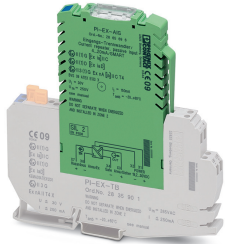


Input isolating amplifier - PI-EX-AIS - 2865696

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Ex i analog input: Input isolating amplifier, HART. Sends 4-20 mA signals from externally supplied measuring transducers installed in Ex areas to a load in safe areas. Galvanic 3-way isolation (input / output / supply).



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 483605
GTIN	4046356483605
Custom tariff number	85437090
Country of origin	Germany

Technical data

Dimensions

Width	12.4 mm
Height	79 mm
Depth	118.4 mm

Ambient conditions

Ambient temperature (operation)	-20 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)

Input data

Signal input	Intrinsically safe
Current input signal	0 mA ... 20 mA
	4 mA ... 20 mA

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Technical data

Input data

Voltage drop	< 3.5 V
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Output data

Signal output	Current output
Current output signal	0 mA ... 20 mA (active)
	4 mA ... 20 mA (active)
	0 mA ... 20 mA (14 ... 26 V ext. source voltage)
	4 mA ... 20 mA (14 ... 26 V ext. source voltage)
Load/output load current output	≤ 600 Ω (at 20 mA)
	< 525 Ω (at 22.5 mA)
Output ripple	< 20 mV _{rms}
Output behavior in the event of an error	0 mA (Cable break in the input)
	0 mA (Cable short-circuit in the input)

Power supply

Supply voltage range	19.2 V DC ... 30 V DC
Max. current consumption	< 36 mA (at 24 V)
Power dissipation	< 0.9 W (at 24 V DC / 20 mA)

General

No. of channels	1
Maximum transmission error	< 0.2 % (of final value)
Transmission error, typical	< 0.1 % (of final value)
Maximum temperature coefficient	< 0.01 %/K
Step response (10-90%)	< 600 μs (for 4 mA ... 20 mA step)
Status display	Green LED (supply voltage, PWR)
Degree of pollution	2
Overvoltage category	II
Housing material	PBT and polyamide PA non-reinforced
Color	green
Designation	Input/output/power supply
Rated insulation voltage	300 V _{rms}
Test voltage	2.5 kV AC (50 Hz, 1 min.)
Insulation	Safe isolation in accordance with IEC/EN 61010-1
Designation	Input/output
Electrical isolation	375 V (Peak value in accordance with IEC/EN 60079-11)
Designation	Input/power supply
Electrical isolation	375 V (Peak value in accordance with IEC/EN 60079-11)

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Technical data

Data communication (bypass)

HART function	Yes
Protocols supported	HART

Safety characteristic data

Integrity requirement	IEC 61508 - Low demand
Equipment type	Type A
Safety Integrity Level (SIL)	2
Safe Failure Fraction (SFF)	90.5 %
λ_{SU}	1.23×10^{-7} (123 FIT)
λ_{SD}	0
λ_{DU}	3.4×10^{-8} (34 FIT)
λ_{DD}	2.05×10^{-7} (205 FIT)
Probability of a hazardous failure on demand (PFD _{AVG})	1.62×10^{-4} (1 year)
	3.10×10^{-4} (2 years)
	7.52×10^{-4} (5 years)
Diagnostic coverage (DC)	DC _S = 0%, DC _D = 86%

Safety data

Safety-related maximum voltage U _m	253 V AC
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Standards and Regulations

Conformance	CE-compliant, additionally EN 61326
ATEX	# II (1) G [Ex ia] IIC
	# II (1) D [Ex iaD]
	# II 3 (1) G Ex nA [ia] IIC T4

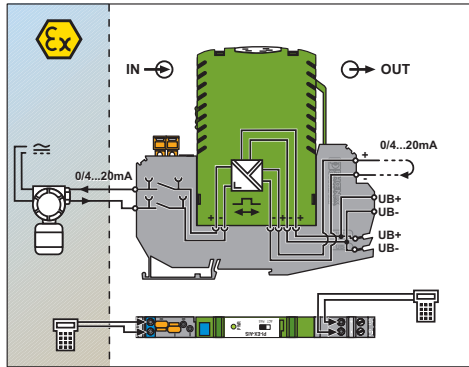
Environmental Product Compliance

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"

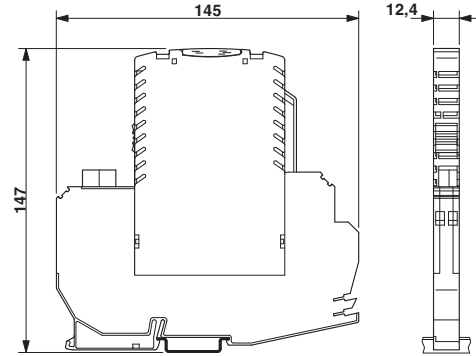
Drawings

Input isolating amplifier - PI-EX-AIS - 2865696

Block diagram



Dimensional drawing



Classifications

eCl@ss

eCl@ss 10.0.1	27210120
eCl@ss 11.0	27210120
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	27210120
eCl@ss 9.0	27210120

ETIM

ETIM 4.0	EC002653
ETIM 6.0	EC002653
ETIM 7.0	EC002653

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

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Approvals

Approvals

Approvals

Functional Safety

Ex Approvals

EAC Ex / ATEX

Approval details

Functional Safety	09-06-52 R010 V1R0
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