

## 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	
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 <sub>rms</sub>
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
	Input/output
Electrical isolation	375 V (Peak value in accordance with IEC/EN 60079-11)
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Electrical isolation	375 V (Peak value in accordance with IEC/EN 60079-11)

### Data communication (bypass)

HART function	Yes
Protocols supported	HART

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## Technical data

### Safety characteristic data

Integrity requirement	IEC 61508 - Low demand
Equipment type	Type A
Safety Integrity Level (SIL)	2
Safe Failure Fraction (SFF)	90.5 %
$\lambda_{SU}$	$1.23 \times 10^{-7}$ (123 FIT)
$\lambda_{SD}$	0
$\lambda_{DU}$	$3.4 \times 10^{-8}$ (34 FIT)
$\lambda_{DD}$	$2.05 \times 10^{-7}$ (205 FIT)
Probability of a hazardous failure on demand ( $PFD_{AVG}$ )	$1.62 \times 10^{-4}$ (1 year)
	$3.10 \times 10^{-4}$ (2 years)
	$7.52 \times 10^{-4}$ (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

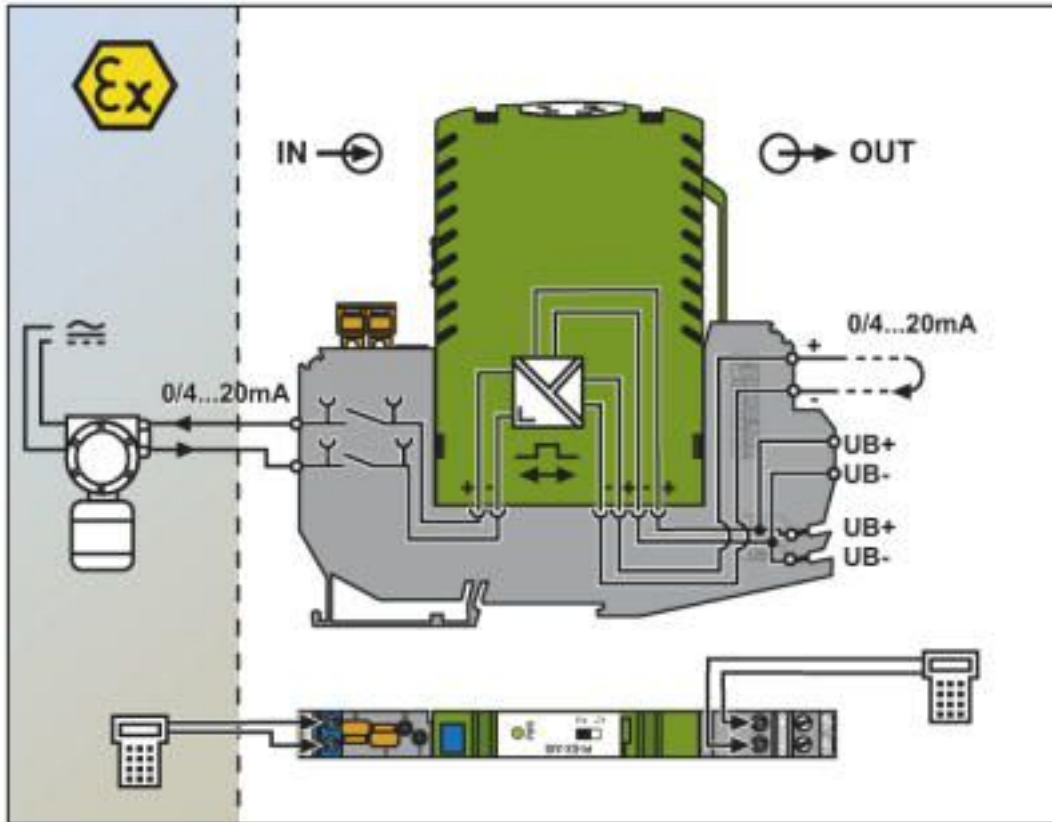
### Environmental Product Compliance

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

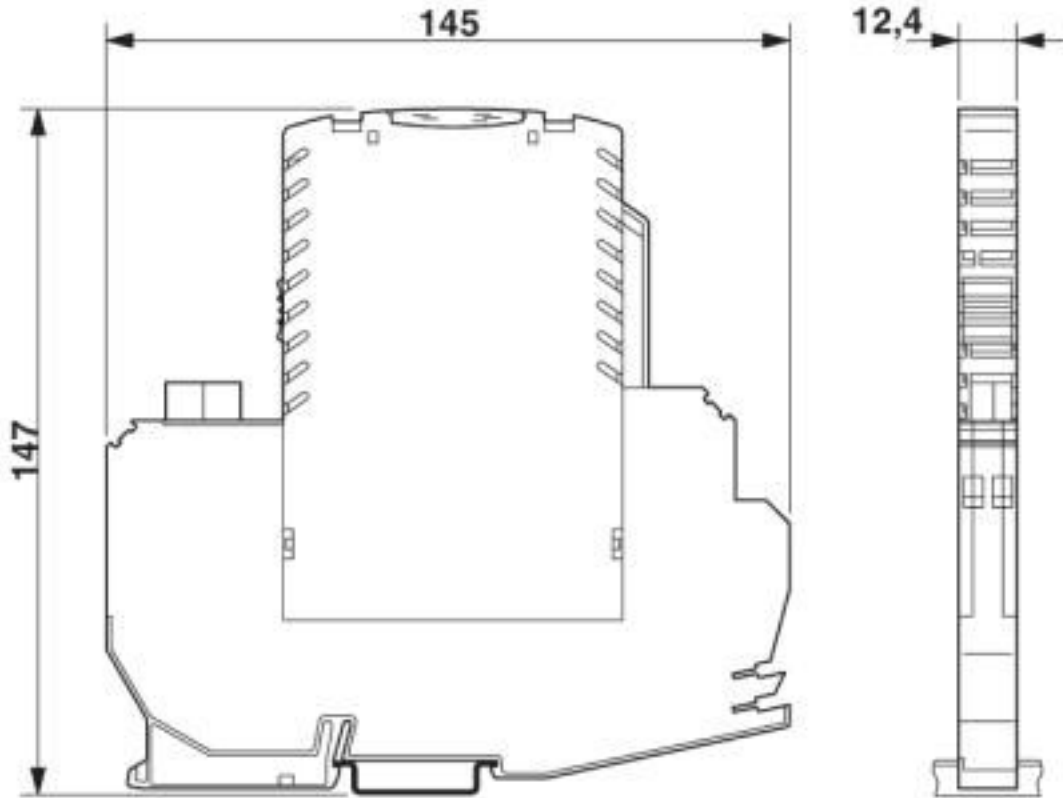
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Block diagram



# Input isolating amplifier - PI-EX-AIS - 2865696

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	27210120
eCl@ss 8.0	27210120
eCl@ss 9.0	27210120

### ETIM

ETIM 4.0	EC002653
ETIM 5.0	EC002653
ETIM 6.0	EC002653
ETIM 7.0	EC002653

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## Classifications

### 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

## Approvals

### Approvals

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Approvals

Functional Safety

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Ex Approvals

ATEX / EAC Ex

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### Approval details

Functional Safety	09-06-52 R010 V1R0
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## 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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## Input isolating amplifier - PI-EX-AIS - 2865696

### Accessories

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

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



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

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