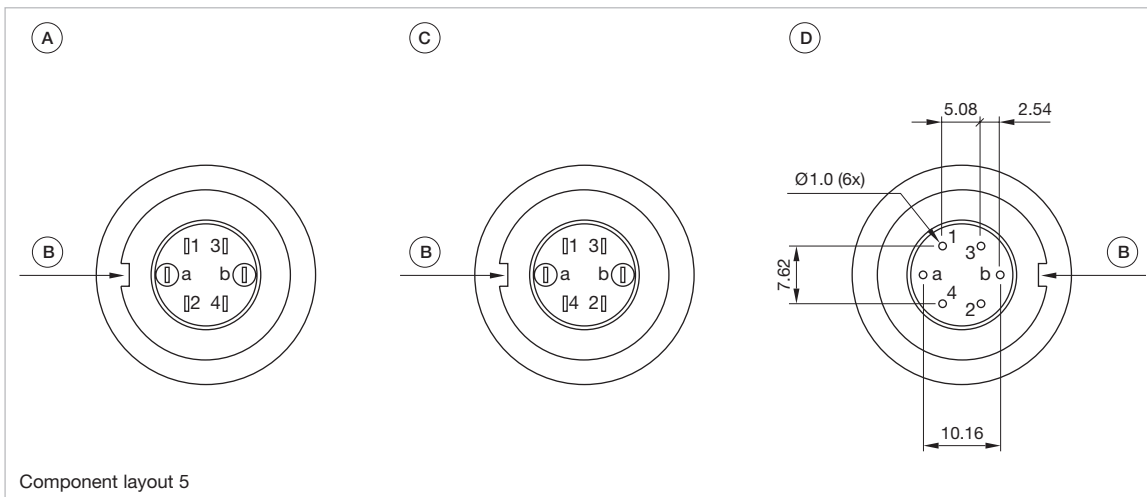
01  
02  
03  
04  
09  
14  
17  
18  
19  
22  
31  
41  
45  
51  
56  
57  
61  
70  
71  
82  
84  
92  
96

# 14 Raised design

## Wiring diagrams



## Component layouts



Dimensions [mm]


A = Terminals (rear side)

B = Anti twist device


C = Diode block

D = Drilling plan (component side)

- 01
- 02
- 03
- 04
- 09
- 14
- 17
- 18
- 19
- 22
- 31
- 41
- 45
- 51
- 56
- 57
- 61
- 70
- 71
- 82
- 84
- 92
- 96




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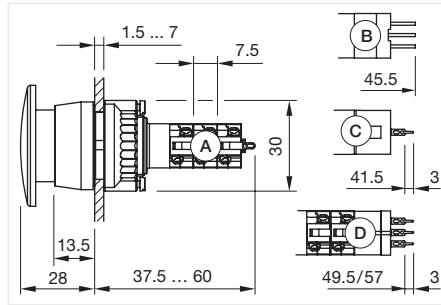
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# 14 Raised design

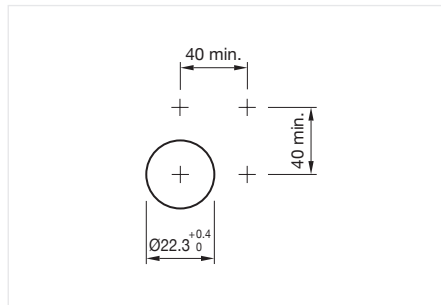
## Mushroom-head pushbutton illuminated, IP67



Product can differ from the current configuration.

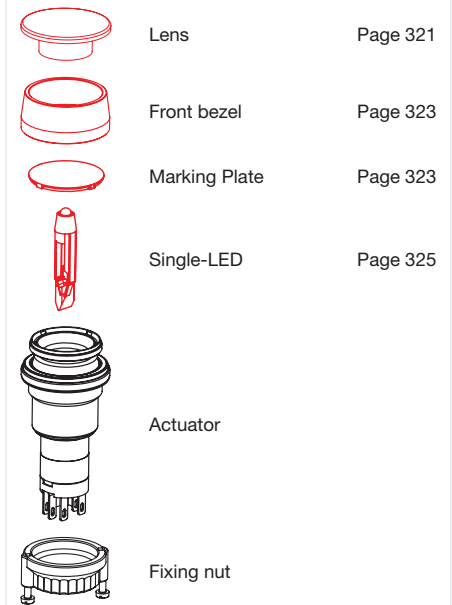


Dimensions [mm]  
 A = Solder terminal  
 B = Plug-in terminal 2.8 x 0.5 mm  
 C = Universal terminal 2.0 mm x 0.5 mm  
 D = Universal-Solder terminal



Mounting cut-outs [mm]

### Equipment consisting of (schematic overview)



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

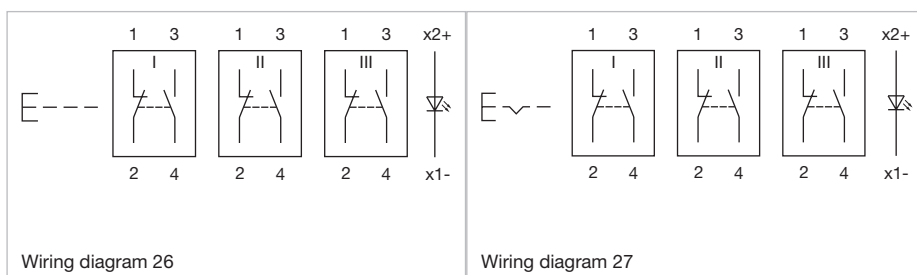
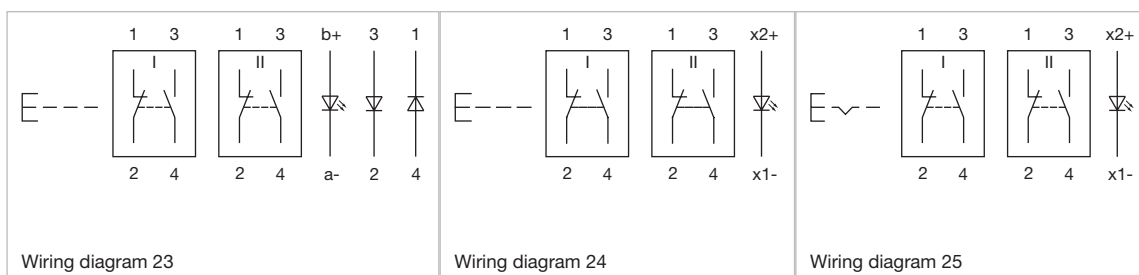
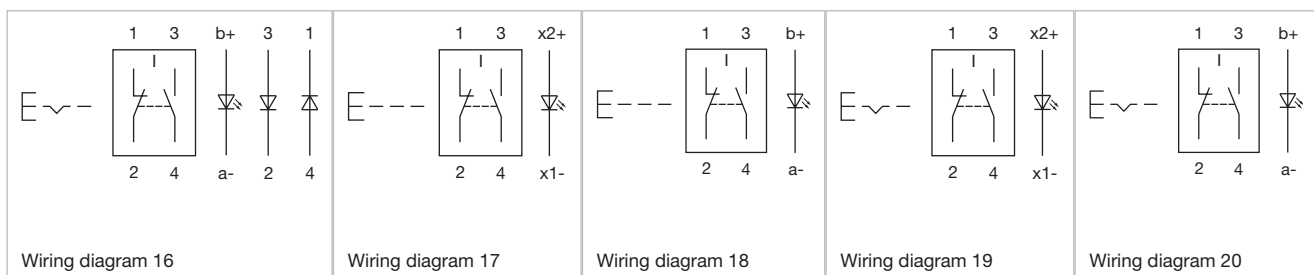
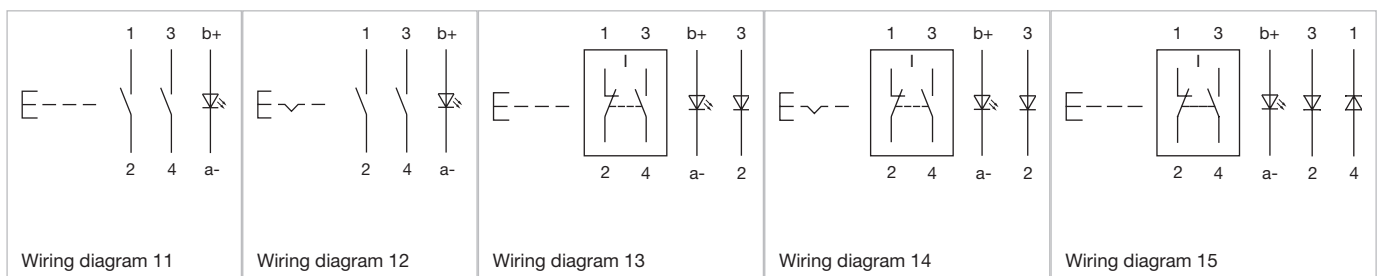
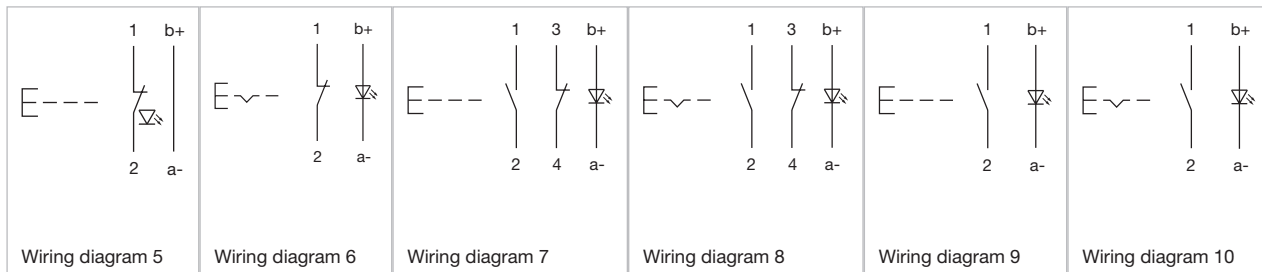
Switching action	Terminal	Switching system	Contacts	Diode 1N4007	Part No.	Wiring diagram	Component Layout
Momentary	Plug-in terminal	Snap-action switching element	1 NC / 1 NO		14-131.022	18	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO		14-131.0252	17	
	Soldering terminal	Snap-action 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

