

Inductive sensor

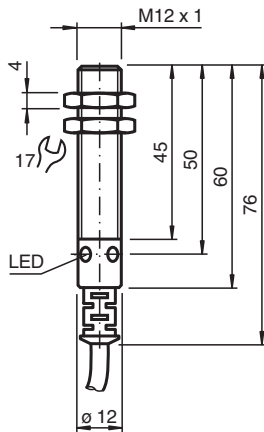
NBB4-12GM45-E1-M



- Basic series
- 4 mm flush
- Increased operating distance
- Extended temperature range
-40 ... +85 °C
- E1-Type approval
- Increased noise immunity 100 V/m



Dimensions



Technical Data

General specifications

Switching function		Normally closed (NC)
Output type		NPN
Rated operating distance	s_n	4 mm
Installation		flush
Output polarity		DC
Assured operating distance	s_a	0 ... 3.24 mm
Reduction factor r_{Al}		0.45
Reduction factor r_{Cu}		0.35
Reduction factor r_{304}		0.7
Output type		3-wire

Nominal ratings

Operating voltage	U_B	10 ... 60 V
Switching frequency	f	0 ... 800 Hz
Hysteresis	H	typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing

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

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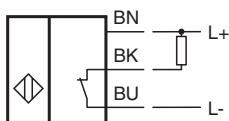
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Technical Data

Voltage drop	U_d	≤ 2.5 V
Rated insulation voltage	U_{BIS}	60 V
Operating current	I_L	0 ... 200 mA
Off-state current	I_r	0 ... 0.5 mA typ. 0.1 μ A
No-load supply current	I_0	≤ 15 mA
Time delay before availability	t_v	≤ 5 ms
Switching state indicator		LED, yellow
Functional safety related parameters		
MTTF _d		1530 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
Compliance with standards and directives		
Standard conformity		
Standards		EN 60947-5-2:2007 IEC 60947-5-2:2007
Approvals and certificates		
Protection class		II
Rated insulation voltage	U_i	60 V
Rated impulse withstand voltage	U_{imp}	800 V
UL approval		cULus Listed, General Purpose
CSA approval		cCSAus 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		cable PUR , 2 m
Core cross-section		0.75 mm ²
Housing material		brass, nickel-plated
Sensing face		PBT
Degree of protection		IP69K
Mass		120 g

Connection



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Safety Information

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
 Severity level III III III III III III
 Failure criterion C A C A A A

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

	EXG-12	Quick mounting bracket with dead stop
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