



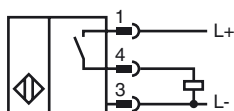
### Model Number

NBB2-12GM30-E2-V1

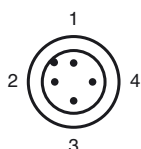
### Features

- Basic series
- 2 mm flush

### Connection



### Pinout



Wire colors in accordance with EN 60947-5-2

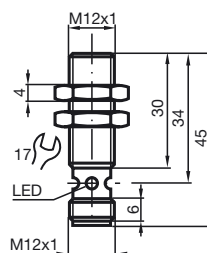
1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

### Accessories

#### EXG-12

Quick mounting bracket with dead stop

### Dimensions



### Technical Data

#### General specifications

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

#### Nominal ratings

Operating voltage	$U_B$	10 ... 30 V
Switching frequency	$f$	0 ... 800 Hz
Hysteresis	$H$	typ. 10 %
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

#### Functional safety related parameters

MTTF <sub>d</sub>	2690 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, 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

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.