

Isolator Barriers

Temperature transmitter

Ex i field circuit ISpac

9282/11-51-16k Art. No. 261454



- Ex i temperature transmitter, can be used for resistance temperature detectors and potentiometers
- Slim design saves space – just 12.5 mm wide
- For use up to SIL 2 (IEC/EN 61508)

MY R. STAHL 9282A



9282 series temperature transmitters for Ex i field circuits can be used to connect temperature sensors and potentiometers. The devices are easy to configure for virtually any sensor type by means of software. These sensor types include Pt100 sensors, thermocouples and potentiometers. These devices feature three-way galvanic separation.

Technical Data

Explosion Protection

Application range (zones)	2
Ex interface zone	0, 1, 2, 20, 21, 22
IECEX gas certificate	IECEX IBE 19.0019X
IECEX gas explosion protection	Ex ec ic [ia Ga] IIC T4 Gc
IECEX dust certificate	IECEX IBE 19.0019X
IECEX dust explosion protection	[Ex ia Da] IIIC
IECEX firedamp certificate	IECEX IBE 19.0019X
IECEX firedamp protection	[Ex ia Ma] I
ATEX gas certificate	IBEXU 19 ATEX 1091 X
ATEX gas explosion protection	⊕ II 3 (1) G Ex ec ic [ia Ga] IIC T4 Gc
ATEX dust certificate	IBEXU 19 ATEX 1091 X
ATEX dust explosion protection	⊕ II (1) D [Ex ia Da] IIIC
ATEX firedamp certificate	IBEXU 19 ATEX 1091 X
ATEX firedamp protection	⊕ I (M1) [Ex ia Ma] I
Certificates	ATEX (IBE), Canada (UL), IECEX (IBE), India (PESO), SIL (TUN), USA (UL)
Ship approval	DNV

Safety Data

Max. voltage U_o/V_{oc}	6 V
Max. current I_o/I_{sc}	16.8 mA
Max. power P_o	25.2 mW
Max. permissible external capacitance C_o/C_a for IIC	40 μ F
Max. permissible external inductance L_o/L_a for IIC	100 mH
Max. permissible external capacitance C_o/C_a for IIB	40 μ F

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Safety Data

Max. permissible external inductance L_o /La for IIB	100 mH	
Max. permissible external capa.IIA	40 μ F	
Max. permissible external inductance L_o for IIA	100 mH	
Max. permissible external capacity C_o for IIIC	40 μ F	
Max. permissible external inductance L_o for IIIC	100 mH	
Max. permissible external capacity C_o for I	40 μ F	
Max. permissible external inductance L_o for I	100 mH	
Internal capacitance	44 nF	
Internal inductance	Negligible	
Safety-related max. voltage	253 V	
Intrinsically safe limiting values inductance L_o /capacitance C_o	Jointly connectable inductance L_o /capacitance C_o	
IIC	L_o [mH]	100 mH
	C_o [μ F]	0.600 μ F
IIB	L_o [mH]	100 mH
	C_o [μ F]	1 μ F
IIA	L_o [mH]	100 mH
	C_o [μ F]	1 μ F
IIIC	L_o [mH]	100 mH
	C_o [μ F]	1 μ F
I	L_o [mH]	100 mH
	C_o [μ F]	1 μ F

Functional Safety

SIL	2
HFT	0
SFF	94%
Lambda SD	0,8 FIT
Lambda SU	240 FIT
Lambda DD	401,3 FIT
Lambda DU	37,8 FIT
PFD _{avg} at T _{proof} 1 year	1,65E-04
PFD _{avg} at T _{proof} 2 years	3,04E-04
PFD _{avg} at T _{proof} 5 years	8,26E-04

Electrical Data

Signal types	RTD, potentiometer
Number of channels	1

Auxiliary Power

Auxiliary power	24 V DC
Nominal voltage V_{nom}	24 V DC
Auxiliary power voltage range	19.2 ... 30 V