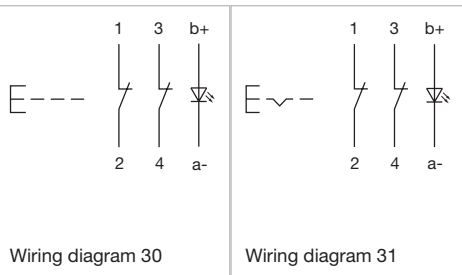
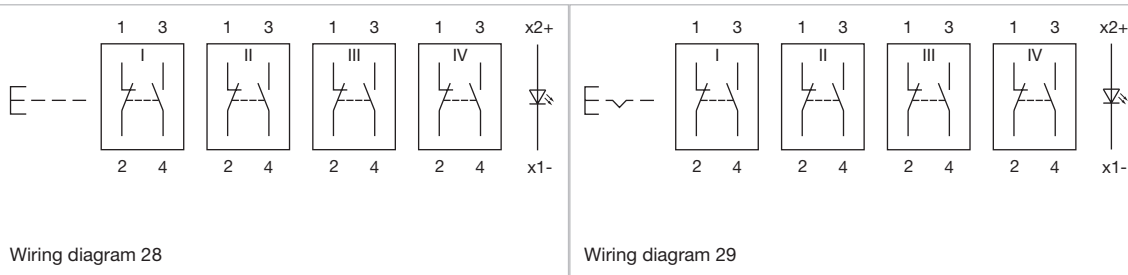
Contacts: NC = Normally closed, NO = Normally open

## Wiring diagrams

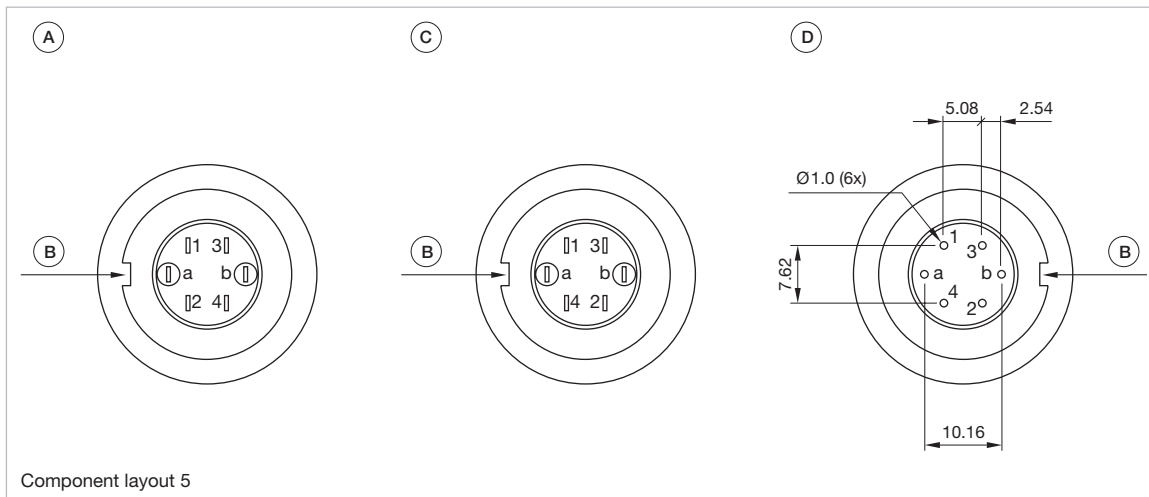


# 14 Raised design

## Wiring diagrams



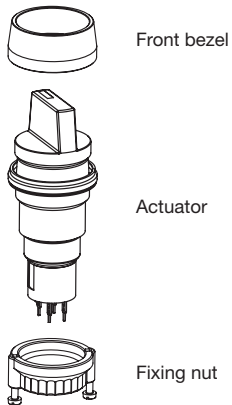
## Component layouts



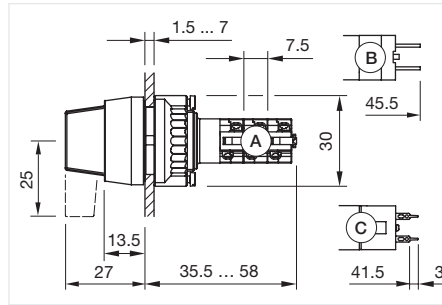
Dimensions [mm]  
 A = Terminals (rear side)  
 B = Anti twist device  
 C = Diode block  
 D = Drilling plan (component side)

## Selector switch 2 positions, IP67

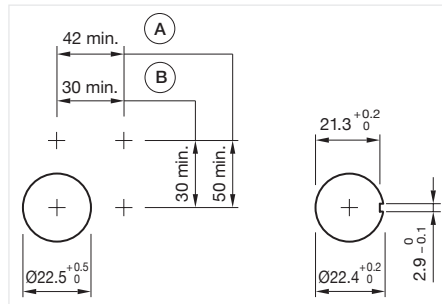
### Equipment consisting of (schematic overview)



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



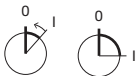
Mounting cut-outs [mm]  
 A = Long lever  
 B = Short lever



Product can differ from the current configuration.

