



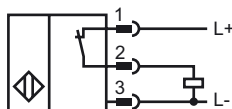
**Model Number**

NBB2-12GM50-E3-V1

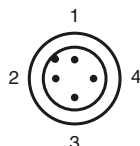
**Features**

- 2 mm embeddable

**Connection**



**Pinout**



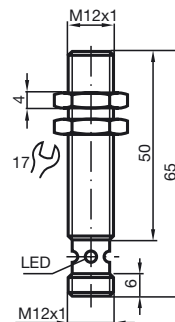
Wire colors in accordance with EN 60947-5-2

- 1 | BN
- 2 | WH
- 3 | BU
- 4 | BK

**Accessories**

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

**Dimensions**



**Technical Data**

General specifications		
Switching element function	PNP	NC
Rated operating distance	$s_n$	2 mm
Installation	embeddable	
Output polarity	DC	
Assured operating distance	$s_a$	0 ... 1.62 mm
Reduction factor $r_{AI}$	0.3	
Reduction factor $r_{Cu}$	0.2	
Reduction factor $r_{V2A}$	0.7	
Nominal ratings		
Operating voltage	$U_B$	10 ... 30 V
Switching frequency	$f$	0 ... 1500 Hz
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	$I_0$	$\leq 17$ mA
Indication of the switching state	Multihole-LED, yellow	
Functional safety related parameters		
MTTF <sub>d</sub>	990 a	
Mission Time (T <sub>M</sub> )	20 a	
Diagnostic Coverage (DC)	0 %	
Ambient conditions		
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)	
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	
Compliance with standards and directives		
Standard conformity	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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