



### Model Number

NJ6-22-N-G

### Features

- 6 mm flush
- Usable up to SIL 2 acc. to IEC 61508

## Technical Data

### General specifications

Switching function		Normally closed (NC)
Output type		NAMUR
Rated operating distance	$s_n$	6 mm
Installation		flush
Assured operating distance	$s_a$	0 ... 4.86 mm
Reduction factor $r_{AI}$		0.4
Reduction factor $r_{Cu}$		0.3
Reduction factor $r_{304}$		0.85
Output type		2-wire

### Nominal ratings

Nominal voltage	$U_o$	8.2 V ( $R_i$ approx. 1 k $\Omega$ )
Switching frequency	f	0 ... 2000 Hz
Hysteresis	H	typ. %
Current consumption		
Measuring plate not detected		$\geq 3$ mA
Measuring plate detected		$\leq 1$ mA

### Functional safety related parameters

MTTF <sub>d</sub>	4566 a
Mission Time ( $T_M$ )	20 a
Diagnostic Coverage (DC)	0 %

### Ambient conditions

Ambient temperature	-25 ... 100 °C (-13 ... 212 °F)
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### Mechanical specifications

Connection type	cable PVC , 2 m
Core cross-section	0.75 mm <sup>2</sup>
Housing material	Stainless steel 1.4305 / AISI 303
Sensing face	PBT
Degree of protection	IP68
Cable	
Bending radius	> 10 x cable diameter

### General information

Use in the hazardous area	see instruction manuals
Category	2G; 3G; 3D

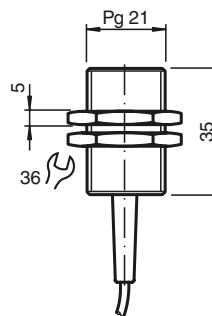
### Compliance with standards and directives

Standard conformity	
NAMUR	EN 60947-5-6:2000 IEC 60947-5-6:1999
Standards	EN 60947-5-2:2007 IEC 60947-5-2:2007

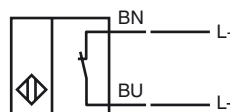
### Approvals and certificates

UL approval	cULus Listed, General Purpose
CSA approval	cCSAus Listed, General Purpose
CCC approval	CCC approval / marking not required for products rated $\leq 36$ V

## Dimensions



## Electrical Connection



**Equipment protection level Gb**

CE marking	CE 0102	
ATEX marking	II 2G Ex ia IIC T6...T1 Gb The Ex-related marking can also be printed on the enclosed label.	
Standards	EN 60079-0:2012+A11:2013, EN 60079-11:2012 Ignition protection "Intrinsic safety" Use is restricted to the following stated conditions	
Appropriate type	NJ 6-22-N...	
Effective internal capacitance	$C_i$	$\leq 130 \text{ nF}$ ; a cable length of 10 m is considered.
Effective internal inductance	$L_i$	$\leq 100 \text{ }\mu\text{H}$ ; a cable length of 10 m is considered.
Maximum permissible ambient temperature $T_{amb}$	Details of the correlation between the type of circuit connected, the maximum permissible ambient temperature, the temperature class, and the effective internal reactance values can be found on the EU-type examination certificate.	

**Special conditions****Equipment protection level Gc (ic)**

Certificate	PF 13 CERT 2895 X	
CE marking	CE	
ATEX marking	II 3G Ex ic IIC T6...T1 Gc The Ex-related marking can also be printed on the enclosed label.	
Standards	EN 60079-0:2012+A11:2013, EN 60079-11:2012 Ignition protection category "ic" Use is restricted to the following stated conditions	
Effective internal capacitance	$C_i$	$\leq 130 \text{ nF}$ ; a cable length of 10 m is considered.
Effective internal inductance	$L_i$	$\leq 100 \text{ }\mu\text{H}$ ; A cable length of 10 m is considered.

**Special conditions**

for $P_i=34 \text{ mW}$ , $I_i=25 \text{ mA}$ , T6	55 °C (131 °F)
for $P_i=34 \text{ mW}$ , $I_i=25 \text{ mA}$ , T5	55 °C (131 °F)
for $P_i=34 \text{ mW}$ , $I_i=25 \text{ mA}$ , T4-T1	55 °C (131 °F)
for $P_i=64 \text{ mW}$ , $I_i=25 \text{ mA}$ , T6	55 °C (131 °F)
for $P_i=64 \text{ mW}$ , $I_i=25 \text{ mA}$ , T5	55 °C (131 °F)
for $P_i=64 \text{ mW}$ , $I_i=25 \text{ mA}$ , T4-T1	55 °C (131 °F)
for $P_i=169 \text{ mW}$ , $I_i=52 \text{ mA}$ , T6	41 °C (105.8 °F)
for $P_i=169 \text{ mW}$ , $I_i=52 \text{ mA}$ , T5	41 °C (105.8 °F)
for $P_i=169 \text{ mW}$ , $I_i=52 \text{ mA}$ , T4-T1	41 °C (105.8 °F)
for $P_i=242 \text{ mW}$ , $I_i=76 \text{ mA}$ , T6	29 °C (84.2 °F)
for $P_i=242 \text{ mW}$ , $I_i=76 \text{ mA}$ , T5	29 °C (84.2 °F)
for $P_i=242 \text{ mW}$ , $I_i=76 \text{ mA}$ , T4-T1	29 °C (84.2 °F)

**Equipment protection level Da**

CE marking	CE 0102	
ATEX marking	II 1D Ex ia IIIC T135°C Da The Ex-related marking can also be printed on the enclosed label.	
Standards	EN 60079-0:2012+A11:2013, EN 60079-11:2012 Ignition protection "Intrinsic safety" Use is restricted to the following stated conditions	
Appropriate type	NJ 6-22-N...	
Effective internal capacitance	$C_i$	$\leq 130 \text{ }\mu\text{F}$ A cable length of 10 m is considered.
Effective internal inductance	$L_i$	$\leq 100 \text{ }\mu\text{H}$ A cable length of 10 m is considered.

**Special conditions****Equipment protection level Dc (tc)**

CE marking	CE	
ATEX marking	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, EU type examination certificates, certificates, and control drawings, where applicable (see datasheets), form an integral part of this document. These documents are available at <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> . 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 $T_{Umax}$	Values can be obtained from the following list, depending on the max. operating voltage $U_{bmax}$ and the minimum series resistance $R_v$ .	
at $U_{Bmax}=9 \text{ V}$ , $R_v=562 \text{ }\Omega$	58 °C (136.4 °F)	
using an amplifier in accordance with EN 60947-5-6	58 °C (136.4 °F)	



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