

# Series 82

*Robust and attractive.*

<https://eao.com/82>



### Key advantages

- Vandal-resistant: Impact resistant to IK10
- Front protection up to IP67
- Gold-plated silver contacts available for low voltages and currents
- Optional illumination and laser markings
- Excellent tactile feedback
- Long service life: > 1 million cycles of operation
- Stainless steel anodised aluminium or brass coloured switches
- 16 mm, 19 mm or 22 mm mounting

### Typical application areas

- Exposed public areas: e.g. ticketing and vending machines
- Industrial: Machinery and factory equipment
- Lifting and moving: Elevators and people movers
- Building management: Access control and security systems
- Audio and video equipment
- Medical equipment
- Food Industry (corrosion and acid resistant versions available on request)

### Functions

- Push button
- Illuminated push button
- Indicator
- Illuminated selector switch
- Keylock switch

### Design

- Flush

### IP front protection

- IP65
- IP67

### Mounting cut-outs

- Ø 16 mm
- Ø 19 mm
- Ø 22 mm

### Terminal

- Plug-in terminal
- Screw terminal
- Connector M12
- Cable with connector M12
- Cable

### Lens Material

- Aluminium
- Stainless steel
- Brass
- Plastic metalised

### Markings

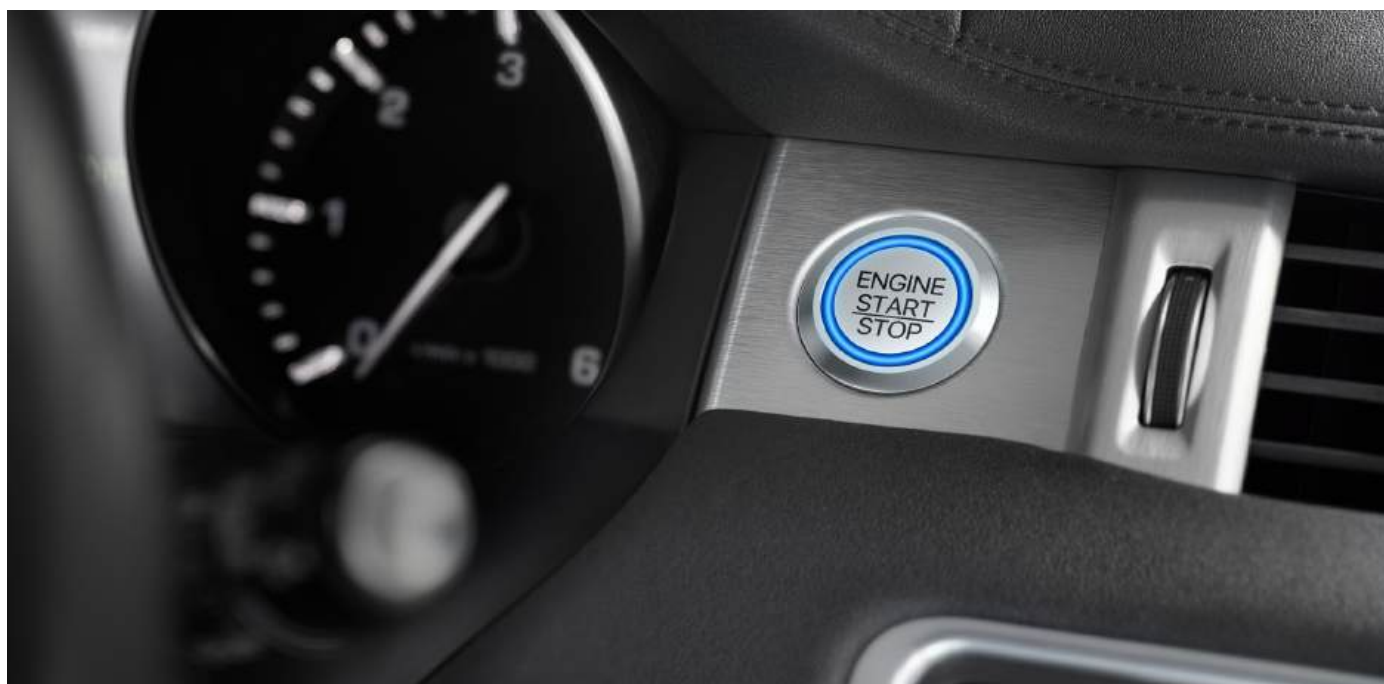
- Laser marking

### Approvals

- CB
- UL
- C UL
- CCC

### Conformities

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



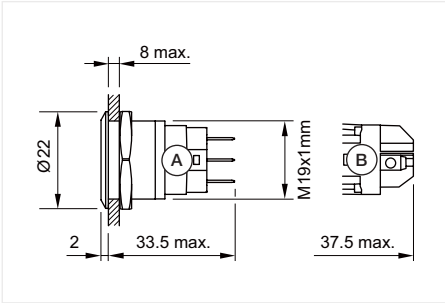
|                                                                                                            |           |
|------------------------------------------------------------------------------------------------------------|-----------|
| <b>Flush design</b>                                                                                        |           |
| Push button Ø 19 mm silver contact                                                                         | 4         |
| Push button Ø 19 mm gold contact                                                                           | 6         |
| Illuminated push button Ø 19 mm silver contact                                                             | 8         |
| Illuminated push button Ø 19 mm gold contact                                                               | 10        |
| Illuminated push button Ø 22 mm silver contact                                                             | 12        |
| Illuminated push button Ø 22 mm gold contact                                                               | 14        |
| Illuminated push button Ø 22 mm stainless steel 304, with symbol                                           | 16        |
| Illuminated push button Ø 22 mm stainless steel 316L                                                       | 18        |
| Push button, illuminated push button with connector M12, Ø 22 mm, stainless steel 316L                     | 20        |
| Push button, illuminated push button with connector M12, Ø 22 mm, stainless steel 316L, cable 200 mm, 180° | 22        |
| Push button, illuminated push button with connector M12, Ø 22 mm, stainless steel 316L, cable 200 mm, 90°  | 24        |
| Push button, illuminated push button, Ø 22 mm, stainless steel 316L, cable 200 mm, 180°                    | 26        |
| Push button, illuminated push button, Ø 22 mm, stainless steel 316L, cable 200 mm, 90°                     | 28        |
| Indicator 19 mm                                                                                            | 30        |
| Indicator 22 mm                                                                                            | 32        |
| Illuminated selector switch                                                                                | 34        |
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# 82 Flush design

## Push button Ø 19 mm silver contact, IP65, IP67

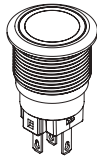


Product can differ from the current configuration.



Dimensions [mm]  
A = Solder terminal  
B = Screw terminal

### Equipment consisting of (schematic overview)



Actuator



Seal

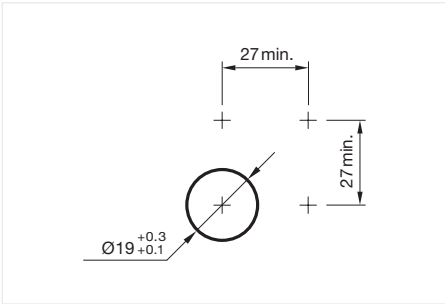


Fixing nut

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

### General information

- The laser 2D-technology can mark all stainless steel versions with flat lenses - flush-mounting as well as raised versions.



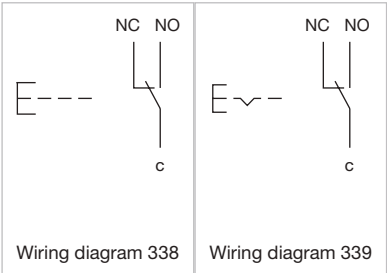
Mounting cut-outs [mm]



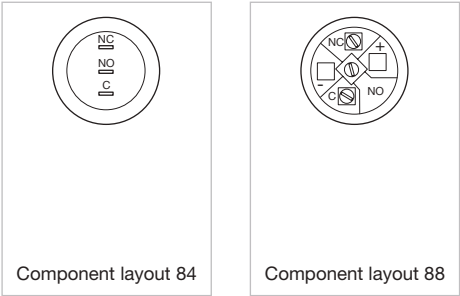
## Push button Ø 19 mm silver contact, Front dimension Ø 22 mm

| Switching action | Lens shape | Terminal                         | Switching voltage | Symbol    |                   | Wiring diagram | Component Layout |
|------------------|------------|----------------------------------|-------------------|-----------|-------------------|----------------|------------------|
| Maintained       | Flush      | Screw terminal                   | 240 V             |           | 82-5152.2000      | 339            | 88               |
| Momentary        | Flush      | Screw terminal                   | 240 V             |           | 82-5152.1000      | 338            | 88               |
| Maintained       | Flush      | Soldering terminal, 2.8 x 0.5 mm | 240 V             |           | 82-5151.2000      | 339            | 84               |
| Momentary        | Flush      | Soldering terminal, 2.8 x 0.5 mm | 240 V             |           | 82-5151.1000      | 338            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 240 V             | ON/OFF    | 82-5151.1000.B001 | 338            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 240 V             | Standby   | 82-5151.1000.B002 | 338            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 240 V             | Light     | 82-5151.1000.B003 | 338            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 240 V             | Info      | 82-5151.1000.B004 | 338            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 240 V             | Bell      | 82-5151.1000.B005 | 338            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 240 V             | Door open | 82-5151.1000.B006 | 338            | 84               |
| Maintained       | Flush      | Soldering terminal, 2.8 x 0.5 mm | 240 V             | ON/OFF    | 82-5151.2000.B001 | 339            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 240 V             | Standby   | 82-5151.2000.B002 | 339            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 240 V             | Light     | 82-5151.2000.B003 | 339            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 240 V             | Info      | 82-5151.2000.B004 | 339            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 240 V             | Bell      | 82-5151.2000.B005 | 339            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 240 V             | Door open | 82-5151.2000.B006 | 339            | 84               |
| Momentary        | Flush      | Screw terminal                   | 240 V             | ON/OFF    | 82-5152.1000.B001 | 338            | 88               |
|                  | Flush      | Screw terminal                   | 240 V             | Standby   | 82-5152.1000.B002 | 338            | 88               |
|                  | Flush      | Screw terminal                   | 240 V             | Light     | 82-5152.1000.B003 | 338            | 88               |
|                  | Flush      | Screw terminal                   | 240 V             | Info      | 82-5152.1000.B004 | 338            | 88               |
|                  | Flush      | Screw terminal                   | 240 V             | Bell      | 82-5152.1000.B005 | 338            | 88               |
|                  | Flush      | Screw terminal                   | 240 V             | Door open | 82-5152.1000.B006 | 338            | 88               |
| Maintained       | Flush      | Screw terminal                   | 240 V             | ON/OFF    | 82-5152.2000.B001 | 339            | 88               |
|                  | Flush      | Screw terminal                   | 240 V             | Standby   | 82-5152.2000.B002 | 339            | 88               |
|                  | Flush      | Screw terminal                   | 240 V             | Light     | 82-5152.2000.B003 | 339            | 88               |
|                  | Flush      | Screw terminal                   | 240 V             | Info      | 82-5152.2000.B004 | 339            | 88               |
|                  | Flush      | Screw terminal                   | 240 V             | Bell      | 82-5152.2000.B005 | 339            | 88               |
|                  | Flush      | Screw terminal                   | 240 V             | Door open | 82-5152.2000.B006 | 339            | 88               |

Wiring diagrams



Component layouts

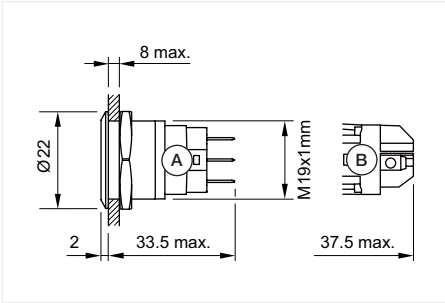


# 82 Flush design

## Push button Ø 19 mm gold contact, IP65, IP67

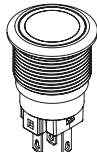


Product can differ from the current configuration.



Dimensions [mm]  
A = Solder terminal  
B = Screw terminal

### Equipment consisting of (schematic overview)



Actuator



Seal

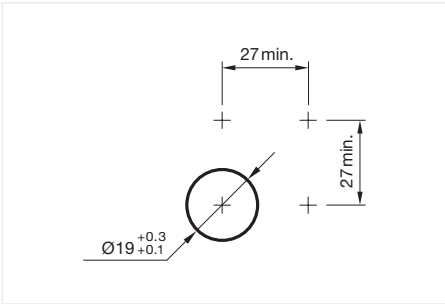


Fixing nut

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

### General information

- The laser 2D-technology can mark all stainless steel versions with flat lenses - flush-mounting as well as raised versions.



