



Model Number

SC2-N0-YE

Features

- Comfort series
- Usable up to SIL 2 acc. to IEC 61508

Technical Data

General specifications

Switching function	Normally closed (NC)
Output type	NAMUR
Slot width	2 mm
Depth of immersion (lateral)	5 ... 7 typ. 6 mm
Output type	2-wire

Nominal ratings

Nominal voltage	U_o	8 V
Operating voltage	U_B	5 ... 25 V
Switching frequency	f	0 ... 5000 Hz
Hysteresis	H	0 ... 0.05 mm

Design data

Current consumption		
Measuring plate not detected		≥ 3 mA
Measuring plate detected		≤ 1 mA
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 PVC, 500 mm
Core cross-section	0.06 mm ²
Housing material	PBT
Degree of protection	IP67

General information

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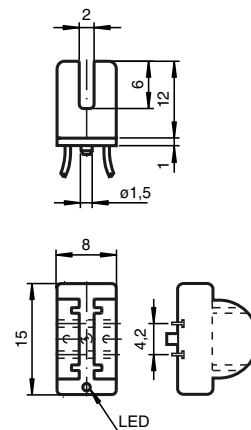
Compliance with standards and directives

Standard conformity	
NAMUR	EN 60947-5-6:2000 IEC 60947-5-6:1999
Electromagnetic compatibility	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

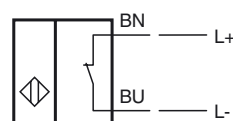
Approvals and certificates

UL approval	cULus Listed, General Purpose
Ordinary Location	E87056
Hazardous Location	E501628
Control drawing	116-0453
CSA approval	cCSAus Listed, General Purpose

Dimensions



Electrical Connection



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

Equipment protection level	Ga , Gb , Gc (ic) , Da , Mb
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Equipment protection level Ga

Type of protection	intrinsic safety
CE marking	0102

Certificates

Appropriate type	SC2-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_i	$\leq 150 \text{ nF}$ A cable length of 10 m is considered.
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Effective internal inductance	L_i	$\leq 150 \text{ }\mu\text{H}$ 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.
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for ATEX	at $U_i = 16 \text{ V}$, $I_i = 25 \text{ mA}$, $P_i = 34 \text{ mW}$, T6 : 55 °C (131 °F) T5 : 67 °C (152.6 °F) T4 : 95 °C (203 °F) T3 : 95 °C (203 °F) T2 : 95 °C (203 °F) T1 : 95 °C (203 °F) at $U_i = 16 \text{ V}$, $I_i = 25 \text{ mA}$, $P_i = 64 \text{ mW}$, T6 : 48 °C (118.4 °F) T5 : 60 °C (140 °F) T4 : 88 °C (190.4 °F) T3 : 88 °C (190.4 °F) T2 : 88 °C (190.4 °F) T1 : 88 °C (190.4 °F) at $U_i = 16 \text{ V}$, $I_i = 52 \text{ mA}$, $P_i = 169 \text{ mW}$, T6 : 23 °C (73.4 °F) T5 : 35 °C (95 °F) T4 : 63 °C (145.4 °F) T3 : 63 °C (145.4 °F) T2 : 63 °C (145.4 °F) T1 : 63 °C (145.4 °F) at $U_i = 16 \text{ V}$, $I_i = 76 \text{ mA}$, $P_i = 242 \text{ mW}$, T6 : 6 °C (42.8 °F) T5 : 18 °C (64.4 °F) T4 : 46 °C (114.8 °F) T3 : 46 °C (114.8 °F) T2 : 46 °C (114.8 °F) T1 : 46 °C (114.8 °F)
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for IECEx	at $U_i = 16 \text{ V}$, $I_i = 25 \text{ mA}$, $P_i = 34 \text{ mW}$, T6 : 72 °C (161.6 °F) T5 : 87 °C (188.6 °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 : 65 °C (149 °F) T5 : 80 °C (176 °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 : 40 °C (104 °F) T5 : 55 °C (131 °F) T4 : 75 °C (167 °F) T3 : 75 °C (167 °F) T2 : 75 °C (167 °F) T1 : 75 °C (167 °F) at $U_i = 16 \text{ V}$, $I_i = 76 \text{ mA}$, $P_i = 242 \text{ mW}$, T6 : 23 °C (73.4 °F) T5 : 38 °C (100.4 °F) T4 : 54 °C (129.2 °F) T3 : 54 °C (129.2 °F) T2 : 54 °C (129.2 °F) T1 : 54 °C (129.2 °F)
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Equipment protection level Gb

