

# 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

package_quantity	1
GTIN	4017918178468

## Technical data

Note:

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

Width	12.4 mm
Height	145 mm
Depth	147 mm

## Ambient conditions

Ambient temperature (operation)	max. -20 °C ... 60 °C (see data sheet)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Degree of protection	IP20

## Input data

Non-load voltage	8.2 V DC ±10 %
Switching points (attenuated)	< 1.2 mA (blocking)
Switching points (unattenuated)	> 2.1 mA (conductive)

## 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)

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## Technical data

### Output data

Limiting continuous current	0.5 A (125 V AC)
Min. contact current	1 mA
Mechanical service life	10 <sup>7</sup> cycles
Service life, electrical	2 x 10 <sup>5</sup> cycles with full load

### 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)
Status display	Yellow LED (status display)
Status display	Red LED (line errors)
Inflammability class according to UL 94	V0
Standards/regulations	NAMUR recommendation NE 21
Housing material	PBT and polyamide PA non-reinforced
Color	green
Line monitoring	NE 21
Name	Input/output
Electrical isolation	375 V (Peak value as per EN 50020 / EN 60079-11)
Name	Input/power supply
Electrical isolation	375 V (Peak value as per EN 50020 / EN 60079-11)
Name	Output/supply
Electrical isolation	1.5 kV (50 Hz, 1 min., test voltage)
Conformance	CE-compliant
ATEX	# II (1) GD [EEx ia] IIC
ATEX	# II 3 G Ex nAC IIC T4 X
UL, USA / Canada	UL applied for
Functional safety (SIL)	SIL 2 according to EN 61508

### Safety characteristic data

Integrity requirement	IEC 61508 - Low demand
Equipment type	Type A
Safety Integrity Level (SIL)	Up to 2
Safe Failure Fraction (SFF)	73 %
$\lambda_{SU}$	1.94 x 10 <sup>-7</sup> (194 FIT)
$\lambda_{SD}$	6 x 10 <sup>-9</sup> (6 FIT)
$\lambda_{DU}$	7.4 x 10 <sup>-8</sup> (74 FIT)
$\lambda_{DD}$	8 x 10 <sup>-9</sup> (8 FIT)
Probability of a hazardous failure on demand (PFD <sub>AVG</sub> )	3.25 x 10 <sup>-4</sup> (1 year)

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### Safety characteristic data

Probability of a hazardous failure on demand (PFD <sub>AVG</sub> )	1.625 x 10 <sup>-3</sup> (5 years)
Probability of a hazardous failure on demand (PFD <sub>AVG</sub> )	3.25 x 10 <sup>-3</sup> (10 years)
Diagnostic coverage (DC)	(DC <sub>S</sub> = 3%, DC <sub>D</sub> = 9%)

### Safety data

Max. output voltage U <sub>o</sub>	10.6 V
Max. output current I <sub>o</sub>	33 mA
Max. output power P <sub>o</sub>	86 mW
Gas group	IIA
Max. external inductivity L <sub>o</sub>	230 mH
Max. external capacity C <sub>o</sub>	72 µF
Gas group	IIB
Max. external inductivity L <sub>o</sub>	110 mH
Max. external capacity C <sub>o</sub>	16.2 µF
Gas group	IIC
Max. external inductivity L <sub>o</sub>	30 mH
Max. external capacity C <sub>o</sub>	2.3 µF
Safety-related maximum voltage U <sub>m</sub>	250 V AC

