



- 9180/.0 Ex i resistance isolator for Pt100 or 9180/.1 for Pt1000
- Only two-channel device in the world to require just 8.8 mm of space per channel
- For 2-, 3-, 4-wire connection

A3

MY R. STAHL 9180A



The Series 9180 Ex i resistance isolators are used for the intrinsically safe operation of Pt100 (9180/.0) or Pt1000 (9180/.1) resistance temperature detectors. The resistance measured at the input is transmitted to the output and can thereby be measured by an I/O card. The auxiliary power, output and intrinsically safe input are galvanically separated.

	IECEX / ATEX					
Zone	0	1	2	20	21	22
Ex interface	•	•	•	•	•	•
Installation in			•			

	NEC® 500 CE Code Appendix J					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Ex interface	•	•	•	•	•	•
Installation in		•				

	CE Code Section 18 NEC® 505 NEC® 506					
	Class I					
Zone	0	1	2	20	21	22
Ex interface	•	•	•			
Installation in			•			

Selection Table

Number of channels		1				
Measuring range	Medium-resolution input	Input for resistance temperature detector	Connection type	Product Type	Art. No.	Weight
18 to 391 Ω	0.02 Ω	Pt 100	Screw terminal	9180/10-77-11s	160491	160 g
		Pt 100	Spring clamp terminal	9180/10-77-11k	160492	160 g
180 to 3910 Ω	0.2 Ω	Pt 1000	Screw terminal	9180/11-77-11s	160499	160 g
Number of channels		2				
Measuring range	Medium-resolution input	Input for resistance temperature detector	Connection type	Product Type	Art. No.	Weight
18 to 391 Ω	0.02 Ω	Pt 100	Screw terminal	9180/20-77-11s	160494	180 g
		Pt 100	Spring clamp terminal	9180/20-77-11k	160495	180 g
180 to 3910 Ω	0.2 Ω	Pt 1000	Screw terminal	9180/21-77-11s	160502	180 g
		Pt 1000	Spring clamp terminal	9180/21-77-11k	160503	180 g

Technical Data

Explosion Protection	
IECEX gas explosion protection	Ex ec nC [ia Ga] IIC T4 Gc
IECEX dust explosion protection	[Ex ia Da] IIIC
ATEX gas explosion protection	Ⓔ II 3 (1) G Ex ec nC [ia Ga] IIC T4 Gc
ATEX dust explosion protection	Ⓔ II (1) D [Ex ia Da] IIIC
Certificates	ATEX (BVS), Brazil (ULB), Canada (FM), China (NEPSI), IECEX (BVS), India (PESO), Korea (KTL), USA (FM)
Ship approval	CCS, EU RO MR (DNV)
Declaration of conformity	ATEX (EUK), China (CCC)

Technical Data

Safety Data

Max. voltage U_e	6.5 V
Max. current I_e	16.5 mA
Max. power P_e	27 mW
Safety-related max. voltage	253 V

Auxiliary Power

Auxiliary power	24 V DC
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Output

Output signal	Equal to input signal (resistance value)
Settling time output	< 10 ms
Response time output	< 1 s
Line fault and loss of power signalisation	- Contact (30 V / 100 mA / DC), closed against earth in case of error - pac-Bus, potential-free contact (30 V / 100 mA / DC)

Ambient Conditions

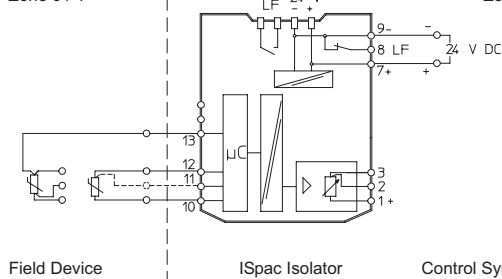
Ambient temperature	-20 °C ... +70 °C (Single device) -20 °C ... +60 °C (Group assembly)
Storage temperature	-40 °C ... +80 °C

Mounting / Installation

Mounting type	DIN rail NS35/15, NS35/7.5
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Technical Drawings – Subject to Alterations

Hazardous area
Division 1
Zone 0 / 1



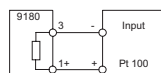
9180/1.-77-11 connection diagram



Input configuration, channel 1, 2-wire resistance temperature detector/potentiometer 9180/1.-77-11



Input configuration, channel 2, 3-wire resistance temperature detector/potentiometer 9180/2.-77-11

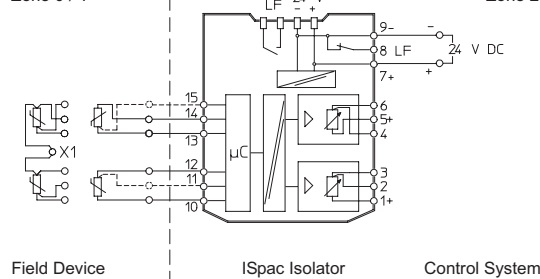


Output configuration, channel 1, 2-wire 9180/0-77-11

Safe area
Division 2
Zone 2



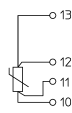
Hazardous area
Division 1
Zone 0 / 1



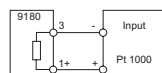
9180/2.-77-11 connection diagram



Input configuration, channel 2, 2-wire resistance temperature detector/potentiometer 9180/2.-77-11