Mounting cut-outs [mm]

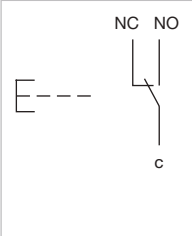


Push button Ø 19 mm gold contact, Front dimension Ø 22 mm

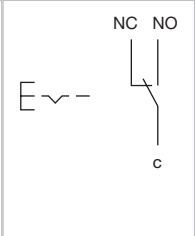
| Switching action | Lens shape | Terminal                         | Switching voltage | Symbol    |                   | Wiring diagram | Component Layout |
|------------------|------------|----------------------------------|-------------------|-----------|-------------------|----------------|------------------|
| Maintained       | Flush      | Screw terminal                   | 24 V              |           | 82-5154.2000      | 339            | 88               |
| Momentary        | Flush      | Screw terminal                   | 24 V              |           | 82-5154.1000      | 338            | 88               |
| Maintained       | Flush      | Soldering terminal, 2.8 x 0.5 mm | 24 V              |           | 82-5153.2000      | 339            | 84               |
| Momentary        | Flush      | Soldering terminal, 2.8 x 0.5 mm | 24 V              |           | 82-5153.1000      | 338            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 24 V              | ON/OFF    | 82-5153.1000.B001 | 338            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 24 V              | Standby   | 82-5153.1000.B002 | 338            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 24 V              | Light     | 82-5153.1000.B003 | 338            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 24 V              | Info      | 82-5153.1000.B004 | 338            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 24 V              | Bell      | 82-5153.1000.B005 | 338            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 24 V              | Door open | 82-5153.1000.B006 | 338            | 84               |
| Maintained       | Flush      | Soldering terminal, 2.8 x 0.5 mm | 24 V              | ON/OFF    | 82-5153.2000.B001 | 339            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 24 V              | Standby   | 82-5153.2000.B002 | 339            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 24 V              | Light     | 82-5153.2000.B003 | 339            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 24 V              | Info      | 82-5153.2000.B004 | 339            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 24 V              | Bell      | 82-5153.2000.B005 | 339            | 84               |
|                  | Flush      | Soldering terminal, 2.8 x 0.5 mm | 24 V              | Door open | 82-5153.2000.B006 | 339            | 84               |
| Momentary        | Flush      | Screw terminal                   | 24 V              | ON/OFF    | 82-5154.1000.B001 | 338            | 88               |
|                  | Flush      | Screw terminal                   | 24 V              | Standby   | 82-5154.1000.B002 | 338            | 88               |
|                  | Flush      | Screw terminal                   | 24 V              | Light     | 82-5154.1000.B003 | 338            | 88               |
|                  | Flush      | Screw terminal                   | 24 V              | Info      | 82-5154.1000.B004 | 338            | 88               |
|                  | Flush      | Screw terminal                   | 24 V              | Bell      | 82-5154.1000.B005 | 338            | 88               |
|                  | Flush      | Screw terminal                   | 24 V              | Door open | 82-5154.1000.B006 | 338            | 88               |
| Maintained       | Flush      | Screw terminal                   | 24 V              | ON/OFF    | 82-5154.2000.B001 | 339            | 88               |
|                  | Flush      | Screw terminal                   | 24 V              | Standby   | 82-5154.2000.B002 | 339            | 88               |
|                  | Flush      | Screw terminal                   | 24 V              | Light     | 82-5154.2000.B003 | 339            | 88               |
|                  | Flush      | Screw terminal                   | 24 V              | Info      | 82-5154.2000.B004 | 339            | 88               |
|                  | Flush      | Screw terminal                   | 24 V              | Bell      | 82-5154.2000.B005 | 339            | 88               |

| Switching action | Lens shape | Terminal       | Switching voltage | Symbol    |                   | Wiring diagram | Component Layout |
|------------------|------------|----------------|-------------------|-----------|-------------------|----------------|------------------|
| Maintained       | Flush      | Screw terminal | 24 V              | Door open | 82-5154.2000.B006 | 339            | 88               |

Wiring diagrams

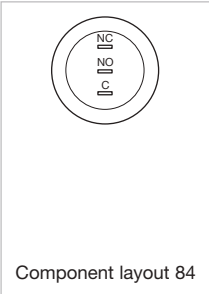


Wiring diagram 338

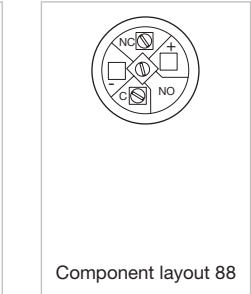


Wiring diagram 339

Component layouts



Component layout 84



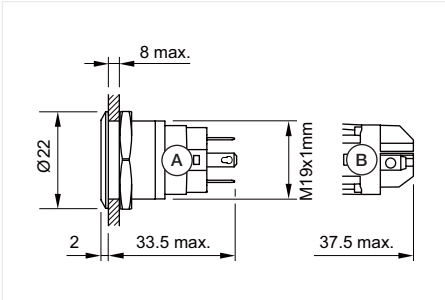
Component layout 88

# 82 Flush design

## Illuminated push button Ø 19 mm silver contact, IP65, IP67

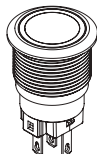


Product can differ from the current configuration.



Dimensions [mm]  
A = Solder terminal  
B = Screw terminal

### Equipment consisting of (schematic overview)



Actuator



Seal

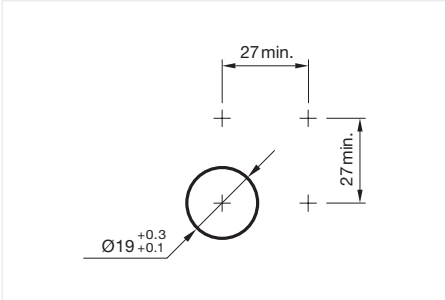


Fixing nut

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

### General information

- The laser 2D-technology can mark all stainless steel versions with flat lenses - flush-mounting as well as raised versions.



Mounting cut-outs [mm]



## Illuminated push button Ø 19 mm silver contact, Front dimension Ø 22 mm

| Switching action | Illumination colour | Lens shape | Terminal                         | Shape of illumination | Switching voltage | Operating voltage |              | Wiring diagram | Component Layout |
|------------------|---------------------|------------|----------------------------------|-----------------------|-------------------|-------------------|--------------|----------------|------------------|
| Maintained       | White               | Flush      | Screw terminal                   | Ring                  | 240 V             | 24 AC/DC          | 82-5152.2154 | 341            | 87               |
|                  | Yellow              | Flush      | Screw terminal                   | Ring                  | 240 V             | 24 V DC           | 82-5152.2144 | 341            | 87               |
|                  | Green               | Flush      | Screw terminal                   | Ring                  | 240 V             | 24 V DC           | 82-5152.2134 | 341            | 87               |
|                  | Blue                | Flush      | Screw terminal                   | Ring                  | 240 V             | 24 V DC           | 82-5152.2124 | 341            | 87               |
|                  | Red                 | Flush      | Screw terminal                   | Ring                  | 240 V             | 24 V DC           | 82-5152.2114 | 341            | 87               |
| Momentary        | White               | Flush      | Screw terminal                   | Ring                  | 240 V             | 24 V DC           | 82-5152.1154 | 340            | 87               |
|                  | Yellow              | Flush      | Screw terminal                   | Ring                  | 240 V             | 24 V DC           | 82-5152.1144 | 340            | 87               |
|                  | Green               | Flush      | Screw terminal                   | Ring                  | 240 V             | 24 V DC           | 82-5152.1134 | 340            | 87               |
|                  | Blue                | Flush      | Screw terminal                   | Ring                  | 240 V             | 24 V DC           | 82-5152.1124 | 340            | 87               |
|                  | Red                 | Flush      | Screw terminal                   | Ring                  | 240 V             | 24 V DC           | 82-5152.1114 | 340            | 87               |
| Maintained       | White               | Flush      | Soldering terminal, 2,8 x 0,5 mm | Ring                  | 240 V             | 24 V DC           | 82-5151.2154 | 341            | 85               |
|                  | Yellow              | Flush      | Soldering terminal, 2,8 x 0,5 mm | Ring                  | 240 V             | 24 V DC           | 82-5151.2144 | 341            | 85               |
|                  | Green               | Flush      | Soldering terminal, 2,8 x 0,5 mm | Ring                  | 240 V             | 24 V DC           | 82-5151.2134 | 341            | 85               |
|                  | Blue                | Flush      | Soldering terminal, 2,8 x 0,5 mm | Ring                  | 240 V             | 24 V DC           | 82-5151.2124 | 341            | 85               |
|                  | Red                 | Flush      | Soldering terminal, 2,8 x 0,5 mm | Ring                  | 240 V             | 24 V DC           | 82-5151.2114 | 341            | 85               |
| Momentary        | White               | Flush      | Soldering terminal, 2,8 x 0,5 mm | Ring                  | 240 V             | 24 V DC           | 82-5151.1154 | 340            | 85               |
|                  | Yellow              | Flush      | Soldering terminal, 2,8 x 0,5 mm | Ring                  | 240 V             | 24 V DC           | 82-5151.1144 | 340            | 85               |
|                  | Green               | Flush      | Soldering terminal, 2,8 x 0,5 mm | Ring                  | 240 V             | 24 V DC           | 82-5151.1134 | 340            | 85               |
|                  | Blue                | Flush      | Soldering terminal, 2,8 x 0,5 mm | Ring                  | 240 V             | 24 V DC           | 82-5151.1124 | 340            | 85               |
|                  | Red                 | Flush      | Soldering terminal, 2,8 x 0,5 mm | Ring                  | 240 V             | 24 V DC           | 82-5151.1114 | 340            | 85               |

| Switching action | Illumination colour | Lens shape | Terminal                         | Shape of illumination | Switching voltage | Operating voltage |              | Wiring diagram | Component Layout |
|------------------|---------------------|------------|----------------------------------|-----------------------|-------------------|-------------------|--------------|----------------|------------------|
| Maintained       | Red / Green         | Flush      | Screw terminal                   | Dot                   | 240 V             | 24 V DC           | 82-5152.22A4 | 342            | 87               |
|                  | Red / Green         | Flush      | Screw terminal                   | Ring                  | 240 V             | 24 V DC           | 82-5152.21A4 | 342            | 87               |
| Momentary        | Red / Green         | Flush      | Screw terminal                   | Dot                   | 240 V             | 24 V DC           | 82-5152.12A4 | 343            | 87               |
|                  | Red / Green         | Flush      | Screw terminal                   | Ring                  | 240 V             | 24 V DC           | 82-5152.11A4 | 343            | 87               |
| Maintained       | Red / Green         | Flush      | Soldering terminal, 2.8 x 0.5 mm | Dot                   | 240 V             | 24 V DC           | 82-5151.22A4 | 342            | 85               |
|                  | Red / Green         | Flush      | Soldering terminal, 2.8 x 0.5 mm | Ring                  | 240 V             | 24 V DC           | 82-5151.21A4 | 342            | 85               |
| Momentary        | Red / Green         | Flush      | Soldering terminal, 2.8 x 0.5 mm | Dot                   | 240 V             | 24 V DC           | 82-5151.12A4 | 343            | 85               |
|                  | Red / Green         | Flush      | Soldering terminal, 2.8 x 0.5 mm | Ring                  | 240 V             | 24 V DC           | 82-5151.11A4 | 343            | 85               |

Wiring diagrams

|                    |                    |                    |                    |
|--------------------|--------------------|--------------------|--------------------|
|                    |                    |                    |                    |
| Wiring diagram 340 | Wiring diagram 341 | Wiring diagram 342 | Wiring diagram 343 |

Component layouts

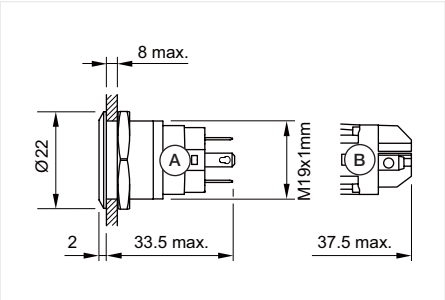
|                     |                     |
|---------------------|---------------------|
|                     |                     |
| Component layout 85 | Component layout 87 |

# 82 Flush design

## Illuminated push button Ø 19 mm gold contact, IP65, IP67

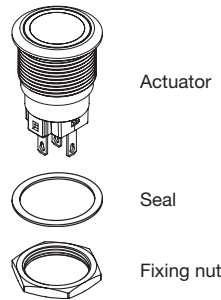


Product can differ from the current configuration.



Dimensions [mm]  
A = Solder terminal  
B = Screw terminal

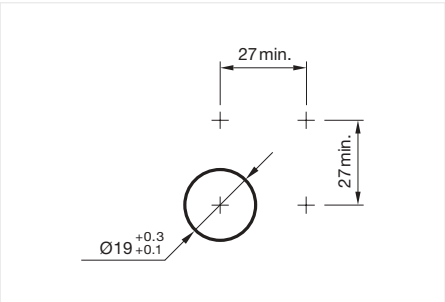
### Equipment consisting of (schematic overview)



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

### General information

- The laser 2D-technology can mark all stainless steel versions with flat lenses - flush-mounting as well as raised versions.



