

Model Number

SC3,5-G-N0-6M

Features

- Comfort series
- 3.5 mm slot width

Technical Data

General specifications

Switching function	Normally closed (NC)
Output type	NAMUR
Slot width	3.5 mm
Depth of immersion (lateral)	5 ... 7 typ. 6 mm
Installation	

Nominal ratings

Nominal voltage	U_o	8 V
Operating voltage	U_B	5 ... 25 V
Switching frequency	f	0 ... 3000 Hz
Hysteresis	H	0 ... 0.6 mm
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
Switching state indicator		LED, yellow

Ambient conditions

Ambient temperature	-25 ... 100 °C (-13 ... 212 °F)
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Mechanical specifications

Connection type	cable PVC, 6 m
Core cross-section	0.14 mm ²
Housing material	PBT
Degree of protection	IP67
Cable	
Bending radius	> 10 x cable diameter

General information

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

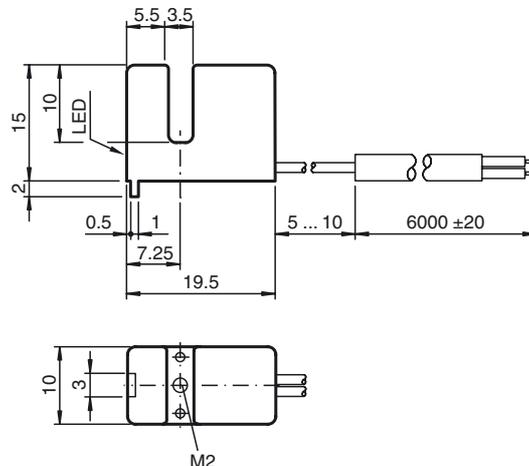
Compliance with standards and directives

Standard conformity	
NAMUR	EN 60947-5-6:2000 IEC 60947-5-6:1999
Electromagnetic compatibility	NE 21:2007
Standards	EN 60947-5-2:2007 IEC 60947-5-2:2007

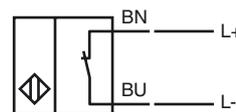
Approvals and certificates

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

Instruction

Device category 1G

EC-Type Examination Certificate

CE marking

ATEX marking

Standards

Appropriate type

Effective internal inductivity C_i Effective internal inductance L_i

General

Ambient temperature

Installation, commissioning

Maintenance

Special conditions

Protection from mechanical danger

Manual electrical apparatus for hazardous areas

for use in hazardous areas with gas, vapour and mist

PTB 99 ATEX 2219 X

CE 0102

II 1G Ex ia IIC T6...T1 Ga

EN 60079-0:2012, EN 60079-11:2012, EN 60079-26:2007

Ignition protection "Intrinsic safety"

Use is restricted to the following stated conditions

SC3,5...-N0...

 $\leq 150 \text{ nF}$; a cable length of 10 m is considered. $\leq 150 \text{ }\mu\text{H}$; 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 temperature ranges, according to temperature class, are given in the EC-Type Examination Certificate. Note: Use the temperature table for category 1 !!! The 20 % reduction in accordance with EN 1127-1:2007 has already been accounted for in the temperature table for category 1.

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.

The associated apparatus must satisfy the requirements of category ia.

Due to the possible danger of ignition, which can arise due to faults and/or transient currents in the equipotential bonding system, galvanic isolation of the power supply and signal circuit is preferable. Associated apparatus without electrical isolation must only be used if the appropriate requirements of IEC 60079-14 are met.

Install the device in such a way that the resin surface is not exposed to mechanical hazards.

No changes can be made to apparatus, which are operated in hazardous areas. Repairs to these apparatus are not possible.

When used in the temperature range below $-20 \text{ }^\circ\text{C}$ the sensor should be protected from knocks by the provision of an additional housing.

Equipment protection level Gb

Instruction

Device category 2G

EC-Type Examination Certificate

CE marking

ATEX marking

Standards

Appropriate type

Effective internal inductivity C_i Effective internal inductance L_i

General

Maximum permissible ambient temperature T_{amb}

Installation, commissioning

Maintenance

Special conditions

Protection from mechanical danger

Manual electrical apparatus for hazardous areas

for use in hazardous areas with gas, vapour and mist

PTB 99 ATEX 2219 X

CE 0102

II 1G Ex ia IIC T6...T1 Ga

EN 60079-0:2012, EN 60079-11:2012

Ignition protection "Intrinsic safety"

Use is restricted to the following stated conditions

SC3,5...-N0...

 ≤ 150 nF ; a cable length of 10 m is considered. ≤ 150 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 temperature ranges, according to temperature class, are given in the EC-Type Examination Certificate.

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. Install the device in such a way that the resin surface is not exposed to mechanical hazards.

No changes can be made to apparatus, which are operated in hazardous areas. Repairs to these apparatus are not possible.

When used in the temperature range below -20 °C the sensor should be protected from knocks by the provision of an additional housing.

Equipment protection level Gc (nL)

Note

This instruction is only valid for products according to EN 60079-15:2003, valid until 31-May-2008

Instruction**Manual electrical apparatus for hazardous areas****Device category 3G (nL)**

for use in hazardous areas with gas, vapour and mist

CE marking

CE 0102

ATEX marking

⊕ II 3G EEx nL IIC T6 X

Standard conformity

EN 60079-15:2003 Ignition protection category "n"
Use is restricted to the following stated conditions

Effective internal capacitance C_i

≤ 150 nF ; a cable length of 10 m is considered.

Effective internal inductance L_i

≤ 150 μ 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!

Installation, commissioning

Laws and/or regulations and standards governing the use or intended usage goal must be observed. The sensor must only be operated with an energy-limited circuit, which satisfies the requirements of IEC 60079-15. The explosion group complies with the connected, supplying, power limiting circuit.

