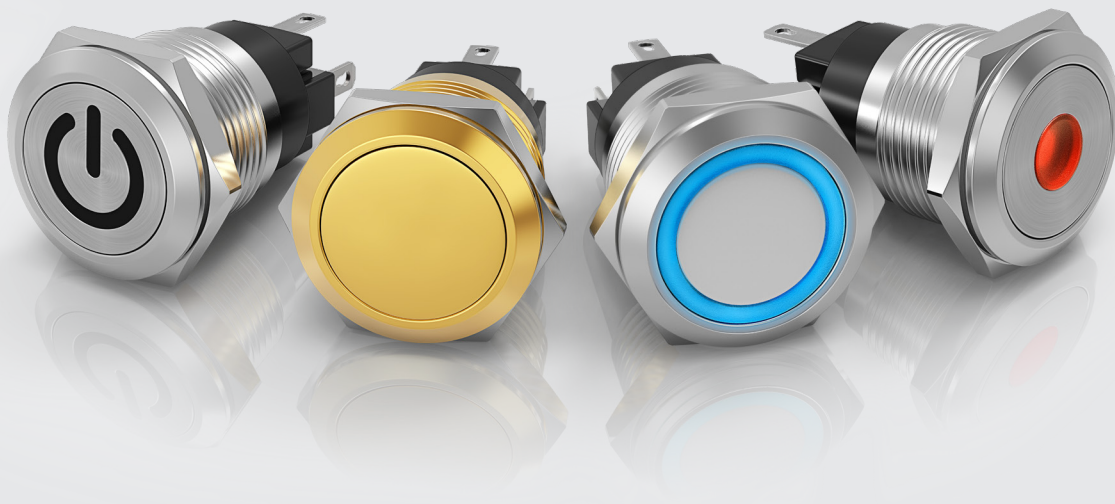


Series 82

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

- Pushbutton
- Illuminated pushbutton
- Indicator

Design

- Flush

IP front protection

- IP65
- IP67

Ratings

- 24 VAC / DC (0.2 A)
- 42 VAC (100 mA)
- 240 VAC / DC (3 A)

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)



Flush design

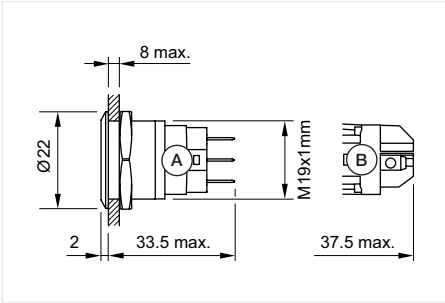
Pushbutton Ø 19 mm silver contact	4
Pushbutton Ø 19 mm gold contact	6
Illuminated pushbutton Ø 19 mm silver contact	8
Illuminated pushbutton Ø 19 mm gold contact	10
Illuminated pushbutton Ø 22 mm silver contact	12
Illuminated pushbutton Ø 22 mm gold contact	14
Illuminated pushbutton Ø 22 mm stainless steel 304, with symbol	16
Illuminated pushbutton Ø 22 mm stainless steel 316L	18
Pushbutton, illuminated pushbutton with connector M12, Ø 22 mm, stainless steel 316L	20
Pushbutton, illuminated pushbutton with connector M12, Ø 22 mm, stainless steel 316L, cable 200 mm, 180°	22
Pushbutton, illuminated pushbutton with connector M12, Ø 22 mm, stainless steel 316L, cable 200 mm, 90°	24
Pushbutton, illuminated pushbutton, Ø 22 mm, stainless steel 316L, cable 200 mm, 180°	26
Pushbutton, illuminated pushbutton, Ø 22 mm, stainless steel 316L, cable 200 mm, 90°	28
Indicator 19 mm	30
Indicator 22 mm	32
Accessories	34
Technical data	37
Marking	39
Order examples	40
Application guidelines	42

82 Flush design

Pushbutton Ø 19 mm silver contact, IP65, IP67

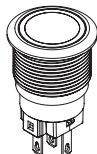


Product can differ from the current configuration.



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

Equipment consisting of (schematic overview)



Actuator



Seal

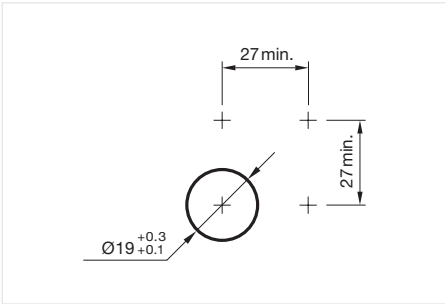


Fixing nut

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.



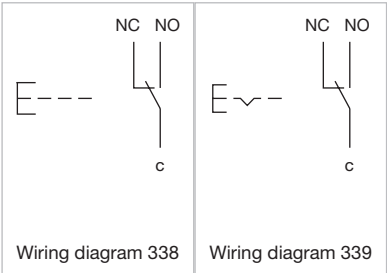
Mounting cut-outs [mm]



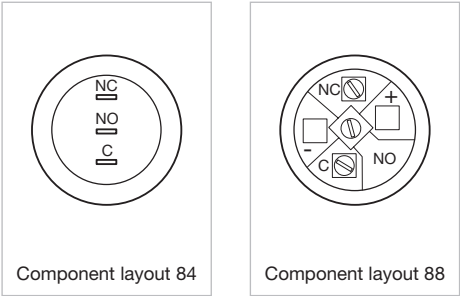
Pushbutton Ø 19 mm silver contact, Front dimensionØ 22 mm, Dimension

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

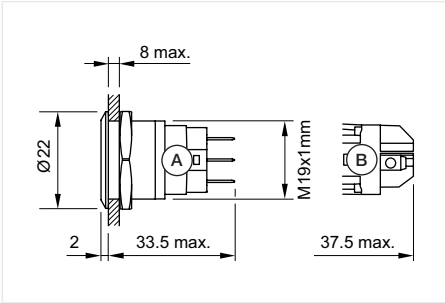


82 Flush design

Pushbutton Ø 19 mm gold contact, IP65, IP67

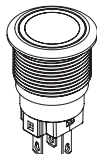


Product can differ from the current configuration.



