



## USB 2/3 WIRE RTD SENSOR TO USB ADAPTER

RTD\_23



### DESCRIPTION

This USB interface for RTD sensors allows for precise temperature measurement using most of 2- and 3-wire 100 ohms RTDs, such as a Pt100 probe. Sensors connect using a convenient 3-position screws terminal block. In 3-wire mode, the RTD\_23 will compensate the measured value of errors introduced by the length of the probe cable. With this unit, real-time temperature measurement and recording can be started in no time. This compact USB-key form factor unit simplifies integration even in space-constrained applications.

### 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

### ALSO AVAILABLE

Traceability certificates

SPECIFICATIONS			
Parameter	Condition	Value	Units
<b>Temperature</b>			
Unit operating range	Probe dependant	- 200 to 800	°C
Accuracy	Typ., at 25°C Excluding probe	±0.06	°C
Resolution	Typ.	0.02	°C
Response time	t63%	Probe dependant	
Sensing element type	RTD	100	Ohms
Factory calibrated	Individually <sup>[2]</sup>	Yes	–
Calibration value point		0.00	°C
<b>Power supply</b>			
Voltage	Powered through a USB port	5	V
Current Consumption	At 5V	≈15	mA

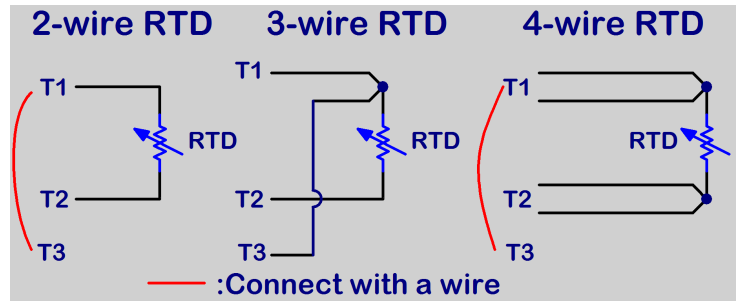
SPECIFICATIONS			
Parameter	Condition	Value	Units
<b>Mechanical</b>			
Dimensions	See schema below	–	–
Colour	Black	–	–
Weight	–	16	g
<b>Housing and USB cable</b>			
Operating temperature	–	-20 to 70	°C
Operating relative humidity	Non-condensing	10 to 90	%RH
Material	ABS plastic		
IP rating	–	51 <sup>[3]</sup>	–
System galvanic isolation	–	None	–
<b>Miscellaneous</b>			
Connection	3-screw terminal block		
Wire Size	–	26 to 20	AWG
ADC resolution	–	18	bits
Long-term stability	–	Yes	–
Temperature compensated	–	Yes	–

<sup>[1]</sup> Not all pre-wired probes are wired the same and may require wiring rearrangement in its connector.

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

<sup>[3]</sup> If water condensation is possible, it is recommended to install the probe pointing down to reduce the risk of water build-up in the sensor. If water splashing is possible, protect the sensor and cable converter using extra precautions. Extra housing may be required depending on the application.

## PROBE WIRING OPTIONS



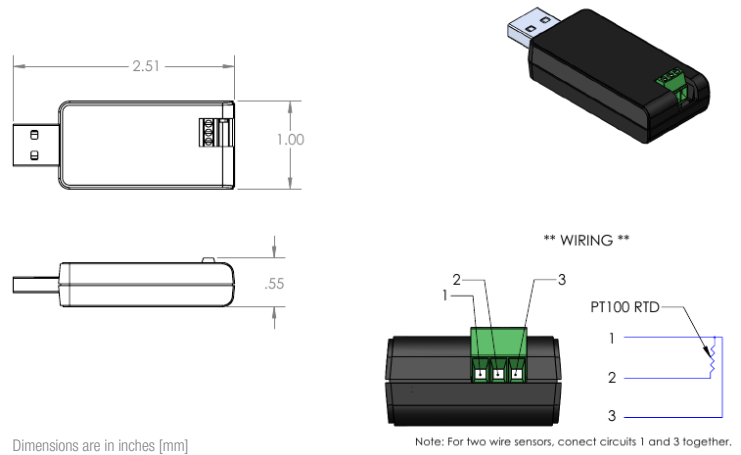
## AVAILABLE CHANNEL(S)

As displayed in our logging software

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

\* Channel Id as it appears in QTenki. Virtual channel Id differ in QTenki and usbtkeniget.

## PRODUCT DIMENSIONS



**CAUTION:** Keep in mind that electromagnetic interferences (EMI) may adversely reduce the precision of the sensor. Avoid using this unit close to EMI sources such as or, transformers, high voltage and fluorescent light.

**NOTE:** This product is not waterproof and must be protected if contact with water is possible. If the probe is inadvertently splashed or submerged in water for a few seconds, unplug the unit, shake it up and let it dry.

**TIP:** Avoid installing the sensor in a location where considerable vibrations may be present. Large vibrations can introduce extra inaccuracy in the pressure readings.

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

## ORDERING

### PRODUCT(S)

PART NUMBER	OPTION	DESCRIPTION
601045	USB-RTD_23	2/3 Wire RTD sensor to USB adapter

### 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
NT4WT	4-point temperature certificate for one (1) unit

**Warning:** This product is not designed for use in, and should not be used for, human applications.

**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.

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