



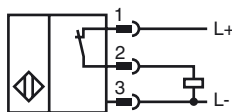
## Model Number

NBB8-18GM50-E3-V1-M-Y247439

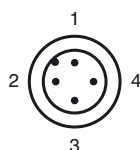
## Features

- Basic series
- 8 mm flush
- Increased operating distance
- Extended temperature range -40 ... +85 °C
- e1-Type approval
- Increased noise immunity 100 V/m

## Connection



## Pinout



Wire colors in accordance with EN 60947-5-2

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

## Accessories

### EXG-18

Quick mounting bracket with dead stop

### BF 18

Mounting flange, 18 mm

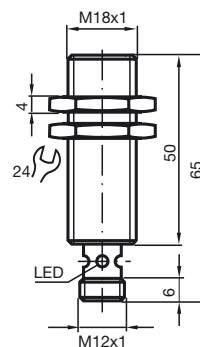
### V1-W

4-pin, M12 female field-attachable connector

### V1-G-2M-PUR

Cable socket, M12, 4-pin, PUR cable

## Dimensions



## Technical Data

### General specifications

Switching element function		PNP	NC
Rated operating distance	$s_n$	8 mm	
Installation		flush	
Output polarity		DC	
Assured operating distance	$s_a$	0 ... 6.48 mm	
Reduction factor $r_{AI}$		0.45	
Reduction factor $r_{Cu}$		0.4	
Reduction factor $r_{304}$		0.7	

### Nominal ratings

Operating voltage	$U_B$	10 ... 30 V
Switching frequency	$f$	0 ... 400 Hz
Hysteresis	$H$	typ. 5 %
Reverse polarity protected		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	$U_d$	$\leq 2.5$ 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	$I_0$	$\leq 10$ mA
Indication of the switching state		Multihole-LED, yellow

### Functional safety related parameters

MTTF <sub>d</sub>	1630 a
Mission Time ( $T_M$ )	20 a
Diagnostic Coverage (DC)	0 %

### Ambient conditions

Ambient temperature	-40 ... 85 °C (-40 ... 185 °F)
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### Mechanical specifications

Connection type	connector M12 x 1, 4-pin
Housing material	brass, nickel-plated
Sensing face	PBT
Protection degree	IP68 / IP69K

### 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.
e1 Type approval	2006/28/EG

**Installation hint**

Emitted interference and interference immunity in accordance with motor vehicle directive 2006/28/EG (e1 Type approval)  
 Interference immunity in accordance with DIN ISO 11452-2: 100 V/m  
 Frequency band 20 MHz up to 2 GHz

Mains-borne interference in accordance with ISO 7637-2: Pulse 1 2a 2b 3 a 3b 4 5  
 Severity level III III III III III III IV  
 Failure criterion C A C A A A C

EN 61000-4-2: CD: 8 kV / AD: 15 kV  
 Severity level IV IV  
 EN 61000-4-3: 30 V/m (80...2500 MHz)  
 Severity level IV  
 EN 61000-4-4: 2 kV  
 Severity level III  
 EN 61000-4-6: 10 V (0.01...80 MHz)  
 Severity level III  
 EN 55011: Class A

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