

Series 82

Robust and attractive.

<https://eao.com/82>



82 Information about the Series

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 22.3 mm

Terminal

- Plug-in terminal
- Screw terminal

Lens Material

- Aluminium
- Stainless steel
- Brass

Markings

- Laser marking

Approvals

- CB
- UL
- C UL
- CCC

Conformities

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



Flush design

Pushbutton Ø 19 mm silver contact	4
Pushbutton Ø 19 mm gold-plated silver contact	6
Illuminated pushbutton Ø 19 mm silver contact	8
Illuminated pushbutton Ø 19 mm gold-plated silver contact	10
Illuminated pushbutton Ø 22 mm silver contact	12
Illuminated pushbutton Ø 22 mm gold-plated silver contact	14
Illuminated pushbutton Ø 22 mm stainless steel 316L	16
Indicator 19 mm	18
Indicator 22 mm	20
Accessories	22
Technical data	25
Marking	27
Order examples	28
Application guidelines	30
Index	31

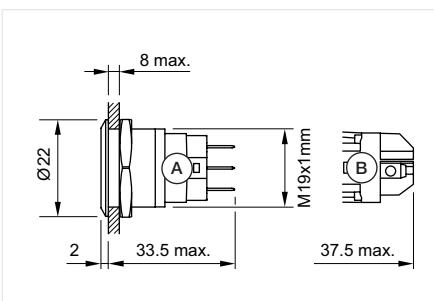
01
02
03
04
09
14
17
18
19
22
31
41
45
51
56
57
61
70
71
82
84
92
96

82 Flush design

Pushbutton Ø 19 mm silver contact, IP65, IP67

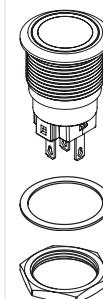


Product can differ from the current configuration.



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

Equipment consisting of (schematic overview)



Actuator



Seal

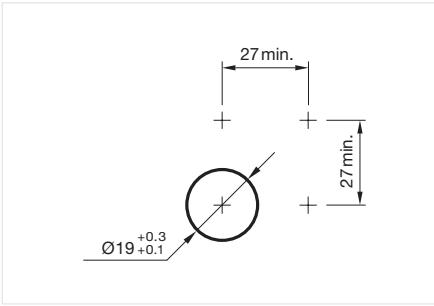


Fixing nut

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.



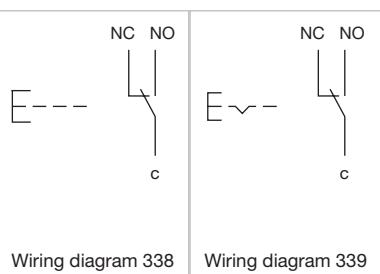
Mounting cut-outs [mm]



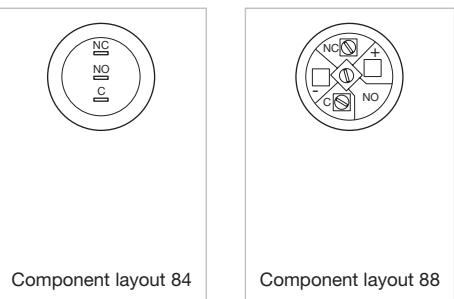
Pushbutton

Switching action	Lens shape	Terminal	Switching voltage	Symbol	Part No.	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	240 V		82-5151.2000	339	84
Momentary	flush	Soldering terminal	240 V		82-5151.1000	338	84
	flush	Soldering terminal	240 V	ON/OFF	82-5151.1000.B001	338	84
	flush	Soldering terminal	240 V	Standby	82-5151.1000.B002	338	84
	flush	Soldering terminal	240 V	Light	82-5151.1000.B003	338	84
	flush	Soldering terminal	240 V	Info	82-5151.1000.B004	338	84
	flush	Soldering terminal	240 V	Bell	82-5151.1000.B005	338	84
	flush	Soldering terminal	240 V	Door open	82-5151.1000.B006	338	84
Maintained	flush	Soldering terminal	240 V	ON/OFF	82-5151.2000.B001	339	84
	flush	Soldering terminal	240 V	Standby	82-5151.2000.B002	339	84
	flush	Soldering terminal	240 V	Light	82-5151.2000.B003	339	84
	flush	Soldering terminal	240 V	Info	82-5151.2000.B004	339	84
	flush	Soldering terminal	240 V	Bell	82-5151.2000.B005	339	84
	flush	Soldering terminal	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



Follow us.
We are on LinkedIn!
EAO creates possibilities. Since 1947.



Come take a look at our LinkedIn profile today! Be sure to give us
a follow so that you can fully interact with us.

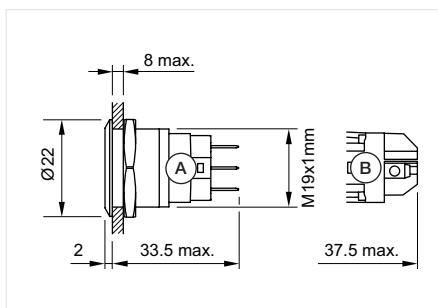
<https://www.linkedin.com/company/eao/>

82 Flush design

Pushbutton Ø 19 mm gold-plated silver contact, IP65, IP67

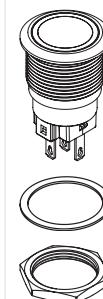


Product can differ from the current configuration.



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

Equipment consisting of (schematic overview)



Actuator



Seal

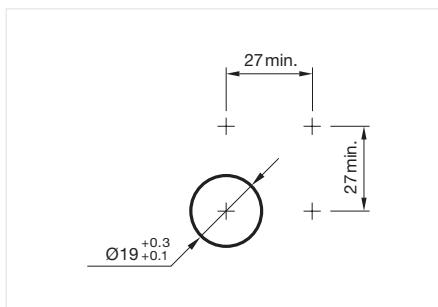


Fixing nut

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.



