

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)

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

Technical data

Output data

Limiting continuous current	0.5 A (125 V AC)
Min. contact current	1 mA
Mechanical service life	10 ⁷ cycles
Service life, electrical	2 x 10 ⁵ 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
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
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 %
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)

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

Technical data

Safety characteristic data

Probability of a hazardous failure on demand (PFD _{AVG})	1.625 x 10 ⁻³ (5 years)
Probability of a hazardous failure on demand (PFD _{AVG})	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 capacity C _o	72 µF
Group	IIB
Max. external inductivity L _o	110 mH
Max. external capacity C _o	16.2 µF
Group	IIC
Max. external inductivity L _o	30 mH
Max. external capacity C _o	2.3 µF
Safety-related maximum voltage U _m	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


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

approvals

ATEX / GOST /

Approval details

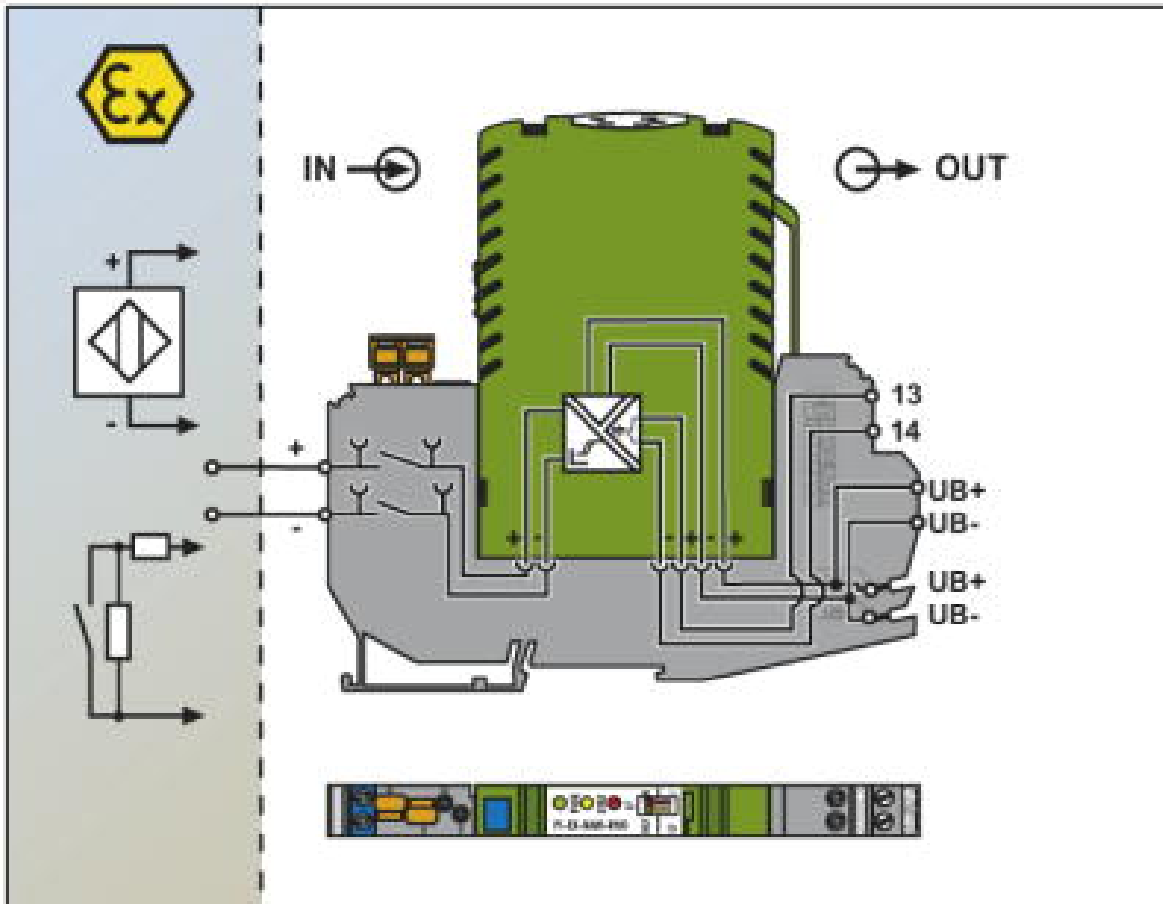
ATEX 	
Nominal voltage UN	
Nominal current IN	
mm ² /AWG/kcmil	

