

## Series 84

*Attractive. Versatile and functional.*

<https://eao.com/84>



# 84 Information about the Series

## Key advantages

- Attractive design and reliable operation
- IP67 front protection
- Powerful, consistent illumination with innovative technologies
- Animated illumination options for a wide variety of potential applications
- Available with soldered, plug, PCB and flat ribbon cable terminals
- Freely configurable HMIs with IO-Link interface (Industry 4.0)

## Typical application areas

- Machinery
- Measurement and control engineering
- Lifting and handling equipment
- Process automation
- Special vehicles
- Ticketing machines
- Medical equipment
- Food industry

## Functions

- Pushbutton
- Illuminated pushbutton
- Indicator
- Capacitive buttons with IO-Link configurability

## Design

- Flush
- Raised

## IP front protection

- IP40
- IP65
- IP67
- IP69K

## Ratings

- 42 VAC (100 mA)
- 240 VAC (1.5 A)
- 8.4 ... 32V (200 mA) electronic switching element

## Mounting cut-outs

- Ø 22.3 mm
- Ø 22.5 mm
- Ø 30.5 mm

## Terminal

- Soldering/plug-in terminal
- PCB
- Cable
- M12

## Lens Material

- Aluminium
- Plastic
- Stainless steel

## Markings

- Engraving
- Laser marking
- Hot stamping
- Pad printing
- Screen print
- Milling
- Illuminated Symbols

## Approvals

- CB (IEC 60947)
- UL
- TSI PRM
- CSA
- EHEDG
- FDH Compliant

## Conformities

- CE
- 2006/42/EC (MD)
- 2011/65/EC (RoHS)
- 1300/2014 (PRM)
- 2014/30/EU (EMC)



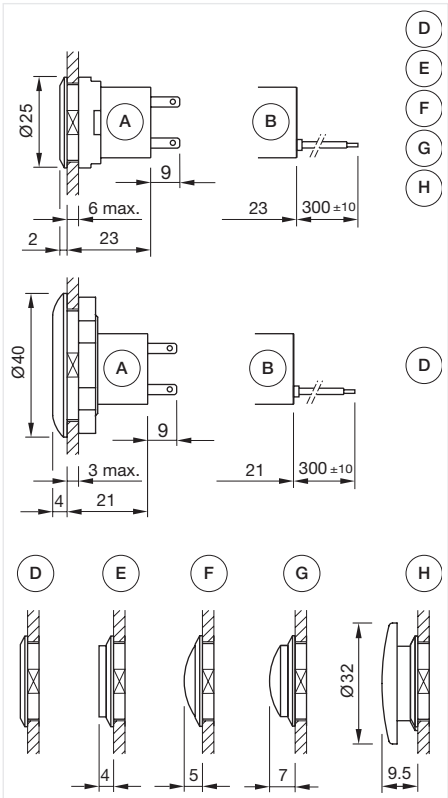
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# 84 Flush design

## Pushbutton standard, IP40, IP67

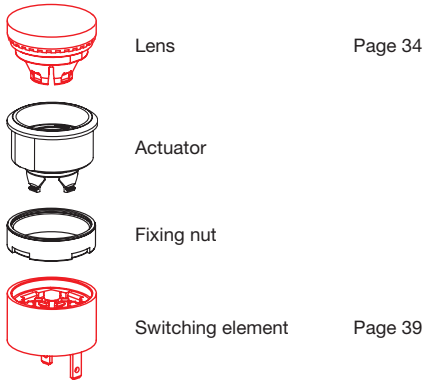


Product can differ from the current configuration.



Dimensions [mm]  
A = Plug-in terminal 2.8 mm x 0.5 mm  
B = Flat ribbon cable  
D = Lens level with bezel  
E = Lens raised above bezel  
F = Lens konvexe level with bezel  
G = Lens konvexe raised above bezel  
H = Mushroom-head cap

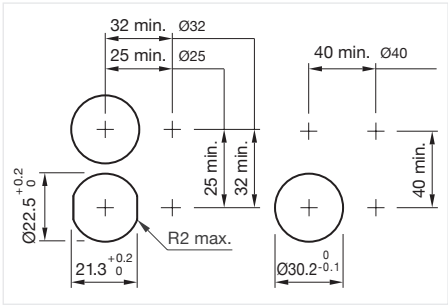
### Equipment consisting of (schematic overview)



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.

### General information

- Non-illuminated lens and bezel
- The colour of anodised aluminium parts can vary due to technical production reasons

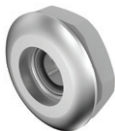


Mounting cut-outs [mm]



Actuator

| Switching action | Front bezel colour | Front bezel material | IP front protection | Dimensions | Part No.  | Wiring diagram |
|------------------|--------------------|----------------------|---------------------|------------|-----------|----------------|
| Momentary        | Black              | Plastic              | IP67                | Ø 25 mm    | 84-1101.0 | 72             |
|                  | Black              | Aluminium            | IP67                | Ø 25 mm    | 84-1201.0 | 72             |
|                  | Red                | Aluminium            | IP67                | Ø 25 mm    | 84-1201.2 | 72             |
|                  | Gold               | Aluminium            | IP67                | Ø 25 mm    | 84-1201.4 | 72             |
|                  | Olive              | Aluminium            | IP67                | Ø 25 mm    | 84-1201.5 | 72             |
|                  | Blue               | Aluminium            | IP67                | Ø 25 mm    | 84-1201.6 | 72             |
|                  | Nature             | Aluminium            | IP67                | Ø 25 mm    | 84-1201.7 | 72             |
|                  | Black              | Plastic              | IP40                | Ø 25 mm    | 84-2101.0 | 294            |



Actuator

| Switching action | Front bezel colour | Front bezel material | IP front protection | Dimensions | Part No.  | Wiring diagram |
|------------------|--------------------|----------------------|---------------------|------------|-----------|----------------|
| Momentary        | Nature             | Aluminium            | IP67                | Ø 40 mm    | 84-1221.7 | 294            |

Wiring diagrams

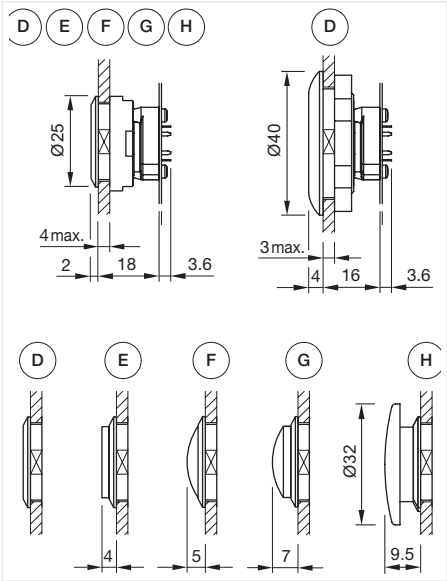
|                   |                    |
|-------------------|--------------------|
|                   |                    |
| Wiring diagram 72 | Wiring diagram 294 |

84 Flush design

Pushbutton PCB standard, IP40, IP67



Product can differ from the current configuration.



Dimensions [mm]  
D = Lens level with bezel  
E = Lens raised above bezel  
F = Lens konvexe level with bezel  
G = Lens konvexe raised above bezel  
H = Mushroom-head cap

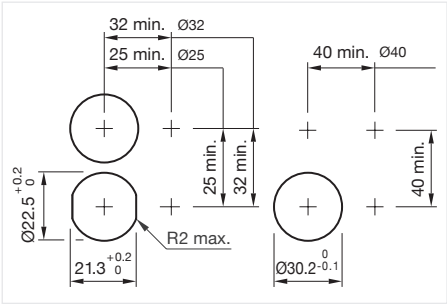
Equipment consisting of (schematic overview)

|  |                   |         |
|--|-------------------|---------|
|  | Lens              | Page 34 |
|  | Actuator          |         |
|  | Fixing nut        |         |
|  | Mounting flange   | Page 48 |
|  | Switching element | Page 39 |

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.

General information

- Non-illuminated lens and bezel
- The colour of anodised aluminium parts can vary due to technical production reasons

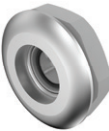


Mounting cut-outs [mm]



Actuator

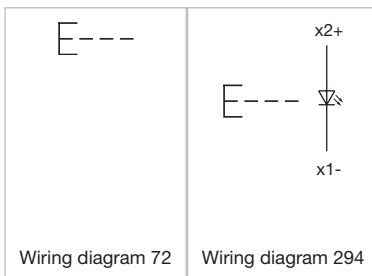
| Switching action | Front bezel colour | Front bezel material | IP front protection | Dimensions | Part No.  | Wiring diagram |
|------------------|--------------------|----------------------|---------------------|------------|-----------|----------------|
| Momentary        | Black              | Plastic              | IP67                | Ø 25 mm    | 84-1101.0 | 72             |
|                  | Black              | Aluminium            | IP67                | Ø 25 mm    | 84-1201.0 | 72             |
|                  | Red                | Aluminium            | IP67                | Ø 25 mm    | 84-1201.2 | 72             |
|                  | Gold               | Aluminium            | IP67                | Ø 25 mm    | 84-1201.4 | 72             |
|                  | Olive              | Aluminium            | IP67                | Ø 25 mm    | 84-1201.5 | 72             |
|                  | Blue               | Aluminium            | IP67                | Ø 25 mm    | 84-1201.6 | 72             |
|                  | Nature             | Aluminium            | IP67                | Ø 25 mm    | 84-1201.7 | 72             |
|                  | Black              | Plastic              | IP40                | Ø 25 mm    | 84-2101.0 | 294            |



Actuator

| Switching action | Front bezel colour | Front bezel material | IP front protection | Dimensions | Part No.  | Wiring diagram |
|------------------|--------------------|----------------------|---------------------|------------|-----------|----------------|
| Momentary        | Nature             | Aluminium            | IP67                | Ø 40 mm    | 84-1221.7 | 294            |

## Wiring diagrams



### Compact, attractive and reliable. *Series 84 E-Stop switches.*

Ideal for challenging applications – thanks to the attractive design and the very low back panel depth.

- Robust mono-block
- Foolproof and fail-safe design
- Very low back panel depth
- Attractive, modern design and protection IP65/67
- Reliable and long service life
- Clearly visible illumination

[www.eao.com/84-e-stop](http://www.eao.com/84-e-stop)

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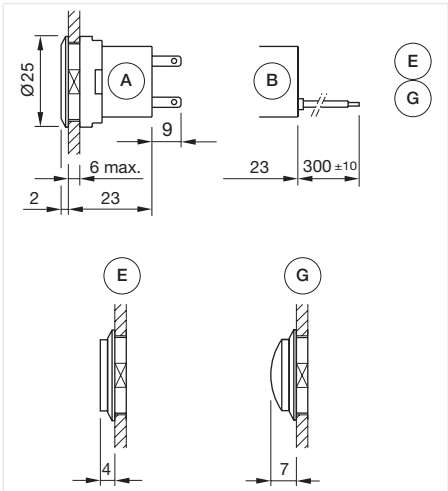
Your Expert Partner for Human Machine Interfaces

# 84 Flush design

## Pushbutton ring illumination standard, IP67



Product can differ from the current configuration.



Dimensions [mm]  
A = Plug-in terminal 2.8 mm x 0.5 mm  
B = Flat ribbon cable  
E = Lens raised above bezel  
G = Lens convexe raised above bezel

### Equipment consisting of (schematic overview)

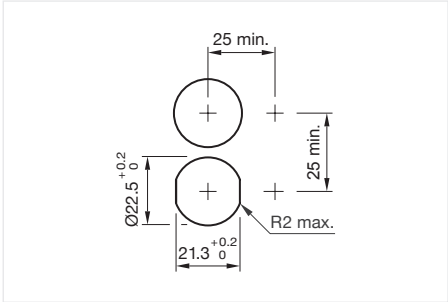
|  |                   |         |
|--|-------------------|---------|
|  | Lens              | Page 34 |
|  | Actuator          |         |
|  | Fixing nut        |         |
|  | Switching element | Page 39 |

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.

### General information

- Front bezel illuminated
- Accessories for halo illumination: Essential lenses Part No. 84-7202.x00A and 84-7205.x00A



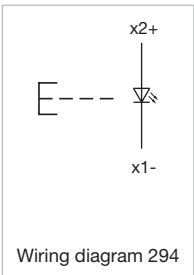
Mounting cut-outs [mm]



Actuator, Front dimension Ø 25 mm

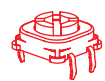
| Switching action | Front bezel colour | Front bezel material | IP front protection | Front bezel optics | Part No.  | Wiring diagram |
|------------------|--------------------|----------------------|---------------------|--------------------|-----------|----------------|
| Momentary        | White              | Plastic              | IP67                | translucent        | 84-1091.7 | 294            |

## Wiring diagrams

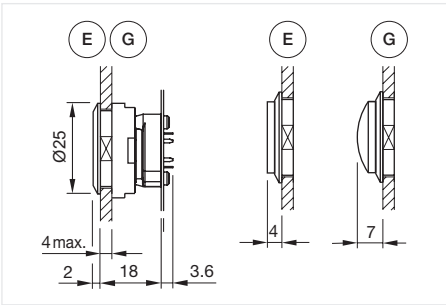


Pushbutton ring illumination PCB standard, IP67

Equipment consisting of (schematic overview)

|                                                                                   |                   |         |
|-----------------------------------------------------------------------------------|-------------------|---------|
|  | Lens              | Page 34 |
|  | Actuator          |         |
|  | Fixing nut        |         |
|  | Mounting flange   | Page 48 |
|  | Single-LED        | Page 38 |
|  | Switching element | Page 39 |

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.

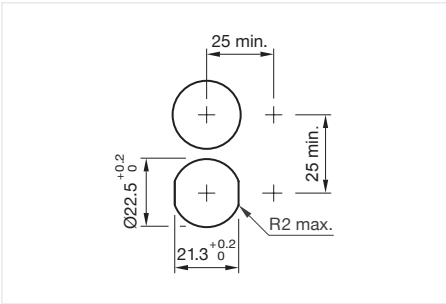


Dimensions [mm]  
E = Lens raised above bezel  
G = Lens convex raised above bezel



Product can differ from the current configuration.

- General information
- Front bezel illuminated
  - Accessories for halo illumination: Essential lenses Part No. 84-7202.x00A and 84-7205.x00A



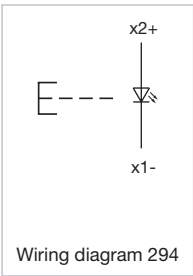
Mounting cut-outs [mm]



Actuator, Front dimension Ø 25 mm

| Switching action | Front bezel colour | Front bezel material | IP front protection | Front bezel optics | Part No.  | Wiring diagram |
|------------------|--------------------|----------------------|---------------------|--------------------|-----------|----------------|
| Momentary        | White              | Plastic              | IP67                | translucent        | 84-1091.7 | 294            |

Wiring diagrams

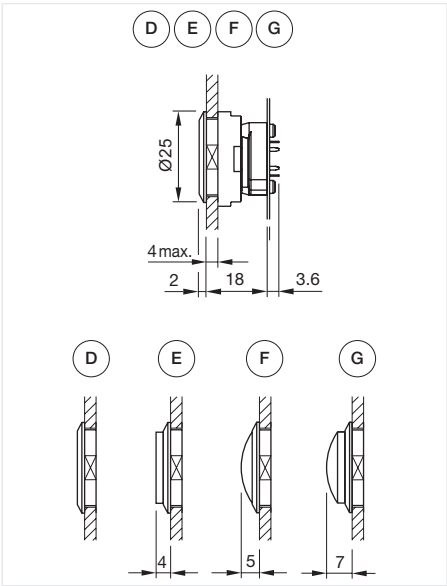


# 84 Flush design

## Pushbutton ring illumination PCB, IP67



Product can differ from the current configuration.



Dimensions [mm]  
D = Lens level with bezel  
E = Lens raised above bezel  
F = Lens konvexe level with bezel  
G = Lens konvexe raised above bezel

### Equipment consisting of (schematic overview)

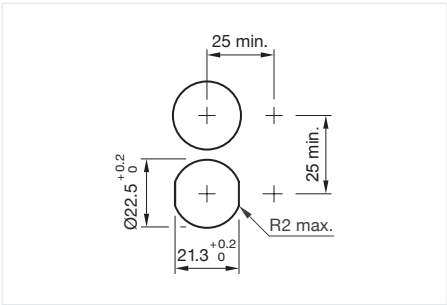
|                                                                                     |                   |         |
|-------------------------------------------------------------------------------------|-------------------|---------|
|  | Lens              | Page 34 |
|  | Actuator          |         |
|  | Fixing nut        |         |
|  | Mounting flange   | Page 48 |
|  | Single-LED        | Page 38 |
|  | Switching element | Page 39 |

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.

### General information

- The mini TOP LEDs are not part of delivery. Recommendation: Osram Hyper Mini TOP LED



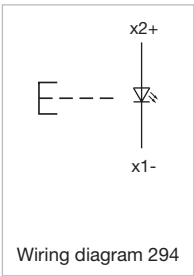
Mounting cut-outs [mm]



Actuator, Front dimension Ø 25 mm

| Switching action | Front bezel colour | Front bezel material | IP front protection | Front bezel optics | Part No.  | Wiring diagram |
|------------------|--------------------|----------------------|---------------------|--------------------|-----------|----------------|
| Momentary        | Colourless         | Plastic              | IP67                | transparent        | 84-1081.7 | 294            |

## Wiring diagrams

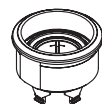


Pushbutton Halo Compact, IP67

Equipment consisting of (schematic overview)



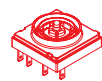
Lens



Actuator



Fixing nut



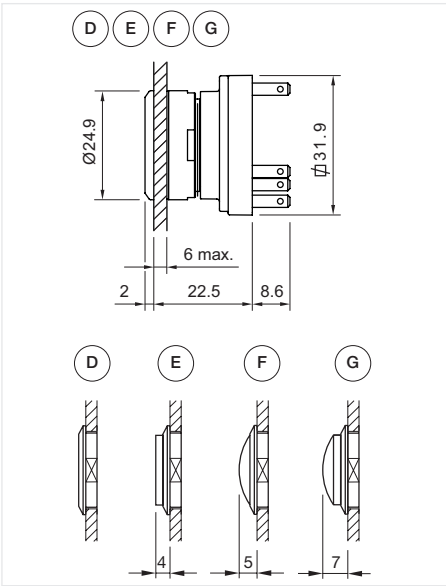
Switching element

Page 34

Page 39

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

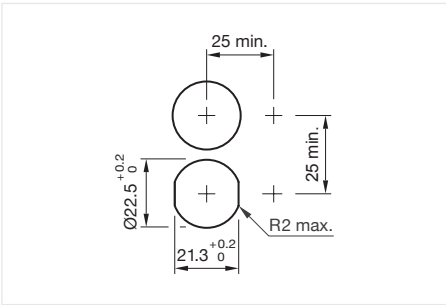
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
D = Lens level with bezel  
E = Lens raised above bezel  
F = Lens konvexe level with bezel  
G = Lens convexe raised above bezel



Product can differ from the current configuration.



Mounting cut-outs [mm]

General information

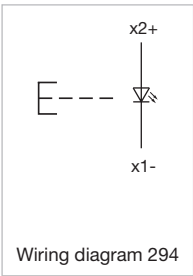
- The mini TOP LEDs are not part of delivery. Recommendation: Osram Hyper Mini TOP LED



Actuator, Front dimension Ø 25 mm

| Switching action | Front bezel colour | Front bezel material | IP front protection | Front bezel optics | Part No.  | Wiring diagram |
|------------------|--------------------|----------------------|---------------------|--------------------|-----------|----------------|
| Momentary        | Colourless         | Plastic              | IP67                | transparent        | 84-1081.7 | 294            |

Wiring diagrams

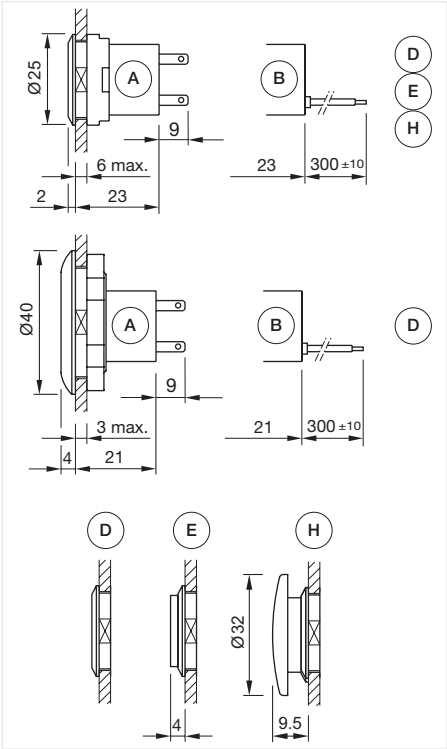


# 84 Flush design

## Illuminated pushbutton standard, IP40, IP67

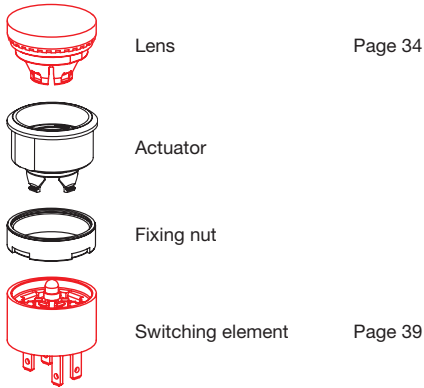


Product can differ from the current configuration.



