Features

- UNIVERSAL INPUT, DUAL CHANNEL
- DIN RAIL MOUNT (4 to 20) mA LOOP OUTPUT
- SENSOR CHARACTERISTICS DOWNLOAD VIA USB PORT ALLOWS FOR CUSTOM TYPES
- FLASH TESTED TO 4 KV DC

RS PRO DIN RAIL UNIVERSAL TEMPERATURE TRANSMITTER

RS Stock No.: 0458497

RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

Product Description

This RS PRO product is a DIN rail mounted universal transmitter that accepts RTD, Thermocouple, Potentiometer or millivolt input signals and converts them to the industry standard (4 to 20) mA transmission signal.

The product is programmed using a standard USB lead and free configuration software "USBSpeedlink"

Electrical Input		Specifications 20°C
Range + Options	Accuracy	Stability
Resistance		
(10 to 10000) □ Excitation 200 uA Lead resistance (0 to 20) □ (2,3 or 4 Wire connection)	(10 to 500) □ ± 0.055 □, (500 to 2500) □ ± 0.5 □, (2500 to 10500) □ ±0.2 % of reading (+ Lead error on 2 wire)	(0 to 500) □ 0.013 □/°C, (500 to 2500) □ 0.063 □/°C, (2500 to 10500) □ 0.27 □/°C
Slide wire		
(0 to 100) % Travel Wire resistance (1 to 100) K□	± 0.1 %	±0.001%/°C
mV		
(-205 to 205) mV DC (-1000 to 1000) mV DC	±0.02 mV ±10.0 mV	±0.005 mV/°C ±0.02 mV/°C

RTD INPUT	SPECIFICATIONS @20°C
RTD (2,3 or 4 wire Single/ 2 wire Dual Channel; isolated tip only for Dual operation)	

Type	Range	Accuracy/ Stability
Pt100 (IEC)	(-200 to 850) °C	0.2°C ± (°0.05% of reading) (Plus sensor error)
Pt500 (IEC)	(-200 to 850) °C	
Pt1000 (IEC)	(-200 to 600) °C	
Ni100	(-60 to 180) °C	
Ni120	(-70 to 180) °C	
Ni1000	(-40 to 150) °C	
Cu53	(-40 to 180) °C	
Cu100	(-80 to 260) °C	
Cu1000	(-80 to 260) °C	
Library contains more standards/types Including silicon sensors		
Temperature stability: - Refer to resistance stability values for thermal effect		

THERMOCOUPLE INPUT **SPECIFICATIONS @20°C**

Thermocouple (Single/Dual Channel; isolated tip only for Dual operation)

Type	Range	Accuracy/ Stability
K	(-150 to 1370) °C	±0.1 % of full scale ± 0.5 °C (Plus sensor error)
J	(-200 to 1200) °C	
N	(-270 to 1300) °C	
E	(-260 to 1000) °C	
T	(-270 to 400) °C	±0.2 % of full scale ± 0.5 °C (Plus sensor error)
R	(0 to 1760) °C	±0.1 % of full scale ± 0.5 °C over range (800 to 1760) °C (Plus sensor error)
S	(0 to 1760) °C	
L	(-200 to 900) °C	±0.1 % of full scale ± 0.5 °C (Plus sensor error)
U	(-200 to 600) °C	
B	(0 to 1820) °C	
C	(0 to 2300) °C	
D	(0 to 2300) °C	
G	(0 to 2300) °C	
Library contains more standards/ types		
Temperature stability: - Refer to mV stability values for thermal effect		

DUAL CHANNEL OPERATION	
Thermocouples A & B	Functions; Average, Redundancy, A + B, A – B, Highest, Lowest
mV A & B	Functions; Average, A + B, A – B, Highest, Lowest
RTD A & B	Two wire connection. Functions; Average, A + B, A – B, Highest, Lowest

