

TTI 10

Portable 2-channel thermometer for resistive probes and thermocouples, -200°C to 850°C

The TTI 10 is a high accuracy handheld temperature indicator with two platinum resistance thermometer inputs. The high precision makes the instrument particularly suitable as a portable reference thermometer to use alongside temperature calibrators such as industrial baths and dry blocks and Fast-Cal models. It is also suited for high accuracy measurements in industrial and scientific applications.

Description

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TTI 10 brings laboratory level performance of up to 10 mK (0.01°C) and resolution up to 0.001°C in a portable handheld instrument. Battery life is typically 20 hours from a 9 V PP3 battery and a protective rubber boot offers protection in field use.

The instrument can capture the minimum, maximum and average values over up to 4,000 measurements with a logging rate selectable in the range of 1 s to 30 min.

The TTI 10 has an easy to use “learning calibration mode” that allows it to be system calibrated with a Platinum resistance thermometer simply by comparing it to a calibrated standard thermometer, no need to calculate coefficients or data, simply enter the reference probe temperature or temperatures and the TTI 10 will do the work.

A USB interface allows connection to Cal Notepad software with its charting and logging features.

TTI 10 supports semi standard platinum resistance probes with system uncertainties (probe and instrument) as low as 20 mK. We recommend the 935-14-61 and 935-14-16 probes detailed below and have special calibration deals available. Other probes and ranges are available, please consult our section dedicated to temperature probes for further details.

Key features:

- High accuracy handheld thermometer: 0.01°C
- High resolution: 0.001°C
- Perfect standard for use with industrial baths and dry blocks and Fast-Cal models

Specifications

Specifications and performances in temperature @20°C ±5°C

Uncertainty is given in % of reading (display) + fixed value.

Resistive probes: Measurement

Sensor	Measurement range	Resolution (°C / °F / K)	Uncertainty / 1 year
Pt100	-200 to +850°C	0.001	0.012°C from -80°C to 199.999°C 0.0015% RDG + 0.02°C from 200°C to 660°C

Four wire measurement

Further features

Data logging	4,000 single channel readings to be stored together with a date and time stamp The stored values can be recalled on the instrument display, downloaded to a PC file or sent to printer. Measuring interval: Adjustable from 1 second to 30 minutes

General specifications

Size	200 x 85 x 40 mm
Weight	300 g
Display	2-line LCD display Resolution: 0.001°C from -199.999°C to +199.999°C remaining range 0.01°C
Battery	Type: 9 V PP3 Battery life: 20 hours typical
Communication ports	USB
Storage capacity	4,000 measurements with date and time stamp

Environmental specifications

Reference range	20°C ±5°C
Operating reference range	0 to 40°C

Models and accessories

Instrument:

TTI 10 933 Portable 2-channel thermometer for resistive probes and thermocouples, -200°C to 850°C

Delivered in standard with:

- 2 LEMO connectors
- Protective rubber boot
- Cal Notepad software
- USB communication cable
- User manual
- Traceable certificate

External selector switch:

Model 954 8 way selector switch for resistive probes

Model 958 8 way selector switch for thermocouples

Reference semi standard Pt100:

935-14-112/TTI Semi standard Pt100 (-50°C to 250°C), with LEMO connector and carrying case

935-14-116/TTI Semi standard Pt100 (-100°C to 450°C), with LEMO connector and carrying case

935-14-61/TTI Semi standard Pt100 (-50°C to 250°C), with LEMO connector and carrying case

UKAS calibration of temperature chain TTI 10 + reference semi-standard Pt100:

TTI-10-14-116-SYST UKAS calibration of 4 points over the range: 0°C to 420°C

2nd 935-14-116 calibrated on channel 2 at the same time and same points

TTI-10-14-61-SYST UKAS calibration of 4 points over the range: -50°C to 200°C

2nd 935-14-61 or 935-14-112 calibrated on channel 2 at the same time and same points

Working standard Pt100:

Please specify the connector type at the order

935-14-112 Semi standard Pt100 (-50°C to 250°C), with carrying case

935-14-13 Semi standard Pt100 (-196°C to 250°C), with carrying case

935-14-113	Semi standard Pt100 (-196°C to 250°C), with carrying case
935-14-16	Semi standard Pt100 (-100°C to 450°C), with carrying case
935-14-116	Semi standard Pt100 (-100°C to 450°C), with carrying case
935-14-61	Semi standard Pt100 (-50°C to 250°C), with carrying case
935-14-72	Semi standard Pt100 (-50°C to 670°C), with carrying case
935-14-82	Semi standard Pt100 (-50°C to 250°C), with carrying case
935-14-85	Semi standard Pt100 (-50°C to 250°C), with carrying case
935-14-95H	Semi standard Pt100 (-80°C to 670°C), with carrying case
935-14-95L	Semi standard Pt100 (-200°C to 165°C), with carrying case
935-14-98	Semi standard Pt100 (-50°C to 350°C), with carrying case

Connexion options:

Ordering code example: 935-14-xx/BW

BW	Bare wires (will be supplied unless otherwise specified)
TTI7	LEMO connector for TTI 7
TTI	LEMO connector for TTI 22
DB	Connector for dry block calibrators

Thermocouples de travail :

935-14-91 / R / 300 Semi standard thermocouple type R (0°C to 1300°C), length: 300mm, with carrying case

935-14-91 / S / 300 Semi standard thermocouple type S (0°C to 1300°C), length: 300mm, with carrying case

935-14-88 / R / 300 Semi standard thermocouple type R (0°C to 1300°C), length: 300mm, with carrying case

935-14-88 / S / 300 Semi standard thermocouple type S (0°C to 1300°C), length: 300mm, with carrying case

935-14-63 / N / 300 Semi standard thermocouple type N (0°C to 1300°C), length: 300mm

935-14-64 / N / 300 Semi standard thermocouple type N (0°C to 1300°C), length: 300mm

935-14-65 / N / 300 Semi standard thermocouple type N (0°C to 1300°C), length: 300mm

935-14-66 / N / 500 Semi standard thermocouple type N (0°C to 1300°C), length: 500mm

935-14-67 / N / 500 Semi standard thermocouple type N (0°C to 1300°C), length: 500mm

935-14-68 / N / 500 Semi standard thermocouple type N (0°C to 1300°C), length: 500mm

931-22-38 Carrying case for thermocouple type N

Accessories:

956	Terminal adapter
931-22-101	Soft carrying case

Packing information:

Size	200 x 85 x 40 mm
Weight	0.3 kg