Dimensions [mm]  
A = Plug-in terminal 2.8 mm x 0.5 mm  
B = Flat ribbon cable  
D = Lens level with bezel  
E = Lens raised above bezel  
H = Mushroom-head cap

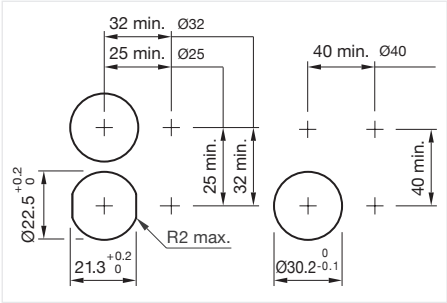
### Equipment consisting of (schematic overview)



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

- Illuminated lens, non-illuminated bezel
- The colour of anodised aluminium parts can vary due to technical production reasons

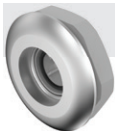


Mounting cut-outs [mm]



Actuator

| Switching action | Front bezel colour | Front bezel material | IP front protection | Dimensions | Part No.  | Wiring diagram |
|------------------|--------------------|----------------------|---------------------|------------|-----------|----------------|
| Momentary        | Black              | Plastic              | IP67                | Ø 25 mm    | 84-1101.0 | 72             |
|                  | Black              | Aluminium            | IP67                | Ø 25 mm    | 84-1201.0 | 72             |
|                  | Red                | Aluminium            | IP67                | Ø 25 mm    | 84-1201.2 | 72             |
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|                  | Olive              | Aluminium            | IP67                | Ø 25 mm    | 84-1201.5 | 72             |
|                  | Blue               | Aluminium            | IP67                | Ø 25 mm    | 84-1201.6 | 72             |
|                  | Nature             | Aluminium            | IP67                | Ø 25 mm    | 84-1201.7 | 72             |
|                  | Black              | Plastic              | IP40                | Ø 25 mm    | 84-2101.0 | 294            |



Actuator

| Switching action | Front bezel colour | Front bezel material | IP front protection | Dimensions | Part No.  | Wiring diagram |
|------------------|--------------------|----------------------|---------------------|------------|-----------|----------------|
| Momentary        | Nature             | Aluminium            | IP67                | Ø 40 mm    | 84-1221.7 | 294            |

Wiring diagrams

E---

Wiring diagram 72

x2+  
E---  
x1-

Wiring diagram 294



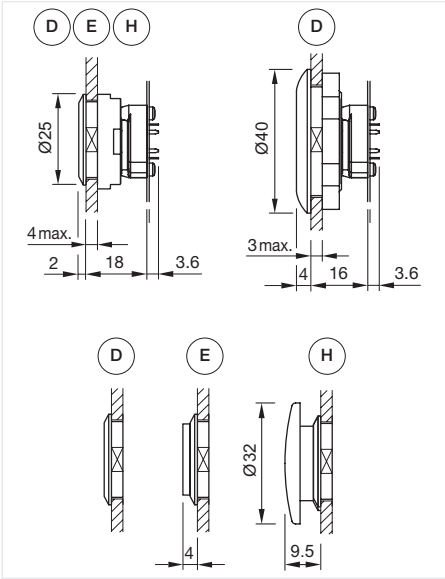
On our website you can download technical data, assembly instructions, catalogs, brochures and much more.

# 84 Flush design

## Illuminated pushbutton PCB standard, IP40, IP67



Product can differ from the current configuration.



Dimensions [mm]  
A = Lens level with bezel  
E = Lens raised above bezel  
H = Mushroom-head cap

Equipment consisting of (schematic overview)

Lens

Page 34

Actuator

Fixing nut

Mounting flange

Page 48

Single-LED

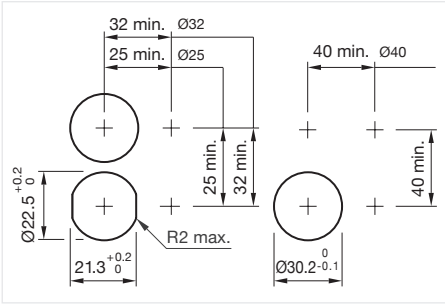
Page 38

Switching element

Page 39

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- General information
- Illuminated lens, non-illuminated bezel
  - The colour of anodised aluminium parts can vary due to technical production reasons

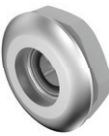


Mounting cut-outs [mm]



Actuator

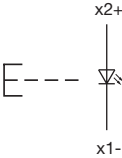
| Switching action | Front bezel colour | Front bezel material | IP front protection | Dimensions | Part No.  | Wiring diagram |
|------------------|--------------------|----------------------|---------------------|------------|-----------|----------------|
| Momentary        | Black              | Plastic              | IP67                | Ø 25 mm    | 84-1101.0 | 72             |
|                  | Black              | Aluminium            | IP67                | Ø 25 mm    | 84-1201.0 | 72             |
|                  | Red                | Aluminium            | IP67                | Ø 25 mm    | 84-1201.2 | 72             |
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|                  | Nature             | Aluminium            | IP67                | Ø 25 mm    | 84-1201.7 | 72             |
|                  | Black              | Plastic              | IP40                | Ø 25 mm    | 84-2101.0 | 294            |



Actuator

| Switching action | Front bezel colour | Front bezel material | IP front protection | Dimensions | Part No.  | Wiring diagram |
|------------------|--------------------|----------------------|---------------------|------------|-----------|----------------|
| Momentary        | Nature             | Aluminium            | IP67                | Ø 40 mm    | 84-1221.7 | 294            |

Wiring diagrams

|                                                                                   |                                                                                   |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |  |
| Wiring diagram 72                                                                 | Wiring diagram 294                                                                |

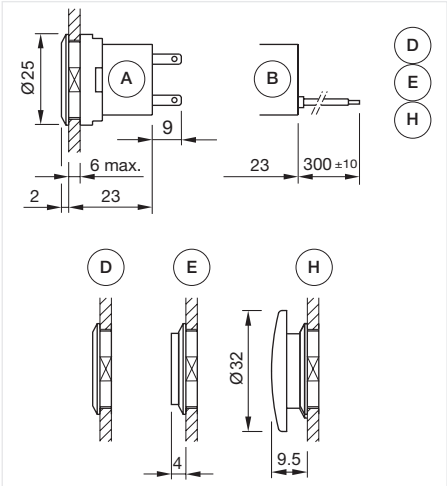
|           |
|-----------|
| 01        |
| 02        |
| 03        |
| 04        |
| 09        |
| 14        |
| 17        |
| 18        |
| 19        |
| 22        |
| 31        |
| 41        |
| 45        |
| 51        |
| 56        |
| 57        |
| 61        |
| 70        |
| 71        |
| 82  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

84 Flush design

Indicator standard, IP40, IP67

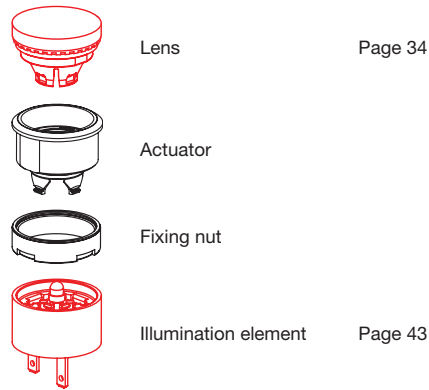


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B = Flat ribbon cable  
D = Lens level with bezel  
E = Lens raised above bezel  
H = Mushroom-head cap

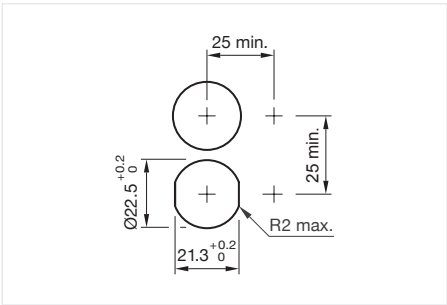
Equipment consisting of (schematic overview)



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.

General information

- Illuminated lens, non-illuminated bezel
- The colour of anodised aluminium parts can vary due to technical production reasons



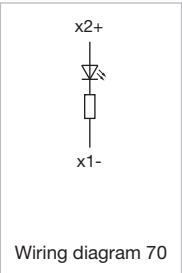
Mounting cut-outs [mm]



Actuator, Front dimension Ø 25 mm

| IP front protection | Front bezel colour | Front bezel material | Part No.  | Wiring diagram |
|---------------------|--------------------|----------------------|-----------|----------------|
| IP67                | Black              | Plastic              | 84-0100.0 | 70             |
|                     | Nature             | Aluminium            | 84-0200.7 | 70             |
| IP40                | Black              | Plastic              | 84-3100.0 | 70             |

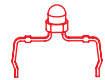
Wiring diagrams



Wiring diagram 70

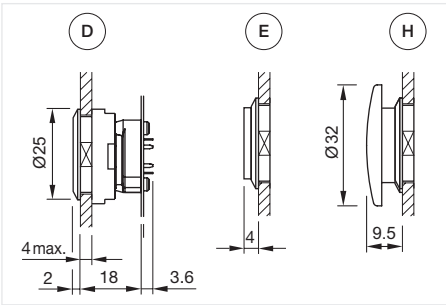
Indicator PCB standard, IP40, IP67

Equipment consisting of (schematic overview)

|                                                                                   |                      |         |
|-----------------------------------------------------------------------------------|----------------------|---------|
|  | Lens                 | Page 34 |
|  | Actuator             |         |
|  | Fixing nut           |         |
|  | Mounting flange      | Page 48 |
|  | Single-LED           | Page 38 |
|  | Illumination element | Page 43 |

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.



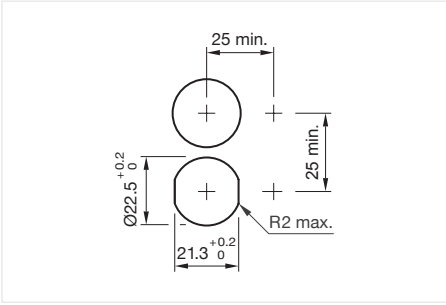
Dimensions [mm]  
A = Lens level with bezel  
E = Lens raised above bezel  
H = Mushroom-head cap



Product can differ from the current configuration.

General information

- Illuminated lens, non-illuminated bezel
- The colour of anodised aluminium parts can vary due to technical production reasons



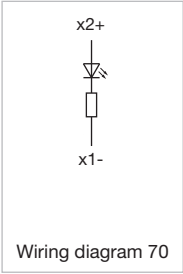
Mounting cut-outs [mm]



Actuator, Front dimension Ø 25 mm

| IP front protection | Front bezel colour | Front bezel material | Part No.  | Wiring diagram |
|---------------------|--------------------|----------------------|-----------|----------------|
| IP67                | Black              | Plastic              | 84-0100.0 | 70             |
|                     | Nature             | Aluminium            | 84-0200.7 | 70             |
| IP40                | Black              | Plastic              | 84-3100.0 | 70             |

Wiring diagrams



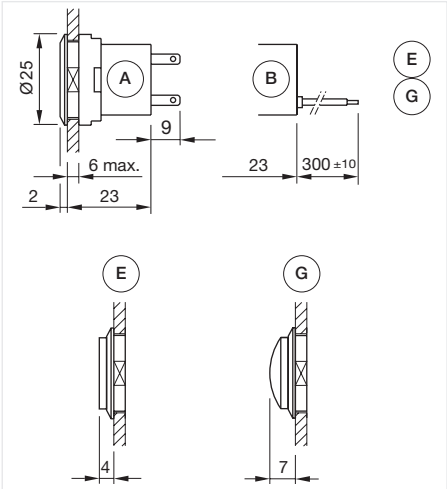
Wiring diagram 70

84 Flush design

Indicator ring illumination standard, IP67



Product can differ from the current configuration.



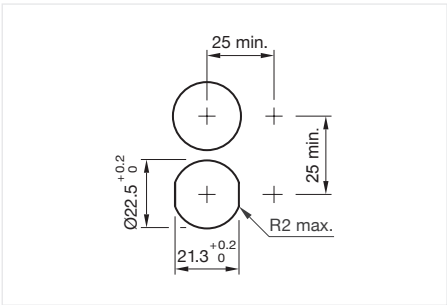
Dimensions [mm]  
A = Plug-in terminal 2.8 mm x 0.5 mm  
B = Flat ribbon cable  
E = Lens raised above bezel  
G = Lens convexe raised above bezel

Equipment consisting of (schematic overview)

|  |                      |         |
|--|----------------------|---------|
|  | Lens                 | Page 34 |
|  | Actuator             |         |
|  | Fixing nut           |         |
|  | Illumination element | Page 43 |

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.

- General information
- Front bezel illuminated
  - Accessories for halo illumination: Essential lenses Part No. 84-7202.x00A and 84-7205.x00A



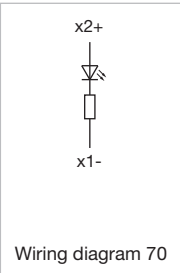
Mounting cut-outs [mm]



Actuator, Front dimension Ø 25 mm

| IP front protection | Front bezel colour | Front bezel material | Front bezel optics | Part No.  | Wiring diagram |
|---------------------|--------------------|----------------------|--------------------|-----------|----------------|
| IP67                | Colourless         | Plastic              | translucent        | 84-0090.7 | 70             |

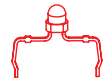
Wiring diagrams



Wiring diagram 70

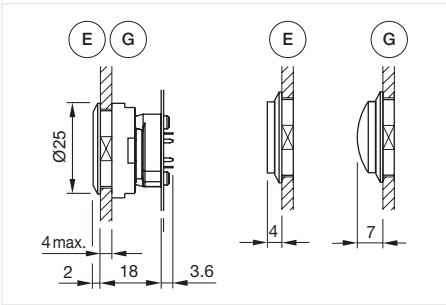
Indicator ring illumination PCB standard, IP67

Equipment consisting of (schematic overview)

|                                                                                   |                      |         |
|-----------------------------------------------------------------------------------|----------------------|---------|
|  | Lens                 | Page 34 |
|  | Actuator             |         |
|  | Fixing nut           |         |
|  | Mounting flange      | Page 48 |
|  | Single-LED           | Page 38 |
|  | Illumination element | Page 43 |

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

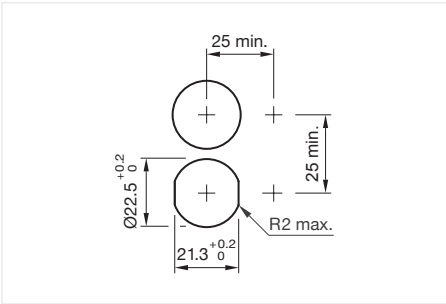
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
E = Lens raised above bezel  
G = Lens convex raised above bezel



Product can differ from the current configuration.



Mounting cut-outs [mm]

General information

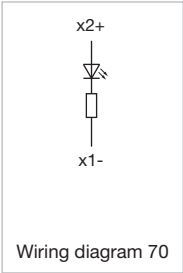
- Front bezel illuminated
- Accessories for halo illumination: Essential lenses Part No. 84-7202.x00A and 84-7205.x00A



Actuator, Front dimension Ø 25 mm

| IP front protection | Front bezel colour | Front bezel material | Front bezel optics | Part No.  | Wiring diagram |
|---------------------|--------------------|----------------------|--------------------|-----------|----------------|
| IP67                | Colourless         | Plastic              | translucent        | 84-0090.7 | 70             |

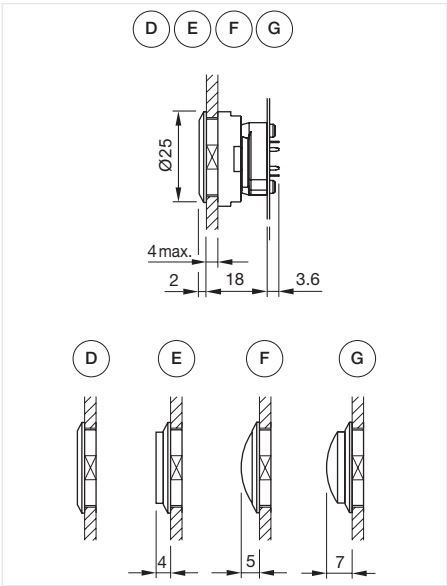
Wiring diagrams



Indicator ring illumination PCB, IP67



Product can differ from the current configuration.



Dimensions [mm]  
D = Lens level with bezel  
E = Lens raised above bezel  
F = Lens konvexe level with bezel  
G = Lens convexe raised above bezel

Equipment consisting of (schematic overview)

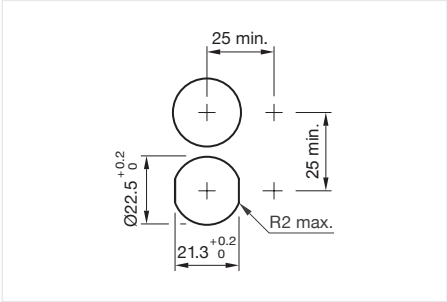
|  |                      |         |
|--|----------------------|---------|
|  | Lens                 | Page 34 |
|  | Actuator             |         |
|  | Fixing nut           |         |
|  | Mounting flange      | Page 48 |
|  | Single-LED           | Page 38 |
|  | Illumination element | Page 43 |

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.

General information

- The mini TOP LEDs are not part of delivery. Recommendation: Osram Hyper Mini TOP LED



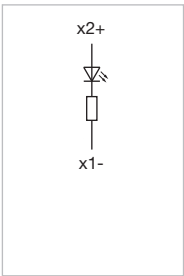
Mounting cut-outs [mm]



Actuator, Front dimension Ø 25 mm

| IP front protection | Front bezel colour | Front bezel material | Front bezel optics | Part No.  | Wiring diagram |
|---------------------|--------------------|----------------------|--------------------|-----------|----------------|
| IP67                | Colourless         | Plastic              | transparent        | 84-0080.7 | 70             |

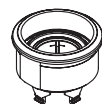
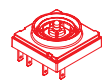
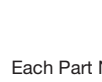
Wiring diagrams



Wiring diagram 70

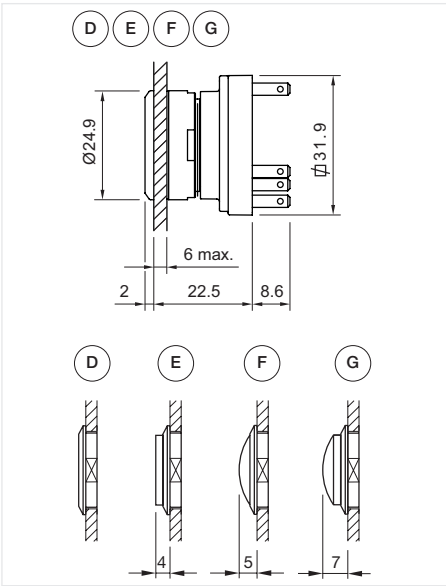
Indicator Halo Compact, IP67

Equipment consisting of (schematic overview)

|                                                                                   |                   |         |
|-----------------------------------------------------------------------------------|-------------------|---------|
|  | Lens              | Page 34 |
|  | Actuator          |         |
|  | Fixing nut        |         |
|  | Mounting flange   | Page 48 |
|  | Single-LED        | Page 38 |
|  | Switching element | Page 39 |

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

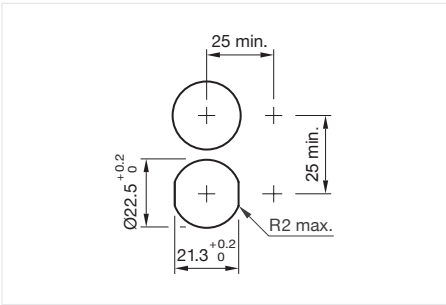
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]  
D = Lens level with bezel  
E = Lens raised above bezel  
F = Lens konvexe level with bezel  
G = Lens konvexe raised above bezel



Product can differ from the current configuration.



