

# Isolators

Temperature transmitter

Ex i field circuit ISpac

9282/12-51-16k Art. No. 261455



- Ex i temperature transmitter, can be used for thermocouples
- 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), SIL (TUN), USA (UL)
Ship approval	DNV
Declaration of Conformity	ATEX (EUK), China (CCC)

### Safety Data

Max. voltage $U_o$	6 V
Max. current $I_o$	16.8 mA
Max. power $P_o$	25.2 mW

#### Safety Data

Max. permissible external capacity $C_o$ for I	40 $\mu$ F	
Max. permissible external inductance $L_o$ for I	100 mH	
Max. permissible external capacity $C_o$ for IIC	40 $\mu$ F	
Max. permissible external capacity $C_o$ for IIB	40 $\mu$ F	
Max. permissible external capa.IIA	40 $\mu$ F	
Max. permissible external inductance $L_o$ for IIC	100 mH	
Max. permissible external inductance $L_o$ for IIB	100 mH	
Max. permissible external inductance $L_o$ for IIA	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]	100.000 mH 1.000 $\mu$ F
IIIC	$L_o$ [mH] $C_o$ [ $\mu$ F]	100.000 mH 1.000 $\mu$ F
I	$L_o$ [mH] $C_o$ [ $\mu$ F]	100.000 mH 1.000 $\mu$ F

#### Functional Safety

SIL	2
HFT	0
SFF	93,8%
Lambda SD	0,8 FIT
Lambda SU	240,1 FIT
Lambda DD	394,4 FIT
Lambda DU	39,8 FIT
$PFD_{avg}$ at $T_{proof}$ 1 year	1,74E-04
$PFD_{avg}$ at $T_{proof}$ 2 years	3,48E-04
$PFD_{avg}$ at $T_{proof}$ 5 years	8,71E-04

#### Electrical Data

Signal types	Thermocouple, mV source
Number of channels	1

#### Auxiliary Power

Auxiliary power	24 V DC
-----------------	---------

#### Auxiliary Power

Nominal voltage	24 V DC
Auxiliary power voltage range	19.2 to 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	IEC EN 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
Input RTD	—
Input thermocouple	J, K, E, R, S, T, B, N (IEC 584), C, D (ASTM), U, L (DIN 43710), L, A1, A2, A3, M (GOST 8,585)
External reference junction	Pt100 2-conductor connection

#### Output

Output	0/4 to 20 mA active/source
Output signal	0/4 to 20 mA (configurable)
Max. load resistance R <sub>L</sub>	600 Ω
Response time output	≤ 1 s
Average measurement fault	< 0,1%
Indication of line fault	Red "ERR" LED
Behaviour of output with DB	Selectable

#### 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
Temperature influence	≤ 0,25 %/10K
Use at the height of	< 2000 m

#### Mechanical Data

Degree of protection (IP)	IP30
Degree of protection (IP) terminals	IP20
Fire resistance (UL 94)	V0
Enclosure material	Polyamide
AWG clamping range	16 – 12
Grid dimension	12.5 mm
Width	12.5 mm
Width, inches	0.49 in

# Isolators

Temperature transmitter

Ex i field circuit ISpac

9282/12-51-16k Art. No. 261455



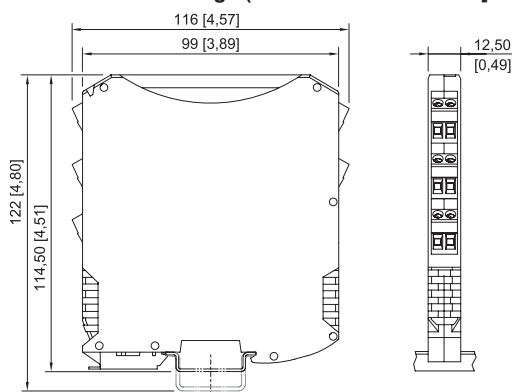
## Mechanical Data

Height	114.5 mm
Length	116 mm
Length, inches	4.57 in
Mounting depth, inches	4.51 in
Weight	175 g
Weight	0.39 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 <sup>2</sup>
Max. rigid conductor cross section	1.5 mm <sup>2</sup>
Min. flex conductor cross section	0.2 mm <sup>2</sup>
Max. flex conductor cross section	1.5 mm <sup>2</sup>
Connection cross-section AWG	24 – 16


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




ISpac Series 9260, 9270, 9275, 9276, 9282 with spring clamp terminal

## Accessories

### 9282 Parameterisation

	Parameterisation ex works optionally available for all variants.	<b>Art. No.</b> 299646
--	--	---------------------------

### 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, MY R. STAHL: 9282A)	<b>Art. No.</b> 261507
--	---	---------------------------

We reserve the right to make alterations to the technical data, dimensions, weights, designs and products available without notice. The illustrations cannot be considered binding.