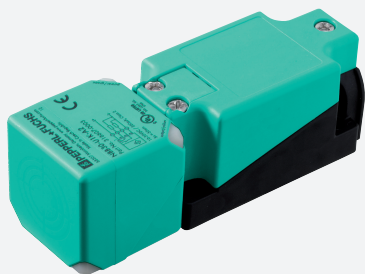


Inductive sensor

NBB30-U1K-A2



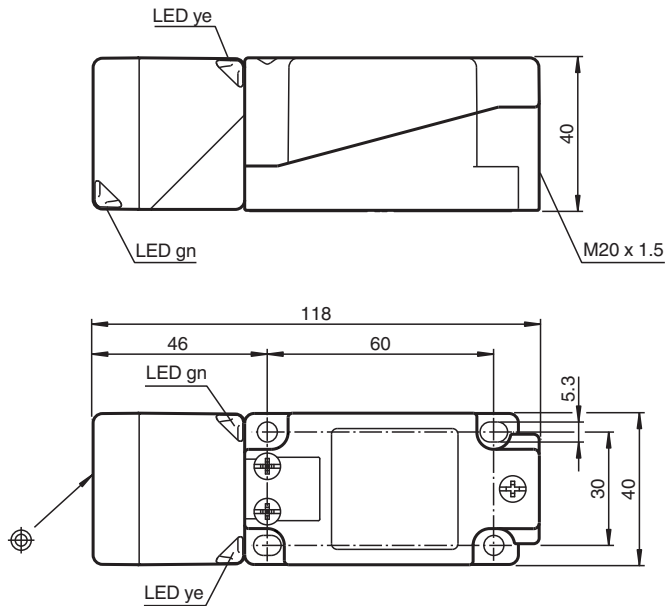
- 30 mm flush
- Active Shielding Technology
- 4-wire DC
- Sensor head bidirectional and rotatable
- 4 LEDs indicator for 360° visibility



Function

Inductive sensors with active shielding technology detect in addition to the damping element also the installation environment. As a result, they keep the operating distance constantly high, regardless of the installation situation and the installation material.

Dimensions



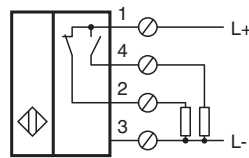
Technical Data

General specifications			
Switching function			complementary
Output type			PNP
Rated operating distance	S _n		30 mm
Installation			flush
Output polarity			DC

Technical Data

Assured operating distance	s_a	0 ... 24.3 mm
Actual operating distance	s_r	27 ... 33 mm typ.
Reduction factor r_{Al}		0.4
Reduction factor r_{Cu}		0.37
Reduction factor r_{304}		0.76
Reduction factor r_{Brass}		0.46
Output type		4-wire
Nominal ratings		
Operating voltage	U_B	10 ... 30 V DC
Switching frequency	f	0 ... 60 Hz
Hysteresis	H	typ. 2 %
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
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		899 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %
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
Ambient conditions		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		screw terminals
Information for connection		A maximum of two conductors with the same core cross section may be mounted on one terminal connection! tightening torque 1.2 Nm + 10 %
Core cross-section		up to 2.5 mm ²
Minimum core cross-section		without wire end ferrule 0.5 mm ² , with connector sleeves 0.34 mm ²
Maximum core cross-section		without wire end ferrule 2.5 mm ² , with connector sleeves 1.5 mm ²
Housing material		PA
Sensing face		PA
Housing base		plastic
Degree of protection		IP68 / IP69
Mass		225 g
Note		Tightening torque: 1.8 Nm (housing)

Connection



Accessories

	V1-M20-80	Receptacles, M12/M20; plastic version
	MHW 01	Modular mounting bracket

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