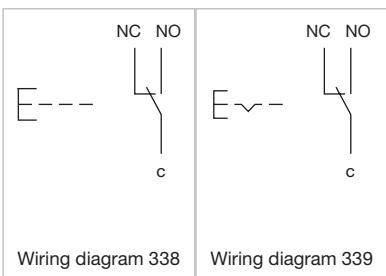
Mounting cut-outs [mm]



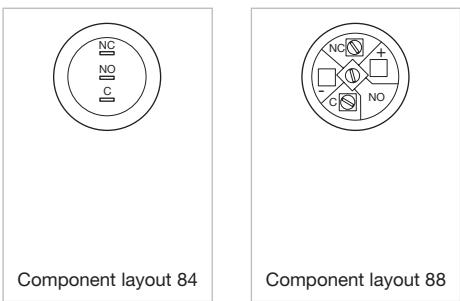
Pushbutton

Switching action	Lens shape	Terminal	Switching voltage	Symbol	Part No.	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	24 V		82-5153.2000	339	84
Momentary	flush	Soldering terminal	24 V		82-5153.1000	338	84
	flush	Soldering terminal	24 V	ON/OFF	82-5153.1000.B001	338	84
	flush	Soldering terminal	24 V	Standby	82-5153.1000.B002	338	84
	flush	Soldering terminal	24 V	Light	82-5153.1000.B003	338	84
	flush	Soldering terminal	24 V	Info	82-5153.1000.B004	338	84
	flush	Soldering terminal	24 V	Bell	82-5153.1000.B005	338	84
	flush	Soldering terminal	24 V	Door open	82-5153.1000.B006	338	84
Maintained	flush	Soldering terminal	24 V	ON/OFF	82-5153.2000.B001	339	84
	flush	Soldering terminal	24 V	Standby	82-5153.2000.B002	339	84
	flush	Soldering terminal	24 V	Light	82-5153.2000.B003	339	84
	flush	Soldering terminal	24 V	Info	82-5153.2000.B004	339	84
	flush	Soldering terminal	24 V	Bell	82-5153.2000.B005	339	84
	flush	Soldering terminal	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
	flush	Screw terminal	24 V	Door open	82-5154.2000.B006	339	88

Wiring diagrams



Component layouts



01

02

03

04

09

14

17

18

19

22

31

41

45

51

56

57

61

70

71

82

84

92

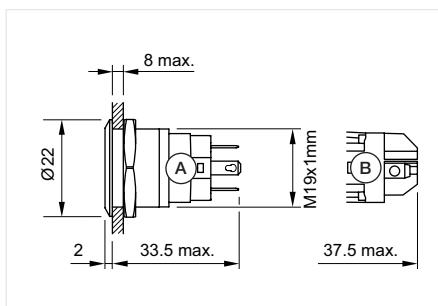
96

82 Flush design

Illuminated pushbutton Ø 19 mm silver contact, IP65, IP67

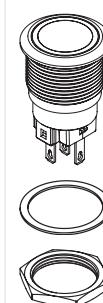


Product can differ from the current configuration.



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

Equipment consisting of (schematic overview)



Actuator

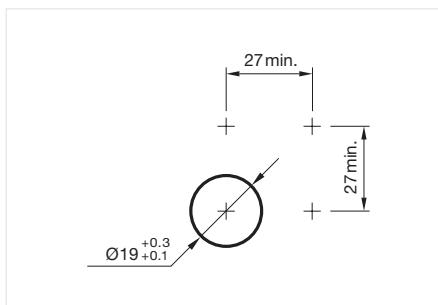
Seal

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]

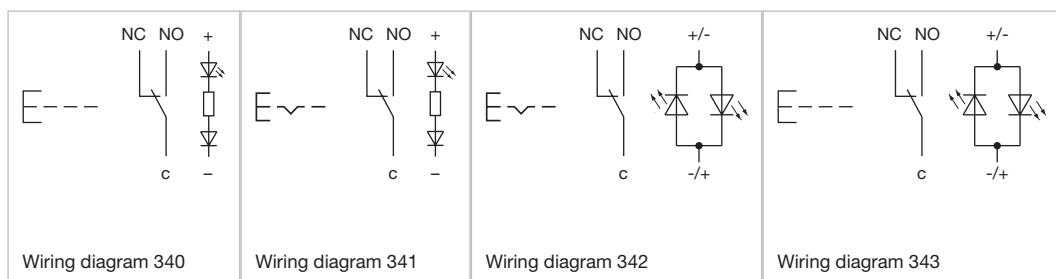


Illuminated pushbutton

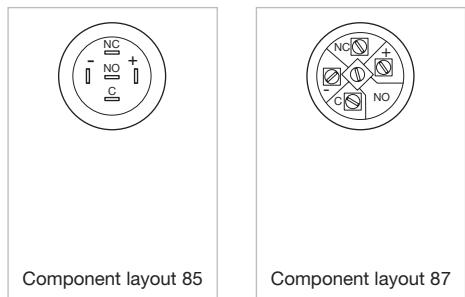
Switching action	Illumination colour	Lens shape	Terminal	Shape of illumination	Switching voltage	Operating voltage	Part No.	Wiring diagram	Component Layout
Maintained	White	flush	Screw terminal	Ring	240 V	24 AC/DC	82-5152.2154	341	87
	Yellow	flush	Screw terminal	Ring	240 V	24 V DC	82-5152.2144	341	87
	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	Ring	240 V	24 V DC	82-5151.2154	341	85
	Yellow	flush	Soldering terminal	Ring	240 V	24 V DC	82-5151.2144	341	85
	Green	flush	Soldering terminal	Ring	240 V	24 V DC	82-5151.2134	341	85
	Blue	flush	Soldering terminal	Ring	240 V	24 V DC	82-5151.2124	341	85
	Red	flush	Soldering terminal	Ring	240 V	24 V DC	82-5151.2114	341	85
Momentary	White	flush	Soldering terminal	Ring	240 V	24 V DC	82-5151.1154	340	85
	Yellow	flush	Soldering terminal	Ring	240 V	24 V DC	82-5151.1144	340	85
	Green	flush	Soldering terminal	Ring	240 V	24 V DC	82-5151.1134	340	85
	Blue	flush	Soldering terminal	Ring	240 V	24 V DC	82-5151.1124	340	85
	Red	flush	Soldering terminal	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	Part No.	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	Dot	240 V	24 V DC	82-5151.22A4	342	85
	Red / Green	flush	Soldering terminal	Ring	240 V	24 V DC	82-5151.21A4	342	85
Momentary	Red / Green	flush	Soldering terminal	Dot	240 V	24 V DC	82-5151.12A4	343	85
	Red / Green	flush	Soldering terminal	Ring	240 V	24 V DC	82-5151.11A4	343	85

