

# Inductive sensor

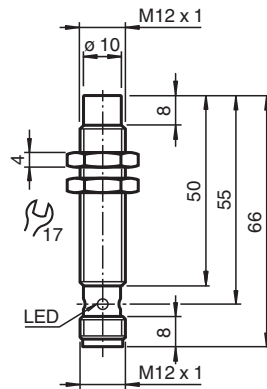
## NBN8-12GM50-E0-V1-M1



- 8 mm non-flush
- Increased operating distance
- Extended temperature range  
-40 ... +85 °C
- With increased sealing, protection class  
IP68 / IP69K
- E1-Type approval



### Dimensions



### Technical Data

#### General specifications

Switching function		Normally open (NO)
Output type		NPN
Rated operating distance	$s_n$	8 mm
Installation		non-flush
Output polarity		DC
Assured operating distance	$s_a$	0 ... 6.48 mm
Actuating element		mild steel, e. g. 1.0037, SR235JR (formerly St37-2) 24 mm x 24 mm x 1 mm
Reduction factor $r_{Al}$		0.5
Reduction factor $r_{Cu}$		0.45
Reduction factor $r_{304}$		0.7
Reduction factor $r_{Brass}$		0.5
Output type		3-wire

#### Nominal ratings

Operating voltage	$U_B$	7 ... 30 V
Switching frequency	$f$	0 ... 1200 Hz

Release date: 2020-03-24 Date of issue: 2020-03-30 Filename: 293454-0056\_eng.pdf

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

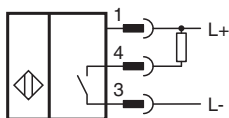
Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

PEPPERL+FUCHS

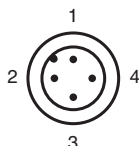
## Technical Data

Hysteresis	H	typ. 5%
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	$U_d$	$\leq 2$ V
Operating current	$I_L$	0 ... 200 mA
Off-state current	$I_r$	0 ... 0.5 mA typ. 4 $\mu$ A at 25 °C
No-load supply current	$I_o$	$\leq 10$ mA
Time delay before availability	$t_v$	$\leq 100$ ms
Switching state indicator		Multihole-LED, yellow
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		1484 a
Mission Time (T <sub>M</sub> )		20 a
Diagnostic Coverage (DC)		0 %
<b>Compliance with standards and directives</b>		
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 EN 12895: 2015
<b>Approvals and certificates</b>		
UL approval		cULus Listed, General Purpose, Class 2 Power Source
CCC approval		CCC approval / marking not required for products rated $\leq 36$ V
E1 Type approval		10R-04
<b>Ambient conditions</b>		
Ambient temperature		-40 ... 85 °C (-40 ... 185 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
<b>Mechanical specifications</b>		
Connection type		Connector M12 x 1 , 3-pin
Housing material		brass, nickel-plated
Sensing face		PBT
Degree of protection		IP68 / IP69K
Mass		18 g
<b>General information</b>		
Scope of delivery		2 self locking nuts in scope of delivery

## 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

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	A	A	C	A	A	C

EN 61000-4-2:	CD: 8 kV / AD: 15 kV
Severity level	IV IV
EN 61000-4-3:	36 V/m (80...2500 MHz)
Severity level	IV
EN 61000-4-4:	2 kV
Severity level	III
EN 61000-4-6:	30 V (0.01...80 MHz)
Severity level	III
EN 55011:	Class A

## Accessories

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

Release date: 2020-03-24 Date of issue: 2020-03-30 Filename: 293454-0056\_eng.pdf

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