

# Inductive sensor

## NJ2-11-SN



- 2 mm flush
- Usable up to SIL 3 acc. to IEC 61508
- Degree of protection IP68
- ATEX-/IECEx-approvals for zone 0/1/20/21 (Ex i)
- ATEX-/IECEx-approvals for zone 2/22 (Ex ec/tc)



### Dimensions



### Technical Data

#### General specifications

Switching function		Normally closed (NC)
Output type		NAMUR with safety function
Rated operating distance	$s_n$	2 mm
Installation		flush
Assured operating distance	$s_a$	0 ... 1.62 mm
Reduction factor $r_{AI}$		0.4
Reduction factor $r_{Cu}$		0.3
Reduction factor $r_{304}$		0.85
Safety Integrity Level (SIL)		up to SIL3 acc. to IEC 61508 <b>Danger!</b> In safety-related applications the sensor must be operated with a qualified fail safe interface from Pepperl+Fuchs, such as KFD2-SH-EX1. Consider the "exida Functional Safety Assessment" document which is available on <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> as an integral part of this product's documentation.
Output type		2-wire
<b>Nominal ratings</b>		
Nominal voltage	$U_o$	8.2 V ( $R_f$ approx. 1 k $\Omega$ )
Switching frequency	f	0 ... 3000 Hz
Suitable for 2:1 technology		yes , with reverse polarity protection diode

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## Technical Data

Current consumption		
Measuring plate not detected		≥ 3 mA
Measuring plate detected		≤ 1 mA
<b>Functional safety related parameters</b>		
Safety Integrity Level (SIL)		SIL 3
MTTF <sub>d</sub>		10660 a
Mission Time (T <sub>M</sub> )		20 a
Diagnostic Coverage (DC)		0 %
<b>Compliance with standards and directives</b>		
Standard conformity		
NAMUR		EN 60947-5-6:2000 IEC 60947-5-6:1999
Standards		EN IEC 60947-5-2
<b>Approvals and certificates</b>		
IECEx approval		
Equipment protection level Ga		IECEx PTB 11.0092X
Equipment protection level Gb		IECEx PTB 11.0092X
Equipment protection level Gc (ec)		IECEx TUR 21.0017X
Equipment protection level Da		IECEx PTB 11.0092X
Equipment protection level Dc (tc)		IECEx TUR 21.0018X
Equipment protection level Mb		IECEx PTB 11.0092X
ATEX approval		
Equipment protection level Ga		PTB 00 ATEX 2049 X
Equipment protection level Gb		PTB 00 ATEX 2049 X
Equipment protection level Gc (ec)		TÜV 20 ATEX 8523 X
Equipment protection level Da		PTB 00 ATEX 2049 X
Equipment protection level Dc (tc)		TÜV 20 ATEX 8524 X
UL approval		
Ordinary Location		E87056
Hazardous Location		E501628
Control drawing		116-0454
CCC approval		
Hazardous Location		2020322315002308 2024322315005947 2024322315005860
TIIS approval		on request
<b>Ambient conditions</b>		
Ambient temperature		-40 ... 100 °C (-40 ... 212 °F)
<b>Mechanical specifications</b>		
Connection type		cable
Housing material		Valox (PBT) , black
Sensing face		Valox (PBT) , black
Degree of protection		IP68
Cable		
Cable diameter		4.8 mm ± 0.2 mm
Bending radius		> 10 x cable diameter
Material		silicone
Core cross section		0.34 mm <sup>2</sup>
Length	L	2 m
Dimensions		
Length		31 mm
Diameter		11 mm
<b>General information</b>		
Use in the hazardous area		see instruction manuals

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## Connection Assignment



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## Application

**Danger!**

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