# INSTALLATION DATA
## O60 WIDE RANGE TEMPERATURE CONTROL

## DESCRIPTION/APPLICATION

The Ranco® O60 wide range temperature controls utilize an advanced sensing element technology. Standard wide range temperature controls use liquid filled sensing elements which allow the control to be affected by the ambient temperatures surrounding the control itself. The O60 uses a gas filled sensing element which permits sensing from the bulb only and allows the bulb to be mounted in any position required by the user. Because of this sensing element, the O60 is virtually unaffected by surrounding ambient temperatures.

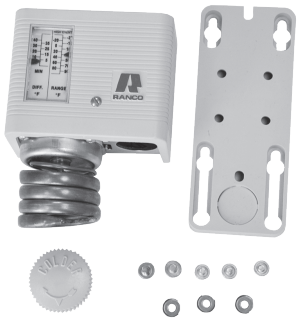
The O60 controls utilize a single pole double throw snap-action switch suitable for either line or pilot duty control of motors and resistive loads. The controls are available in two temperature ranges -35°F to 95°F and 95°F to 240°F. The O60 controls are suitable for nearly all refrigeration, air conditioning and ventilating applications. (See chart below for specifications.)

| SPECIFICATIONS | | | | | |
|---|---|---|---|---|---|
| **Part No.** | **Switch Action** | **Range °F.** | **Differential °F.** | **Capillary** | **Bulb** |
| O60-100 | SPDT Opens High or Low | -35 to 95 | 4 to 50 | 96" | 3/8 x 6 |
| O60-101 | | -35 to 95 | 4 to 50 | Air Coil | — |
| O60-120 | | -35 to 95 | 4 to 50 | 240" | 3/8 x 6 |
| O60-200 | | 95 to 240 | 6 to 50 | 96" | 3/8 x 6 |

| Standard Electrical Ratings | | | | | |
|---|---|---|---|---|---|
| **Control Types** | **Volts A.C.** | **Motor Load Rating** | | **Resistive Load Maximum Amps** | **Pilot Duty Maximum Volt Amps** |
| | | **Maximum Full Load Amps** | **Maximum Locked Rotor Amps** | | |
| O60 | 24 | — | — | — | 144 |
| | 120 | 17 | 102 | 24 | 720 |
| | 240 | 17 | 102 | 24 | 720 |
| | 241/600 | — | — | — | 125 |

**NOTE:** Ratings apply to either side of switch with no more than pilot duty on other side.

**O60-100, 120, 200**



**O60-101**
(Shown with optional knob)

## INSTALLATION

1. Shut off unit electrical power before and during installation.
2. All wiring should conform to the National Electrical Codes and local regulations.
3. Total electrical load must be within the control limits (see Standard Electrical Ratings Chart).
4. Terminals must not be formed or cut off. Also, terminals must not be drilled or tapped.
5. Electrical leads must not be taut, allowing for changes in ambient conditions and vibration.
6. A bend, twist or strain on the control by adverse mounting conditions may cause a change in calibration.
7. Avoid excessive conditions of water, dirt, dust and/or corrosive atmosphere.

## CAPILLARY AND BULB MOUNTING

1. Avoid sharp bends, kinks, strains or pinch marks, and never allow capillary to lie against sharp edges.
2. Vibration can be a source of capillary tube breakage. Any excess capillary not applied in the installation should be coiled and secured to prevent excess vibration.
3. If water can run on the capillary, a drip loop should be provided to prevent water reaching the control.
4. If remote bulb sensing is required, mount bulb securely against surface being sensed. Bulb clamps and bulb wells should be compatible with control bulb and capillary to prevent corrosion. If air coil sensing is used, insure control has sufficient air movement over the air coil.

## CONTROL MOUNTING

The control bracket supplied with the O60 control is designed to allow ease in interchangeability where a narrower control had originally been installed.

It is important not to twist or strain the control body as shifting of the control's calibration may result.

1. Secure the mounting bracket to the back of the control frame using the two #10-32 tapped holes and the 1/4" long screws provided.

   The bracket can be mounted either vertically or horizontally (see Figure 1 Vertical Mounting and Figure 2 Horizontal Mounting). When vertical mounting is desired the bracket should be installed with the knock-out hole at the bottom of the control. This will insure proper alignment with mounting patterns of other controls and will allow for the use of the knock-out hole for wiring in flush mounted installations.

**NOTE:** The control can also be flush mounted without the bracket by using the .20 diameter holes in the back corners of the control frame. Access can be gained by removing the front cover and securing the control to the wall (see Figure 3 Flush Mounting).

2. With the bracket attached, mount the control to a wall or any flat surface using a combination of any two or more of the six slotted holes and the one open slot in the bracket (see Figure 1 Vertical Mounting). Replacement of a narrower control is made easy by aligning some or all of the existing mounting holes with those of the bracket.
3. If desired attach the dial knob to either the range or differential screw with the screw provided.

