

1500 Series 1/16 DIN Temperature Control

The Love 1500 Series Temperature Control provides an impressive array of features in an economical 1/16 DIN package. Features include on-off, time proportioning, proportional, PI, PD or full PID control, all fully programmable from the front panel. Input types are selectable from a variety of thermocouples or RTDs. Outputs include Solid State Relay, Mechanical Relay, or 5 VDC (ideal for driving an external SSR).



An IP66 water and corrosion resistant front panel (4X), input fault timer, digital input filter, Self-Tune, ramp to set point, and selectable security levels are all standard.

An optional alarm provides a full array of alarm action configurations including high alarm, low alarm and high/low guardband alarm. Manual reset, power-up inhibit, and power interrupt reset features provide additional flexibility for the alarms.

STANDARD FEATURES

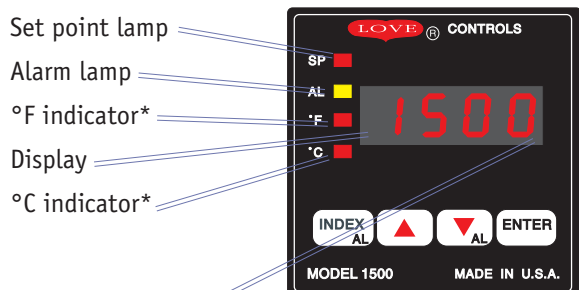
- IP66 (NEMA 4X) front panel
- P, PI, PID selectable control modes
- Self-Tune® or manual PID selectable
- °F or °C display selectable
- Display resolution selectable for 1° or 0.1°
- Four password protected security levels
- Wide range power supply
- Thermocouple or RTD input available
- Front panel programmability
- Alarm with selectable modes available
- Engineered and made in U.S.A.

Inputs

INPUT TYPE 1	RANGE °F	RANGE °C
Type J or L Thermocouple	-100 to +1600	-73 to +871
Type K Thermocouple	-200 to +2500	-129 to +1371
Type T Thermocouple	-350 to +750	-212 to +398
Type E Thermocouple	-100 to +1800	-73 to +982
Type N Thermocouple	-100 to +2372	-73 to +1300

INPUT TYPE 2	RANGE °F	RANGE °C
RTD 100 Ohm Plt. 0.00385	RTD -328 to 1607	-200 to +875
RTD 100 Ohm Plt. 0.00392	RTD -328 to 1607	-200 to +875
RTD 120 Ohm Ni. 0.006725	RTD -112 to +608	-80 to +320

FRONT PANEL KEY FUNCTIONS

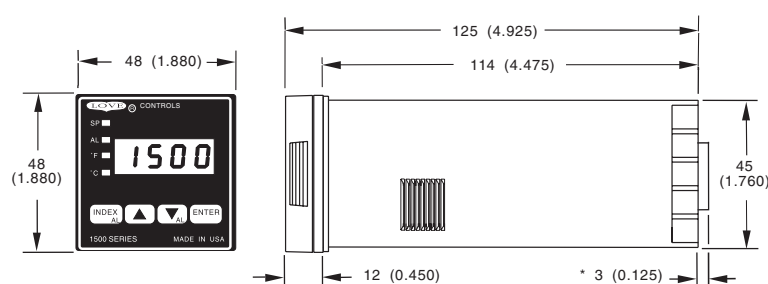


Decimal point flashes while ramping function is active.

*The temperature indicator flashes during Self-Tune®

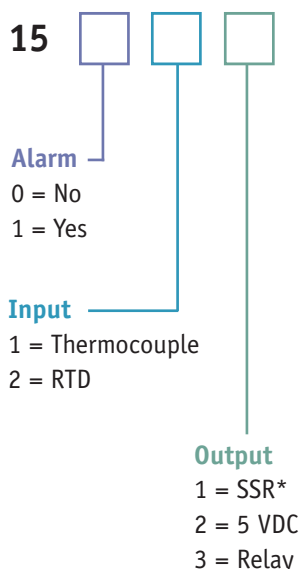
DIMENSIONS

(All dimensions in mm with inches in parenthesis)



MODEL IDENTIFICATION

To order, specify part number by filling the boxes with the appropriate numbers.



* When ordering a control to operate contactor or solenoid loads greater than 100 mA, it is suggested that the SSR output be selected rather than the RELAY. If the RELAY output is selected, then also order part number 541-0014, R/C Snubber.

SPECIFICATIONS

Inputs: Selectable Thermocouple or RTD.

Input Characteristics:

Thermocouple = 3 megohms minimum.

RTD current = 200 μ A max.

Sensor Break or Short Protection: De-energizes control outputs to protect system.

Loop Break Protection: Error message is initiated upon shorted sensor or open heater circuit. Break time is adjustable from OFF to 99 minutes.

Set Point Range: Selectable.

Display: One 4 digit, 7 segment 0.3" high LEDs, red.

Control Action: Reverse (usually heating). Direct (usually cooling) selectable.

Ramp/Soak: Ramp to set point.

Accuracy: $\pm 0.25\%$ of span $\pm 1^\circ$.

Resolution: 1 degree, 0.1 degree.

Line Voltage Stability: $\pm 0.05\%$ over supply voltage range.

Temperature Stability: 100 ppm/ $^\circ$ C typical, 200 ppm/ $^\circ$ C maximum.

Common Mode Rejection: 140db minimum at 60 Hz.

Normal Mode Rejection: 65db typical, 60 db at 60 Hz.

Isolation:

Relay and SSR outputs are isolated.

Logic outputs must not share common ground with the input.

Power Consumption: 5 VA maximum.

Supply Voltage: 100 to 240 VAC, nominal, $\pm 10\%$ -15%, 50 to 400 Hz. single phase; 132 to 240 VDC, nominal, $\pm 10\%$ - 20%.

Operating Temperature Range: -10° C to 55° C (14° F to 131° F).

Storage Temperature Range: -40° C to 80° C (-40° F to 176° F).

Humidity Range:

0 to 90% up to 40° C non-condensing.

Memory Backup:

Non-volatile memory.

No batteries required.

Control Output Ratings:

SSR: 3.5 A @ 25° C typical.

Derates to 1.25 A @ 55° C. Minimum of 40 VAC and 100 mA required.

Relay, Form A contact (SPST):

3 A @ 250 VAC resistive.

1.5 A @ 250 VAC inductive.

Pilot Duty Rating: 250 VA.

Switched Voltage (non-isolated):

5 VDC @ 25 mA.

Panel Cutout: 45 mm x 45 mm (1.775" x 1.775").

Depth Behind Mounting Surface: 117 mm (4.6").

Weight: 227 g (8 oz.).

Front Panel Ratings: IP66 (4X).

Agency Approvals: UL E83725; CSA LR 40125.