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

Equipment consisting of (schematic overview)



Actuator



Seal

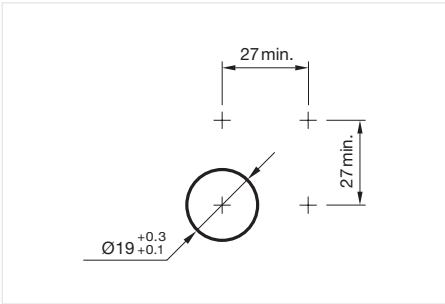


Fixing nut

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]

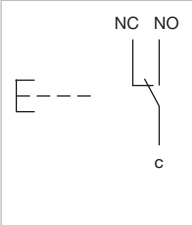


Pushbutton Ø 19 mm gold contact, Front dimensionØ 22 mm, Dimension

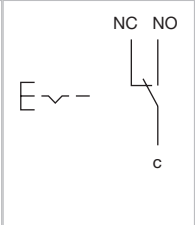
Switching action	Lens shape	Terminal	Switching voltage	Symbol		Wiring diagram	Component Layout
Maintained	flush	Screw terminal	24 V		82-5154.2000	339	88
Momentary	flush	Screw terminal	24 V		82-5154.1000	338	88
Maintained	flush	Soldering terminal, 2.8 x 0.5 mm	24 V		82-5153.2000	339	84
Momentary	flush	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

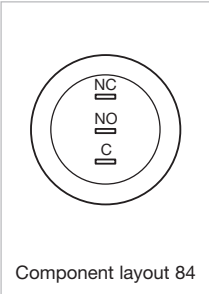


Wiring diagram 338

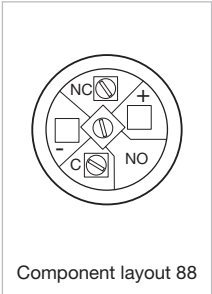


Wiring diagram 339

Component layouts



Component layout 84



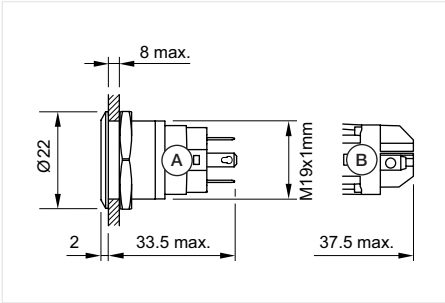
Component layout 88

82 Flush design

Illuminated pushbutton Ø 19 mm silver contact, IP65, IP67

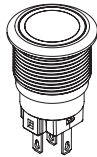


Product can differ from the current configuration.



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

Equipment consisting of (schematic overview)



Actuator



Seal

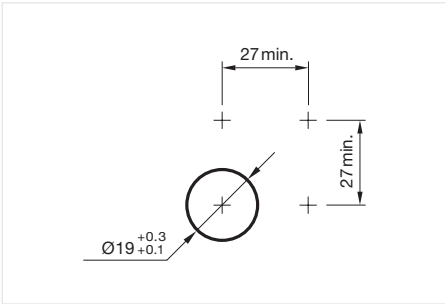


Fixing nut

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 pushbutton Ø 19 mm silver contact, Front dimensionØ 22 mm, Dimension

Switching action	Illumination colour	Lens shape	Terminal	Symbol	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	Symbol	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
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Component layouts

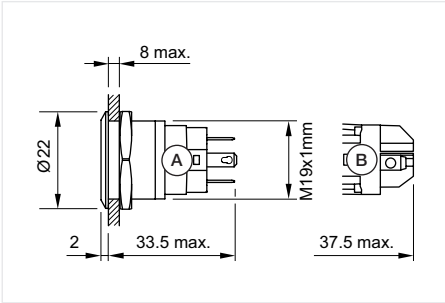
Component layout 85	Component layout 87
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82 Flush design

Illuminated pushbutton Ø 19 mm gold contact, IP65, IP67

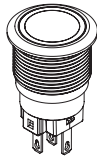


Product can differ from the current configuration.



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

Equipment consisting of (schematic overview)



Actuator



Seal

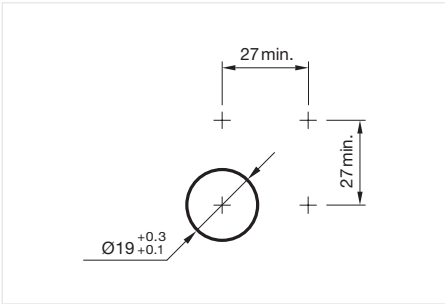


Fixing nut

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]



Illuminated pushbutton Ø 19 mm gold contact, Front dimensionØ 22 mm, Dimension

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

Wiring diagram 340

Wiring diagram 341

Wiring diagram 342

Wiring diagram 343

Component layouts

Component layout 85

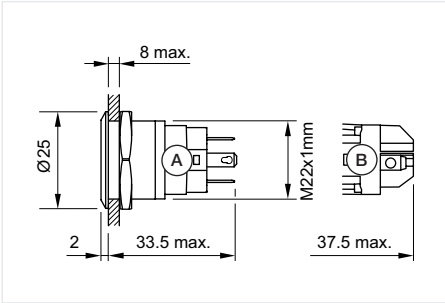
Component layout 87

82 Flush design

Illuminated pushbutton Ø 22 mm silver contact, IP65, IP67

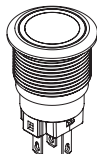


Product can differ from the current configuration.



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

Equipment consisting of (schematic overview)



Actuator



Seal

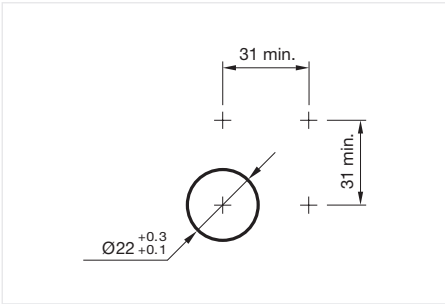


Fixing nut

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.



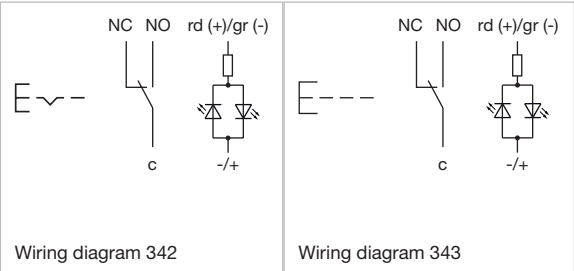
Mounting cut-outs [mm]



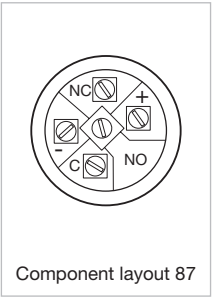
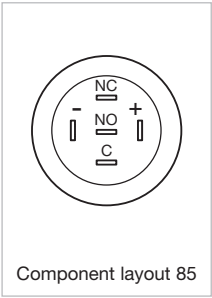
Illuminated pushbutton Ø 22 mm silver contact, Front dimension Ø 25 mm, Dimension

Switching action	Illumination colour	Lens shape	Terminal	Symbol	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

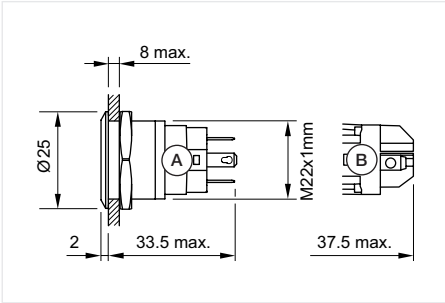


82 Flush design

Illuminated pushbutton Ø 22 mm gold contact, IP65, IP67

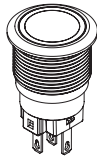


Product can differ from the current configuration.



