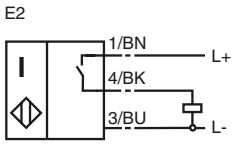
Model Number

NBB4-12GM50-E2-3D

Features

- **Basic series**
- **4 mm embeddable**
- **increased operating distance**

Connection

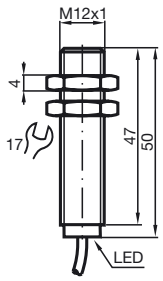


Accessories

BF 12
Mounting flange

EXG-12
Mounting aid

Dimensions



Technical Data

General specifications		
Switching element function		PNP Make function
Rated operating distance	s_n	4 mm
Installation		embeddable
Output polarity		DC
Assured operating distance	s_a	0 ... 3.24 mm
Reduction factor r_{Al}		0.45
Reduction factor r_{Cu}		0.35
Reduction factor r_{V2A}		0.7
Nominal ratings		
Operating voltage	U_B	10 ... 30 V
Switching frequency	f	0 ... 1000 Hz
Hysteresis	H	typ. 5 %
Reverse polarity protection		protected against reverse polarity
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 3 V
Operating current	I_L	0 ... 150 mA
Off-state current	I_r	0 ... 0.5 mA typ. 0.1 µA at 25 °C
No-load supply current	I_0	≤ 15 mA
Indication of the switching state		LED, yellow
Standard conformity		
Standards		IEC / EN 60947-5-2:2004
Ambient conditions		
Ambient temperature		-25 ... 70 °C (248 ... 343 K)
Mechanical specifications		
Connection type		2 m, PVC cable
Cable version		PBT
Core cross-section		0.14 mm^2
Housing material		brass, nickel-plated
Sensing face		PBT
Protection degree		IP67
General information		
Use in the hazardous area		see instruction manuals
Category		3D

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ATEX 3D

Instruction	**Manual electrical apparatus for hazardous areas**
Device category 3D	for use in hazardous areas with non-conducting combustible dust
Directive conformity	94/9/EG
Standard conformity	EN 50281-1-1 Protection via housing Use is restricted to the following stated conditions
CE symbol	CE
Ex-identification	Ex II 3D IP67 T 94 °C X
General	The apparatus has to be operated according to the appropriate data in the data sheet and in this instruction manual. The data stated in the data sheet are restricted by this operating instruction! The special conditions must be adhered to!
Installation, Comissioning	Laws and/or regulations and standards governing the use or intended usage goal must be observed.
Maintenance	No changes can be made to apparatus, which are operated in hazardous areas. Repairs to these apparatus are not possible.
[Fett]Special conditions	
Maximum operating current I_L	The maximum permissible load current must be restricted to the values given in the following list. High load currents and load short-circuits are not permitted.
Maximum operating voltage UBmax	The maximum permissible operating voltage UBmax must be restricted to the values given in the following list. Tolerances are not permitted.
Maximum heating (Temperature rise)	dependant of the load current I_L and the max. operating voltage $U_{Bmax.}$ Information can be taken from the following list. The maximum surface temperature at maximum ambient temperature is given in the Ex identification of the apparatus.
at U_{Bmax}=30 V, I_L=150 mA	24 °C
at U_{Bmax}=30 V, I_L=100 mA	21 °C
Protection from mechanical danger	The sensor must not be mechanically damaged.
Electrostatic charging	Electrostatic charges on the metal housing components must be avoided. Dangerous electrostatic charges on the metal housing components can be avoided by incorporating these components in the equipotential bonding.
Protection of the connection cable	The connection cable must be prevented from being subjected to tension and torsional loading.

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