



- 0.001 °C.
- Replace precision glass thermometers.
- Fully electronic, without mechanical parts.
- Accepts 25 and 100 ohms sensors or standard thermocouples (including AuPt).
- It has internal memory and serial communication port.
- Accepts CVD, IPTS-68 and ITS-90 coefficients.

The high accuracy thermometer PT-511 main purpose is to measure temperature with high accuracy. It uses platinum resistance thermometers sensors and it also accepts standard thermocouples.

The digital electronic indicator can be offered complete including the temperature sensor and calibration certificate of the pair. The PT-511 has internal algorithms to calculate the temperature value according to Callendar-Van Dusen (CVD) and ITS-90 among other international temperature tables. For customers that already have one or several RTD's or PRT's sensors with quality enough for being used as standards, it is only necessary to enter its respective coefficients. And for those uncalibrated probes, it is possible to use the standard linearization curves for RTDs and thermocouples.



Specifications - Input

Ranges		Resolution	Accuracy	Remarks
milivolt	0 to 70 mV	0.0001 mV	± 0.002 % FS	R _{input} > 10 MΩ
resistance	0 to 100 Ω	0.0001 Ω	± 0.001 Ω	Excitation
	100 to 500 Ω	0.001 Ω	± 0.004 Ω	current 1.0 mA
Pt-100	-200 to 850 °C / -328 to 1562 °F	0.001 °C / 0.001 °F	± 0.01 °C / ± 0.02 °F	Excitation current 1.0 mA
Pt-25	-200 to 850 °C / -328 to 1562 °F	0.001 °C / 0.001 °F	± 0.01 °C / ± 0.02 °F	Excitation current 1.0 mA
TC-J	-210 to 1200 °C / -346 to 2192 °F	0.01 °C / 0.01 °F	± 0.03 °C @ 0 °C ± 0.03 °C @ 600 °C	IEC-60584
TC-K	-270 to 1370 °C / -454 to 2498 °F	0.01 °C / 0.01 °F	± 0.04 °C @ 0 °C ± 0.04 °C @ 600 °C	IEC-60584
TC-T	-260 to 400 °C / -436 to 752 °F	0.01 °C / 0.01 °F	± 0.04 °C @ 0 °C ± 0.03 °C @ 300 °C	IEC-60584
TC-B	50 to 1820 °C / 122 to 3308 °F	0.01 °C / 0.01 °F	± 0.20 °C @ 800 °C ± 0.15 °C @ 1200 °C	IEC-60584
TC-R	-50 to 1760 °C / -58 to 3200 °F	0.01 °C / 0.01 °F	± 0.13 °C @ 800 °C ± 0.11 °C @ 1200 °C	IEC-60584
TC-S	-50 to 1760 °C / -58 to 3200 °F	0.01 °C / 0.01 °F	± 0.14 °C @ 800 °C ± 0.13 °C @ 1200 °C	IEC-60584
TC-E	-270 to 1000 °C / -454 to 1832 °F	0.01 °C / 0.01 °F	± 0.03 °C @ 0 °C ± 0.02 °C @ 600 °C	IEC-60584
TC-N	-260 to 1300 °C / -436 to 2372 °F	0.01 °C / 0.01 °F	± 0.04 °C @ 600 °C ± 0.04 °C @ 1000 °C	IEC-60584
TC-L	-200 to 900 °C / -328 to 1652 °F	0.01 °C / 0.01 °F	± 0.03 °C @ 0 °C ± 0.03 °C @ 600 °C	DIN-43710
TC-C	0 to 2320 °C / 32 to 4208 °F	0.01 °C / 0.01 °F	± 0.08 °C @ 800 °C ± 0.09 °C @ 1200 °C	W5Re / W26Re
TC-Au/Pt	0 to 1000 °C / 32 to 1832 °F	0.01 °C / 0.01 °F	± 0.09 °C @ 500 °C ± 0.06 °C @ 1000 °C	ASTM E1751

Accuracy values are valid within one year and temperature range from 20 to 26 °C. Outside these limits add 0.001 % FS / °C, taking 23 °C as the reference temperature. For thermocouples with internal cold junction compensation, add a cold junction compensation error of ± 0.1 °C or ± 0.2 °F.

Dimensions: 56 mm x 144 mm x 230 mm (HxWxD).

Weight: 1.0 kg approx.

Serial communication: Modbus® RTU Protocol (RS-232/RS-485).

Warm-up: 30 minutes.

Operating Ambient: 0 to 50 °C.

Relative Humidity: 0 to 90 %.

Warranty: 1 year, except for rechargeable battery.

Included Items: manual, test leads and power cord.

Order Code**PT-511 -****Temperature Sensors**

Au/Pt - Primary Standard Au/Pt Thermocouple

1 - Industrial Standard Probe (-200 to 420 °C)

2 - Secondary Standard Probe (-200 to 660 °C)

3 - Secondary Standard Probe (-200 to 480 °C)

Optional Accessories:

Temperature Sensors

Description	Order Code	Range	Drift	Accuracy*	Dimensional
Industrial Standard Pt-100 Probe - Straight	04.06.0101-21	-200 to 420 °C	0.035 °C	0.030 °C @ 420 °C	305 mm x Ø 6.35 mm
Industrial Standard Pt-100 Probe - Angular 90°	04.06.0107-21	-200 to 420 °C	0.035 °C	0.030 °C @ 180 °C	140 mm x Ø 6.35 mm
Industrial Standard Pt-100 Probe - Long Angular 90°	04.06.0102-21	-200 to 420 °C	0.035 °C	0.030 °C @ 180 °C	170 mm x Ø 6.35 mm
Secondary Standard Pt-100 Probe	04.06.0104-00	-200 to 480 °C	0.01 °C	0.023 °C @ 420 °C	12" x Ø 1/4"
Secondary Standard Pt-100 Probe	04.06.0103-00	-200 to 660 °C	0.03 °C	0.050 °C @ 660 °C	15" x Ø 1/4"
Primary Standard Au/Pt Thermocouple	PT-TC-Au/Pt	0 to 1000 °C	0.05 °C	0.030 °C @ 1000 °C	560 mm x Ø 7 mm

Communication Interface - Order Code: 06.02.0001-00.

* With ITS-90 coefficients characterization.