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

Equipment consisting of (schematic overview)



Actuator



Seal

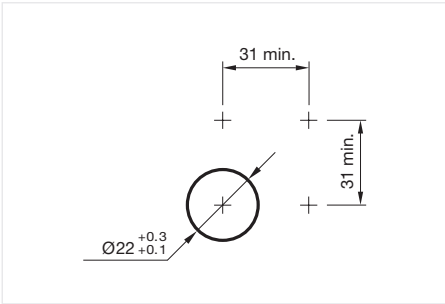


Fixing nut

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.



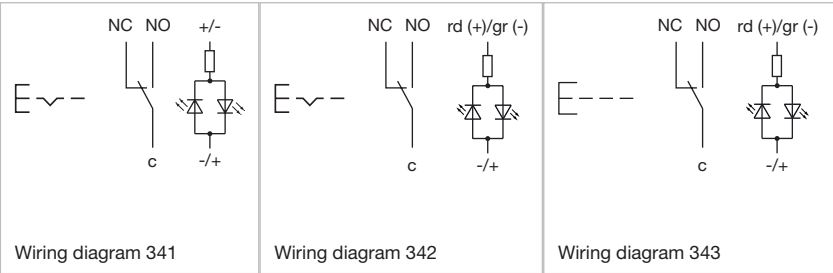
Mounting cut-outs [mm]



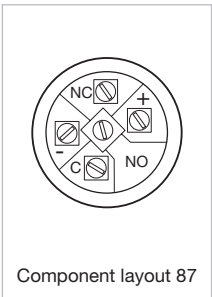
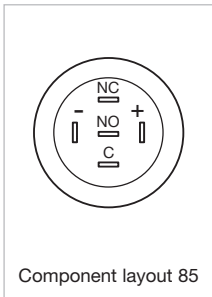
Illuminated pushbutton Ø 22 mm gold contact, Front dimensionØ 25 mm, Dimension

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

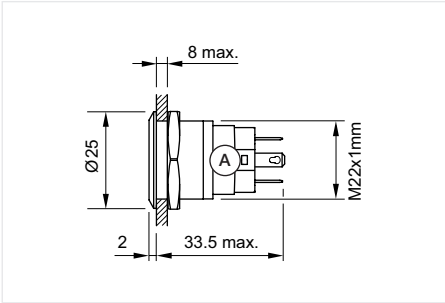


82 Flush design

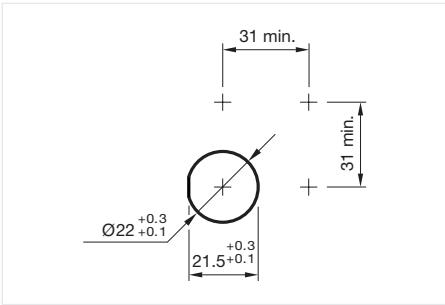
Illuminated pushbutton Ø 22 mm stainless steel 304, with symbol, IP65, IP67



Product can differ from the current configuration.

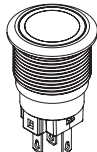


Dimensions [mm]



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 pushbutton Ø 22 mm stainless steel 304, with symbol, Front dimensionØ 25 mm, Dimension

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

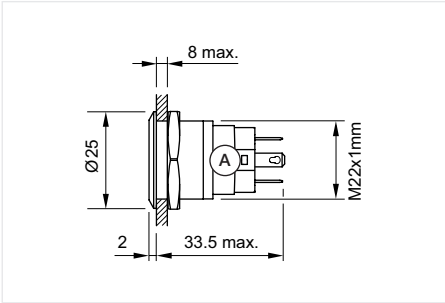
Component layout 85

82 Flush design

Illuminated pushbutton Ø 22 mm stainless steel 316L, IP65, IP67

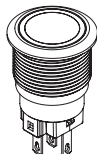


Product can differ from the current configuration.



Dimensions [mm]

Equipment consisting of (schematic overview)



Actuator



Seal

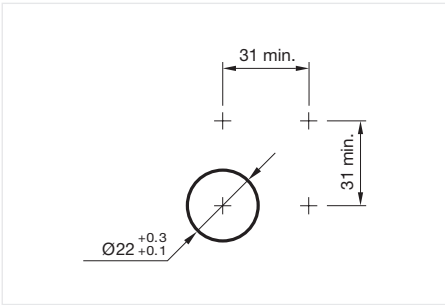


Fixing nut

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.



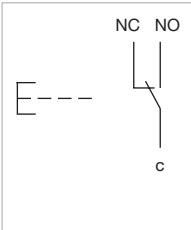
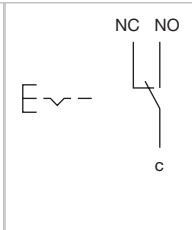
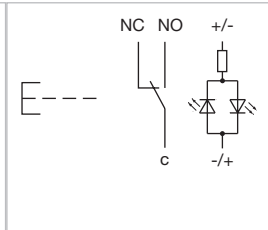
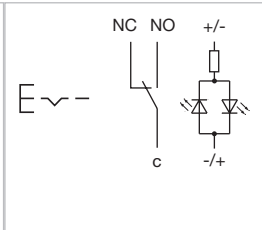
Mounting cut-outs [mm]



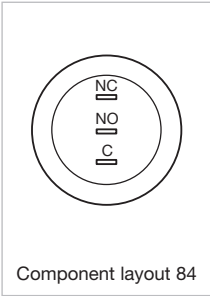
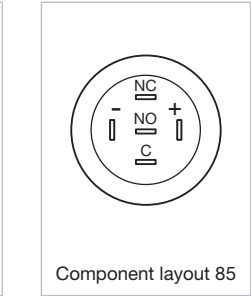
Illuminated pushbutton Ø 22 mm stainless steel 316L, Front dimensionØ 25 mm, Dimension

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

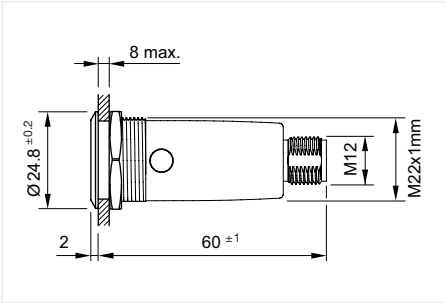
	
Component layout 84	Component layout 85

82 Flush design

Pushbutton, illuminated pushbutton with connector M12, Ø 22 mm, stainless steel 316L, IP65, IP67

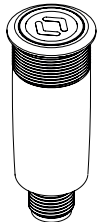


Product can differ from the current configuration.



