Signal isolator - PI-EX-NAM/RNO-NE - 2835341

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Ex i binary input: NAMUR isolation amplifiers. For operating proximity sensors and switches in Ex areas. The binary signals are transmitted to a safe area. Relay output (N/O contact), line fault detection. Galvanic 3-way isolation.

Key Commercial Data

Packing unit	1 pc
GTIN	4 017918 178468
GTIN	4017918178468
Weight per Piece (excluding packing)	99.800 g
Custom tariff number	85437090
Country of origin	Germany

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area

Dimensions

Width	12.4 mm
Height	79 mm
Depth	118.4 mm

Ambient conditions

Ambient temperature (operation)	max. -20 °C ... 60 °C (see data sheet)
Ambient temperature (storage/transport)	-40 °C ... 85 °C

Input data

Signal isolator - PI-EX-NAM/RNO-NE - 2835341

Technical data

Input data

Non-load voltage	8.2 V DC ±10 %
Switching points (attenuated)	< 1.2 mA (blocking)
Switching points (unattenuated)	> 2.1 mA (conductive)
Signal input	Intrinsically safe
Available input sources	NAMUR proximity sensors (EN 60947-5-6)

Output data

Switching output	Relay output
Configurable/programmable	Can be inverted via slide switch
Contact type	N/O contact
Contact material	AgSnO, hard gold-plated
Limiting continuous current	1 A (30 V DC)
	0.5 A (125 V AC)
Min. contact current	1 mA
Mechanical service life	10^7 cycles
Service life, electrical	2x 10^5 cycles (at full load)
Switching frequency	max. 14 Hz (Load-dependent)

Power supply

Supply voltage range	20 V DC ... 30 V DC
Max. current consumption	max. 40 mA
Power consumption	max. 0.8 W (24 V)

General

No. of channels	1
Status display	Green LED (supply voltage)
	Yellow LED (status display)
	Red LED (line errors)
Standards/regulations	NAMUR recommendation NE 21
Housing material	PBT and polyamide PA non-reinforced
Color	green
Line monitoring	NE 21
Designation	Input/output
Electrical isolation	375 V (Peak value as per EN 50020 / EN 60079-11)
Designation	Input/power supply
Electrical isolation	375 V (Peak value as per EN 50020 / EN 60079-11)
Designation	Output/supply

Safety characteristic data

Signal isolator - PI-EX-NAM/RNO-NE - 2835341

Technical data

Safety characteristic data

Integrity requirement	IEC 61508 - Low demand
Equipment type	Type A
Safety Integrity Level (SIL)	2
Safe Failure Fraction (SFF)	73 %
λ_{SU}	1.94 x 10^{-7} (194 FIT)
λ_{SD}	6 x 10^{-9} (6 FIT)
λ_{DU}	7.4 x 10^{-8} (74 FIT)
λ_{DD}	8 x 10^{-9} (8 FIT)
Probability of a hazardous failure on demand (PFD_{AVG})	3.25 x 10^{-4} (1 year)
	1.625 x 10^{-3} (5 years)
	3.25 x 10^{-3} (10 years)
Diagnostic coverage (DC)	DC_S = 3%, DC_D = 9%

Safety data

Max. output voltage U_o	10.6 V
Max. output current I_o	33 mA
Max. output power P_o	86 mW
Group	IIA
Max. external inductivity L_o	230 mH
Max. external capacitance C_o	72 µF
Group	IIB
Max. external inductivity L_o	110 mH
Max. external capacitance C_o	16.2 µF
Group	IIC
Max. external inductivity L_o	30 mH
Max. external capacitance C_o	2.3 µF
Safety-related maximum voltage U_m	250 V AC

Standards and Regulations

Standards/regulations	NAMUR recommendation NE 21
Conformance	CE-compliant
ATEX	# II (1) GD [EEx ia] IIC
	# II 3 G Ex nAC IIC T4 X
UL, USA/Canada	UL applied for
Group	IIA
	IIB
	IIC

Signal isolator - PI-EX-NAM/RNO-NE - 2835341

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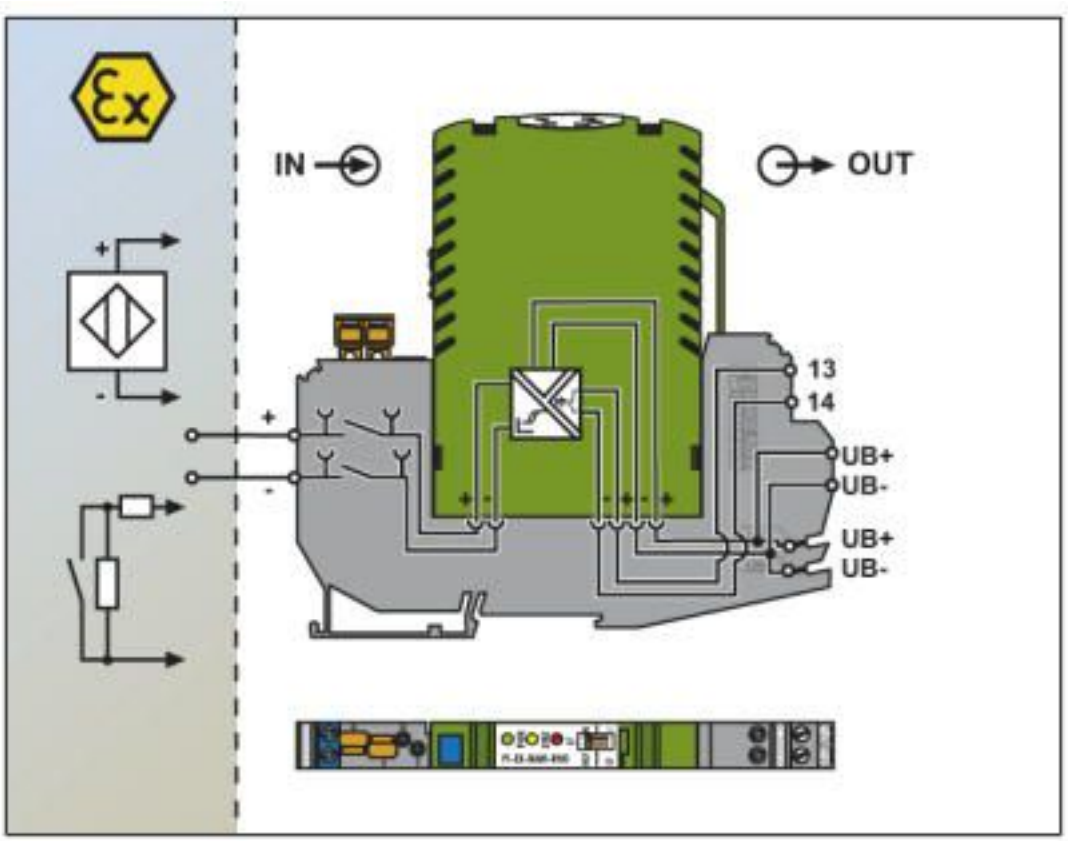
Environmental Product Compliance

