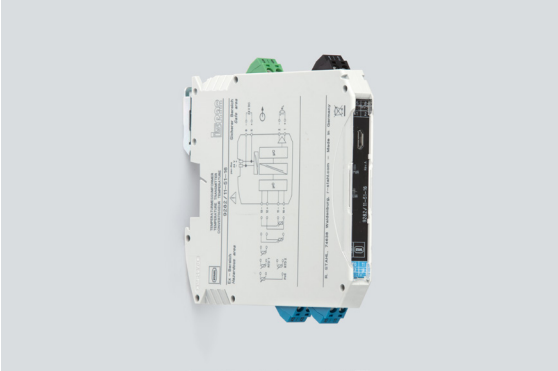
Isolator Barriers
Temperature transmitter
Ex i field circuit ISpac
9282/11-51-16s Art. No. 261452



- 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

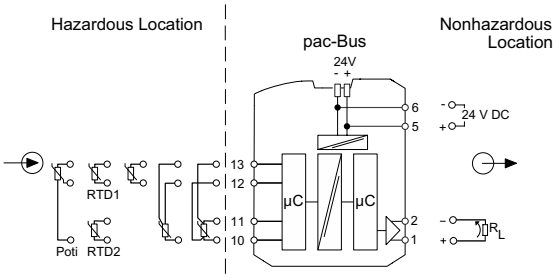
Explosion Protection	
Application range (zones)	2
Ex interface zone	0, 1, 2, 20, 21, 22
IECEx gas certificate	IECEx IBE 19.0019X
IECEx gas explosion protection	Ex ec ic [ia Ga] IIC T4 Gc
IECEx dust certificate	IECEx IBE 19.0019X
IECEx dust explosion protection	[Ex ia Da] IIIC
IECEX firedamp certificate	IECEx IBE 19.0019X
IECEx firedamp protection	[Ex ia Ma] I
ATEX gas certificate	IBExU 19 ATEX 1091 X
ATEX gas explosion protection	Ⓔx II 3 (1) G Ex ec ic [ia Ga] IIC T4 Gc
ATEX dust certificate	IBExU 19 ATEX 1091 X
ATEX dust explosion protection	Ⓔx II (1) D [Ex ia Da] IIIC
ATEX firedamp certificate	IBExU 19 ATEX 1091 X
ATEX firedamp protection	Ⓔx I (M1) [Ex ia Ma] I
cULus certificate	E81680
Marking cULus	Associat. apparatus for use in, Class I, Div. 2, Groups A,B,C,D; Class I, Zone 2, Group IIC prov. intr. safe circ. f.u.in Class I,II,III, Div. 1, Groups A,B,C,D,E,F,G; Class I, Zone 0, Group IIC See doc. 9282 6 031 001 3
Certificates	ATEX (IBE), Canada (UL), IECEx (IBE), India (PESO), Korea (KTL), 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

Safety Data		
Max. permissible external capacitance C_o/C_a for IIC		40 µF
Max. permissible external inductance L_o/La for IIC		100 mH
Max. permissible external capacitance C_o/C_a for IIB		40 µF
Max. permissible external inductance L_o/La for IIB		100 mH
Max. permissible external capa.IIA		40 µF
Max. permissible external inductance L_o for IIA		100 mH
Max. perm. ext. capacit. IIIC		40 µF
Max. permis. ext. induct. IIIC		100 mH
Max. permissible ext. capac. I		40 µF
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 [µF]	0.600 µF
IIB	L_o [mH]	100 mH
	C_o [µF]	1 µF
IIA	L_o [mH]	100 mH
	C_o [µF]	1 µF
IIIC	L_o [mH]	100 mH
	C_o [µF]	1 µF
I	L_o [mH]	100 mH
	C_o [µF]	1 µF
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
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)
Ripple current output	<15 µASS <10 $µA_{rms}$
Load resistance R_L	0 ... 600 Ω
Response time output	≤ 1.7 s
Behaviour of output during LF	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	≤ 0,1 %/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

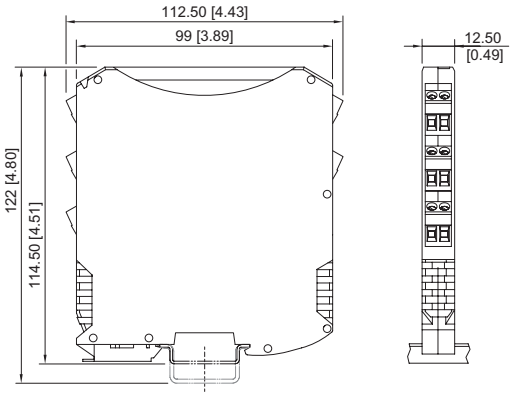
Ambient Conditions	
Use at the height of	< 2000 m
Degree of pollution	2
Overvoltage category	II
Electromagnetic compatibility	EN 61326-1 Use in industrial environment Immunity according to EN 61000-6-2 Interference emission to EN 61000-6-4
Mechanical Data	
Degree of protection (IP)	IP30
Degree of protection (IP) terminals	IP20
Fire resistance (UL 94)	V0
Enclosure material	Polyamide
Min. rigid conductor cross section	0.2 mm²
Max. rigid conductor cross section	2.5 mm²
Min. flexible conductor cross section	0.2 mm²
Max. flexible conductor cross section	2.5 mm²
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
Mounting / Installation	
Mounting type	DIN rail NS35/15, NS35/7.5
Grid dimension	12.5 mm
Mounting orientation	Horizontal Vertical
Connection type	Screw terminal
Connection cross-section AWG	24 ... 14

Technical Drawings – Subject to Alterations



Connection diagram 9282/11-51-16

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



ISpac Series 9260, 9265, 9270, 9275, 9276, 9282
with screw terminal

Accessories

9282 Parameterisation		Art. No.
	Parameterisation ex works optionally available for all variants.	299646

Screw terminal		Art. No.
	Replacement for blue screw terminal (Ex i field circuit) Application: Use of the device for non-Ex i field circuits.	272381

Parameterization set Series 9199 for ISpac isolators Series 9146, 9162, 9182 and 9282		Art. No.
	Used for parameterization and diagnostics on 9146, 9162, 9182 and 9282 series ISpac isolators. Interface to PC: USB Scope of delivery: Adapter and cable (software is available to download online at r-stahl.com, Websites of the specified devices or MY R. STAHL: 9282A)	261507