



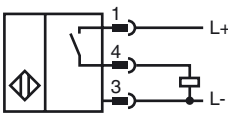
Model Number

NBB20-U1-E2-T-V1

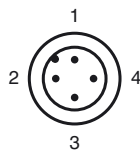
Features

- Temperature range -25 ... 100 °C (-13 ... 212 °F)
- 20 mm embeddable
- 4 LEDs indicator for 360° visibility

Connection



Pinout



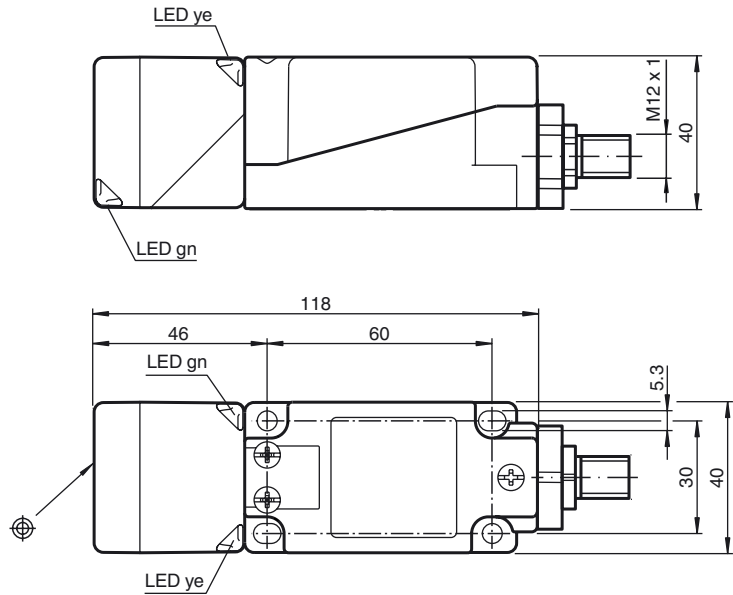
Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Accessories

- V1-G**
4-pin, M12 female field-attachable connector
- V1-G-2M-PUR**
Cable socket, M12, 4-pin, PUR cable
- MHW 01**
Modular mounting bracket
- MH 04-2681F**
Mounting aid for VariKont, +U1+ and +U9*
- V1-W**
4-pin, M12 female field-attachable connector
- V1-W-2M-PUR**
Cable socket, M12, 4-pin, PUR cable

Dimensions



Technical Data

General specifications

Switching element function	PNP	NO
Rated operating distance	s_n	20 mm
Installation		embeddable
Output polarity		DC
Assured operating distance	s_a	0 ... 16.2 mm
Reduction factor r_{AI}		0.35
Reduction factor r_{Cu}		0.3
Reduction factor r_{304}		0.75

Nominal ratings

Operating voltage	U_B	10 ... 30 V
Switching frequency	f	0 ... 300 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	1428 a
Mission Time (T_M)	20 a
Diagnostic Coverage (DC)	0 %

Ambient conditions

Ambient temperature	-25 ... 100 °C (-13 ... 212 °F)
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Mechanical specifications

Connection type	Device connector M12 x 1 , 4-pin
Housing material	PA / LCP
Sensing face	PA
Housing base	plastic
Protection degree	IP68 / IP69K
Mass	225 g
Note	Tightening torque: 1.8 Nm (housing)

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.

Release date: 2012-02-13 10:17 Date of issue: 2012-02-13 218056_eng.xml