

## Model Number

SC3,5-N0-WH

## Features

- Comfort series

## 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
Output type	2-wire

### Nominal ratings

Nominal voltage	$U_0$	8.2 V ( $R_f$ approx. 1 k $\Omega$ )
Operating voltage	$U_B$	5 ... 25 V
Switching frequency	f	0 ... 3000 Hz
Hysteresis	H	0.06 ... 0.1 mm
Suitable for 2:1 technology		yes, Reverse polarity protection diode not required

### Design data

Current consumption	
Measuring plate not detected	$\geq 3$ mA at nominal voltage
Measuring plate detected	$\leq 1$ mA at nominal voltage
Switching state indicator	LED, yellow

### Functional safety related parameters

Safety Integrity Level (SIL)	SIL 2
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### Ambient conditions

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

Connection type	flexible leads LiY, 500 mm
Core cross-section	0.14 mm <sup>2</sup>
Housing material	PBT
Degree of protection	IP67

### General information

Use in the hazardous area	see instruction manuals
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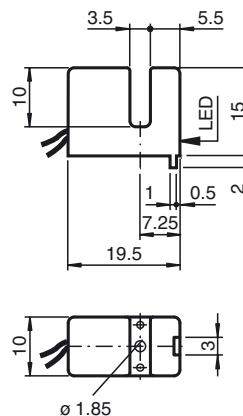
### Compliance with standards and directives

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

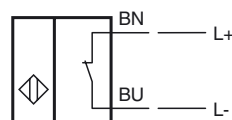
### Approvals and certificates

EAC conformity	TR CU 012/2011
UL approval	cULus Listed, General Purpose
Ordinary Location	E87056
Hazardous Location	E501628
Control drawing	116-0453
CSA approval	cCSAus Listed, General Purpose
CCC approval	CCC approval / marking not required for products rated $\leq 36$ V

## Dimensions



## Electrical Connection



**Data for application in connection with hazardous areas**

Equipment protection level	Ga , Gb , Da , Mb	
<b>Equipment protection level Ga</b>		
Type of protection	intrinsic safety	
CE marking	CE 0102	
<b>Certificates</b>		
Appropriate type	SC3,5...-N0...	
ATEX certificate	PTB 99 ATEX 2219 X	
ATEX marking	Ex II 1G Ex ia IIC T6...T1 Ga	
Standards	EN 60079-0:2012+A11:2013 , EN 60079-11:2012	
IECEx certificate	IECEx PTB 11.0091X	
IECEx marking	Ex ia IIC T6...T1 Ga	
Standards	IEC 60079-0:2011 , IEC 60079-11:2011	
Effective internal capacitance	$C_i$	$\leq 150 \text{ nF}$ A cable length of 10 m is considered.
Effective internal inductance	$L_i$	$\leq 150 \text{ }\mu\text{H}$ A cable length of 10 m is considered.
Maximum permissible ambient temperature $T_{amb}$	Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values.	
for ATEX	at $U_i = 16 \text{ V}$ , $I_i = 25 \text{ mA}$ , $P_i = 34 \text{ mW}$ , T6 : 56 °C (132.8 °F) T5 : 68 °C (154.4 °F) T4 : 96 °C (204.8 °F) T3 : 96 °C (204.8 °F) T2 : 96 °C (204.8 °F) T1 : 96 °C (204.8 °F) at $U_i = 16 \text{ V}$ , $I_i = 25 \text{ mA}$ , $P_i = 64 \text{ mW}$ , T6 : 49 °C (120.2 °F) T5 : 61 °C (141.8 °F) T4 : 89 °C (192.2 °F) T3 : 89 °C (192.2 °F) T2 : 89 °C (192.2 °F) T1 : 89 °C (192.2 °F) at $U_i = 16 \text{ V}$ , $I_i = 52 \text{ mA}$ , $P_i = 169 \text{ mW}$ , T6 : 28 °C (82.4 °F) T5 : 40 °C (104 °F) T4 : 68 °C (154.4 °F) T3 : 68 °C (154.4 °F) T2 : 68 °C (154.4 °F) T1 : 68 °C (154.4 °F) at $U_i = 16 \text{ V}$ , $I_i = 76 \text{ mA}$ , $P_i = 242 \text{ mW}$ , T6 : 13 °C (55.4 °F) T5 : 25 °C (77 °F) T4 : 53 °C (127.4 °F) T3 : 53 °C (127.4 °F) T2 : 53 °C (127.4 °F) T1 : 53 °C (127.4 °F)	
for IECEx	at $U_i = 16 \text{ V}$ , $I_i = 25 \text{ mA}$ , $P_i = 34 \text{ mW}$ , T6 : 73 °C (163.4 °F) T5 : 88 °C (190.4 °F) T4 : 100 °C (212 °F) T3 : 100 °C (212 °F) T2 : 100 °C (212 °F) T1 : 100 °C (212 °F) at $U_i = 16 \text{ V}$ , $I_i = 25 \text{ mA}$ , $P_i = 64 \text{ mW}$ , T6 : 66 °C (150.8 °F) T5 : 81 °C (177.8 °F) T4 : 100 °C (212 °F) T3 : 100 °C (212 °F) T2 : 100 °C (212 °F) T1 : 100 °C (212 °F) at $U_i = 16 \text{ V}$ , $I_i = 52 \text{ mA}$ , $P_i = 169 \text{ mW}$ , T6 : 45 °C (113 °F) T5 : 60 °C (140 °F) T4 : 89 °C (192.2 °F) T3 : 89 °C (192.2 °F) T2 : 89 °C (192.2 °F) T1 : 89 °C (192.2 °F) at $U_i = 16 \text{ V}$ , $I_i = 76 \text{ mA}$ , $P_i = 242 \text{ mW}$ , T6 : 30 °C (86 °F) T5 : 45 °C (113 °F) T4 : 74 °C (165.2 °F) T3 : 74 °C (165.2 °F) T2 : 74 °C (165.2 °F) T1 : 74 °C (165.2 °F)	