Wiring diagrams



Component layouts

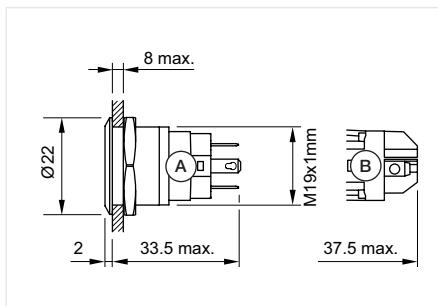


82 Flush design

Illuminated pushbutton Ø 19 mm gold-plated silver contact, IP65, IP67

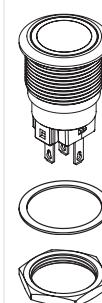


Product can differ from the current configuration.



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

Equipment consisting of (schematic overview)



Actuator

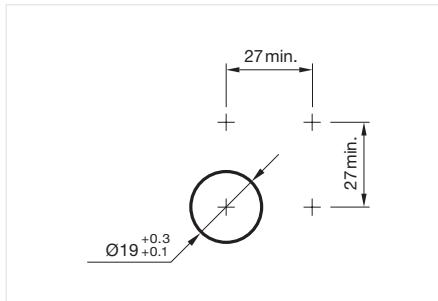
Seal

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]

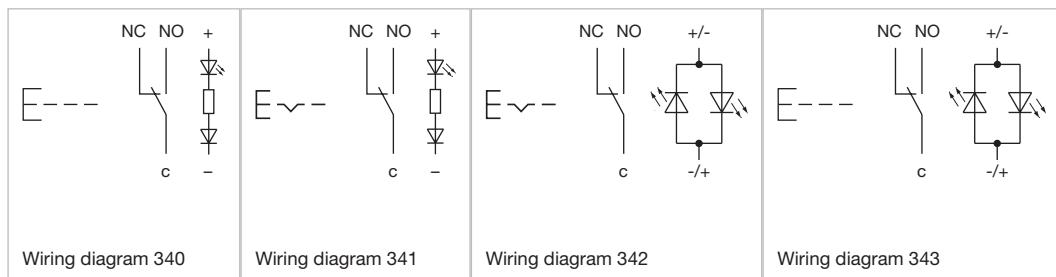


Illuminated pushbutton

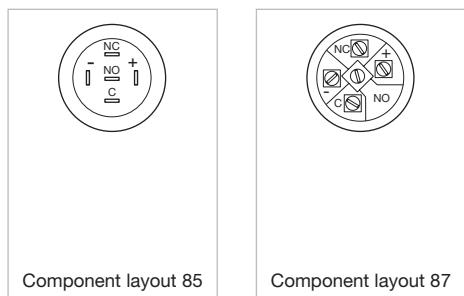
Switching action	Illumination colour	Lens shape	Terminal	Shape of illumination	Switching voltage	Operating voltage	Part No.	Wiring diagram	Component Layout
Maintained	Yellow	flush	Screw terminal	Ring	24 V	24 V DC	82-5154.2144	341	87
	Green	flush	Screw terminal	Ring	24 V	24 V DC	82-5154.2134	341	87
	Blue	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	Ring	24 V	24 V DC	82-5153.2154	341	85
	Yellow	flush	Soldering terminal	Ring	24 V	24 V DC	82-5153.2144	341	85
	Green	flush	Soldering terminal	Ring	24 V	24 V DC	82-5153.2134	341	85
	Blue	flush	Soldering terminal	Ring	24 V	24 V DC	82-5153.2124	341	85
	Red	flush	Soldering terminal	Ring	24 V	24 V DC	82-5153.2114	341	85
Momentary	White	flush	Soldering terminal	Ring	24 V	24 V DC	82-5153.1154	340	85
	Yellow	flush	Soldering terminal	Ring	24 V	24 V DC	82-5153.1144	340	85
	Green	flush	Soldering terminal	Ring	24 V	24 V DC	82-5153.1134	340	85
	Blue	flush	Soldering terminal	Ring	24 V	24 V DC	82-5153.1124	340	85
	Red	flush	Soldering terminal	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	Part No.	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	Dot	24 V	24 V DC	82-5153.22A4	342	85
	Red / Green	flush	Soldering terminal	Ring	24 V	24 V DC	82-5153.21A4	342	85
Momentary	Red / Green	flush	Soldering terminal	Dot	24 V	24 V DC	82-5153.12A4	343	85
	Red / Green	flush	Soldering terminal	Ring	24 V	24 V DC	82-5153.11A4	343	85

Wiring diagrams



Component layouts

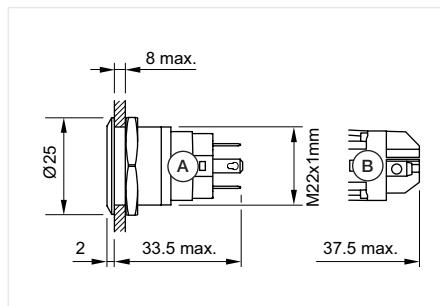


82 Flush design

Illuminated pushbutton Ø 22 mm silver contact, IP65, IP67

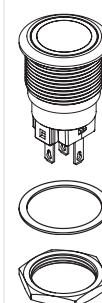


Product can differ from the current configuration.



