



C1013 Electronic Thermostat



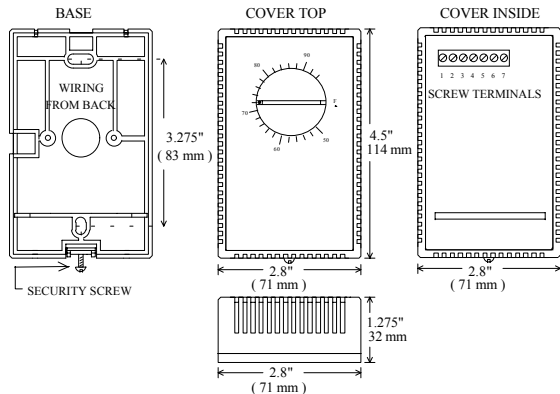
APPLICATIONS

- VAV and by-pass units control with modulating tri-state floating output
- Heating/Cooling change over with supply temp. sensor
- Single stage of auxiliary reheat

ADVANCED DESIGN AND PI CONTROL

Advanced PI control thermostats provides precise temperature control and eliminates wasted energy caused by the typical On / Off cycling in conventional thermostats. Thus the room occupant is able to reduce the thermostat setpoint to the lowest comfortable setting. The result is energy savings ranging from 5% to 10%.

DIMENSIONS



Specifications and equipment are subject to change without prior notice.

COVERS

Factory standard scale is 10°C to 32°C for horizontal mounting. °F & °C scales are available on special order for horizontal or vertical mounting. The thermostat and the terminals are an integral part of the cover. The cover hooks onto the base for easy service and is locked in place using a security screw.

MODULATING TRI-STATE FLOATING OUTPUT

For use with tri-state floating actuator (CW/Off/CCW) having a 1 to 2 minutes timing per 90° of rotation. This is a true multi positions modulating output. It gives performances which is equivalent to more expensive 0 to 10 Vdc type output.

HEATING / COOLING CHANGE OVER

The output is normally cooling but can be reversed to heating mode with 2 different methods:

Auto change over to heating mode with the supplied sensor.

1 change over sensor is used for each thermostat.
 Supply temperature < 75°F (24°C) = cooling mode
 Supply temperature > 78°F (26°C) = heating mode
 Hysterisys is 3°F (2°C)

Auto change over to heating mode with a dry contact.

A closed contact on the change over input will change operation of the tri-state output to heating mode.

Open contact = cooling mode

Closed contact = heating mode

Characteristics of change over sensor 47 KΩ

140.0 °F	60.0 °C	11.700 Kohm	1.047 Volts
130.0 °F	54.4 °C	14.342 Kohm	1.225 Volts
120.0 °F	48.9 °C	17.682 Kohm	1.429 Volts
110.0 °F	43.3 °C	21.940 Kohm	1.659 Volts
100.0 °F	37.8 °C	27.412 Kohm	1.914 Volts
90.0 °F	32.2 °C	34.483 Kohm	2.191 Volts
80.0 °F	26.7 °C	43.704 Kohm	2.486 Volts
70.0 °F	21.1 °C	55.834 Kohm	2.791 Volts
60.0 °F	15.6 °C	71.866 Kohm	3.096 Volts
50.0 °F	10.0 °C	93.340 Kohm	3.393 Volts
40.0 °F	4.4 °C	122.298 Kohm	3.673 Volts

SINGLE STAGE OF AUXILIARY REHEAT

To be used with On/Off 2 position 24 Vac devices like:

- On/Off N.C. electric valves
- Electric duct heater relays
- Electric base board relays

See and study wiring diagrams carefully to wire reheat devices using a separate power source.

SPECIFICATIONS

Operating Conditions: 0 °C to 50 °C (32 °F to 122 °F)

0% to 95% R.H. non-condensing

Sensor: Local 47 K NTC thermistor

Resolution: ± 0.1 °C (± 0.2 °F)

Control accuracy (calibrated): ± 0.2 °C (± 0.4 °F)

Ranges:

50 °F to 90 °F Standard
 (10 °C to 32 °C) Optional

Outputs: Isolated Triac: 30 Vac at ½ A max.

Power: 24 VAC -15%, +10% 50/60 Hz; 2 VA

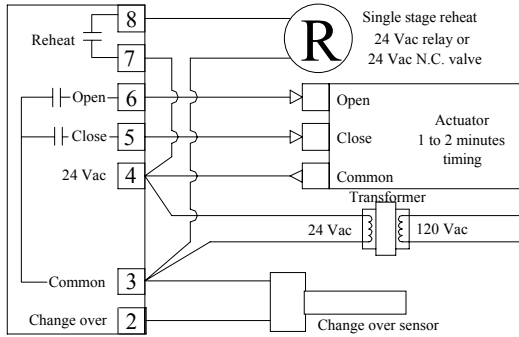
HOW TO ORDER

Thermostat	C1010-02	C1011-02 **	C1012-02	C1013-02 **
Tri-state output in cooling mode	●	●	●	●
Tri-state output reverses to heating mode with change over sensor		●		●
Auxiliary reheat			1 stage	1 stage

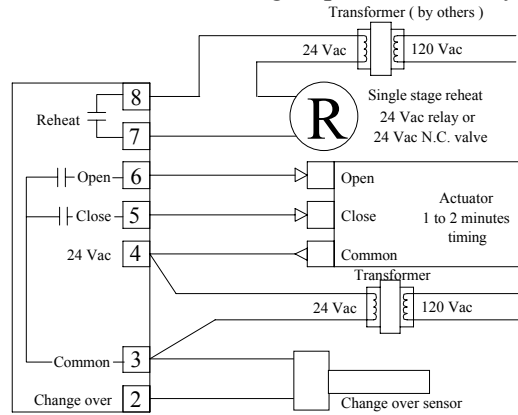
** these packages include the auto change over sensor.

C1013-02

Field wired by installer _____
 Change over is automatic (non adjustable)
 If supply temperature is lower than 24 C: Cooling mode
 If supply temperature is higher than 25.5 C: Heating mode



Optional wiring schematic for applications where transformer is an integral part of reheat system



C1013-02 SEQUENCE

