



Model Number

NCN3-F25-N4-V1-Y205258

Features

- Direct mounting on standard actuators
- EC-Type Examination Certificate TÜV99 ATEX 1479X

Technical Data

General specifications

Switching function		2 x normally closed (NC)
Output type		NAMUR
Rated operating distance	s_n	3 mm
Installation		flush mountable
Assured operating distance	s_a	0 ... 2.43 mm
Actual operating distance	s_r	2.7 ... 3.3 mm typ.
Reduction factor r_{Al}		0.5
Reduction factor r_{Cu}		0.4
Reduction factor r_{304}		1
Reduction factor r_{St37}		1.1
Reduction factor r_{Brass}		0.63
Output type		2-wire

Nominal ratings

Nominal voltage	U_o	8.2 V (R_f approx. 1 k Ω)
Switching frequency	f	0 ... 1500 Hz
Hysteresis	H	typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		yes
Suitable for 2:1 technology		yes, Reverse polarity protection diode not required
Design data		
Current consumption		
Measuring plate not detected		≥ 3 mA
Measuring plate detected		≤ 1 mA
Time delay before availability	t_v	≤ 1 ms
Switching state indicator		LED, yellow

Ambient conditions

Ambient temperature	-25 ... 100 °C (-13 ... 212 °F)
Storage temperature	-40 ... 100 °C (-40 ... 212 °F)

Mechanical specifications

Connection type	Connector plug M12 x 1, 4-pin
Housing material	PBT
Sensing face	PBT
Degree of protection	IP67
Tightening torque, fastening screws	M5 x 25 : 2.7 Nm
Note	Mounted on mechanical drive

General information

Use in the hazardous area	see instruction manuals
Category	1G; 2G; 3G; 3D

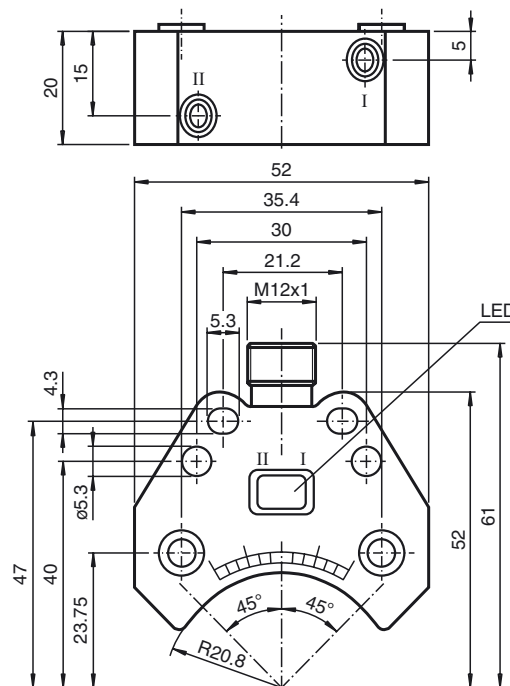
Compliance with standards and directives

Standard conformity	
NAMUR	EN 60947-5-6:2000 IEC 60947-5-6:1999
Electromagnetic compatibility	NE 21:2007
Standards	EN 60947-5-2:2007 IEC 60947-5-2:2007

Approvals and certificates

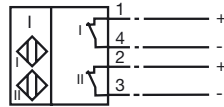
UL approval	cULus Listed, General Purpose
CSA approval	cCSAus Listed, General Purpose
CCC approval	CCC approval / marking not required for products rated ≤ 36 V

Dimensions



Electrical Connection

N4-Y205258



Equipment protection level Ga

CE marking	CE 0102	
ATEX marking	II 1G Ex ia IIC T6 Ga	
Standards	EN 60079-0:2009, EN 60079-11:2007, EN 60079-26:2007 Ignition protection "Intrinsic safety" Use is restricted to the following stated conditions	
Appropriate type	NCN3-F25.-N4...	
Effective internal inductivity	C_i	$\leq 100 \text{ nF}$ A cable length of 10 m is considered. The value is applicable for one sensor circuit.
Effective internal inductance	L_i	$\leq 100 \text{ }\mu\text{H}$ A cable length of 10 m is considered. The value is applicable for one sensor circuit.
Ambient temperature	The temperature ranges, according to temperature class, are given in the EC-Type Examination Certificate. Note: Use the temperature table for category 1 !!! The 20 % reduction in accordance with EN 1127-1:2007 has already been accounted for in the temperature table for category 1.	

Equipment protection level Gb

CE marking	CE 0102	
ATEX marking	II 1G Ex ia IIC T6 Ga	
Standards	EN 60079-0:2009, EN 60079-11:2007 Ignition protection "Intrinsic safety" Use is restricted to the following stated conditions	
Appropriate type	NCN3-F25.-N4...	
Effective internal inductivity	C_i	$\leq 100 \text{ nF}$; a cable length of 10 m is considered. The value is applicable for one sensor circuit.
Effective internal inductance	L_i	$\leq 100 \text{ }\mu\text{H}$; a cable length of 10 m is considered. The value is applicable for one sensor circuit.
Maximum permissible ambient temperature T_{amb}	The temperature ranges, according to temperature class, are given in the EC-Type Examination Certificate.	

