

Datasheet

# L200 USB HIGH PRECISION DIGITAL THERMOMETER / DATA LOGGER



(*Top*: L200-TC, *Bottom*: L200-PT)

The Labfacility L200 Pt100 / thermocouple thermometer can be used in conjunction with a PC to provide accurate, versatile 8 channel thermocouple and Pt100 temperature measurement, scanning and logging of measured values. It can also be used as a “stand alone” indicator/logger and incorporates a digital display of measured temperature.

The in-built, self-calibration facility for the thermocouple version is a rapid and convenient method for on-site calibration and does not require any additional equipment other than a special, external link. Self-calibration of Pt100 ranges is equally simple and uses plug-in precision resistors.

The L200 is designed to provide exceptional stability with high measurement resolution and represents an ideal crossover between plant practicality and laboratory performance at a very competitive price.

The PC software supplied with the instrument allows control, measure and calibration functions.

- ❖ Low cost – high performance
- ❖ USB PC interface
- ❖ 8 thermocouples (type J, K, T, E, N, R, S & B) or Pt100 (3 wire) inputs
- ❖ Built-in display for selected channel or all channels auto-scrolling
- ❖ Resolution 0.1°C on L200 display, 0.01°C in software
- ❖ Self-calibration feature
- ❖ Select °C / °F
- ❖ PC software included for remote control and measure, logging and calibration
- ❖ Simple operation
- ❖ CE marked
- ❖ RoHS compliant

## Applications

Food preparation • Storage facilities • Educational establishments • Environmental • R&D • Experimentation • Refrigeration/freezer plant monitoring • Museums and Galleries

## Specifications

Specification at an ambient temperature of 20°C Input / Ranges  
Thermocouple to IEC 584

Type J	-200°C to 750°C
Type K	-200°C to 1200°C
Type T	-200°C to 350°C
Type E	-200°C to 900°C
Type N	0°C to 1300°C
Type R	0°C to 1760°C
Type S	0°C to 1760°C
Type B	300°C to 1800°C
Pt100 to IEC751, 3 wire	-200°C to 850°C

*Note: all inputs are non-isolated and sensors must be of insulated construction.*

## Accuracy

Thermocouples J K T E & N

*better than  $\pm 0.1^\circ\text{C}$   $\pm 0.1\%$  of range -100°C to span (Zero to span Type N)  $\pm 0.15\%$  of range -101 to -200°C (J K T & E)*

Thermocouples R S & B

*better than  $\pm 0.1^\circ\text{C}$   $\pm 0.15\%$  of range*

Linearisation

*$\pm 0.05^\circ\text{C}$*

Pt100 range

*better than  $\pm 0.05^\circ\text{C}$   $\pm 0.1\%$  of range*

Zero drift

*$\pm 0.01\%$  of span per °C*

Span drift

*$\pm 0.01\%$  of span per °C*

Display

*LCD, backlight*

Display resolution

*Thermocouple ranges  $0.1^\circ\text{C}$   
Pt100 range  $0.01^\circ\text{C}$*

User interface

*Front panel key for channel No. or  
auto-scan selection. PC software for all other functions.*

Indication

*Channel No., measured temperature  
(°C or °F)*

Reference junction  
compensation for  
thermocouples

*Automatic, accurate reference  
junction compensation is incorporated  
for thermocouple ranges*

Self-calibration

*User facility incorporated. The  
instrument auto-calibrates on every A/D cycle \**

Sensor open circuit

*Upscale indication*

RS212/0816

detection & indication	<i>Independent alarms should be used for Process safety if required</i>
Ambient operating Temperature	<i>0 to 50°C</i>
Storage temperature	<i>-20°C to 70°C</i>
Display	<i>LCD with backlight</i>
Input Terminations	<i>8 x thermocouple: mini connectors 8 x Pt100, terminal blocks</i>
PC Interface	<i>USB</i>
Power supply	<i>6Vdc (5.5-9.0V) via universal mains adaptor (supplied) 120-250V 50/60Hz</i>
Logging interval	<i>5 seconds to 1 hour</i>
On-board memory	<i>512 sets of readings</i>
PC software	<i>Supplied as standard on CD-ROM Remote control &amp; measure: - Log readings to file Download to PC Logging, calibration</i>
Standard accessories	<i>The L200 is supplied with a power supply adaptor, USB lead, PC software, and instruction manual (on CD). L200-TC includes external link.</i>

*\* The integral, self-calibration facility for the thermocouple version is a rapid and convenient method for on-site calibration and does not require any additional equipment other than the special, external link (optional).  
Self-calibration of Pt100 ranges is quickly and conveniently performed using plug-in precision resistors (optional).  
Traceable calibration can be achieved by the user conveniently and without recourse to an accredited Laboratory if there is access to a certified DVM; this can be used to measure the L200 internally generated calibrated Voltage via the "cal port" presented externally to the instrument case. Considerable time and cost saving are achieved by this method.*

#### **Ordering Information**

<b>Type</b>	<b>Input Terminations</b>	<b>RS Order Code</b>
L200-TC	8 x thermocouple: mini connectors	<b>910-6817</b>
L200-PT	8 x Pt100, terminal blocks	<b>910-6826</b>