Mounting cut-outs [mm]



## Illuminated push button Ø 19 mm gold contact, Front dimension Ø 22 mm

| Switching action | Illumination colour | Lens shape | Terminal                         | Shape of illumination | Switching voltage | Operating voltage |              | Wiring diagram | Component Layout |
|------------------|---------------------|------------|----------------------------------|-----------------------|-------------------|-------------------|--------------|----------------|------------------|
| Maintained       | Yellow              | Flush      | Screw terminal                   | Ring                  | 24 V              | 24 V DC           | 82-5154.2144 | 341            | 87               |
|                  | Green               | Flush      | Screw terminal                   | Ring                  | 24 V              | 24 V DC           | 82-5154.2134 | 341            | 87               |
|                  | Blue                | Flush      | Screw terminal                   | Ring                  | 24 V              | 24 V DC           | 82-5154.2124 | 341            | 87               |
|                  | Red                 | Flush      | Screw terminal                   | Ring                  | 24 V              | 24 V DC           | 82-5154.2114 | 341            | 87               |
| Momentary        | White               | Flush      | Screw terminal                   | Ring                  | 24 V              | 24 V DC           | 82-5154.1154 | 340            | 87               |
|                  | Yellow              | Flush      | Screw terminal                   | Ring                  | 24 V              | 24 V DC           | 82-5154.1144 | 340            | 87               |
|                  | Green               | Flush      | Screw terminal                   | Ring                  | 24 V              | 24 V DC           | 82-5154.1134 | 340            | 87               |
|                  | Blue                | Flush      | Screw terminal                   | Ring                  | 24 V              | 24 V DC           | 82-5154.1124 | 340            | 87               |
|                  | Red                 | Flush      | Screw terminal                   | Ring                  | 24 V              | 24 V DC           | 82-5154.1114 | 340            | 87               |
| Maintained       | White               | Flush      | Soldering terminal, 2.8 x 0.5 mm | Ring                  | 24 V              | 24 V DC           | 82-5153.2154 | 341            | 85               |
|                  | Yellow              | Flush      | Soldering terminal, 2.8 x 0.5 mm | Ring                  | 24 V              | 24 V DC           | 82-5153.2144 | 341            | 85               |
|                  | Green               | Flush      | Soldering terminal, 2.8 x 0.5 mm | Ring                  | 24 V              | 24 V DC           | 82-5153.2134 | 341            | 85               |
|                  | Blue                | Flush      | Soldering terminal, 2.8 x 0.5 mm | Ring                  | 24 V              | 24 V DC           | 82-5153.2124 | 341            | 85               |
|                  | Red                 | Flush      | Soldering terminal, 2.8 x 0.5 mm | Ring                  | 24 V              | 24 V DC           | 82-5153.2114 | 341            | 85               |
| Momentary        | White               | Flush      | Soldering terminal, 2.8 x 0.5 mm | Ring                  | 24 V              | 24 V DC           | 82-5153.1154 | 340            | 85               |
|                  | Yellow              | Flush      | Soldering terminal, 2.8 x 0.5 mm | Ring                  | 24 V              | 24 V DC           | 82-5153.1144 | 340            | 85               |
|                  | Green               | Flush      | Soldering terminal, 2.8 x 0.5 mm | Ring                  | 24 V              | 24 V DC           | 82-5153.1134 | 340            | 85               |
|                  | Blue                | Flush      | Soldering terminal, 2.8 x 0.5 mm | Ring                  | 24 V              | 24 V DC           | 82-5153.1124 | 340            | 85               |
|                  | Red                 | Flush      | Soldering terminal, 2.8 x 0.5 mm | Ring                  | 24 V              | 24 V DC           | 82-5153.1114 | 340            | 85               |
| Maintained       | Red / Green         | Flush      | Screw terminal                   | Dot                   | 24 V              | 24 V DC           | 82-5154.22A4 | 342            | 87               |

| Switching action | Illumination colour | Lens shape | Terminal                         | Shape of illumination | Switching voltage | Operating voltage |              | Wiring diagram | Component Layout |
|------------------|---------------------|------------|----------------------------------|-----------------------|-------------------|-------------------|--------------|----------------|------------------|
| Maintained       | Red / Green         | Flush      | Screw terminal                   | Ring                  | 24 V              | 24 V DC           | 82-5154.21A4 | 342            | 87               |
| Momentary        | Red / Green         | Flush      | Screw terminal                   | Dot                   | 24 V              | 24 V DC           | 82-5154.12A4 | 343            | 87               |
|                  | Red / Green         | Flush      | Screw terminal                   | Ring                  | 24 V              | 24 V DC           | 82-5154.11A4 | 343            | 87               |
| Maintained       | Red / Green         | Flush      | Soldering terminal, 2.8 x 0.5 mm | Dot                   | 24 V              | 24 V DC           | 82-5153.22A4 | 342            | 85               |
|                  | Red / Green         | Flush      | Soldering terminal, 2.8 x 0.5 mm | Ring                  | 24 V              | 24 V DC           | 82-5153.21A4 | 342            | 85               |
| Momentary        | Red / Green         | Flush      | Soldering terminal, 2.8 x 0.5 mm | Dot                   | 24 V              | 24 V DC           | 82-5153.12A4 | 343            | 85               |
|                  | Red / Green         | Flush      | Soldering terminal, 2.8 x 0.5 mm | Ring                  | 24 V              | 24 V DC           | 82-5153.11A4 | 343            | 85               |

## Wiring diagrams

|                           |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|---------------------------|
| <p>Wiring diagram 340</p> | <p>Wiring diagram 341</p> | <p>Wiring diagram 342</p> | <p>Wiring diagram 343</p> |
|---------------------------|---------------------------|---------------------------|---------------------------|

## Component layouts

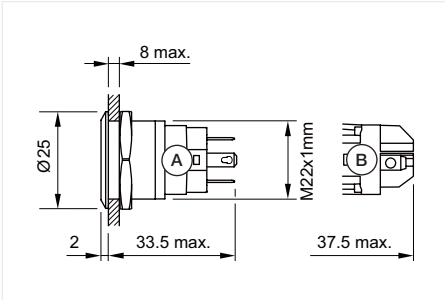
|                            |                            |
|----------------------------|----------------------------|
| <p>Component layout 85</p> | <p>Component layout 87</p> |
|----------------------------|----------------------------|

# 82 Flush design

## Illuminated push button Ø 22 mm silver contact, IP65, IP67

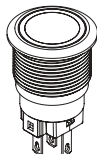


Product can differ from the current configuration.



Dimensions [mm]  
A = Solder terminal  
B = Screw terminal

### Equipment consisting of (schematic overview)



Actuator



Seal

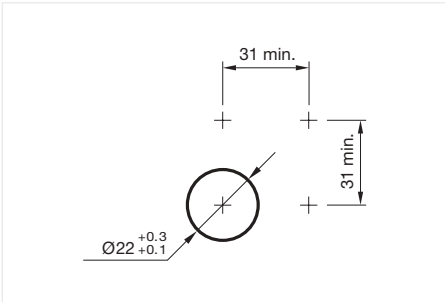


Fixing nut

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

### General information

- The laser 2D-technology can mark all stainless steel versions with flat lenses - flush-mounting as well as raised versions.



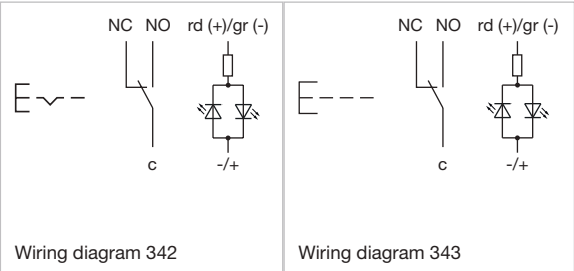
Mounting cut-outs [mm]



## Illuminated push button Ø 22 mm silver contact, Front dimension Ø 25 mm

| Switching action | Illumination colour | Lens shape | Terminal                         | Shape of illumination | Switching voltage | Operating voltage |              | Wiring diagram | Component Layout |
|------------------|---------------------|------------|----------------------------------|-----------------------|-------------------|-------------------|--------------|----------------|------------------|
| Maintained       | Red / Green         | Flush      | Screw terminal                   | Dot                   | 240 V             | 24 V AC/DC        | 82-6152.22A4 | 342            | 87               |
|                  | Red / Green         | Flush      | Screw terminal                   | Ring                  | 240 V             | 24 V AC/DC        | 82-6152.21A4 | 342            | 87               |
| Momentary        | Red / Green         | Flush      | Screw terminal                   | Dot                   | 240 V             | 24 V AC/DC        | 82-6152.12A4 | 343            | 87               |
|                  | Red / Green         | Flush      | Screw terminal                   | Ring                  | 240 V             | 24 V AC/DC        | 82-6152.11A4 | 343            | 87               |
| Maintained       | Red / Green         | Flush      | Soldering terminal, 2.8 x 0.5 mm | Dot                   | 240 V             | 24 V AC/DC        | 82-6151.22A4 | 342            | 85               |
|                  | Red / Green         | Flush      | Soldering terminal, 2.8 x 0.5 mm | Ring                  | 240 V             | 24 V AC/DC        | 82-6151.21A4 | 342            | 85               |
| Momentary        | Red / Green         | Flush      | Soldering terminal, 2.8 x 0.5 mm | Dot                   | 240 V             | 24 V AC/DC        | 82-6151.12A4 | 343            | 85               |
|                  | Red / Green         | Flush      | Soldering terminal, 2.8 x 0.5 mm | Ring                  | 240 V             | 24 V AC/DC        | 82-6151.11A4 | 343            | 85               |

### Wiring diagrams



Component layouts



Component layout 85



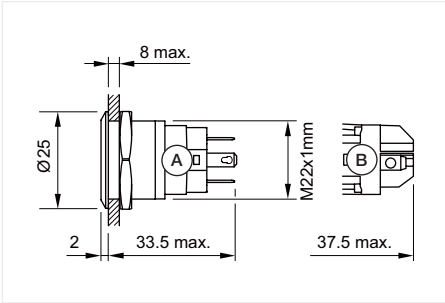
Component layout 87

# 82 Flush design

## Illuminated push button Ø 22 mm gold contact, IP65, IP67

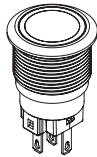


Product can differ from the current configuration.



Dimensions [mm]  
A = Solder terminal  
B = Screw terminal

### Equipment consisting of (schematic overview)



Actuator



Seal

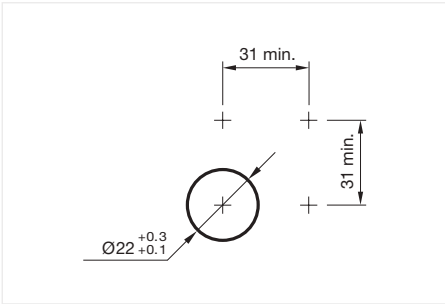


Fixing nut

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

### General information

- The laser 2D-technology can mark all stainless steel versions with flat lenses - flush-mounting as well as raised versions.



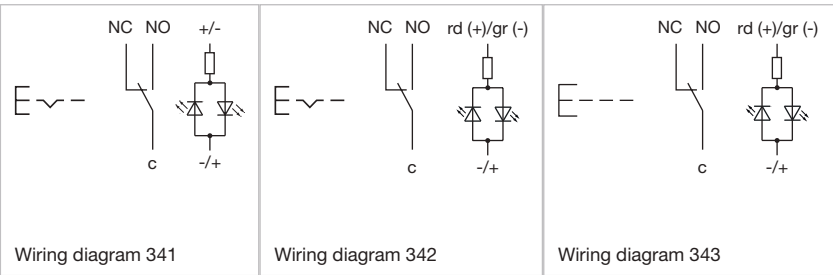
Mounting cut-outs [mm]



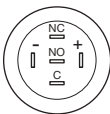
## Illuminated push button Ø 22 mm gold contact, Front dimension Ø 25 mm

| Switching action | Illumination colour | Lens shape | Terminal                         | Shape of illumination | Switching voltage | Operating voltage |              | Wiring diagram | Component Layout |
|------------------|---------------------|------------|----------------------------------|-----------------------|-------------------|-------------------|--------------|----------------|------------------|
| Maintained       | White               | Flush      | Screw terminal                   | Ring                  | 24 V              | 24 V DC           | 82-6154.2154 | 341            | 87               |
|                  | Red / Green         | Flush      | Screw terminal                   | Dot                   | 24 V              | 24 V DC           | 82-6154.22A4 | 342            | 87               |
|                  | Red / Green         | Flush      | Screw terminal                   | Ring                  | 24 V              | 24 V DC           | 82-6154.21A4 | 342            | 87               |
| Momentary        | Red / Green         | Flush      | Screw terminal                   | Dot                   | 24 V              | 24 V DC           | 82-6154.12A4 | 343            | 87               |
|                  | Red / Green         | Flush      | Screw terminal                   | Ring                  | 24 V              | 24 V DC           | 82-6154.11A4 | 343            | 87               |
| Maintained       | Red / Green         | Flush      | Soldering terminal, 2.8 x 0.5 mm | Dot                   | 24 V              | 24 V DC           | 82-6153.22A4 | 342            | 85               |
|                  | Red / Green         | Flush      | Soldering terminal, 2.8 x 0.5 mm | Ring                  | 24 V              | 24 V DC           | 82-6153.21A4 | 342            | 85               |
| Momentary        | Red / Green         | Flush      | Soldering terminal, 2.8 x 0.5 mm | Dot                   | 24 V              | 24 V DC           | 82-6153.12A4 | 343            | 85               |
|                  | Red / Green         | Flush      | Soldering terminal, 2.8 x 0.5 mm | Ring                  | 24 V              | 24 V DC           | 82-6153.11A4 | 343            | 85               |

### Wiring diagrams



Component layouts



Component layout 85



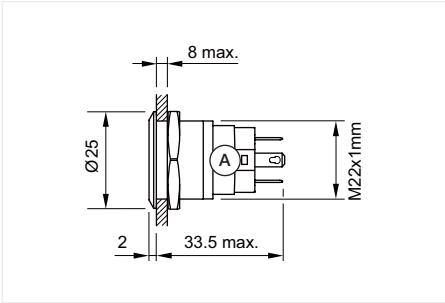
Component layout 87

# 82 Flush design

## Illuminated push button Ø 22 mm stainless steel 304, with symbol, IP65, IP67

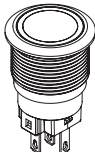


Product can differ from the current configuration.



