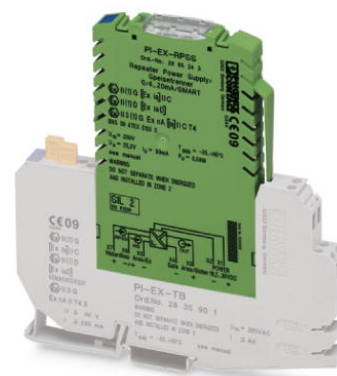


PI-EX-RPSS

Order No.: 2865243



Ex-i analog input: Repeater power supply, HART. Feeds intrinsically safe 2-conductor measuring transducers installed in an Ex area and transmits the 4-20 mA signal to a load in a safe area. Galvanic 3-way isolation (input / output / supply).



SIL 2

Commercial data

EAN	4046356164290
Pack	1
Customs tariff	85437090
Weight/Piece	97.30 g
Country of Origin	DE
Catalog page information	Page 264 (NTK-2010)

Please note that the data given here has been taken from the online catalog. For comprehensive information and data, please refer to the user documentation at <http://www.download.phoenixcontact.com>. The General Terms and Conditions of Use apply to Internet downloads.

Technical data

Measuring input

Signal input	Intrinsically safe
Current input signal	4 mA ... 20 mA
Transmitter supply voltage	> 16 V (at 20 mA)
	> 15.3 V (at 22.5 mA)

Measurement output

Signal output	Current output
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Current output signal	4 mA ... 20 mA (active)
	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)

Power supply

Supply voltage range	19.2 V DC ... 30 V DC
Max. current consumption	< 60 mA (at 24 V DC)
Power consumption	< 1.1 W (at 24 V DC / 20 mA)

General data

No. of channels	1
Maximum transmission error	< 0.1 % (of final value)
Transmission error, typical	< 0.05 % (of final value)
Maximum temperature coefficient	< 0.01 %/K
Ambient temperature (operation)	-20 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Permissible humidity (operation)	10 % ... 95 % (no condensation)
Step response (10-90%)	< 600 μ s (for 4 mA ... 20 mA step)
Status display	Green LED (supply voltage, PWR)
Width	12.4 mm
Height	145 mm
Depth	147 mm
Inflammability class acc. to UL 94	V0
Housing material	PBT and polyamide PA non-reinforced
Color	green
Conformance	CE-compliant, additionally EN 61326
ATEX	Ex II (1) G [Ex ia] IIC
	Ex II (1) D [Ex iaD]
	Ex II 3 (1) G Ex nA [ia] IIC T4
Functional safety (SIL)	SIL 2 according to EN 61508

Data communication (bypass)

HART function	Yes
Protocols supported	HART

Safety characteristic data

Integrity requirement	for IEC 61508 - Low demand
Designation	Repeater power supply operation
Equipment type	Type A
Safety integrity level (SIL)	Up to 2
Safe Failure Fraction (SFF)	90.9 %
λ_{SU}	1.51×10^{-7} (151 FIT)
λ_{SD}	0
λ_{DU}	4.1×10^{-8} (41 FIT)
λ_{DD}	2.63×10^{-7} (263 FIT)
Probability of a hazardous failure on demand (PFD _{AVG})	$1,96 \times 10^{-4}$ (1 Jahr)
	$3,74 \times 10^{-4}$ (2 Jahre)
	$9,07 \times 10^{-4}$ (5 Jahre)
Diagnostic coverage (DC)	(DC _S = 0%, DC _D = 86%)
Integrity requirement	for IEC 61508 - Low demand
Designation	Input isolating amplifier (4 ... 20 mA)
Equipment type	Type A
Safety integrity level (SIL)	Up to 2
Safe Failure Fraction (SFF)	91.2 %
λ_{SU}	1.52×10^{-7} (152 FIT)
λ_{SD}	0
λ_{DU}	3.8×10^{-8} (38 FIT)
λ_{DD}	2.44×10^{-7} (244 FIT)
Probability of a hazardous failure on demand (PFD _{AVG})	$1,81 \times 10^{-4}$ (1 Jahr)
	$3,46 \times 10^{-4}$ (2 Jahre)
	$8,41 \times 10^{-4}$ (5 Jahre)
Diagnostic coverage (DC)	(DC _S = 0%, DC _D = 86%)

Safety data

Max. voltage U _o	25.2 V
Max. current I _o	93 mA
Max. power P _o	590 mW
Gas group	II B

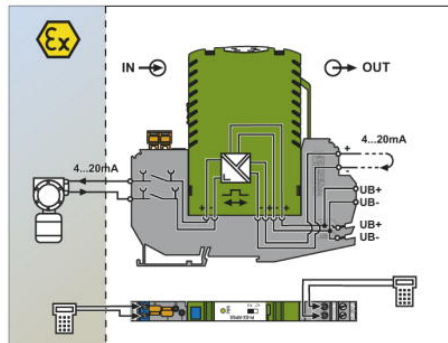
Max. external inductivity L_o	4 mH
Max. external capacity C_o	820 nF
Gas group	II C
Max. external inductivity L_o	2 mH
Max. external capacity C_o	107 nF

Additional products

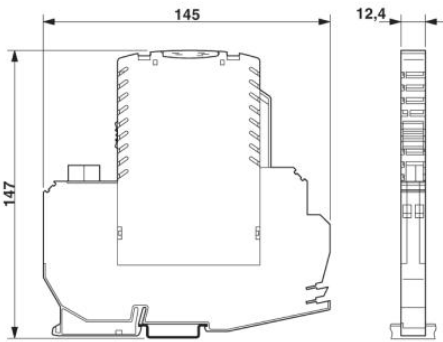
Item	Designation	Description
General		
2835325	PI-EX-ES-1/3	Ex basic terminal block, with three terminal points to the field level (Ex area)
2835901	PI-EX-TB	Ex base terminal block for intrinsically safe signals with knife disconnection and test connections
2858386	TT-PI-EX-TB	Intrinsically safe basic terminal block with isolating connector, test connections and surge protection, for mounting on NS 35/7.5

Drawings

Block diagram



Dimensioned drawing



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