CT15 Temperature Controller & Alarm

Compact 1/16 DIN size

CT15 Controller

Overview

The CT15 is an easy to use controller with sophisticated PID control. It can also be a single or 2-stage alarm (using alarm feature plus control relay) to monitor motors and generators for overheating.

- RTD or thermocouple input
- Control modes: Self-Tune, pre-set or programmable PID, or On/Off
- Bright red LED display
- Ramp to setpoint
- Digital sensor input correction
- Digital input filter adjustable for noisy or jittery processes
- Four security levels
- Setpoint limits
- Non-volatile memory needs no battery backup
- Input fault timer
- Alarms at one or two temperatures
- Alarm Relay option is programmable for high, low, absolute, or deviation. Relay can be reset manually or automatically and controls a single electromechanical relay with voltage-free contacts

Specifications

Selectable inputs:
RTD: 2 or 3-wire, Minco types PD or PE (100 Ω EN60751 platinum).
Thermocouple: Type J (factory default), K, T (selectable).

Input impedance:
Thermocouple: 3 megohms minimum.
RTD current: 200 μA maximum.

Sensor break or short protection: De-energizes control outputs to protect system.

Loop break protection: Error message is initiated and output is turned off in case of shorted sensor or open heater circuit. Break time adjustable from OFF to 99 minutes.

Cycle rate:1 to 80 seconds.

Setpoint range: Selectable from -212 to 1371°C (-350 to 2500°F), input dependent.

Display: One 4 digit, 7 segment, 0.3" high LED. Display shows the measured temperature unless a control key is pressed, then it will display the item value.

Control action: Reverse (usually heating) or Direct (usually cooling), selectable.

Ramp/Soak: One ramp, 0 to 100 hours.

Specifications subject to change

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Specifications continued

Accuracy: ±0.25% of span ±1 count.

Resolution: 1° or 0.1°, selectable.

Line voltage stability: ±0.05% over supply voltage range.

Temperature stability: 4 μV/°C (2.3 μV/°F) typical, 8 μV/°C (4.5 μV/°F) max. (100 ppm/°C typical, 200 ppm/°C max.).

Isolation: Relay and SSR outputs are isolated. Pulsed voltage output must not share a common ground with the input.

Supply voltage: 100 to 240 VAC nom., +10/-15%, 50 to 400 Hz, single phase; 132 to 240 VDC, nom., +10/-20%. 5 VA maximum. *Note:* Do not confuse controller power with heater power. The controller does not supply power to the heater, but only acts as a switch. For example, the controller could be powered by 115 VAC, but controlling 12 VDC to the heater.

Operating temperature range: -10 to 55°C (14 to 131°F).

Memory backup: Non-volatile memory (no batteries required).

Control output ratings:
AC SSR (SPST): 3.5 A @ 250 VAC @ 25°C (77°F); derates to 1.25 A @ 55°C (130°F). An SSR is recommended for longer life than a mechanical relay.
Mechanical relay, SPST Form A (Normally Open): 3 A resistive, 1.5 A inductive @ 250 VAC; pilot duty: 250 VAC; 2 A @ 125 VAC or 1 A @ 250 VAC.
Switched voltage (non-isolated): 5 VDC @ 25 mA.
Alarm relay, SPST Form A (Normally Open): 3 A resistive, 1.5 A inductive @ 250 VAC; pilot duty: 250 VAC; 2 A @ 125 VAC or 1 A @ 250 VAC.

Weight: 227g (8 oz.).

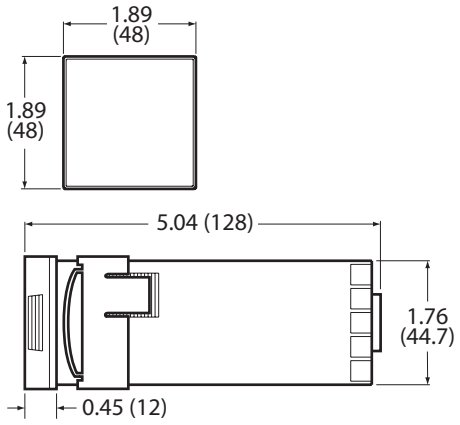
Agency approvals: UL & CSA.

Front panel rating: Type 4X (IP66).

Specification options

CT15	Model number
1	Alarm: 0 = No 1 = Yes
2	Input: 1 = J, K, or T thermocouple 2 = 100 Ω platinum RTD, type PD or PE
1	Output: 1 = Built-in AC SSR 2 = Pulsed voltage (5 VDC) 3 = Mechanical relay
CT15121 = Sample part number	

Dimensions shown in inches (mm)



PANEL CUTOUT: 1.775" × 1.775" (45 mm × 45 mm)
MAXIMUM PANEL THICKNESS: 0.25" (6.35 mm)

Note: See page 54 for controller accessories

Specifications subject to change