### General information

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



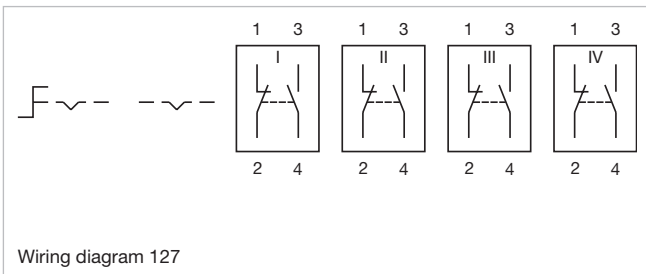
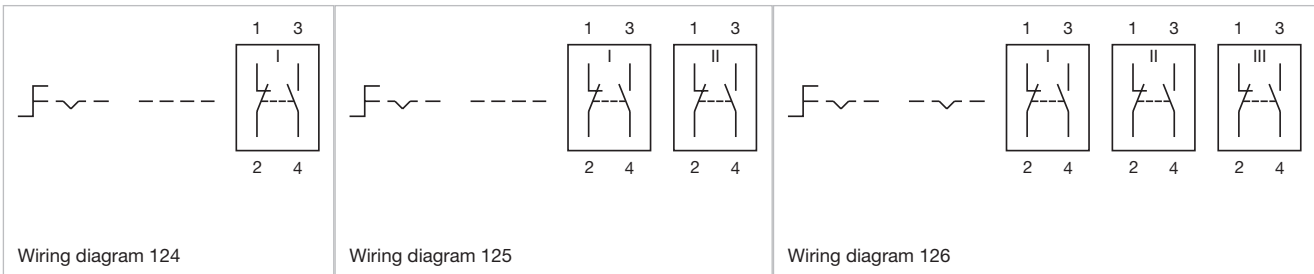
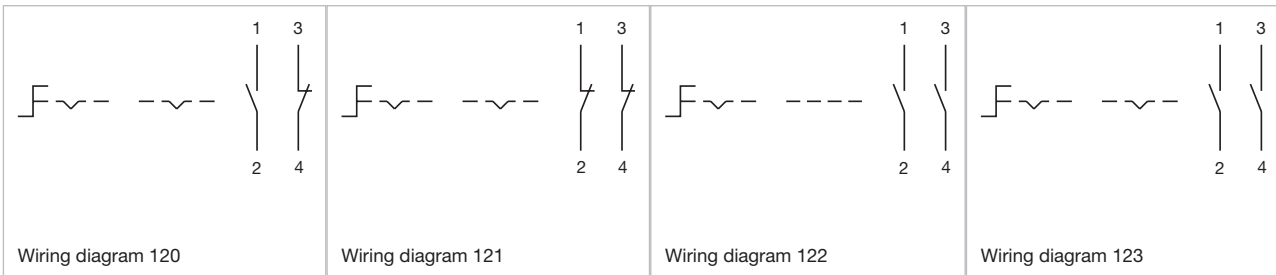
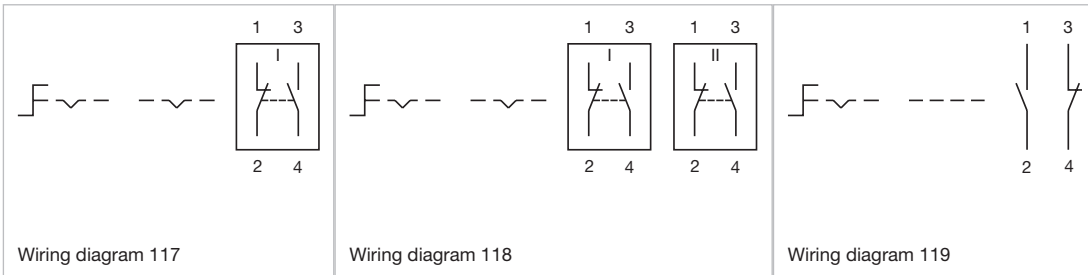
### Actuator, Front dimension Ø 29 mm

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

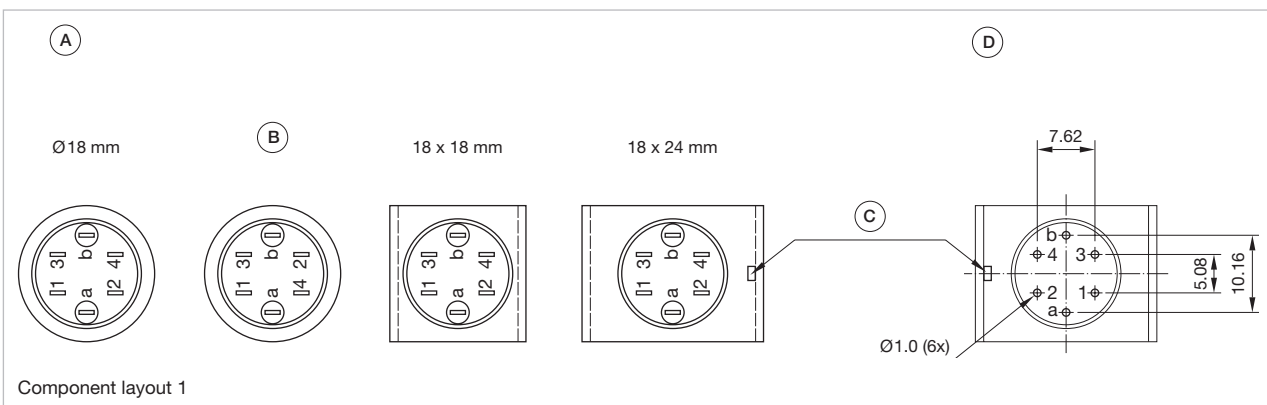
Contacts: NC = Normally closed, NO = Normally open

# 14 Raised design

## Wiring diagrams



## Component layouts



Dimensions [mm]

A = Terminals (rear side)

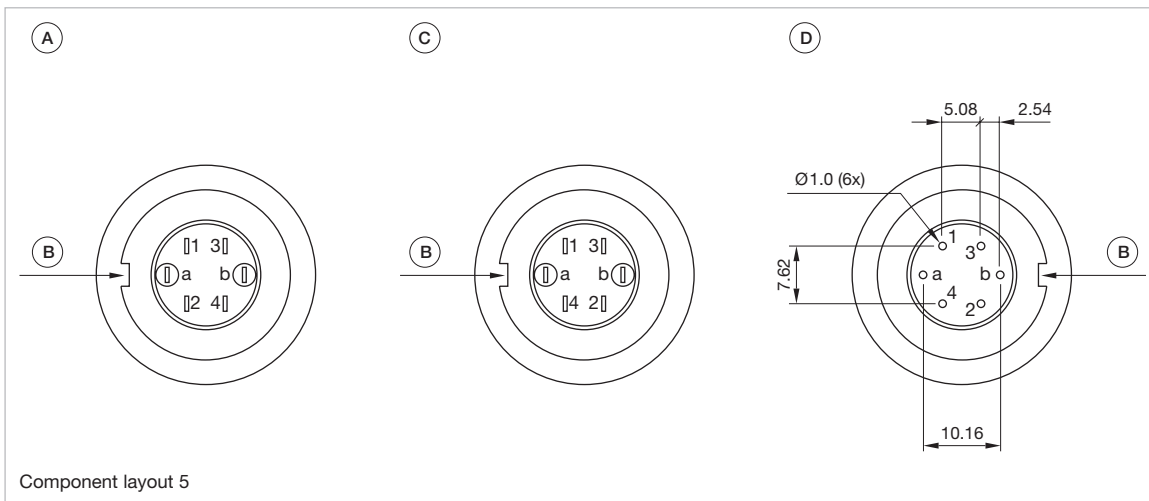
B = Diode block

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)

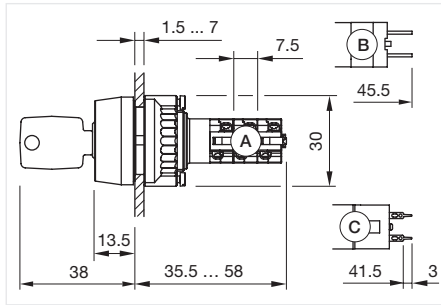
- 01
- 02
- 03
- 04
- 09
- 14**
- 17
- 18
- 19
- 22
- 31
- 41
- 45
- 51
- 56
- 57
- 61
- 70
- 71
- 82
- 84
- 92
- 96

# 14 Raised design

## Keylock switch 2 positions, IP65

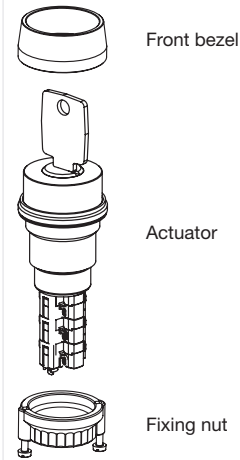


Product can differ from the current configuration.