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**Equipment protection level Gb**

Type of protection	intrinsic safety	
CE marking	CE 0102	
<b>Certificates</b>		
Appropriate type	SC3,5...-N0...	
ATEX certificate	PTB 99 ATEX 2219 X	
ATEX marking	Ⓔ II 1G Ex ia IIC T6...T1 Ga	
Standards	EN 60079-0:2012+A11:2013 , EN 60079-11:2012	
IECEX certificate	IECEX PTB 11.0091X	
IECEX marking	Ex ia IIC T6...T1 Ga	
Standards	IEC 60079-0:2011 , IEC 60079-11:2011	
Effective internal capacitance	C <sub>i</sub>	≤ 150 nF A cable length of 10 m is considered.
Effective internal inductance	L <sub>i</sub>	≤ 150 μH A cable length of 10 m is considered.
Maximum permissible ambient temperature T <sub>amb</sub>	Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. at U <sub>i</sub> = 16 V , I <sub>i</sub> = 25 mA , P <sub>i</sub> = 34 mW , T6 : 73 °C (163.4 °F) T5 : 88 °C (190.4 °F) T4 : 100 °C (212 °F) T3 : 100 °C (212 °F) T2 : 100 °C (212 °F) T1 : 100 °C (212 °F) at U <sub>i</sub> = 16 V , I <sub>i</sub> = 25 mA , P <sub>i</sub> = 64 mW , T6 : 66 °C (150.8 °F) T5 : 81 °C (177.8 °F) T4 : 100 °C (212 °F) T3 : 100 °C (212 °F) T2 : 100 °C (212 °F) T1 : 100 °C (212 °F) at U <sub>i</sub> = 16 V , I <sub>i</sub> = 52 mA , P <sub>i</sub> = 169 mW , T6 : 45 °C (113 °F) T5 : 60 °C (140 °F) T4 : 89 °C (192.2 °F) T3 : 89 °C (192.2 °F) T2 : 89 °C (192.2 °F) T1 : 89 °C (192.2 °F) at U <sub>i</sub> = 16 V , I <sub>i</sub> = 76 mA , P <sub>i</sub> = 242 mW , T6 : 30 °C (86 °F) T5 : 45 °C (113 °F) T4 : 74 °C (165.2 °F) T3 : 74 °C (165.2 °F) T2 : 74 °C (165.2 °F) T1 : 74 °C (165.2 °F)	

**Equipment protection level Da**

Type of protection	intrinsic safety	
CE marking	CE 0102	
<b>Certificates</b>		
Appropriate type	SC3,5...-N0...	
ATEX certificate	PTB 99 ATEX 2219 X	
ATEX marking	Ⓔ II 1D Ex ia IIIC T135°C Da	
Standards	EN 60079-0:2012+A11:2013 , EN 60079-11:2012	
IECEX certificate	IECEX PTB 11.0091X	
IECEX marking	Ex ia IIIC T135°C Da	
Standards	IEC 60079-0:2011 , IEC 60079-11:2011	
Effective internal capacitance	C <sub>i</sub>	≤ 150 nF A cable length of 10 m is considered.
Effective internal inductance	L <sub>i</sub>	≤ 150 μH A cable length of 10 m is considered.
Maximum permissible ambient temperature T <sub>amb</sub>	Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. at U <sub>i</sub> = 16 V , I <sub>i</sub> = 25 mA , P <sub>i</sub> = 34 mW : 100 °C (212 °F) at U <sub>i</sub> = 16 V , I <sub>i</sub> = 25 mA , P <sub>i</sub> = 64 mW : 100 °C (212 °F) at U <sub>i</sub> = 16 V , I <sub>i</sub> = 52 mA , P <sub>i</sub> = 169 mW : 89 °C (192.2 °F) at U <sub>i</sub> = 16 V , I <sub>i</sub> = 76 mA , P <sub>i</sub> = 242 mW : 74 °C (165.2 °F)	

**Equipment protection level Mb**

Type of protection	intrinsic safety	
<b>Certificates</b>		
Appropriate type	SC3,5...-N0...	
IECEX certificate	IECEX PTB 11.0091X	
IECEX marking	Ex ia I Mb	
Standards	IEC 60079-0:2011 , IEC 60079-11:2011	
Effective internal capacitance	C <sub>i</sub>	≤ 150 nF A cable length of 10 m is considered.
Effective internal inductance	L <sub>i</sub>	≤ 150 μH A cable length of 10 m is considered.

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Maximum permissible ambient temperature  $T_{amb}$

Also observe the maximum permissible ambient temperature stated in the general technical data.

Keep to the lower of the two values.

at  $U_i = 16\text{ V}$ ,  $I_i = 25\text{ mA}$ ,  $P_i = 34\text{ mW}$  :  $100\text{ °C}$  ( $212\text{ °F}$ )

at  $U_i = 16\text{ V}$ ,  $I_i = 25\text{ mA}$ ,  $P_i = 64\text{ mW}$  :  $100\text{ °C}$  ( $212\text{ °F}$ )

at  $U_i = 16\text{ V}$ ,  $I_i = 52\text{ mA}$ ,  $P_i = 169\text{ mW}$  :  $89\text{ °C}$  ( $192.2\text{ °F}$ )

at  $U_i = 16\text{ V}$ ,  $I_i = 76\text{ mA}$ ,  $P_i = 242\text{ mW}$  :  $74\text{ °C}$  ( $165.2\text{ °F}$ )