COLD JUNCTION (Ambient sensor)		SPECIFICATIONS @20°C
Type/ Options	**Range**	**Accuracy/ Stability/ Notes**
Thermistor 10K Beta 3380	(-30 to 70) °C	±0.2 °C
Thermal drift	Zero at 20°C	±0.05 °C/°C

OUTPUT		SPECIFICATIONS @20°C
Type/ Options	**Range**	**Accuracy/ Stability/ Notes**
Two wire current	(4 to 20) mA	(mA Out/ 2000) or 5 uA whichever is the greater
Thermal drift	Zero at 20°C	±1 uA/°C
User set minimum current	(3.5 to 4.0) mA	3.8 mA default
User set maximum current	(20 to 23.0) mA	20.5 mA default
User set error current	(3.5 to 23.0) mA	Any mA value within range
User pre-set current	(3.5 to 23.0) mA	For diagnostics
Loop effect	± 0.2 uA/V	
Loop supply	(10 to 30) V DC, > 35 mA	SELV
Max load	[(V supply – 10)/20] KΩ	700 Ω @ 24 V DC
Protection	Reverse and over voltage	

USB USER INTERFACE		
Type/ Options/ Function	**Description**	**Notes**
USB 2.0	Mini B USB	USB powers device for config only. Power loop for live data.
Baud Rate	38,400	
	Sensor type Sensor offset	TC/mV/RTD/Ohms/Slide wire Dual TC/mV/RTD Dual sensors use separate offsets

Sensor configuration	Sensor fail high or low Pre-set sensor value Set No. wires, resistance Input T/C Cold junction compensation	Dual sensors share sensor fail For diagnostics 2, 3 or 4 wire Automatic or fixed
Profiler configuration	Set profiler input range Set profiler segments Enter profile X~Y values Set profiler output units Set the output process range TC & RTD input only set units	In sensor units (4 to 22) segments Profiler set up
Output signal	Select the process range for re-transmission Set minimum current Set maximum current Set the error current Pre-set Loop current	Set in profiler out units (3.5 to 4.0) mA (20 to 23.0) mA (3.5 to 23.0) mA (3.5 to 23.0) mA
Damping	User set process variable (PV) damping	(1 to 32) seconds to reach 70% final value

Diagnostics	Read (PV, mA, CJ °C, error & power off) log points back from device Set the log period Clear log and start new log Export log data Detect open circuit sensor wire Calibration date, certificate number, calibrated by	Up to 150 points Log rate (1 to 60) readings per hour
Live data	Read process variable (PV) Read profiler input signal Read profiler output signal Read cold junction temperature Read % output Read mA output	

GENERAL	
Function	**Description**
Isolation	Flash tested 5 seconds at 4 KV DC, working voltage 50 V AC
Reading update	200 ms
Response time	500 ms to reach 70% final value
Warm up	2 minutes
Start-up time	5 seconds

AMBIENT	
Temperature	Operating/storage (-30 to 70) °C
Humidity	Operating/storage (10 to 95) % Non-condensing
Installation enclosure	EN50022 DIN rail enclosure offering protection >= IP65
Configuration ambient	(10 to 30) °C
Temperature	Operating/storage (-30 to 70) °C

MECHANICAL	
Enclosure	DIN 43880

Material	Polyimide 6.6
Dimensions	(17.5 x 90 x 56.4) mm
Weight	Approximately 70 g
Colour	Grey

CONNECTIONS	
Output	Screw terminals 2.5 mm maximum Pins (4,5)
Input	Screw terminals 2.5 mm maximum Pins (7,8,9,12)
USB	Mini B USB
Output	Screw terminals 2.5 mm maximum Pins (4,5)

APPROVALS	
EMC	BS EN 61326 Industrial
Ingress protection	BS EN 60529
RoHS	Directive 2011/65/EO
SIL Accreditation	IEC 61508-2: 2010 clauses 7.4.4 and 7.4.5