Mounting cut-outs [mm]

General information

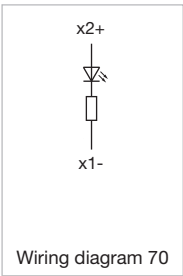
- The mini TOP LEDs are not part of delivery. Recommendation: Osram Hyper Mini TOP LED



Actuator, Front dimension Ø 25 mm

| IP front protection | Front bezel colour | Front bezel material | Front bezel optics | Part No.  | Wiring diagram |
|---------------------|--------------------|----------------------|--------------------|-----------|----------------|
| IP67                | Colourless         | Plastic              | transparent        | 84-0080.7 | 70             |

Wiring diagrams



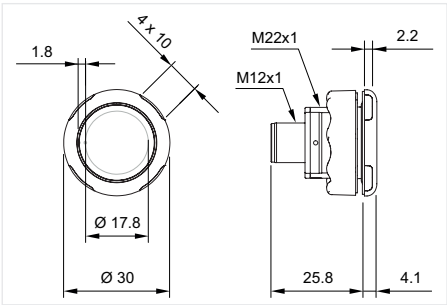
Wiring diagram 70

# 84 Flush design

## IO-Link Touch Standard, IP69K

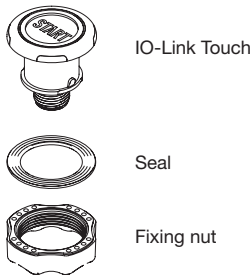


Product can differ from the current configuration.



Dimensions [mm]

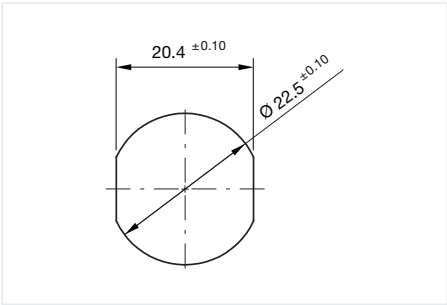
### Equipment consisting of (schematic overview)



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

### General information

- Actuation type: Touch
- Actuating force:  
No actuating force necessary
- Circuit: Capacitive
- Communication interface:  
IO-Link Specification 1.1
- Connector: M12



Mounting cut-outs [mm]

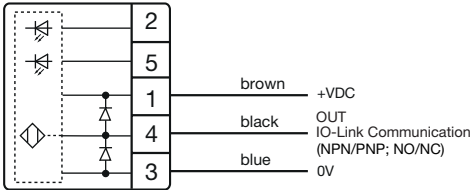


### IO-Link Touch Standard, Front dimension Ø 30 mm

| Front bezel material | Output | Output pulse | LED control | Preconfigured Led colour 1 | Preconfigured Led colour 2 | Symbol | Part No.         |
|----------------------|--------|--------------|-------------|----------------------------|----------------------------|--------|------------------|
| Plastic              | PNP-NO | Dynamic      | Automatic   | Green                      | Red                        | B10    | 84-ASKS-B10-049C |
|                      |        |              |             |                            |                            | B11    | 84-ASKS-B11-049D |
|                      |        |              |             |                            |                            | B12    | 84-ASKS-B12-049E |
|                      |        |              |             |                            |                            | B13    | 84-ASKS-B13-049F |
|                      |        |              |             |                            |                            | B14    | 84-ASKS-B14-04A0 |
|                      |        |              |             |                            |                            | B15    | 84-ASKS-B15-04A1 |
|                      |        |              |             |                            |                            | C10    | 84-ASKS-C10-04A2 |
|                      |        |              |             |                            |                            | C11    | 84-ASKS-C11-04A3 |
|                      |        |              |             |                            |                            | C12    | 84-ASKS-C12-04A4 |
|                      |        |              |             |                            |                            | C14    | 84-ASKS-C14-04A5 |
|                      |        |              |             |                            |                            | C16    | 84-ASKS-C16-04A6 |
|                      |        |              |             |                            |                            | C17    | 84-ASKS-C17-04A7 |
|                      |        |              |             |                            |                            | C18    | 84-ASKS-C18-04A8 |
|                      |        |              |             |                            |                            | C19    | 84-ASKS-C19-04A9 |
|                      |        |              |             |                            |                            | C20    | 84-ASKS-C20-049B |

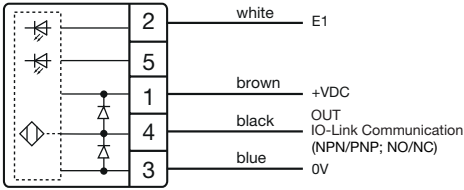
Wiring diagrams

3-pole



Wiring diagram 466

4-pole



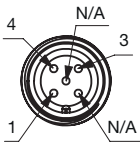
Wiring diagram 467

5-pole



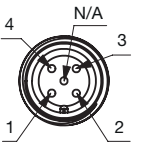
Wiring diagram 468

Component layouts



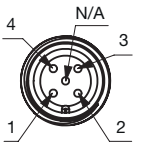
Component layout 109

Connector M12 3-pole



Component layouts 110

Connector M12 4-pole



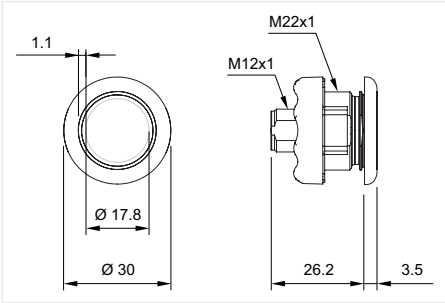
Component layouts 111

Connector M12 5-pole

IO-Link Touch Stainless Steel, IP69K

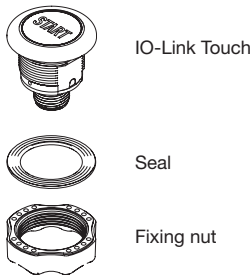


Product can differ from the current configuration.



Dimensions [mm]

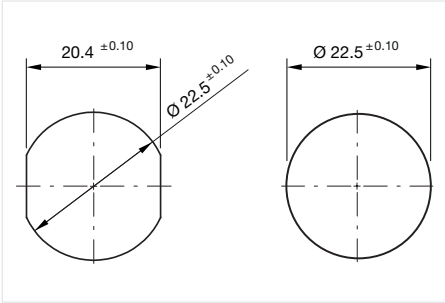
Equipment consisting of (schematic overview)



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

General information

- Actuation type: Touch
- Actuating force: No actuating force necessary
- Circuit: Capacitive
- Communication interface: IO-Link Specification 1.1
- Connector: M12



Mounting cut-outs [mm]

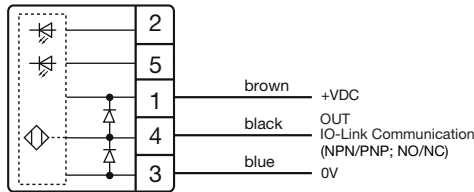


IO-Link Touch Stainless Steel, Front dimension Ø 30 mm

| Front bezel material        | Output | Output pulse | LED control | Preconfigured Led colour 1 | Preconfigured Led colour 2 | Symbol | Part No.         |
|-----------------------------|--------|--------------|-------------|----------------------------|----------------------------|--------|------------------|
| Stainless Steel<br>SUS 316L | PNP-NO | Dynamic      | Automatic   | Green                      | Red                        | B10    | 84-ADKS-B10-04AA |
|                             |        |              |             |                            |                            | B11    | 84-ADKS-B11-04AB |
|                             |        |              |             |                            |                            | B12    | 84-ADKS-B12-04AC |
|                             |        |              |             |                            |                            | B13    | 84-ADKS-B13-04AD |
|                             |        |              |             |                            |                            | B14    | 84-ADKS-B14-04AE |
|                             |        |              |             |                            |                            | B15    | 84-ADKS-B15-04AF |
|                             |        |              |             |                            |                            | C10    | 84-ADKS-C10-04B0 |
|                             |        |              |             |                            |                            | C11    | 84-ADKS-C11-04B1 |
|                             |        |              |             |                            |                            | C12    | 84-ADKS-C12-04B2 |
|                             |        |              |             |                            |                            | C14    | 84-ADKS-C14-04B3 |
|                             |        |              |             |                            |                            | C16    | 84-ADKS-C16-04B4 |
|                             |        |              |             |                            |                            | C17    | 84-ADKS-C17-04B5 |
|                             |        |              |             |                            |                            | C18    | 84-ADKS-C18-04B6 |
|                             |        |              |             |                            |                            | C19    | 84-ADKS-C19-04B7 |
|                             |        |              |             |                            |                            | C20    | 84-ADKS-C20-04B8 |

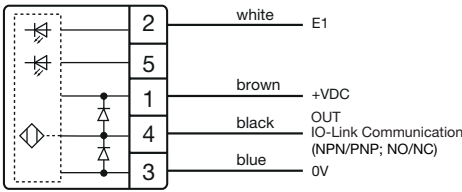
# Wiring diagrams

3-pole



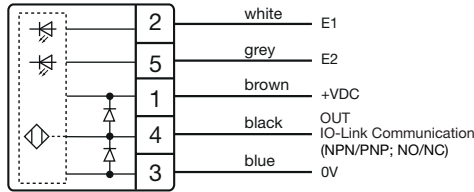
Wiring diagram 466

4-pole



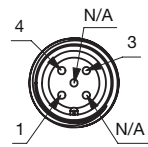
Wiring diagram 467

5-pole



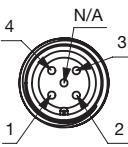
Wiring diagram 468

# Component layouts



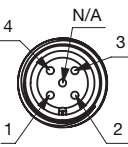
Component layout 109

Connector M12 3-pole



Component layouts 110

Connector M12 4-pole



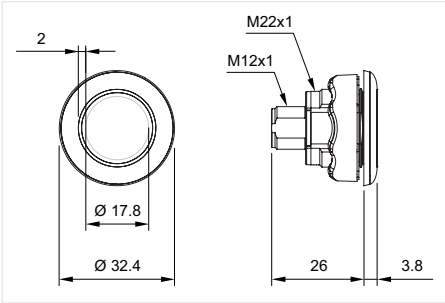
Component layouts 111

Connector M12 5-pole

IO-Link Touch Hygienic, IP69K

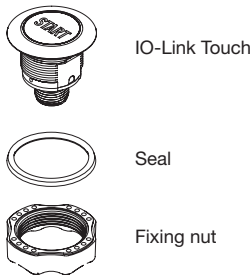


Product can differ from the current configuration.



Dimensions [mm]

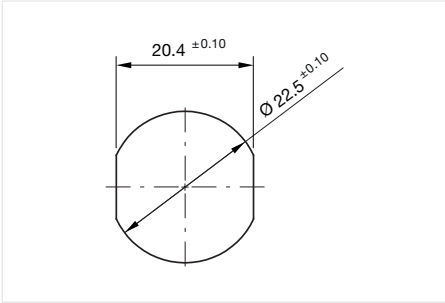
Equipment consisting of (schematic overview)



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

General information

- Actuation type: Touch
- Actuating force: No actuating force necessary
- Circuit: Capacitive
- Communication interface: IO-Link Specification 1.1
- Connector: M12



Mounting cut-outs [mm]

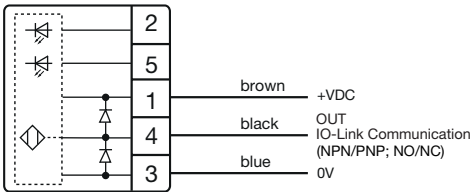


IO-Link Touch Hygienic, Front dimension Ø 30 mm

| Front bezel material        | Output  | Output pulse | LED control | Preconfigured Led colour 1 | Preconfigured Led colour 2 | Symbol | Part No.         |
|-----------------------------|---------|--------------|-------------|----------------------------|----------------------------|--------|------------------|
| Stainless Steel<br>SUS 316L | Dynamic | Automatic    | Green       | Red                        | Rot                        | B10    | 84-ACKS-B10-04B9 |
|                             |         |              |             |                            |                            | B11    | 84-ACKS-B11-04BA |
|                             |         |              |             |                            |                            | B12    | 84-ACKS-B12-04BB |
|                             |         |              |             |                            |                            | B13    | 84-ACKS-B13-04BC |
|                             |         |              |             |                            |                            | B14    | 84-ACKS-B14-04BD |
|                             |         |              |             |                            |                            | B15    | 84-ACKS-B15-04BE |
|                             |         |              |             |                            |                            | C10    | 84-ACKS-C10-04BF |
|                             |         |              |             |                            |                            | C11    | 84-ACKS-C11-04C0 |
|                             |         |              |             |                            |                            | C12    | 84-ACKS-C12-04C1 |
|                             |         |              |             |                            |                            | C14    | 84-ACKS-C14-04C2 |
|                             |         |              |             |                            |                            | C16    | 84-ACKS-C16-04C3 |
|                             |         |              |             |                            |                            | C17    | 84-ACKS-C17-04C4 |
|                             |         |              |             |                            |                            | C18    | 84-ACKS-C18-04C5 |
|                             |         |              |             |                            |                            | C19    | 84-ACKS-C19-04C6 |
|                             |         |              |             |                            |                            | C20    | 84-ACKS-C20-04C7 |

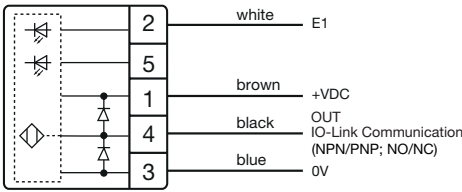
Wiring diagrams

3-pole



Wiring diagram 466

4-pole



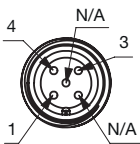
Wiring diagram 467

5-pole



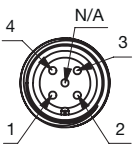
Wiring diagram 468

Component layouts



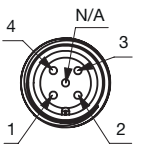
Component layout 109

Connector M12 3-pole



Component layouts 110

Connector M12 4-pole



Component layouts 111

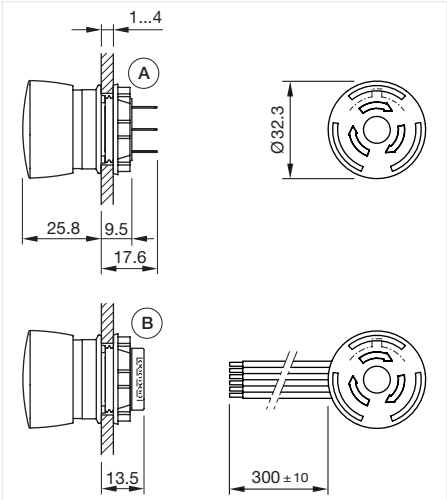
Connector M12 5-pole

# 84 Raised design

## Stop switch, IP65, IP66, IP67

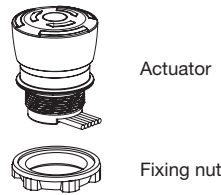


Product can differ from the current configuration.



Dimensions [mm]  
A = Plug-in terminal 2.8 mm x 0.5 mm  
B = Flat ribbon cable

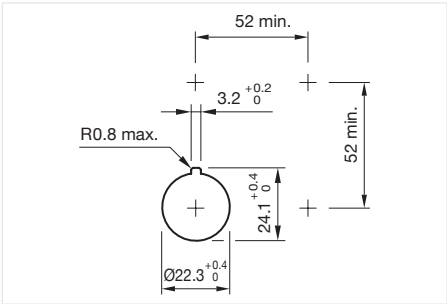
### Equipment consisting of (schematic overview)



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

### General information

- Position indication ring black
- Lens plastic grey



Mounting cut-outs [mm]

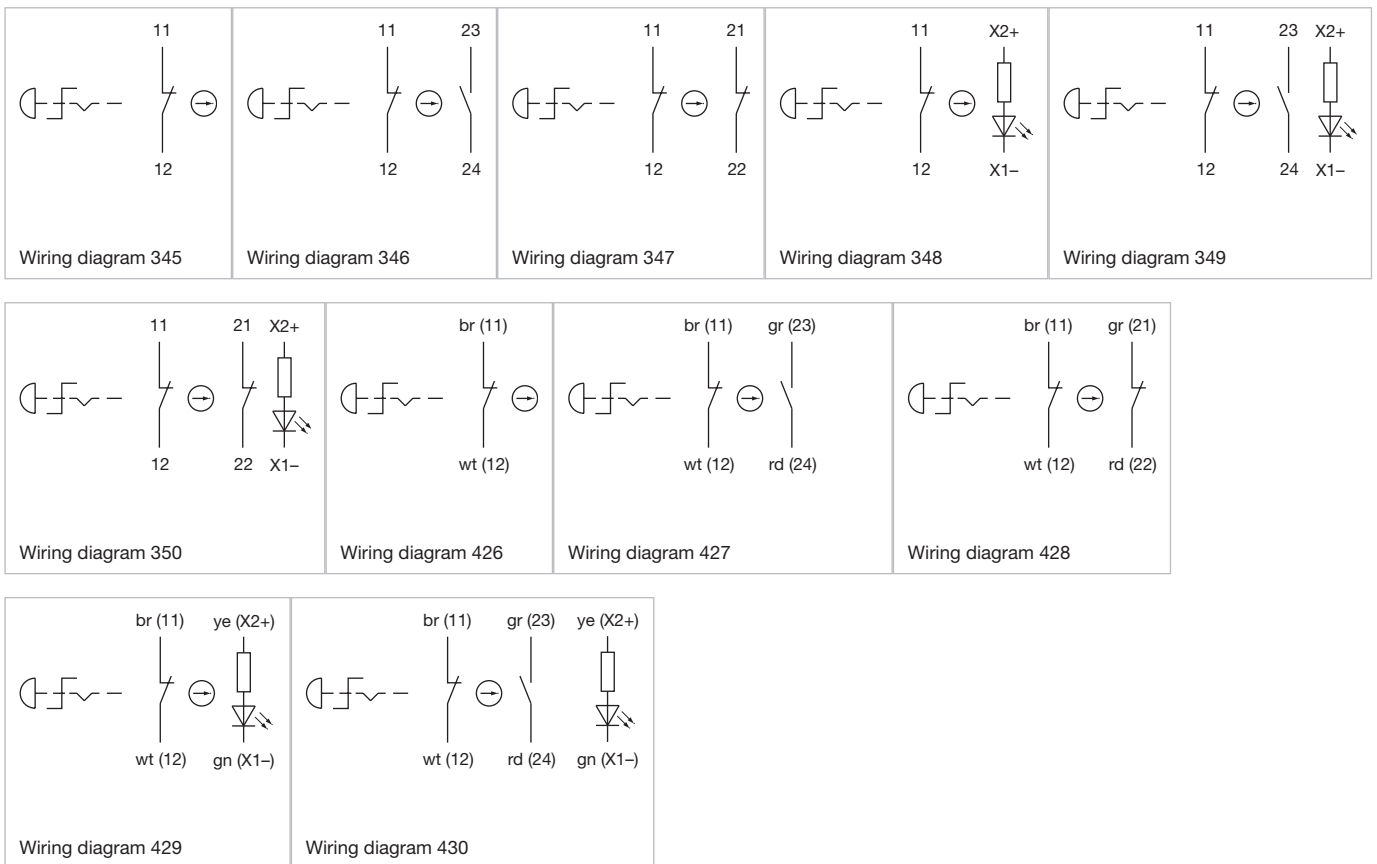


## Stop switch, Front dimension Ø 32 mm

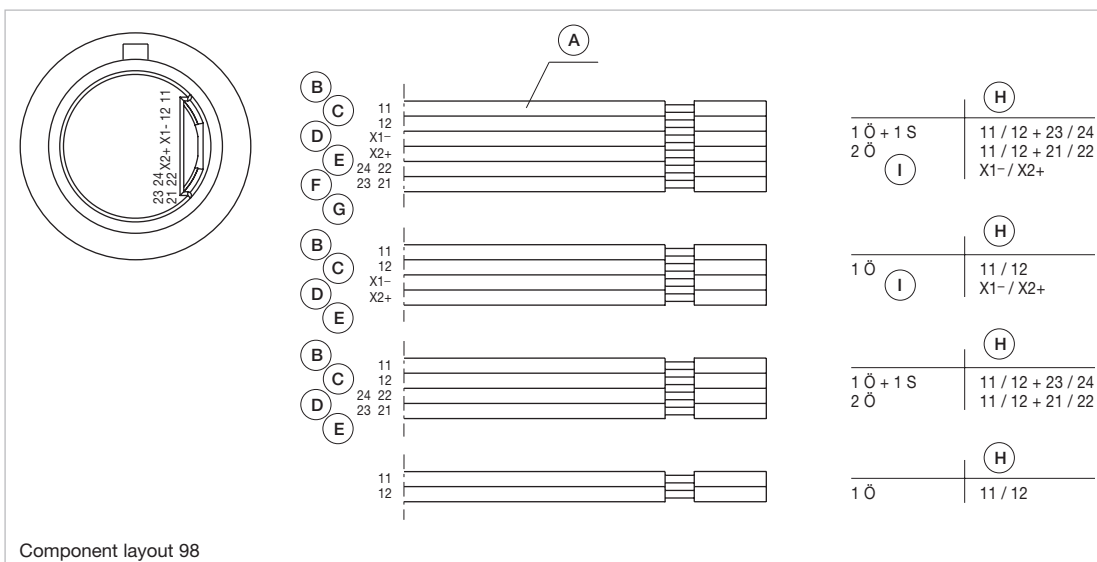
| Switching action | Contacts    | Terminal                 | Illumination colour | Part No.     | Wiring diagram | Component Layout |
|------------------|-------------|--------------------------|---------------------|--------------|----------------|------------------|
| Maintained       | 1 NC        | Plug-in terminal         |                     | 84-6220.0020 | 345            | 99               |
|                  | 1 NC        | Flat ribbon cable 300 mm |                     | 84-6220.0040 | 426            | 98               |
|                  | 1 NC        | Plug-in terminal         | Red                 | 84-6221.2B20 | 348            | 99               |
|                  | 1 NC        | Flat ribbon cable 300 mm | Red                 | 84-6221.2B40 | 429            | 98               |
|                  | 1 NC / 1 NO | Plug-in terminal         |                     | 84-6230.0020 | 346            | 99               |
|                  | 1 NC / 1 NO | Flat ribbon cable 300 mm |                     | 84-6230.0040 | 427            | 98               |
|                  | 1 NC / 1 NO | Plug-in terminal         | Red                 | 84-6231.2B20 | 349            | 99               |
|                  | 1 NC / 1 NO | Flat ribbon cable 300 mm | Red                 | 84-6231.2B40 | 431            | 98               |
|                  | 2 NC        | Plug-in terminal         |                     | 84-6240.0020 | 347            | 99               |
|                  | 2 NC        | Flat ribbon cable 300 mm |                     | 84-6240.0040 | 428            | 98               |
|                  | 2 NC        | Plug-in terminal         | Red                 | 84-6241.2B20 | 350            | 99               |
|                  | 2 NC        | Flat ribbon cable 300 mm | Red                 | 84-6241.2B40 | 430            | 98               |

Contacts: NC = Normally closed, NO = Normally open

## Wiring diagrams



## Component layouts

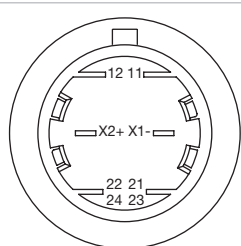


Dimensions [mm]

A = Cable  
B = white  
C = brown  
D = green  
E = yellow  
F = grey  
G = pink  
H = Terminals  
I = Illumination

# 84 Raised design

## Component layouts



Component layout 99



**Compact, attractive and reliable.**  
*Series 84 E-Stop switches.*

Ideal for challenging applications – thanks to the attractive design and the very low back panel depth.