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

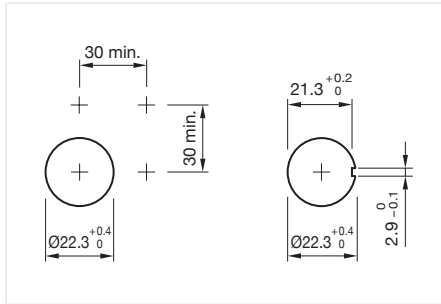
### Equipment consisting of (schematic overview)



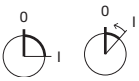
Each Part Number listed below includes all the black components shown in the 3D-drawing.

### General information

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



Mounting cut-outs [mm]



Actuator, Front dimension Ø 29 mm

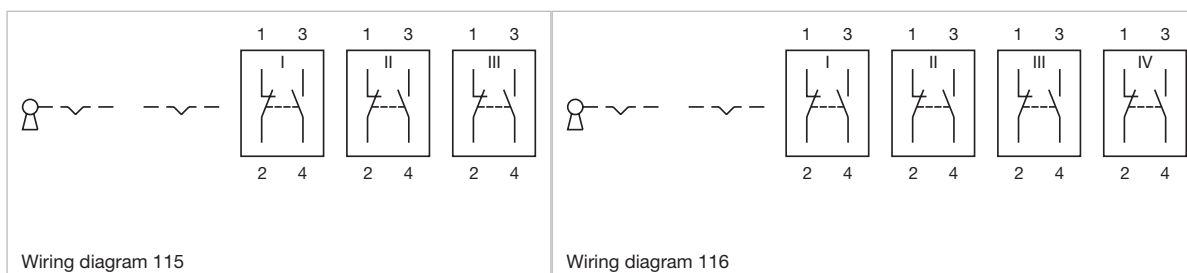
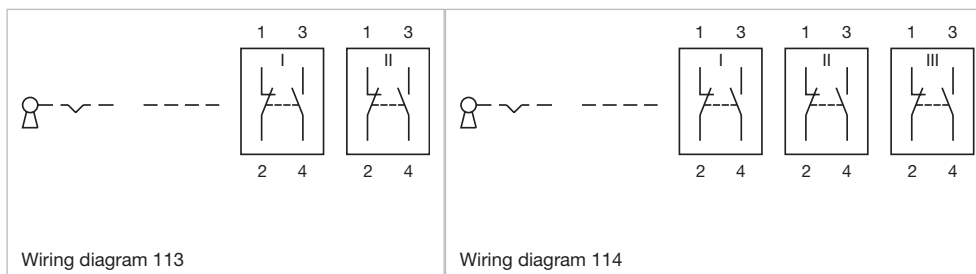
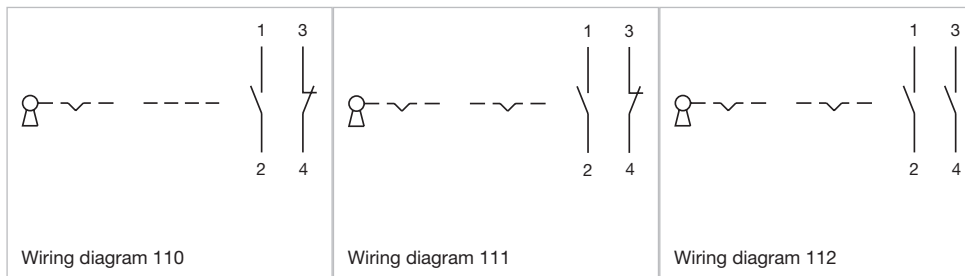
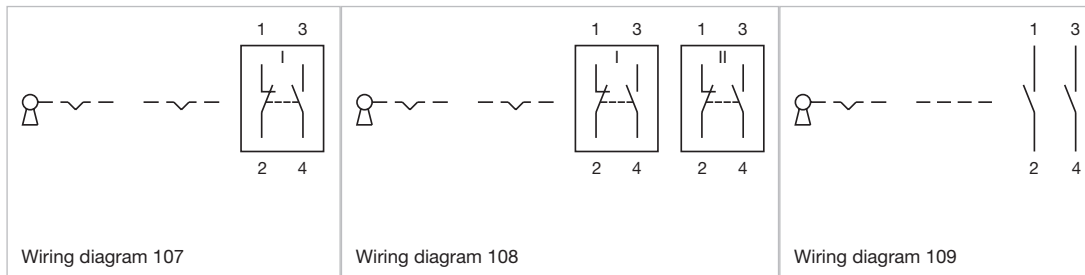
Switching action	Terminal	Switching system	Contacts	Switching angle	Part No.	Wiring diagram	Component Layout
Rest (a) - Maintained (a)	Soldering terminal	Snap-action switching element	1 NC / 1 NO	90° right	14-135.022K	107	
	Soldering terminal	Snap-action switching element	1 NC / 1 NO	90° right	14-135.025K2	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

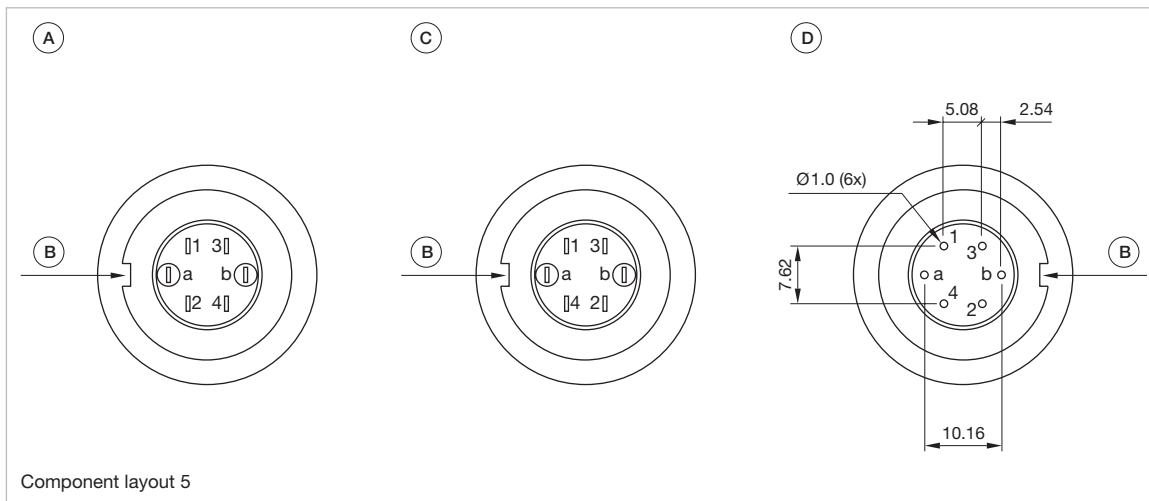
Contacts: NC = Normally closed, NO = Normally open  
a = Key remove

## Wiring diagrams



# 14 Raised design

## Component layouts



Dimensions [mm]

A = Terminals (rear side)

B = Anti twist device

C = Diode block

D = Drilling plan (component side)



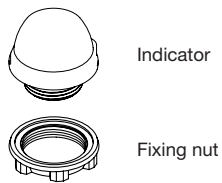
High-intensity illuminated and robust.  
*EAO Series 14 Indicator compact.*

Ideal for safe status indications – thanks to excellent visibility.

