

Datasheet

L300 8-ZONE TEMPERATURE ALARM / ON-OFF CONTROLLER WITH 10A SWITCHING FOR LABORATORY / TRAINING APPLICATIONS



The Labfacility L300 Pt100 and Thermocouple temperature alarm / on-off controller can be used in conjunction with a PC to provide accurate monitoring and alarm or on-off control of up to 8- zones simultaneously. It can also be used as a stand-alone instrument without the need for a PC.

The PC software supplied with the instrument allows control, configuration, measurement, logging, charting, alarm & relay configuration and calibration functions via a PC.

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.

Both versions of the L300 are supplied with mounting brackets which convert it from a bench top instrument to a panel mount version. (see below for fitting instructions.)

- ❖ 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 display, 0.01°C in software
- ❖ Self-calibration feature
- ❖ Select °C / °F
- ❖ PC software included for remote control and measure, logging, configuration and calibration
- ❖ 8 x configurable change-over relays 10A/250V
- ❖ Simple operation
- ❖ CE marked
- ❖ RoHS compliant

Applications

Food preparation • Storage facilities • Technical educational establishments • Environmental • R&D • Heating & ventilation setup • Building & energy management • Instrumentation laboratories • Experimentation • Refrigeration/freezer plant monitoring • Museums and Galleries

Specifications

Specification at an ambient temperature of 20°C Measurement

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°C
Pt100 range 0.01°C

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 detection & indication Upscale indication

RS213/0418

Ambient operating Temperature	0 to 50°C
Alarm/Control	
Alarm modes	High / Low / Band/ control
Relay contacts	x3 normally open */common/ normally closed * The contact position when the relay is de-energised Rated 1 0A/250V, resistive load. Relays (1to 8) can be assigned to any input and polarity (normal or Inverse) selected
User interface	Front panel keys for selecting channel number for display or auto-scan selection; front panel keys for relay configuration and alarm parameters. 8 x LED indicators for relay actuation.
Storage temperature	-20°C to 70°C
Display	LCD with backlight
Input Terminations	8 x thermocouple: mini connectors 8 x Pt100, terminal blocks
Relay Terminations	4 x 6-way connector
PC Interface	USB
Power supply	6Vdc (5.5-9.0V) via universal mains adaptor (supplied) 1 20-250V 50/60Hz
Logging interval	5 seconds to 1 hour
On-board memory	512 sets of readings
PC software	Supplied as standard on CD-ROM Remote control & measure: - Log readings to file Download to PC Logging, charting, alarm configuration and calibration
Standard accessories	The L300 is supplied with a power supply adaptor, USB lead, PC software, and instruction manual (on CD). L300-TC includes external link.

* 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

Type	Input Terminations	RS Order Code
L300-TC	8 x thermocouple: mini connectors	910-6829
L300-PT	8 x Pt100, terminal blocks	910-6823

L200/L300 MOUNTING BRACKETS TO CONVERT BENCHTOP INSTRUMENTS FOR IN-PANEL INSTALLATION

- Simply fit a panel-mount bracket to each side of the instrument case using the 3 screws provided
- No modification to the instrument case
- Front or rear panel mount allows for blind or front panel access installation
- Low cost

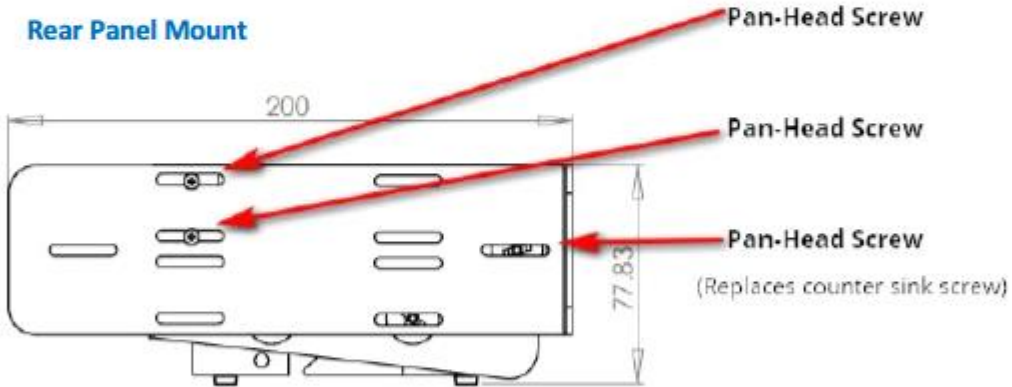


Front Panel Mount Option

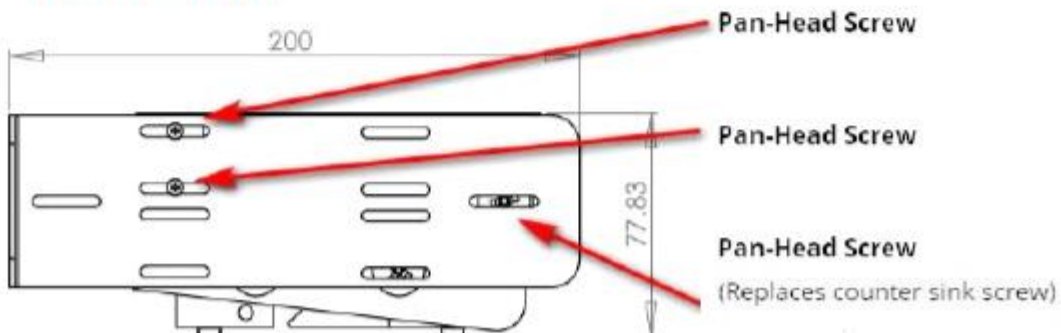
Rear Panel Mount Option



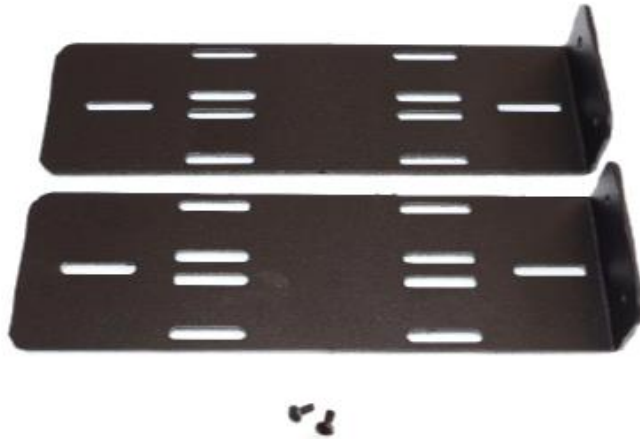
Rear Panel Mount



Front Panel Mount



L200/ L300 MOUNTING BRACKET FITTING INSTRUCTIONS



The bag contains 2 x brackets & 2 x pan-head screws.

The brackets can be fitted to;

- a) present the front panel interface towards the panel



Or

- b) present the rear connections towards the panel



i) In both cases, remove the 3 x screws (indicated below) from the instrument case side (1 x counter –sink & 2 x pan-head).

ii) Line up the bracket with the holes (either way round to suit front or rear panel mount).

iii) Replace the 2 x pan head screws.

iv) Replace the 1 x counter –sink screw with a new pan-head screw (supplied with the brackets).

fixing holes for securing the brackets to the customer panel are provided as shown the drawing below (4.5mm dia).

Note: If the instrument front panel is required to be accessible, use the front panel mounting configuration and provide a customer panel cut-out to suit.

