

Precision Portable Thermometer

Accurate and Reliable Temperature & Analog Measurement in a Compact Design

Model : PTM - 201



INTRODUCTION

The Precision Portable Thermometer (PTM-201) is a state-of-the-art handheld measurement device designed for professionals who demand exceptional accuracy, versatility, and reliability. By supporting a wide range of input types—including RTD, Thermocouple, mA, Voltage, Resistance, and mV—this instrument is engineered to adapt to a variety of field and laboratory applications.

The PTM-201's intuitive 2.8" True Colour TFT touchscreen ensures a user-friendly experience, while comprehensive data logging features and a large 16 GB memory enable extensive record-keeping for analysis and compliance. With robust construction, an integrated rechargeable battery, and advanced calibration and alarm capabilities, the PTM-201 is the ideal partner for achieving precise and traceable measurements in demanding environments.

KEY FEATURES

- ✓ **Temperature Inputs:** RTD, TC
- ✓ **Wide Temperature Measurement Ranges:** -200 to + 1800 DegC
- ✓ **Temperature Resolution:** 0.01/0.001* DegC (*As per selected Input type)
- ✓ **Analog Inputs:** Resistance, Current, Voltage
- ✓ **Wide Analog Measurement Ranges:** 0 to 4000 Ohms, 0 to 20mA DC, 0 to 75 mV DC, 0 to 30V DC
- ✓ **Analog Measurement Resolution:** 0.01 Ohms, 0.001 mA/mV/V
- ✓ **Display:** 2.8" True Colour TFT touchscreen
- ✓ **Operating Conditions:** -10 to 60 °C; 0 to 100% RH (non-condensing)
- ✓ **Storage Conditions:** -10 to 45 °C; 10 to 90% RH
- ✓ **Data Recording:** Huge Logging Memory upto 16 GB
- ✓ **Data Logging Interval:** User-selectable from 1 second to 24 hours
- ✓ **Data Download:** Via USB Type-C to PC software (Sansel-Soft-01)
- ✓ **Calibration:** Multipoint calibration feature available
- ✓ **Alarms:** Audible and visible; user-settable high and low thresholds
- ✓ **Battery:** Integrated 3.7V / 10,000 mAh rechargeable Li-ion
- ✓ **Charging Port:** USB Type-C
- ✓ **Adjustable Settings:** Backlight timing, brightness, touch sound
- ✓ **Housing:** ABS with anti-slip grip silicon cover
- ✓ **Protection Class:** IP40
- ✓ **Dimensions:** 35 x 80 x 165 mm (L x W x H)
- ✓ **Weight:** Approximately 560 g

Applications

- ❑ **Quality Assurance & Laboratory Work:** Perform precise, traceable measurements to validate product quality, comply with standards, and support R&D activities.
- ❑ **Industrial Process Monitoring:** Measure temperature and other analog signals in manufacturing plants, refineries, and power generation facilities.
- ❑ **HVAC & Environmental Control:** Monitor temperature trends in HVAC systems, greenhouses, and environmental chambers.
- ❑ **Maintenance & Troubleshooting:** Quickly diagnose issues in electrical and mechanical equipment through accurate temperature and signal readings.

Technical Specifications

Parameter	Specification
Measurement Inputs	Temperature Inputs: RTD, TC Analog Inputs: Resistance, Current, Voltage
Display	2.8" True colour TFT with touch screen
Application environment range	-10 to 60 °C ; 0 to 100% RH (non condensed)
Storage environment range	-10 to 45 °C ; 10 to 90% RH
Display refresh rate	1 second (typical)
Datalogging Interval	1 sec to 24 Hours (user selectable)
Data download	Via USB C-type to PC software (Sansel-Soft-01)
Calibration	6 point Linearization Lookup table Calibration for individual type
Alarm	Audible & Visible, user-settable high & low alarms
Touch sound	On / Off option available
Battery charging port	USB C-type
Integrated battery	3.7 V / 10,000 mAh rechargeable Li-ion battery
Backlight time interval	Adjustable from OFF to 59 mins : 59 secs
Brightness adjustment	10% to 100% (user adjustable)
Housing Material	ABS with anti-slip grip silicon cover
Protection class	IP40
Dimension (L x B x H)	35 x 80 x 165 mm
Weight	560 g (Approx.)

