



### Model Number

NBB4-12GM50-EI

### Features

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

### Accessories

**BF 12**  
Mounting flange, 12 mm

**EXG-12**  
Quick mounting bracket with dead stop

## 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 %
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

### Functional safety related parameters

MTTF <sub>d</sub>	1601 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

### Digital output

Output type	object detected: 10 mA ± 1 mA object not detected: 5 mA ± 1 mA
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### Ambient conditions

Ambient temperature	-40 ... 85 °C (-40 ... 185 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)

### Mechanical specifications

Connection type	cable PUR, 2 m
Core cross-section	3 x 0.34 mm <sup>2</sup>
Housing material	brass, nickel-plated
Sensing face	PBT
Degree of protection	IP68 / IP69K

### General information

Scope of delivery	2 self locking nuts in scope of delivery
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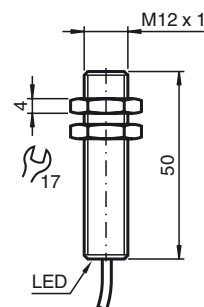
### Compliance with standards and directives

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

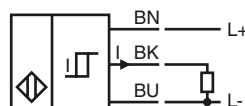
### Approvals and certificates

UL approval	cULus Listed, General Purpose, Class 2 Power Source
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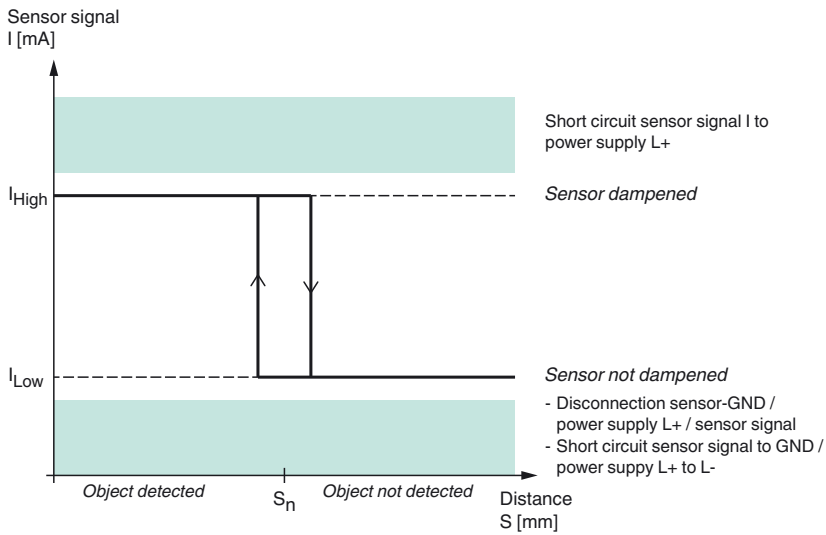
## Dimensions



## Electrical Connection



Characteristic Curves



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