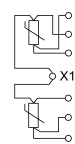
Input configuration, channel 1, 4-wire resistance temperature detector/potentiometer 9180/1.-77-11



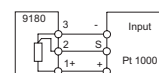
Output configuration, channel 1, 2-wire 9180/1-77-11



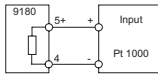
Input configuration, channel 1, 3-wire resistance temperature detector/potentiometer 9180/1.-77-11



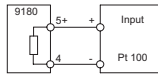
Input configuration, channel 2, 4-wire resistance temperature detector/potentiometer 9180/2.-77-11
*) Connection of two sensors using 4-wire technology requires an additional external terminal X1.



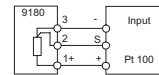
Output configuration, channel 2, 3-wire 9180/1-77-11



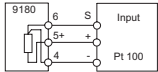
Output configuration, channel 2, 2-wire 9180/21-77-11



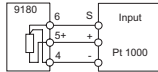
Output configuration, channel 2, 2-wire 9180/20-77-11



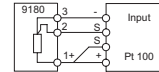
Output configuration, channel 1, 3-wire 9180/0-77-11



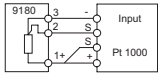
Output configuration, channel 2, 2-wire 9180/20-77-11



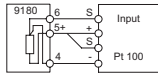
Output configuration, channel 2, 3-wire 9180/21-77-11



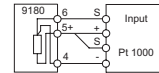
Output configuration, channel 1, 4-wire 9180/0-77-11



Output configuration, channel 1, 4-wire 9180/1-77-11



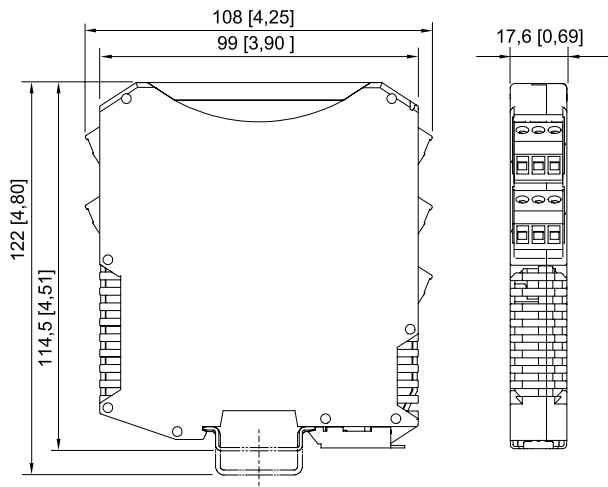
Output configuration, channel 2, 4-wire 9180/20-77-11



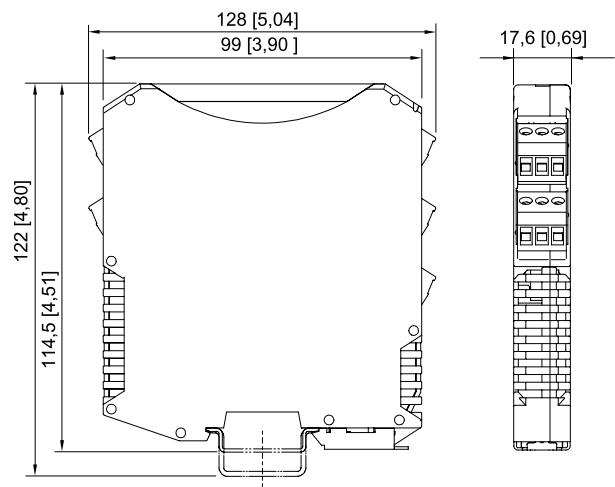
Output configuration, channel 2, 4-wire 9180/21-77-11

Spare Parts

Figure	Description	Art. No.	Weight
Spring clamp terminal			
	3-pole plug with test tap, spring clamp connection stripping length: 10 mm colour: blue	112826	5 g
Screw terminal			
	3-pole plug, screw connector thread: M3 stripping length: 7 mm colour: black	112816	5 g
	3-pole plug, screw connector thread: M3 stripping length: 7 mm colour: blue	112818	5 g
	3-pole plug, screw connector thread: M3 stripping length: 7 mm colour: green	112817	5 g
Spring clamp terminal			
	3-pole plug with test tap, spring clamp connection stripping length: 10 mm colour: green	112825	5 g
	3-pole plug with test tap, spring clamp connection stripping length: 10 mm colour: black	112824	5 g



ISpac Series 9143, 9146, 9147, 9160, 9162, 9163, 9165, 9167, 9170, 9172, 9175, 9176, 9180, 9182, 9193, ISbus Series 9412 with screw terminal



ISpac Series 9146, 9147, 9160, 9162, 9163, 9165, 9167, 9170, 9172, 9175, 9176, 9180, 9182, 9193, ISbus Series 9412 with spring clamp terminal