

## Features

- PT100, Cu100, Cu53, Ni100, Ni120
- (4 to 20) mA TWO WIRE OUTPUT
- USER OUTPUT TRIM (ZERO and SPAN)
- PC CONFIGURATION USING USB PORT
- LIVE DATA CAN BE VIEWED ON AN ANDROID PHONE OR TABLET

## RS PRO RTD DIN RAIL TEMPERATURE TRANSMITTER

RS Stock No.: 0458741



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.

This RS PRO product is the next generation DIN rail mounted temperature transmitter. It has been designed to accept most common RTD temperature sensor inputs and provide the user with a standard two wire (4 to 20) mA output signal. All temperature ranges are linear to temperature. Designed for ease of use, our latest USB interface is fitted for quick and easy configuration. Connect a standard USB cable between the SEM1605P and your PC. Our free configuration software will guide you through any changes you wish to make. To further help save time, the product does not need to be wired to a power supply during the configuration process, it is powered via the USB interface from your PC.

| SENSOR INPUT            |                  | SPECIFICATIONS @20°C                             |
|-------------------------|------------------|--|
| RTD                     |                  |  |
| Type                    | Range            | Accuracy/ Stability                              |
| PT100 (IEC)             | (-200 to 850) °C | 0.2°C + (°0.05% of reading)<br>Plus sensor error |
| PT100 0.391             | (-200 to 630) °C |  |
| PT100 0.392             | (-200 to 630) °C |  |
| PT100 0.393             | (-200 to 630) °C |  |
| Cu53                    | (-40 to 180) °C  |  |
| Cu100                   | (-80 to 260) °C  |  |
| Ni100                   | (-70 to 180) °C  |  |
| Ni120                   | (-70 to 180) °C  |  |
| Excitation current      |                  | 660 uA   |
| Maximum lead resistance | 2 or 3 wire      | 20 Ω   |
| Thermal stability       |                  | ± 0.02 °C / °C                                   |

| OUTPUT                 |                         | SPECIFICATIONS @20°C                                 |
|------------------------|-------------------------|--|
| Type/ Function         | Range/ Description      | Accuracy/ Stability/ Notes                           |
| Two wire current       | (4 to 20) mA            | (mA output /2000) or 5 uA (Whichever is the greater) |
| Thermal drift          | Zero at 20°C            | 2 uA /°C   |
| Maximum output current | 21.5 mA                 | In high burnout condition                            |
| Minimum output current | < 3.9 mA                | In low burnout condition                             |
| Loop voltage effect    |                         | 0.2 uA / V   |
| Maximum output load    | [(V supply - 10)/20] KΩ | 700 Ω @ 24 V DC                                      |
| Loop supply            | (10 to 30) V DC         | SELV   |
| Power                  |                         | < 1 W full power                                     |
| Thermal stability      |                         | ± 2 uA/°C  |

## USB USER INTERFACE

| Type/ Function                       | Range/ Description                                | Notes                           |
|--------------------------------------|---|---------------------------------|
| Configuration hardware               |   | USB A to mini B lead            |
| Configuration software               | USBSpeedLink                                      |                                 |
| Sensor configuration                 | Sensor type                                       | RTD list                        |
|                                      | Temperature range for (4 to 20) mA retransmission | °C or °F Active or manual range |
|                                      | Sensor offset                                     | ±10 °C or ±18°F                 |
|                                      | Burnout current                                   | Upscale, downscale or user set  |
| Pre-set temperature (diagnostics)    | Any within sensor range                           | °C or °F                        |
| Pre-set output current (diagnostics) | Any within output range                           | mA                              |
| Tag                                  |   | 20 characters                   |
| Button function                      |   | Trim, active range, off         |
| Read live data                       | Temperature<br>Output                             | °C or °F<br>mA                  |
| Save/ open configuration             | To/ from PC file                                  |                                 |

## ANDROID USER INTERFACE

| Type/ Function | Range/ Description           | Accuracy/ Stability/ Notes |
|----------------|------------------------------|----------------------------|
| Hardware       | USB Lead                     | OTG plus A to Mini B       |
| Software       | USBView                      |                            |
| Read live data | Input signal<br>Output value | °C, °F<br>mA               |

## USER PUSH BUTTON INTERFACE

| Function     | Description  |
|--------------|--|
| Active range | Range 4 mA and 20 mA points against live input   |
| User trim    | Adjust at maximum and minimum input range value<br>Offset (4 mA) and span (20 mA) adjustment |

## GENERAL

| Function              | Description                              |
|-----------------------|--|
| Response time         | 500 ms to 70% of final value             |
| Start-up time         | 8 s                                      |
| Warm-up time          | 120 s to full accuracy                   |
| Default configuration | PT100 (0 to 100) °C, upscale burnout     |
| LED (red)             | If mA output < -0.1% or > 100.1 % LED ON |
| Protection            | Reverse connection                       |

## ENVIRONMENTAL

| Function                  | Description  |
|---------------------------|--|
| Ambient temperature       | Operating (-30 to 70) °C<br>Storage (-40 to 85) °C                 |
| Ambient humidity          | Operating/Storage (10 to 90) %RH non-condensing                    |
| Protection requirement    | Device must be installed in an enclosure offering >IP65 Protection |
| USB configuration ambient | (10 to 30) °C  |

## MECHANICAL

| Function    | Description  |
|-------------|--|
| Dimensions  | 12.5 mm width, 56.4 mm depth from rail, 90 mm height |
| Enclosure   | DIN rail mount                                       |
| Material    | Polymide 6.6 self-extinguishing UL94-HB: Grey        |
| Connections | Screw terminals 2.5 mm wire maximum                  |
| Weight      | 60 g approximate                                     |

## APPROVALS

|                       |   |
|-----------------------|---|
| EMC                   | BS EN 61326: Note - Sensor input wires to be less than 30 m to comply |
| Ingress protection    | BS EN 60529   |
| RoHS Directives 2 + 3 | 2011/65/EU & EU 2015/863, and the UK designated standards             |

Mechanical  
Dimensions in mm

