



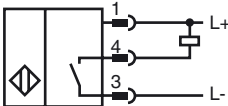
### Model Number

NBB2-12GM50-E0-C-V1

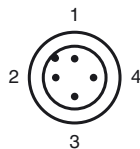
### Features

- 2 mm flush
- 3-wire DC
- Weld Immune
- Slag repellent coatings

### Connection



### Pinout



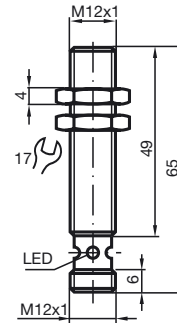
Wire colors in accordance with EN 60947-5-2

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
- AB-12**  
Mounting aid
- V1-G**  
4-pin, M12 female field-attachable connector
- V1-W**  
4-pin, M12 female field-attachable connector
- V1-G-OR2M-POC**  
Female cordset, M12, 4-pin, TPE cable, welding-bead resistant

### Dimensions



### Technical Data

#### General specifications

Switching element function		NPN	NO
Rated operating distance	$s_n$	2 mm	
Installation		flush	
Output polarity		DC	
Assured operating distance	$s_a$	0 ... 1.62 mm	
Reduction factor $r_{Al}$		0.3	
Reduction factor $r_{Cu}$		0.2	
Reduction factor $r_{304}$		0.7	

#### Nominal ratings

Operating voltage	$U_B$	10 ... 30 V DC
Switching frequency	$f$	0 ... 1500 Hz
Hysteresis	$H$	typ. 5 %
Reverse polarity protection		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
Switching state indication		Multihole-LED, yellow
Mag. Field strength, AC fields		200 mT
Mag. Field strength, DC fields		200 mT

#### Functional safety related parameters

MTTF <sub>d</sub>	2060 a
Mission Time ( $T_M$ )	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, PTFE coated
Sensing face	PPS
Protection degree	IP67

#### 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.