



Model Number

NBB2-V3-E2-3D

Features

- Basic series
- 2 mm flush

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_{Al}		0.35	
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 ... 1000 Hz
Reverse polarity protection		all connections
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 3 V
Operating current	I_L	0 ... 100 mA
Off-state current	I_r	0 ... 0.5 mA typ. 0.1 μ A at 25 °C
No-load supply current	I_0	≤ 15 mA
Switching state indicator		LED, yellow

Standard conformity

Standards	IEC / EN 60947-5-2:2004
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Ambient conditions

Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
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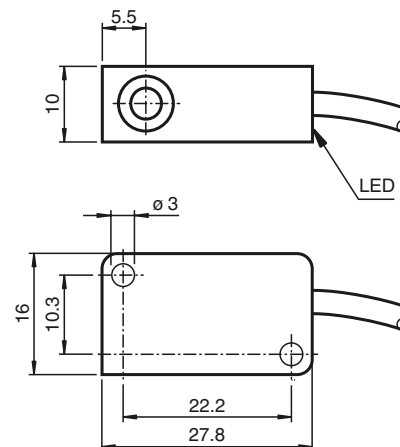
Mechanical specifications

Core cross-section	0.14 mm ²
Housing material	PBT
Sensing face	PBT
Degree of protection	IP67

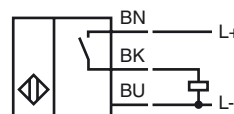
General information

Use in the hazardous area	see instruction manuals
Category	3D

Dimensions



Electrical Connection



ATEX 3D

Instruction

Manual electrical apparatus for hazardous areas**Device category 3D**

for use in hazardous areas with non-conducting combustible dust

CE marking

CE

ATEX marking

II 3D IP67 T 99 °C (210.2 °F) X

Directive conformity

94/9/EG

Standards

EN 50281-1-1

Protection via housing

Use is restricted to the following stated conditions

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, Commissioning

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.

Specific conditionsMaximum 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 U_{Bmax} The maximum permissible operating voltage U_{Bmax} 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, $I_L=100$ mA

29 K

at $U_{Bmax}=30$ V, $I_L=50$ mA

28 K

at $U_{Bmax}=30$ V, $I_L=25$ mA

25 K

Protection from mechanical danger

The sensor must not be mechanically damaged.

Protection of the connection cable

The connection cable must be prevented from being subjected to tension and torsional loading.