GOST 	
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Drawings

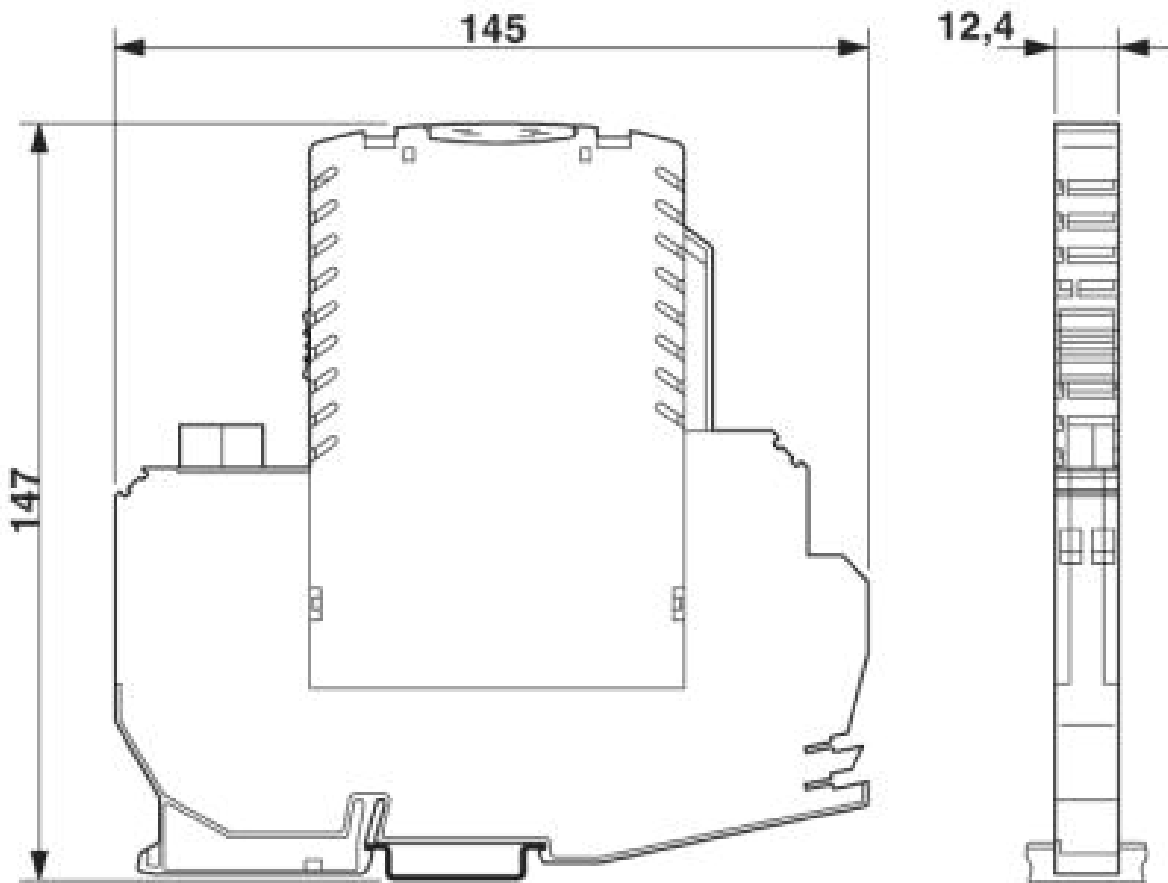
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Block diagram



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Dimensioned drawing



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