Dimensions [mm]

### Equipment consisting of (schematic overview)



Actuator

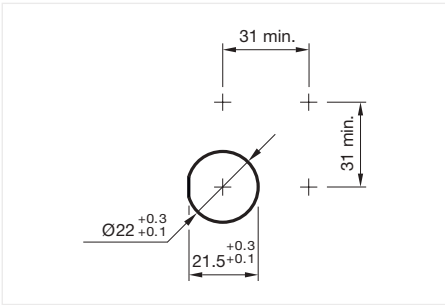


Seal



Fixing nut

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



Mounting cut-outs [mm]

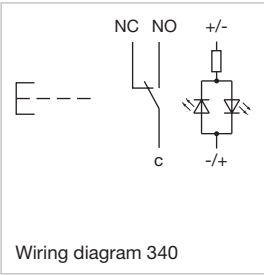


## Illuminated push button Ø 22 mm stainless steel 304, with symbol, Front dimension Ø 25 mm

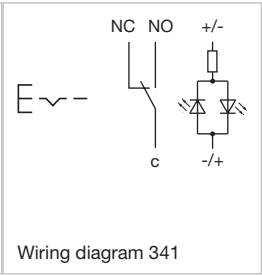
| Switching action | Illumination colour | Lens shape | Terminal                         | Symbol    | Shape of illumination | Switching voltage | Operating voltage |                   | Wiring diagram | Component Layout |
|------------------|---------------------|------------|----------------------------------|-----------|-----------------------|-------------------|-------------------|-------------------|----------------|------------------|
| Momentary        | Red                 | Flush      | Soldering terminal, 2.8 x 0.5 mm | ON/OFF    | Symbol                | 35 V              | 24 V DC           | 82-6151.1A14.B001 | 340            | 85               |
|                  | Green               | Flush      | Soldering terminal, 2.8 x 0.5 mm | ON/OFF    | Symbol                | 35 V              | 24 V DC           | 82-6151.1A34.B001 | 340            | 85               |
|                  | Red                 | Flush      | Soldering terminal, 2.8 x 0.5 mm | Standby   | Symbol                | 35 V              | 24 V DC           | 82-6151.1A14.B002 | 340            | 85               |
|                  | Green               | Flush      | Soldering terminal, 2.8 x 0.5 mm | Standby   | Symbol                | 35 V              | 24 V DC           | 82-6151.1A34.B002 | 340            | 85               |
|                  | Blue                | Flush      | Soldering terminal, 2.8 x 0.5 mm | Info      | Symbol                | 35 V              | 24 V DC           | 82-6151.1A24.B004 | 340            | 85               |
|                  | White               | Flush      | Soldering terminal, 2.8 x 0.5 mm | Info      | Symbol                | 35 V              | 24 V DC           | 82-6151.1A54.B004 | 340            | 85               |
|                  | Red                 | Flush      | Soldering terminal, 2.8 x 0.5 mm | Door open | Symbol                | 35 V              | 24 V DC           | 82-6151.1A14.B006 | 340            | 85               |
|                  | Blue                | Flush      | Soldering terminal, 2.8 x 0.5 mm | Door open | Symbol                | 35 V              | 24 V DC           | 82-6151.1A34.B006 | 340            | 85               |
|                  | Green               | Flush      | Soldering terminal, 2.8 x 0.5 mm | Door open | Symbol                | 35 V              | 24 V DC           | 82-6151.1A24.B006 | 340            | 85               |
|                  | Red                 | Flush      | Soldering terminal, 2.8 x 0.5 mm | SOS       | Symbol                | 35 V              | 24 V DC           | 82-6151.1A14.B015 | 340            | 85               |
|                  | Blue                | Flush      | Soldering terminal, 2.8 x 0.5 mm | SOS       | Symbol                | 35 V              | 24 V DC           | 82-6151.1A24.B015 | 340            | 85               |
|                  | White               | Flush      | Soldering terminal, 2.8 x 0.5 mm | SOS       | Symbol                | 35 V              | 24 V DC           | 82-6151.1A54.B015 | 340            | 85               |
| Maintained       | Red                 | Flush      | Soldering terminal, 2.8 x 0.5 mm | ON/OFF    | Symbol                | 35 V              | 24 V DC           | 82-6151.2A14.B001 | 341            | 85               |
|                  | Green               | Flush      | Soldering terminal, 2.8 x 0.5 mm | ON/OFF    | Symbol                | 35 V              | 24 V DC           | 82-6151.2A34.B001 | 341            | 85               |
| Momentary        | Red/Green           | Flush      | Soldering terminal, 2.8 x 0.5 mm | ON/OFF    | Symbol                | 35 V              | 24 V DC           | 82-6151.1AA4.B001 | 343            | 85               |
|                  | Red/Green           | Flush      | Soldering terminal, 2.8 x 0.5 mm | Standby   | Symbol                | 35 V              | 24 V DC           | 82-6151.1AA4.B002 | 343            | 85               |

| Switching action | Illumination colour | Lens shape | Terminal                         | Symbol    | Shape of illumination | Switching voltage | Operating voltage |                   | Wiring diagram | Component Layout |
|------------------|---------------------|------------|----------------------------------|-----------|-----------------------|-------------------|-------------------|-------------------|----------------|------------------|
| Momentary        | Red/Green           | Flush      | Soldering terminal, 2.8 x 0.5 mm | Info      | Symbol                | 35 V              | 24 V DC           | 82-6151.1AA4.B004 | 343            | 85               |
|                  | Red/Green           | Flush      | Soldering terminal, 2.8 x 0.5 mm | Door open | Symbol                | 35 V              | 24 V DC           | 82-6151.1AA4.B006 | 343            | 85               |
|                  | Red/Green           | Flush      | Soldering terminal, 2.8 x 0.5 mm | SOS       | Symbol                | 35 V              | 24 V DC           | 82-6151.1AA4.B015 | 343            | 85               |
| Maintained       | Red/Green           | Flush      | Soldering terminal, 2.8 x 0.5 mm | ON/OFF    | Symbol                | 35 V              | 24 V DC           | 82-6151.2AA4.B001 | 342            | 85               |

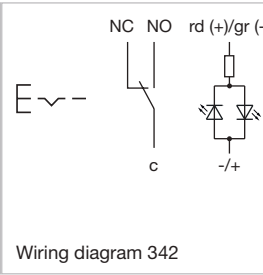
Wiring diagrams



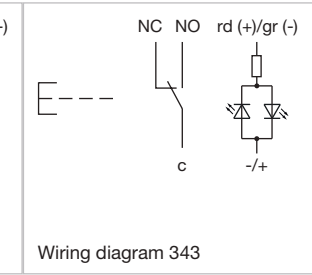
Wiring diagram 340



Wiring diagram 341

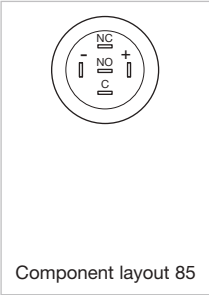


Wiring diagram 342



Wiring diagram 343

Component layouts



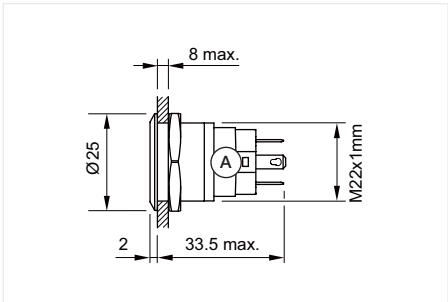
Component layout 85

# 82 Flush design

## Illuminated push button Ø 22 mm stainless steel 316L, IP65, IP67

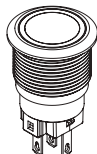


Product can differ from the current configuration.



Dimensions [mm]

### Equipment consisting of (schematic overview)



Actuator



Seal

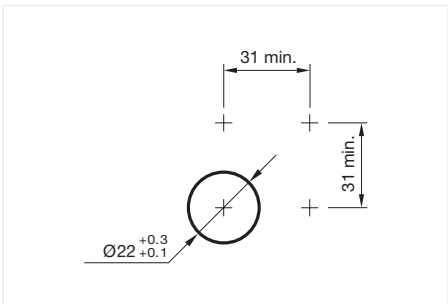


Fixing nut

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

### General information

- The laser 2D-technology can mark all stainless steel versions with flat lenses - flush-mounting as well as raised versions.



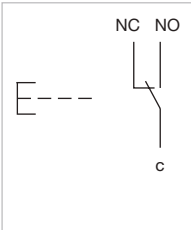
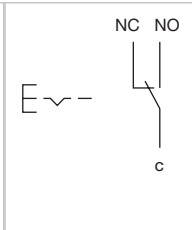
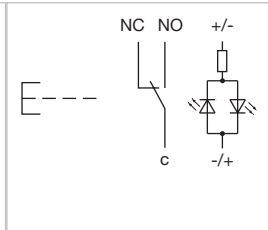
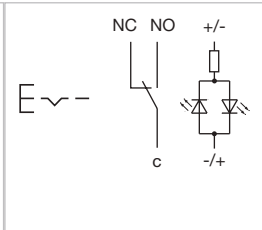
Mounting cut-outs [mm]



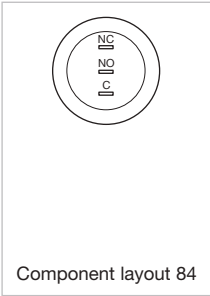
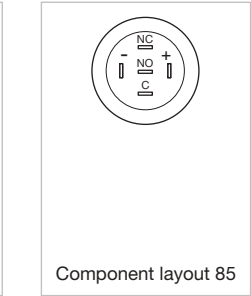
## Illuminated push button Ø 22 mm stainless steel 316L, Front dimension Ø 25 mm

| Switching action | Illumination colour | Lens shape | Terminal                       | Shape of illumination | Switching voltage | Operating voltage |              | Wiring diagram | Component Layout |
|------------------|---------------------|------------|--------------------------------|-----------------------|-------------------|-------------------|--------------|----------------|------------------|
| Momentary        | Red                 | Flush      | Plug-in terminal, 2.8 x 0.5 mm | Ring (Tritan)         | 36 V              | 24 V DC (LED)     | 82-6651.1114 | 340            | 85               |
|                  | Blue                | Flush      | Plug-in terminal, 2.8 x 0.5 mm | Ring (Tritan)         | 36 V              | 24 V DC (LED)     | 82-6651.1124 | 340            | 85               |
|                  | Green               | Flush      | Plug-in terminal, 2.8 x 0.5 mm | Ring (Tritan)         | 36 V              | 24 V DC (LED)     | 82-6651.1134 | 340            | 85               |
|                  | White               | Flush      | Plug-in terminal, 2.8 x 0.5 mm | Ring (Tritan)         | 36 V              | 24 V DC (LED)     | 82-6651.1154 | 340            | 85               |
| Maintained       | Red                 | Flush      | Plug-in terminal, 2.8 x 0.5 mm | Ring (Tritan)         | 36 V              | 24 V DC (LED)     | 82-6651.2114 | 341            | 85               |
|                  | Blue                | Flush      | Plug-in terminal, 2.8 x 0.5 mm | Ring (Tritan)         | 36 V              | 24 V DC (LED)     | 82-6651.2124 | 341            | 85               |
|                  | Green               | Flush      | Plug-in terminal, 2.8 x 0.5 mm | Ring (Tritan)         | 36 V              | 24 V DC (LED)     | 82-6651.2134 | 341            | 85               |
| Momentary        |                     | Flush      | Plug-in terminal, 2.8 x 0.5 mm |                       | 36 V              |                   | 82-6651.1000 | 338            | 84               |
| Maintained       |                     | Flush      | Plug-in terminal, 2.8 x 0.5 mm |                       | 36 V              |                   | 82-6651.2000 | 339            | 84               |

Wiring diagrams

|                                                                                   |                                                                                   |                                                                                   |                                                                                    |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|  |  |  |  |
| Wiring diagram 338                                                                | Wiring diagram 339                                                                | Wiring diagram 340                                                                | Wiring diagram 341                                                                 |

Component layouts

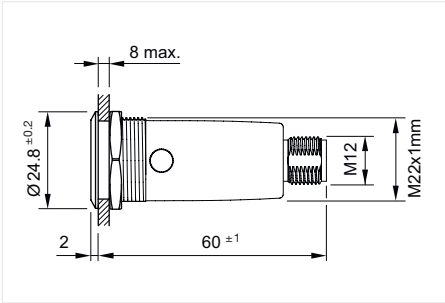
|                                                                                   |                                                                                   |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |  |
| Component layout 84                                                               | Component layout 85                                                               |

# 82 Flush design

Push button, illuminated push button with connector M12, Ø 22 mm, stainless steel 316L, IP65, IP67



Product can differ from the current configuration.



Dimensions [mm]

Equipment consisting of (schematic overview)



Actuator



Seal

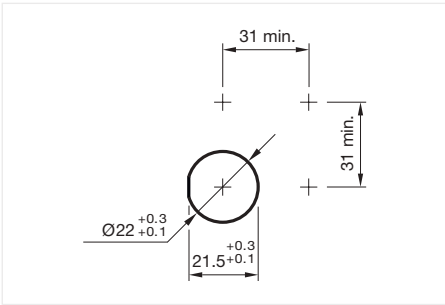


Fixing nut

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

### General information

- The laser 2D-technology can mark all stainless steel versions with flat lenses - flush-mounting as well as raised versions.



