

# Isolators

Switching repeater

Ex i field circuit

9270/21-17-14s Art. No. 261411



- Slim design – 12.5 mm wide – for one- and dual-channel versions
- Can be used for functional safety levels up to SIL 2 (IEC/EN 61508)
- Offers line fault detection with signalization

WebCode 9270A



Series 9270 switching repeaters can be used for operating contacts, NAMUR proximity sensors or optocouplers. A relay output or electronic output transmits the signals to the control level. The intrinsically safe digital input is galvanically separated from the output and auxiliary power.

## Technical Data

### Explosion Protection

Application range (zones)	2 22
Ex interface zone	0 1 2 20 21 22
Installation in Div. NEC 500	(Class I, II, III) 2
Ex interface in Div. NEC 500	(Class I, II, III) 1, 2
Certificate IECEX Gas	IECEX IBE 17.0043 X
Certificate ATEX Gas	IBExU17ATEX1151 X
Certificate IECEX Dust	IECEX IBE 17.0043 X
Certificate ATEX Dust	IBExU17ATEX1151 X
Gas explosion protection IECEX	Ex nA nC [Ex ia Ga] IIC T4 Gc
Gas explosion protection ATEX	⊕ II (1) G Ex nA nC [Ex ia Ga] IIC T4 Gc
Dust explosion protection IECEX	[Ex ia Da] IIIC
Dust explosion protection ATEX	⊕ II (1) D [Ex ia Da] IIIC
Certificates	ATEX (IBE), Canada / USA (UL), IECEX (IBE)

### Safety Data

Max. voltage $U_o$	9.6 V
Max. current $I_o$	10 mA
Max. power $P_o$	25 mW
Max. permissible external capacitance $C_o$ for IIC	3.6 $\mu$ F
Max. permissible external capacitance $C_o$ for IIB	26 $\mu$ F
Max. permissible external capacitance $C_o$ for IIA	210 $\mu$ F

#### Safety Data

Max. permissible external inductance $L_o$ for IIC	300 mH
Max. permissible external inductance $L_o$ for IIB	1000 mH
Max. permissible external inductance $L_o$ for IIA	1000 mH
Internal capacitance $C_i$	1.1 nF
Internal inductance $L_i$	Negligible
Safety-related max. voltage	253 V AC

#### Functional Safety

SIL	2
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#### Electrical Data

Number of channels	2
Output per channel	1 NO
Line fault transparency	No
Auxiliary power	24 V DC
Auxiliary power nominal voltage	24 V DC
Auxiliary power voltage range	19,2 ... 30 V
Nominal current	35 mA
Power consumption	1 W
Max. power dissipation	1 W
Polarity reversal protection	Yes
Operation indication	Green LED "PWR"
Undervoltage monitoring	No
Test voltage according to standard	IEC EN 60079-11
Galvanic isolation Ex i input to to output	375 V AC peak value
Galvanic isolation Ex i input to auxiliary power	375 V AC peak value
Galvanic isolation Ex i input to fault message contact	375 V AC peak value
Test voltage according to standard 2	EN 61010 / EN 50178
Galvanic isolation output to auxiliary power	300 V <sub>eff</sub>
Galvanic isolation output to output	300 V <sub>eff</sub>
Galvanic isolation fault message contact to auxiliary power	300 V <sub>eff</sub>
Galvanic isolation fault message contact to output	300 V <sub>eff</sub>
Input	NAMUR
Input signal	In accordance with EN 60947-5-6 (NAMUR)
Input current for OFF	≤ 1,2 mA
Input current for ON	≥ 2,1 mA
Input internal resistance $R_i$	1000 Ω
Input open circuit voltage $U_a$	8 V
Output version (control)	Relay (250 V / 2 A)
Output	1 NO - relay
Min. load of output	5 V / 10 mA

#### Electrical Data

Max. AC load of output	250 V / 2 A
Max. DC load of output	30 V / 2 A
Output switching capacity	500 VA
Switching state indication	Yellow LED "OUT"
Output mechanical service life	1 x 10 <sup>7</sup> cycles
Wire breakage error detection	I <sub>E</sub> < 0,05 ... 0,35 mA
Short circuit error detection	R <sub>E</sub> < 100 ... 360 Ω
Switch user adjustment inverting	Activated / deactivated
Switch user adjustment line fault	Activated / deactivated
Indication of line fault	Red LED "LF"
LFD relay	via 9193/21-11-11

