



## Model Number

NJ6-22-N

## 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	1 ... 7 typ. 4 %
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)
---------------------	--	---------------------------------

### Mechanical specifications

Connection type		cable PVC , 2 m
Core cross-section		0.75 mm <sup>2</sup>
Housing material		PBT
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

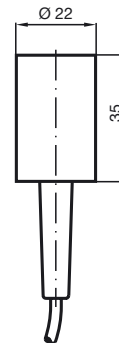
### Compliance with standards and directives

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

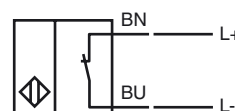
### Approvals and certificates

FM approval		
Control drawing		116-0165
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 inductivity	$C_i$	$\leq 130 \text{ nF}$ ; 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 inductivity	$C_i$	$\leq 130 \text{ nF}$ ; 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	70 °C (158 °F)
for $P_i=34 \text{ mW}$ , $I_i=25 \text{ mA}$ , T5	85 °C (185 °F)
for $P_i=34 \text{ mW}$ , $I_i=25 \text{ mA}$ , T4-T1	100 °C (212 °F)
for $P_i=64 \text{ mW}$ , $I_i=25 \text{ mA}$ , T6	69 °C (156.2 °F)
for $P_i=64 \text{ mW}$ , $I_i=25 \text{ mA}$ , T5	84 °C (183.2 °F)
for $P_i=64 \text{ mW}$ , $I_i=25 \text{ mA}$ , T4-T1	100 °C (212 °F)
for $P_i=169 \text{ mW}$ , $I_i=52 \text{ mA}$ , T6	51 °C (123.8 °F)
for $P_i=169 \text{ mW}$ , $I_i=52 \text{ mA}$ , T5	66 °C (150.8 °F)
for $P_i=169 \text{ mW}$ , $I_i=52 \text{ mA}$ , T4-T1	80 °C (176 °F)
for $P_i=242 \text{ mW}$ , $I_i=76 \text{ mA}$ , T6	39 °C (102.2 °F)
for $P_i=242 \text{ mW}$ , $I_i=76 \text{ mA}$ , T5	54 °C (129.2 °F)
for $P_i=242 \text{ mW}$ , $I_i=76 \text{ mA}$ , T4-T1	61 °C (141.8 °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 inductivity	$C_i$	$\leq 130 \text{ }\mu\text{F}$ 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**