- Robust mono-block
- Foolproof and fail-safe design
- Very low back panel depth
- Attractive, modern design and protection IP65/67
- Reliable and long service life
- Clearly visible illumination

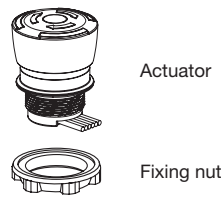
**eao** ■

[www.eao.com/84-e-stop](http://www.eao.com/84-e-stop)

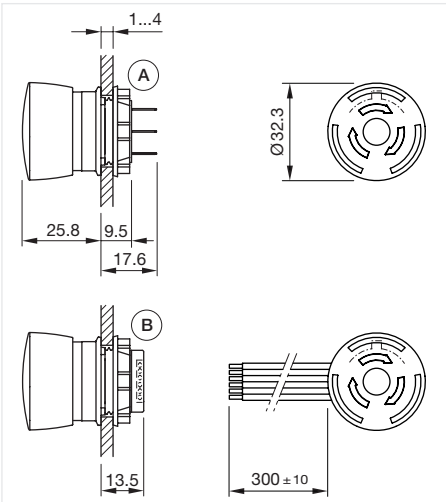
Your Expert Partner for Human Machine Interfaces

Emergency stop switch, IP65, IP66, IP67

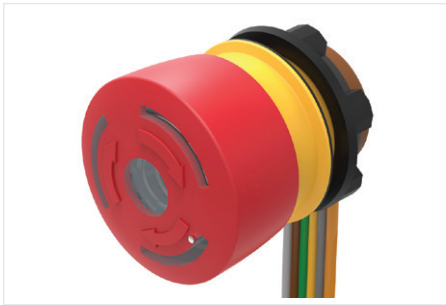
Equipment consisting of (schematic overview)



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

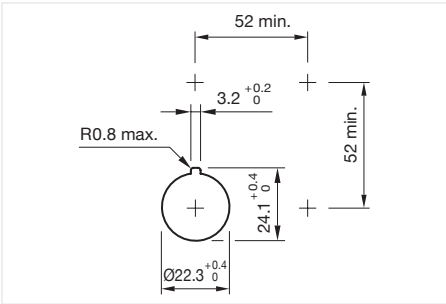


Dimensions [mm]  
A = Plug-in terminal 2.8 mm x 0.5 mm  
B = Flat ribbon cable



General information

- Lens plastic red



Emergency stop switch, Front dimension Ø 32 mm

| Switching action | Contacts    | Terminal          | Illumination colour | Product attributes            | Part No.     | Wiring diagram | Component Layout |
|------------------|-------------|-------------------|---------------------|-------------------------------|--------------|----------------|------------------|
| Maintained       | 1 NC        | Plug-in terminal  |                     | Switching position ring black | 84-5220.0020 | 345            | 99               |
|                  | 1 NC        | Flat ribbon cable |                     | Switching position ring black | 84-5220.0040 | 426            | 98               |
|                  | 1 NC        | Plug-in terminal  | Red                 | Switching position ring black | 84-5221.2B20 | 348            | 99               |
|                  | 1 NC        | Flat ribbon cable | Red                 | Switching position ring black | 84-5221.2B40 | 429            | 98               |
|                  | 1 NC / 1 NO | Plug-in terminal  |                     | Switching position ring black | 84-5230.0020 | 346            | 99               |
|                  | 1 NC / 1 NO | Flat ribbon cable |                     | Switching position ring black | 84-5230.0040 | 427            | 98               |
|                  | 1 NC / 1 NO | Plug-in terminal  | Red                 | Switching position ring black | 84-5231.2B20 | 349            | 99               |
|                  | 1 NC / 1 NO | Flat ribbon cable | Red                 | Switching position ring black | 84-5231.2B40 | 430            | 98               |
|                  | 2 NC        | Plug-in terminal  |                     | Switching position ring black | 84-5240.0020 | 347            | 99               |
|                  | 2 NC        | Flat ribbon cable |                     | Switching position ring black | 84-5240.0040 | 428            | 98               |
|                  | 2 NC        | Plug-in terminal  | Red                 | Switching position ring black | 84-5241.2B20 | 350            | 99               |
|                  | 2 NC        | Flat ribbon cable | Red                 | Switching position ring black | 84-5241.2B40 | 431            | 98               |
|                  | 1 NC        | Plug-in terminal  |                     | Switching position ring green | 84-5320.0020 | 345            | 99               |

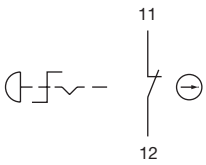
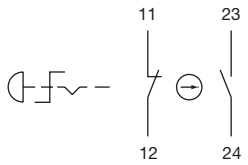
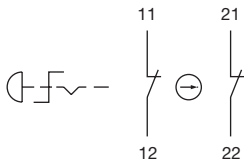
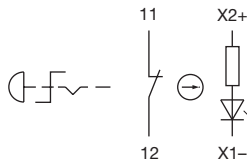
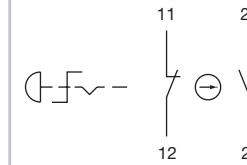
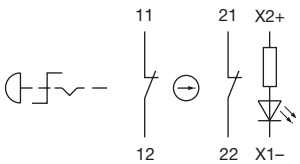
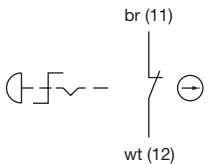
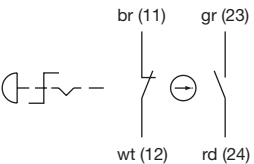
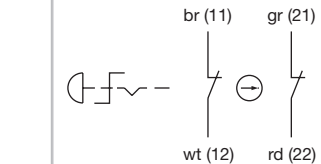
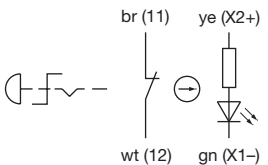
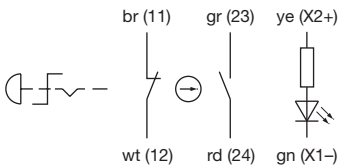
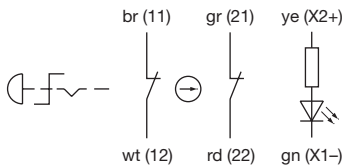
Contacts: NC = Normally closed, NO = Normally open

# 84 Raised design

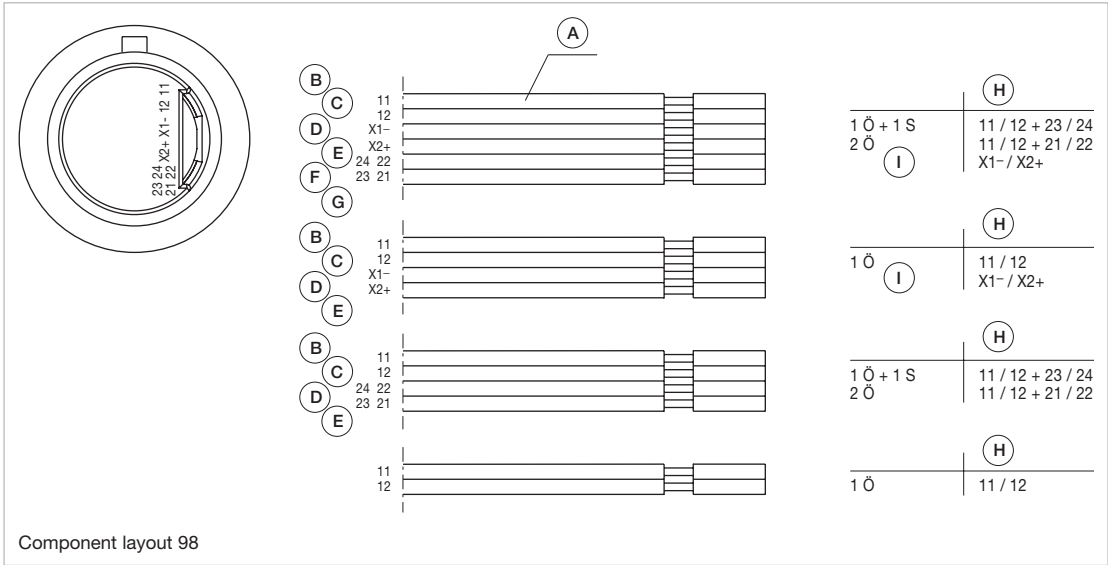
| Switching action | Contacts    | Terminal          | Illumination colour | Product attributes                                        | Part No.     | Wiring diagram | Component Layout |
|------------------|-------------|-------------------|---------------------|-----------------------------------------------------------|--------------|----------------|------------------|
| Maintained       | 1 NC        | Flat ribbon cable |                     | Switching position ring green                             | 84-5320.0040 | 426            | 98               |
|                  | 1 NC        | Plug-in terminal  | Red                 | Switching position ring green                             | 84-5321.2B20 | 347            | 99               |
|                  | 1 NC        | Flat ribbon cable | Red                 | Switching position ring green                             | 84-5321.2B40 | 429            | 98               |
|                  | 1 NC / 1 NO | Plug-in terminal  |                     | Switching position ring green                             | 84-5330.0020 | 346            | 99               |
|                  | 1 NC / 1 NO | Flat ribbon cable |                     | Switching position ring green                             | 84-5330.0040 | 427            | 98               |
|                  | 1 NC / 1 NO | Plug-in terminal  | Red                 | Switching position ring green                             | 84-5331.2B20 | 349            | 99               |
|                  | 1 NC / 1 NO | Flat ribbon cable | Red                 | Switching position ring green                             | 84-5331.2B40 | 430            | 98               |
|                  | 2 NC        | Plug-in terminal  |                     | Twist to unlock clockwise, position indication ring green | 84-5340.0020 | 347            | 99               |
|                  | 2 NC        | Flat ribbon cable |                     | Twist to unlock clockwise, position indication ring green | 84-5340.0040 | 428            | 98               |
|                  | 2 NC        | Plug-in terminal  | Red                 | Twist to unlock clockwise, position indication ring green | 84-5341.2B20 | 350            | 99               |
|                  | 2 NC        | Flat ribbon cable | Red                 | Twist to unlock clockwise, position indication ring green | 84-5341.2B40 | 431            | 98               |

Contacts: NC = Normally closed, NO = Normally open

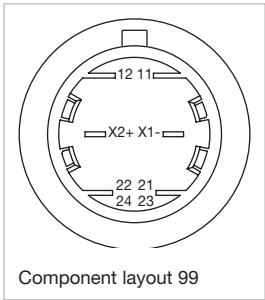
## Wiring diagrams

|                                                                                                               |                                                                                                               |                                                                                                                |                                                                                                                |                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|  <p>Wiring diagram 345</p> |  <p>Wiring diagram 346</p> |  <p>Wiring diagram 347</p>  |  <p>Wiring diagram 348</p> |  <p>Wiring diagram 349</p> |
|  <p>Wiring diagram 350</p> |  <p>Wiring diagram 426</p> |  <p>Wiring diagram 427</p>  |  <p>Wiring diagram 428</p> |                                                                                                                 |
|  <p>Wiring diagram 429</p> |  <p>Wiring diagram 430</p> |  <p>Wiring diagram 431</p> |                                                                                                                |                                                                                                                 |

Component layouts



Dimensions [mm]  
A = Cable  
B = white  
C = brown  
D = green  
E = yellow  
F = grey  
G = pink  
H = Terminals  
I = Illumination

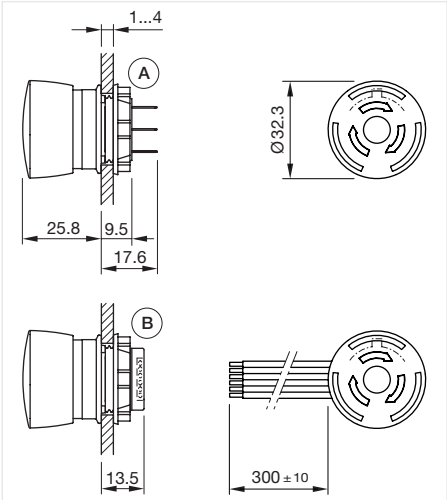


# 84 Raised design

## Emergency stop switch, Bi-Colour, IP65, IP66, IP67

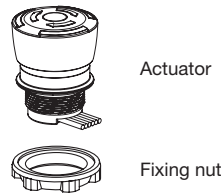


Product can differ from the current configuration.



Dimensions [mm]  
A = Plug-in terminal 2.8 mm x 0.5 mm  
B = Flat ribbon cable

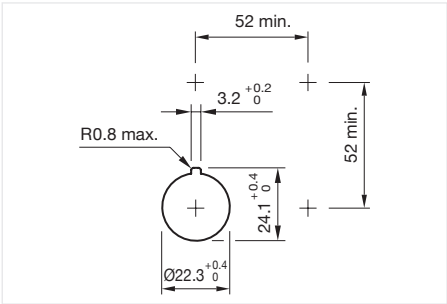
### Equipment consisting of (schematic overview)



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

### General information

- Lens plastic red
- Without built-in series resistor
- Operating voltage LED 2,0 VDC (Red), 3,05 VDC (Green)



Mounting cut-outs [mm]

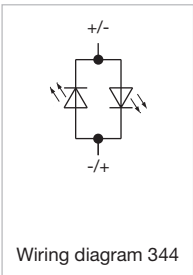


### Emergency Stop Switch, Front dimension Ø 32 mm

| Switching action | Contacts | Terminal         | Illumination colour | Product attributes                                        | Part No.     | Wiring diagram | Component Layout |
|------------------|----------|------------------|---------------------|-----------------------------------------------------------|--------------|----------------|------------------|
| Maintained       | 2 NC     | Plug-in terminal | Red / Green         | Twist to unlock clockwise, position indication ring black | 84-5241.8D20 | 344            | 99               |
|                  | 2 NC     | Plug-in terminal | Red / Green         | Twist to unlock clockwise, position indication ring green | 84-5341.8D20 | 344            | 99               |

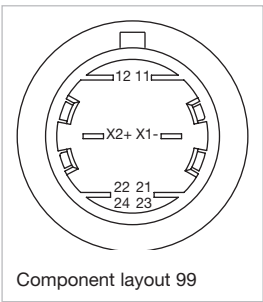
Contacts: NC = Normally closed

Wiring diagrams



Wiring diagram 344

Component layouts



Component layout 99

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

# 84 Components



## Lens for stop request pushbutton

| Lens material | Lens colour | Lens optics | Lens shape | Lens illumination | Lens type                | Symbol     | Dimensions | Part No.     |
|---------------|-------------|-------------|------------|-------------------|--------------------------|------------|------------|--------------|
| Aluminium     | Nature      | opaque      | flush      | non illuminative  | raised above front bezel | Door open  | Ø 19.7 mm  | 84-7205.804A |
|               | Nature      | opaque      | flush      | non illuminative  | raised above front bezel | Wheelchair | Ø 19.7 mm  | 84-7205.805A |
|               | Nature      | opaque      | flush      | non illuminative  | raised above front bezel | Baby pram  | Ø 19.7 mm  | 84-7205.806A |
|               | Nature      | opaque      | flush      | non illuminative  | raised above front bezel | Bell       | Ø 19.7 mm  | 84-7205.808A |

### Additional information

- With raised labelling symbol, TSI compliant
- The colour of anodised aluminium parts can vary due to technical production reasons



## Lens metall for halo illumination

| Lens material | Lens colour | Lens optics | Lens shape | Lens illumination | Lens type                | Dimensions | Part No.     |
|---------------|-------------|-------------|------------|-------------------|--------------------------|------------|--------------|
| Aluminium     | Black       | opaque      | flush      | non illuminative  | raised above front bezel | Ø 19.7 mm  | 84-7205.000A |
|               | Red         | opaque      | flush      | non illuminative  | raised above front bezel | Ø 19.7 mm  | 84-7205.200A |
|               | Olive green | opaque      | flush      | non illuminative  | raised above front bezel | Ø 19.7 mm  | 84-7205.500A |
|               | Blue        | opaque      | flush      | non illuminative  | raised above front bezel | Ø 19.7 mm  | 84-7205.600A |
|               | Nature      | opaque      | flush      | non illuminative  | raised above front bezel | Ø 19.7 mm  | 84-7205.800A |
|               | Black       | opaque      | convex     | non illuminative  | raised above front bezel | Ø 19.7 mm  | 84-7202.000A |
|               | Red         | opaque      | convex     | non illuminative  | raised above front bezel | Ø 19.7 mm  | 84-7202.200A |
|               | Blue        | opaque      | convex     | non illuminative  | raised above front bezel | Ø 19.7 mm  | 84-7202.600A |
|               | Nature      | opaque      | convex     | non illuminative  | raised above front bezel | Ø 19.7 mm  | 84-7202.800A |

### Additional information

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

**Lens plastic**

| Lens material | Lens colour | Lens optics | Lens shape | Lens illumination | Lens type                | Dimensions | Part No.    |
|---------------|-------------|-------------|------------|-------------------|--------------------------|------------|-------------|
| Plastic       | Red         | transparent | flush      | illuminative      | level with front bezel   | Ø 19.7 mm  | 84-7111.200 |
|               | Orange      | transparent | flush      | illuminative      | level with front bezel   | Ø 19.7 mm  | 84-7111.300 |
|               | Yellow      | transparent | flush      | illuminative      | level with front bezel   | Ø 19.7 mm  | 84-7111.400 |
|               | Green       | transparent | flush      | illuminative      | level with front bezel   | Ø 19.7 mm  | 84-7111.500 |
|               | Blue        | transparent | flush      | illuminative      | level with front bezel   | Ø 19.7 mm  | 84-7111.600 |
|               | Colourless  | transparent | flush      | illuminative      | level with front bezel   | Ø 19.7 mm  | 84-7111.700 |
|               | Black       | opaque      | flush      | non illuminative  | level with front bezel   | Ø 19.7 mm  | 84-7121.000 |
|               | Grey        | opaque      | flush      | non illuminative  | level with front bezel   | Ø 19.7 mm  | 84-7121.800 |
|               | Red         | transparent | flush      | illuminative      | raised above front bezel | Ø 19.7 mm  | 84-7115.200 |
|               | Orange      | transparent | flush      | illuminative      | raised above front bezel | Ø 19.7 mm  | 84-7115.300 |
|               | Yellow      | transparent | flush      | illuminative      | raised above front bezel | Ø 19.7 mm  | 84-7115.400 |
|               | Green       | transparent | flush      | illuminative      | raised above front bezel | Ø 19.7 mm  | 84-7115.500 |
|               | Blue        | transparent | flush      | illuminative      | raised above front bezel | Ø 19.7 mm  | 84-7115.600 |
|               | Colourless  | transparent | flush      | illuminative      | raised above front bezel | Ø 19.7 mm  | 84-7115.700 |
|               | Black       | opaque      | flush      | non illuminative  | raised above front bezel | Ø 19.7 mm  | 84-7125.000 |
|               | Grey        | opaque      | flush      | non illuminative  | raised above front bezel | Ø 19.7 mm  | 84-7125.800 |



