



Model Number

NBB20-L2-E2-C-V1

Features

- Sensor head bidirectional and rotatable
- 20 mm flush
- 3-wire DC
- Weld Immune
- Quick mounting bracket
- 4-way LED indicator

Accessories

V1-G

Female connector, M12, 4-pin, field attachable

V1-W

Female connector, M12, 4-pin, field attachable

V1-G-2M-PUR

Female cordset, M12, 4-pin, PUR cable

V1-W-2M-PUR

Female cordset, M12, 4-pin, PUR cable

MHW 01

Modular mounting bracket

MH 02-L

Mounting aid

Technical Data

General specifications

Switching function	Normally open (NO)
Output type	PNP
Rated operating distance	s_n 20 mm
Installation	flush
Output polarity	DC
Assured operating distance	s_a 0 ... 16.2 mm
Actual operating distance	s_r 18 ... 22 mm
Reduction factor r_{Al}	0.33
Reduction factor r_{Cu}	0.31
Reduction factor r_{304}	0.74
Reduction factor r_{Brass}	0.41
Output type	3-wire

Nominal ratings

Operating voltage	U_B 10 ... 30 V DC
Switching frequency	f 0 ... 5 Hz
Hysteresis	H typ. 5 %
Reverse polarity protection	reverse polarity protected
Short-circuit protection	pulsing
Voltage drop	U_d $\leq$ 3 V
Design data	
Operating current	I_L 0 ... 200 mA
Off-state current	I_r 0 ... 0.5 mA
No-load supply current	I_0 $\leq$ 20 mA
Time delay before availability	t_v 300 ms
Operating voltage indicator	LED, green
Switching state indicator	LED, yellow

Functional safety related parameters

MTTF _d	1170 a
Mission Time (T_M)	20 a
Diagnostic Coverage (DC)	0 %

Ambient conditions

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

Mechanical specifications

Connection type	Connector plug M12 x 1, 4-pin
Housing material	PA
Sensing face	PA
Degree of protection	IP69K
Mass	130 g

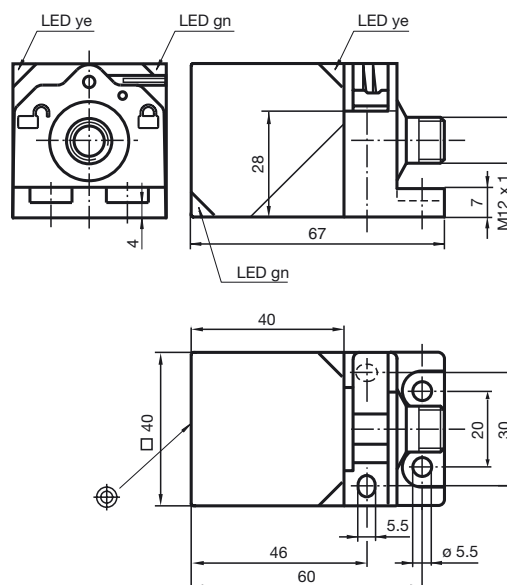
Compliance with standards and directives

Standard conformity	
Standards	EN 60947-5-2:2007 EN 60947-5-2/A1:2012 IEC 60947-5-2:2007 IEC 60947-5-2 AMD 1:2012

Approvals and certificates

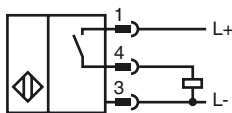
Protection class	II
Rated insulation voltage	U_i 253 V
Rated impulse withstand voltage	U_{imp} 4000 V
UL approval	cULus Listed, General Purpose
CCC approval	CCC approval / marking not required for products rated $\leq$ 36 V

Dimensions

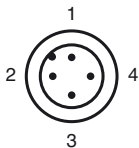




Electrical Connection



Pinout



Wire colors in accordance with EN 60947-5-2

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