



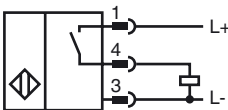
Model Number

NBN12-18GM50-E2-V1-M

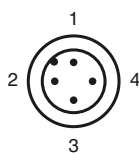
Features

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

Connection



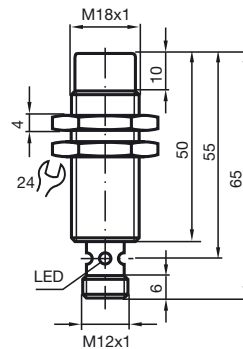
Pinout



Wire colors in accordance with EN 60947-5-2

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

Dimensions



Technical Data

General specifications

Switching element function		PNP	NO
Rated operating distance	s_n	12 mm	
Installation		non-flush	
Output polarity		DC	
Assured operating distance	s_a	0 ... 9.72 mm	
Reduction factor r_{Al}		0.45	
Reduction factor r_{Cu}		0.4	
Reduction factor r_{304}		0.7	

Nominal ratings

Operating voltage	U_B	10 ... 60 V
Switching frequency	f	0 ... 200 Hz
Hysteresis	H	type 5 %
Reverse polarity protected		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 2.5 V
Operating current	I_L	0 ... 200 mA
Off-state current	I_r	0 ... 0.5 mA typ. 0.1 μ A at 25 °C
No-load supply current	I_0	≤ 10 mA
Indication of the switching state		Multihole-LED, yellow

Functional safety related parameters

MTTF _d	1520 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	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

CCC approval	Certified by China Compulsory Certification (CCC)
e1 Type approval	2004/104/EC

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

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