



Model Number

NCN8-18GM40-N0-V1

Features

- 8 mm non-flush
- Stainless steel housing
- Usable up to SIL 2 acc. to IEC 61508

Accessories

V1-W

Female connector, M12, 4-pin, field attachable

V1-G

Female connector, M12, 4-pin, field attachable

Technical Data

General specifications

| | | |
|----------------------------|-------|--------------------------|
| Switching function | | Normally closed (NC) |
| Output type | | NAMUR |
| Rated operating distance | s_n | 8 mm |
| Installation | | non-flush |
| Assured operating distance | s_a | 0 ... 6.48 mm |
| Actual operating distance | s_r | 7.2 ... 8.8 mm typ. 8 mm |
| Reduction factor r_{AI} | | 0.42 |
| Reduction factor r_{CU} | | 0.4 |
| Reduction factor r_{304} | | 0.72 |
| Output type | | 2-wire |

Nominal ratings

| | | |
|------------------------------|-------|--------------------------------------|
| Nominal voltage | U_o | 8.2 V (R_i approx. 1 k Ω) |
| Switching frequency | f | 0 ... 300 Hz |
| Hysteresis | H | 1 ... 15 typ. 5 % |
| Reverse polarity protection | | reverse polarity protected |
| Short-circuit protection | | yes |
| Current consumption | | |
| Measuring plate not detected | | ≥ 3 mA |
| Measuring plate detected | | ≤ 1 mA |
| Switching state indicator | | Multihole-LED, yellow |

Functional safety related parameters

| | |
|--------------------------|--------|
| MTTF _d | 1914 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 type | Connector plug M12 x 1, 4-pin |
| Core cross-section | - |
| Housing material | Stainless steel 1.4305 / AISI 303 |
| Sensing face | PBT |
| Degree of protection | IP67 |

General information

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

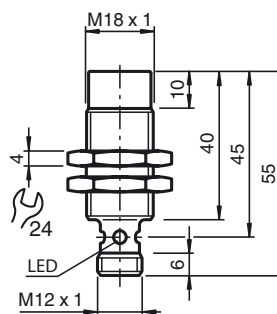
Compliance with standards and directives

| | |
|-------------------------------|---|
| Standard conformity | |
| NAMUR | EN 60947-5-6:2000 IEC 60947-5-6:1999 |
| Electromagnetic compatibility | NE 21:2007 |
| Standards | EN 60947-5-2:2007 EN 60947-5-2/A1:2012 IEC 60947-5-2:2007 IEC 60947-5-2 AMD 1:2012 |

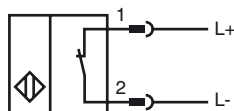
Approvals and certificates

| | |
|-----------------|--|
| EAC conformity | TR CU 012/2011 |
| 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 ≤ 36 V |

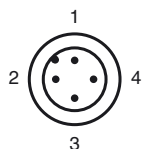
Dimensions



Electrical Connection



Pinout



Wire colors in accordance with EN 60947-5-6

| | | |
|---|----|---------|
| 1 | BN | (brown) |
| 2 | BU | (blue) |

Equipment protection level Ga

| | | |
|--------------------------------|---|--|
| CE marking | CE 0102 | |
| ATEX marking | II 1G Ex ia IIC T6...T1 Ga 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 | NCN8-18GM...-N0... | |
| Effective internal inductivity | C_i | $\leq 95 \text{ nF}$; 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. |
| Ambient temperature | 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 EC-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 | |
| ATEX marking | II 1G Ex ia IIC T6...T1 Ga The Ex-significant identification is on the enclosed adhesive 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 | NCN8-18GM...-N0... | |
| Effective internal inductivity | C_i | $\leq 95 \text{ nF}$; 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 EC-type examination certificate. | |

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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-significant identification is on the enclosed adhesive 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 | ≤ 95 nF ; a cable length of 10 m is considered. |
| Effective internal inductance L_i | ≤ 100 μ H ; A cable length of 10 m is considered. |

Special conditions

| | |
|--------------------------------------|------------------|
| for $P_i=34$ mW, $I_i=25$ mA, T6 | 55 °C (131 °F) |
| for $P_i=34$ mW, $I_i=25$ mA, T5 | 55 °C (131 °F) |
| for $P_i=34$ mW, $I_i=25$ mA, T4-T1 | 55 °C (131 °F) |
| for $P_i=64$ mW, $I_i=25$ mA, T6 | 55 °C (131 °F) |
| for $P_i=64$ mW, $I_i=25$ mA, T5 | 55 °C (131 °F) |
| for $P_i=64$ mW, $I_i=25$ mA, T4-T1 | 55 °C (131 °F) |
| for $P_i=169$ mW, $I_i=52$ mA, T6 | 52 °C (125.6 °F) |
| for $P_i=169$ mW, $I_i=52$ mA, T5 | 52 °C (125.6 °F) |
| for $P_i=169$ mW, $I_i=52$ mA, T4-T1 | 52 °C (125.6 °F) |
| for $P_i=242$ mW, $I_i=76$ mA, T6 | 44 °C (111.2 °F) |
| for $P_i=242$ mW, $I_i=76$ mA, T5 | 44 °C (111.2 °F) |
| for $P_i=242$ mW, $I_i=76$ mA, T4-T1 | 44 °C (111.2 °F) |

Equipment protection level Da

| | |
|---|--|
| CE marking | CE ₀₁₀₂ |
| ATEX marking | ⊕ II 1D Ex ia IIC 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 | NCN8-18GM...-N0... |
| Effective internal inductivity C_i | ≤ 95 nF ; a cable length of 10 m is considered. |
| Effective internal inductance L_i | ≤ 100 μ 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 surface temperature, and the effective internal reactance values can be found on the EC-type-examination certificate. The maximum permissible ambient temperature of the data sheet must be noted, in addition, the lower of the two values must be maintained. |