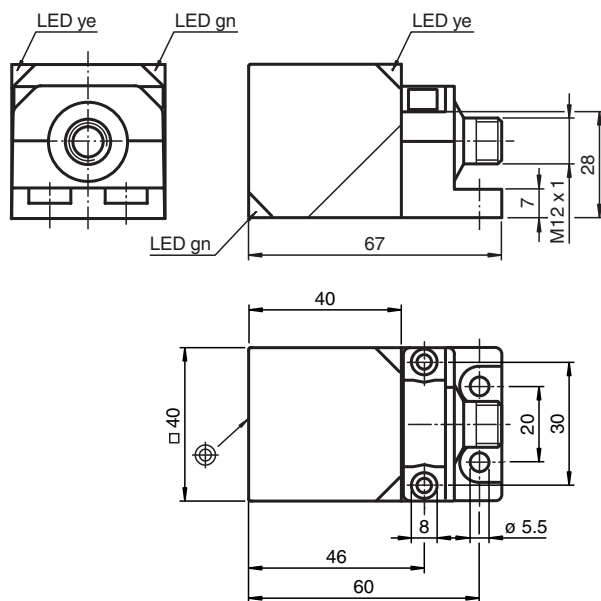


Inductive sensor NBB20-L2M-A2-V1-M

- Sensor head bidirectional and rotatable
- 20 mm flush
- E1-Type approval
- Extended temperature range
-40 ... +85 °C
- 4 LEDs indicator for 360° visibility



Dimensions



Technical Data

General specifications

Switching function		complementary
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 typ. 20 mm
Reduction factor r_{AI}		0.34
Reduction factor r_{Cu}		0.32

Release date: 2020-12-10 Date of issue: 2020-12-10 Filename: 237704_eng.pdf

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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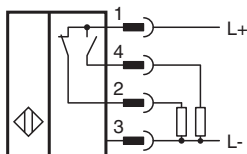
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 PEPPERL+FUCHS

Technical Data

Reduction factor r_{304}		0.77
Reduction factor r_{317}		1
Reduction factor r_{Brass}		0.43
Output type		4-wire
Nominal ratings		
Operating voltage	U_B	10 ... 60 V DC
Switching frequency	f	0 ... 200 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
No-load supply current	I_0	≤ 20 mA
Operating voltage indicator		LED, green
Switching state indicator		LED, yellow
Functional safety related parameters		
MTTF _d		695 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		Certified by China Compulsory Certification (CCC)
E1 Type approval		10R-04
Ambient conditions		
Ambient temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		Connector plug M12 x 1, 4-pin
Housing material		PA-GF35 metal base powder coated metal mounting flang powder coated.
Sensing face		PA-GF35
Degree of protection		IP69K
Cable		
Cable diameter		3.3 mm \pm 0.15 mm
Mass		130 g

Connection



Mounting

Emitted interference and interference immunity in accordance with motor vehicle directive 2006/28/EG (e1 Type approval)
Interference immunity in accordance with DIN ISO 11452-2: 100 V/m
Frequency band 20 MHz up to 2 GHz

Mains-borne interference in accordance with ISO 7637-2: Pulse 1 2a 2b 3a 3b 4 5
Severity level III III III III III III IV
Failure criterion C A C A A A C

EN 61000-4-2: CD: 8 kV / AD: 15 kV
Severity level IV IV





EN 61000-4-3: 30 V/m (80...2500 MHz)
Severity level IV

EN 61000-4-4: 2 kV
Severity level III

EN 61000-4-6: 10 V (0.01...80 MHz)
Severity level III

EN 55011: Class A

Accessories

	V1-G-2M-PUR	Female cordset single-ended M12 straight A-coded, 4-pin, PUR cable grey
	V1-W-2M-PUR	Female cordset single-ended M12 angled A-coded, 4-pin, PUR cable grey
	MHW 01	Modular mounting bracket
	V1-M20-80	Receptacles, M12/M20; plastic version