



Model Number

NCN3-F31K-N4

Features

- Direct mounting on standard actuators
- Compact and stable housing with terminal compartment connection
- Fixed setting
- EC-Type Examination Certificate TÜV99 ATEX 1479X
- Usable up to SIL 2 acc. to IEC 61508

Accessories

BT65A

Activator for F31 series

BT65X

Activator for F31 series

BT115A

Activator for F31 series

BT115X

Activator for F31 series

BT65B

Activator for F31 series

BT115B

Activator for F31 series

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 ... 2.4 mm
Actual operating distance	s_r	2.7 ... 3.3 mm typ.
Actuating element		Stainless steel 1.4305 / AISI 303
		8.5 mm x 8.5 mm x 0.5 mm
Reduction factor r_{Al}		0.5
Reduction factor r_{Cu}		0.4
Reduction factor r_{304}		1
Reduction factor r_{St37}		1.3
Reduction factor r_{Brass}		0.6
Output type		2-wire

Nominal ratings

Nominal voltage	U_o	8 V
Switching frequency	f	0 ... 3 kHz
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
Current consumption		
Measuring plate not detected		≥ 3 mA
Measuring plate detected		≤ 1 mA
Time delay before availability	t_v	≤ 1.1 ms
Switching state indicator		LED, yellow

Functional safety related parameters

MTTF _d	1470 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Ambient conditions

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

Mechanical specifications

Connection (system side)	Cage tension spring terminals
Core cross-section (system side)	Flexible: 0.2 ... 1.5 mm ² rigid: 0.2 ... 2.5 mm ²
Housing material	PBT
Sensing face	PBT
Degree of protection	IP67
Tightening torque, housing screws	1 Nm
Tightening torque, cable gland	M20 x 1.5 ; ≤ 7 Nm

General information

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

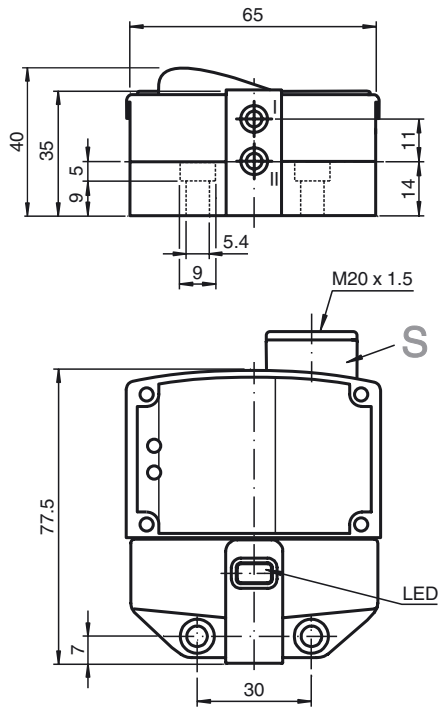
Compliance with standards and directives

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

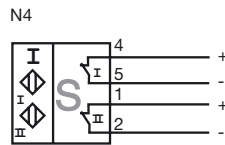
Approvals and certificates

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



Equipment protection level Ga

CE marking	CE 0102	
Effective internal inductivity	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.
Highest permissible ambient temperature	Depending on the temperature class, the temperature ranges can be taken from the EU-type examination certificate. Note: Use the temperature table for category 1 !!! The 20 % reduction in accordance with EN 1127-1 has already been applied to the temperature table for category 1.	

Equipment protection level Gb

CE marking	CE 0102	
Effective internal inductivity	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.
Maximum permissible ambient temperature T_{amb}	Depending on the temperature class, the temperature ranges can be taken from the EU-type examination certificate.	

Equipment protection level Gc (ic)

CE marking	CE	
Effective internal inductivity	C_i	≤ 100 nF A cable length of 10 m is considered. The value applies to a sensor circuit.
Effective internal inductance	L_i	≤ 100 μ H A cable length of 10 m is considered. The value applies to a sensor circuit.

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