

# Isolators

## 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



The Series 9282 temperature transmitters for Ex i field circuits are 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. The 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), Korea (KTL), SIL (TUN), USA (UL)
Ship approval	DNV

#### Safety Data

Max. voltage $U_o$	6 V
Max. current $I_o$	16.8 mA
Max. power $P_o$	25.2 mW
Max. permissible external capacity $C_o$ for IIC	40 $\mu$ F
Max. permissible external inductance $L_o$ for IIC	100 mH
Max. permissible external capacity $C_o$ for IIB	40 $\mu$ F

#### Safety Data

Max. permissible external inductance $L_o$ for IIB	100 mH	
Max. permissible external capa.IIA	40 $\mu$ F	
Max. permissible external inductance $L_o$ for IIA	100 mH	
Max. permissible external capacity $C_o$ for IIIC	40 $\mu$ F	
Max. permissible external inductance $L_o$ for IIIC	100 mH	
Max. permissible external capacity $C_o$ for I	40 $\mu$ 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] $C_o$ [ $\mu$ F]	100 mH 0.600 $\mu$ F
IIB	$L_o$ [mH] $C_o$ [ $\mu$ F]	100 mH 1 $\mu$ F
IIA	$L_o$ [mH] $C_o$ [ $\mu$ F]	100 mH 1 $\mu$ F
IIIC	$L_o$ [mH] $C_o$ [ $\mu$ F]	100 mH 1 $\mu$ F
I	$L_o$ [mH] $C_o$ [ $\mu$ F]	100 mH 1 $\mu$ 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 <sub>avg</sub> at T <sub>proof</sub> 1 year	1,65E-04
PFD <sub>avg</sub> at T <sub>proof</sub> 2 years	3,04E-04
PFD <sub>avg</sub> at T <sub>proof</sub> 5 years	8,26E-04

#### Electrical Data

Signal types	RTD, potentiometer
Number of channels	1

#### Auxiliary Power

Auxiliary power	24 V DC
Nominal voltage	24 V DC
Auxiliary power voltage range	19.2 ... 30 V

#### 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 <sub>eff</sub>

#### 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 <sub>L</sub>	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 <sub>N</sub> , 23 °C
Average measurement fault	< 0,1%
Temperature influence	≤ 0,25 %/10K

#### Ambient Conditions

Ambient temperature	-40 °C ... +70 °C
Ambient temperature	-40°F ... +158°F
Storage temperature	-40 °C ... +80 °C
Storage temperature	-40°F ... +176°F
Maximum 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

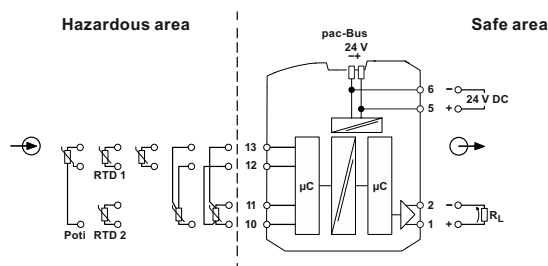
#### Mechanical Data

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	Screw terminal
Min. rigid conductor cross section	0.2 mm <sup>2</sup>
Max. rigid conductor cross section	2.5 mm <sup>2</sup>
Min. flex conductor cross section	0.2 mm <sup>2</sup>
Max. flex conductor cross section	2.5 mm <sup>2</sup>
Connection cross-section AWG	24 ... 14

#### Technical Drawings – Subject to Alterations



9282/11-51-16 connection diagram

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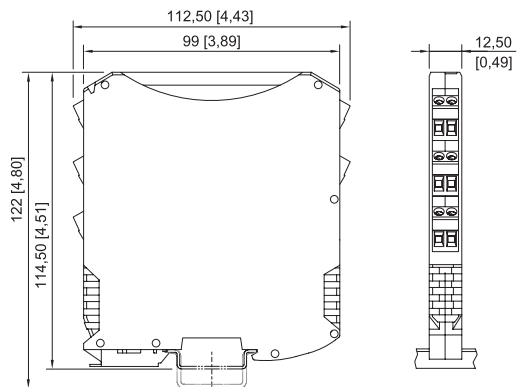
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## Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



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

## Accessories

### 9282 Parameterisation



Parameterisation ex works optionally available for all variants.

**Art. No.**

299646

### Resistive coupling element



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

**Art. No.**

247644

### Parameterising adaptor



Used for parameterisation and diagnostics of Series 9282 ISpac isolators.  
Interface with the PC: USB  
Scope of delivery: Adaptor and cable (software is available to download online at [r-stahl.com](http://r-stahl.com),  
MY R. STAHL: 9282A)

**Art. No.**

261507

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