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab “Downloads”, Category “Manufacturer's declaration”

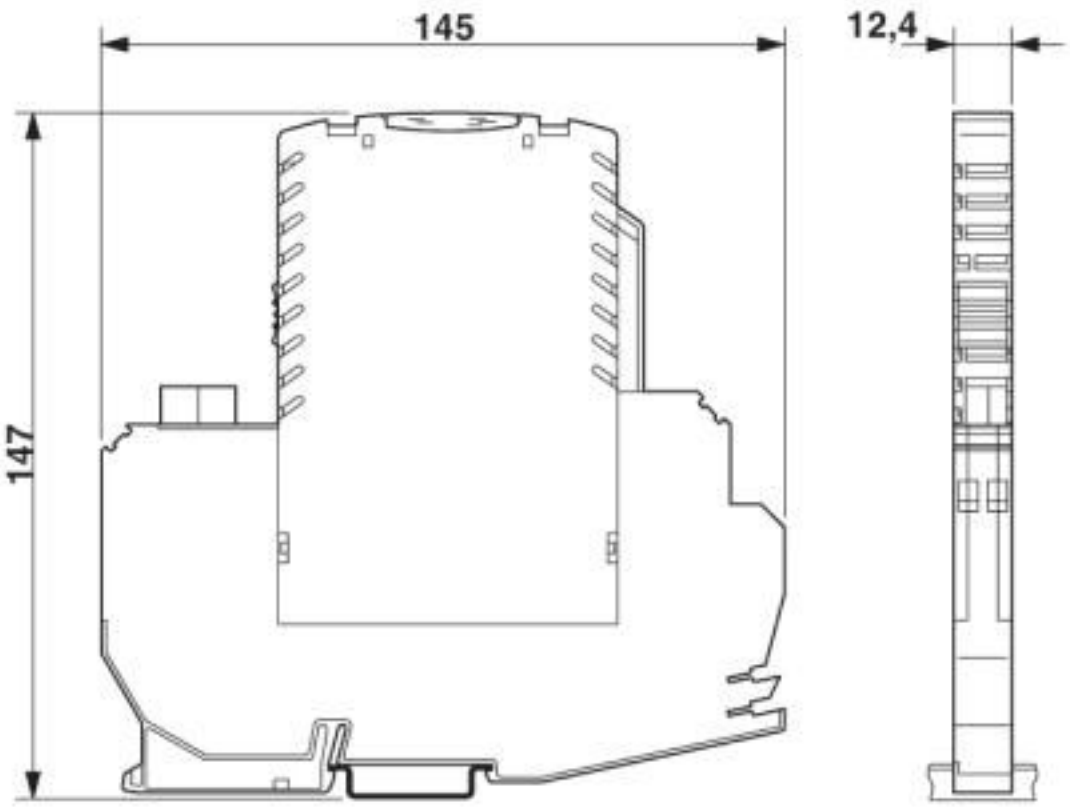
Drawings

Block diagram



Signal isolator - PI-EX-NAM/RNO-NE - 2835341

Dimensional drawing



Classifications

eCl@ss

eCl@ss 4.0	27210100
eCl@ss 4.1	27210100
eCl@ss 5.0	27210100
eCl@ss 5.1	27210100
eCl@ss 6.0	27210100
eCl@ss 7.0	27210121
eCl@ss 8.0	27210121
eCl@ss 9.0	27210121

ETIM

ETIM 2.0	EC001485
ETIM 3.0	EC001485
ETIM 4.0	EC001485
ETIM 5.0	EC001485

Signal isolator - PI-EX-NAM/RNO-NE - 2835341

Classifications

ETIM

ETIM 6.0	EC001485
ETIM 7.0	EC001485

UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	39121008
UNSPSC 18.0	39121008
UNSPSC 19.0	39121008
UNSPSC 20.0	39121008
UNSPSC 21.0	39121008

Accessories

Additional products

Basic terminal block - PI-EX-TB - 2835901

Ex base terminal block for intrinsically safe signals with knife disconnection and test connections

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Surge protection device - TT-PI-EX-TB - 2858386

Intrinsically safe basic terminal block with isolating connector, test connections and surge protection, for mounting on NS 35/7.5

Basic terminal block - PI-EX-ES-1/3 - 2835325

Ex basic terminal block, with three terminal points to the field level (Ex area)

Signal isolator - PI-EX-NAM/RNO-NE - 2835341

Accessories