

Repeater power supply - PI-EX-RPSS - 2865243


Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



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).



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 164290
Weight per Piece (excluding packing)	97.3 g
Custom tariff number	85437090
Country of origin	Germany

Technical data

Note

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

Dimensions

Width	12.4 mm
Height	145 mm
Depth	147 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)
Degree of protection	IP20

Input data

Signal input	Intrinsically safe
--------------	--------------------

Repeater power supply - PI-EX-RPSS - 2865243

Technical data

Input data

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

Output data

Signal output	Current output
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)
Output ripple	< 20 mV _{rms}
Output behavior in the event of an error	0 mA (Cable break in the input)
	≥ 24 mA (Cable short-circuit in the input)

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

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
Step response (10-90%)	< 600 μs (for 4 mA ... 20 mA step)
Status display	Green LED (supply voltage, PWR)
Inflammability class according to UL 94	V0
Pollution degree	2
Surge voltage category	II
Housing material	PBT and polyamide PA non-reinforced
Color	green
Designation	Input/output/power supply
Electrical isolation	300 V _{rms} (Rated insulation voltage (surge voltage category II; pollution degree 2, safe isolation as per EN 61010-1))
	2.5 kV (50 Hz, 1 min., test voltage)
Designation	Input/output
Electrical isolation	375 V (Peak value in accordance with EN 60079-11)
Designation	Input/power supply
Electrical isolation	375 V (Peak value in accordance with EN 60079-11)
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

Repeater power supply - PI-EX-RPSS - 2865243

Technical data

General

Functional Safety (SIL)	SIL 2 according to IEC 61508
-------------------------	------------------------------

Data communication (bypass)

HART function	Yes
Protocols supported	HART

Safety characteristic data

Integrity requirement	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})	1.96×10^{-4} (1 year)
	3.74×10^{-4} (2 years)
	9.07×10^{-4} (5 years)
Diagnostic coverage (DC)	DC _S = 0%, DC _D = 86%
Integrity requirement	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})	1.81×10^{-4} (1 year)
	3.46×10^{-4} (2 years)
	8.41×10^{-4} (5 years)
Diagnostic coverage (DC)	DC _S = 0%, DC _D = 86%

Safety data

Max. output voltage U _o	25.2 V
Max. output current I _o	93 mA
Max. output power P _o	590 mW
Group	IIB
Max. external inductivity L _o	4 mH

Repeater power supply - PI-EX-RPSS - 2865243

Technical data

Safety data

Max. external capacity C_o	820 nF
Group	IIC
Max. external inductivity L_o	2 mH
Max. external capacity C_o	107 nF
Safety-related maximum voltage U_m	253 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	27210120

ETIM

ETIM 2.0	EC001431
ETIM 3.0	EC001596
ETIM 4.0	EC001596
ETIM 5.0	EC002653

UNSPSC

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

Approvals

Approvals

Approvals

Functional Safety / EAC

Ex Approvals

ATEX / EAC Ex

Repeater power supply - PI-EX-RPSS - 2865243

Approvals

Approvals submitted

Approval details

Functional Safety

EAC

Accessories

Additional products

Basic terminal block - PI-EX-TB - 2835901



Ex base terminal block for intrinsically safe signals with knife disconnection and test connections

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

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

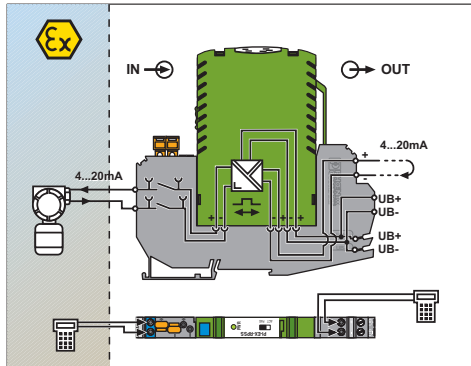


Ex basic terminal block, with three terminal points to the field level (Ex area)

Drawings

Repeater power supply - PI-EX-RPSS - 2865243

Block diagram



Dimensional drawing