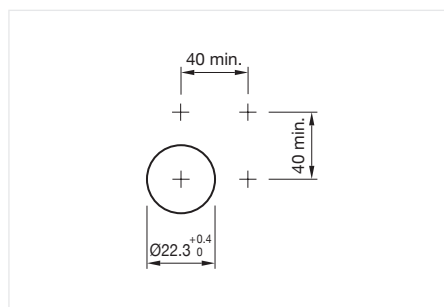
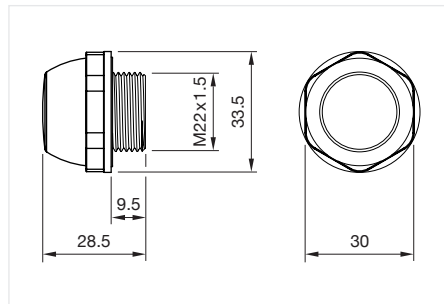
- High-intensity illumination
- Compact, space-saving design
- 180° all-round visibility
- Easy mounting with reliable PIT terminal
- IP69K protection

## Indicator compact, IP65, IP67, IP69K

### Equipment consisting of (schematic overview)



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



### General information

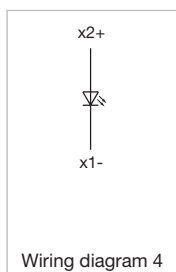
- Low back panel depth



Actuator, Front dimension  $\varnothing 34$  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

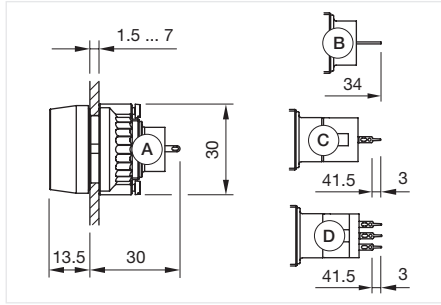


# 14 Raised design

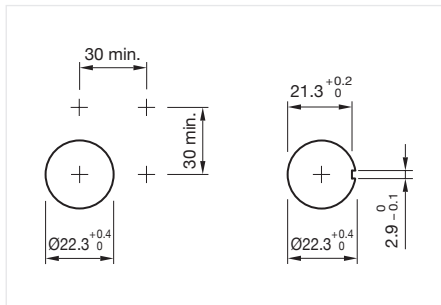
## Indicator full-face illumination, IP67



Product can differ from the current configuration.

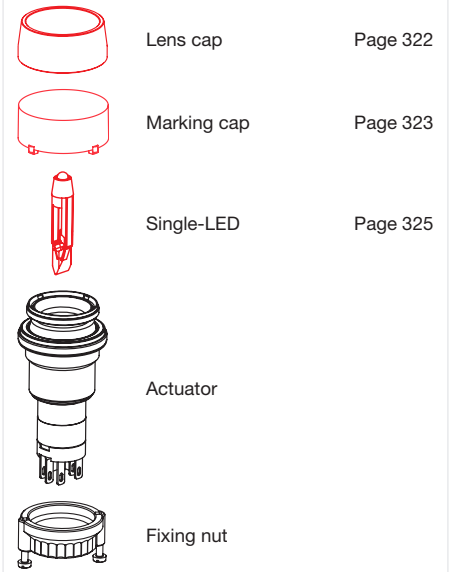


Dimensions [mm]  
 A = Solder terminal  
 B = Plug-in terminal 2.8 x 0.5 mm  
 C = Universal terminal 2.0 mm x 0.5 mm  
 D = Universal-Solder terminal



Mounting cut-outs [mm]

### Equipment consisting of (schematic overview)



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

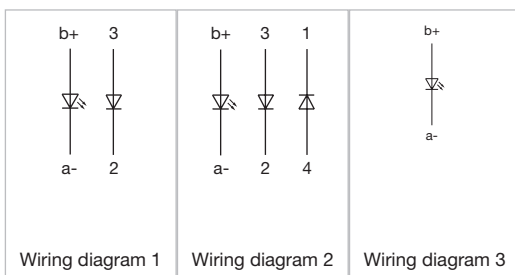
To obtain a complete unit, please select the red components from the pages shown.



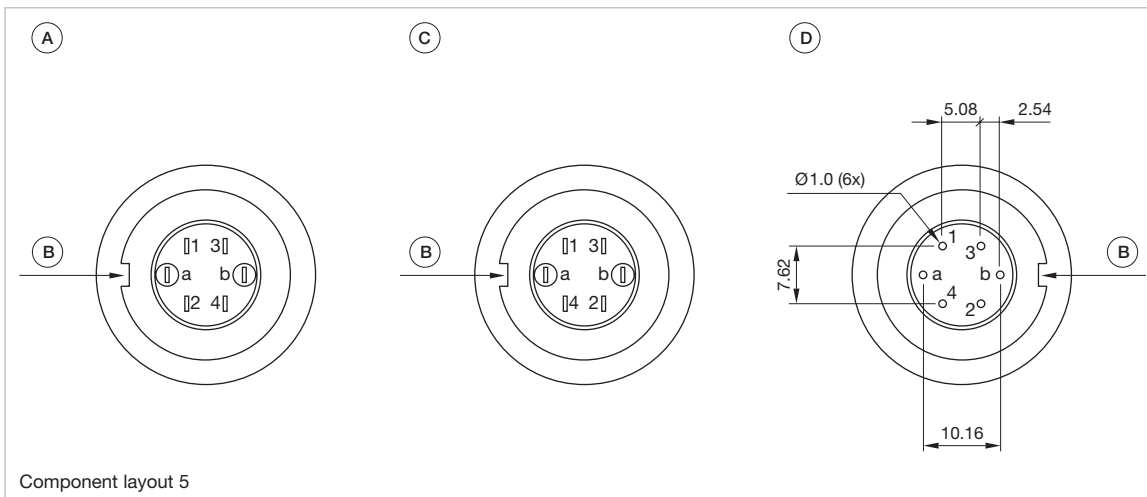
Actuator, Front dimension Ø 29 mm

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



## Component layouts



Component layout 5

Dimensions [mm]

A = Terminals (rear side)

B = Anti twist device

C = Diode block

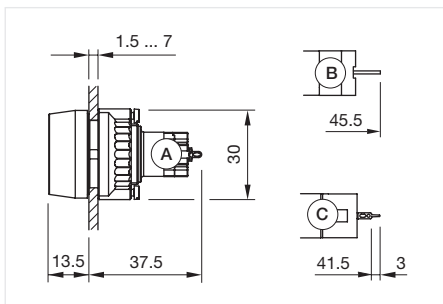
D = Drilling plan (component side)

# 14 Raised design

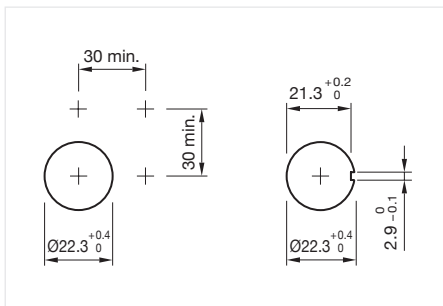
## Indicator front illumination, IP67



Product can differ from the current configuration.