Maintenance

No changes can be made to apparatus, which are operated in hazardous areas. Repairs to these apparatus are not possible.

Special conditions

Maximum permissible ambient temperature T_{Umax} at $U_i = 20$ V

for $P_i=34$ mW, $I_i=25$ mA, T6

66 °C (150.8 °F)

for $P_i=34$ mW, $I_i=25$ mA, T5

81 °C (177.8 °F)

for $P_i=34$ mW, $I_i=25$ mA, T4-T1

100 °C (212 °F)

for $P_i=64$ mW, $I_i=25$ mA, T6

66 °C (150.8 °F)

for $P_i=64$ mW, $I_i=25$ mA, T5

81 °C (177.8 °F)

for $P_i=64$ mW, $I_i=25$ mA, T4-T1

100 °C (212 °F)

for $P_i=169$ mW, $I_i=52$ mA, T6

45 °C (113 °F)

for $P_i=169$ mW, $I_i=52$ mA, T5

60 °C (140 °F)

for $P_i=169$ mW, $I_i=52$ mA, T4-T1

89 °C (192.2 °F)

for $P_i=242$ mW, $I_i=76$ mA, T6

30 °C (86 °F)

for $P_i=242$ mW, $I_i=76$ mA, T5

45 °C (113 °F)

for $P_i=242$ mW, $I_i=76$ mA, T4-T1

74 °C (165.2 °F)

Protection from mechanical danger

The sensor must not be mechanically damaged.
When used in the temperature range below -20 °C the sensor should be protected from knocks by the provision of an additional housing.

Connection parts

The connection parts are to be installed, such that a minimum protection class of IP20 is achieved, in accordance with IEC 60529.

Equipment protection level Gc (ic)

Instruction

Device category 3G (ic)

Certificate of Compliance

CE marking

ATEX marking

Standards

Effective internal inductivity C_i Effective internal inductance L_i

General

Installation, commissioning

Maintenance

Special conditionsMaximum permissible ambient temperature T_{Umax} at $U_i = 20$ Vfor $P_i=34$ mW, $I_i=25$ mA, T6for $P_i=34$ mW, $I_i=25$ mA, T5for $P_i=34$ mW, $I_i=25$ mA, T4-T1for $P_i=64$ mW, $I_i=25$ mA, T6for $P_i=64$ mW, $I_i=25$ mA, T5for $P_i=64$ mW, $I_i=25$ mA, T4-T1for $P_i=169$ mW, $I_i=52$ mA, T6for $P_i=169$ mW, $I_i=52$ mA, T5for $P_i=169$ mW, $I_i=52$ mA, T4-T1for $P_i=242$ mW, $I_i=76$ mA, T6for $P_i=242$ mW, $I_i=76$ mA, T5for $P_i=242$ mW, $I_i=76$ mA, T4-T1

Protection from mechanical danger

Connection parts

Manual electrical apparatus for hazardous areas

for use in hazardous areas with gas, vapour and mist

PF 13 CERT 2895 X

CE0102

II 3G Ex ic IIC T6...T1 Gc

EN 60079-0:2012, EN 60079-11:2012 Ignition protection category "ic"
Use is restricted to the following stated conditions ≤ 150 nF ; a cable length of 10 m is considered. ≤ 150 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 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.

Laws and/or regulations and standards governing the use or intended usage goal must be observed. The sensor must only be operated with energy-limited circuits, which satisfy the requirements of IEC 60079-11. The explosion group complies with the connected, supplying, power limiting circuit. Install the device in such a way that the resin surface is not exposed to mechanical hazards.

No changes can be made to apparatus, which are operated in hazardous areas. Repairs to these apparatus are not possible.

66 °C (150.8 °F)

81 °C (177.8 °F)

100 °C (212 °F)

66 °C (150.8 °F)

81 °C (177.8 °F)

100 °C (212 °F)

45 °C (113 °F)

60 °C (140 °F)

89 °C (192.2 °F)

30 °C (86 °F)

45 °C (113 °F)

74 °C (165.2 °F)

The sensor must not be mechanically damaged.

When used in the temperature range below -20 °C the sensor should be protected from knocks by the provision of an additional housing.

The connection parts are to be installed, such that a minimum protection class of IP20 is achieved, in accordance with IEC 60529.

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

Maximum housing surface temperature

Installation, commissioning

Maintenance

Special conditions

Electrostatic charge

Manual electrical apparatus for hazardous areas

for use in hazardous areas with combustible dust

ZELM 03 ATEX 0128 X

CE 0102

⊕ II 1D Ex iaD 20 T 108 °C (226.4 °F)

IEC 61241-11:2002: draft; prEN61241-0:2002

type of protection intrinsic safety "iD"

Use is restricted to the following stated conditions

SC3,5...-N0...

≤ 150 nF ; a cable length of 10 m is considered.

≤ 150 μH ; 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 maximum surface temperature of the housing is given in the EC-Type Examination Certificate.

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.

The associated apparatus must satisfy at least the requirements of category ia IIB or iaD. Because of the possibility of the danger of ignition, which can arise due to faults and/or transient currents in the equipotential bonding system, galvanic isolation in the power supply and signal circuits is preferable. Associated apparatus without electrical isolation must only be used if the appropriate requirements of IEC 60079-14 are met.

The intrinsically safe circuit has to be protected against influences due to lightning. When used in the isolating wall between Zone 20 and Zone 21 or Zone 21 und Zone 22 the sensor must not be exposed to any mechanical danger and must be sealed in such a way, that the protective function of the isolating wall is not impaired. The applicable directives and standards must be observed.

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

Repairs to these apparatus are not possible.

The connection cables are to be laid in accordance with EN 50281-1-2 and must not normally be subjected to chaffing during use.