

# Inductive sensor

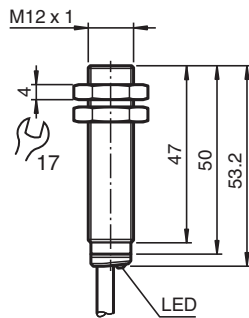
## NBB4-12GM50-E2-3M



- 4 mm flush
- Increased operating distance
- Extended temperature range  
-40 ... +85 °C
- Extended operating voltage range
- Flexible use with versatile mounting opportunities



### Dimensions



### Technical Data

General specifications		
Switching function		Normally open (NO)
Output type		PNP
Rated operating distance	$s_n$	4 mm
Installation		flush
Output polarity		DC
Assured operating distance	$s_a$	0 ... 3.24 mm
Actuating element		mild steel, e. g. 1.0037, SR235JR (formerly St37-2) 12 mm x 12 mm x 1 mm
Reduction factor $r_{Al}$		0.4
Reduction factor $r_{Cu}$		0.35
Reduction factor $r_{304}$		0.79
Reduction factor $r_{Brass}$		0.49
Output type		3-wire
Nominal ratings		
Operating voltage	$U_B$	5 ... 36 V
Switching frequency	$f$	0 ... 2550 Hz

Release date: 2023-01-25 Date of issue: 2023-01-25 Filename: 326163-0011\_eng.pdf

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

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## Technical Data




Hysteresis	H	typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	$U_d$	$\leq 1$ V
Operating current	$I_L$	0 ... 200 mA
Off-state current	$I_r$	max. 20 $\mu$ A
No-load supply current	$I_o$	$\leq 10$ mA
Time delay before availability	$t_v$	$\leq 10$ ms
Switching state indicator		LED, yellow
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		1721 a
Mission Time (T <sub>M</sub> )		20 a
Diagnostic Coverage (DC)		0 %
<b>Conformity</b>		
PWIS conformity		VDMA 24364-C1/T100°C-W
<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
<b>Approvals and certificates</b>		
Protection class		II
Rated insulation voltage	$U_i$	36 V
Rated impulse withstand voltage	$U_{imp}$	500 V
UL approval		cULus Listed, General Purpose, Class 2 Power Source
CCC approval		CCC approval / marking not required for products rated $\leq 36$ V
<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		cable
Housing material		brass , white bronze coated
Sensing face		PBT , green
Degree of protection		IP68
Cable		
Wire end ferrules		yes
Cable diameter		4.3 mm $\pm$ 0.15 mm
Bending radius		> 10 x cable diameter
Material		PVC
Color		black
Number of cores		3
Core cross section		0.34 mm <sup>2</sup>
Length	L	3 m
Mass		113 g
Tightening torque		0 ... 10 Nm
<b>General information</b>		
Scope of delivery		2 self locking nuts in scope of delivery

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**Connection**



**Accessories**

	<b>BF 12</b>	Mounting flange, 12 mm
	<b>BF 12-F</b>	Plastic mounting adapter, 12 mm
	<b>MH-EXG-12</b>	Quick mounting bracket with dead stop

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