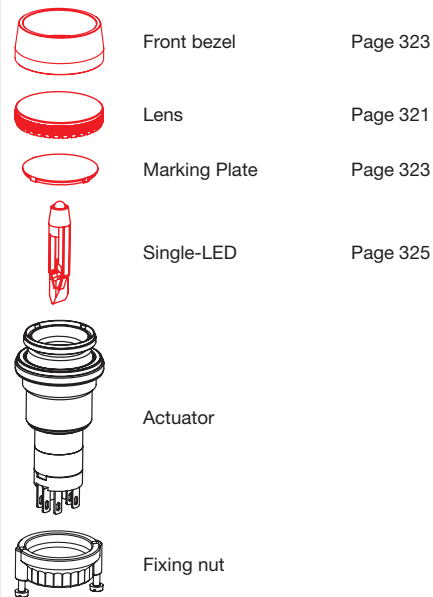


Dimensions [mm]  
 A = Solder terminal  
 B = Plug-in terminal 2.8 x 0.5 mm  
 C = Universal terminal 2.0 mm x 0.5 mm



Mounting cut-outs [mm]

### Equipment consisting of (schematic overview)



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

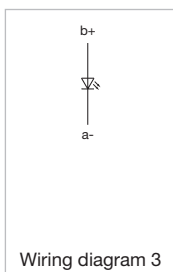
To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension Ø 29 mm

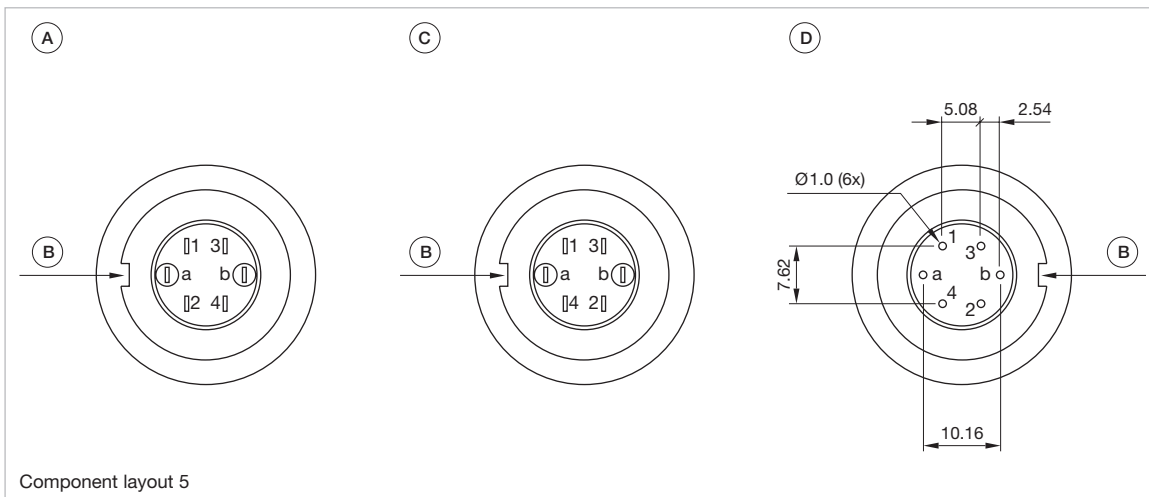
Terminal	Part No.	Wiring diagram	Component Layout
Plug-in terminal	14-040.002	3	
Soldering terminal	14-040.005	3	
Universal terminal	14-041.006	3	5

### Wiring diagrams






## Component layouts




Dimensions [mm]


- A = Terminals (rear side)
- B = Anti twist device
- C = Diode block
- D = Drilling plan (component side)

01  
02  
03  
04  
09  
14  
17  
18  
19  
22  
31  
41  
45  
51  
56  
57  
61  
70  
71  
82  
84  
92  
96



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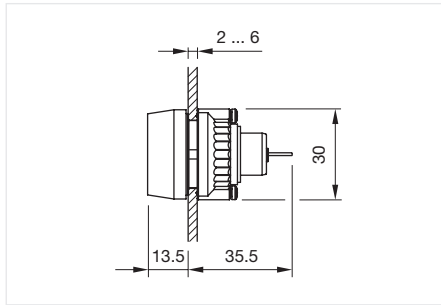
Your Expert Partner for Human Machine Interfaces

# 14 Raised design

## Buzzer, IP65

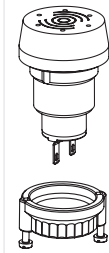


Product can differ from the current configuration.



Dimensions [mm]

### Equipment consisting of (schematic overview)



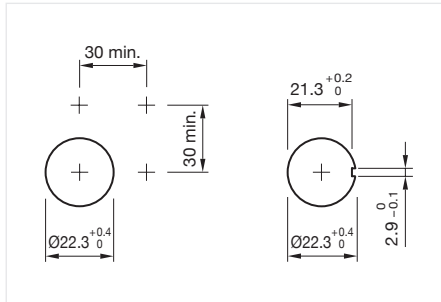
Actuator

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



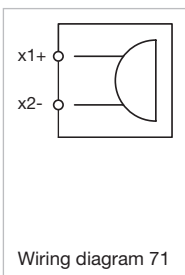
Mounting cut-outs [mm]



Actuator, Front dimension  $\varnothing$  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





## 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 increased

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

# 14 Components



**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	Dimensions	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

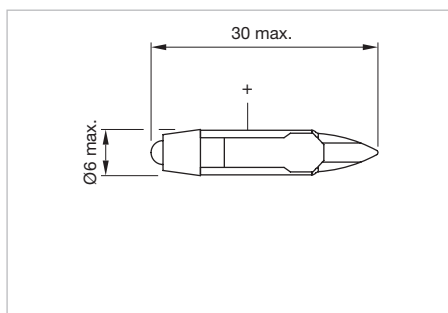


## Single-LED, T5.7

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

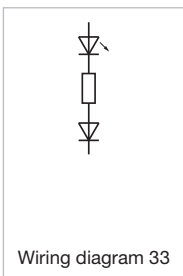
- For LED element fitting information see Application guidelines, LED polarity
- Due to high surface temperatures, the series resistor must not be soldered directly to the terminals of the equipment (use a terminal plate)
- When using AC/DC types with AC operation, slight flickering can occur
- The luminous 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 (half wave rectifier) in series and the LED
- Luminosity and wave length variations caused by LED manufacturing processes may cause slight differences regarding the illumination. 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]