Lens plastic with symbol

| Lens material | Lens colour | Lens optics | Lens shape | Lens illumination | Lens type              | Symbol  | Dimensions | Part No.    |
|---------------|-------------|-------------|------------|-------------------|------------------------|---------|------------|-------------|
| Plastic       | Red         | transparent | flush      | illuminative      | level with front bezel | Ring    | Ø 19.7 mm  | 84-7111.201 |
|               | Orange      | transparent | flush      | illuminative      | level with front bezel | Ring    | Ø 19.7 mm  | 84-7111.301 |
|               | Yellow      | transparent | flush      | illuminative      | level with front bezel | Ring    | Ø 19.7 mm  | 84-7111.401 |
|               | Green       | transparent | flush      | illuminative      | level with front bezel | Ring    | Ø 19.7 mm  | 84-7111.501 |
|               | Blue        | transparent | flush      | illuminative      | level with front bezel | Ring    | Ø 19.7 mm  | 84-7111.601 |
|               | Colourless  | transparent | flush      | illuminative      | level with front bezel | Ring    | Ø 19.7 mm  | 84-7111.701 |
|               | Green       | transparent | flush      | illuminative      | level with front bezel | ON/OFF  | Ø 19.7 mm  | 84-7111.502 |
|               | Blue        | transparent | flush      | illuminative      | level with front bezel | ON/OFF  | Ø 19.7 mm  | 84-7111.602 |
|               | Colourless  | transparent | flush      | illuminative      | level with front bezel | ON/OFF  | Ø 19.7 mm  | 84-7111.702 |
|               | Green       | transparent | flush      | illuminative      | level with front bezel | Standby | Ø 19.7 mm  | 84-7111.503 |
|               | Blue        | transparent | flush      | illuminative      | level with front bezel | Standby | Ø 19.7 mm  | 84-7111.603 |
|               | Colourless  | transparent | flush      | illuminative      | level with front bezel | Standby | Ø 19.7 mm  | 84-7111.703 |

Additional information

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

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### Lens metal

| Lens material | Lens colour | Lens optics | Lens shape | Lens illumination | Lens type                | Dimensions | Part No.    |
|---------------|-------------|-------------|------------|-------------------|--------------------------|------------|-------------|
| Aluminium     | Black       | opaque      | flush      | non illuminative  | level with front bezel   | Ø 19.7 mm  | 84-7201.000 |
|               | Red         | opaque      | flush      | non illuminative  | level with front bezel   | Ø 19.7 mm  | 84-7201.200 |
|               | Gold        | opaque      | flush      | non illuminative  | level with front bezel   | Ø 19.7 mm  | 84-7201.400 |
|               | Olive green | opaque      | flush      | non illuminative  | level with front bezel   | Ø 19.7 mm  | 84-7201.500 |
|               | Blue        | opaque      | flush      | non illuminative  | level with front bezel   | Ø 19.7 mm  | 84-7201.600 |
|               | Nature      | opaque      | flush      | non illuminative  | level with front bezel   | Ø 19.7 mm  | 84-7201.800 |
|               | Black       | opaque      | flush      | non illuminative  | raised above front bezel | Ø 19.7 mm  | 84-7205.000 |
|               | Red         | opaque      | flush      | non illuminative  | raised above front bezel | Ø 19.7 mm  | 84-7205.200 |
|               | Olive green | opaque      | flush      | non illuminative  | raised above front bezel | Ø 19.7 mm  | 84-7205.500 |
|               | Blue        | opaque      | flush      | non illuminative  | raised above front bezel | Ø 19.7 mm  | 84-7205.600 |
|               | Nature      | opaque      | flush      | non illuminative  | raised above front bezel | Ø 19.7 mm  | 84-7205.800 |
|               | Black       | opaque      | convex     | non illuminative  | level with front bezel   | Ø 19.7 mm  | 84-7202.000 |
|               | Red         | opaque      | convex     | non illuminative  | level with front bezel   | Ø 19.7 mm  | 84-7202.200 |
|               | Olive green | opaque      | convex     | non illuminative  | level with front bezel   | Ø 19.7 mm  | 84-7202.500 |
|               | Blue        | opaque      | convex     | non illuminative  | level with front bezel   | Ø 19.7 mm  | 84-7202.600 |
|               | Nature      | opaque      | convex     | non illuminative  | level with front bezel   | Ø 19.7 mm  | 84-7202.800 |

#### Additional information

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



### Lens metal with spot

| Lens material | Lens colour | Lens optics | Lens shape | Lens illumination | Lens type                | Dimensions | Part No.    |
|---------------|-------------|-------------|------------|-------------------|--------------------------|------------|-------------|
| Aluminium     | Black       | opaque      | flush      | illuminative      | level with front bezel   | Ø 19.7 mm  | 84-7211.000 |
|               | Red         | opaque      | flush      | illuminative      | level with front bezel   | Ø 19.7 mm  | 84-7211.200 |
|               | Gold        | opaque      | flush      | illuminative      | level with front bezel   | Ø 19.7 mm  | 84-7211.400 |
|               | Olive green | opaque      | flush      | illuminative      | level with front bezel   | Ø 19.7 mm  | 84-7211.500 |
|               | Blue        | opaque      | flush      | illuminative      | level with front bezel   | Ø 19.7 mm  | 84-7211.600 |
|               | Nature      | opaque      | flush      | illuminative      | level with front bezel   | Ø 19.7 mm  | 84-7211.800 |
|               | Black       | opaque      | flush      | illuminative      | raised above front bezel | Ø 19.7 mm  | 84-7215.000 |
|               | Red         | opaque      | flush      | illuminative      | raised above front bezel | Ø 19.7 mm  | 84-7215.200 |
|               | Gold        | opaque      | flush      | illuminative      | raised above front bezel | Ø 19.7 mm  | 84-7215.400 |
|               | Olive green | opaque      | flush      | illuminative      | raised above front bezel | Ø 19.7 mm  | 84-7215.500 |
|               | Blue        | opaque      | flush      | illuminative      | raised above front bezel | Ø 19.7 mm  | 84-7215.600 |
|               | Nature      | opaque      | flush      | illuminative      | raised above front bezel | Ø 19.7 mm  | 84-7215.800 |

#### Additional information

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

# 84 Components



Mushroom-head cap

| Lens material | Lens colour | Lens optics | Lens shape    | Lens illumination | Part No.     |
|---------------|-------------|-------------|---------------|-------------------|--------------|
| Plastic       | Blue        | transparent | mushroom-head | illuminative      | 84-7114.600A |
|               | Black       | opaque      | mushroom-head | non illuminative  | 84-7124.000A |
|               | Red         | opaque      | mushroom-head | non illuminative  | 84-7124.200A |



Marking plate

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

Additional information

- Can be hot stamped



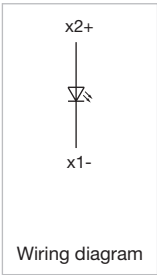
Single-LED, T1 3/4 MG

| Illumination colour | Lumi. Intensity | Dom. Wavelength      | Forward voltage | Part No.      | Wiring diagram |
|---------------------|-----------------|----------------------|-----------------|---------------|----------------|
| Red                 | 160 mcd         | 625 nm               | 2.0 VDC @ 20 mA | 10-2601.3172S | 4              |
| Amber               | 165 mcd         | 605 nm               | 2.0 VDC @ 20 mA | 10-2601.3173S | 4              |
| Yellow              | 600 mcd         | 580 nm               | 2.9 VDC @ 20 mA | 10-2603.3174S | 4              |
| Green               | 650 mcd         | 525 nm               | 3.2 VDC @ 20 mA | 10-2603.3175S | 4              |
| Blue                | 250 mcd         | 467 nm               | 3.0 VDC @ 20 mA | 10-2603.3176S | 4              |
| White               | 500 mcd         | x: 0,31 / y: 0,32 nm | 3.2 VDC @ 20 mA | 10-2603.3178S | 4              |

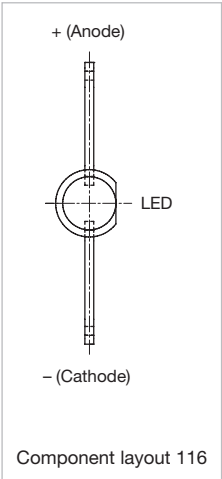
Additional information

- The customer has to decide what series resistor shall be used to 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

## Wiring diagrams



Component layouts



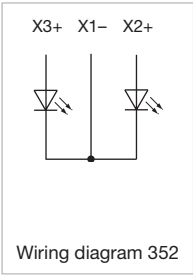
Bi-colour LED,T1 Bi-Pin

| Illumination colour | Lumi. Intensity | Dom. Wavelength | Forward voltage       | Part No.      | Wiring diagram |
|---------------------|-----------------|-----------------|-----------------------|---------------|----------------|
| Red / Green         | 1900/4200 mcd   | 630 / 525 nm    | 1.9 / 3.3 VDC @ 20 mA | 10-2603.320AT | 352            |
| Green / Yellow      | 1100/900 mcd    | 588 / 525 nm    | 2.0 / 3.2 VDC @ 20 mA | 10-2603.320CT | 352            |

Additional information

- The customer has to decide what series resistor shall be used to 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

Wiring diagrams



# 84 Components



## Switching element with illumination and plug-in terminal

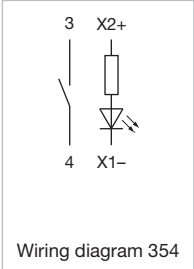
| IP Protection | Illumination colour | Operating voltage  | Operation current | Terminal         | Part No.     | Wiring diagram |
|---------------|---------------------|--------------------|-------------------|------------------|--------------|----------------|
| IP40          | Red                 | 12 V DC $\pm 10\%$ | 10 mA             | Plug-in terminal | 84-8511.2320 | 354            |
|               | Orange              | 12 V DC $\pm 10\%$ | 10 mA             | Plug-in terminal | 84-8511.3320 | 354            |
|               | Yellow              | 12 V DC $\pm 10\%$ | 10 mA             | Plug-in terminal | 84-8511.4320 | 354            |
|               | Green               | 12 V DC $\pm 10\%$ | 10 mA             | Plug-in terminal | 84-8511.5320 | 354            |
|               | Blue                | 12 V DC $\pm 10\%$ | 10 mA             | Plug-in terminal | 84-8511.6320 | 354            |
|               | White               | 12 V DC $\pm 10\%$ | 10 mA             | Plug-in terminal | 84-8511.9320 | 354            |
|               | Red                 | 24 V DC $\pm 10\%$ | 10 mA             | Plug-in terminal | 84-8511.2620 | 354            |
|               | Orange              | 24 V DC $\pm 10\%$ | 10 mA             | Plug-in terminal | 84-8511.3620 | 354            |
|               | Yellow              | 24 V DC $\pm 10\%$ | 10 mA             | Plug-in terminal | 84-8511.4620 | 354            |
|               | Green               | 24 V DC $\pm 10\%$ | 10 mA             | Plug-in terminal | 84-8511.5620 | 354            |
|               | Blue                | 24 V DC $\pm 10\%$ | 10 mA             | Plug-in terminal | 84-8511.6620 | 354            |
|               | White               | 24 V DC $\pm 10\%$ | 10 mA             | Plug-in terminal | 84-8511.9620 | 354            |

Contacts: NO = Normally open

Additional information

- LED and built-in resistor included
- Standard version: Cable length 300 mm
- Other options on request: Customisation of cable and connectors, rear side fully sealed (IP 67)
- Protection degree (rear side): IP 40, upgrade to IP 67 with plug Part No. 84-900 possible. With applications where strong vibrations occur, the plugs may become loose
- 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

## Wiring diagrams





## Switching element with illumination and flat ribbon cable

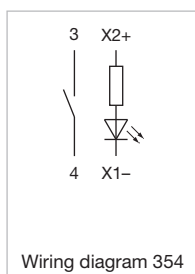
| IP Protection | Illumination colour | Operating voltage  | Operation current | Terminal          | Part No.     | Wiring diagram | Component Layout |
|---------------|---------------------|--------------------|-------------------|-------------------|--------------|----------------|------------------|
| IP40          | Red                 | 12 V DC $\pm 10\%$ | 10 mA             | Flat ribbon cable | 84-8511.2340 | 354            | 119              |
|               | Yellow              | 12 V DC $\pm 10\%$ | 10 mA             | Flat ribbon cable | 84-8511.4340 | 354            | 119              |
|               | Green               | 12 V DC $\pm 10\%$ | 10 mA             | Flat ribbon cable | 84-8511.5340 | 354            | 119              |
|               | Blue                | 12 V DC $\pm 10\%$ | 10 mA             | Flat ribbon cable | 84-8511.6340 | 354            | 119              |
|               | White               | 12 V DC $\pm 10\%$ | 10 mA             | Flat ribbon cable | 84-8511.9340 | 354            | 119              |
|               | Red                 | 24 V DC $\pm 10\%$ | 10 mA             | Flat ribbon cable | 84-8511.2640 | 354            | 119              |
|               | Orange              | 24 V DC $\pm 10\%$ | 10 mA             | Flat ribbon cable | 84-8511.3640 | 354            | 119              |
|               | Yellow              | 24 V DC $\pm 10\%$ | 10 mA             | Flat ribbon cable | 84-8511.4640 | 354            | 119              |
|               | Green               | 24 V DC $\pm 10\%$ | 10 mA             | Flat ribbon cable | 84-8511.5640 | 354            | 119              |
|               | Blue                | 24 V DC $\pm 10\%$ | 10 mA             | Flat ribbon cable | 84-8511.6640 | 354            | 119              |
|               | White               | 24 V DC $\pm 10\%$ | 10 mA             | Flat ribbon cable | 84-8511.9640 | 354            | 119              |

Contacts: NO = Normally open

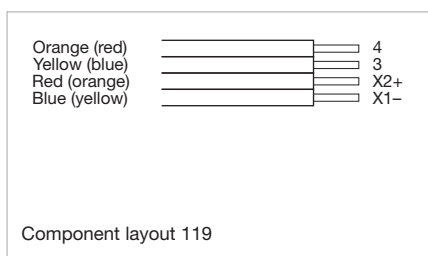
### Additional information

- LED and built-in resistor included
- Standard version: Cable length 300 mm
- Other options on request: Customisation of cable and connectors, rear side fully sealed (IP 67)
- Protection degree (rear side): IP 40, upgrade to IP 67 with plug Part No. 84-900 possible. With applications where strong vibrations occur, the plugs may become loose
- 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

## Wiring diagrams



## Component layouts



# 84 Components



## Switching element Bi-colour

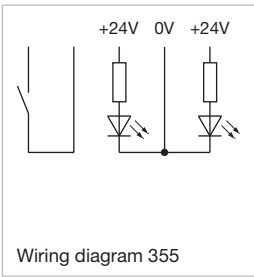
| Operating voltage  | Switching system     | Contacts | Contact material   | Illumination colour | Terminal          | Part No.     | Wiring diagram | Component Layout |
|--------------------|----------------------|----------|--------------------|---------------------|-------------------|--------------|----------------|------------------|
| 24 V DC $\pm 10\%$ | Short-travel element | 1 NO     | Gold-plated silver | Red / Green         | Flat ribbon cable | 84-8515.8640 | 355            | 120              |
|                    | Short-travel element | 1 NO     | Gold-plated silver | Yellow / Green      | Flat ribbon cable | 84-8515.7640 | 355            | 120              |

Contacts: NO = Normally open

### Additional information

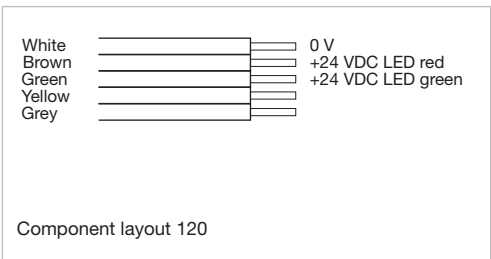
- LED and built-in resistor included
- Cabel connection IP 67, rear side fully sealed. The illumination element of the cable version cannot be disconnected from the actuator any longer
- Best illumination level will be reached with aluminium lens with spot, Part No. 84-7215.x00 and 84-7211.x00
- Standard version: Cable length 300 mm
- Other options on request: Customisation of cable and connectors, rear side fully sealed (IP 67)
- 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

## Wiring diagrams



Wiring diagram 355

## Component layouts



Component layout 120



## Switching element without illumination

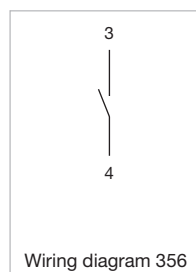
| Switching system     | Contacts | Contact material   | Terminal          | Part No.     | Wiring diagram | Component Layout |
|----------------------|----------|--------------------|-------------------|--------------|----------------|------------------|
| Short-travel element | 1 NO     | Gold-plated silver | Plug-in terminal  | 84-8510.0020 | 356            |                  |
|                      | 1 NO     | Gold-plated silver | Flat ribbon cable | 84-8510.0040 | 356            | 117              |

Contacts: NO = Normally open

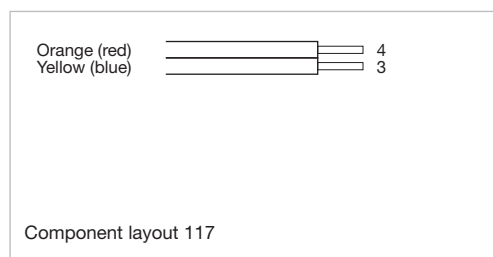
### Additional information

- Standard version: Cable length 300 mm
- Other options on request: Customisation of cable and connectors, rear side fully sealed (IP 67)
- Protection degree (rear side): IP 40, upgrade to IP 67 with plug Part No. 84-900 possible. With applications where strong vibrations occur, the plugs may become loose

## Wiring diagrams



## Component layouts



# 84 Components

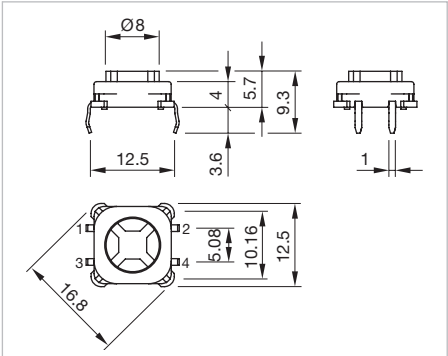


Switching element PCB illuminative

| Switching system     | Contacts | Contact material   | Terminal     | Part No.   | Wiring diagram | Component Layout |
|----------------------|----------|--------------------|--------------|------------|----------------|------------------|
| Short-travel element | 1 NO     | Gold-plated silver | PCB terminal | 92-851.342 | 332            | 82               |

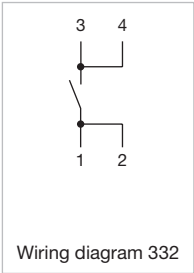
Contacts: NO = Normally open

- Additional information
- The customer has to decide what series resistor shall be used to the LED
  - LED and mounting flange to be ordered separately

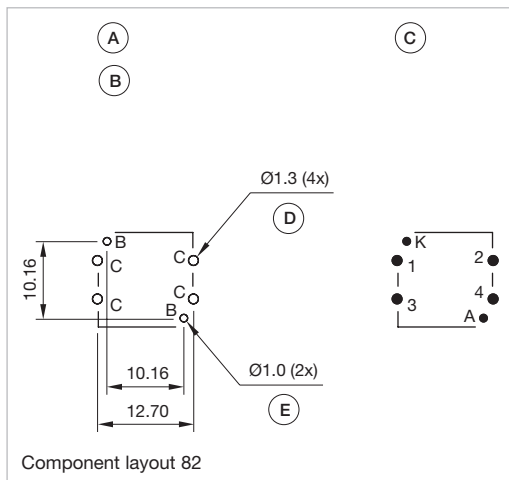


Dimensions [mm]

## Wiring diagrams



## Component layouts



Dimensions [mm]

A = Switching element with illumination

B = Single LED

C = Drilling plan (component side)

