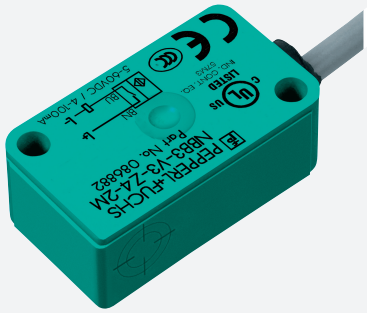
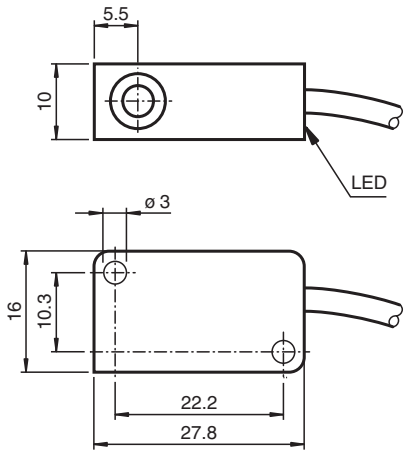


Inductive sensor

NBB3-V3-Z4-3G-3D

- 3 mm flush
- 2-wire DC
- 60 V DC output
- ATEX-approval for zone 2 and zone 22

Dimensions



Technical Data

General specifications		
Switching function		Normally open (NO)
Output type		Two-wire
Rated operating distance	s_n	3 mm
Installation		flush
Output polarity		DC
Assured operating distance	s_a	0 ... 2.4 mm
Actual operating distance	s_r	2.7 ... 3.3 mm typ.
Reduction factor r_{Al}		0.45
Reduction factor r_{Cu}		0.35
Reduction factor r_{304}		0.8
Reduction factor r_{Brass}		0.5
Output type		2-wire
Nominal ratings		
Operating voltage	U_B	5 ... 60 V DC
Switching frequency	f	0 ... 2000 Hz

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Technical Data

Hysteresis	H	typ. 0.2 mm
Reverse polarity protection		reverse polarity protected
Short-circuit protection		no
Inductive overvoltage protection		yes
Voltage drop	U_d	≤ 4 V
Voltage drop at I_L		
Voltage drop I_L = 10 mA, switching element on	U_d	3.4 ... 3.9 V typ. 3.6 V
Operating current	I_L	4 ... 100 mA
Lowest operating current	I_m	4 mA
Off-state current	I_r	0.4 ... 0.55 mA typ. 0.46 mA
Time delay before availability	t_v	≤ 1 ms
Switching state indicator		LED, yellow
Limit data		
Tightening torque, fastening screws		0.4 Nm
Functional safety related parameters		
$MTTF_d$		1552 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %
Standard conformity		
EMC in accordance with		EN 60947-5-2:2007 EN 60947-5-2/A1:2012 IEC 60947-5-2:2007 IEC 60947-5-2 AMD 1:2012
Approvals and certificates		
UL approval		cULus Listed, General Purpose
CSA approval		cCSAus Listed, General Purpose
Ambient conditions		
Ambient temperature		-25 ... 85 °C (-13 ... 185 °F)
Mechanical specifications		
Connection type		cable PVC , 130 mm
Core cross-section		0.14 mm^2
Housing material		PBT
Sensing face		PBT
Degree of protection		IP67
Cable		
Bending radius		> 10 x cable diameter
Equipment protection level Gc (nA)		
Certificate		PF 15CERT3754 X
CE marking		[*PD-Z02586A*]
ATEX marking		Ⓔx II 3G Ex nA IIC T6 Gc The Ex-related marking can also be printed on the enclosed label.
Standards		EN 60079-0:2012+A11:2013, EN 60079-15:2010 Ignition protection category "n" Use is restricted to the following stated conditions
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 U_{Bmax}		The maximum permissible operating voltage UB max is restricted to the values in the following list. Tolerances are not permissible.
Maximum permissible ambient temperature T_{Umax}		dependant of the load current I_L and the max. operating voltage U_{Bmax} Information can be taken from the following list.
at U_{Bmax}=60 V, I_L=100 mA		38 °C (100.4 °F)
at U_{Bmax}=60 V, I_L=50 mA		52 °C (125.6 °F)
at U_{Bmax}=60 V, I_L=25 mA		57 °C (134.6 °F)
at U_{Bmax}=30 V, I_L=100 mA		36 °C (96.8 °F)
at U_{Bmax}=30 V, I_L=50 mA		50 °C (122 °F)

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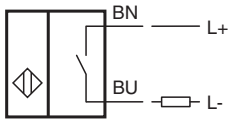
Technical Data

at U_{Bmax}=30 V, I_L=25 mA	57 °C (134.6 °F)
Equipment protection level Dc (tc)	
CE marking	[*PD-Z02586A*]
ATEX marking	⟨Ex⟩ II 3D Ex tc IIIC T80°C Dc The Ex-related marking can also be printed on the enclosed label.
Standards	EN 60079-0:2012+A11:2013, EN 60079-31:2014 Protection by enclosure "tc" Some of the information in this instruction manual is more specific than the information provided in the datasheet.
General	The corresponding datasheets, declarations of conformity, EC-type examination certificates, certifications, and control drawings, where applicable (see datasheets), form an integral part of this document. These documents can be found at www.pepperl-fuchs.com. The maximum surface temperature of the device was determined without a layer of dust on the apparatus. Some of the information in this instruction manual is more specific than the information provided in the datasheet.
Special conditions	
Maximum permissible ambient temperature T_{Umax}	dependant of the load current I_L and the max. operating voltage U_{Bmax} Information can be taken from the following list.
at U_{Bmax}=60 V, I_L=100 mA	38 °C (100.4 °F)
at U_{Bmax}=60 V, I_L=50 mA	52 °C (125.6 °F)
at U_{Bmax}=60 V, I_L=25 mA	57 °C (134.6 °F)
at U_{Bmax}=30 V, I_L=100 mA	36 °C (96.8 °F)
at U_{Bmax}=30 V, I_L=50 mA	50 °C (122 °F)
at U_{Bmax}=30 V, I_L=25 mA	57 °C (134.6 °F)
General information	
Use in the hazardous area	see instruction manuals
Category	3G; 3D

Connection



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