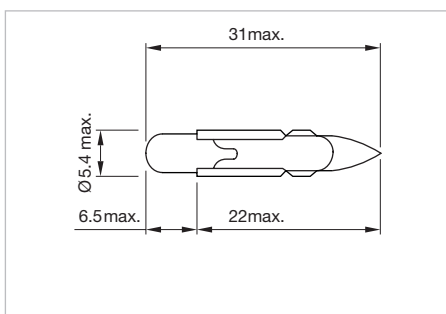
# 14 Components

## Wiring diagrams



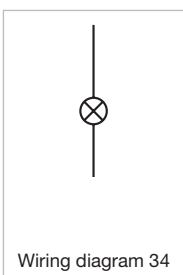
### Filament lamp

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



### Anti-twist ring

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



## Front side

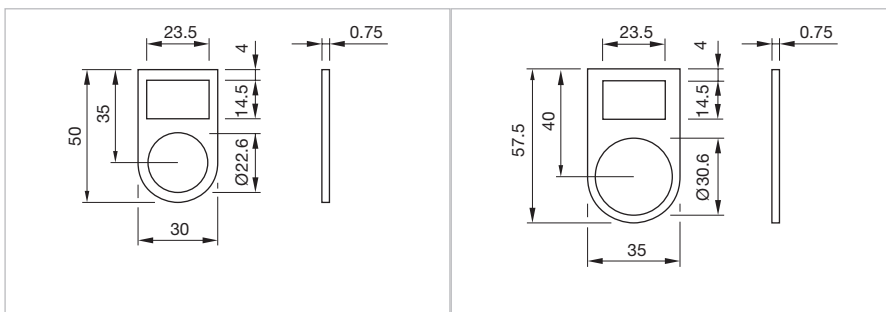


Legend frame

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

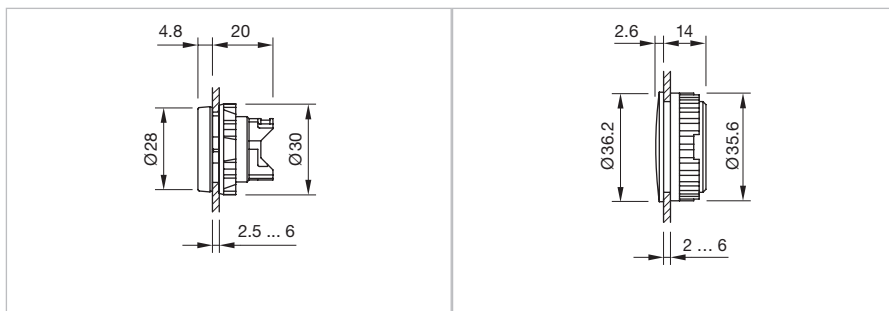


**Blind plug**

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

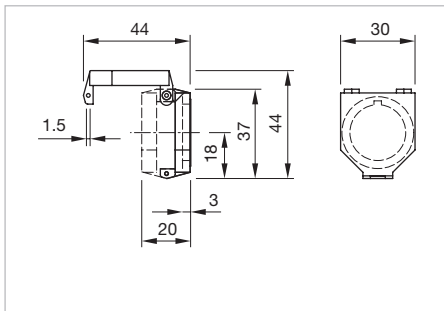


## Protective cover raised design

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]

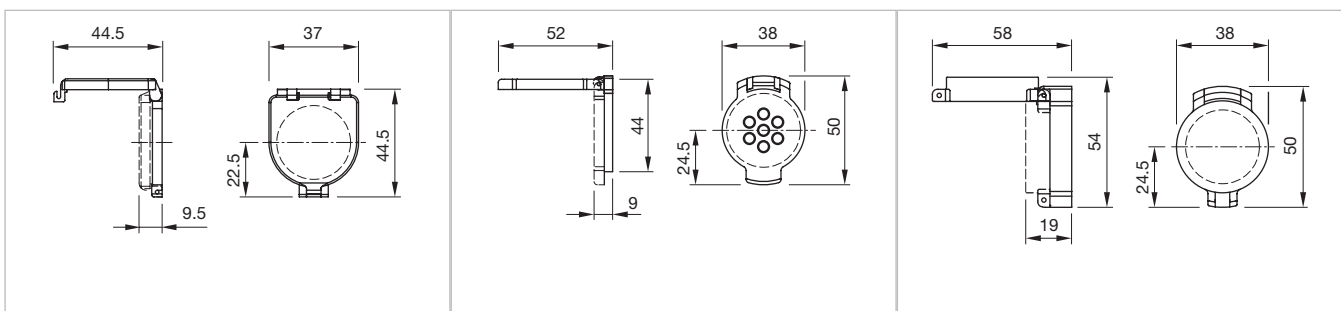


## Protective cover flush design

Product attributes	Dimensions	Material	Colour	Surface	Part No.
With means for sealing, for pushbutton with mounting cut-outs $\varnothing$ 30.5 mm	37 mm x 44.5 mm	plastic	Colourless		704.925.7
Without cover locking hole, with spring fitted, with window, for pushbutton with mounting cut-outs $\varnothing$ 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 $\varnothing$ 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 $\varnothing$ 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 0.8 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