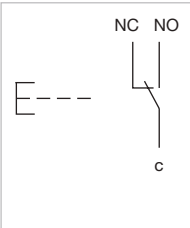
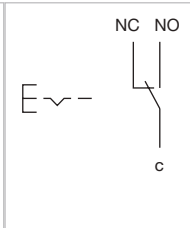
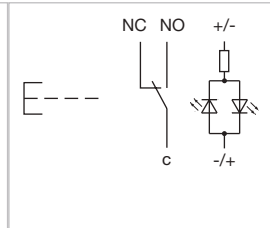
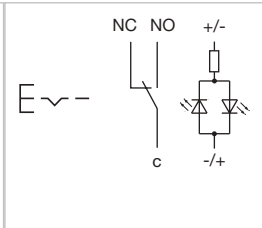
Mounting cut-outs [mm]



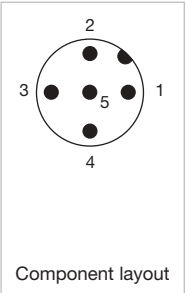
Push button, connector M12, Ø 22 mm, stainless steel 316L, Front dimension Ø 25 mm

| Switching action | Illumination colour | Lens shape | Terminal               | Shape of illumination | Switching voltage | Operating voltage |              | Wiring diagram | Component Layout |
|------------------|---------------------|------------|------------------------|-----------------------|-------------------|-------------------|--------------|----------------|------------------|
| Momentary        | Red                 | Flush      | Connector M12 (5 pins) | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-6657.1114 | 340            | 112              |
|                  | Blue                | Flush      | Connector M12 (5 pins) | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-6657.1124 | 340            | 112              |
|                  | Green               | Flush      | Connector M12 (5 pins) | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-6657.1134 | 340            | 112              |
|                  | White               | Flush      | Connector M12 (5 pins) | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-6657.1154 | 340            | 112              |
| Maintained       | Red                 | Flush      | Connector M12 (5 pins) | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-6657.2114 | 341            | 112              |
|                  | Blue                | Flush      | Connector M12 (5 pins) | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-6657.2124 | 341            | 112              |
|                  | Green               | Flush      | Connector M12 (5 pins) | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-6657.2134 | 341            | 112              |
|                  | White               | Flush      | Connector M12 (5 pins) | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-6657.2154 | 341            | 112              |
| Momentary        |                     | Flush      | Connector M12 (5 pins) |                       | 35 V              |                   | 82-6657.1000 | 338            | 112              |
| Maintained       |                     | Flush      | Connector M12 (5 pins) |                       | 35 V              |                   | 82-6657.2000 | 339            | 112              |

Wiring diagrams

|                                                                                                             |                                                                                                             |                                                                                                             |                                                                                                              |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
|  <p>Wiring diagram 338</p> |  <p>Wiring diagram 339</p> |  <p>Wiring diagram 340</p> |  <p>Wiring diagram 341</p> |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|

Component layouts



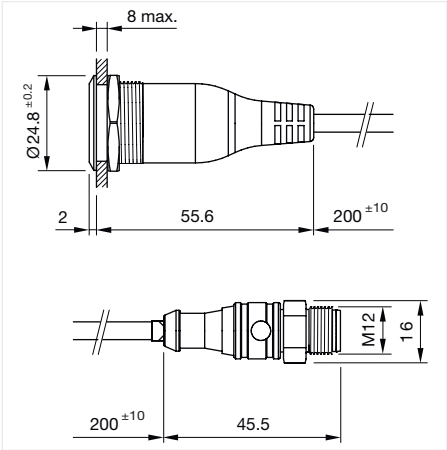
- 1 = NC
- 2 = LED+
- 3 = Common
- 4 = LED-
- 5 = NO
- A-Coded

# 82 Flush design

Push button, illuminated push button with M12, Ø 22 mm, stainless steel 316L, cable 200 mm, 180°, IP65, IP67

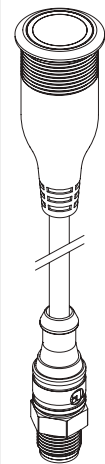


Product can differ from the current configuration.



Dimensions [mm]

Equipment consisting of (schematic overview)



Actuator



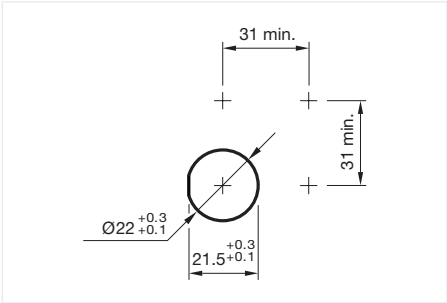
Seal



Fixing nut

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

- General information
- The laser 2D-technology can mark all stainless steel versions with flat lenses - flush-mounting as well as raised versions.



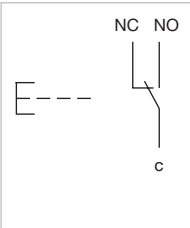
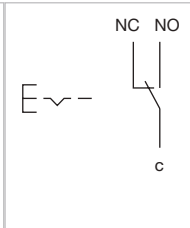
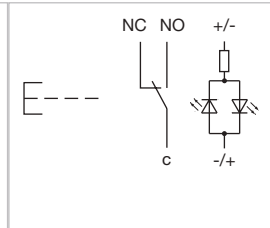
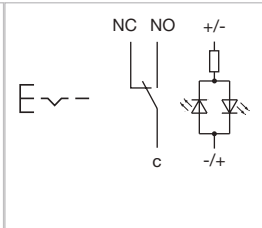
Mounting cut-outs [mm]



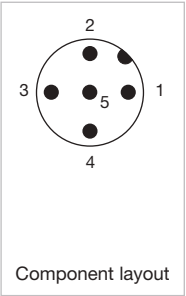
Push button, connector M12, Ø 22 mm, stainless steel 316L, cable 200 mm, 180°, Front dimension Ø 25 mm

| Switching action | Illumination colour | Lens shape | Terminal                          | Shape of illumination | Switching voltage | Operating voltage |              | Wiring diagram | Component Layout |
|------------------|---------------------|------------|-----------------------------------|-----------------------|-------------------|-------------------|--------------|----------------|------------------|
| Momentary        | Red                 | Flush      | Cable 200 mm, 180°, Connector M12 | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665A.1114 | 340            | 112              |
|                  | Blue                | Flush      | Cable 200 mm, 180°, Connector M12 | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665A.1124 | 340            | 112              |
|                  | Green               | Flush      | Cable 200 mm, 180°, Connector M12 | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665A.1134 | 340            | 112              |
|                  | White               | Flush      | Cable 200 mm, 180°, Connector M12 | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665A.1154 | 340            | 112              |
| Maintained       | Red                 | Flush      | Cable 200 mm, 180°, Connector M12 | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665A.2114 | 341            | 112              |
|                  | Blue                | Flush      | Cable 200 mm, 180°, Connector M12 | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665A.2124 | 341            | 112              |
|                  | Green               | Flush      | Cable 200 mm, 180°, Connector M12 | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665A.2134 | 341            | 112              |
|                  | White               | Flush      | Cable 200 mm, 180°, Connector M12 | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665A.2154 | 341            | 112              |
| Momentary        |                     | Flush      | Cable 200 mm, 180°, Connector M12 |                       | 35 V              |                   | 82-665A.1000 | 338            | 112              |
| Maintained       |                     | Flush      | Cable 200 mm, 180°, Connector M12 |                       | 35 V              |                   | 82-665A.2000 | 339            | 112              |

Wiring diagrams

|                                                                                                             |                                                                                                             |                                                                                                             |                                                                                                              |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
|  <p>Wiring diagram 338</p> |  <p>Wiring diagram 339</p> |  <p>Wiring diagram 340</p> |  <p>Wiring diagram 341</p> |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|

Component layouts



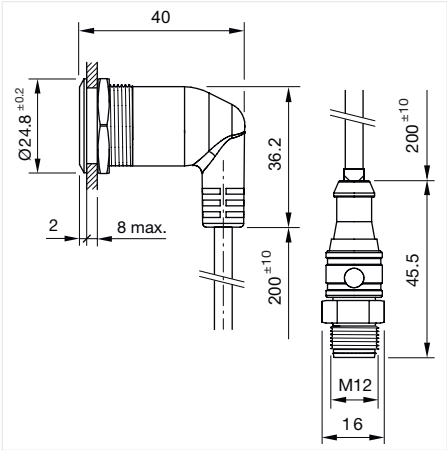
- 1 = NC
- 2 = LED+
- 3 = Common
- 4 = LED-
- 5 = NO
- A-Coded

# 82 Flush design

Push button, illuminated push button with connector M12, Ø 22 mm, stainless steel 316L, cable 200 mm, 90°, IP65, IP67

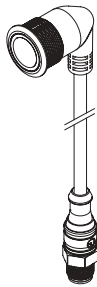


Product can differ from the current configuration.



Dimensions [mm]

Equipment consisting of (schematic overview)



Actuator



Seal

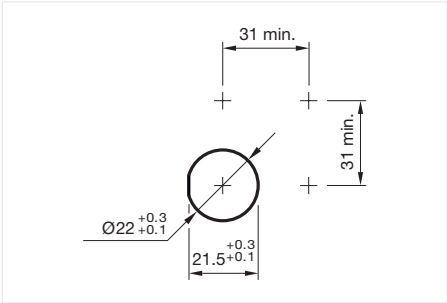


Fixing nut

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

### General information

- The laser 2D-technology can mark all stainless steel versions with flat lenses - flush-mounting as well as raised versions.



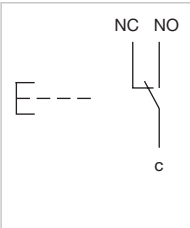
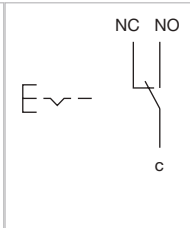
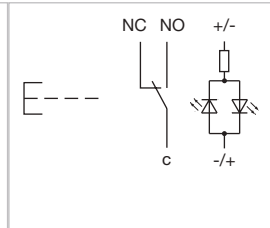
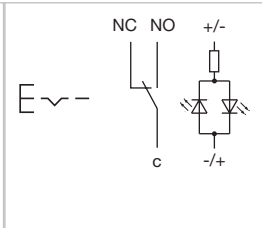
Mounting cut-outs [mm]



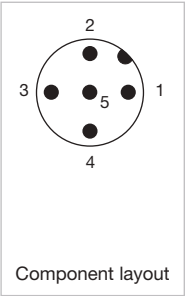
Illuminated push button, connector M12, Ø 22 mm, stainless steel 316L, cable 200 mm, 90°, Front dimension Ø 25 mm

| Switching action | Illumination colour | Lens shape | Terminal                         | Shape of illumination | Switching voltage | Operating voltage |              | Wiring diagram | Component Layout |
|------------------|---------------------|------------|----------------------------------|-----------------------|-------------------|-------------------|--------------|----------------|------------------|
| Momentary        | Red                 | Flush      | Cable 200 mm, 90°, Connector M12 | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665G.1114 | 340            | 112              |
|                  | Blue                | Flush      | Cable 200 mm, 90°, Connector M12 | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665G.1124 | 340            | 112              |
|                  | Green               | Flush      | Cable 200 mm, 90°, Connector M12 | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665G.1134 | 340            | 112              |
|                  | White               | Flush      | Cable 200 mm, 90°, Connector M12 | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665G.1154 | 340            | 112              |
| Maintained       | Red                 | Flush      | Cable 200 mm, 90°, Connector M12 | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665G.2114 | 341            | 112              |
|                  | Blue                | Flush      | Cable 200 mm, 90°, Connector M12 | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665G.2124 | 341            | 112              |
|                  | Green               | Flush      | Cable 200 mm, 90°, Connector M12 | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665G.2134 | 341            | 112              |
|                  | White               | Flush      | Cable 200 mm, 90°, Connector M12 | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665G.2154 | 341            | 112              |
| Momentary        |                     | Flush      | Cable 200 mm, 90°, Connector M12 |                       | 35 V              |                   | 82-665G.1000 | 338            | 112              |
| Maintained       |                     | Flush      | Cable 200 mm, 90°, Connector M12 |                       | 35 V              |                   | 82-665G.2000 | 339            | 112              |

Wiring diagrams

|                                                                                                             |                                                                                                             |                                                                                                             |                                                                                                              |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
|  <p>Wiring diagram 338</p> |  <p>Wiring diagram 339</p> |  <p>Wiring diagram 340</p> |  <p>Wiring diagram 341</p> |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|

Component layouts



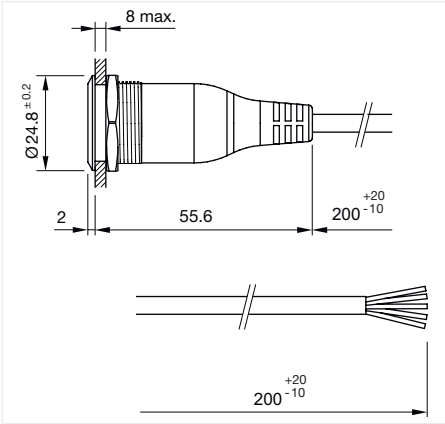
- 1 = NC
- 2 = LED+
- 3 = Common
- 4 = LED-
- 5 = NO
- A-Coded

# 82 Flush design

Push button, illuminated push button, Ø 22 mm, stainless steel 316L, cable 200 mm, 180°, IP65, IP67



Product can differ from the current configuration.