D = Hole for switching element, pad max. Ø 2.5 mm

E = Hole for LED

# 84 Components



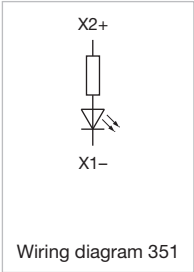
## Illumination element with plug-in terminal

| IP Protection | Illumination colour | Operating voltage  | Terminal         | Part No.     | Wiring diagram |
|---------------|---------------------|--------------------|------------------|--------------|----------------|
| IP40          | Red                 | 12 V DC $\pm 10$ % | Plug-in terminal | 84-8001.2320 | 351            |
|               | Yellow              | 12 V DC $\pm 10$ % | Plug-in terminal | 84-8001.4320 | 351            |
|               | Green               | 12 V DC $\pm 10$ % | Plug-in terminal | 84-8001.5320 | 351            |
|               | Blue                | 12 V DC $\pm 10$ % | Plug-in terminal | 84-8001.6320 | 351            |
|               | White               | 12 V DC $\pm 10$ % | Plug-in terminal | 84-8001.9320 | 351            |
|               | Red                 | 24 V DC $\pm 10$ % | Plug-in terminal | 84-8001.2620 | 351            |
|               | Amber               | 24 V DC $\pm 10$ % | Plug-in terminal | 84-8001.3620 | 351            |
|               | Yellow              | 24 V DC $\pm 10$ % | Plug-in terminal | 84-8001.4620 | 351            |
|               | Green               | 24 V DC $\pm 10$ % | Plug-in terminal | 84-8001.5620 | 351            |
|               | Blue                | 24 V DC $\pm 10$ % | Plug-in terminal | 84-8001.6620 | 351            |
|               | White               | 24 V DC $\pm 10$ % | Plug-in terminal | 84-8001.9620 | 351            |

### Additional information

- LED and built-in resistor included
- Standard version: Cable length 300 mm
- Other options on request: Customisation of cable and connectors, rear side fully sealed (IP 67)
- Protection degree (rear side): IP 40, upgrade to IP 67 with plug Part No. 84-900 possible. With applications where strong vibrations occur, the plugs may become loose
- 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
- Standard version: Cable length 300 mm with insulated ferrule, plug-in terminal 2.8 mm x 0.5 mm

### Wiring diagrams





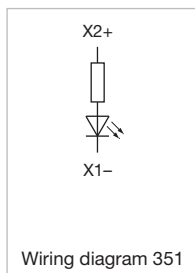
## Illumination element with flat ribbon cable

| IP Protection | Illumination colour | Operating voltage  | Terminal          | Part No.     | Wiring diagram | Component Layout |
|---------------|---------------------|--------------------|-------------------|--------------|----------------|------------------|
| IP40          | Red                 | 12 V DC $\pm 10\%$ | Flat ribbon cable | 84-8001.2340 | 351            | 118              |
|               | Green               | 12 V DC $\pm 10\%$ | Flat ribbon cable | 84-8001.5340 | 351            | 118              |
|               | White               | 12 V DC $\pm 10\%$ | Flat ribbon cable | 84-8001.9340 | 351            | 118              |
|               | Red                 | 24 V DC $\pm 10\%$ | Flat ribbon cable | 84-8001.2640 | 351            | 118              |
|               | Amber               | 24 V DC $\pm 10\%$ | Flat ribbon cable | 84-8001.3640 | 351            | 118              |
|               | Yellow              | 24 V DC $\pm 10\%$ | Flat ribbon cable | 84-8001.4640 | 351            | 118              |
|               | Green               | 24 V DC $\pm 10\%$ | Flat ribbon cable | 84-8001.5640 | 351            | 118              |
|               | Blue                | 24 V DC $\pm 10\%$ | Flat ribbon cable | 84-8001.6640 | 351            | 118              |
|               | White               | 24 V DC $\pm 10\%$ | Flat ribbon cable | 84-8001.9640 | 351            | 118              |

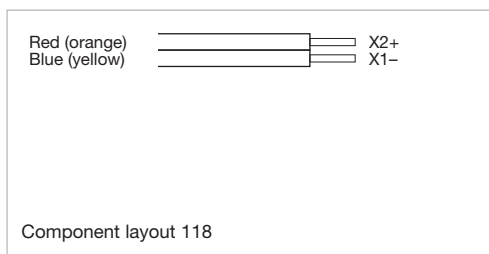
### Additional information

- LED and built-in resistor included
- Standard version: Cable length 300 mm
- Other options on request: Customisation of cable and connectors, rear side fully sealed (IP 67)
- Protection degree (rear side): IP 40, upgrade to IP 67 with plug Part No. 84-900 possible. With applications where strong vibrations occur, the plugs may become loose
- 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

## Wiring diagrams



## Component layouts



# 84 Components



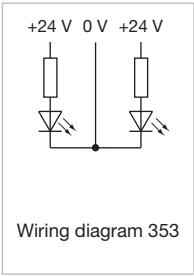
## Illumination element bi-colour

| IP Protection | Illumination colour | Operating voltage     | Terminal          | Part No.     | Wiring diagram | Component Layout |
|---------------|---------------------|-----------------------|-------------------|--------------|----------------|------------------|
| IP40          | Red / Green         | 24 V AC/DC $\pm 10\%$ | Plug-in terminal  | 84-8005.8620 | 353            | 121              |
| IP67          | Red / Green         | 24 V AC/DC $\pm 10\%$ | Flat ribbon cable | 84-8005.8640 | 353            | 121              |

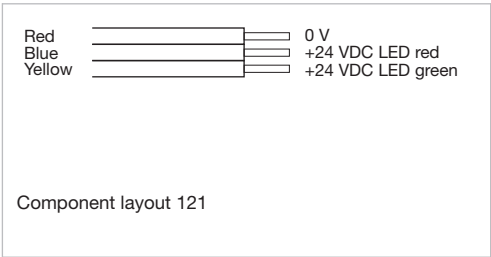
**Additional information**

- LED and built-in resistor included
- Standard version: Cable length 300 mm
- Other options on request: Customisation of cable and connectors, rear side fully sealed (IP 67)
- Best illumination level will be reached with aluminium lens with spot, Part No. 84-7215.x00 and 84-7211.x00
- Protection degree (rear side): IP 40, upgrade to IP 67 with plug Part No. 84-900 possible. With applications where strong vibrations occur, the plugs may become loose
- Cable connection IP 67, rear side fully sealed. The illumination element of the cable version cannot be disconnected from the actuator any longer
- 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

## Wiring diagrams



## Component layouts





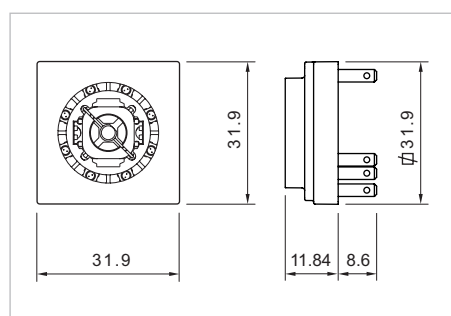
## Switching element Halo Compact

| Operating voltage  | Operation current | Switching system     | Contacts | Contact material   | Illumination colour | Terminal                     | Part No.     | Wiring diagram | Component Layout |
|--------------------|-------------------|----------------------|----------|--------------------|---------------------|------------------------------|--------------|----------------|------------------|
| 24 V DC $\pm 10\%$ | 80 mA             | Short-travel element | 1 NO     | Gold-plated silver | Red                 | Soldering / Plug-in terminal | 84-8716.2620 | 439            | 103              |
|                    | 80 mA             | Short-travel element | 1 NO     | Gold-plated silver | Yellow              | Soldering / Plug-in terminal | 84-8716.4620 | 439            | 103              |
|                    | 80 mA             | Short-travel element | 1 NO     | Gold-plated silver | Green               | Soldering / Plug-in terminal | 84-8716.5620 | 439            | 103              |
|                    | 80 mA             | Short-travel element | 1 NO     | Gold-plated silver | Blue                | Soldering / Plug-in terminal | 84-8716.6620 | 439            | 103              |
|                    | 80 mA             | Short-travel element | 1 NO     | Gold-plated silver | White               | Soldering / Plug-in terminal | 84-8716.9620 | 439            | 103              |
|                    | 80 mA             | Short-travel element | 1 NO     | Gold-plated silver | Red / Green         | Soldering / Plug-in terminal | 84-8716.8620 | 439            | 103              |

Contacts: NO = Normally open

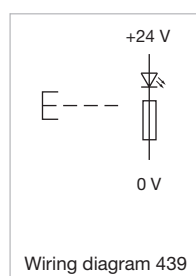
### Additional information

- Preconfigured light sequences see Technical data
- Integrated electronic switch for latching function (High-Side-Switch)

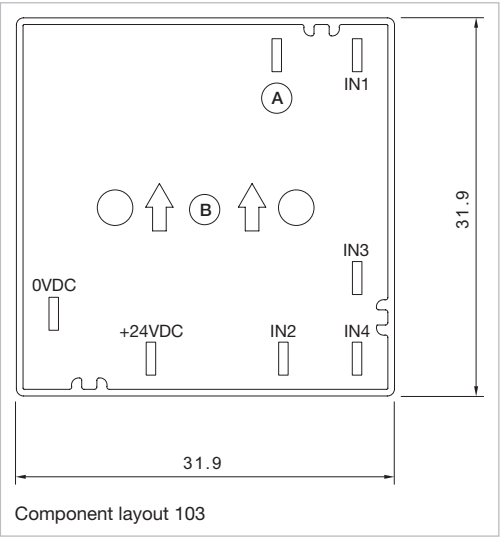


Dimensions [mm]

## Wiring diagrams



Component layouts



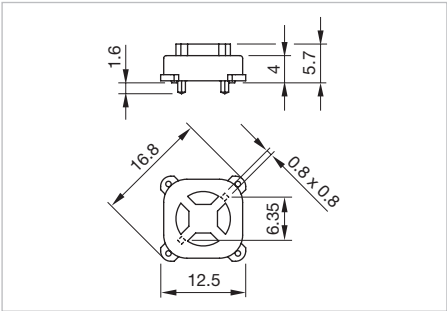
A = Switch out  
B = Top



Illumination element PCB

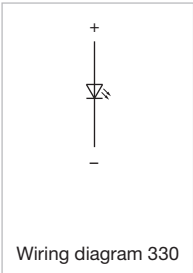
| Terminal     | Part No.   | Wiring diagram | Component Layout |
|--------------|------------|----------------|------------------|
| PCB terminal | 92-800.042 | 330            | 79               |

- Additional information
- The customer has to decide what series resistor shall be used to the LED
  - LED and mounting flange to be ordered separately



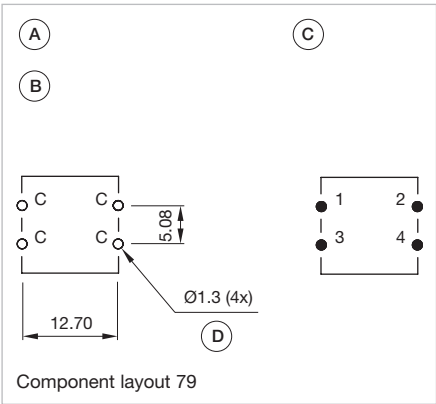
Dimensions [mm]

Wiring diagrams



Wiring diagram 330

Component layouts



- Dimensions [mm]
- A = Switching element without illumination  
B = Drilling plan (component side)  
C = Occupancy plan (component side)  
D = Hole for switching element

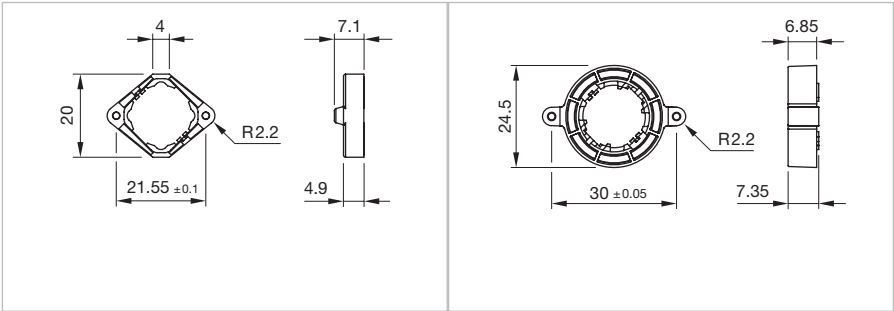
# 84 Components



Mounting flange

| Product attributes                    | Material | Fastening     | Part No. |
|---------------------------------------|----------|---------------|----------|
| Tightening torque fixing screw 0.3 Nm | Plastic  | With screws   | 92-960.0 |
|                                       | Plastic  | Mit Schrauben | 84-960.0 |

- Additional information
- For discrete switching applications including switching element and mounting flange, soldering terminal (assembled PCB incl. series resistor and LED on request)
  - Halo illumination (illuminated multi-color bezel)



Dimensions [mm]  
for Part No. 92-960.0

Dimensions [mm]  
for Part No. 84-960.0

## Front side

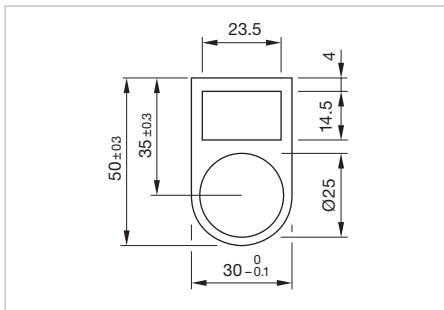


Legend frame

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

## Additional information

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



Dimensions [mm]



Legend plate

| Product attributes                               | Dimensions        | Material  | Colour | Surface  | Mounting type | Part No.  |
|--------------------------------------------------|-------------------|-----------|--------|----------|---------------|-----------|
| For legend frame Part No.704.968.2 and 704.968.3 | 14.5 mm x 23.5 mm | Aluminium | Nature | anodised | adhesive      | 704.968.0 |
|                                                  | 14.5 mm x 23.5 mm | Aluminium | Black  | anodised | adhesive      | 704.968.1 |

## Additional information

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

# 84 Accessories



## Emergency stop legend

| Dimensions | Material | Colour | Mounting cut-out | Marking             | Part No.  |
|------------|----------|--------|------------------|---------------------|-----------|
| Ø 60 mm    | Plastic  | Yellow | Ø 22.3 mm        | NOT AUS             | 704.963.5 |
|            | Plastic  | Yellow | Ø 22.3 mm        | EMERGENCY STOP      | 704.963.6 |
|            | Plastic  | Yellow | Ø 22.3 mm        | ARRET D'URGENCE     | 704.963.7 |
|            | Plastic  | Yellow | Ø 22.3 mm        | NOT HALT            | 704.963.8 |
|            | Plastic  | Yellow | Ø 22.3 mm        | EN ISO 13850 symbol | 704.963.9 |
| Ø 90 mm    | Plastic  | Yellow | Ø 22.3 mm        | NOT AUS             | 704.963.0 |
|            | Plastic  | Yellow | Ø 22.3 mm        | EMERGENCY STOP      | 704.963.1 |
|            | Plastic  | Yellow | Ø 22.3 mm        | ARRET D'URGENCE     | 704.963.2 |
|            | Plastic  | Yellow | Ø 22.3 mm        | NOT HALT            | 704.963.3 |
|            | Plastic  | Yellow | Ø 22.3 mm        | EN ISO 13850 symbol | 704.963.4 |

### Additional information

- Front panel thickness 3 mm max.

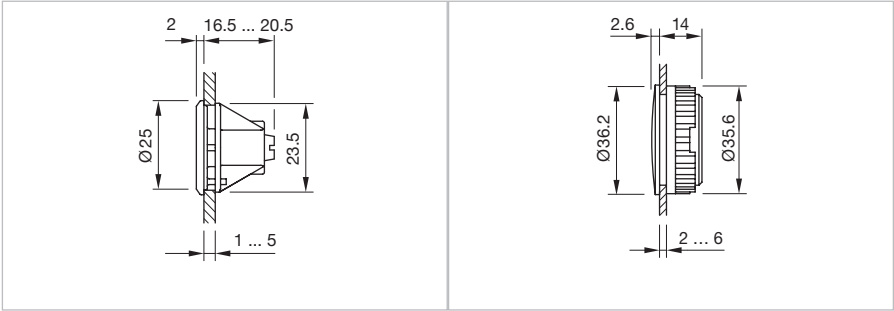


## Blind plug

| Dimensions | Material | Colour | Mounting cut-out | Part No.  |
|------------|----------|--------|------------------|-----------|
| Ø 25 mm    | Plastic  | Black  | Ø 22.5 mm        | 61-9453.0 |
| Ø 36 mm    | Plastic  | Black  | Ø 30.5 mm        | 704.964.8 |

### Additional information

- Please note that bigger minimum distances are necessary
- Only suitable for mounting in round hole without D-shape (Part No. 61-9453.0)



Dimensions [mm]  
for Part No. 61-9453.0

Dimensions [mm]  
for Part No. 704.964.8



## Protective cap

| Product attributes      | Material | Colour     | Optics      | Part No.  |
|-------------------------|----------|------------|-------------|-----------|
| For front bezel Ø 25 mm | Silicone | Colourless | transparent | 84-9103.7 |

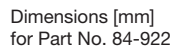
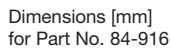
### Additional information

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



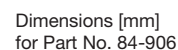
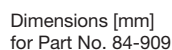
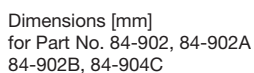
#### Additional information

- When mounting the protective cover 84-916 make sure that the USB adapter is mounted in center position.



#### Additional information

- Front panel thickness 1 ... 3 mm
- With anti-twist device
- When using a protective shroud the e-stop or stop-switch has to be turned by 180° to be mounted. See dimensional drawing
- The protection shroud Part No. 84-909 is not suitable for a proper use of emergency-stop. It can obstruct a spontaneous operation of the emergency-stop switch
- This shroud Part No. 84-906 is not compliant to EN ISO 13850. There are no restrictions when combined with stop switches.

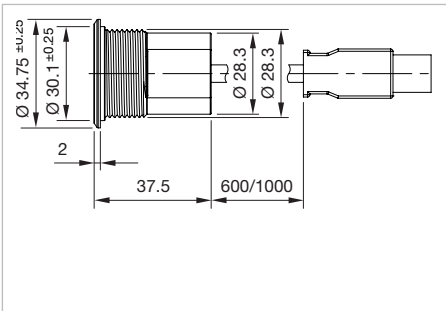


# 84 Accessories



USB socket

| Material | Colour | Part No.       |
|----------|--------|----------------|
| Plastic  | Black  | 84-3103.0000.1 |
|          | Black  | 84-3103.0000.2 |



Dimensions [mm]

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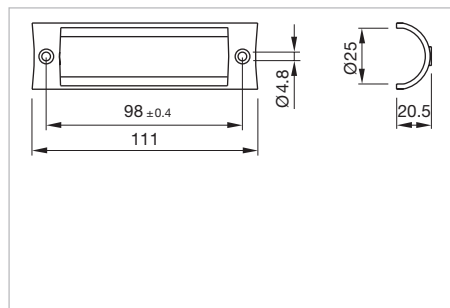
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**Rear side****Adaptor reducing to 25 mm**

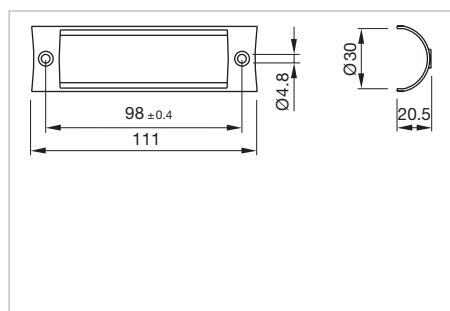
| Product attributes                    | Material | Colour | Part No.  |
|---------------------------------------|----------|--------|-----------|
| For housing, pole mounting 35 mm dia. | Plastic  | Yellow | 84-9300.4 |
|                                       | Plastic  | Grey   | 84-9300.8 |



Dimensions [mm]

**Adaptor reducing to 30 mm**

| Product attributes                    | Material | Colour | Part No.  |
|---------------------------------------|----------|--------|-----------|
| For housing, pole mounting 35 mm dia. | Plastic  | Yellow | 84-9700.4 |
|                                       | Plastic  | Grey   | 84-9700.8 |



Dimensions [mm]

**Flat receptacle**

| Product attributes            | Material | Part No. |
|-------------------------------|----------|----------|
| 2.8 x 0.8 mm plug-in terminal | Metal    | 84-9420  |

**Insulation sleeve**

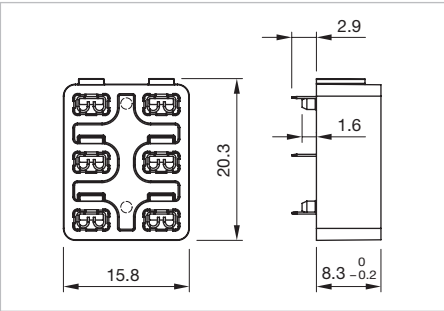
| Product attributes         | Material | Part No. |
|----------------------------|----------|----------|
| For flat receptacle 2.8 mm | Plastic  | 31-929   |