Dimensions [mm]

Equipment consisting of (schematic overview)



Actuator



Seal

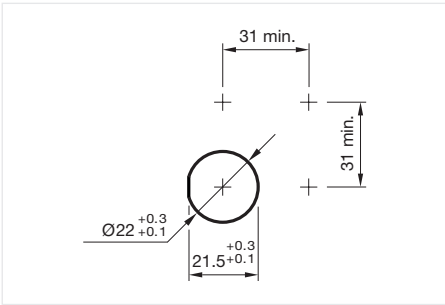


Fixing nut

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.



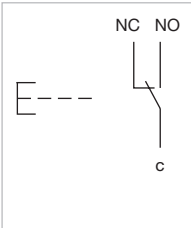
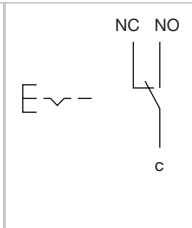
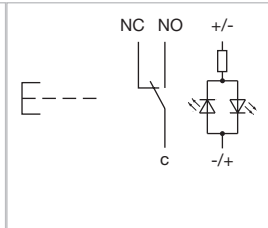
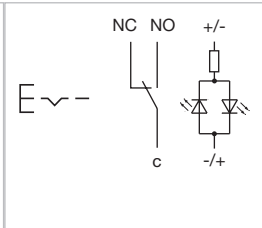
Mounting cut-outs [mm]



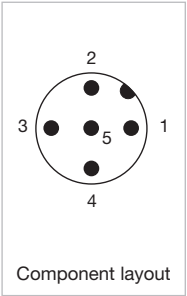
Pushbutton, illuminated pushbutton with connector M12, Ø 22 mm, stainless steel 316L, Front dimension Ø 25 mm, Dimension

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

 Wiring diagram 338	 Wiring diagram 339	 Wiring diagram 340	 Wiring diagram 341
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Component layouts



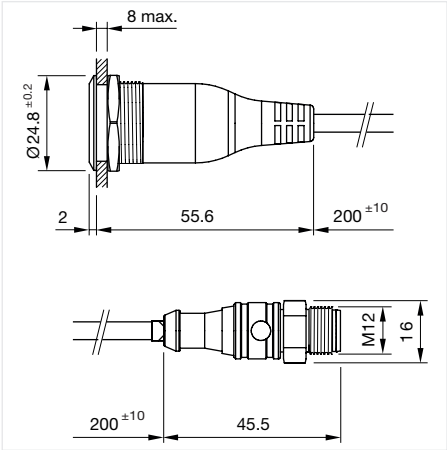
- 1 = NC
- 2 = LED+
- 3 = Common
- 4 = LED-
- 5 = NO
- A-Coded

82 Flush design

Pushbutton, illuminated pushbutton w. connector M12, Ø 22 mm, 316L, cable 200 mm, 180°, IP65, IP67

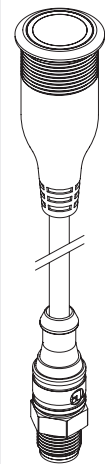


Product can differ from the current configuration.



Dimensions [mm]

Equipment consisting of (schematic overview)



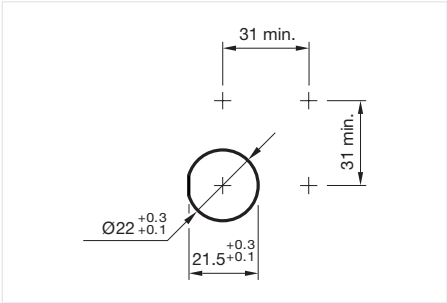
Seal



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.



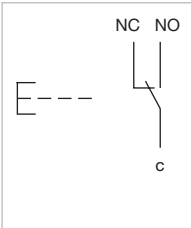
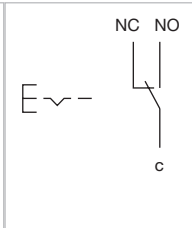
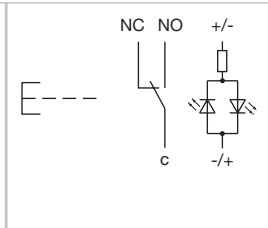
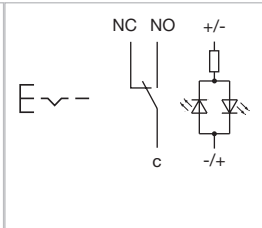
Mounting cut-outs [mm]



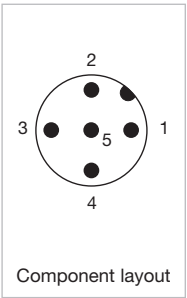
Pushbutton, illuminated pushbutton with connector M12, Ø 22 mm, stainless steel 316L, cable 200 mm, 180°, Front dimension Ø 25 mm, Dimension

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°, Conntec-tor M12	Ring (Tritan)	35 V	24 V DC (LED)	82-665A.1114	340	112
	Blue	flush	Cable 200 mm, 180°, Conntec-tor M12	Ring (Tritan)	35 V	24 V DC (LED)	82-665A.1124	340	112
	Green	flush	Cable 200 mm, 180°, Conntec-tor M12	Ring (Tritan)	35 V	24 V DC (LED)	82-665A.1134	340	112
	White	flush	Cable 200 mm, 180°, Conntec-tor M12	Ring (Tritan)	35 V	24 V DC (LED)	82-665A.1154	340	112
Maintained	Red	flush	Cable 200 mm, 180°, Conntec-tor M12	Ring (Tritan)	35 V	24 V DC (LED)	82-665A.2114	341	112
	Blue	flush	Cable 200 mm, 180°, Conntec-tor M12	Ring (Tritan)	35 V	24 V DC (LED)	82-665A.2124	341	112
	Green	flush	Cable 200 mm, 180°, Conntec-tor M12	Ring (Tritan)	35 V	24 V DC (LED)	82-665A.2134	341	112
	White	flush	Cable 200 mm, 180°, Conntec-tor M12	Ring (Tritan)	35 V	24 V DC (LED)	82-665A.2154	341	112
Momentary		flush	Cable 200 mm, 180°, Conntec-tor M12		35 V		82-665A.1000	338	112
Maintained		flush	Cable 200 mm, 180°, Conntec-tor M12		35 V		82-665A.2000	339	112