#### Ambient Conditions

Ambient temperature min.	-20 °C
Ambient temperature max.	+60 °C
Ambient temperature	-20 °C ... +60 °C
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Storage temperature	-40 °C ... +80 °C
Maximum relative humidity	10 to 95%
Use at the height of	< 2000 m
Electromagnetic compatibility	EN 61326-1 Use in industrial environment Immunity according to EN 61000-6-2 Interference emission to EN 61000-6-4

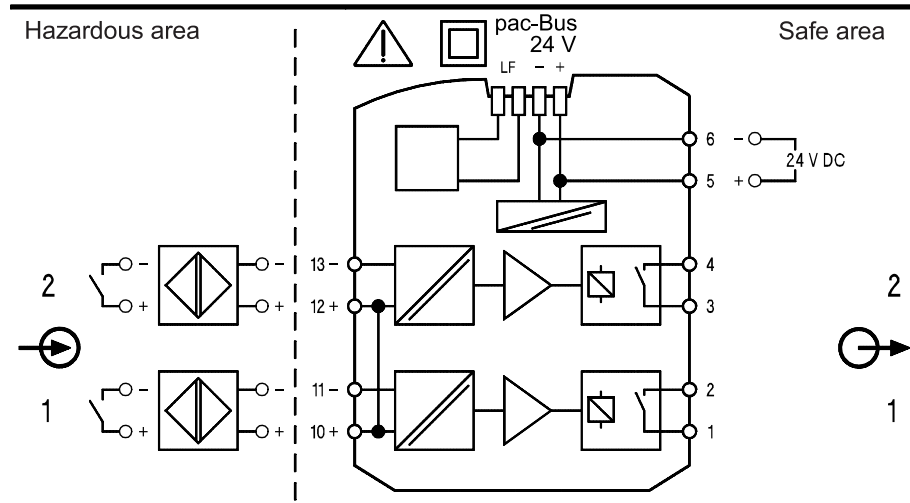
#### Mechanical Data

Degree of protection (IP)	IP30
Degree of protection (IP) Terminals	IP20
Connection cross-section	0.2-2.5 mm <sup>2</sup> flexible
Enclosure material	Polyamide
Grid dimension	12.5 mm
Fire resistance (UL 94)	V0
Weight	0.17 kg

#### Mounting / Installation

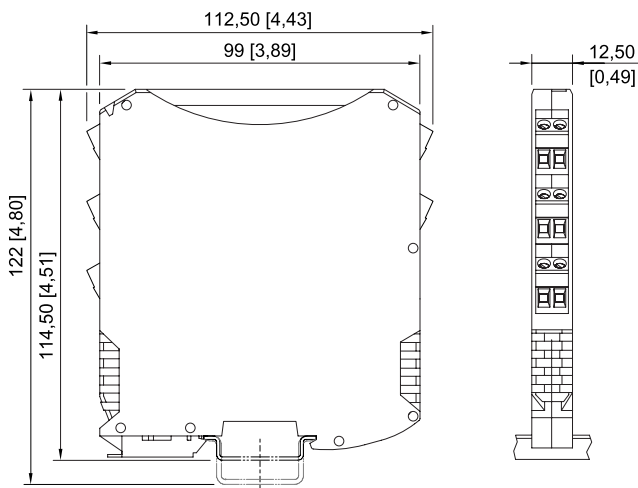
Mounting type	NS35/15, NS35/7.5 DIN rail
Mounting position	Vertical
Connection type	Screw terminal
Conductor cross-section solid min.	0.2 mm <sup>2</sup>
Conductor cross-section solid max.	2.5 mm <sup>2</sup>
Conduct cross-section flexible max.	0.2 mm <sup>2</sup>
Conduct cross-section flexible max.	2.5 mm <sup>2</sup>

#### Technical Drawings



Connection diagram

#### Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



ISpac Series 9260, 9270, 9275, 9276 with screw terminal

We reserve the right to make alterations to the technical data, dimensions, weights, designs and products available without notice. The illustrations cannot be considered binding.