# 84 Accessories



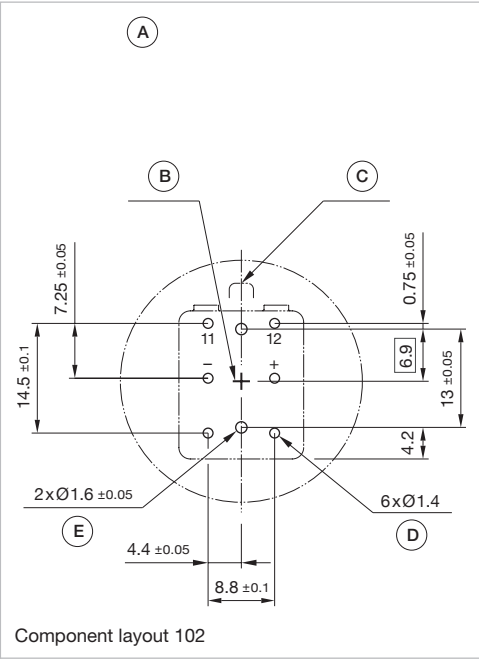
PCB plug-in base

| Product                                | Dimensions                 | Material        | Terminal     | Pins  | Part No. | Component Layout |
|----------------------------------------|----------------------------|-----------------|--------------|-------|----------|------------------|
| For Emergency stop switch, stop switch | 20.3 mm x 8.3 mm x 15.8 mm | Metal / plastic | PCB terminal | Axial | 84-920   | 102              |



Dimensions [mm]

## Component layouts



Dimensions [mm]  
A = Drilling plan (component side)  
B = Centre from switch  
C = Anti-twist protection  
D = Pins for contacts/LED  
E = Positioning hole



Plug

| Material | Part No. |
|----------|----------|
| Plastic  | 84-900   |

Additional information

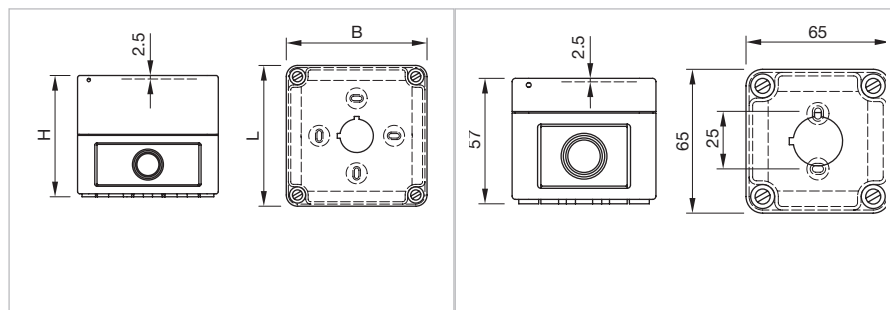
- For back protection IP67 of switching elements and illumination elements. Two plugs are nessecary per element

## Mounting



## Enclosure

| Product attributes                                                         | Dimensions               | Material | Colour | IP Protection | Part No.  |
|----------------------------------------------------------------------------|--------------------------|----------|--------|---------------|-----------|
| With mounting cut-out 1 x Ø 22.3 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 |
| Bottom grey similar RAL 7035; cover lead-sealable, yellow similar RAL 1004 | 65 mm x 57 mm x 65 mm    | Plastic  |        | IP66          | 84-910    |



Dimensions [mm]  
for Part No. 704.945.1, 704.945.2, 704.945.3,  
704.945.4, 704.945.5

Dimensions [mm]  
for Part No. 84-910



## Fixing nut

| Product attributes        | Dimensions | Material | Colour | Part No. |
|---------------------------|------------|----------|--------|----------|
| Standard version          | Ø 30 mm    | Plastic  | Black  | 84-901   |
| For emergency stop switch | Ø 28 mm    | Plastic  | Black  | 84-905   |
| For emergency stop switch | Ø 30 mm    | Plastic  | Black  | 84-908   |
| For emergency stop switch | Ø 25 mm    | Metal    | Silver | 84-911   |



## Dismantling tool

| Product attributes                           | Material        | Part No. |
|----------------------------------------------|-----------------|----------|
| For dismantling switching elements or lenses | Metal / plastic | 84-918   |

# 84 Accessories

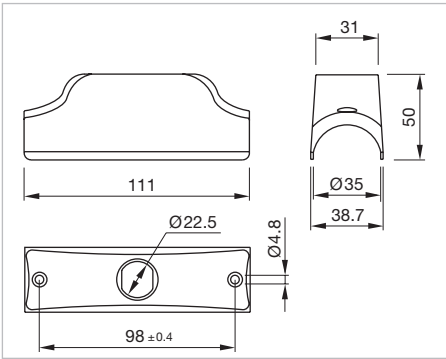


## Housing pole mounting 35 mm

| Product attributes                                                                                | Material | Colour       | Part No.   |
|---------------------------------------------------------------------------------------------------|----------|--------------|------------|
| Please note: The cut-out of the pole must read min. 22 mm and needs to be aligned with the switch | Plastic  | Yellow       | 84-9500.4  |
|                                                                                                   | Plastic  | Traffic blue | 84-9500.6A |
|                                                                                                   | Plastic  | Grey         | 84-9500.8  |

### Additional information

- Screws are not contained in the scope of supply



Dimensions [mm]

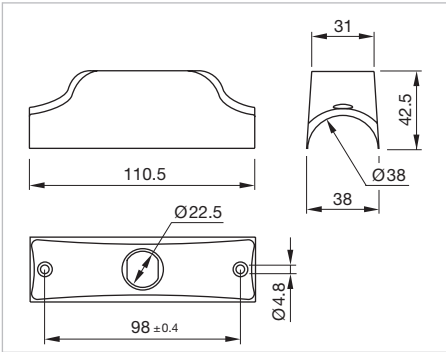


## Housing pole mounting 38 mm

| Product attributes                                                                                | Material | Colour | Part No.  |
|---------------------------------------------------------------------------------------------------|----------|--------|-----------|
| Please note: The cut-out of the pole must read min. 22 mm and needs to be aligned with the switch | Plastic  | Yellow | 84-9600.4 |
|                                                                                                   | Plastic  | Grey   | 84-9600.8 |

### Additional information

- Screws are not contained in the scope of supply



Dimensions [mm]

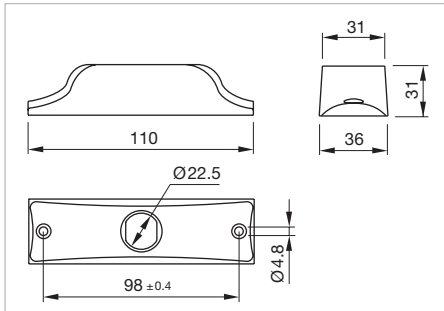


### Housing wall mounting

| Material | Colour | Part No.  |
|----------|--------|-----------|
| Plastic  | Yellow | 84-9800.4 |
| Plastic  | Grey   | 84-9800.8 |

#### Additional information

- Screws are not contained in the scope of supply



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 |



### Mounting tool

| Product attributes                                                             | Dimensions | Material | Part No. |
|--------------------------------------------------------------------------------|------------|----------|----------|
| For tightening or loosening the fixing nut, for emergency-stop and stop-switch |            | Plastic  | 84-996   |
| For tightening or loosening of the fixing nut Ø 22 mm                          | Ø 22 mm    | Metal    | 84-997   |

# 84 Technical data

## Emergency-stop

### Switching system

The double-break switching system can be supplied for the following switching functions:

1 Normally closed, 2 Normally closed, 1 Normally closed + 1 Normally open.

The Normally closed contacts have forced opening according to EN 60947-5-5

### Material

#### Connection cable

Plastic, operating temperature up to +65 °C

#### Mushroom-head cap

Plastic, as per UL 94 V0

#### Actuator housing

Plastic, as per UL 94 V0

#### Material of contact

Silver alloy gold plated

### Mechanical characteristics

#### Front panel thickness

Standard 1 ... 4 mm

with emergency stop protective shroud Part No. 84-902 1 ... 3 mm

#### Mounting cut-outs

Ø22.3 mm as per EN IEC 60947-5-1 with anti-twist device

#### Terminals

Soldering terminals 2.8 mm x 0.5 mm (solderable), CuSn6 tin-plated  
Flat ribbon cable 2-, 4-, or 6-poles 0.35 mm<sup>2</sup> (AWG 22)

#### Tightening torque

Fixing nut 0.8 Nm

#### Actuating force

17 N ± 4 N

#### Actuating travel

Approx. 5 mm

#### Mechanical lifetime

250 000 cycles of operations

### Electrical characteristics

#### Standards

The devices comply with: EN IEC 60947-5-1, EN IEC 60947-5-5 (emergency stop), DIN EN ISO 13850, EN IEC 60204

#### Illumination

LED red with pole reversal, constant current source

Operation Voltage 5 VDC ... 30 VDC

Current consumption 9.7 mA ... 12.4 mA

#### Rated Operational Voltage U<sub>o</sub>

250 VAC, as per EN IEC 60947-1

#### Rated Insulation Voltage U<sub>i</sub>

250 V, as per EN IEC 60947-1

#### Rated Impulse Withstand Voltage U<sub>imp</sub>

4 kV, as per EN IEC 60947-1

#### Electrical life

50 000 cycles of operations

(inductive cosφ 0,95) as per EN IEC 60947-5-1

#### Air thermal I<sub>th</sub>

5 A (plug in)

3 A (cable leads)

#### Switching voltage and switching current

Switch rating AC with silver contact (gold plated), service category AC-15, as per EN IEC 60947-5-1

|         |         |         |
|---------|---------|---------|
| Voltage | 120 VAC | 240 VAC |
| Current | 3 A     | 1.5 A   |

Switch rating DC for silver contact (gold plated), service category DC-13, as per EN IEC 60947-5-1

| NO contacts<br>(48 VA) | NC contacts<br>(60 VA) | NO/NC contacts |
|------------------------|------------------------|----------------|
| 12 VDC/2.0 A           | 12 VDC/2.5 A           | 125 VDC/0.22 A |
| 24 VDC/2.0 A           | 24 VDC/2.5 A           | 250 VDC/0.11 A |
| 48 VDC/1.0 A           | 48 VDC/1.25 A          |                |
| 60 VDC/0.8 A           | 60 VDC/1.0 A           |                |

#### Recommended minimum operating data

Silver contacts (gold plated)

|         |          |
|---------|----------|
| Voltage | 1 VAC/DC |
| Current | 1 mA     |

#### Electric strength

500 VAC, 50 Hz, 1 minute, as per DIN IEC 60512-2

#### Rated conditional short-circuit current

1000 A, type of short-circuit unit 6 A gG, as per EN IEC 60947-5-1

#### Protection class

Class II, as per EN IEC 60947-5

## Overvoltage category

III, as per EN IEC 60947-1

## Degree of pollution

3, as per EN IEC 60947-1

## Ambient conditions

### Storage temperature

-25 °C ... +80 °C

### Operating temperature

-25 °C ... +65 °C

### Front protection

IP65 front side, as per EN IEC 60529

IP66 front side, as per EN IEC 60529

IP67 front side, as per EN IEC 60529

IP20 (cable lead connection)

### Impact resistance

IK07, as per IEC 62262

### Shock resistance

(semi-sinusoidal)

Max. 150 m/s<sup>2</sup>, pulse width 11 ms, 3-axis,

as per EN IEC 60068-2-27

### Vibration resistance

(sinusoidal)

Max. 50 m/s<sup>2</sup> at 10 Hz ... 500 Hz, 10 cycles, 3-axis,

as per EN IEC 60068-2-6

## Climate resistance

Damp heat, cyclic

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

Damp heat, steady

56 days, +40 °C/93 % relative humidity,

as per EN IEC 60068-2-78

Dry heat

96 hours, +65 °C, as per EN IEC 60068-2-2

Low temperature

96 hours, -25 °C, as per EN IEC 60068-2-1

Saline mist

96 hours, +35 °C in chemical solution NaCl,

as per EN IEC 60068-2-11

## Approvals

### Approbations

CB (IEC 60947-5-1, IEC 60947-5-5)

UL NISD

CCC (pending)

### Declaration of conformity

CE

2006/42/EC (MD)

2011/65/EC (RoHS)

## Switching element illuminated pushbutton

## Switching system

Short-travel switching system with 2 independent contact points and tactile operation.

Guarantees reliable switching even of very light loads.

Fitted with 1 normally open contact.

## Material

### Connection cable

Plastic, short-time heat-resistant up to 105 °C

### Material of contact

Silver alloy gold plated

### Switching element

Plastic, as per UL 94 V0 and

Plastic, as per UL 94 HB

## Mechanical characteristics

### Terminals

Plug-in terminals 2.8 mm x 0.8 mm (solderable)

Flat ribbon cable 0.5 mm<sup>2</sup>

PCB terminal

### Actuating force

4.0 N ±0.2 N

### Tightening torque

Fixing screw mounting flange 0.4 Nm

### Actuating travel

~0.5 mm

### Resistance to heat of soldering

250 °C, 3 s (PCB assembly)

320 °C, 3 s (when using a soldering iron)

# 84 Technical data

## Mechanical lifetime

≥ 1 million cycles of operations

## Electrical characteristics

### Illumination

Single-Chip LED, green, orange, red, yellow, white and blue

|                     |        |        |
|---------------------|--------|--------|
| Operation Voltage   | 12 VDC | 24 VDC |
| Current consumption | 10 mA  | 10 mA  |

### Electrical life

as per EN IEC 60512-5

|                                 |                                       |
|---------------------------------|---------------------------------------|
| 5 million cycles of operation   | 24 VAC, 50 mA at 480 Ω                |
| 5 million cycles of operation   | 24 VAC, 100 mA at 240 Ω               |
| 2 million cycles of operation   | 42 VAC, 50 mA at 840 Ω                |
| 2 million cycles of operation   | 42 VAC, 100 mA at 420 Ω               |
| 300 000 cycles of operation     | 42 VAC, 100 mA at $\cos\varphi$ 0.4   |
| 250 000 cycles of operation     | 42 VAC, 200 mA at $\cos\varphi$ 0.395 |
| 1 million cycles of operation   | 12 VDC, 250 mA at 48 Ω                |
| 1 million cycles of operation   | 24 VDC, 50 mA at 480 Ω                |
| 1 million cycles of operation   | 24 VDC, 100 mA at 240 Ω               |
| 5 million cycles of operation   | 42 VDC, 25 mA at 1680 Ω               |
| 1.5 million cycles of operation | 42 VDC, 50 mA at 840 Ω                |
| 100 000 cycles of operation     | 42 VDC, 100 mA at 420 Ω               |
| 500 000 cycles of operation     | 24 VDC, 200 mA at L/R = 30 ms         |
| 300 000 cycles of operation     | 42 VDC, 100 mA at L/R = 30 ms         |
| 100 000 cycles of operation     | 42 VDC, 200 mA at L/R = 30 ms         |

## Switching voltage and switching current

|         |                          |
|---------|--------------------------|
| Voltage | 50 mVAC/DC ... 42 VAC/DC |
| Current | 10 µA ... 100 mA         |
| Power   | max. 2 W                 |

## Electric strength

500 VAC, 50 Hz, 1 minute, as per DIN IEC 60512-2

## Ambient conditions

### Storage temperature

−40 °C ... +85 °C

### Operating temperature

−25 °C ... +70 °C

## Protection degree

Back protection:

IP40, standard version

IP67, fully sealed version, with mounted actuator only.

## Shock resistance

(semi-sinusoidal)

Max. 100 m/s<sup>2</sup>, pulse width 11 ms, 3-axis,  
as per EN IEC 60068-2-27

## Vibration resistance

(sinusoidal)

Max. 50 m/s<sup>2</sup> at 10 Hz ... 500 Hz, 10 cycles, 3-axis,  
as per EN IEC 60068-2-6

## Switching element Halo Compact

## Switch configuration

A complete switch requires a halo compact programmable switch actuator body (transparent) and a lens. If the switch needs lens illumination in addition then a translucent plastic lens or aluminium lens with a window is required.

Use Halo Compact with illuminated pushbutton actuator (Part No. 84-1081.7) or with the indicator actuator (Part No. 84-0080.7).

The illumination style is selected by the connection of 24V to the pins.

## Material

### Housing

Plastic

Plastic (sealing compound)

## Material of contact

Silver alloy, gold-plated

The materials used comply with the high EAO standards relating to quality, functional safety, service life and design.

## Mechanical characteristics

### Terminals

Soldering / plug-in terminals  
2.8 mm x 0.8 mm (solderable)

### Actuating force

4.0 N ± 0.2 N  
(measured at the lens)

### Actuating distance

~ 0.5 mm

## Mechanical lifetime

≥ 1 million cycles of operation

## Electrical characteristics

### Switching element

Short-travel snap-action switching system with two independent contact points and tactile operation.

Number of contacts: one normal open contact

### Output

Electronic high-side switch

### Pre-configured light sequences

- Full illumination
- Blinking (interval: 1 second)
- Rotating/chasing (one full rotation per second)
- Process (changeover a group of 4 LEDs per second)

### Special feature

Integrated electronic switch for maintained action (High-side switch)

### Operating voltage

24 VDC  $\pm 10\%$

Max. 100 mA

### Current consumption

< 80 mA

### LED-colours

All versions available with eight SMD LEDs for halo illumination plus one single LED (3mm) for central illumination. The following variants are available:

- 8 x red LEDs + 1 white single LED
- 8 x green LEDs + 1 white single LED
- 8 x yellow LEDs + 1 white single LED
- 8 x white LEDs + 1 white single LED
- 8 x blue LEDs + 1 white single LED
- 8 x red/green bi-colour LEDs + 1 white single LED

| Light sequences central LED |             | IN1     | IN2     | IN3     |
|-----------------------------|-------------|---------|---------|---------|
| not illuminated             | illuminated |         |         |         |
| 1                           | –           | 0 VDC   | 0 VDC   | 0 VDC   |
| 2                           | –           | +24 VDC | 0 VDC   | 0 VDC   |
| 3                           | –           | 0 VDC   | +24 VDC | 0 VDC   |
| 4                           | –           | +24 VDC | +24 VDC | 0 VDC   |
| –                           | 5           | 0 VDC   | 0 VDC   | +24 VDC |
| –                           | 6           | +24 VDC | 0 VDC   | +24 VDC |
| –                           | 7           | 0 VDC   | +24 VDC | +24 VDC |
| –                           | 8           | +24 VDC | +24 VDC | +24 VDC |

\* Functionen of light sequence:

1/5 = Full illumination

2/6 = Blink

3/7 = Rotation

4/8 = Process

## Ambient conditions

### Storage temperature

–40 °C ... +85 °C

### Operating temperature

–25 °C ... +70 °C

### Degree of protection

IP67 front side

(with actuator Part No. 84-1081.7 and 84-0080.7)

### Shock resistance

(semi-sinusoidal)

Max. 100 m/s<sup>2</sup>, pulse width 6 ms, 3-axis, as per EN IEC 60068-2-27

### Vibration resistance

(sinusoidal)

Max. 50 m/s<sup>2</sup> at 10 Hz...500 Hz, 10 cycles, 3-axis, as per EN IEC 60068-2-6

## Approvals

### Conformities

CE

2014/30/EU (EMC)

2011/65/EC (RoHS)

Actuator

Material

**Lens**  
Plastic, as per UL 94 V2 or Aluminium anodised

**Actuator housing**  
Plastic, as per UL 94 V0 or Aluminium anodised

Mechanical characteristics

**Frontplate thickness**  
Standard 1 ... 4 mm

**Tightening torque**  
Fixing nut max. 80 Ncm

**Actuating force**  
4.0 N ± 0.2 N (measured at the lens)

**Actuating travel**  
1.2 mm

**Mechanical lifetime**  
≥ 1 million cycles of operation

Electrical characteristics

**Electrostatic breakdown value**  
Plastic case ≥ 15 kV  
Aluminium case ≥ 5 kV  
as per IEC 61000-4-2, mounted in plastic front panel

EAO reserves the right to alter specifications without further notice.

Ambient conditions

**Storage temperature**  
−40 °C ... +85 °C

**Operating temperature**  
−25 °C ... +70 °C

**Protection degree**  
IP 67 and IP40 front side, as per EN IEC 60529

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

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

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

Approvals

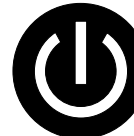
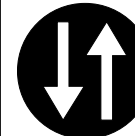
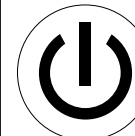
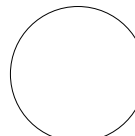
**Approbations**  
EBC (TSI/PRM)  
NFF

**Conformities**  
CE  
2011/65/EC (RoHS)

## IO-Link Touch – Standard Symbols

### Please note

- BXX symbols are illuminated
- CXX symbols are printed on
- Further standard symbols and also customised symbols possible

|                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|  |  |  |  |  |  |
| Symbol B10                                                                        | Symbol B11                                                                        | Symbol B12                                                                        | Symbol B13                                                                        | Symbol B14                                                                        | Symbol B15                                                                         |
|  |  |  |  |  |  |
| Symbol C10                                                                        | Symbol C11                                                                        | Symbol C12                                                                        | Symbol C13                                                                        | Symbol C14                                                                        | Symbol C16                                                                         |
|  |  |  |  |                                                                                   |                                                                                    |
| Symbol C17                                                                        | Symbol C18                                                                        | Symbol C19                                                                        | Symbol C20                                                                        |                                                                                   |                                                                                    |

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.