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Auxiliary Power

Nominal current	40 mA
Power consumption	1 W
Max. power dissipation	0.76 W
Polarity reversal protection	Yes
Operation indication	Green "PWR" LED

Galvanic Isolation

Test voltage as per standard	EN IEC 60079-11
Ex i input to output	375 V AC peak value
Ex i input to auxiliary power	375 V AC peak value
Test voltage as per standard	EN 61010/EN 50178
Output to auxiliary power	300 V _{eff}

Input

Sensor adjustment	Via software
Connection type RTD input	2-, 3- and 4-wire circuits
2-conductor adjustment	Via software
Max. permissible total line resistance per conductor	≤ 50 ohm
Sensor current RTD	≤ 0.21 mA
Input thermocouple	—
Potentiometer input	Up to 50 kΩ
Potentiometer connection type	3-conductor connection
Potentiometer sensor current	≤ 0.21 mA
Input RTD	Pt 50 , Pt 100 , Pt 200 , Pt 500 , Pt 100S , Pt 500S , Ni 100 , Ni 500 , Cu 50 , Cu 53

Output

Output	0/4 to 20 mA active/source
Output signal	0/4 to 20 mA (configurable)
Load resistance R _L	0 ... 600 Ω
Response time output	≤ 1.7 s
Behaviour of the output at line fault	configurable
Line fault indication	Red "ERR" LED
Deviations / error note	Information in % of the measuring range (20 mA) at U _N , 23 °C
Average measurement fault	< 0,1%
Temperature influence	≤ 0,25 %/10K

Ambient Conditions

Ambient temperature °C	-40 °C ... +70 °C
Ambient temperature °F	-40°F ... +158°F
Storage temperature °C	-40 °C ... +80 °C
Storage temperature °F	-40°F ... +176°F
Max. relative humidity	5 to 95%
Max. additional relative humidity	No condensation
Use at the height of	< 2000 m
Electromagnetic compatibility	EN 61326-1 Use in industrial environment Immunity according to EN 61000-6-2 Interference emission to EN 61000-6-4

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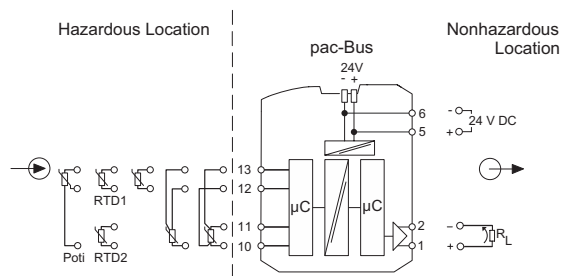
Mechanical Data

Degree of protection (IP)	IP30
Degree of protection (IP) terminals	IP20
Fire resistance (UL 94)	V0
Enclosure material	Polyamide
Grid dimension	12.5 mm
Width	12.5 mm
Width, inches	0.49 in
Height	114.5 mm
Length	112.5 mm
Length in inches	4.43 in
Mounting depth in inches	4.51 in
Weight	170 g
Weight	0.37 lb

Mounting / Installation

Mounting type	DIN rail NS35/15, NS35/7.5
Mounting orientation	Horizontal Vertical
Connection type	Spring clamp terminal
Min. rigid conductor cross section	0.2 mm ²
Max. rigid conductor cross section	1.5 mm ²
Min. flex conductor cross section	0.2 mm ²
Max. flex conductor cross section	1.5 mm ²
Connection cross-section AWG	24 ... 16

Technical Drawings – Subject to Alterations



Connection diagram 9282/11-51-16

Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations

Accessories

9282 Parameterisation

	Parameterisation ex works optionally available for all variants.	Art. No. 299646
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Resistive coupling element

Art. No.



Replacement for blue screw terminal (Ex i field circuit)
Application: Use of the device for non-Ex i field circuits.

247644

Parameterization adapter

Art. No.



Used for parameterization and diagnostics on 9282 series ISpac isolators.
Interface to PC: USB
Scope of delivery: Adapter and cable (software is available to download online at r-stahl.com,
WebCode: 9282A)

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