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

Equipment consisting of (schematic overview)



Actuator



Seal

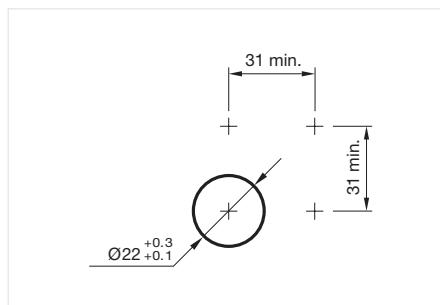


Fixing nut

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.



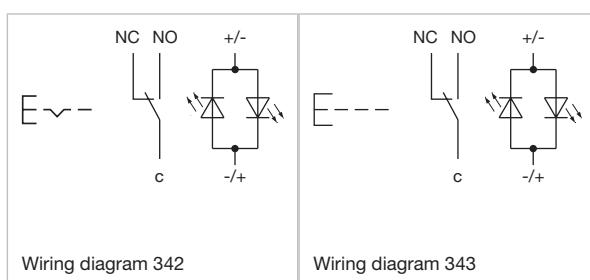
Mounting cut-outs [mm]



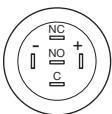
Illuminated pushbutton

Switching action	Illumination colour	Lens shape	Terminal	Shape of illumination	Switching voltage	Operating voltage	Part No.	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	Dot	240 V	24 V AC/DC	82-6151.22A4	342	85
	Red / Green	flush	Soldering terminal	Ring	240 V	24 V AC/DC	82-6151.21A4	342	85
Momentary	Red / Green	flush	Soldering terminal	Dot	240 V	24 V AC/DC	82-6151.12A4	343	85
	Red / Green	flush	Soldering terminal	Ring	240 V	24 V AC/DC	82-6151.11A4	343	85

Wiring diagrams



Component layouts



Component layout 85



Component layout 87



Robust and attractive.
The optimised Series 82.

Now with gold-plated silver contacts for low-level applications available.

- Impact resistant to IK10
- Front protection IP67
- Low-level applications possible
- Optional illumination and laser marking
- Excellent tactile feedback
- Long service life

e a o ■

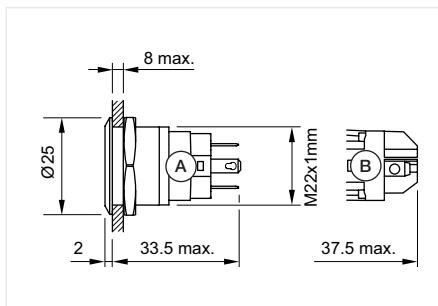
01
02
03
04
09
14
17
18
19
22
31
41
45
51
56
57
61
70
71
82
84
92
96

82 Flush design

Illuminated pushbutton Ø 22 mm gold-plated silver contact, IP65, IP67

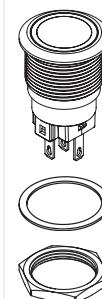


Product can differ from the current configuration.



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

Equipment consisting of (schematic overview)



Actuator



Seal

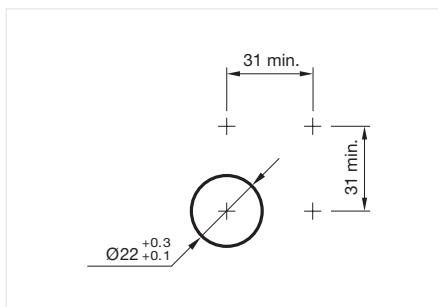


Fixing nut

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.



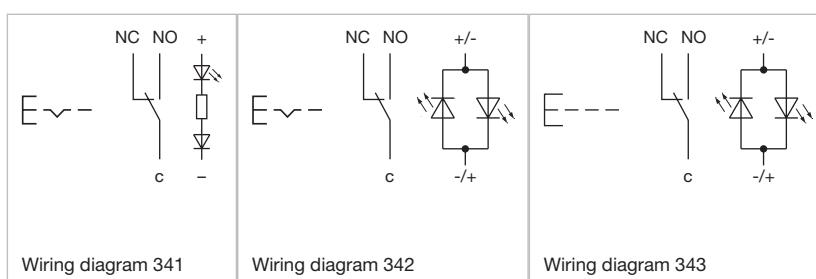
Mounting cut-outs [mm]

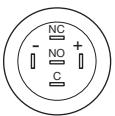


Illuminated pushbutton

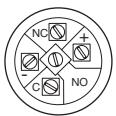
Switching action	Illumination colour	Lens shape	Terminal	Shape of illumination	Switching voltage	Operating voltage	Part No.	Wiring diagram	Component Layout
Maintained	White	flush	Screw terminal	Ring	24 V	24 V DC	82-6154.2154	341	87
	Red / Green	flush	Screw terminal	Dot	24 V	24 V DC	82-6154.22A4	342	87
	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	Dot	24 V	24 V DC	82-6153.22A4	342	85
	Red / Green	flush	Soldering terminal	Ring	24 V	24 V DC	82-6153.21A4	342	85
Momentary	Red / Green	flush	Soldering terminal	Dot	24 V	24 V DC	82-6153.12A4	343	85
	Red / Green	flush	Soldering terminal	Ring	24 V	24 V DC	82-6153.11A4	343	85

Wiring diagrams



Component layouts

Component layout 85



Component layout 87

01

02

03

04

09

14

17

18

19

22

31

41

45

51

56

57

61

70

71

82

84

92

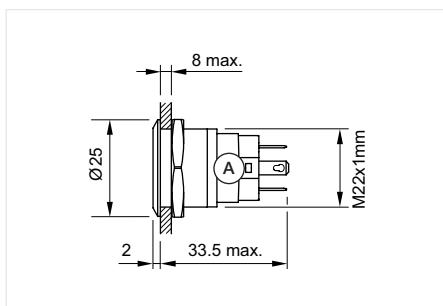
96

82 Flush design

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

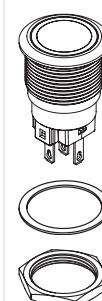


Product can differ from the current configuration.



