

# Inductive sensor

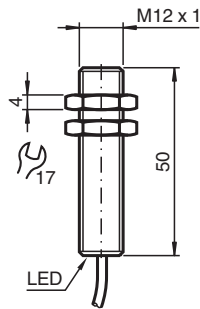
## NBB4-12GM50-EI



- 4 mm flush
- Extended temperature range  
-40 ... +85 °C
- Digital current output



### Dimensions



### Technical Data

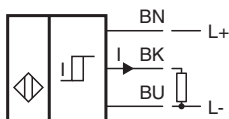
General specifications		
Output type		Digital current output
Rated operating distance	$s_n$	4 mm
Installation		flush
Output polarity		DC
Assured operating distance	$s_a$	0 ... 3.24 mm
Actuating element		mild steel, e. g. 1.0037, SR235JR (formerly St37-2) 12 mm x 12 mm x 1 mm
Reduction factor $r_{Al}$		0.4
Reduction factor $r_{Cu}$		0.3
Reduction factor $r_{304}$		0.7
Reduction factor $r_{Brass}$		0.45
Output type		3-wire
Nominal ratings		
Operating voltage	$U_B$	9 ... 30 V DC
Switching frequency	$f$	0 ... 1800 Hz
Hysteresis	$H$	2 ... 15 %

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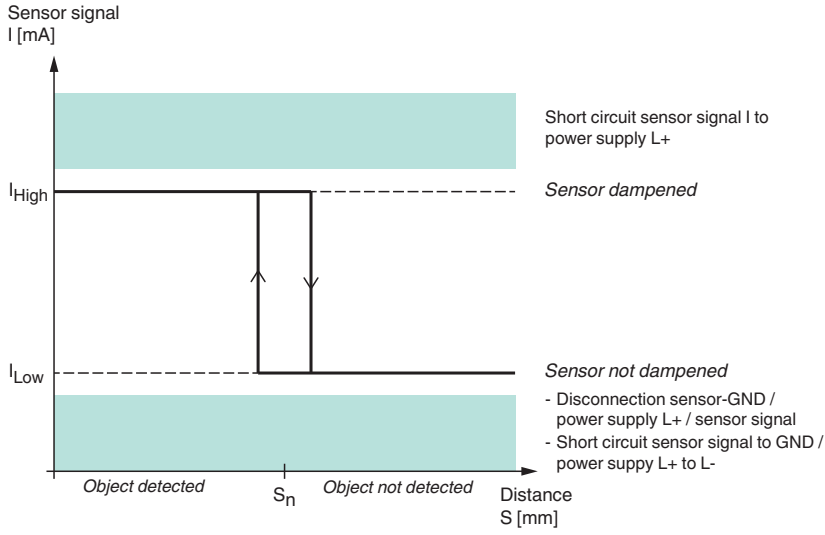
## Technical Data

Reverse polarity protection		reverse polarity protected
Short-circuit protection		yes
Temperature drift		≤ 10 %
Time delay before availability	$t_v$	≤ 5 ms
Load resistor		100 ... 250 Ohm
Switching state indicator		LED, yellow
<b>Functional safety related parameters</b>		
MTTF <sub>d</sub>		1601 a
Mission Time (T <sub>M</sub> )		20 a
Diagnostic Coverage (DC)		0 %
<b>Digital output</b>		
Output value		object detected: 10 mA ± 1 mA object not detected: 5 mA ± 1 mA
<b>Compliance with standards and directives</b>		
Standard conformity		
Standards		EN IEC 60947-5-2
<b>Approvals and certificates</b>		
UL approval		cULus Listed, General Purpose, Class 2 Power Source
<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, nickel-plated
Sensing face		PBT
Degree of protection		IP68 / IP69K
<b>Cable</b>		
Wire end ferrules		yes
Cable diameter		4.3 mm ± 0.1 mm
Bending radius		> 10 x cable diameter
Material		PUR
Color		black
Number of cores		3
Core cross section		0.34 mm <sup>2</sup>
Length	L	2 m
<b>Dimensions</b>		
Length		50 mm
Diameter		12 mm
<b>General information</b>		
Scope of delivery		2 self locking nuts in scope of delivery

## Connection



**Characteristic Curve**



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