



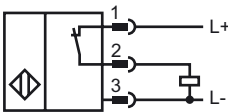
### Model Number

NBB15-30GM50-E3-V1-M

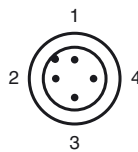
### Features

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

### Connection



### Pinout



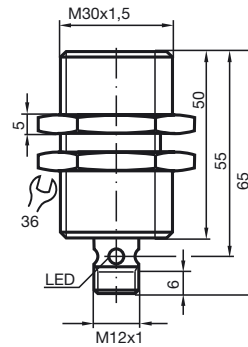
Wire colors in accordance with EN 60947-5-2

1	BN
2	WH
3	BU
4	BK

### Accessories

- BF 30**  
Mounting flange, 30 mm
- V1-G**  
Field attachable female cordset
- V1-W**  
Field attachable female cordset
- V1-G-2M-PUR**  
Cable socket, M12, 4-pin, PUR cable

### Dimensions



### Technical Data

#### General specifications

Switching element function	PNP	NC
Rated operating distance	$s_n$	15 mm
Installation	embeddable	
Output polarity	DC	
Assured operating distance	$s_a$	0 ... 12.15 mm
Reduction factor $r_{A1}$	0.5	
Reduction factor $r_{Cu}$	0.45	
Reduction factor $r_{303}$	0.75	

#### Nominal ratings

Operating voltage	$U_B$	5 ... 60 V
Switching frequency	$f$	0 ... 200 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>	950 a
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

#### Ambient conditions

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

Connection type	Device 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	Certified by China Compulsory Certification (CCC)
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	3a	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

Release date: 2011-04-07 13:14 Date of issue: 2011-04-07 211912\_ENG.xml