Dimensions [mm]

Equipment consisting of (schematic overview)



Actuator

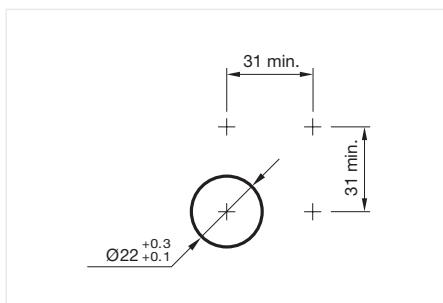
Seal

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.



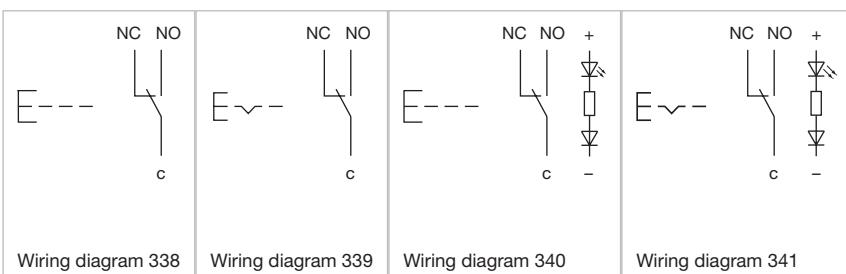
Mounting cut-outs [mm]



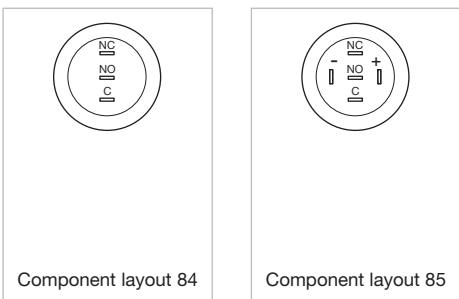
Illuminated pushbutton

Switching action	Illumination colour	Lens shape	Terminal	Shape of illumination	Switching voltage	Operating voltage	Part No.	Wiring diagram	Component Layout
Momentary	Red	flush	Plug-in terminal	Ring (Tritan)	36 V	24 V DC (LED)	82-6651.1114	340	85
	Blue	flush	Plug-in terminal	Ring (Tritan)	36 V	24 V DC (LED)	82-6651.1124	340	85
	Green	flush	Plug-in terminal	Ring (Tritan)	36 V	24 V DC (LED)	82-6651.1134	340	85
	White	flush	Plug-in terminal	Ring (Tritan)	36 V	24 V DC (LED)	82-6651.1154	340	85
Maintained	Red	flush	Plug-in terminal	Ring (Tritan)	36 V	24 V DC (LED)	82-6651.2114	341	85
	Blue	flush	Plug-in terminal	Ring (Tritan)	36 V	24 V DC (LED)	82-6651.2124	341	85
	Green	flush	Plug-in terminal	Ring (Tritan)	36 V	24 V DC (LED)	82-6651.2134	341	85
	White	flush	Plug-in terminal	Ring (Tritan)	36 V	24 V DC (LED)	82-6651.2154	341	85
Momentary		flush	Plug-in terminal		36 V		82-6651.1000	338	84
Maintained		flush	Plug-in terminal		36 V		82-6651.2000	339	84

Wiring diagrams



Component layouts



EAO Downloads.
www.eao.com/downloads
EAO creates possibilities. Since 1947.



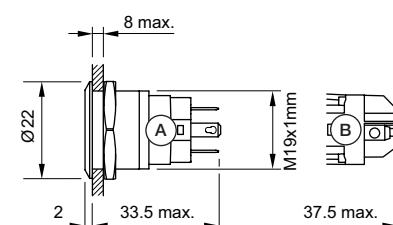
[On our website you can download technical data, assembly instructions, catalogs, brochures and much more.](http://www.eao.com/downloads)

82 Flush design

Indicator 19 mm, IP65, IP67

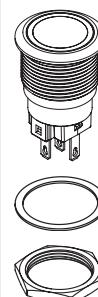


Product can differ from the current configuration.



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

Equipment consisting of (schematic overview)



Actuator

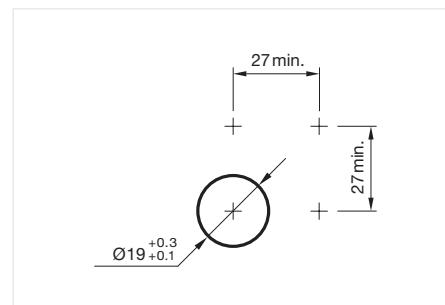
Seal

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.



