



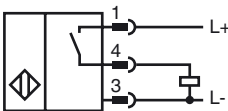
**Model Number**

**NBB5-18GM50-E2-V1**

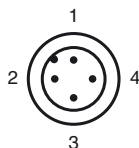
**Features**

- 5 mm embeddable
- Extended temperature range

**Connection**



**Pinout**



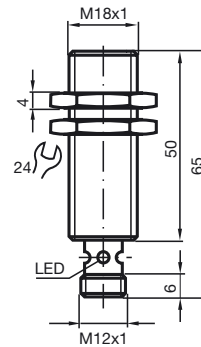
Wire colors in accordance with EN 60947-5-2

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

**Accessories**

- BF 18**  
Mounting flange, 18 mm
- 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
- EXG-18**  
Quick mounting bracket with dead stop

**Dimensions**



**Technical Data**

**General specifications**

Switching element function	PNP	NO
Rated operating distance	$s_n$	5 mm
Installation	embeddable	
Output polarity	DC	
Assured operating distance	$s_a$	0 ... 4.05 mm (-25 ... 70 °C (-13 ... 158 °F)) 0 ... 3.8 mm (-40 ... -25 °C (-40 ... -13 °F))
Reduction factor $r_{Al}$	0.3	
Reduction factor $r_{Cu}$	0.3	
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	$U_d$	≤ 3 V
Operating current	$I_L$	0 ... 200 mA
Off-state current	$I_r$	0 ... 0.5 mA typ. 0.1 µA at 25 °C
No-load supply current	$I_0$	≤ 20 mA
Indication of the switching state	Multihole-LED, yellow	

**Functional safety related parameters**

MTTF <sub>d</sub>	1740 a
Mission Time ( $T_M$ )	20 a
Diagnostic Coverage (DC)	0 %

**Ambient conditions**

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

**Mechanical specifications**

Connection type	Device connector M12 x 1, 4-pin
Housing material	brass, nickel-plated
Sensing face	PBT
Protection degree	IP67

**Compliance with standards and directives**

Standard conformity	
Standards	EN 60947-5-2:2007 IEC 60947-5-2:2007

**Approvals and certificates**

Protection class	II
Rated insulation voltage	$U_i$ 60 V
Design-impulse-voltage withstand	$U_{imp}$ 800 V
UL approval	cULus Listed, General Purpose
CSA approval	cCSAus Listed, General Purpose
CCC approval	Products with a maximum operating voltage of ≤36 V do not bear a CCC marking because they do not require approval.

Release date: 2011-07-14 09:16 Date of issue: 2011-07-14 084195\_eng.xml