



## Model Number

NCN20+U4+N0

## Features

- Comfort series

## Accessories

### MHW 01

Modular mounting bracket

### MH 04-2057B

Mounting aid for VariKont and +U1+

## Technical Data

### General specifications

Switching function		Normally closed (NC)
Output type		NAMUR
Rated operating distance	$s_n$	20 mm
Installation		non-flush
Assured operating distance	$s_a$	0 ... 16.2 mm
Actual operating distance	$s_r$	18 ... 22 mm
Reduction factor $r_{AI}$		0.37
Reduction factor $r_{CU}$		0.35
Reduction factor $r_{304}$		0.79
Output type		2-wire

### Nominal ratings

Installation conditions		
A		5 mm
B		
C		
Nominal voltage	$U_o$	8.2 V ( $R_i$ approx. 1 k $\Omega$ )
Switching frequency	f	0 ... 250 Hz
Hysteresis	H	1 ... 15 typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		yes
Current consumption		
Measuring plate not detected		$\geq 3$ mA
Measuring plate detected		$\leq 1$ mA
Switching state indicator		LED, yellow

### Functional safety related parameters

MTTF <sub>d</sub>		3387 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		screw terminals
Information for connection		A maximum of two conductors with the same core cross section may be mounted on one terminal connection! tightening torque 1.2 Nm + 10 %
Core cross-section		up to 2.5 mm <sup>2</sup>
Minimum core cross-section		without wire end ferrule 0.5 mm <sup>2</sup> , with connector sleeves 0.34 mm <sup>2</sup>
Maximum core cross-section		without wire end ferrule 2.5 mm <sup>2</sup> , with connector sleeves 1.5 mm <sup>2</sup>
Housing material		PBT
Sensing face		PBT
Degree of protection		IP68
Note		Tightening torque: 1.8 Nm (housing)

### General information

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

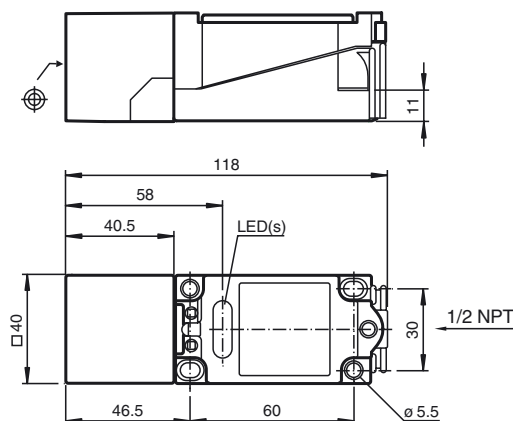
### Compliance with standards and directives

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

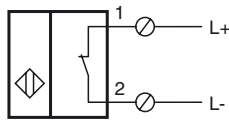
### Approvals and certificates

UL approval		
Ordinary Location		E87056
Hazardous Location		E501628
Control drawing		116-0451
CSA approval		
CCC approval		cCSAus Listed, General Purpose CCC approval / marking not required for products rated $\leq 36$ V

## Dimensions



## Electrical Connection



## 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	NCN20+U...+N0...	
Effective internal capacitance	$C_i$	$\leq 110 \text{ nF}$ ; a cable length of 10 m is considered.
Effective internal inductance	$L_i$	$\leq 160 \text{ }\mu\text{H}$ ; 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. <b>Note:</b> 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-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	NCN20+U...+N0...	
Effective internal capacitance	$C_i$	$\leq 110 \text{ nF}$ ; a cable length of 10 m is considered.
Effective internal inductance	$L_i$	$\leq 160 \text{ }\mu\text{H}$ ; 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.	

## 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	NCN20+U...+N0...	
Effective internal capacitance	$C_i$	$\leq 110 \text{ nF}$ ; a cable length of 10 m is considered.
Effective internal inductance	$L_i$	$\leq 160 \text{ }\mu\text{H}$ ; a cable length of 10 m is considered.