

Inductive sensor

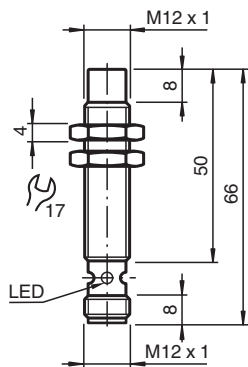
NBN7-12GM50-E3-V1-M



- 7 mm non-flush
- Extended temperature range
-40 ... +85 °C
- Increased noise immunity 100 V/m
- E1-Type approval
- With increased sealing, protection class
IP68 / IP69K
- Highly shock and vibration resistant



Dimensions



Technical Data

General specifications		
Switching function		Normally closed (NC)
Output type		PNP
Rated operating distance	s _n	7 mm
Installation		non-flush
Output polarity		DC
Assured operating distance	s _a	0 ... 5.67 mm
Reduction factor r _{Al}		0.5
Reduction factor r _{Cu}		0.35
Reduction factor r ₃₀₄		0.7
Reduction factor r _{Brass}		0.5
Output type		3-wire
Nominal ratings		
Operating voltage	U _B	5 ... 60 V
Switching frequency	f	0 ... 1500 Hz
Hysteresis	H	typ. 5 %

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

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111
fa-info@de.pepperl-fuchs.com

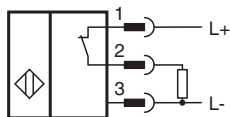
Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

PEPPERL+FUCHS

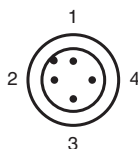
Technical Data

Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Inductive overvoltage protection		yes
Surge suppression		yes
Voltage drop	U_d	$\leq 2 \text{ V}$
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 μA at 25 °C
No-load supply current	I_0	$\leq 7 \text{ mA}$
Time delay before availability	t_v	$\leq 200 \text{ ms}$
Switching state indicator		Multihole-LED, yellow
Functional safety related parameters		
MTTF _d		1006 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		
UL approval		cULus Listed, General Purpose, Class 2 Power Source
CSA approval		cCSAus Listed, General Purpose, Class 2 Power Source
CCC approval		Certified by China Compulsory Certification (CCC)
E1 Type approval		10R-04
Ambient conditions		
Ambient temperature		-40 ... 85 °C (-40 ... 185 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		Connector M12 x 1 , 3-pin
Housing material		brass, nickel-plated
Sensing face		PBT
Degree of protection		IP68 / IP69K
Mass		19 g

Connection



Connection Assignment



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Mounting

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 III
Failure criterion	C	A	C	A	A	A B

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

	BF 12	Mounting flange, 12 mm
	V1-G-2M-PUR	Female cordset, M12, 4-pin, PUR cable
	V1-W-2M-PUR	Female cordset, M12, 4-pin, PUR cable

Release date: 2020-03-24 Date of issue: 2020-03-30 Filename: 240163_eng.pdf