



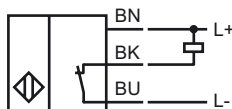
### Model Number

NBB4-12GM50-E1

### Features

- Basic series
- 4 mm embeddable
- Increased operating distance

### Connection



### Accessories

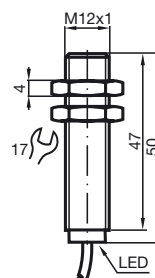
#### BF 12

Mounting flange, 12 mm

#### EXG-12

Quick mounting bracket with dead stop

### Dimensions



### Technical Data

#### General specifications

Switching element function	NPN	NC
Rated operating distance	$s_n$	4 mm
Installation		embeddable
Output polarity		DC
Assured operating distance	$s_a$	0 ... 3.24 mm
Reduction factor $r_{Al}$		0.39
Reduction factor $r_{Cu}$		0.35
Reduction factor $r_{303}$		0.75
Reduction factor $r_{Brass}$		0.49

#### Nominal ratings

Operating voltage	$U_B$	10 ... 30 V
Switching frequency	$f$	0 ... 800 Hz
Hysteresis	$H$	typ. 5 %
Reverse polarity protected		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	$U_d$	$\leq 3$ V
Operating current	$I_L$	0 ... 200 mA
Off-state current	$I_r$	0 ... 0.5 mA typ. 0.1 $\mu$ A at 25 °C
No-load supply current	$I_0$	$\leq 15$ mA
Indication of the switching state		LED, yellow

#### Functional safety related parameters

MTTF <sub>d</sub>	1600 a
Mission Time ( $T_M$ )	20 a
Diagnostic Coverage (DC)	0 %

#### Ambient conditions

Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
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#### Mechanical specifications

Connection type	cable PVC , 2 m
Cable version	3 x 0.14 mm <sup>2</sup>
Housing material	brass, nickel-plated
Sensing face	PBT
Protection degree	IP67

#### 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 IEC 60947-5-2:2007

#### Approvals and certificates

UL approval	cULus Listed, General Purpose
CSA approval	cCSAus Listed, General Purpose
CCC approval	Products with a maximum operating voltage of $\leq 36$ V do not bear a CCC marking because they do not require approval.