



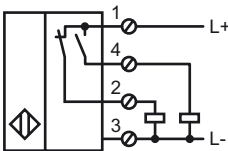
Model Number

NBB20-U1-A2

Features

- 20 mm embeddable
- 4-wire DC
- 4 LEDs indicator for 360° visibility

Connection



Accessories

V1-M20-80

Receptacles, M12/M20; plastic version

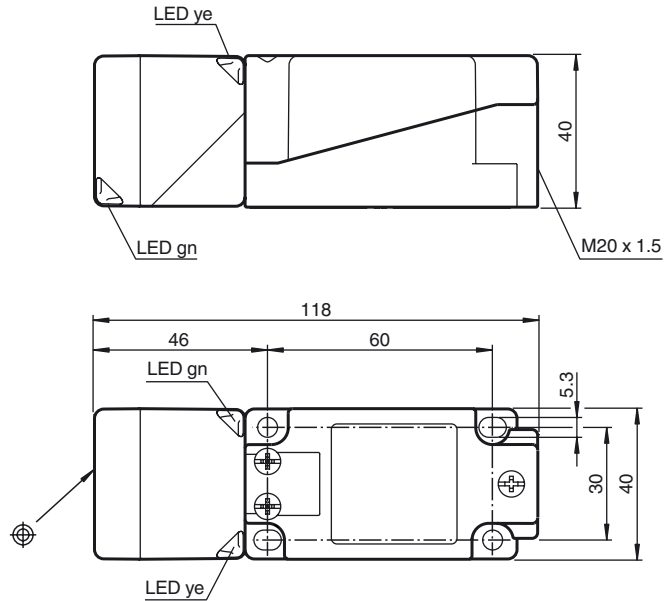
MHW 01

Modular mounting bracket

MH 04-2681F

Mounting aid for VariKont, +U1+ and +U9*

Dimensions



Technical Data

General specifications

| | | |
|------------------------------|-------|---------------|
| Switching element function | PNP | NO/NC |
| Rated operating distance | s_n | 20 mm |
| Installation | | embeddable |
| Output polarity | | DC |
| Assured operating distance | s_a | 0 ... 16.2 mm |
| Reduction factor r_{Al} | | 0.33 |
| Reduction factor r_{Cu} | | 0.31 |
| Reduction factor r_{303} | | 0.74 |
| Reduction factor r_{Brass} | | 0.38 |

Nominal ratings

| | | |
|-----------------------------------|-------|----------------------------|
| Operating voltage | U_B | 10 ... 30 V DC |
| Switching frequency | f | 0 ... 150 Hz |
| Hysteresis | H | typ. 5 % |
| Reverse polarity protected | | reverse polarity protected |
| Short-circuit protection | | pulsing |
| Voltage drop | U_d | ≤ 2 V |
| Operating current | I_L | 0 ... 200 mA |
| Off-state current | I_r | 0 ... 0.5 mA |
| No-load supply current | I_0 | ≤ 20 mA |
| Operating voltage display | | LED, green |
| Indication of the switching state | | LED, yellow |

Functional safety related parameters

| | |
|--------------------------------|--------|
| MTTF _d | 1230 a |
| Mission Time (T _M) | 20 a |
| Diagnostic Coverage (DC) | 0 % |

Ambient conditions

| | |
|---------------------|--------------------------------|
| Ambient temperature | -25 ... 85 °C (-13 ... 185 °F) |
| Storage temperature | -40 ... 85 °C (-40 ... 185 °F) |

Mechanical specifications

| | |
|--------------------|---|
| Connection type | screw terminals |
| Core cross-section | ≤ 2.5 mm ² |
| Housing material | PA/metal with epoxy powder coating |
| Sensing face | PA |
| Housing base | plastic |
| Protection degree | IP68 / IP69K |
| Mass | 225 g |
| Note | Tightening torque: 1.8 Nm (housing) Tightening torque: 1.0 Nm (Screw terminal) |

Compliance with standards and directives

| | |
|---------------------|---|
| Standard conformity | |
| Standards | EN 60947-5-2:2007 IEC 60947-5-2:2007 |

Approvals and certificates

| | |
|--------------|--|
| UL approval | cULus Listed, General Purpose |
| CSA approval | cCSAus Listed, General Purpose |
| CCC approval | Products with a maximum operating voltage of ≤ 36 V do not bear a CCC marking because they do not require approval. |

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