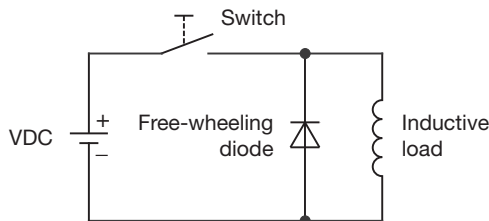
Fig. 1 shows an inductive load with a free-wheeling diode connected in parallel. This free-wheeling diode provides a path for the inductor current to flow when the current is interrupted by the switch. Without this free-wheeling diode, the voltage across the coil will be limited only by dielectric breakdown 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. 12VDC) see Fig. 2.

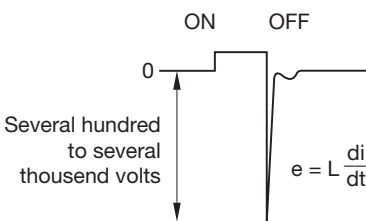
The free-wheeling diode should be chosen so that the reverse breakdown voltage is greater than the voltage driving the inductive load. The DC blocking voltage (VR) of the free-wheeling diode can be found in the datasheet of a diode. The forward current should be equal or greater than the maximum current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

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

Switching with inductive load  
Fig. 1



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



Note for soldering

Process parameter for wave soldering  
Basic specification for wave soldering J-STD 75 W4C.

Maximum temperature on the component side (Temp 2):  
(Temperature must not exceed during the entire processing)

120 °C

Preheating phase (t1 ... t2):  
Ramp up:

70 ... 120 sec  
typ. + 1 °C/sec

Ramp up to maximum temperature (t2 ... t3):

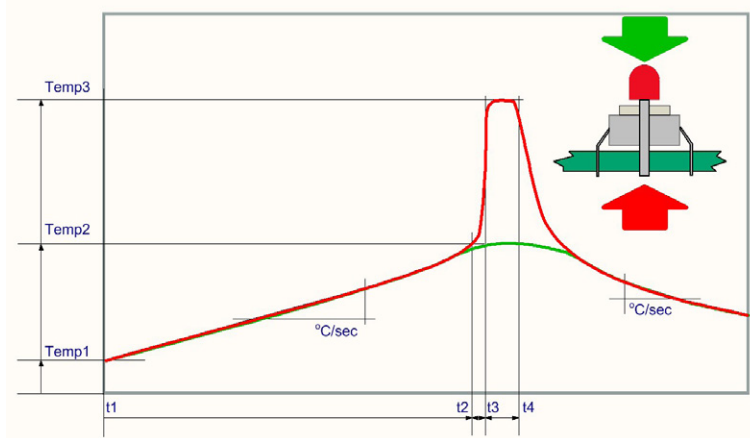
not defined

Maximum temperature on the soldering side (Temp 3):  
Maximum time of soldering process (t3 ... t4):

250 °C  
3 sec

Ramp down at 170 °C:

typ. - 2 °C/sec

**Temperature curve wave soldering**

Green curve: Temperature on the component side of the pcb  
 Red curve: Temperature on the soldering side of the pcb

Room temperature: Temp 1

Preheating: Temperature process = Temp 1 ... Temp 2  
 Process time = t1 ... t2

Ramp up to soldering temperature: Process time = t2 ... t3

Soldering phase: Temperature process = Temp 3  
 Process time = t3 ... t4

**Iron soldering**

Basic specification for iron soldering IEC 60068-2-20

Maximum temperature at tip of iron: 320 °C  
 Maximum soldering time: 3 sec

**Cleaning/Lacquering**

The switching elements are not sealed. Cleaning up the PCB may damage the contacts in the switching elements. For this reason, the following points should be noted:

- When soldering make sure that the flux does not pass on the upper side of the PCB.
- When cleaning the PCB with detergents ensure that no dust or other debris may get inside of the switching elements.
- Ensure that no lacquer penetrates into the interior of the switching element when lacquering the PCB.

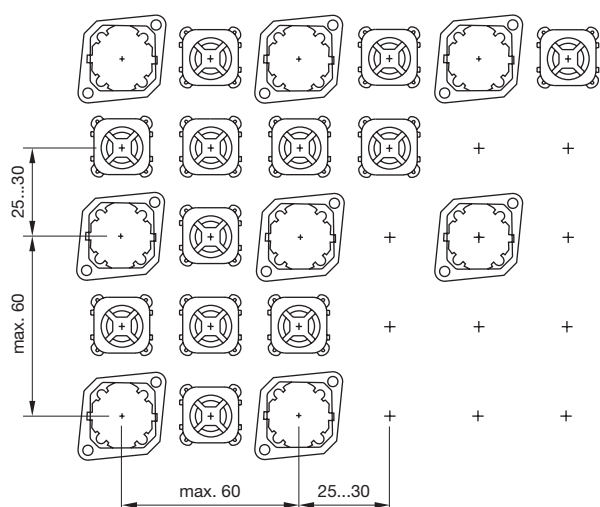
**Storage of components**

To obtain the optimum solderability of the components, the following points should be noted during storage:

- Do not store components in locations with high temperature or humidity.
- Do not expose components to corrosive gases.
- Avoid direct sunlight for a long period.

# 84 Application guidelines

## Arrangement mounting flange for switching- and illumination element, PCB mounting



The arrangement of the mounting flanges and their number is determined by the size of the front panel or PCB. To ensure uniform, tactile switching, we recommend a layout of the flanges as per adjacent sketch.

For large PCBs with several switching elements we recommend the following procedure:

1. Fit the actuator to the front panel.
2. Clip the mounting flange to the rear of the intended actuator.
3. Screw the PCB with the components soldered to it to the assembled mounting flange.

This arrangement applies to PCBs 1.6 mm thick.

### Dismantling mounting flange

The tool Part No. 84-998 must be used for removing the mounting flange from the actuator.

Before removing the flange, the PCB fixing screws must be loosened.

| Part No.           | Page | Part No.            | Page | Part No.          | Page | Part No.              | Page | Part No.              | Page |
|--------------------|------|---------------------|------|-------------------|------|-----------------------|------|-----------------------|------|
| 10-2601.3172S..... | 38   | 84-2101.0.....      | 13   | 84-7125.800.....  | 35   | 84-8511.2640.....     | 40   | 84-ADKS-B12-04AC ..22 |      |
| 10-2601.3173S..... | 38   | 84-3100.0.....      | 15   | 84-7201.000.....  | 37   | 84-8511.3320.....     | 39   | 84-ADKS-B13-04AD ..22 |      |
| 10-2603.3174S..... | 38   | 84-3100.0.....      | 16   | 84-7201.200.....  | 37   | 84-8511.3340.....     | 40   | 84-ADKS-B14-04AE ..22 |      |
| 10-2603.3175S..... | 38   | 84-3103.0000.1..... | 52   | 84-7201.400.....  | 37   | 84-8511.3620.....     | 39   | 84-ADKS-B15-04AF ..22 |      |
| 10-2603.3176S..... | 38   | 84-3103.0000.2..... | 52   | 84-7201.500.....  | 37   | 84-8511.3640.....     | 40   | 84-ADKS-C10-04B0 ..22 |      |
| 10-2603.3178S..... | 38   | 84-5220.0020.....   | 29   | 84-7201.600.....  | 37   | 84-8511.4320.....     | 39   | 84-ADKS-C11-04B1 ..22 |      |
| 10-2603.320AL..... | 39   | 84-5220.0040.....   | 29   | 84-7201.800.....  | 37   | 84-8511.4340.....     | 40   | 84-ADKS-C12-04B2 ..22 |      |
| 10-2603.320CL..... | 39   | 84-5221.2B20.....   | 29   | 84-7202.000.....  | 37   | 84-8511.4620.....     | 39   | 84-ADKS-C14-04B3 ..22 |      |
| 31-929.....        | 53   | 84-5221.2B40.....   | 29   | 84-7202.000A..... | 34   | 84-8511.4640.....     | 40   | 84-ADKS-C16-04B4 ..22 |      |
| 61-9453.0.....     | 50   | 84-5230.0020.....   | 29   | 84-7202.200.....  | 37   | 84-8511.5320.....     | 39   | 84-ADKS-C17-04B5 ..22 |      |
| 61-9481.6.....     | 57   | 84-5230.0040.....   | 29   | 84-7202.200A..... | 34   | 84-8511.5340.....     | 40   | 84-ADKS-C18-04B6 ..22 |      |
| 61-9707.7.....     | 38   | 84-5231.2B20.....   | 29   | 84-7202.400.....  | 37   | 84-8511.5620.....     | 39   | 84-ADKS-C19-04B7 ..22 |      |
| 61-9980.0.....     | 49   | 84-5231.2B40.....   | 29   | 84-7202.400A..... | 34   | 84-8511.5640.....     | 40   | 84-ADKS-C20-04B8 ..22 |      |
| 704.945.1.....     | 55   | 84-5240.0020.....   | 29   | 84-7202.500.....  | 37   | 84-8511.6320.....     | 39   | 84-ASKS-B10-049C ..20 |      |
| 704.945.2.....     | 55   | 84-5240.0040.....   | 29   | 84-7202.500B..... | 34   | 84-8511.6340.....     | 40   | 84-ASKS-B11-049D ..20 |      |
| 704.945.3.....     | 55   | 84-5241.2B20.....   | 29   | 84-7202.600.....  | 37   | 84-8511.6620.....     | 39   | 84-ASKS-B12-049E ..20 |      |
| 704.945.4.....     | 55   | 84-5241.2B40.....   | 29   | 84-7202.600A..... | 34   | 84-8511.6640.....     | 40   | 84-ASKS-B13-049F ..20 |      |
| 704.945.5.....     | 55   | 84-5241.8D20.....   | 32   | 84-7202.800.....  | 37   | 84-8511.9320.....     | 39   | 84-ASKS-B14-04A0 ..20 |      |
| 704.945.6.....     | 57   | 84-5241.8D40.....   | 32   | 84-7202.800A..... | 34   | 84-8511.9340.....     | 40   | 84-ASKS-B15-04A1 ..20 |      |
| 704.963.0.....     | 50   | 84-5320.0020.....   | 29   | 84-7205.000.....  | 37   | 84-8511.9620.....     | 39   | 84-ASKS-C10-04A2 ..20 |      |
| 704.963.1.....     | 50   | 84-5320.0040.....   | 30   | 84-7205.000A..... | 34   | 84-8511.9640.....     | 40   | 84-ASKS-C11-04A3 ..20 |      |
| 704.963.2.....     | 50   | 84-5321.2B20.....   | 30   | 84-7205.200.....  | 37   | 84-8515.7640.....     | 41   | 84-ASKS-C12-04A4 ..20 |      |
| 704.963.3.....     | 50   | 84-5321.2B40.....   | 30   | 84-7205.200A..... | 34   | 84-8515.8640.....     | 41   | 84-ASKS-C14-04A5 ..20 |      |
| 704.963.4.....     | 50   | 84-5330.0020.....   | 30   | 84-7205.400.....  | 37   | 84-8716.2620.....     | 46   | 84-ASKS-C16-04A6 ..20 |      |
| 704.963.5.....     | 50   | 84-5330.0040.....   | 30   | 84-7205.400A..... | 34   | 84-8716.4620.....     | 46   | 84-ASKS-C17-04A7 ..20 |      |
| 704.963.6.....     | 50   | 84-5331.2B20.....   | 30   | 84-7205.500.....  | 37   | 84-8716.5620.....     | 46   | 84-ASKS-C18-04A8 ..20 |      |
| 704.963.7.....     | 50   | 84-5331.2B40.....   | 30   | 84-7205.500A..... | 34   | 84-8716.6620.....     | 46   | 84-ASKS-C19-04A9 ..20 |      |
| 704.963.8.....     | 50   | 84-5340.0020.....   | 30   | 84-7205.600.....  | 37   | 84-8716.8620.....     | 46   | 84-ASKS-C20-049B ..20 |      |
| 704.963.9.....     | 50   | 84-5340.0040.....   | 30   | 84-7205.600A..... | 34   | 84-8716.9620.....     | 46   | 92-800.042.....       | 47   |
| 704.964.8.....     | 50   | 84-5341.2B20.....   | 30   | 84-7205.800.....  | 37   | 84-900.....           | 54   | 92-851.342.....       | 42   |
| 704.968.0.....     | 49   | 84-5341.2B40.....   | 30   | 84-7205.800A..... | 34   | 84-901.....           | 55   | 92-960.0.....         | 48   |
| 704.968.1.....     | 49   | 84-5341.8D20.....   | 32   | 84-7205.804A..... | 34   | 84-902.....           | 51   |                       |      |
| 84-0080.7.....     | 19   | 84-5341.8D40.....   | 32   | 84-7205.805A..... | 34   | 84-902A.....          | 51   |                       |      |
| 84-0090.7.....     | 17   | 84-6220.0020.....   | 26   | 84-7205.806A..... | 34   | 84-902B.....          | 51   |                       |      |
| 84-0090.7.....     | 18   | 84-6220.0040.....   | 26   | 84-7205.808A..... | 34   | 84-902D.....          | 51   |                       |      |
| 84-0100.0.....     | 15   | 84-6821.2B20.....   | 26   | 84-7211.000.....  | 37   | 84-905.....           | 55   |                       |      |
| 84-0100.0.....     | 16   | 84-6821.2B40.....   | 26   | 84-7211.200.....  | 37   | 84-906.....           | 51   |                       |      |
| 84-0200.7.....     | 15   | 84-6830.0020.....   | 26   | 84-7211.400.....  | 37   | 84-908.....           | 55   |                       |      |
| 84-0200.7.....     | 16   | 84-6830.0040.....   | 26   | 84-7211.500.....  | 37   | 84-909.....           | 51   |                       |      |
| 84-1081.7.....     | 10   | 84-6831.2B20.....   | 26   | 84-7211.600.....  | 37   | 84-910.....           | 55   |                       |      |
| 84-1091.7.....     | 8    | 84-6831.2B40.....   | 26   | 84-7211.800.....  | 37   | 84-9103.7.....        | 50   |                       |      |
| 84-1091.7.....     | 9    | 84-6840.0020.....   | 26   | 84-7215.000.....  | 37   | 84-911.....           | 55   |                       |      |
| 84-1101.0.....     | 4    | 84-6840.0040.....   | 26   | 84-7215.200.....  | 37   | 84-916.....           | 51   |                       |      |
| 84-1101.0.....     | 6    | 84-6841.2B20.....   | 26   | 84-7215.400.....  | 37   | 84-918.....           | 55   |                       |      |
| 84-1101.0.....     | 11   | 84-6841.2B40.....   | 26   | 84-7215.500.....  | 37   | 84-920.....           | 54   |                       |      |
| 84-1101.0.....     | 13   | 84-7111.200.....    | 35   | 84-7215.600.....  | 37   | 84-9300.4.....        | 53   |                       |      |
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| 84-1201.0.....     | 11   | 84-7111.203.....    | 36   | 84-8001.2340..... | 44   | 84-9500.4.....        | 56   |                       |      |
| 84-1201.0.....     | 13   | 84-7111.300.....    | 35   | 84-8001.2620..... | 43   | 84-9500.6A.....       | 56   |                       |      |
| 84-1201.2.....     | 4    | 84-7111.301.....    | 36   | 84-8001.2640..... | 44   | 84-9500.8.....        | 56   |                       |      |
| 84-1201.2.....     | 6    | 84-7111.400.....    | 35   | 84-8001.3620..... | 43   | 84-960.0.....         | 48   |                       |      |
| 84-1201.2.....     | 11   | 84-7111.401.....    | 36   | 84-8001.3640..... | 44   | 84-9600.4.....        | 56   |                       |      |
| 84-1201.2.....     | 13   | 84-7111.500.....    | 35   | 84-8001.4320..... | 43   | 84-9600.8.....        | 56   |                       |      |
| 84-1201.4.....     | 4    | 84-7111.501.....    | 36   | 84-8001.4340..... | 44   | 84-9700.4.....        | 53   |                       |      |
| 84-1201.4.....     | 6    | 84-7111.502.....    | 36   | 84-8001.4620..... | 43   | 84-9700.8.....        | 53   |                       |      |
| 84-1201.4.....     | 11   | 84-7111.503.....    | 36   | 84-8001.4640..... | 44   | 84-9800.4.....        | 57   |                       |      |
| 84-1201.4.....     | 13   | 84-7111.600.....    | 35   | 84-8001.5320..... | 43   | 84-9800.8.....        | 57   |                       |      |
| 84-1201.5.....     | 4    | 84-7111.601.....    | 36   | 84-8001.5340..... | 44   | 84-996.....           | 57   |                       |      |
| 84-1201.5.....     | 6    | 84-7111.602.....    | 36   | 84-8001.5620..... | 43   | 84-997.....           | 57   |                       |      |
| 84-1201.5.....     | 11   | 84-7111.603.....    | 36   | 84-8001.5640..... | 44   | 84-ACKS-B10-04B9 ..24 |      |                       |      |
| 84-1201.5.....     | 13   | 84-7111.700.....    | 35   | 84-8001.6320..... | 43   | 84-ACKS-B11-04BA ..24 |      |                       |      |
| 84-1201.6.....     | 4    | 84-7111.701.....    | 36   | 84-8001.6620..... | 43   | 84-ACKS-B12-04BB ..24 |      |                       |      |
| 84-1201.6.....     | 6    | 84-7111.702.....    | 36   | 84-8001.6640..... | 44   | 84-ACKS-B13-04BC ..24 |      |                       |      |
| 84-1201.6.....     | 11   | 84-7111.703.....    | 36   | 84-8001.9320..... | 43   | 84-ACKS-B14-04BD ..24 |      |                       |      |
| 84-1201.6.....     | 13   | 84-7114.600A.....   | 38   | 84-8001.9340..... | 44   | 84-ACKS-B15-04BE ..24 |      |                       |      |
| 84-1201.7.....     | 4    | 84-7115.200.....    | 35   | 84-8001.9620..... | 43   | 84-ACKS-C10-04BF ..24 |      |                       |      |
| 84-1201.7.....     | 6    | 84-7115.300.....    | 35   | 84-8001.9640..... | 44   | 84-ACKS-C11-04C0 ..24 |      |                       |      |
| 84-1201.7.....     | 11   | 84-7115.400.....    | 35   | 84-8005.7620..... | 45   | 84-ACKS-C12-04C1 ..24 |      |                       |      |
| 84-1201.7.....     | 13   | 84-7115.500.....    | 35   | 84-8005.7640..... | 45   | 84-ACKS-C14-04C2 ..24 |      |                       |      |
| 84-1221.7.....     | 5    | 84-7115.600.....    | 35   | 84-8005.8620..... | 45   | 84-ACKS-C16-04C3 ..24 |      |                       |      |
| 84-1221.7.....     | 6    | 84-7115.700.....    | 35   | 84-8005.8640..... | 45   | 84-ACKS-C17-04C4 ..24 |      |                       |      |
| 84-1221.7.....     | 12   | 84-7121.000.....    | 35   | 84-8510.0020..... | 41   | 84-ACKS-C18-04C5 ..24 |      |                       |      |
| 84-1221.7.....     | 13   | 84-7121.800.....    | 35   | 84-8510.0040..... | 41   | 84-ACKS-C19-04C6 ..24 |      |                       |      |
| 84-2101.0.....     | 4    | 84-7124.000A.....   | 38   | 84-8511.2320..... | 39   | 84-ACKS-C20-04C7 ..24 |      |                       |      |
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| 84-2101.0.....     | 11   | 84-7125.000.....    | 35   | 84-8511.2620..... | 39   | 84-ADKS-B11-04AB ..22 |      |                       |      |



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[84996](#) [84-5240.0020](#) [84-5120.0020](#) [84-5130.0020](#) [84-5220.0020](#) [84-5221.2B20](#) [84-5230.0020](#) [84-5231.2B20](#) [84-](#)  
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[04C4](#) [84-ACKS-C18-04C5](#) [84-ACKS-C19-04C6](#) [84-ACKS-C20-04C7](#) [84-ADKS-B10-04AA](#) [84-ADKS-B11-04AB](#) [84-](#)  
[ADKS-B12-04AC](#) [84-ADKS-B13-04AD](#) [84-ADKS-B14-04AE](#) [84-ADKS-B15-04AF](#) [84-ADKS-C10-04B0](#) [84-ADKS-C11-](#)  
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[ADKS-C19-04B7](#) [84-ADKS-C20-04B8](#) [84-ASKS-B10-049C](#) [84-ASKS-B11-049D](#) [84-ASKS-B12-049E](#) [84-ASKS-B13-](#)  
[049F](#) [84-ASKS-B14-04A0](#) [84-ASKS-B15-04A1](#) [84-ASKS-C10-04A2](#) [84-ASKS-C11-04A3](#) [84-ASKS-C12-04A4](#) [84-](#)  
[ASKS-C14-04A5](#) [84-ASKS-C16-04A6](#) [84-ASKS-C17-04A7](#) [84-ASKS-C18-04A8](#) [84-ASKS-C19-04A9](#) [84-ASKS-C20-](#)  
[049B](#)