

USB ADAPTER WITH 3-SCREW TERMINAL BLOCK FOR A 2/3 WIRE RTD PROBE

RTD223



DESCRIPTION

Designed to measure 100 ohm Pt100 RTD probes, this device provides accurate temperature measurements using a 2 or 3 wire sensor. The sensors are connected using a 3-screw terminal block. In 3-wire connection, the RTD223 will correct the measured value taking into account the errors introduced by the length of the probe cable. The compact USB-key form factor simplifies integration even in space-constrained applications. The *-CAL* option allows the instrument to be calibrated on up to 3 points for greater accuracy. The *VCP*-option allows the user to communicate with the instrument in virtual COM port mode.

APPLICATIONS

- Research & development
- Environmental chamber
- Pre-certification
- Server rooms
- Building automation
- Green house
- Manufacturing
- Engineering

INSTALLATION TIME

Less than 10 minutes

UNIQUE SERIAL NUMBER

Each unit is assigned a unique serial number allowing for traceability and certification

FREE DAQ SOFTWARE

Real-time data visualization and logging

DATA INTEGRATION

Command-line tools for direct data access and integration

OPTIONS

Virtual COM Port (VCP) communication protocol

3-point user calibration mechanism

ALSO AVAILABLE

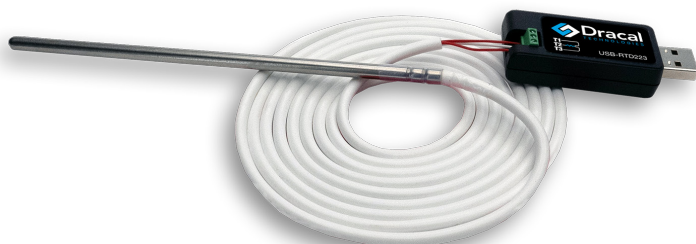
Traceability certificates

| SPECIFICATIONS | | | |
|-------------------------|----------------------------------|-----------------|-------|
| Parameter | Condition | Value | Units |
| Temperature | | | |
| Unit operating range | Probe dependant | - 200 to 800 | °C |
| ADC resolution | — | 18 | bits |
| Temperature resolution | Typ. | 0.02 | °C |
| Accuracy | Typ., at 25°C Excluding probe | ±0.06 | °C |
| Response time | t63% | Probe dependant | |
| Sensing element type | RTD | 100 | Ohms |
| Samples rate | Up to 3 SPS | 250 | mS |
| Factory calibrated | Individually ^[2] | Yes | — |
| Calibration value point | — | 0.00 | °C |
| PT100 probe available | Yes | See image below | — |

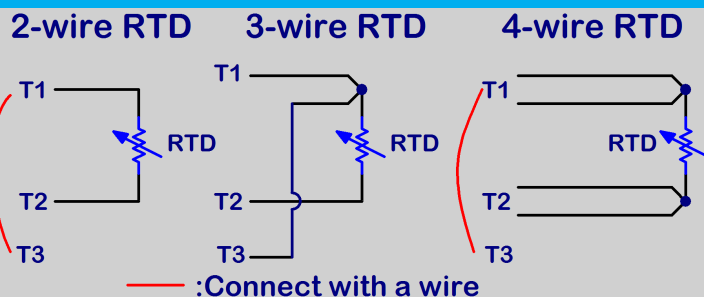
| SPECIFICATIONS | | | |
|------------------------------|----------------------------|-------------------|-------|
| Parameter | Condition | Value | Units |
| Power supply | | | |
| Voltage | Powered through a USB port | 5 | V |
| Current Consumption | At 5V | ≈19 | mA |
| Mechanical | | | |
| Dimensions | See schema below | — | — |
| Colour | Black | — | — |
| Weight | Without USB cable | 25 | g |
| Housing and USB cable | | | |
| Operating temperature | — | -20 to 70 | °C |
| Operating relative humidity | Non-condensing | 10 to 90 | %RH |
| Material | ABS plastic | | |
| IP rating | — | 51 ^[3] | — |
| System galvanic isolation | — | None | — |
| Connection | 3-screw terminal block | | |
| Wire Gauge | 16 to 26 | | AWG |
| Miscellaneous | | | |
| Long-term stability | — | Yes | — |
| Temperature compensated | — | Yes | — |

^[2] Each sensor is individually calibrated by Dracal technologies and their correction coefficients are stored in each of them.

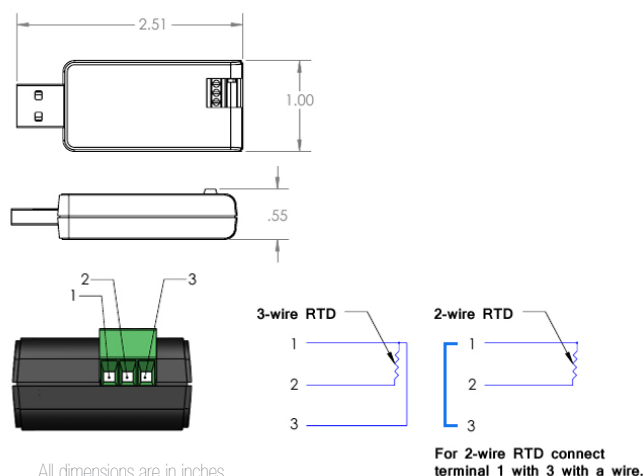
RTD223 WITH OUR OPTIONAL PROBE (RTD-PT100-SIL)



PROBE WIRING OPTIONS



PRODUCT DIMENSIONS



AVAILABLE CHANNEL(S)

As displayed in our logging software

| CHANNEL ID* | DESCRIPTION | TYPE | NATURE |
|-------------|--------------------------|-------------|--------|
| 00 | PT100 Temperature sensor | Temperature | Real |

* Channel Id as it appears in DracalView. Virtual channel Id differ in DracalView and dracal-usb-get.

ORDERING

PRODUCT(S)

| PART NUMBER | OPTION | DESCRIPTION |
|-------------|----------------|---|
| 601049 | USB-RTD223 | USB adapter with 3 screw connection block for a 2/3 wire RTD probe |
| 608049 | USB-RTD223-CAL | USB adapter with 3 screw connection block for a 2/3 wire RTD probe - calibratable |
| 603049 | VCP-RTD223 | USB adapter with 3 screw connection block for a 2/3 wire RTD probe - with VCP mode |
| 605049 | VCP-RTD223-CAL | USB adapter with 3 screw connection block for a 2/3 wire RTD probe - calibratable - with VCP mode |
| 601110 | RTD-PT100_SIL | RTD probe for the RTD223 |

TRACEABILITY CERTIFICATE(S)

| | |
|-------|--|
| NT1WT | 1-point temperature certificate for one (1) unit |
| NT2WT | 2-point temperature certificate for one (1) unit |
| NT3WT | 3-point temperature certificate for one (1) unit |

CAUTION: Please keep in mind that electromagnetic interference (EMI) may decrease the accuracy of the sensor. Avoid using this device near EMI sources such as motors, high voltage transformers and fluorescent tubes.

NOTE: Note that this product is not waterproof and requires protection if contact with water is possible.

TIP: Avoid installing the sensor in a location where strong vibration is likely to occur. Strong vibrations may cause slight inaccuracies in the reading.

TIP: As for any precision measurement equipment, it is advised to power on the unit at least 15 minutes before using it.

Warning: This product should not be used in applications where its failure may cause personal injury.

Note: While every effort has been made to ensure accuracy in this publication, no responsibility can be accepted for errors or omissions.

Note: Data may change without notification, and you are strongly advised to obtain copies of the most recently issued datasheet.