



Model Number

NJ15+U1+N

Features

- Comfort series
- 15 mm flush

Accessories

MH 04-2681F

Mounting aid for VariKont, +U1+ and +U9*

MH 04-2057B

Mounting aid for VariKont and +U1+

MHW 01

Modular mounting bracket

Technical Data

General specifications

| | |
|----------------------------|----------------------|
| Switching function | Normally closed (NC) |
| Output type | NAMUR |
| Rated operating distance | s_n 15 mm |
| Installation | flush |
| Assured operating distance | s_a 0 ... 12.15 mm |
| Reduction factor r_{Al} | 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 V |
| Switching frequency | f 0 ... 120 Hz |
| Current consumption | |
| Measuring plate not detected | ≥ 3 mA |
| Measuring plate detected | ≤ 1 mA |

Functional safety related parameters

| | |
|--------------------------------|---------|
| MTTF _d | 10750 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 | terminal compartment |
| Core cross-section | up to 2.5 mm ² |
| Housing material | PBT |
| Sensing face | PBT |
| Degree of protection | IP68 |

General information

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

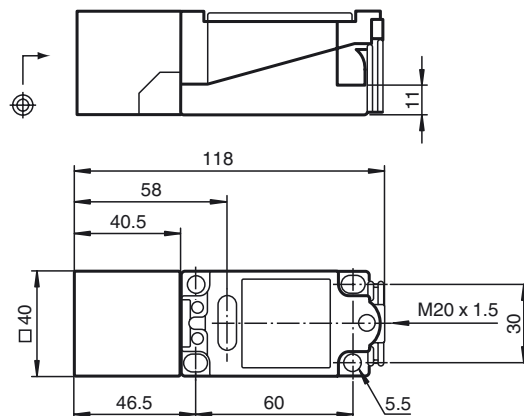
Compliance with standards and directives

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

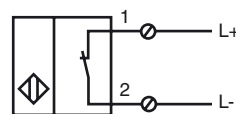
Approvals and certificates

| | |
|-----------------|--|
| 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 ≤ 36 V |

Dimensions



Electrical Connection



Equipment protection level Ga

Effective internal inductivity C_i
 Effective internal inductance L_i
 Ambient temperature

$\leq 140 \text{ nF}$; a cable length of 10 m is considered.

$\leq 130 \text{ }\mu\text{H}$; a cable length of 10 m is considered.

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.

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Equipment protection level Gb

Effective internal inductivity C_i
Effective internal inductance L_i
Maximum permissible ambient temperature T_{amb}

$\leq 140 \text{ nF}$; a cable length of 10 m is considered.

$\leq 130 \text{ }\mu\text{H}$; a cable length of 10 m is considered.

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.

Equipment protection level Da

Instruction

Device category 1D

EC-Type Examination Certificate

CE marking

ATEX marking

Standards

Appropriate type

Effective internal inductivity C_i Effective internal inductance L_i

General

Permissible ambient temperature range

Installation, commissioning

Maintenance

Special conditions

Protection from mechanical danger

Electrostatic charge

Manual electrical apparatus for hazardous areas

for use in hazardous areas with combustible dust

PTB 00 ATEX 2032 X

CE 0102

Ex II 1D Ex ia IIC T135°C Da

The Ex-related marking can also be printed on the enclosed label.

EN 60079-0:2012+A11:2013 EN 60079-11:2012

Ignition protection "Intrinsic safety" Use is restricted to the following stated conditions

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 ≤ 140 nF ; a cable length of 10 m is considered. ≤ 130 μ H ; a cable length of 10 m is considered.

The apparatus has to be operated according to the appropriate data in the data sheet and in this instruction manual. The EU-type examination certificate has to be observed. The special conditions must be adhered to! The ATEX directive and therefore the EU-type examination certificates are in general only applicable to the use of electrical apparatus operating at atmospheric conditions.

The use in ambient temperatures of > 60 °C was tested with regard to hot surfaces by the mentioned certification authority.

If the equipment is not used under atmospheric conditions, a reduction of the permissible minimum ignition energies may have to be taken into consideration.

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.**

Laws and/or regulations and standards governing the use or intended usage goal must be observed. The intrinsic safety is only assured in connection with an appropriate related apparatus and according to the proof of intrinsic safety. If the Ex-related marking is printed only on the supplied label, then this must be attached in the immediate vicinity of the sensor. The sticking surface for the label must be clean and free from grease. The attached label must be legible and indelible, including in the event of possible chemical corrosion. After opening the housing, you should check that the seal is in the correct position and is clean and intact before closing the housing again.

No changes can be made to apparatus, which are operated in hazardous areas.

Repairs to these apparatus are not possible. After opening the housing, you should check that the seal is in the correct position and is clean and intact before closing the housing again.

The connecting parts of the sensor must be set up in such a way that degree of protection IP20, in accordance with IEC 60529, is achieved as a minimum.

When using the device in a temperature range of -60 °C to -20 °C, protect the sensor against the effects of impact by installing an additional enclosure. The information regarding the minimum ambient temperature for the sensor as provided in the datasheet must also be observed.

Avoid electrostatic charges that can cause electrostatic discharge when installing or operating the device. Information on electrostatic hazards can be found in the technical specification IEC/TS 60079-32-1. Do not attach the nameplate provided in areas where electrostatic charge can build up.