



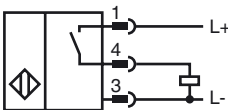
**Model Number**

**NBB4-12GM50-E2-V1**

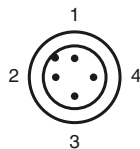
**Features**

- 4 mm embeddable
- Increased operating distance
- Extended temperature range

**Connection**



**Pinout**



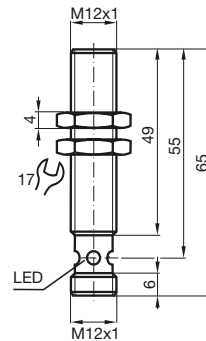
Wire colors in accordance with EN 60947-5-2

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

**Accessories**

- BF 12**  
Mounting flange, 12 mm
- EXG-12**  
Quick mounting bracket with dead stop
- V1-G**  
4-pin, M12 female field-attachable connector
- V1-W**  
4-pin, M12 female field-attachable connector
- V1-G-2M-PUR**  
Cable socket, M12, 4-pin, PUR cable
- V1-W-2M-PUR**  
Cable socket, M12, 4-pin, PUR cable

**Dimensions**



**Technical Data**

**General specifications**

Switching element function	PNP NO
Rated operating distance	$s_n$ 4 mm
Installation	embeddable
Output polarity	DC
Assured operating distance	$s_a$ 0 ... 3.24 mm (-25 ... 70 °C (-13 ... 158 °F)) 0 ... 3.04 mm (-40 ... -25 °C (-40 ... -13 °F))
Reduction factor $r_{Al}$	0.45
Reduction factor $r_{Cu}$	0.35
Reduction factor $r_{303}$	0.7

**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		Multihole-LED, yellow

**Functional safety related parameters**

MTTF <sub>d</sub>	990 a
Mission Time ( $T_M$ )	20 a
Diagnostic Coverage (DC)	0 %

**Ambient conditions**

Ambient temperature	-40 ... 70 °C (-40 ... 158 °F)
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**Mechanical specifications**

Connection type	Device connector M12 x 1, 4-pin
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.

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