



Model Number

SJ1,8-N-Y16109

Features

- 1.8 mm slot width
- Comfort series

Technical Data

General specifications

Switching function	Normally closed (NC)
Output type	NAMUR
Slot width	2 mm
Depth of immersion (lateral)	4 ... 5 typ. 4.5 mm
Output type	2-wire

Nominal ratings

Nominal voltage	U_0	8 V
Operating voltage	U_B	5 ... 25 V
Switching frequency	f	0 ... 5000 Hz
Hysteresis	H	0.3 ... 0.6 mm

Current consumption

Measuring plate not detected	≥ 4 mA at nominal voltage
Measuring plate detected	≤ 0.65 mA at nominal voltage

Functional safety related parameters

MTTF _d	5270 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Ambient conditions

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

Connection type	flexible leads
Housing material	Crastin (PBTB)
Degree of protection	IP67

General information

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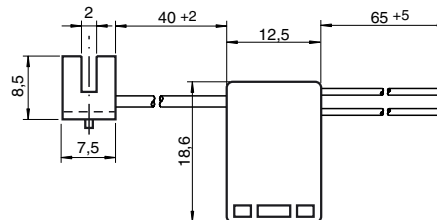
Compliance with standards and directives

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

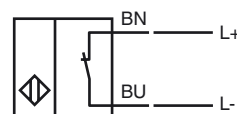
Approvals and certificates

FM approval	
Control drawing	116-0165
UL approval	cULus Listed, General Purpose
CSA approval	cCSAus Listed, General Purpose

Dimensions



Electrical Connection



Data for application in connection with hazardous areas

Equipment protection level Gb , Da , Mb

Equipment protection level GbType of protection intrinsic safety
CE marking **CE** 0102**Certificates**Appropriate type SJ1,8-N-Y...
ATEX certificate PTB 99 ATEX 2219 X
ATEX marking **Ex** II 2G Ex ia IIC T6...T1 Gb
Standards EN 60079-0:2012+A11:2013 , EN 60079-11:2012
IECEX certificate IECEX PTB 11.0091X
IECEX marking Ex ia IIC T6...T1 Gb
Standards IEC 60079-0:2011 , IEC 60079-11:2011Effective internal capacitance C_i ≤ 30 nF
A cable length of 10 m is considered.Effective internal inductance L_i ≤ 100 μ 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.
at $U_i = 16$ V , $I_i = 25$ mA , $P_i = 34$ 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 $U_i = 16$ V , $I_i = 25$ mA , $P_i = 64$ mW ,
T6 : 67 °C (152.6 °F)
T5 : 82 °C (179.6 °F)
T4 : 100 °C (212 °F)
T3 : 100 °C (212 °F)
T2 : 100 °C (212 °F)
T1 : 100 °C (212 °F)
at $U_i = 16$ V , $I_i = 52$ mA , $P_i = 169$ mW ,
T6 : 45 °C (113 °F)
T5 : 60 °C (140 °F)
T4 : 78 °C (172.4 °F)
T3 : 78 °C (172.4 °F)
T2 : 78 °C (172.4 °F)
T1 : 78 °C (172.4 °F)
at $U_i = 16$ V , $I_i = 76$ mA , $P_i = 242$ mW ,
T6 : 30 °C (86 °F)
T5 : 45 °C (113 °F)
T4 : 57 °C (134.6 °F)
T3 : 57 °C (134.6 °F)
T2 : 57 °C (134.6 °F)
T1 : 57 °C (134.6 °F)**Equipment protection level Da**Type of protection intrinsic safety
CE marking **CE** 0102**Certificates**Appropriate type SJ1,8-N-Y...
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 60079-11:2011Effective internal capacitance C_i ≤ 30 nF
A cable length of 10 m is considered.Effective internal inductance L_i ≤ 100 μ 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.
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 : 78 °C (172.4 °F)
at $U_i = 16$ V , $I_i = 76$ mA , $P_i = 242$ mW : 57 °C (134.6 °F)**Equipment protection level Mb**

Type of protection intrinsic safety

CertificatesAppropriate type SJ1,8-N-Y...
IECEX certificate IECEX PTB 11.0091X
IECEX marking Ex ia I Mb
Standards IEC 60079-0:2011 , IEC 60079-11:2011Effective internal capacitance C_i ≤ 30 nF
A cable length of 10 m is considered.Effective internal inductance L_i ≤ 100 μ 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.

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

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

at $U_i = 16\text{ V}$, $I_i = 52\text{ mA}$, $P_i = 169\text{ mW}$: 78 °C (172.4 °F)

at $U_i = 16\text{ V}$, $I_i = 76\text{ mA}$, $P_i = 242\text{ mW}$: 57 °C (134.6 °F)