



Model Number

NBB15-U1-E0

Features

- Sensor head bidirectional and rotatable
- 4 LEDs indicator for 360° visibility
- 15 mm flush

Accessories

- MHW 01**
Modular mounting bracket
- V1-M20-80**
Receptacles, M12/M20; plastic version
- V1-G**
Female connector, M12, 4-pin, field attachable
- V1-W**
Female connector, M12, 4-pin, field attachable

Technical Data

General specifications

Switching function	Normally open (NO)
Output type	NPN
Rated operating distance	s_n 15 mm
Installation	flush
Output polarity	DC
Assured operating distance	s_a 0 ... 12.15 mm
Actual operating distance	s_r 13.5 ... 16.5 mm typ. 15 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
Switching frequency	f	0 ... 560 Hz
Hysteresis	H	typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 2 V
Design data		
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_0	≤ 20 mA
Time delay before availability	t_v	80 ms
Operating voltage indicator		LED, green
Switching state indicator		LED, yellow

Functional safety related parameters

MTTF _d	1510 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Ambient conditions

Ambient temperature	-25 ... 85 °C (-13 ... 185 °F)
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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
Degree of protection	IP68 / IP69K
Mass	225 g
Note	Tightening torque: 1.8 Nm (housing)

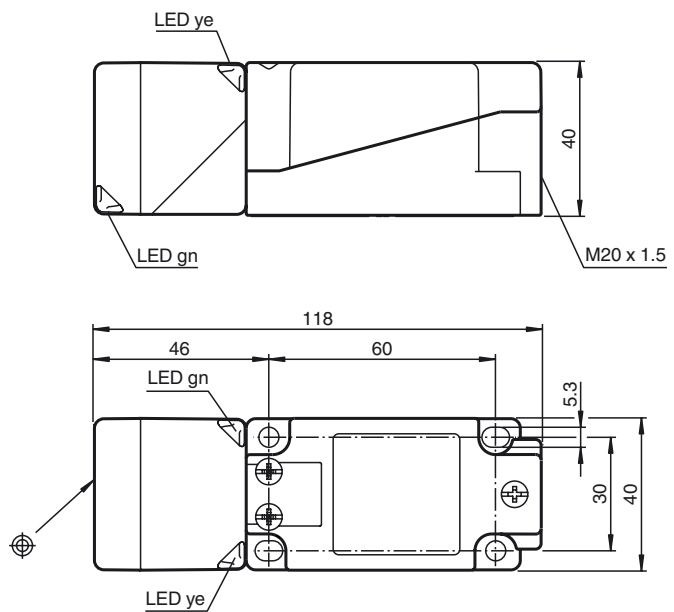
Compliance with standards and directives

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

Approvals and certificates

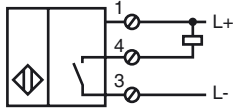
UL approval	cULus Listed, General Purpose
CCC approval	CCC approval / marking not required for products rated ≤ 36 V

Dimensions



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Electrical Connection



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