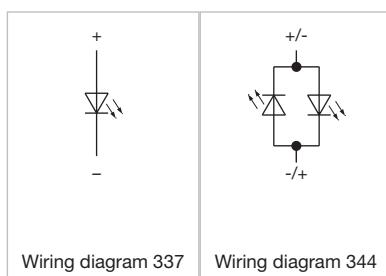
Mounting cut-outs [mm]



Indicator

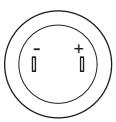
Illumination colour	Shape of illumination	Lens shape	Operating voltage	Operation current	Terminal	Part No.	Wiring diagram	Component Layout
Red / Green	Dot	flush	24 V AC/DC	7 mA	Screw terminal	82-5152.02A4	337	89
	Ring	flush	24 V AC/DC	7 mA	Screw terminal	82-5152.01A4	337	89
	Dot	flush	24 V AC/DC	7 mA	Soldering terminal	82-5151.02A4	344	86
	Ring	flush	24 V AC/DC	7 mA	Soldering terminal	82-5151.01A4	344	86

Wiring diagrams

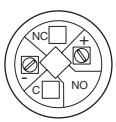


Wiring diagram 337

Wiring diagram 344

Component layouts

Component layout 86



Component layout 89

01

02

03

04

09

14

17

18

19

22

31

41

45

51

56

57

61

70

71

82

84

92

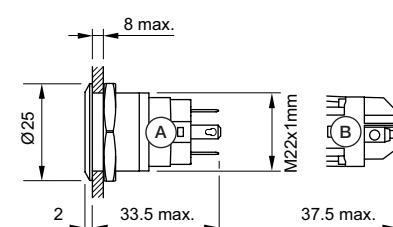
96

82 Flush design

Indicator 22 mm, IP65, IP67

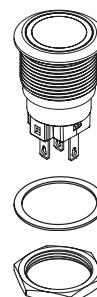


Product can differ from the current configuration.



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

Equipment consisting of (schematic overview)



Actuator

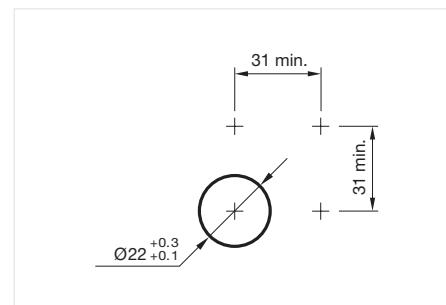
Seal

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.



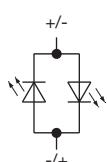
Mounting cut-outs [mm]



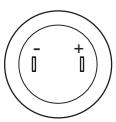
Indicator

Illumination colour	Shape of illumination	Lens shape	Operating voltage	Operation current	Terminal	Part No.	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	82-6151.02A4	344	86
	Ring	flush	24 V AC/DC	7 mA	Soldering terminal	82-6151.01A4	344	86

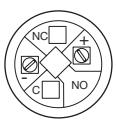
Wiring diagrams



Wiring diagram 344

Component layouts

Component layout 86



Component layout 89

01

02

03

04

09

14

17

18

19

22

31

41

45

51

56

57

61

70

71

82

84

92

96

82 Accessories

Front side



Blind plug

Dimensions	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	Dimensions	Material	Colour	Optics	Part No.
For button Ø 19 mm	Ø 19 mm	Silicone	Colourless	transparent	82-911
For button Ø 22 mm	Ø 22 mm	Silicone	Colourless	transparent	82-912

Additional information

- Suitable for indicator, pushbutton and illuminated pushbutton with flush design and lens flat/level with front ring
- Up to 300 000 actuations possible

Rear side

**Flat receptacle**

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

**Insulation sleeve**

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



EAO Downloads.
www.eao.com/downloads
EAO creates possibilities. Since 1947.



[On our website you can download technical data, assembly instructions, catalogs, brochures and much more.](http://www.eao.com/downloads)

82 Accessories

01 Mounting



02 Fixing nut

Dimensions	Material	Part No.
Ø 16 mm	Metal	31-991
Ø 19 mm	Metal	82-902
Ø 22 mm	Metal	82-903



14 Fixing nut 6-sides stainless steel

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



19 Seal

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



45 51 Mounting tool

Product attributes	Dimensions	Material	Part No.
For tightening or loosening of the fixing nut Ø 16 mm	Ø 16 mm	Metal	01-907
For tightening or loosening of the fixing nut Ø 19 mm	Ø 19 mm	Metal	82-905
For tightening or loosening of the fixing nut Ø 22 mm	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
Stainless-steel chrome-coloured
Brass gold-coloured
Aluminium natural anodized

Terminal housing
Plastic

Contact material
Silver alloy

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

Tightening torque
0.5 Nm min....1.2 Nm max. for fixing nut
0.1 Nm for screw terminal

Actuating force
4...7 N

Actuating travel
Approx. 3 mm

Mechanical lifetime
Pushbutton momentary 1 Mio. cycles of operation
Pushbutton maintain 500000 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
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
110 VDC	0.2 A
220 VDC	0.1 A

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

$\cos\phi 0.75 \dots 0.8$

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

Operational data

Silver contacts	
	Minimum Values
Voltage	17VAC/DC
Current	50mA 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

82 Technical data

01 Ambient conditions

02 Storage temperature

03 Operating temperature

04 Front protection

09 Impact resistance

14 Shock resistance

17 Degree of pollution

18 Vibration resistance

19 EAO reserves the right to alter specifications without further notice.

22

31

41

45

51

56

57

61

70

71

82

84

92

96

Climate resistance

Damp heat, 21 days as per IEC 60512-11

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

CB

UL

C UL

CCC

Conformities

CE

2014/35/EC (LVD)

2011/65/EC (RoHS)