Wiring diagrams

 Wiring diagram 338	 Wiring diagram 339	 Wiring diagram 340	 Wiring diagram 341
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Component layouts



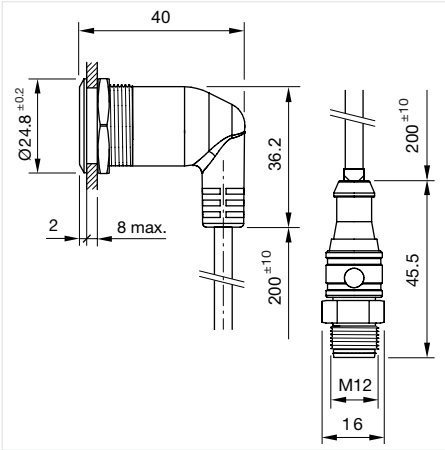
- 1 = NC
- 2 = LED+
- 3 = Common
- 4 = LED-
- 5 = NO
- A-Coded

82 Flush design

Pushbutton, illuminated pushbutton with connector M12, Ø 22 mm, 316L, cable 200 mm, 90°, IP65, IP67

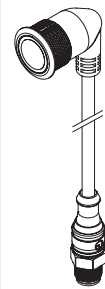


Product can differ from the current configuration.



Dimensions [mm]

Equipment consisting of (schematic overview)

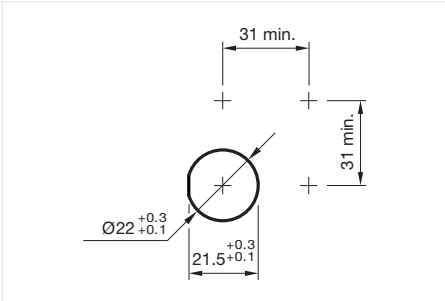


Seal

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.



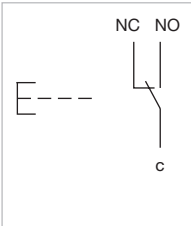
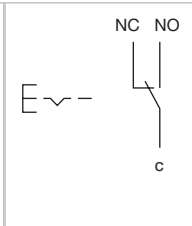
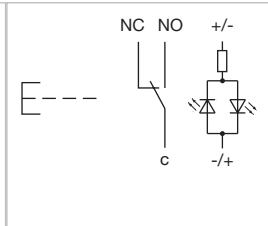
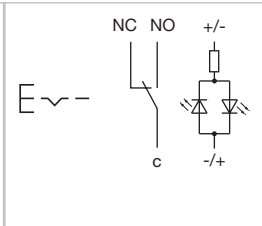
Mounting cut-outs [mm]



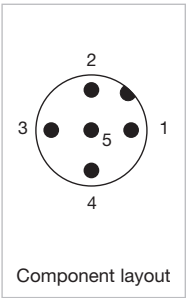
Pushbutton, illuminated pushbutton with connector M12, Ø 22 mm, stainless steel 316L, cable 200 mm, 90°, Front dimensionØ 25 mm, Dimension

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

 Wiring diagram 338	 Wiring diagram 339	 Wiring diagram 340	 Wiring diagram 341
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Component layouts



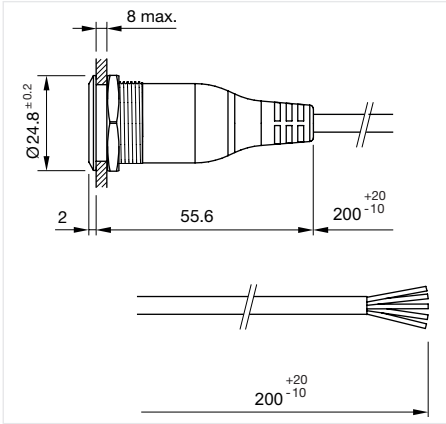
- 1 = NC
- 2 = LED+
- 3 = Common
- 4 = LED-
- 5 = NO
- A-Coded

82 Flush design

Pushbutton, illuminated pushbutton, Ø 22 mm, stainless steel 316L, cable 200 mm, 180°, IP65, IP67

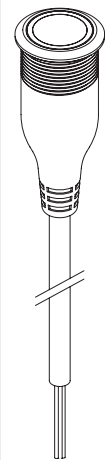


Product can differ from the current configuration.



Dimensions [mm]

Equipment consisting of (schematic overview)



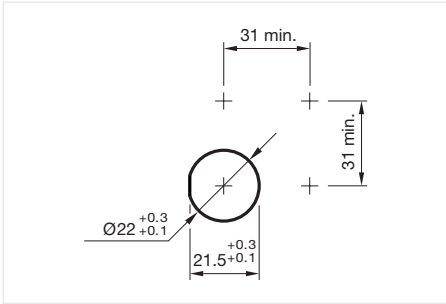
Seal



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



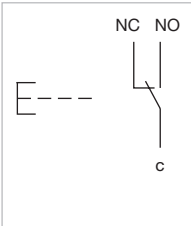
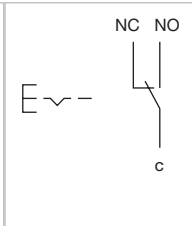
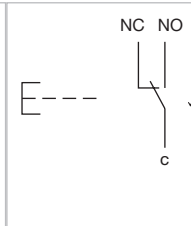
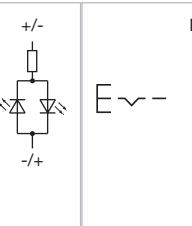
Mounting cut-outs [mm]



Pushbutton, illuminated pushbutton, Ø 22 mm, stainless steel 316L, cable 200 mm, 180°, Front dimension Ø 25 mm, Dimension

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

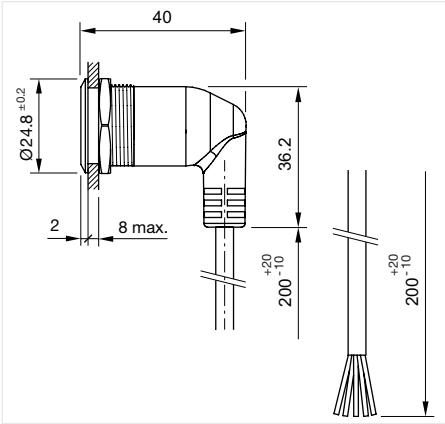
 Wiring diagram 338	 Wiring diagram 339	 Wiring diagram 340	 Wiring diagram 341
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82 Flush design

Pushbutton, illuminated pushbutton, Ø 22 mm, stainless steel 316L, cable 200 mm, 90°, IP65, IP67

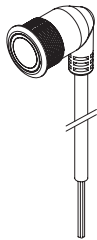


Product can differ from the current configuration.



