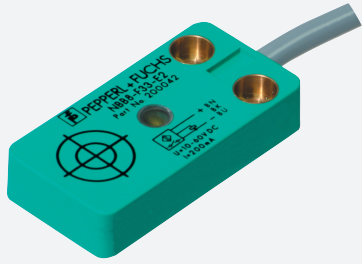


Inductive sensor

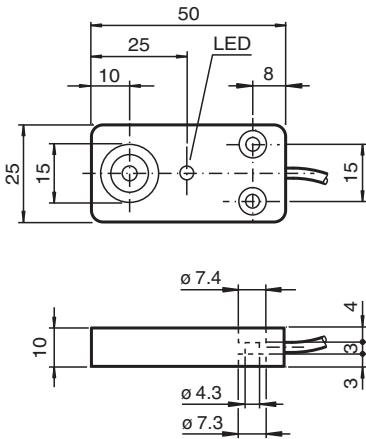
NBN10-F33-E1-M



- Extended temperature range
-40 ... +85 °C
- E1-Type approval
- Increased operating distance
- Increased noise immunity 100 V/m



Dimensions



Technical Data

General specifications

Switching function		Normally closed (NC)
Output type		NPN
Rated operating distance	s_n	10 mm
Installation		non-flush
Output polarity		DC
Assured operating distance	s_a	0 ... 8.1 mm
Reduction factor r_{Al}		0.3
Reduction factor r_{Cu}		0.2
Reduction factor r_{304}		0.6
Output type		3-wire

Nominal ratings

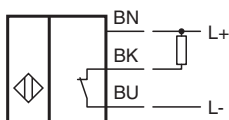
Operating voltage	U_B	5 ... 60 V
Switching frequency	f	0 ... 200 Hz
Hysteresis	H	typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 2 V

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Technical Data

Operating current	I_L	0 ... 200 mA
Off-state current	I_r	0 ... 0.1 mA
No-load supply current	I_0	≤ 10 mA
Time delay before availability	t_v	≤ 80 ms
Switching state indicator		LED yellow
Functional safety related parameters		
MTTF _d		1150 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
Compliance with standards and directives		
Standard conformity		
Standards		EN IEC 60947-5-2
Approvals and certificates		
CCC approval		Certified by China Compulsory Certification (CCC)
E1 Type approval		10R-04
Ambient conditions		
Ambient temperature		-40 ... 85 °C (-40 ... 185 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		cable
Housing material		PBT
Sensing face		PBT
Degree of protection		IP67 / IP69K
Cable		
Wire end ferrules		yes
Cable diameter		4.8 mm ± 0.2 mm
Bending radius		> 10 x cable diameter
Material		PUR
Color		black
Number of cores		3
Core cross section		0.5 mm ²
Length	L	2 m
Dimensions		
Height		10 mm
Width		25 mm
Length		50 mm
Tightening torque		≤ 5 Nm

Connection



Mounting

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