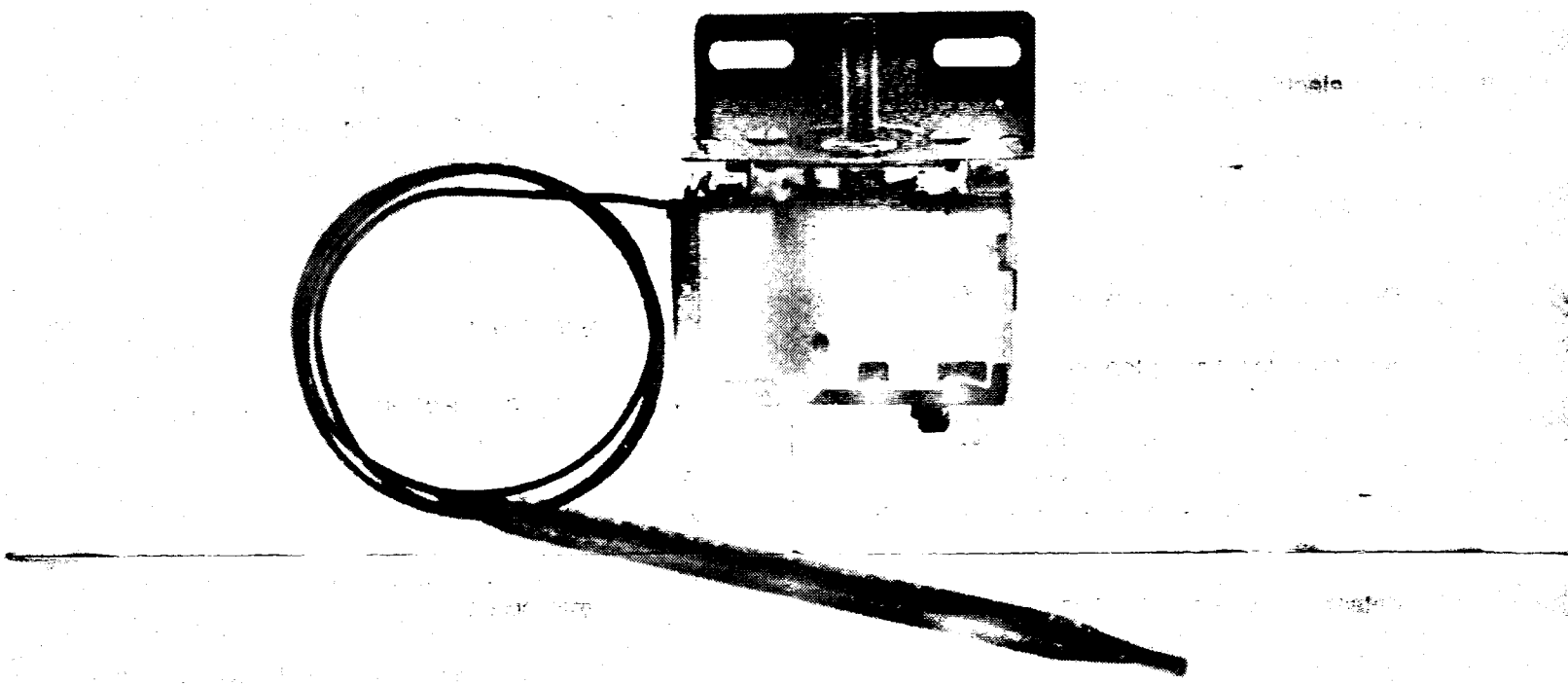
RANCO

INSTRUCTION SHEET

Bulletin No. 1531072

C12-2001
RESISTANCE HEAT THERMOSTAT FOR HEAT PUMPS



APPLICATION/DESCRIPTION

Ranco's C12-2001 control is an adjustable thermostat which "holds back" additional stages of supplemental heat until the outdoor temperature falls below the control's setpoint. There are many ways in which the control can be wired into the system. However, the C12-2001 is typically wired through the relay circuit in conjunction with the indoor thermostat. Most indoor thermostats used with heat pumps will complete a circuit to the supplemental heat if the indoor temperature drops approximately 2°F or more below the indoor thermostat's setting.

The "C12" series controls utilizes a SPDT snap-action switch. Terminal numbers 1 and 2 are normally closed and open with a decrease in temperature. Terminal numbers 2 and 3 close with a decrease in temperature.

INSTALLATION

There are two types: A) Replacement
B) Retrofit

A) <u>Replacing and existing "hold-back" thermostat.</u>

1. Disconnect electrical power.
2. Remove inoperative control noting terminal wire connections and placement of control's capillary and bulb.
3. Install replacement control capillary and bulb in same manner as original control.
4. Coil excess capillary in a 3" diameter and secure in a location where it will not interfere with electrical wiring.

5. Mount replacement control in the same position as the original and attach dial knob which is provided. If the original control was panel mounted it will be necessary to remove the angle mounting bracket which comes installed on the C12-2001 control. Removal of the bracket will permit access to the two sets of tapped mounting holes on the front of the control allowing for alignment with those in the heat pump's sub-panel.

6. Attach electrical leads to control terminals (See Wiring Diagram below).

7. Restore electrical power and check control operation.

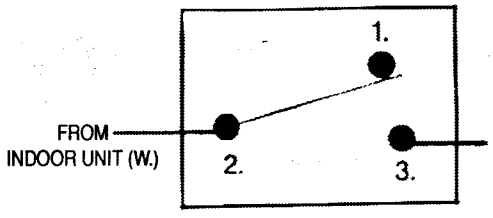
B) <u>Retrofitting the unit with a C12-2001 control.</u>

1. Disconnect electrical power to the unit.

2. A suitable location in the outdoor unit must be chosen for mounting the C12-2001 which will provide the control with reasonable protection from the environment. Surface mount the control by drilling two holes in one of the sub-panels of the outdoor unit making sure not to damage any component parts. Placement of the holes can be determined by using the two slotted holes in the C12-2001 control's angled mounting bracket as a template.

3. Secure the control to the sub-panel by using the two mounting screws provided and attach the dial knob.

WIRING DIAGRAM



C12-2001
HOLD-BACK THERMOSTAT

4. Mount the control bulb so that it will adequately sense the outdoor temperature making sure that the bulb is not insulated in any way. The bulb can be mounted in any position but it should be secure with plastic wire tie to minimize the effects of vibration. Coil excess capillary in a 3" diameter and secure in a location where it will not interfere with electrical wiring.

5. The heat pump's overall system wiring will determine how the C12-2001 control is wired. However, in most cases the "hold-back" thermostat will be wired to interrupt the circuit between the second stage of the indoor thermostat and a circuit in the time delay or any relay which controls two or more of the electric heaters (See Wiring Diagram below).

6. Restore electrical power and check control operation.

CARE IN WIRING

Total electrical load handled by the control must be within the limits of the control rating (See Electrical Ratings below)

Do not re-form, cut off, drill or tap the control's electrical terminals since resulting temperature setting changes may occur.

Electrical leads should be properly dressed, provided with slack to allow for temperature change and vibration, and have a drip loop if water can follow them.

Proper grounding procedures should be followed.

ELECTRICAL RATINGS

240 VA Plilot Duty at 277 VAC

20FLA, 85 LRA;25 NI at 120/240 VAC

16 FLA, 60 LRA;20 NI at 277 VAC

Part Number	Switch	Temperature Range (°F)	Differential (°F)	Sensing Element
C12-2001	SPDT	-1 to 59	5	30" Cap with 3/8X6" Bulb

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Forms # 1531072