Dimensions [mm]

Equipment consisting of (schematic overview)



Seal

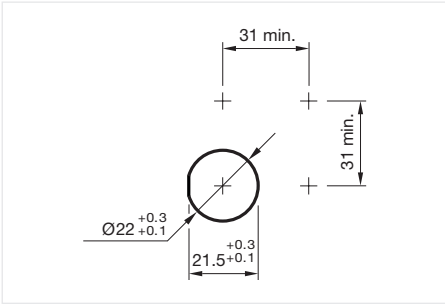


Fixing nut

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



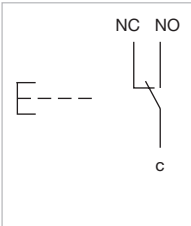
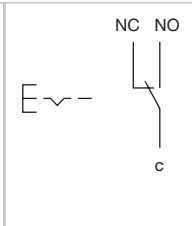
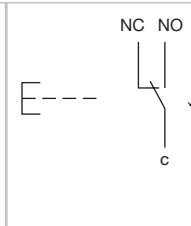
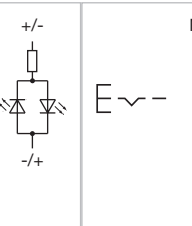
Mounting cut-outs [mm]



Pushbutton, illuminated pushbutton, Ø 22 mm, stainless steel 316L, cable 200 mm, 90°, Front dimension Ø 25 mm, Dimension

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

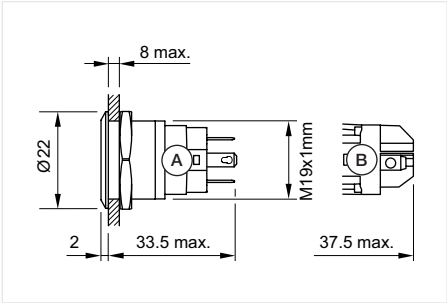
 Wiring diagram 338	 Wiring diagram 339	 Wiring diagram 340	 Wiring diagram 341
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82 Flush design

Indicator 19 mm, IP65, IP67

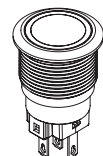


Product can differ from the current configuration.



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

Equipment consisting of (schematic overview)



Actuator



Seal

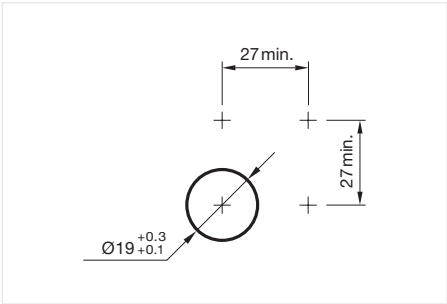


Fixing nut

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.



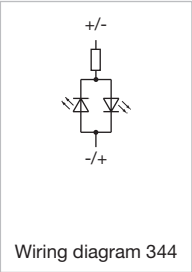
Mounting cut-outs [mm]



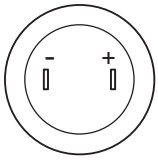
Indicator 19 mm, Front dimension Ø 22 mm, Dimension

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

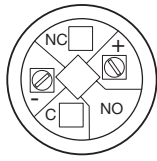
Wiring diagrams



Component layouts



Component layout 86



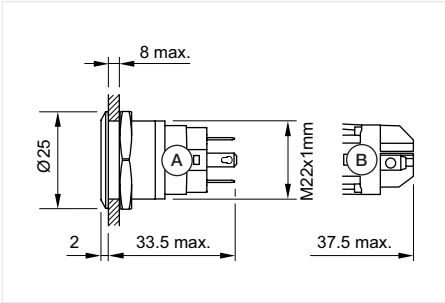
Component layout 89

82 Flush design

Indicator 22 mm, IP65, IP67

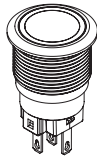


Product can differ from the current configuration.



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

Equipment consisting of (schematic overview)



Actuator



Seal

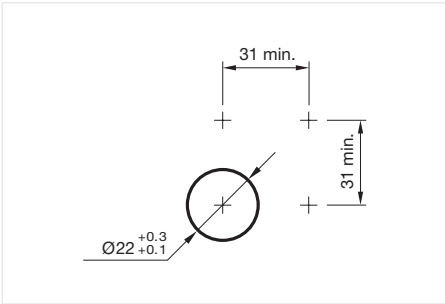


Fixing nut

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.



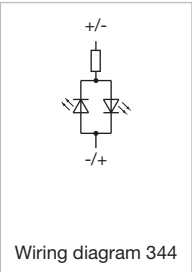
Mounting cut-outs [mm]



Indicator 22 mm, Front dimensionØ 25 mm, Dimension

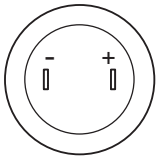
Illumination colour	Shape of illumination	Lens shape	Operating voltage	Operation current	Terminal		Wiring diagram	Component Layout
Red / Green	Dot	flush	24 V AC/DC	7 mA	Screw terminal	82-6152.02A4	344	89
	Ring	flush	24 V AC/DC	7 mA	Screw terminal	82-6152.01A4	344	89
	Dot	flush	24 V AC/DC	7 mA	Soldering 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

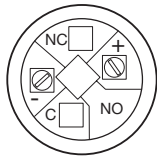


Wiring diagram 344

Component layouts



Component layout 86



Component layout 89

82 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, pushbutton and illuminated pushbutton 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