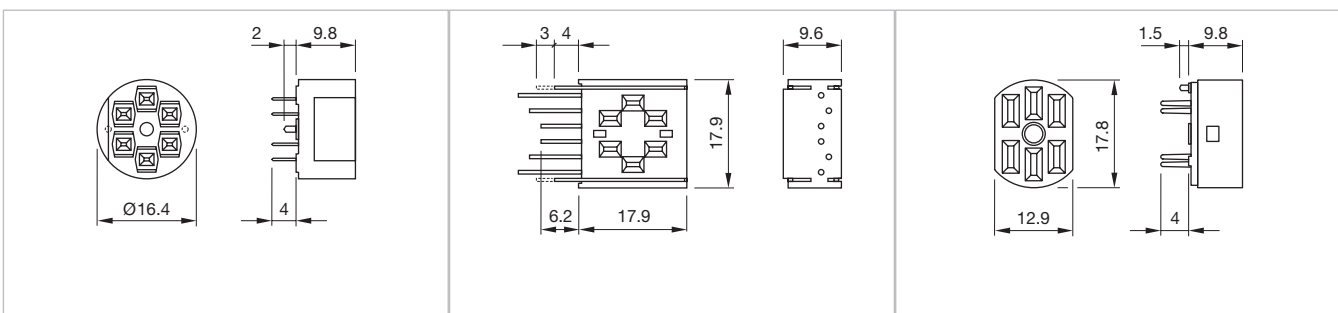


### PCB plug-in base

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

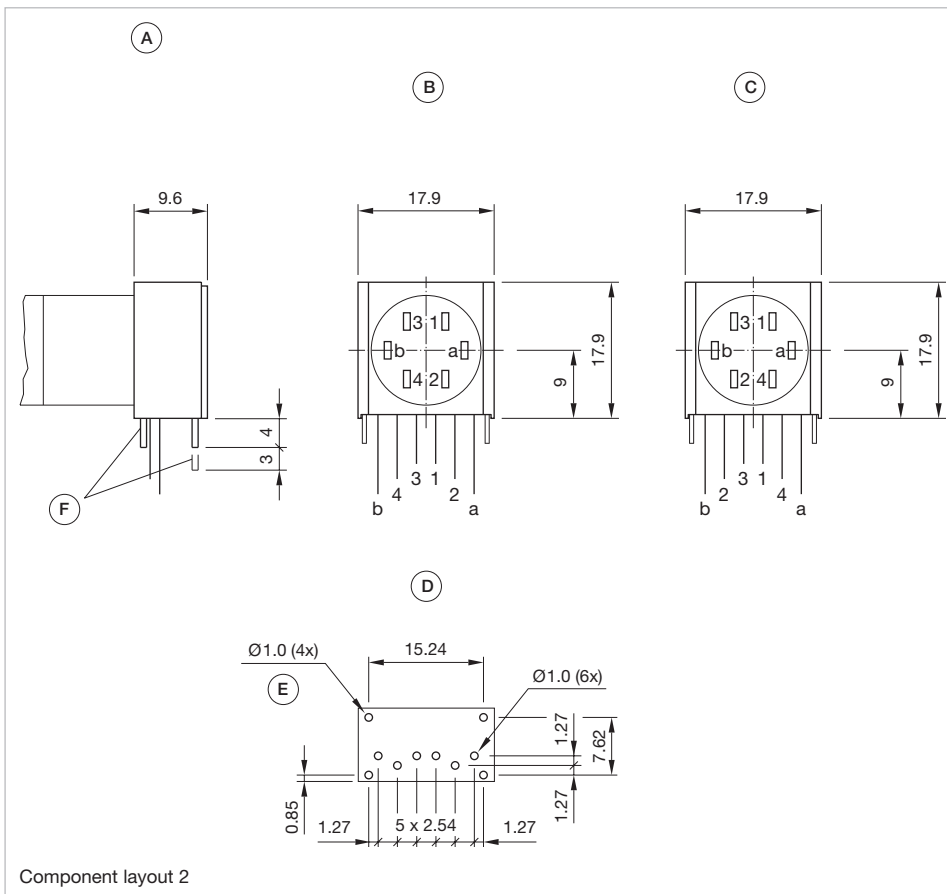


Dimensions [mm]  
for Part No. 31-940

Dimensions [mm]  
for Part No. 31-941

Dimensions [mm]  
for Part No. 31-942

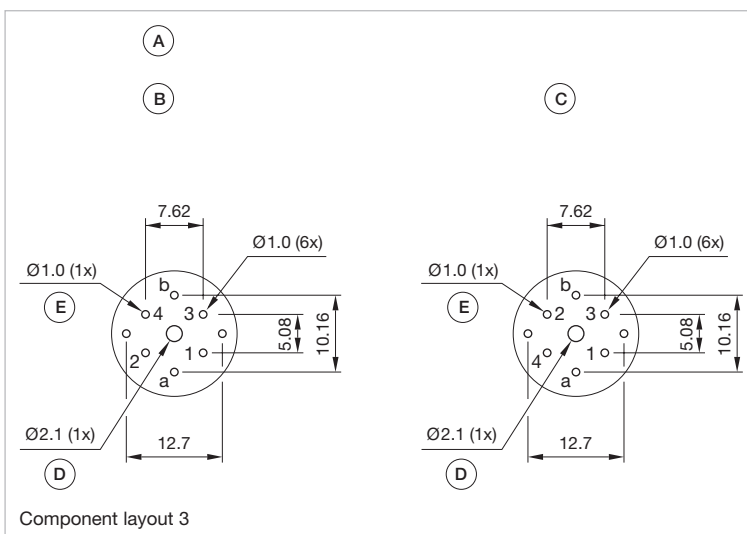
## Component layouts



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



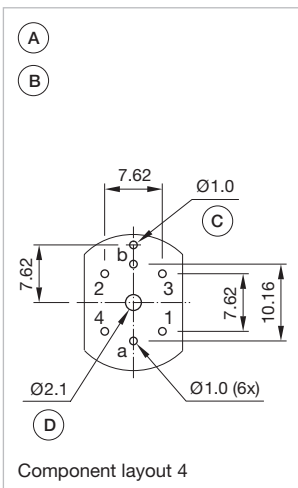
Component layout 3

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

# 14 Accessories

## Component layouts



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

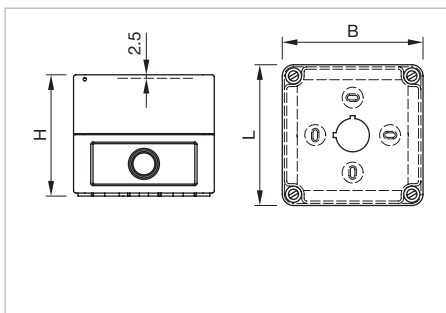
- Only for filament lamp 48 VAC, 25 mA
- Due to high surface temperatures, the series resistor must not be soldered directly to the terminals of the equipment (use a terminal plate)

## 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

# 14 Accessories

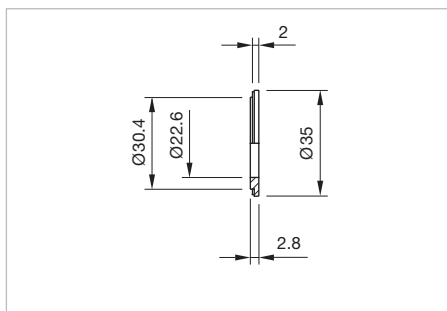


Reducing ring

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

#### Additional information

- Devices  $\varnothing 22.3$  mm in mounting cut-out  $\varnothing 30.5$  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 mm<sup>2</sup>

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 mm<sup>2</sup> or 1 x 1.0 mm<sup>2</sup>

#### 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<sub>th</sub>

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/s<sup>2</sup>, pulse width 11 ms, 3-axis, as per  
DIN EN 60068-2-27

## Vibration resistance

(sinusoidal)  
Max. 100 m/s<sup>2</sup> 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  $\mu\text{A}/\mu\text{V}$  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 mm<sup>2</sup>

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/s<sup>2</sup>, 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 mm<sup>2</sup>  
Stranded wire 0.2 to 1.0 mm<sup>2</sup> without core and sleeve  
Stranded wire 0.2 to 0.75 mm<sup>2</sup> 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/s<sup>2</sup>, puls width 18 ms, as per EN IEC 60068-2-27

#### Vibration resistance

(sinusoidal)  
Max. 100 m/s<sup>2</sup> 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 be 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

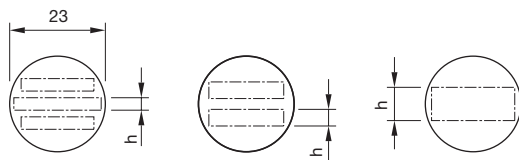
All dimensions in mm

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.

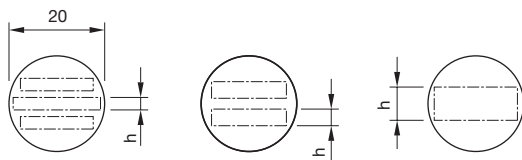
# 14 Marking

## 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



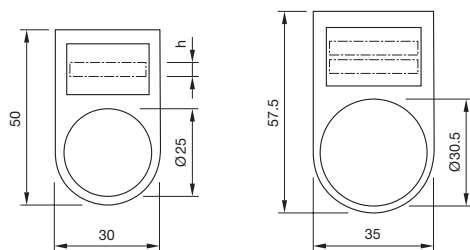
The gap between two words results in each case a letter less.

## 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		

- 01
- 02
- 03
- 04
- 09
- 14**
- 17
- 18
- 19
- 22
- 31
- 41
- 45
- 51
- 56
- 57
- 61
- 70
- 71
- 82
- 84
- 92
- 96

# 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.

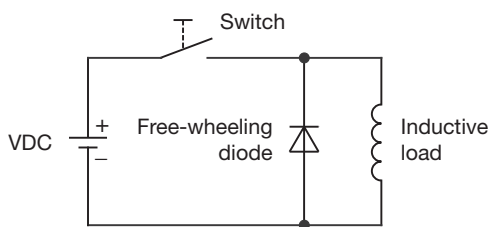
Fig. 1 shows an inductive load with a free-wheeling diode connected in parallel. This free-wheeling diode provides a path for the inductor current to flow when the current is interrupted by the switch. Without this free-wheeling diode, the voltage across the coil will be limited only by dielectric breakdown voltages of the circuit or parasitic elements of the coil. This voltage can be kilo-

volts in amplitude even when nominal circuit voltages are low (e.g. 12 VDC) see Fig. 2.

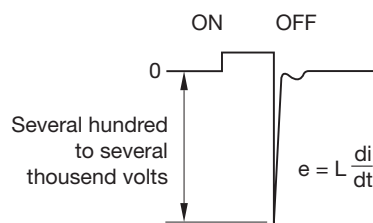
The free-wheeling diode should be chosen so that the reverse breakdown voltage is greater than the voltage driving the inductive load. The DC blocking voltage ( $V_R$ ) of the free-wheeling diode can be found in the datasheet of a diode. The forward current should be equal or greater than the maximum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

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

Switching with inductive load  
Fig. 1

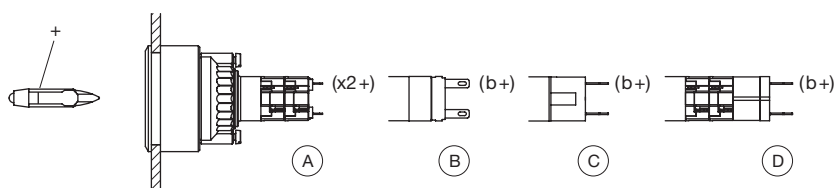


Counter EMF  
over load without free-wheeling diode  
Fig. 2



## 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