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

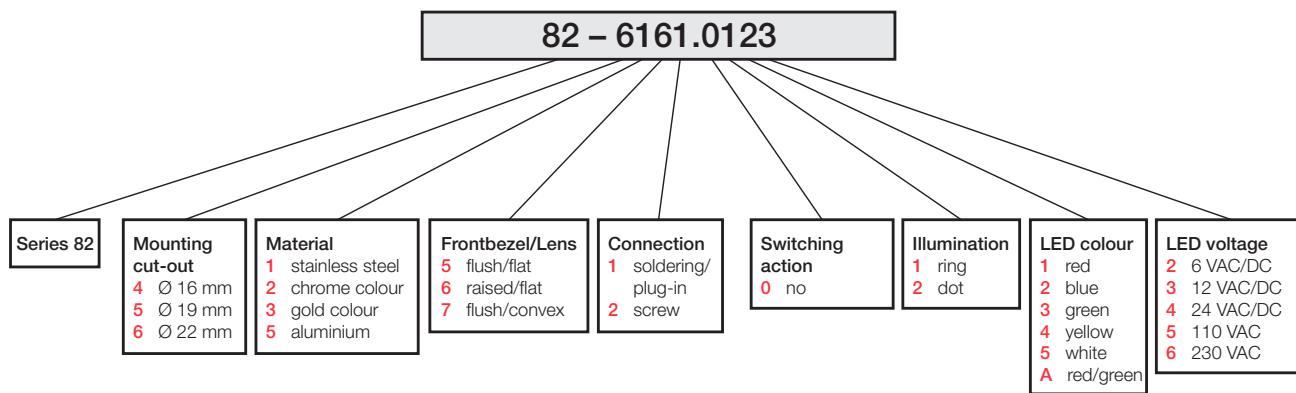
8	9	0	*	#	+	-
Part No. B036	Part No. B037	Part No. B038	Part No. B039	Part No. B040	Part No. B041	Part No. B042

82 Order examples

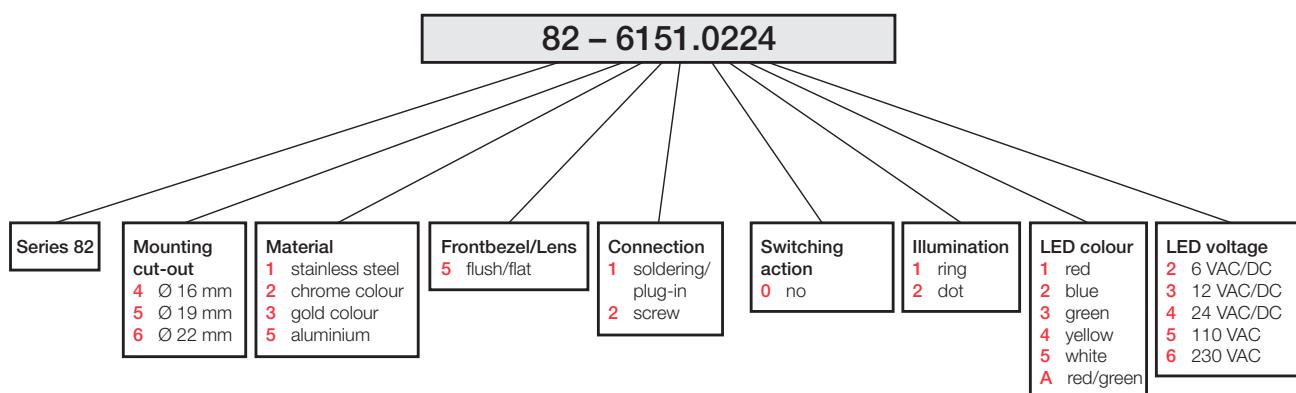
Part number system

Series	-	Diameter	Material		Bezel/Lens		Connection/ SE Contacts		.	Switching action	Illumination	LED colour		LED voltage		.	Laser Engraving	
82	4	16mm	1	Stainless steel	5	flush/ flat	1	Solder/ Silver		0	Indicator	0	no LED	0	no LED	0	no LED	B001 On/Off
	5	19mm	2	Chrome colour	6	flush/ raised flat	2	Screw/ Silver		1	Momentary	1	Ring	1	red	2	6VAC/DC	B002 Standby
	6	22mm	3	Gold colour	7	flush/ convex	3	Solder/ Gold plated		2	Maintained	2	Dot	2	blue	3	12VAC/DC	B003 Light
			5	Aluminium natural anodized	8	raised/ convex	4	Screw/ Gold plated				3	green	4	24VAC/DC		B004 Info	
												4	yellow	5	110VAC		B005 Bell	
												5	white	6	230VAC		B006 Door open	
												A	red/ green				BXXX Any other symbol	

Order example for indicator with ring illumination



Order example for indicator with dot illumination



Order example for pushbutton

82 – 5351.1000

Series 82	Mounting cut-out 4 Ø 16 mm 5 Ø 19 mm 6 Ø 22 mm	Material 1 stainless steel 2 chrome colour 3 gold colour 5 aluminium	Frontbezel/Lens 5 flush/flat 6 raised/flat 7 flush/convex 8 raised/convex	Connection 1 soldering/ plug-in 2 screw	Switching action 1 momentary 2 maintained	Illumination 0 no LED	LED colour 0 no LED	LED voltage 0 no LED
-----------	---	--	---	--	---	--------------------------	------------------------	-------------------------

Order example for illuminated pushbutton ring illumination

82 – 6562.1124

Series 82	Mounting cut-out 4 Ø 16 mm 5 Ø 19 mm 6 Ø 22 mm	Material 1 stainless steel 2 chrome colour 3 gold colour 5 aluminium	Frontbezel/Lens 5 flush/flat 6 raised/flat 7 flush/convex	Connection 1 soldering/ plug-in 2 screw	Switching action 1 momentary 2 maintained	Illumination 1 ring 2 dot	LED colour 1 red 2 blue 3 green 4 yellow 5 white A red/green	LED voltage 2 6 VAC/DC 3 12 VAC/DC 4 24 VAC/DC 5 110 VAC 6 230 VAC
-----------	---	--	--	--	---	---------------------------------	--	---

Order example for illuminated pushbutton dot illumination

82 – 6352.1242

Series 82	Mounting cut-out 4 Ø 16 mm 5 Ø 19 mm 6 Ø 22 mm	Material 1 stainless steel 2 chrome colour 3 gold colour 5 aluminium	Frontbezel/Lens 5 flush/flat	Connection 1 soldering/ plug-in 2 screw	Switching action 1 momentary 2 maintained	Illumination 1 ring 2 dot	LED colour 1 red 2 blue 3 green 4 yellow 5 white A red/green	LED voltage 2 6 VAC/DC 3 12 VAC/DC 4 24 VAC/DC 5 110 VAC 6 230 VAC
-----------	---	--	---------------------------------	--	---	---------------------------------	--	---

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-

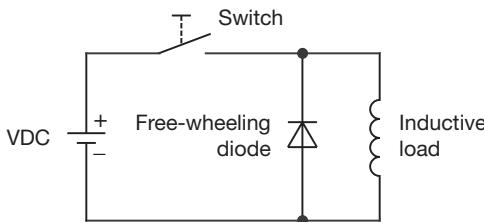
volts in amplitude even when nominal circuit voltages are low (e.g. 12VDC) see Fig. 2.