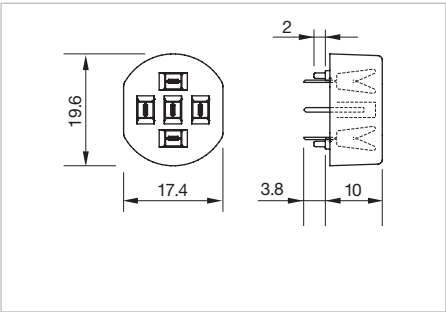
Insulation sleeve

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



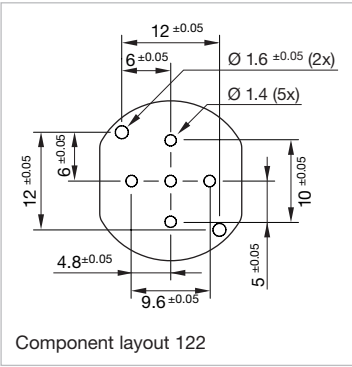
PCB plug-in base

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



Dimensions [mm]

Component layouts



82 Accessories

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

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 mm²
Without connector 5 x 0.5 mm²

Mechanical characteristics

Terminals

Plug-in terminal 2.8 mm x 0.5 mm
Screw terminal, Cable wire size min. 0.5 mm²/max. 1.5 mm²
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 Operational Voltage U_o

250 VAC

Rated Insulation Voltage U_i

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)

cos φ 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

82 Technical data

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/s² 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.

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:

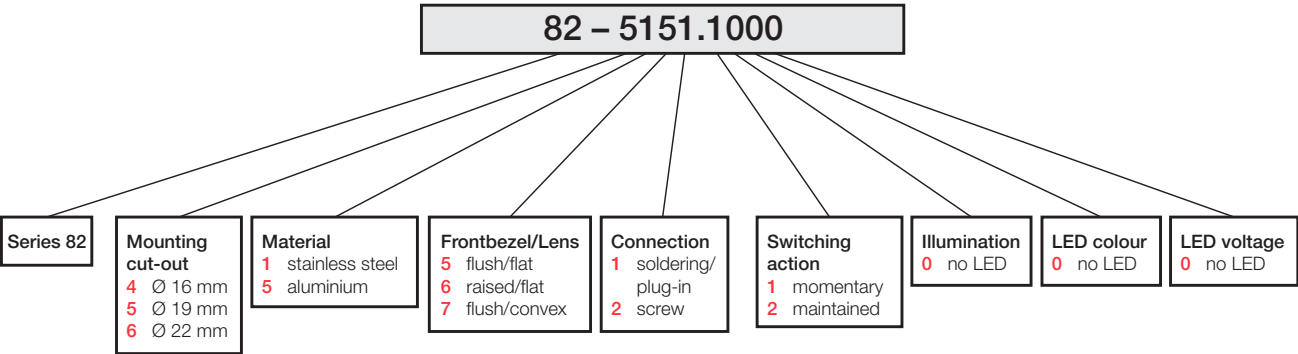
On/Off Part No. B001	Standby Part No. B002	Light Part No. B003	Info Part No. B004	Bell Part No. B005	Door open Part No. B006	Door close Part No. B007
Telephone Part No. B008	Hand control Part No. B009	Arrow right Part No. B010	Arrow left Part No. B011	Arrow up Part No. B012	Arrow down Part No. B013	Help Part No. B014
SOS Part No. B015	EIN Part No. B016	AUS Part No. B017	AUF Part No. B018	AB Part No. B019	ON Part No. B020	OFF Part No. B021
UP Part No. B022	DOWN Part No. B023	START Part No. B024	STOP Part No. B025	AUTO Part No. B026	ENTER Part No. B027	RESET Part No. B028
1 Part No. B029	2 Part No. B030	3 Part No. B031	4 Part No. B032	5 Part No. B033	6 Part No. B034	7 Part No. B035
8 Part No. B036	9 Part No. B037	0 Part No. B038	* Part No. B039	# Part No. B040	+ Part No. B041	- Part No. B042

82 Order examples

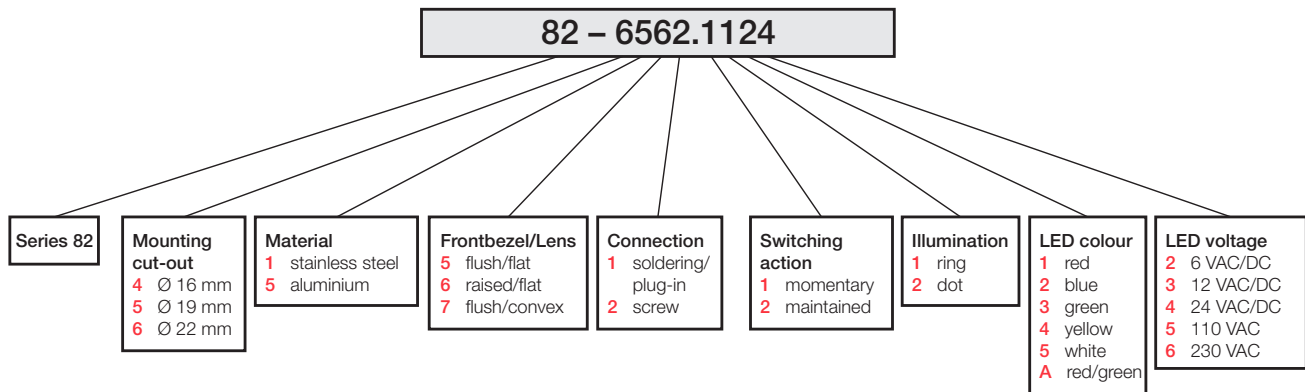
Part number system

Se-ries	-	Diameter		Material		Bezel/Lens		Connection / SE Contacts		•	Switching action		Illumination		LED colour		LED voltage		•	Laser Engraving	
82		4	16 mm	1	Stainless steel	5	flush / flat	1	Plug-in / Silver		0	Indica-tor	0	no LED	0	no LED	0	no LED		B001	On/Off
		5	19 mm	5	Alumi-nium natural anodized	6	flush / raised flat	2	Srew / Silver		1	Mo-menta-ry	1	Ring	1	red	2	6VAC/DC		B002	Stand By
		6	22 mm			7	flush / convex	3	Plug-in / Gold plated		2	Main-tained	2	Dot	2	blue	3	12VAC/DC		B003	Light
								4	Screw / Gold plated				A	Symbol illuminati-on	3	green	4	24VAC/DC		B004	Information
								5	Cable without connector, 180° / silver						4	yellow	5	110VAC		B005	Bell
															5	white	6	230VAC		B006	Door open
															A	red/green bi-colour				BXXX	Any other symbol
								7	M12 con- nector, in- tegrated, silver												
								A	Cable with M12 con- nector, 180° / silver												
								C	Cable without connector, 90° / silver												
								D	Cable with M12 con- nector, 90° / silver												

