Wall-Mount Programmable Temperature Controller

TRODEKS®

CN1511

2 YEAR WARRANTY

CN1511-TC shown smaller than actual size.

CN1511 has removable front cover for easy access to wiring.

- **Large, 7-Digit, 7-Segment LED Display 20 mm (0.8") H**
- **Multiple Control Modes—On/Off, PID, Heat/Cool**
- **10-Segment Ramp/Soak Program**
- **5 Independent Ramp and Soak Programs**
- **Programmable Control Parameters**
- **Thermocouple, RTD, and Thermistor Temperature Inputs**
- **Current, Voltage, and Millivolt Process Inputs**
- **Scaling for Voltage, Current, and Millivolt Signals**
- **4 Programmable Process Alarms (Optional)**
- **Relay or Solid State Outputs (Optional)**
- **Built-In Buzzer to Sound Alarm (Optional)**
- **2 Programmable Timers (Optional)**
- **Easy to View from a Distance**
- **Protection from Dust and Moisture**

Housed in a wall-mount, watertight plastic enclosure, the CN1511 is a flexible temperature controller that offers the ease of an on/off controller with the precision of a full-blown PID controller. For applications that do not require the complexity of PID control, this device can be programmed to work as a simple on/off controller. Yet for processes that require close temperature conformity, the CN1511 can be run under full PID control, selectable for either heating (direct acting) or cooling (reverse acting).

The CN1511 accepts 5 different ramp and soak programs, each with up to 10 segments. Separate pass-codes are required for selecting or entering a ramp/soak program. This prevents operators from making any inadvertent changes. The manual hold feature allows for an indefinite hold anywhere along the ramp/soak profile. Also offered is a manual setpoint entry mode for a quick ramp-to-setpoint function. This eliminates the need to enter a complete ramp/soak program.

Maximum and minimum temperature readings are continuously tracked, and 4 optional process alarms are available. These are programmable over the entire range of the selected input type. They can be configured as latching or non-latching, normally open, or normally closed. There are also 2 optional timers that work independently or in conjunction with process limits (e.g., turning on a fan 10 minutes after limit 1 temperature is reached). The time function keeps track of process run time.

The CN1511 also functions as a rate monitor, indicating instantaneous as well as average rate of temperature change. A programmable time base allows the rate to be displayed in per second, minute, hour, or any other interval. The CN1511 can also be programmed for a rate alarm, which can indicate whether a predetermined rate is exceeded or not achieved.

Additional features include a built-in buzzer that sounds whenever a limit is reached (available with the relay option). Visual indication of relay output status is given by LEDs on the front panel. The CN1511 also has a power line filter, designed to provide trouble-free operation in harsh industrial environments.

Specifications

Input Type:

- J, K, T, E, R, S, B, thermistor 2252 Ω @ 25°C (77°F), Pt100 RTD
- 0 to 10 Vdc
- 4 to 20 mA loop current
- 0 to 100 mV

CJC Error: ±0.5°C @10 to 45°C (±0.9°F @ 50 to 113°F)

Accuracy:

Resolution: 1°C/°F for T/Cs and RTDs; 0.1°C/0.2°F for thermistors
Process: 9999, 999.9, 99.99, 9.999
Voltage: 0.05% FS
Current: 0.05% FS

A/D Conversion:

20,000 count A/D converter

Conversion Rate: 7/s (typical)

Display: Red 7-segment LED display, 20 mm (0.8") H

Display Test: 8.8.8.8.8.8.8. on power-up

Power Options:
120 Vac (60 Hz)—standard
220 Vac (50 Hz)—optional
15 Vdc @ 900 mA—optional

Scale: Programmable from 1 to 30000

Offset: 0.00 to 20.00 (current input), 0.000 to 10.000 (voltage input), 0.00 to 100.00 (millivolt input)

Rate: 0 to 500 seconds

Prop. Band: 0 to 100% of span

Reset: 0 to 50 repeats/min

On/Off Deadband (Programmable): 0 to full scale

Control Output: 5 Vdc drive @ 50 mA max (internal 5 Vdc source)

Output (Optional):

1. Open collector—6 open-collector outputs, maximum sink capability of 50 mA per output (internal source)
2. Relays—SPST; 1 A @ 28 Vdc or 0.5 A @ 120 Vac resistive

Output Termination:
Euro-style pluggable connector

Rate: Variable, displayed as rate of change/time base

Enclosure Dimensions:

Case: 192 W x 160 H x 103 mm D (7.55 x 6.29 x 4.05")

Material: Polystyrene with crystal-clear polycarbonate lid

Ingress Protection: Up to IP65 (DIN standard)

Weight: 1.4 kg (3 lb)

Type	Range	Accuracy
J	-200 to 1190°C (-328 to 2174°F)	±1°C ±1 count ±2°F ±1 count
K	-170 to 1365°C (-274 to 2489°F)	±1°C ±1 count ±2°F ±1 count
T	-155 to 400°C (-247 to 752°F)	±1°C ±1 count ±2°F ±1 count
E	-185 to 915°C (-300 to 1675°F)	±1°C ±1 count ±2°F ±1 count
R	0 to 1600°C (32 to 2900°F)	±3°C ±1 count ±6°F ±1 count
S	0 to 1600°C (32 to 2900°F)	±3°C ±1 count ±6°F ±1 count
B	470 to 1800°C (900 to 3300°F)	±3°C ±1 count ±6°F ±1 count
RTD-385 (2-Wire)	-200 to 800°C (-328 to 1472°F)	±1°C ±1 count ±2°F ±1 count
RTD-392 (2-Wire)	-100 to 450°C (-148 to 842°F	±1°C ±1 count ±2°F ±1 count
Thermistor	-8.0 to 100°C (17 to 212°F)	±0.5°C ±1 count ±1.0°F ±1 count
Current	1 to 30,000 counts	0.05% ±1 count
Millivolt	1 to 30,000 counts	0.05% ±1 count
Voltage	1 to 30,000 counts	0.05% ±1 count

To Order

Model No.	Description
CN1511-(*)	Wall-mount temperature controller

Note: *Select input code from table below.*

Input Code*	Programmable Inputs
TC	J, K, T, E
RTD	Pt100 Ω
TH	Thermistor
R	R thermocouple
S	S thermocouple
B	B thermocouple
P	0 to 100 mV
V	0 to 10 Vdc
C	4 to 20 mA

**Select one input code.*

Power Options

Ordering Suffix	Description
-1	240 Vac
-2	8 to 15 Vdc

Output Options

Ordering Suffix	Description
-3	6 relay outputs (4 alarms, 2 timers)
-4	6 open-collector outputs (4 alarms, 2 timers)

Accessories

Model No.	Description
RELAY-URM-400	Universal 15 A mechanical 4-relay module
RELAY-URM-800	Universal 15 A mechanical 8-relay module

Comes with 2 watertight connectors and complete operator's manual.

Ordering Example: CN1511-TC-1*, wall-mount temperature controller, T/C input, 240 Vac.*

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