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!

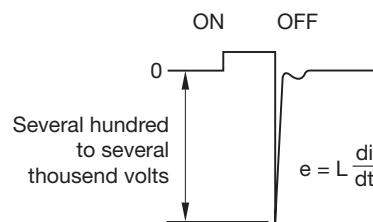
Switching with inductive load

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 ($1,5 \text{ mm}^2$) with yellow and green sheathing.

Part No.	Page	Part No.	Page	Part No.	Page
01-907	24	82-5153.12A4.....	11	82-908	22
31-929	23	82-5153.2000	6	82-909	22
31-946	23	82-5153.2000.B001.....	6	82-911	22
31-991	24	82-5153.2000.B002.....	6	82-912	22
82-5151.01A4.....	18	82-5153.2000.B003.....	6	82-913	24
82-5151.02A4.....	18	82-5153.2000.B004.....	6	82-914	24
82-5151.1000	4	82-5153.2000.B005.....	6	82-915	24
82-5151.1000.B001	4	82-5153.2000.B006.....	6	82-916	24
82-5151.1000.B002	4	82-5153.2114	10	82-917	24
82-5151.1000.B003	4	82-5153.2124	10	82-918	24
82-5151.1000.B004	4	82-5153.2134	10	84-997	24
82-5151.1000.B005	4	82-5153.2144	10		
82-5151.1000.B006	4	82-5153.2154	10		
82-5151.1114	8	82-5153.21A4.....	11		
82-5151.1124	8	82-5153.22A4.....	11		
82-5151.1134	8	82-5154.1000	6		
82-5151.1144	8	82-5154.1000.B001.....	6		
82-5151.1154	8	82-5154.1000.B002.....	6		
82-5151.11A4.....	9	82-5154.1000.B003.....	6		
82-5151.12A4.....	9	82-5154.1000.B004.....	6		
82-5151.2000	4	82-5154.1000.B005.....	6		
82-5151.2000.B001	4	82-5154.1000.B006.....	6		
82-5151.2000.B002	4	82-5154.1114	10		
82-5151.2000.B003	4	82-5154.1124	10		
82-5151.2000.B004	4	82-5154.1134	10		
82-5151.2000.B005	4	82-5154.1144	10		
82-5151.2000.B006	4	82-5154.1154	10		
82-5151.2114	8	82-5154.11A4.....	11		
82-5151.2124	8	82-5154.12A4.....	11		
82-5151.2134	8	82-5154.2000	6		
82-5151.2144	8	82-5154.2000.B001.....	6		
82-5151.2154	8	82-5154.2000.B002.....	6		
82-5151.21A4.....	9	82-5154.2000.B003.....	6		
82-5151.22A4.....	9	82-5154.2000.B004.....	6		
82-5152.01A4.....	18	82-5154.2000.B005.....	6		
82-5152.02A4.....	18	82-5154.2000.B006.....	6		
82-5152.1000	4	82-5154.2114	10		
82-5152.1000.B001	4	82-5154.2124	10		
82-5152.1000.B002	4	82-5154.2134	10		
82-5152.1000.B003	4	82-5154.2144	10		
82-5152.1000.B004	4	82-5154.21A4.....	11		
82-5152.1000.B005	4	82-5154.22A4.....	10		
82-5152.1000.B006	4	82-6151.01A4.....	20		
82-5152.1114	8	82-6151.02A4.....	20		
82-5152.1124	8	82-6151.11A4.....	12		
82-5152.1134	8	82-6151.12A4.....	12		
82-5152.1144	8	82-6151.21A4.....	12		
82-5152.1154	8	82-6151.22A4.....	12		
82-5152.11A4.....	9	82-6152.01A4.....	20		
82-5152.12A4.....	9	82-6152.02A4.....	20		
82-5152.2000	4	82-6152.11A4.....	12		
82-5152.2000.B001	4	82-6152.12A4.....	12		
82-5152.2000.B002	4	82-6152.21A4.....	12		
82-5152.2000.B003	4	82-6152.22A4.....	12		
82-5152.2000.B004	4	82-6153.11A4.....	14		
82-5152.2000.B005	4	82-6153.12A4.....	14		
82-5152.2000.B006	4	82-6153.21A4.....	14		
82-5152.2114	8	82-6153.22A4.....	14		
82-5152.2124	8	82-6154.11A4.....	14		
82-5152.2134	8	82-6154.12A4.....	14		
82-5152.2144	8	82-6154.2154	14		
82-5152.2154	8	82-6154.21A4.....	14		
82-5152.21A4.....	9	82-6154.22A4.....	14		
82-5152.22A4.....	9	82-6651.1000	16		
82-5153.1000	6	82-6651.1114	16		
82-5153.1000.B001	6	82-6651.1124	16		
82-5153.1000.B002	6	82-6651.1134	16		
82-5153.1000.B003	6	82-6651.1154	16		
82-5153.1000.B004	6	82-6651.2000	16		
82-5153.1000.B005	6	82-6651.2114	16		
82-5153.1000.B006	6	82-6651.2124	16		
82-5153.1114	10	82-6651.2134	16		
82-5153.1124	10	82-6651.2154	16		
82-5153.1134	10	82-902	24		
82-5153.1144	10	82-903	24		
82-5153.1154	10	82-905	24		
82-5153.11A4.....	11	82-907	22		

