



Model Number

NBB20-U1-E3

Features

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

Accessories

MHW 01
Modular mounting bracket

Technical Data

General specifications

Switching element function		PNP	NC
Rated operating distance	s_n	20 mm	
Installation		flush	
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_{304}		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 protection		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. 0.01 mA	
Off-state current $T_U = 40^\circ\text{C}$, switching element off		≤ 100 μA	
No-load supply current	I_0	≤ 20 mA	
Time delay before availability	t_v	≤ 50 ms	
Operating voltage indicator		LED, green	
Switching state indicator		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)
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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) Tightening torque: 1.0 Nm (Screw terminal)

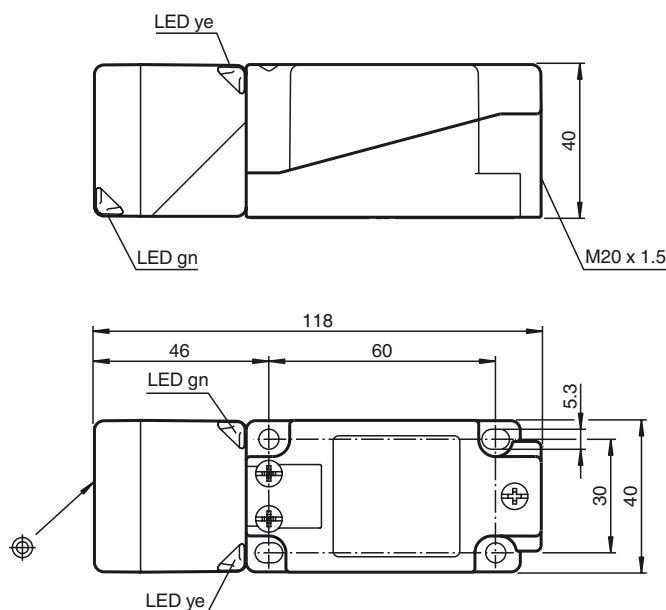
Compliance with standards and directives

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	CCC approval / marking not required for products rated ≤36 V

Dimensions



Electrical Connection

