



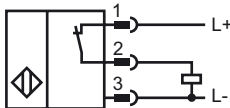
Model Number

NBB20-L2-E3-V1

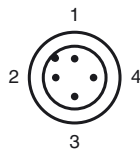
Features

- Basic series
- 20 mm embeddable
- Quick mounting bracket
- 4-way LED indicator

Connection



Pinout



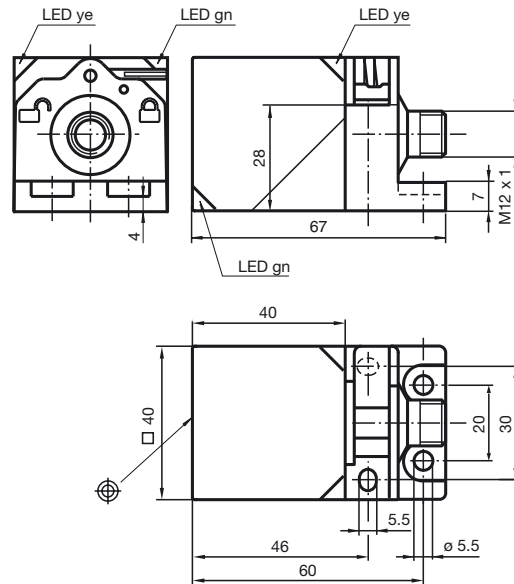
Wire colors in accordance with EN 60947-5-2

- | | |
|---|----|
| 1 | BN |
| 2 | WH |
| 3 | BU |
| 4 | BK |

Accessories

- V1-G**
Field attachable female cordset
- V1-W**
Field attachable female cordset
- V1-W-2M-PUR**
Cable socket, M12, 4-pin, PUR cable
- V1-G-2M-PUR**
Cable socket, M12, 4-pin, PUR cable
- MHW 01**
Modular mounting bracket
- MH 02-L**
Mounting aid

Dimensions



Technical Data

General specifications

Switching element function	PNP	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_{V2A}	0.74	
Reduction factor r_{Brass}	0.41	

Nominal ratings

Operating voltage	U_B	10 ... 30 V
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 typ. 0.1 μ A at 25 °C
No-load supply current	I_o	≤ 20 mA
Operating voltage display	LED, green	
Indication of the switching state	LED, yellow	

Functional safety related parameters

MTTF _d	1500 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	Device connector M12 x 1 , 4-pin
Housing material	PA
Sensing face	PA
Protection degree	IP69K
Mass	130 g

Compliance with standards and directives

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

Approvals and certificates

Protection class	II
Rated insulation voltage	U_i 253 V
Design-impulse-voltage withstand	U_{imp} 4000 V
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.

Release date: 2010-11-16 13:48 Date of issue: 2010-11-17 21:7091_ENG.xml