Type of protection	intrinsic safety
CE marking	CE 0102

Certificates

Appropriate type	SC2-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.
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Effective internal inductance	L_i	$\leq 150 \text{ }\mu\text{H}$ 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 $U_i = 16 \text{ V}$, $I_i = 25 \text{ mA}$, $P_i = 34 \text{ mW}$, T6 : 72 °C (161.6 °F) T5 : 87 °C (188.6 °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 : 65 °C (149 °F) T5 : 80 °C (176 °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 : 40 °C (104 °F) T5 : 55 °C (131 °F) T4 : 75 °C (167 °F) T3 : 75 °C (167 °F) T2 : 75 °C (167 °F) T1 : 75 °C (167 °F) at $U_i = 16 \text{ V}$, $I_i = 76 \text{ mA}$, $P_i = 242 \text{ mW}$, T6 : 23 °C (73.4 °F) T5 : 38 °C (100.4 °F) T4 : 54 °C (129.2 °F) T3 : 54 °C (129.2 °F) T2 : 54 °C (129.2 °F) T1 : 54 °C (129.2 °F)	
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Equipment protection level Gc (ic)

Type of protection	intrinsic safety
CE marking	CE

Certificates

ATEX certificate	PF13CERT2895 X
ATEX marking	Ex II 3G Ex ic IIC T6...T1 Gc
Standards	EN 60079-0:2012+A11:2013 , EN 60079-11:2012

Effective internal capacitance	C_i	$\leq 150 \text{ nF}$ A cable length of 10 m is considered.
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Effective internal inductance	L_i	$\leq 150 \text{ }\mu\text{H}$ 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 $U_i = 20 \text{ V}$, $I_i = 25 \text{ mA}$, $P_i = 34 \text{ mW}$, 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 $U_i = 20 \text{ V}$, $I_i = 25 \text{ mA}$, $P_i = 64 \text{ mW}$, T6 : 65 °C (149 °F) T5 : 80 °C (176 °F) T4 : 100 °C (212 °F) T3 : 100 °C (212 °F) T2 : 100 °C (212 °F) T1 : 100 °C (212 °F) at $U_i = 20 \text{ V}$, $I_i = 52 \text{ mA}$, $P_i = 169 \text{ mW}$, T6 : 40 °C (104 °F) T5 : 55 °C (131 °F) T4 : 75 °C (167 °F) T3 : 75 °C (167 °F) T2 : 75 °C (167 °F) T1 : 75 °C (167 °F) at $U_i = 20 \text{ V}$, $I_i = 76 \text{ mA}$, $P_i = 242 \text{ mW}$, T6 : 23 °C (73.4 °F) T5 : 38 °C (100.4 °F) T4 : 54 °C (129.2 °F) T3 : 54 °C (129.2 °F) T2 : 54 °C (129.2 °F) T1 : 54 °C (129.2 °F)	
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**Equipment protection level Da**

Type of protection		intrinsic safety	
CE marking		C E 0102	
Certificates			
Appropriate type		SC2-N0...	
ATEX certificate		PTB 99 ATEX 2219 X	
ATEX marking		Ex 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 _i	≤ 150 nF	A cable length of 10 m is considered.
Effective internal inductance	L _i	≤ 150 μH	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. at U _i = 16 V , I _i = 25 mA , P _i = 34 mW : 100 °C (212 °F) at U _i = 16 V , I _i = 25 mA , P _i = 64 mW : 100 °C (212 °F) at U _i = 16 V , I _i = 52 mA , P _i = 169 mW : 75 °C (167 °F) at U _i = 16 V , I _i = 76 mA , P _i = 242 mW : 54 °C (129.2 °F)	

Equipment protection level Mb

Type of protection		intrinsic safety	
Certificates			
Appropriate type		SC2-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 _i	≤ 150 nF A cable length of 10 m is considered.	
Effective internal inductance	L _i	≤ 150 μH 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. at U _i = 16 V , I _i = 25 mA , P _i = 34 mW : 100 °C (212 °F) at U _i = 16 V , I _i = 25 mA , P _i = 64 mW : 100 °C (212 °F) at U _i = 16 V , I _i = 52 mA , P _i = 169 mW : 75 °C (167 °F) at U _i = 16 V , I _i = 76 mA , P _i = 242 mW : 54 °C (129.2 °F)	