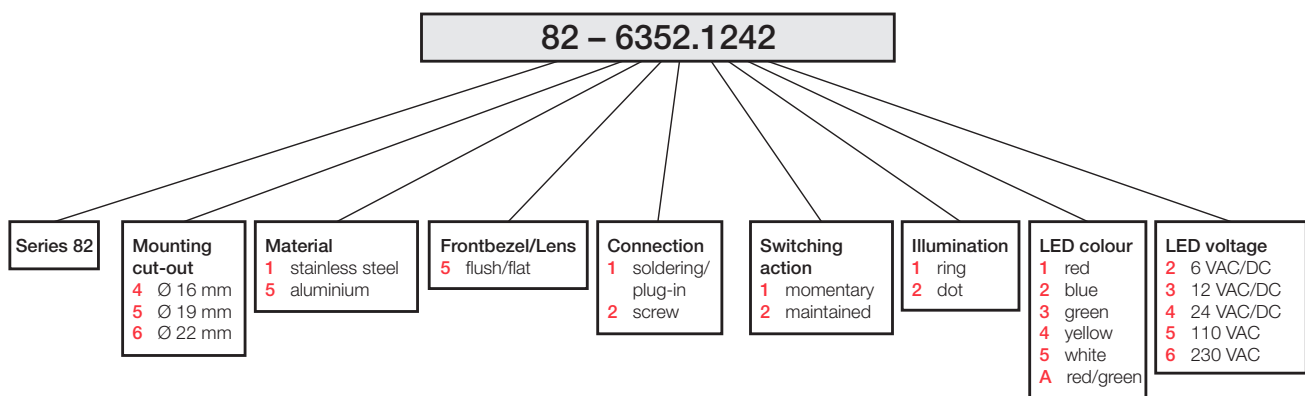
Order example for pushbutton



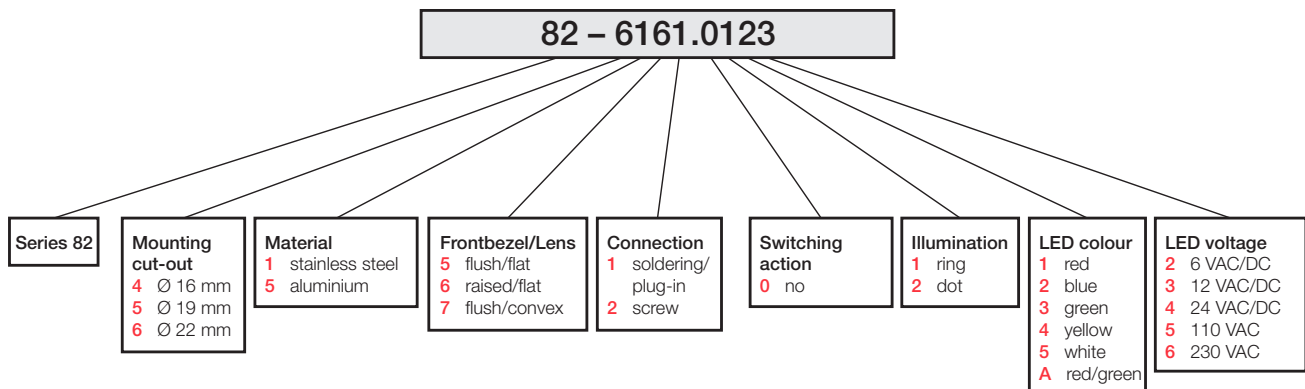
Order example for illuminated pushbutton ring illumination



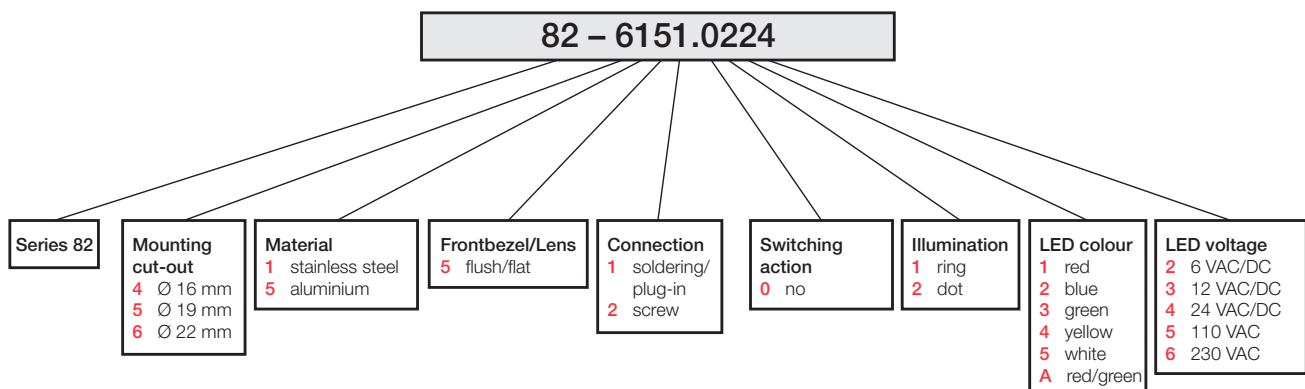
Order example for illuminated pushbutton dot illumination



Order example for indicator with ring illumination



Order example for indicator with dot illumination



82 Application guidelines

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.

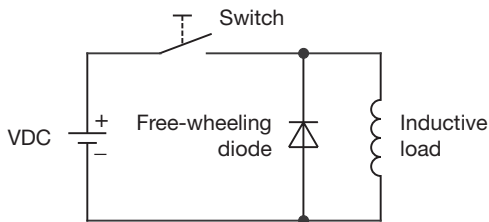
Fig. 1 shows an inductive load with a free-wheeling diode connected in parallel. This free-wheeling diode provides a path for the inductor current to flow when the current is interrupted by the switch. Without this free-wheeling diode, the voltage across the coil will be limited only by dielectric breakdown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

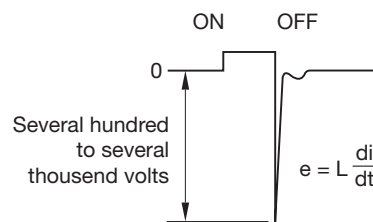
The free-wheeling diode should be chosen so that the reverse breakdown voltage is greater than the voltage driving the inductive load. The DC blocking voltage (VR) of the free-wheeling diode can be found in the datasheet of a diode. The forward current should be equal or greater than the maximum current 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 mm²) with yellow and green sheathing.