Dimensions [mm]

Equipment consisting of (schematic overview)



Actuator



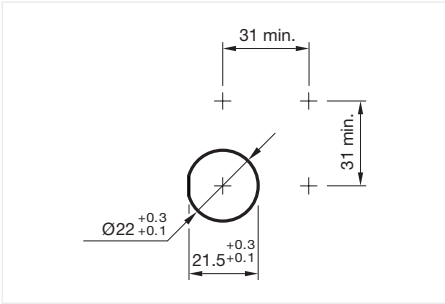
Seal



Fixing nut

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

- General information
- The laser 2D-technology can mark all stainless steel versions with flat lenses - flush-mounting as well as raised versions.
  - Cable with certification ECE-R118



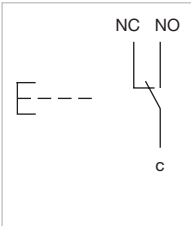
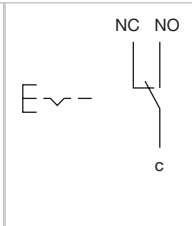
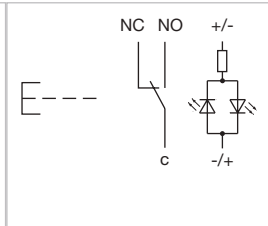
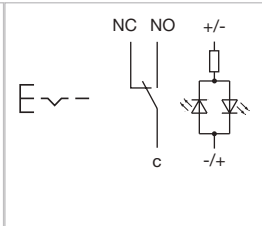
Mounting cut-outs [mm]



Push button, Ø 22 mm, stainless steel 316L, cable 200 mm, 180°, Front dimension Ø 25 mm

| Switching action | Illumination colour | Lens shape | Terminal           | Shape of illumination | Switching voltage | Operating voltage |              | Wiring diagram | Component Layout |
|------------------|---------------------|------------|--------------------|-----------------------|-------------------|-------------------|--------------|----------------|------------------|
| Momentary        | Red                 | Flush      | Cable 200 mm, 180° | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-6655.1114 | 340            | 112              |
|                  | Blue                | Flush      | Cable 200 mm, 180° | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-6655.1124 | 340            | 112              |
|                  | Green               | Flush      | Cable 200 mm, 180° | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-6655.1134 | 340            | 112              |
|                  | White               | Flush      | Cable 200 mm, 180° | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-6655.1154 | 340            | 112              |
| Maintained       | Red                 | Flush      | Cable 200 mm, 180° | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-6655.2114 | 341            | 112              |
|                  | Blue                | Flush      | Cable 200 mm, 180° | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-6655.2124 | 341            | 112              |
|                  | Green               | Flush      | Cable 200 mm, 180° | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-6655.2134 | 341            | 112              |
|                  | White               | Flush      | Cable 200 mm, 180° | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-6655.2154 | 341            | 112              |
| Momentary        |                     | Flush      | Cable 200 mm, 180° |                       | 35 V              |                   | 82-6655.1000 | 338            | 112              |
| Maintained       |                     | Flush      | Cable 200 mm, 180° |                       | 35 V              |                   | 82-6655.2000 | 339            | 112              |

Wiring diagrams

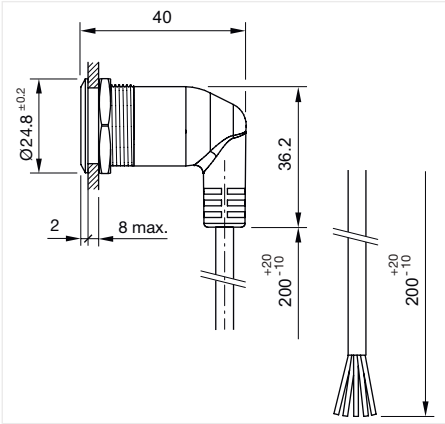
|                                                                                                             |                                                                                                             |                                                                                                             |                                                                                                              |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
|  <p>Wiring diagram 338</p> |  <p>Wiring diagram 339</p> |  <p>Wiring diagram 340</p> |  <p>Wiring diagram 341</p> |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|

# 82 Flush design

Push button, illuminated push button, Ø 22 mm, stainless steel 316L, cable 200 mm, 90°, IP65, IP67

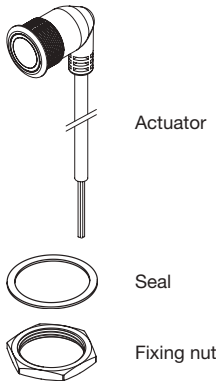


Product can differ from the current configuration.



Dimensions [mm]

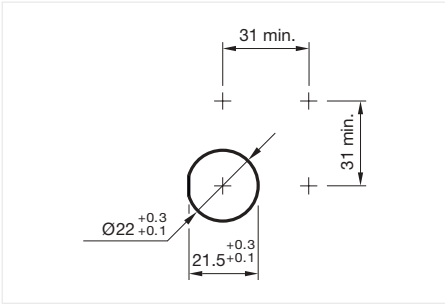
Equipment consisting of (schematic overview)



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

### General information

- The laser 2D-technology can mark all stainless steel versions with flat lenses - flush-mounting as well as raised versions.
- Cable with certification ECE-R118



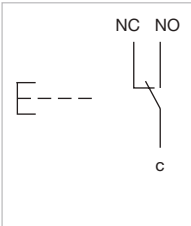
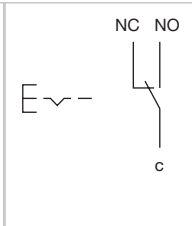
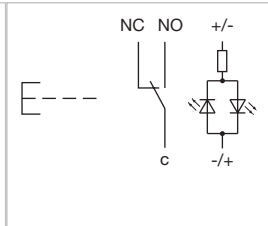
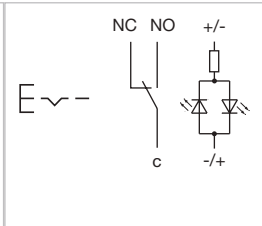
Mounting cut-outs [mm]



Push button, Ø 22 mm, stainless steel 316L, cable 200 mm, 90°, Front dimension Ø 25 mm

| Switching action | Illumination colour | Lens shape | Terminal          | Shape of illumination | Switching voltage | Operating voltage |              | Wiring diagram | Component Layout |
|------------------|---------------------|------------|-------------------|-----------------------|-------------------|-------------------|--------------|----------------|------------------|
| Momentary        | Red                 | Flush      | Cable 200 mm, 90° | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665C.1114 | 340            | 112              |
|                  | Blue                | Flush      | Cable 200 mm, 90° | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665C.1124 | 340            | 112              |
|                  | Green               | Flush      | Cable 200 mm, 90° | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665C.1134 | 340            | 112              |
|                  | White               | Flush      | Cable 200 mm, 90° | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665C.1154 | 340            | 112              |
| Maintained       | Red                 | Flush      | Cable 200 mm, 90° | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665C.2114 | 341            | 112              |
|                  | Blue                | Flush      | Cable 200 mm, 90° | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665C.2124 | 341            | 112              |
|                  | Green               | Flush      | Cable 200 mm, 90° | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665C.2134 | 341            | 112              |
|                  | White               | Flush      | Cable 200 mm, 90° | Ring (Tritan)         | 35 V              | 24 V DC (LED)     | 82-665C.2154 | 341            | 112              |
| Momentary        |                     | Flush      | Cable 200 mm, 90° |                       | 35 V              |                   | 82-665C.1000 | 338            | 112              |
| Maintained       |                     | Flush      | Cable 200 mm, 90° |                       | 35 V              |                   | 82-665C.2000 | 339            | 112              |

Wiring diagrams

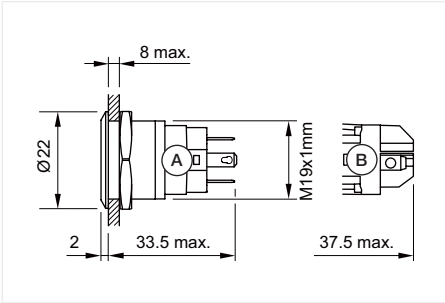
|                                                                                                             |                                                                                                             |                                                                                                             |                                                                                                              |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
|  <p>Wiring diagram 338</p> |  <p>Wiring diagram 339</p> |  <p>Wiring diagram 340</p> |  <p>Wiring diagram 341</p> |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|

# 82 Flush design

## Indicator 19 mm, IP65, IP67

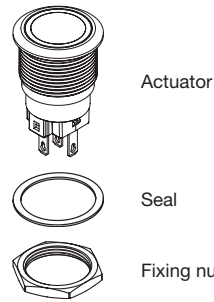


Product can differ from the current configuration.



Dimensions [mm]  
A = Solder terminal  
B = Screw terminal

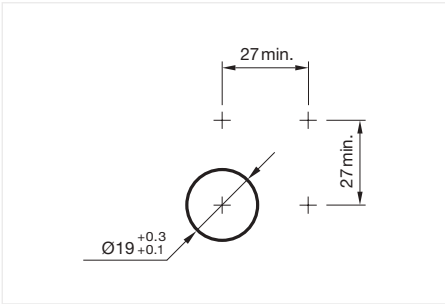
### Equipment consisting of (schematic overview)



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

### General information

- The laser 2D-technology can mark all stainless steel versions with flat lenses - flush-mounting as well as raised versions.



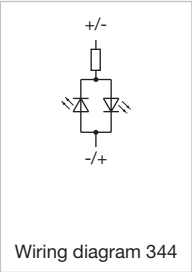
Mounting cut-outs [mm]



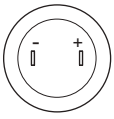
## Indicator 19 mm, Front dimension Ø 22 mm

| Illumination colour | Shape of illumination | Lens shape | Operating voltage | Operation current | Terminal                         |              | Wiring diagram | Component Layout |
|---------------------|-----------------------|------------|-------------------|-------------------|----------------------------------|--------------|----------------|------------------|
| Red / Green         | Dot                   | Flush      | 24 V AC/DC        | 7 mA              | Screw terminal                   | 82-5152.02A4 | 344            | 89               |
|                     | Ring                  | Flush      | 24 V AC/DC        | 7 mA              | Screw terminal                   | 82-5152.01A4 | 344            | 89               |
|                     | Dot                   | Flush      | 24 V AC/DC        | 7 mA              | Soldering terminal, 2.8 x 0.5 mm | 82-5151.02A4 | 344            | 86               |
|                     | Ring                  | Flush      | 24 V AC/DC        | 7 mA              | Soldering terminal, 2.8 x 0.5 mm | 82-5151.01A4 | 344            | 86               |

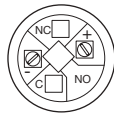
## Wiring diagrams



## Component layouts



Component layout 86



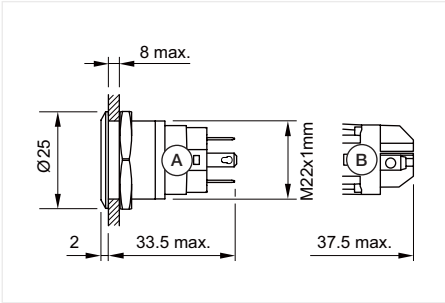
Component layout 89

# 82 Flush design

## Indicator 22 mm, IP65, IP67

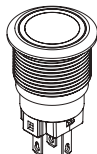


Product can differ from the current configuration.



Dimensions [mm]  
A = Solder terminal  
B = Screw terminal

### Equipment consisting of (schematic overview)



Actuator



Seal

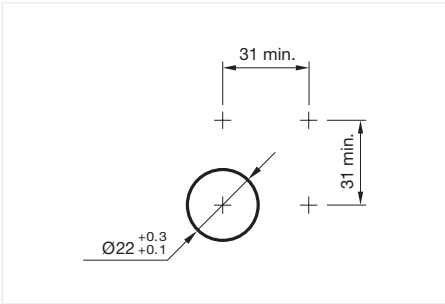


Fixing nut

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

### General information

- The laser 2D-technology can mark all stainless steel versions with flat lenses - flush-mounting as well as raised versions.



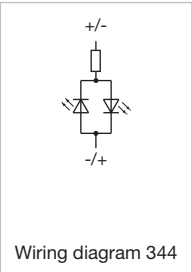
Mounting cut-outs [mm]



Indicator 22 mm, Front dimension Ø 25 mm

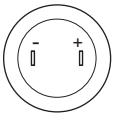
| Illumination colour | Shape of illumination | Lens shape | Operating voltage | Operation current | Terminal                         |              | Wiring diagram | Component Layout |
|---------------------|-----------------------|------------|-------------------|-------------------|----------------------------------|--------------|----------------|------------------|
| Red / Green         | Dot                   | Flush      | 24 V AC/DC        | 7 mA              | Screw terminal                   | 82-6152.02A4 | 344            | 89               |
|                     | Ring                  | Flush      | 24 V AC/DC        | 7 mA              | Screw terminal                   | 82-6152.01A4 | 344            | 89               |
|                     | Dot                   | Flush      | 24 V AC/DC        | 7 mA              | Soldering terminal, 2.8 x 0.5 mm | 82-6151.02A4 | 344            | 86               |
|                     | Ring                  | Flush      | 24 V AC/DC        | 7 mA              | Soldering terminal, 2.8 x 0.5 mm | 82-6151.01A4 | 344            | 86               |

## Wiring diagrams

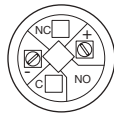


Wiring diagram 344

## Component layouts



Component layout 86



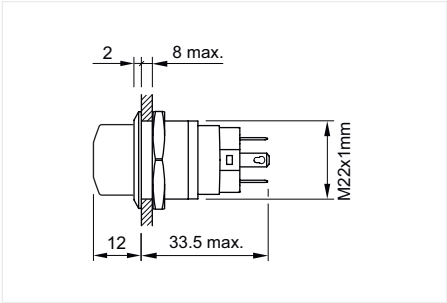
Component layout 89

# 82 Flush design

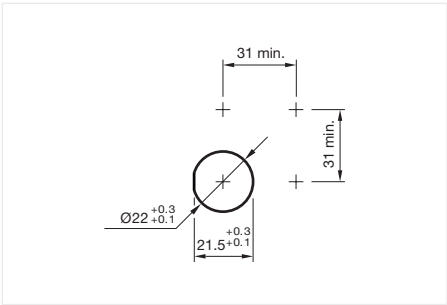
## Illuminated selector switch, IP65



Product can differ from the current configuration.

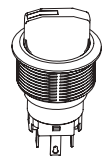


Dimensions [mm]



Mounting cut-outs [mm]

### Equipment consisting of (schematic overview)



Actuator



Seal



Fixing nut

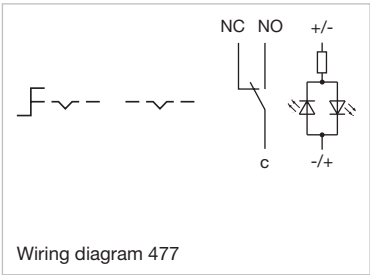
Each Part Number listed below includes all the black components shown in the 3D-drawing.