Note: Specifications are subject to change without prior notice.

Included Accessories

- Standard Test Probe – 1no
- USB C-Type Data Cable
- Calibration Certificate
- User Manual
- Protective Carrying Case

Optional

- Additional Test Probe
- ISO/IEC 17025 Accredited Calibration Certificate
- PC Interface Software

Measurement Range, resolution & Accuracy

Type	Effective Measurement Range	Measurement Resolution	1 – year Tolerance (* see the notes)	Temperature Coefficient (0-18 DegC) & (28-40 DegC)
RTD – PT 100	-200 to 850 DegC	0.001 DegC	± 0.02% RDG + 0.06 DegC	± 0.01 DegC / DegC
RTD – PT 200	-200 to 600 DegC	0.01 DegC	± 0.02% RDG + 0.06 DegC	± 0.003 DegC / DegC
RTD – PT 500	-200 to 600 DegC	0.01 DegC	± 0.02% RDG + 0.06 DegC	± 0.01 DegC / DegC
RTD – PT 1000	-200 to 630 DegC	0.001 DegC	± 0.02% RDG + 0.06 DegC	± 0.003 DegC / DegC
Ohms	0 to 4000 Ohms	0.01 Ohms	± 0.02% RDG + 50 mOhms	± 20 mOhms / DegC
TC - J	-200 to 1200 DegC	0.01 DegC	± 0.6 DegC	± 0.05 DegC / DegC
TC - K	-200 to 1768 DegC	0.01 DegC	± 0.7 DegC	± 0.05 DegC / DegC
TC – E	-200 to 1000 DegC	0.01 DegC	± 0.5 DegC	± 0.05 DegC / DegC
TC – N	-200 to 1300 DegC	0.01 DegC	± 0.7 DegC	± 0.05 DegC / DegC
TC – T	-200 to 400 DegC	0.01 DegC	± 0.6 DegC	± 0.05 DegC / DegC
TC – B	600 to 1800 DegC	0.01 DegC	± 1.1 DegC	± 0.07 DegC / DegC
TC – R	0 to 1750 DegC	0.01 DegC	± 1.0 DegC	± 0.07 DegC / DegC
TC – S	0 to 1750 DegC	0.01 DegC	± 1.0 DegC	± 0.07 DegC / DegC
Milli Volt	0 to 75 mVolt	0.001 mV	± 0.015% RDG + 10 uV	± 3 uV / DegC
Current	0 to 20 mAmps	0.001 mA	± 0.03% RDG + 3 uA	± 0.4 uA / DegC
Voltage	0 to 30 Volt	0.001 V	± 0.015% RDG + 10 mV	± 3 mV / DegC

Notes: 1) Based on ITS-90 (ITS: The International Temperature Scale); the environmental condition: (23±5)°C, ≤85%RH: it should be put in the stable environmental conditions for at least one hour, wait 5 minutes after start-up. with the menu parameters of Filter Constant=1, exclusive of sensor errors.

2) Using the method of "Calibration" of the Instruction manual, the fixed error component between sensor and thermometer can be eliminated.

3) The thermal resistance and thermocouple's measurement range and tolerance shown in other units (Ohms & mV) are equivalent to the above table.

SANSEL INSTRUMENTS AND CONTROLS SANSEL CALIBRATION LABORATORIES

ISO/IEC 17025 Accredited Calibration Laboratory by NABL CC - 2879

(Thermal, Mechanical, Electro-Technical, Dimension Parameters)

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