Equipment protection level Gc (ic)

Certificate	PF 13 CERT 2895 X	
CE marking	CE	
ATEX marking	II 3G Ex ic IIC T6 Gc	
Standards	EN 60079-0:2009, EN 60079-11:2007 Ignition protection category "ic" Use is restricted to the following stated conditions	
Effective internal inductivity	C_i	$\leq 100 \text{ nF}$; A cable length of 10 m is considered. The value is applicable for one sensor circuit.
Effective internal inductance	L_i	$\leq 100 \text{ }\mu\text{H}$; A cable length of 10 m is considered. The value is applicable for one sensor circuit.

Special conditions

Maximum permissible ambient temperature T_{Umax} at $U_i = 20 \text{ V}$	Each sensor circuit can be operated with the stated maximum values.	
for $P_i=34 \text{ mW}$, $I_i=25 \text{ mA}$, T6	64 °C (147.2 °F)	
for $P_i=34 \text{ mW}$, $I_i=25 \text{ mA}$, T5	64 °C (147.2 °F)	
for $P_i=34 \text{ mW}$, $I_i=25 \text{ mA}$, T4-T1	64 °C (147.2 °F)	
for $P_i=64 \text{ mW}$, $I_i=25 \text{ mA}$, T6	59 °C (138.2 °F)	
for $P_i=64 \text{ mW}$, $I_i=25 \text{ mA}$, T5	59 °C (138.2 °F)	
for $P_i=64 \text{ mW}$, $I_i=25 \text{ mA}$, T4-T1	59 °C (138.2 °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)	

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Equipment protection level Gc (nL)

Standard conformity	EN 60079-15:2005 Ignition protection category "n" Use is restricted to the following stated conditions
Effective internal capacitance C_i	≤ 100 nF ; A cable length of 10 m is considered. The value is applicable for one sensor circuit.
Effective internal inductance L_i	≤ 100 μ H ; A cable length of 10 m is considered. The value is applicable for one sensor circuit.
General	The apparatus has to be operated according to the appropriate data in the data sheet and in this instruction manual. The data stated in the data sheet are restricted by this operating instruction! The special conditions must be observed! The ATEX Directive applies only to the use of apparatus under atmospheric conditions. If you use the device outside atmospheric conditions, consider that the permissible safety parameters should be reduced.

Special conditions

Maximum permissible ambient temperature T_{Umax} at $U_i = 20$ V	Each sensor circuit can be operated with the stated maximum values.
for $P_i=34$ mW, $I_i=25$ mA, T6	64 °C (147.2 °F)
for $P_i=34$ mW, $I_i=25$ mA, T5	64 °C (147.2 °F)
for $P_i=34$ mW, $I_i=25$ mA, T4-T1	64 °C (147.2 °F)
for $P_i=64$ mW, $I_i=25$ mA, T6	59 °C (138.2 °F)
for $P_i=64$ mW, $I_i=25$ mA, T5	59 °C (138.2 °F)
for $P_i=64$ mW, $I_i=25$ mA, T4-T1	59 °C (138.2 °F)
for $P_i=169$ mW, $I_i=52$ mA, T6	41 °C (105.8 °F)
for $P_i=169$ mW, $I_i=52$ mA, T5	41 °C (105.8 °F)
for $P_i=169$ mW, $I_i=52$ mA, T4-T1	41 °C (105.8 °F)

Equipment protection level Dc

CE marking	CE 0102
ATEX marking	Ex II 3D IP67 T 111 °C (231.8 °F) X
Standards	EN 50281-1-1 Protection via housing Use is restricted to the following stated conditions

Special conditions

Maximum heating (Temperature rise)	Values can be obtained from the following list, depending on the max. operating voltage U_{bmax} and the minimum series resistance R_v .
at $U_{Bmax}=9$ V, $R_v=562$ Ω	11 K
using an amplifier in accordance with EN 60947-5-6	11 K

Equipment protection level Dc (tD)

General	The apparatus has to be operated according to the appropriate data in the data sheet and in this instruction manual. The maximum surface temperature has been determined in accordance with method A without a dust layer on the equipment. The data stated in the data sheet are restricted by this operating instruction! The special conditions must be adhered to!
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Special conditions

Minimum series resistance R_v	A minimum series resistance R_v is to be provided between the power supply voltage and the proximity switch in accordance with the following list. This can also be assured by using a switch amplifier.
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 $U_{Bmax}=9$ V, $R_v=562$ Ω	59 °C (138.2 °F)
using an amplifier in accordance with EN 60947-5-6	59 °C (138.2 °F)