



## Model Number

**NCN15-30GM40-N0**

## Features

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

## Technical Data

### General specifications

Switching function		Normally closed (NC)
Output type		NAMUR
Rated operating distance	$s_n$	15 mm
Installation		non-flush
Assured operating distance	$s_a$	0 ... 12.15 mm
Actual operating distance	$s_r$	13.5 ... 16.5 mm typ.
Reduction factor $r_{AI}$		0.4
Reduction factor $r_{CU}$		0.35
Reduction factor $r_{304}$		0.7
Output type		2-wire

### Nominal ratings

Nominal voltage	$U_o$	8 V DC
Switching frequency	$f$	0 ... 150 Hz
Hysteresis	$H$	5 ... 15 typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		yes
Current consumption		
Measuring plate not detected		$\geq 2.2$ mA
Measuring plate detected		$\leq 1$ mA
Switching state indicator		all direction LED, yellow

### Ambient conditions

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

### Mechanical specifications

Connection type		cable PVC , 2 m
Core cross-section		0.75 mm <sup>2</sup>
Housing material		Stainless steel 1.4305 / AISI 303
Sensing face		PBT
Degree of protection		IP66 / IP67
Cable		
Bending radius		> 10 x cable diameter

### General information

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

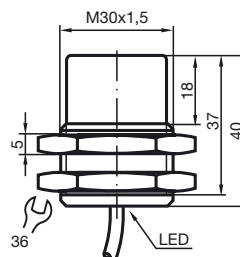
### Compliance with standards and directives

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

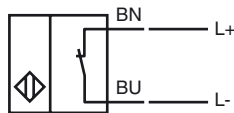
### Approvals and certificates

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 $\leq 36$ V

## Dimensions



## Electrical Connection



## Equipment protection level Ga

CE marking	CE 0102	
ATEX marking	Ex 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	NCN15-30GM...-N0...	
Effective internal inductivity	$C_i$	$\leq 110$ nF ; a cable length of 10 m is considered.
Effective internal inductance	$L_i$	$\leq 100$ $\mu$ 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	Ex 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	NCN15-30GM...-N0...	
Effective internal inductivity	$C_i$	$\leq 110$ nF ; a cable length of 10 m is considered.
Effective internal inductance	$L_i$	$\leq 100$ $\mu$ 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 Gc (ic)

Certificate	PF 13 CERT 2895 X	
CE marking	CE	
ATEX marking	Ex 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	$C_i$	$\leq 110$ nF ; a cable length of 10 m is considered.
Effective internal inductance	$L_i$	$\leq 100$ $\mu$ 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)

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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 $C_i$	$\leq 110 \text{ nF}$ ; 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.

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.
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**Special conditions**

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

**Equipment protection level Da**

CE marking	CE 0102
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ATEX marking	⊕ II 1D Ex ia IIIC T135°C Da The Ex-related marking can also be printed on the enclosed label.
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Standards	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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Appropriate type	NCN15-30GM...-N0...
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Effective internal inductivity $C_i$	$\leq 110 \text{ nF}$ ; a cable length of 10 m is considered.
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Effective internal inductance $L_i$	$\leq 100 \text{ }\mu\text{H}$ ; a cable length of 10 m is considered.
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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. <b>The maximum permissible ambient temperature of the data sheet must be noted, in addition, the lower of the two values must be maintained.</b>
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**Equipment protection level Dc (tc)**

CE marking	CE 0102
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ATEX marking	⊕ II 3D Ex tc IIIC T80°C Dc The Ex-related marking can also be printed on the enclosed label.
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Standards	EN 60079-0:2012+A11:2013, EN 60079-31:2014 Protection by enclosure "tc" Some of the information in this instruction manual is more specific than the information provided in the datasheet.
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General	The corresponding datasheets, declarations of conformity, EC-type examination certificates, certifications, and control drawings, where applicable (see datasheets), form an integral part of this document. These documents can be found at <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> . The maximum surface temperature of the device was determined without a layer of dust on the apparatus. Some of the information in this instruction manual is more specific than the information provided in the datasheet.
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**Special conditions**

Maximum permissible ambient temperature $T_{Umax}$	Values can be obtained from the following list, depending on the max. operating voltage $U_{b \text{ max}}$ and the minimum series resistance $R_v$ .
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at $U_{Bmax}=9 \text{ V}$ , $R_v=562 \text{ }\Omega$	66 °C (150.8 °F)
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using an amplifier in accordance with EN 60947-5-6	66 °C (150.8 °F)
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