

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

RTD223



DESCRIPTION

This device is designed to measure 100 ohm Pt100 RTD probes and provides accurate temperature measurements using a 2 or 3-wire sensor. The sensors are connected using a 3-screw terminal block. In a 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 lets the user 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](#)

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.

SPECIFICATIONS

Parameter	Condition	Value	Units
Temperature			
Measurement range	Probe dependant	- 200 to 800	°C
Temperature operating range	—	-20 to 70	°C
Humidity operating range	Non-condensing	10 to 90	%RH
ADC resolution	—	18	bits
Temperature resolution	Typ.	0.02	°C
Accuracy (Adapter only)	at 25°C	Typ. ±0.06 Max. ±0.10	°C
Accuracy (Adapter only)	-20 to 70°C	Typ. ±0.10 Max. ±0.25	°C
Response time	t63%	Probe dependant	
Sensing element type	RTD	100	Ohms
Sample rate	Up to 3 SPS	250	ms
Factory calibrated	Individually ^[2]	Yes	—
Calibration value point	—	0.000	°C
Pt100 probe available	Yes	See image below	

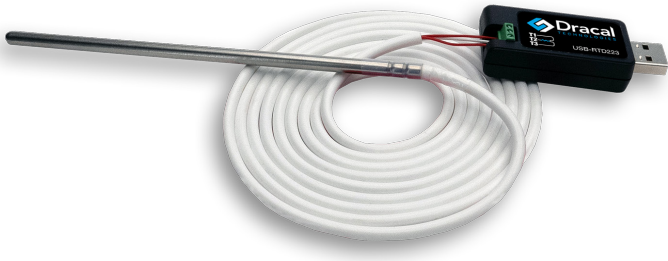
SPECIFICATIONS (continued)

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 probe	25	g
Housing and USB cable			
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	—
Certifications			
RoHS	RoHS3	Yes	—
CE	CE/REACH	Yes	—

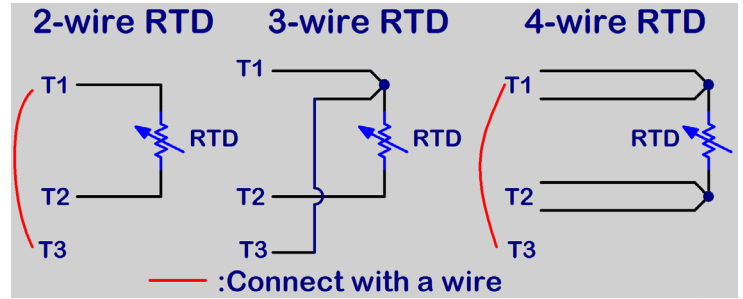
^[2] Dracal Technologies individually calibrates each sensor, and their correction coefficients are stored in each.

^[3] If water condensation or splashing is possible, installing the probe pointing down is recommended to reduce the risk of water build-up in the sensor. If water splashing is possible, take extra precautions to protect the sensor and the cable converter. Depending on the application, extra housing may be required.

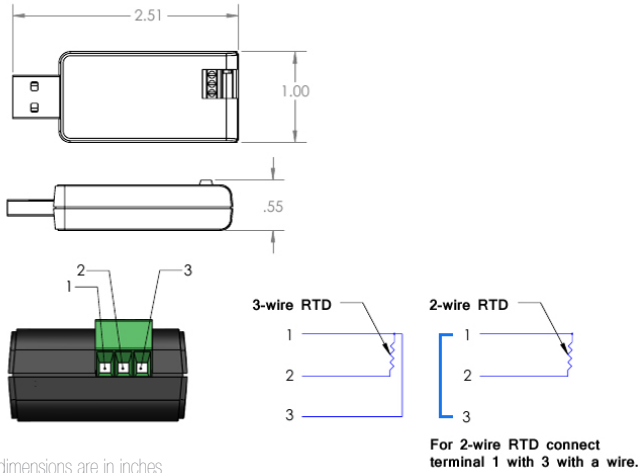
RTD223 WITH OUR OPTIONAL PROBE (RTD-PT100-SIL)



PROBE WIRING OPTIONS



PRODUCT DIMENSIONS



All dimensions are in inches

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 IDs 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 (sold separately)

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 remember 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: Before using any precision measurement equipment, it is advised to power the unit for at least 15 minutes.

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