



### Model Number

NBB4-12GM50-EI-V1-M1

### Features

- 4 mm flush
- Extended temperature range  
-40 ... +85 °C
- Digital current output
- E1-Type approval

### Accessories

#### BF 12

Mounting flange, 12 mm

#### V1-G

Female connector, M12, 4-pin, field attachable

#### V1-W

Female connector, M12, 4-pin, field attachable

#### V1-G-2M-PUR

Female cordset, M12, 4-pin, PUR cable

#### V1-W-2M-PUR

Female cordset, M12, 4-pin, PUR cable

## 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>	1595 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	Connector plug M12 x 1, 4-pin
Housing material	brass, nickel-plated
Sensing face	PBT
Degree of protection	IP68 / IP69K
Mass	28 g

### General information

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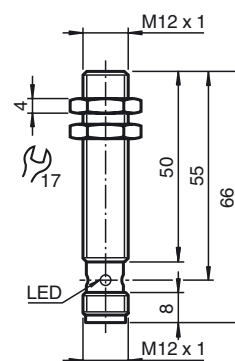
### Compliance with standards and directives

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

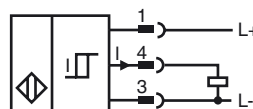
### Approvals and certificates

UL approval	cULus Listed, General Purpose, Class 2 Power Source
E1 Type approval	10R-04

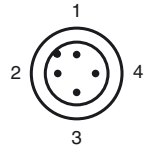
## Dimensions



## Electrical Connection



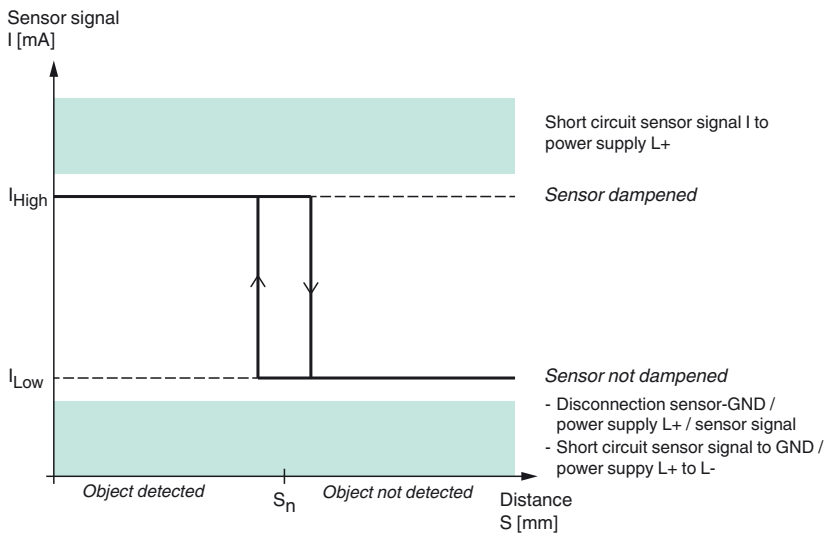
Pinout



Wire colors in accordance with EN 60947-5-2

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

Characteristic Curves



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