## Illuminated selector switch, Front dimension Ø 25 mm

| Switching action  | Illumination colour | Lens shape | Terminal         | Shape of illumination | Switching voltage | Operating voltage |              | Wiring diagram | Component Layout |
|-------------------|---------------------|------------|------------------|-----------------------|-------------------|-------------------|--------------|----------------|------------------|
| Rest - Maintained | Red                 | Flush      | Plug-in terminal | Dot                   | 240 V             | 24 V DC           | 82-6111.2214 | 477            | 85               |
|                   | Blue                | Flush      | Plug-in terminal | Dot                   | 240 V             | 24 V DC           | 82-6111.2224 | 477            | 85               |
|                   | Green               | Flush      | Plug-in terminal | Dot                   | 240 V             | 24 V DC           | 82-6111.2234 | 477            | 85               |
|                   | Yellow              | Flush      | Plug-in terminal | Dot                   | 240 V             | 24 V DC           | 82-6111.2244 | 477            | 85               |
|                   | White               | Flush      | Plug-in terminal | Dot                   | 240 V             | 24 V DC           | 82-6111.2254 | 477            | 85               |

## Wiring diagrams



Wiring diagram 477

## Component layouts



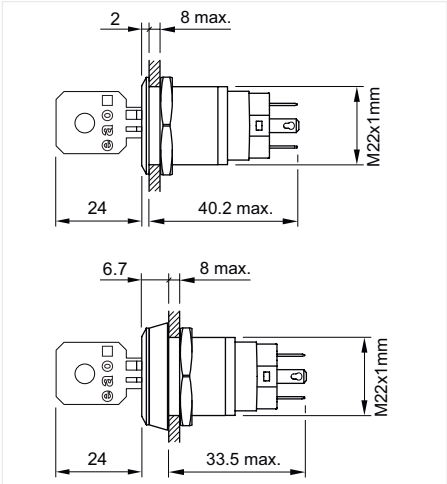
Component layout 85

# 82 Flush design

## Keylock switch, IP65

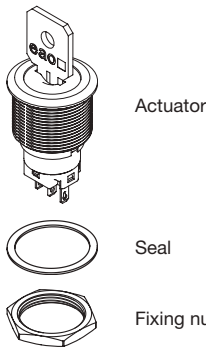


Product can differ from the current configuration.

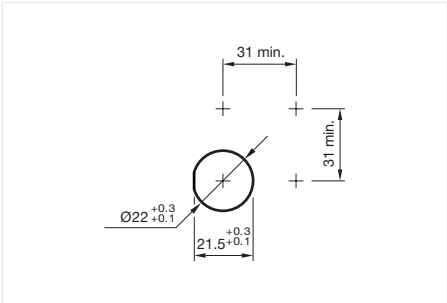


Dimensions [mm]

### Equipment consisting of (schematic overview)



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



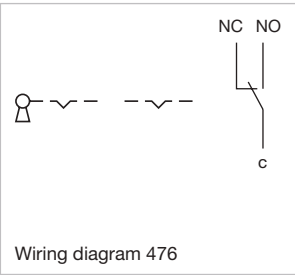
Mounting cut-outs [mm]



Keylock switch, Front dimension Ø 25 mm

| Switching action          | Lens shape | Terminal         | Switching voltage |              | Wiring diagram | Component Layout |
|---------------------------|------------|------------------|-------------------|--------------|----------------|------------------|
| Rest (a) - Maintained (a) | Flush      | Plug-in terminal | 240 V             | 82-6121.2000 | 476            | 84               |

### Wiring diagrams



## Component layouts



Component layout 84

# 82 Accessories

## Front side



**Blind plug**

| Dimension | Material        | Part No. |
|-----------|-----------------|----------|
| Ø 16 mm   | Stainless steel | 82-907   |
| Ø 19 mm   | Stainless steel | 82-908   |
| Ø 22 mm   | Stainless steel | 82-909   |



**Protective cap**

| Product attributes | Dimension | Material | Colour     | Optics      | Part No. |
|--------------------|-----------|----------|------------|-------------|----------|
| For button Ø 19 mm | Ø 19 mm   | Silicone | Colourless | transparent | 82-911.1 |
| For button Ø 22 mm | Ø 22 mm   | Silicone | Colourless | transparent | 82-912.1 |

### Additional information

- Suitable for indicator, push button and illuminated push button with flush design and lens flat/level with front ring
- The exterior flush seal must be removed before mounting the protective cap
- Up to 300 000 actuations possible

## Rear side



### Flat receptacle

| Product attributes            | Material | Terminal         | Part No. |
|-------------------------------|----------|------------------|----------|
| 2.8 x 0.5 mm plug-in terminal | Metal    | Plug-in terminal | 31-946   |



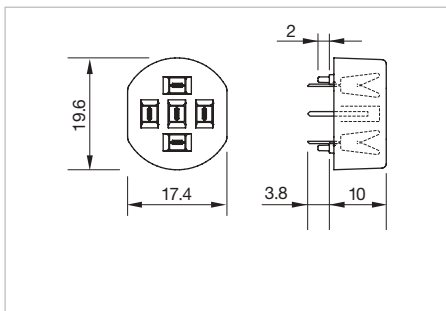
### Insulation sleeve

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



### PCB plug-in base

| Product attributes | Terminal     | Pins  | Part No. | Component Layout |
|--------------------|--------------|-------|----------|------------------|
| For 19 and 22 mm   | PCB terminal | Axial | 82-922   | 122              |

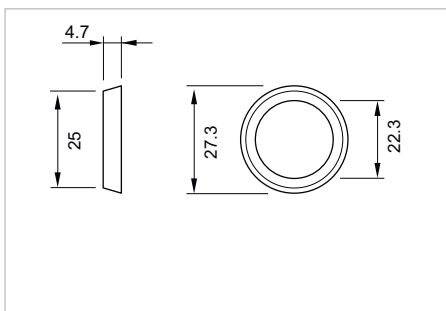


Dimensions [mm]



### Spacer

| Product attributes   | Material        | Part No. |
|----------------------|-----------------|----------|
| For keylock switches | Stainless steel | 82-924   |



Dimensions [mm]

# 82 Accessories



## Plug-in cable

| Product attributes | Material | Terminal     | Number of wires | Part No.    |
|--------------------|----------|--------------|-----------------|-------------|
| For 19 and 22 mm   | Plastic  | Cable 200 mm | 2               | 82-962.0200 |
|                    | Plastic  | Cable 200 mm | 3               | 82-963.0200 |
|                    | Plastic  | Cable 200 mm | 5               | 82-965.0200 |
| For 16 mm          | Plastic  | Cable 200 mm | 2               | 82-942.0200 |
|                    | Plastic  | Cable 200 mm | 3               | 82-943.0200 |
|                    | Plastic  | Cable 200 mm | 5               | 82-945.0200 |

**Mounting****Fixing nut**

| Dimension | Material | Part No. |
|-----------|----------|----------|
| Ø 16 mm   | Metal    | 82-901   |
| Ø 19 mm   | Metal    | 82-902   |
| Ø 22 mm   | Metal    | 82-903   |

**Fixing nut 6-sides stainless steel**

| Dimension | Material | Part No. |
|-----------|----------|----------|
| Ø 16 mm   | Metal    | 82-916   |
| Ø 19 mm   | Metal    | 82-917   |
| Ø 22 mm   | Metal    | 82-918   |

**Seal**

| Dimension | Material | Part No. |
|-----------|----------|----------|
| Ø 16 mm   | Plastic  | 82-913   |
| Ø 19 mm   | Plastic  | 82-914   |
| Ø 22 mm   | Plastic  | 82-915   |

**Mounting tool**

| Product attributes                                                         | Dimension | Material | Part No. |
|----------------------------------------------------------------------------|-----------|----------|----------|
| For tightening or loosening of the fixing nut Ø 16 mm, for Part No. 82-901 | Ø 16 mm   | Metal    | 01-907   |
| For tightening or loosening of the fixing nut Ø 19 mm, for Part No. 82-902 | Ø 19 mm   | Metal    | 82-905   |
| For tightening or loosening of the fixing nut Ø 22 mm, for Part No. 82-903 | Ø 22 mm   | Metal    | 84-997   |

## Indicator, Pushbutton, Illuminated pushbutton, Selector switch, Keylock switch

### Switching system

Snap-action changeover contact normally closed/normally open.  
Switching function momentary or maintain.

### Material

#### Housing

Stainless-steel  
Aluminium natural anodized

#### Terminal housing

Plastic

#### Contact material

Silver alloy  
Gold plated silver

#### Cable

M12 version 5 x 0.25 mm<sup>2</sup>  
Without connector 5 x 0.5 mm<sup>2</sup>

### Mechanical characteristics

#### Terminals

Plug-in terminal 2.8 mm x 0.5 mm  
Screw terminal, Cable wire size min. 0.5 mm<sup>2</sup>/max. 1.5 mm<sup>2</sup>  
Connector M12, screw connection with A-coding  
Cable 200 mm with M12 connector with A-coding  
Cable 200 mm without connector

#### Tightening torque

0.5 Nm min. ... 0.6 Nm max  
0.1 Nm for screw terminal  
0.6 Nm max. for connector M12

#### Actuating force

4 ... 7 N

#### Actuating travel

Approx. 3 mm

#### Mechanical lifetime

Pushbutton momentary 1 Mio. cycles of operation  
Pushbutton maintain 500 000 cycles of operation

#### Resistance to heat of soldering

Hand-soldering max. 260 °C, 3 sec.

### Electrical characteristics

#### Rated short-circuit current caused

AC: 1 kA  
DC: 1 kA

#### Short circuit protective device

fuse / 500 V / 5 A / gG

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

250 VAC

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

250 V

#### Illumination

LED red, green, blue, yellow and white  
LED and series resistor with polarity protection are built in.

| LED-Voltage | Tolerance | Current |
|-------------|-----------|---------|
| 6 VAC/DC    | ± 10 %    | 7 mA    |
| 12 VAC/DC   | ± 10 %    | 7 mA    |
| 24 VAC/DC   | ± 10 %    | 7 mA    |
| 110 VAC     | ± 10 %    | 2 mA    |
| 230 VAC     | ± 10 %    | 1.5 mA  |

#### Electrical life

50 000 cycles of operation

#### Switching voltage and switching current as per IEC 60947-5-1 (Silver contacts)

Service categorie AC-15

| Voltage | Current                       |
|---------|-------------------------------|
| 24 VAC  | 1 A                           |
| 35 VAC  | 0.6 A (M12 and cable version) |
| 110 VAC | 1 A                           |
| 220 VAC | 0.5 A                         |

#### Switch rating DC service categorie DC-13 (Silver contacts)

| Voltage | Current                     |
|---------|-----------------------------|
| 24 VDC  | 0.7 A                       |
| 35 VDC  | 1 A (M12 and cable version) |
| 110 VDC | 0.2 A                       |
| 220 VDC | 0.1 A                       |

#### Switching voltage and switching current as per UL 508 (Silver contacts)

cosφ 0.75 ... 0.8)

| Voltage | Current |
|---------|---------|
| 120 VAC | 5 A     |
| 240 VAC | 3 A     |
| 24 VDC  | 1 A     |

## Operational data

### Silver contacts

|         | Minimum Values |
|---------|----------------|
| Voltage | 17 VAC/DC      |
| Current | 50 mA VAC/DC   |

### Silver contacts gold-plated

|         | Minimum Values |
|---------|----------------|
| Voltage | 1 VAC/DC       |
| Current | 5 mA VAC/DC    |

### Thermal current $I_{th}$

5 A

### Electrical strength

1500 VAC, 50 Hz 1 minute between life terminals and ground

## Ambient conditions

### Storage temperature

−40 °C ... +80 °C

### Operating temperature

−30 °C ... +70 °C

### Front protection

IP65 and IP67, as per IEC 60529

### Impact resistance

IK10, as per IEC 62262

## Shock resistance

Max. 500 m/s<sup>2</sup> as per IEC 60068-2-27

## Degree of pollution

2, as per EN IEC 60947-1

## Vibration resistance

10 ... 500 Hz, amplitude 1.5 mm p-p according to IEC 60068-2-6

## Climate resistance

Damp heat, 21 days as per EN 60068-2

Stainless steel and aluminium versions (without symbol):

Saline mist, 96 hours as per EN 60068-2-11

Brass versions (without symbol):

Saline mist, 24 hours as per EN 60068-2-11

## Approvals

### Approbations (without M12 versions)

CB

UL

C UL

CCC

### Conformities

CE

2014/35/EC (LVD)

2011/65/EC (RoHS)

EAO reserves the right to alter specifications without further notice.

# 82 Marking

## General notes

### 1. Laser marking

Using laser technology, the Series 82 stainless steel version can be marked with almost any symbol or text in any language.

Laser marking is very resistant, hardly fades and is exceptionally durable. These are the ideal characteristics of vandal-resistant indicators, pushbuttons and illuminated pushbuttons.

### 2. Versions

The laser 2D-technology can mark all stainless steel versions with flush lenses – flush-mounting as well as raised versions.

### 3. Symbols, colours

Basically, all symbols and texts can be marked in all languages.

Therefore, we need electronic DXF-file only. All symbols or texts are marked in anthracite/dark grey.

### 4. Part number

Each symbol is given a continuous number. It will be combined with the configured part number to get the complete part number, see overview part number system.

