

General Description

The TC-112 (Fahrenheit/Celsius switchable) panel mount temperature controller provides temperature display, relay output and programmable setpoint, upper and lower setpoint limits, differential and calibration.

Applications

Applications include heating, cooling, refrigeration, HVAC, food service, medical and industrial equipment.

Features

- Membrane touch-pad programming
- 0.56" high red LED display
- Programmable setpoint and differential
- Switchable °F and °C
- Panel mount enclosure
- Temperature setpoint display
- LED relay status indicator
- Guarded access to setup parameters

Specifications

Power requirements: Available in 12 or 24 volt models – AC (2 VA) or DC (100 mA) voltage

Relay contact rating: SPDT relay, 4 Amp (24 VAC resistive)

Operating range of sensor: – 67° to 302°F (TC-110), – 55° to 150°C (TC-111)

Ambient temperature range: 20° to 158°F, – 6° to 60°C

Sensor: PTC sensor with .25"OD x 1.75" nickel plated copper cap supplied with 36" of two conductor 22 AWG wire

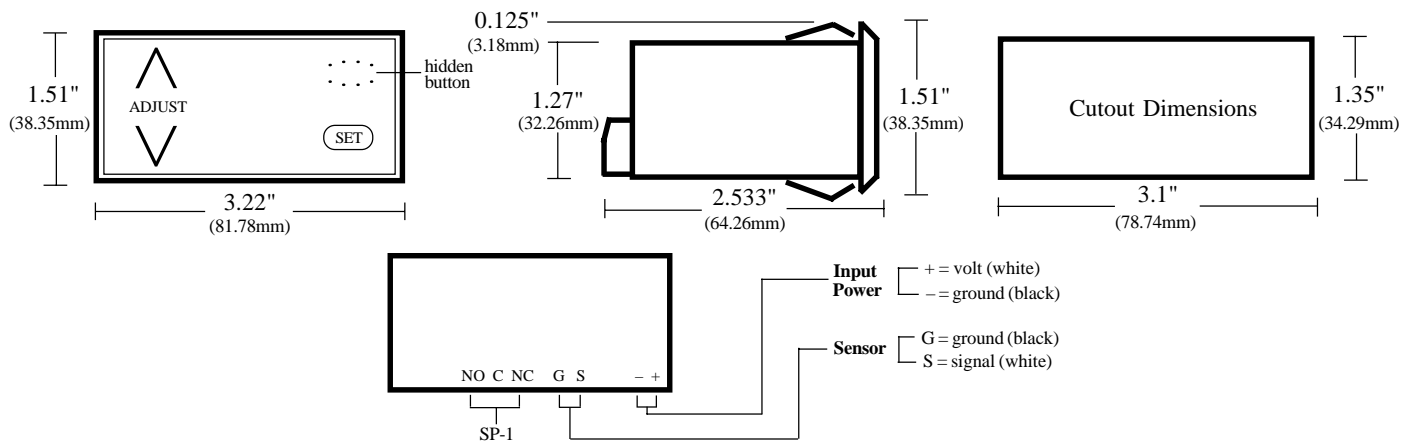
Accuracy: ±1°F, ±1°C

Agency Approvals: U.L. recognized

Humidity: 90% non-condensing

Weight: 3.6 oz.

Dimensions & Wiring



Programming Instructions

A. SETPOINT

1. To start the programming sequence, press the SET button once. Unit displays "SP1" (setpoint 1).
2. Press the SET button again to display SP1 value.
3. To program an increase or decrease in SP1, press the appropriate ADJUST arrow.
4. To complete the programming sequence, press the SET button until the screen goes blank. After five seconds, the sensor temperature will automatically be displayed.

- For dual stage models:
1. Press the "SET" button three times to display SP 2.
 2. Press the "SET" button again to display setpoint value.
 3. Follow steps 3 and 4 above to complete the programming sequence.

IMPORTANT: If the programming sequence is interrupted for more than 15 seconds or not completed to the blank screen stage, the controller will automatically revert to the temperature display mode **WITHOUT** acknowledging any new values (tamper resistant feature).

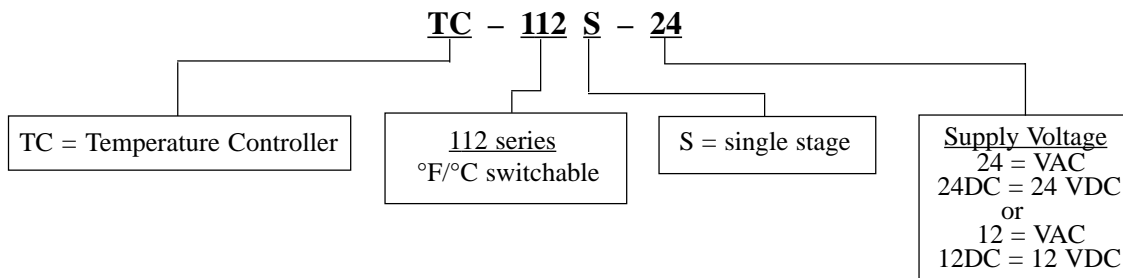
B. DIFFERENTIAL, HIGH/LOW SETPOINT LIMITS AND CALIBRATION – To program these parameters, press the "hidden" button located in the upper right corner simultaneously with the "up" ADJUST arrow (instead of the SET button), and repeat the programming procedure described in step A.

1. Differential "dIF" – setting a positive differential value will close the NO (normally open) relay on temperature fall (cooling applications) and open the relay on temperature rise (heating applications). A negative differential setting will close the NO relay on temperature rise and open the relay on temperature fall. Differential programmable range is -30° to $+30^{\circ}$. Do not set differential at "0".
2. High and Low Setpoint Limit "HI" and "LO" – allow you to limit the range in which the setpoint can be programmed. Also, by programming the high and low setpoint limit values to the same number, a tamper-resistant fixed setpoint is established.
3. Calibration "CAL" – Controller calibration can be programmed $\pm 30^{\circ}$. Unit is factory calibrated to a certified standard.

C. To convert controller from $^{\circ}\text{F}$ to $^{\circ}\text{C}$, or $^{\circ}\text{C}$ to $^{\circ}\text{F}$, press hidden button and down ADJUST arrow simultaneously. After converting temperature, all adjustable parameters should be reviewed.

Ordering Information

Please use the following example when ordering:



Custom Design & Modifications

In addition to standard models, Control Products specializes in complete custom design of electronic controls. Modifications of our standard controls are also available. Please consult factory for more information.

Warranty

Control Products, Inc. warrants its products to be free from defects in material and workmanship under normal use for one year and is not responsible for consequential damages or installation costs of any nature. Exposure to contaminants and extreme environmental conditions such as moisture, temperature, chemicals, etc. may cause the unit to degrade or fail. Control Products accepts no liability for product applications or customer application testing.