## classifications

### eCl@ss

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

### ETIM

ETIM 2.0	EC001430
ETIM 3.0	EC001599
ETIM 4.0	EC001599
ETIM 5.0	EC001599

### UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	39121008

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approvals

ATEX / GOST /

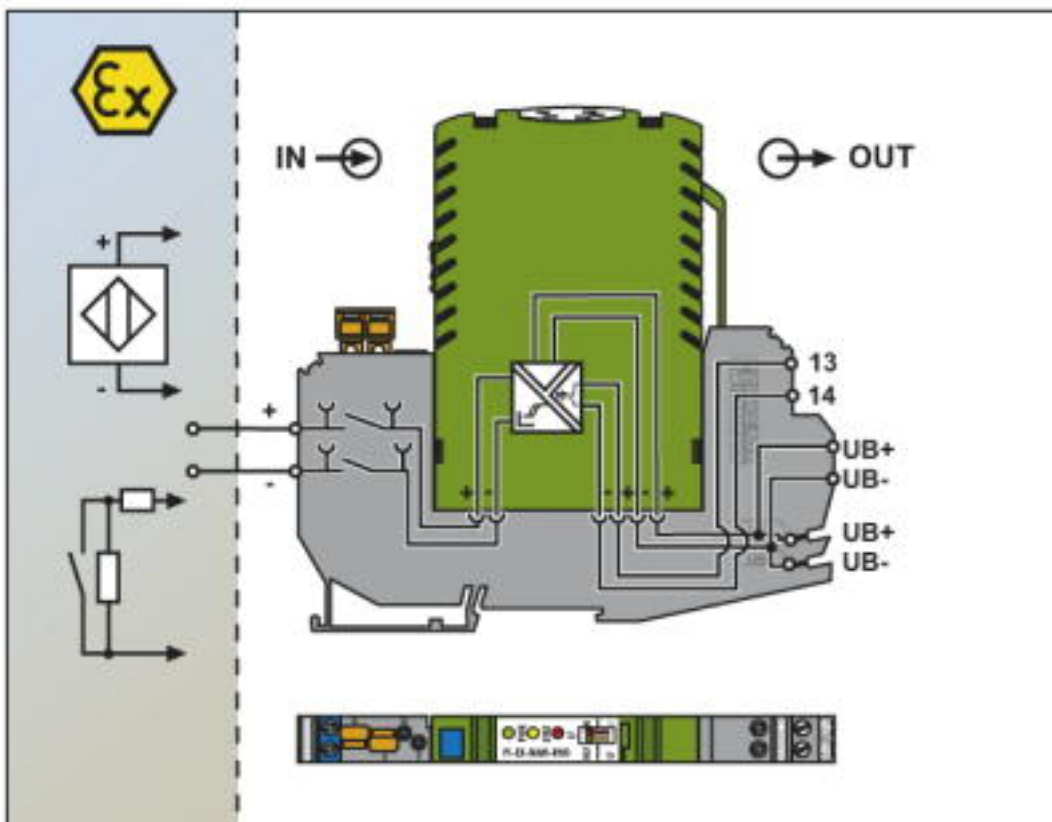
Approval details

ATEX	
Nominal voltage UN	
Nominal current IN	
mm <sup>2</sup> /AWG/kcmil	

GOST	
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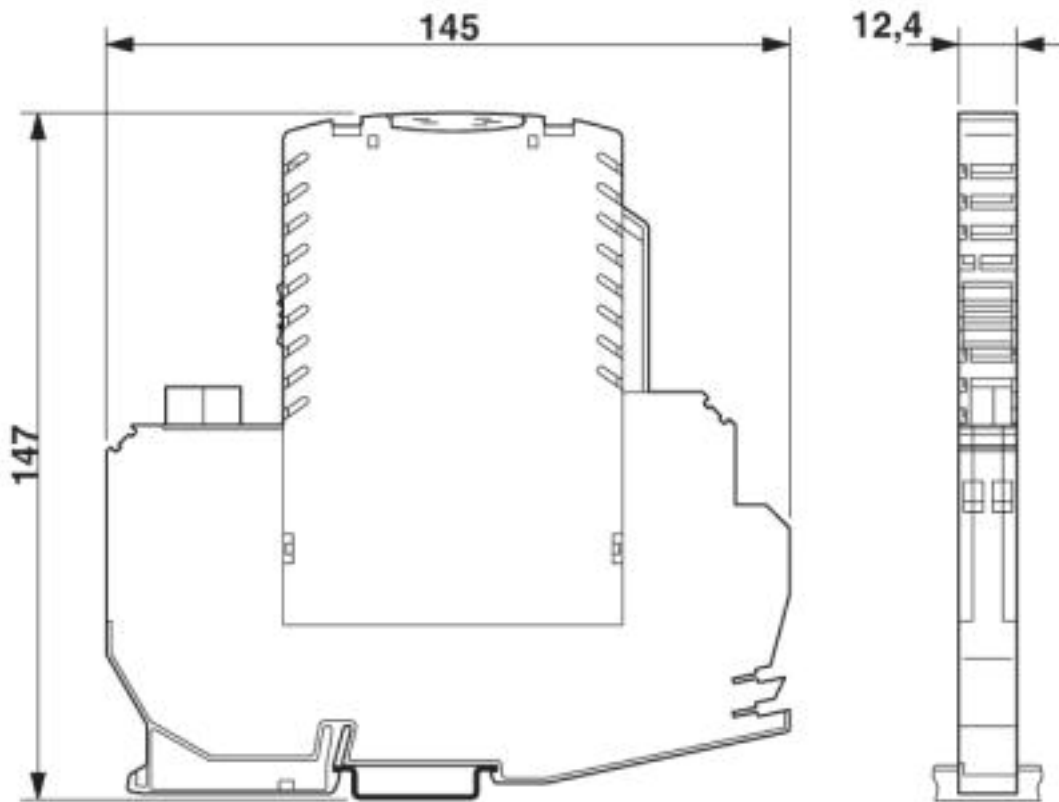
## Drawings

Block diagram



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Dimensioned drawing



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