### 5. Standard symbols

Several standard icons are available:

| On/Off        | Standby       | Light         | Info          | Bell          | Door open     | Door close    |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Part No. B001 | Part No. B002 | Part No. B003 | Part No. B004 | Part No. B005 | Part No. B006 | Part No. B007 |
|               |               |               |               |               |               |               |

| Telephone     | Hand control  | Arrow right   | Arrow left    | Arrow up      | Arrow down    | Help          |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Part No. B008 | Part No. B009 | Part No. B010 | Part No. B011 | Part No. B012 | Part No. B013 | Part No. B014 |
|               |               |               |               |               |               |               |

| SOS           | EIN           | AUS           | AUF           | AB            | ON            | OFF           |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Part No. B015 | Part No. B016 | Part No. B017 | Part No. B018 | Part No. B019 | Part No. B020 | Part No. B021 |
|               |               |               |               |               |               |               |

| UP            | DOWN          | START         | STOP          | AUTO          | ENTER         | RESET         |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Part No. B022 | Part No. B023 | Part No. B024 | Part No. B025 | Part No. B026 | Part No. B027 | Part No. B028 |
|               |               |               |               |               |               |               |

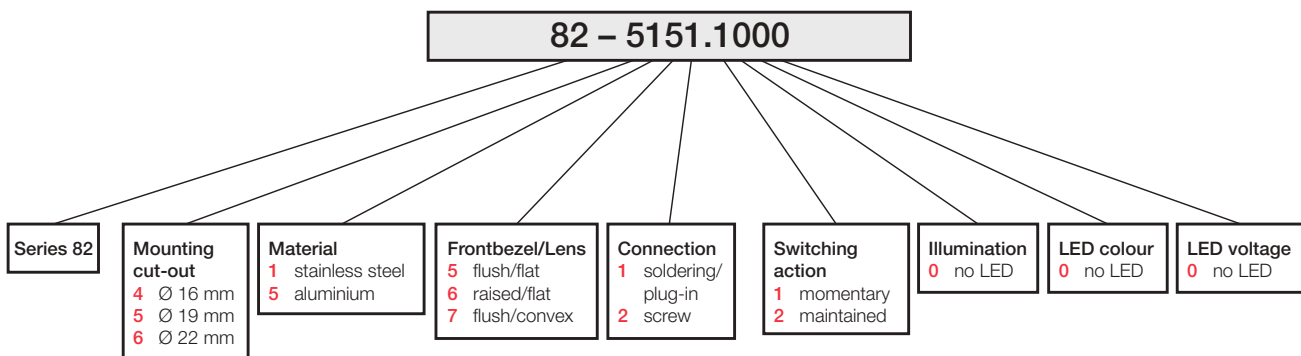
| 1             | 2             | 3             | 4             | 5             | 6             | 7             |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Part No. B029 | Part No. B030 | Part No. B031 | Part No. B032 | Part No. B033 | Part No. B034 | Part No. B035 |
|               |               |               |               |               |               |               |

| 8             | 9             | 0             | *             | #             | +             | -             |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Part No. B036 | Part No. B037 | Part No. B038 | Part No. B039 | Part No. B040 | Part No. B041 | Part No. B042 |
|               |               |               |               |               |               |               |

### Part number system

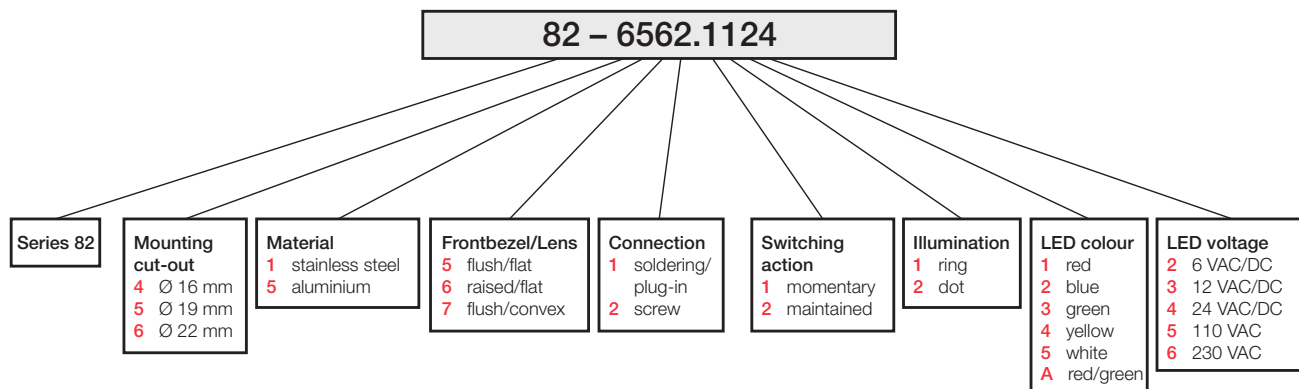
| Series | Diameter | Material                           | Bezel/Lens                                          | Connection/<br>SE Contacts                      | Switching<br>action | Illumination                | LED<br>colour                | LED voltage     | Laser Engraving          |
|--------|----------|------------------------------------|-----------------------------------------------------|-------------------------------------------------|---------------------|-----------------------------|------------------------------|-----------------|--------------------------|
| 82     | 4 16 mm  | 1 Stainless steel                  | 1 Selector Switch                                   | 1 Plug-in/<br>Silver                            | 0 Indica-<br>tor    | 0 no LED                    | 0 no LED                     | 0 no LED        | B001 On/Off              |
|        | 5 19 mm  | 5 Aluminium<br>natural<br>anodized | 2 Keylock<br>Switch                                 | 2 Srew/<br>Silver                               | 1 Momen-<br>tary    | 1 Ring                      | 1 red                        | 2 6VAC/<br>DC   | B002 Stand By            |
|        | 6 22 mm  |                                    | 5 flush/<br>flat                                    | 3 Plug-in/<br>Gold<br>plated                    | 2 Main-<br>tained   | 2 Dot                       | 2 blue                       | 3 12VAC/<br>DC  | B003 Light               |
|        |          |                                    | 6 flush/<br>raised flat                             | 4 Screw/<br>Gold<br>plated                      | A                   | Symbol<br>illumina-<br>tion | 3 green                      | 4 24 VAC/<br>DC | B004 Information         |
|        |          |                                    | 7 flush/<br>convex                                  | 5 Cable<br>without<br>connector,<br>180°/silver |                     |                             | 4 yellow                     | 5 110 VAC       | B005 Bell                |
|        |          |                                    |                                                     |                                                 |                     |                             | 5 white                      | 6 230 VAC       | B006 Door open           |
|        |          |                                    |                                                     |                                                 |                     |                             | A red/<br>green<br>bi-colour |                 | BXXX Any other<br>symbol |
|        |          |                                    |                                                     |                                                 |                     |                             |                              |                 |                          |
|        |          |                                    | 7 M12 con-<br>nector, in-<br>tegrated,<br>silver    |                                                 |                     |                             |                              |                 |                          |
|        |          |                                    | A Cable with<br>M12 con-<br>nector,<br>180°/ silver |                                                 |                     |                             |                              |                 |                          |
|        |          |                                    | C Cable<br>without<br>connector,<br>90°/silver      |                                                 |                     |                             |                              |                 |                          |
|        |          |                                    | G Cable with<br>M12 con-<br>nector,<br>90°/ silver  |                                                 |                     |                             |                              |                 |                          |

### Order example for pushbutton

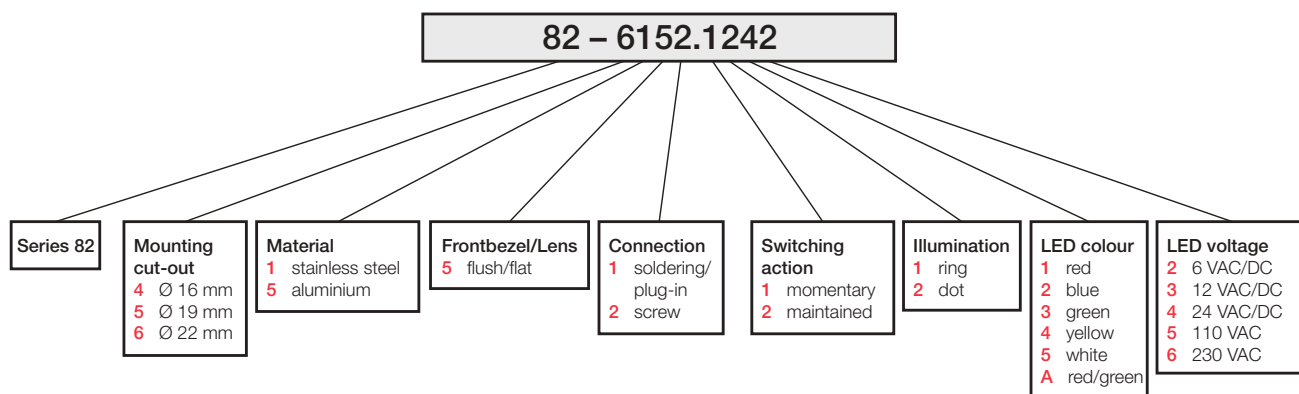


# 82 Order examples

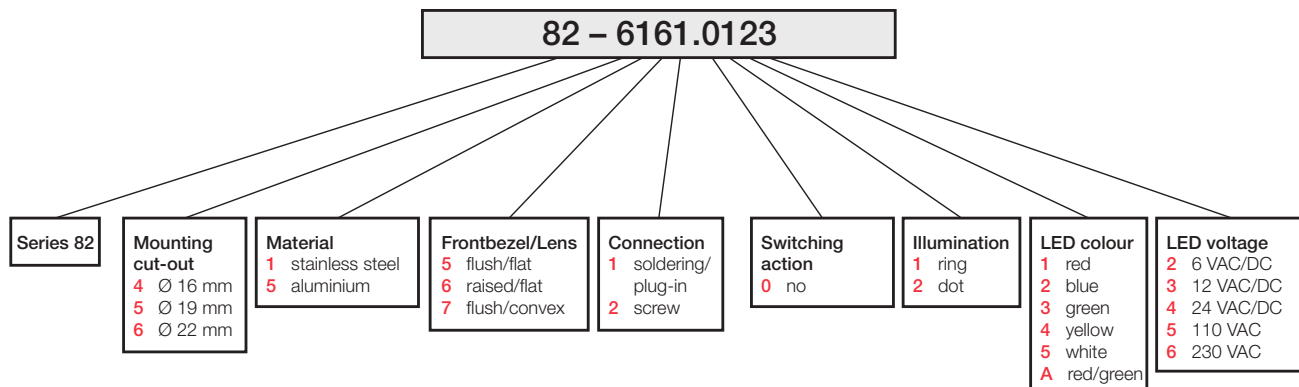
## Order example for illuminated pushbutton ring illumination



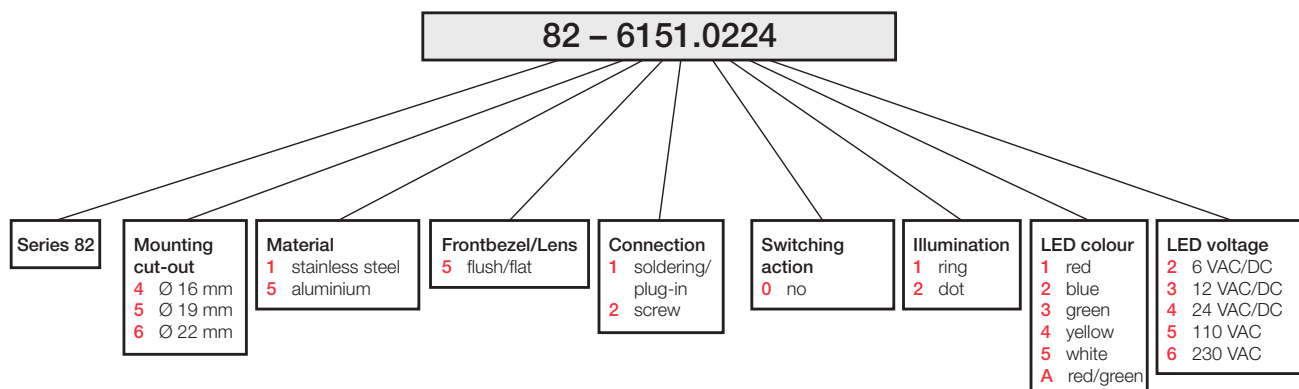
## Order example for illuminated pushbutton dot illumination



## Order example for indicator with ring illumination



## Order example for indicator with dot illumination



## 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.

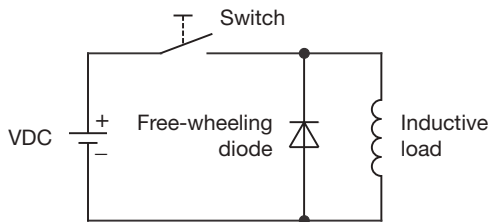
Fig. 1 shows an inductive load with a free-wheeling diode connected in parallel. This free-wheeling diode provides a path for the inductor current to flow when the current is interrupted by the switch. Without this free-wheeling diode, the voltage across the coil will be limited only by dielectric breakdown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

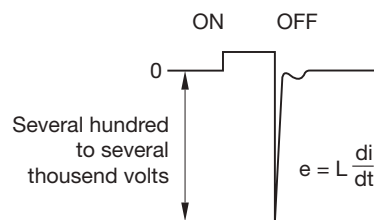
The free-wheeling diode should be chosen so that the reverse breakdown voltage is greater than the voltage driving the inductive load. The DC blocking voltage (VR) of the free-wheeling diode can be found in the datasheet of a diode. The forward current should be equal or greater than the maximum current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



### Earthing required for applications from 60 V AC/DC

For applications with an operating voltage from 60 V AC/DC upwards, metal panels and metal buttons must be permanently earthed with an earth conductor (1,5 mm<sup>2</sup>) with yellow and green sheathing.