## CONTROL BACK AND MOUNTING BRACKETS

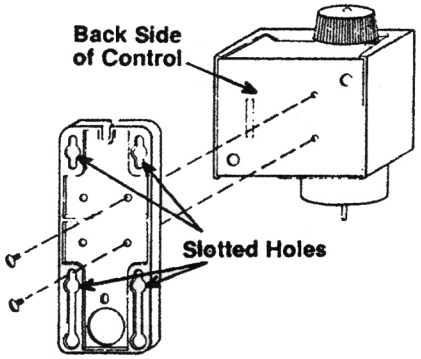



Figure 1 Vertical Mounting

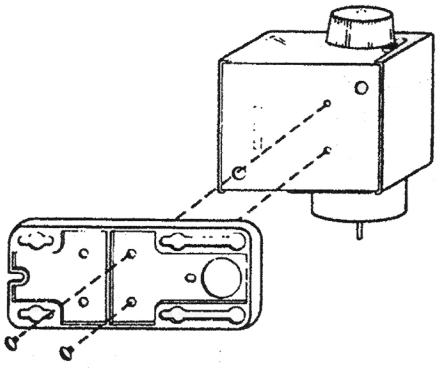


Figure 2 Horizontal Mounting

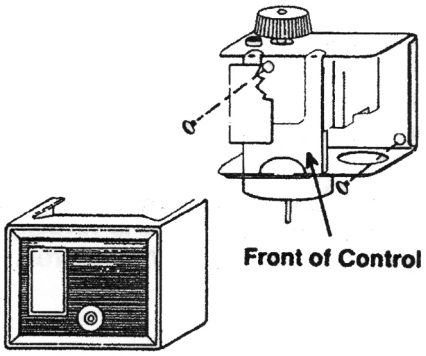


Figure 3 Flush Mounting

## CONTROL TYPE O60

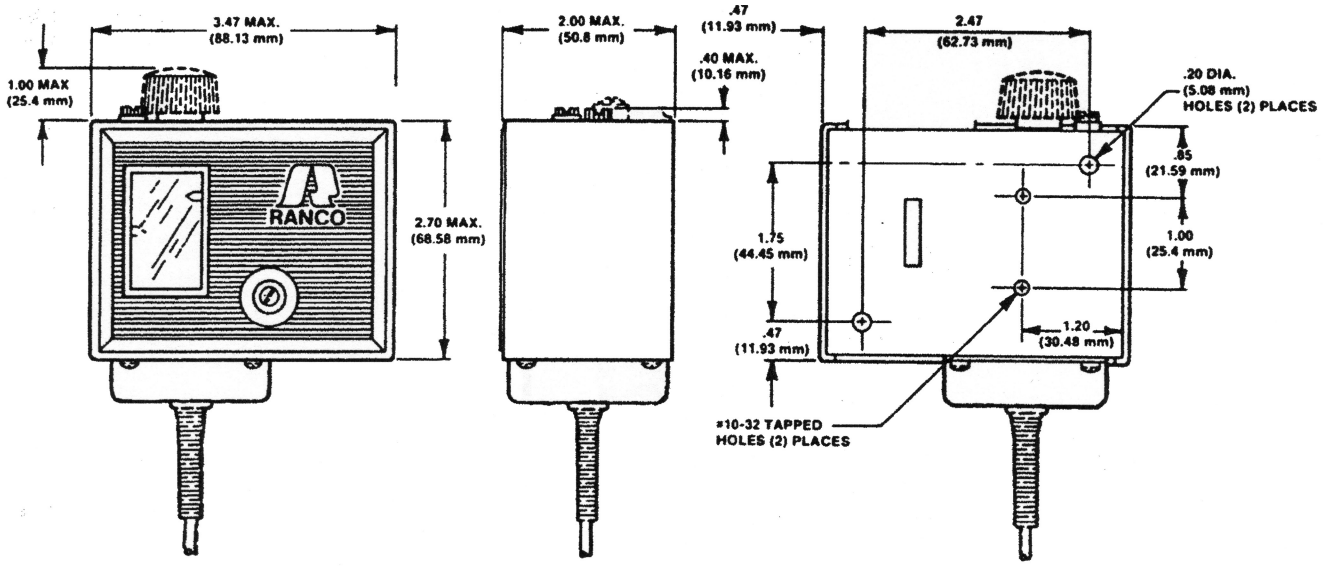


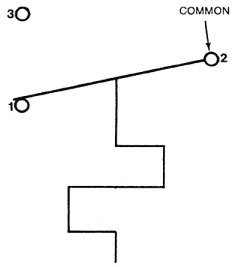

Figure 4

Figure 5

## CONTROL WIRING

All wiring should be in accordance with appropriate regulations and electrical load must be within the control limits. See Figure 5 for terminal identification.

Terminal #2 on O60 controls is common for electrical power supply.




## CONTROL ADJUSTMENT

Set the desired cut-in setting first by turning the range adjustment screw (see Figure 6). Because one full turn of the range screw equals approximately 7.5°F, the O60 allows for precise temperature settings.

Then set the desired differential (difference between the cut-in and the cut-out settings) by turning the differential adjustment screw (see Figure 6). One turn of the differential screw equals approximately 9°F. The cut-out setting can be determined by subtracting the differential from the cut-in setting.

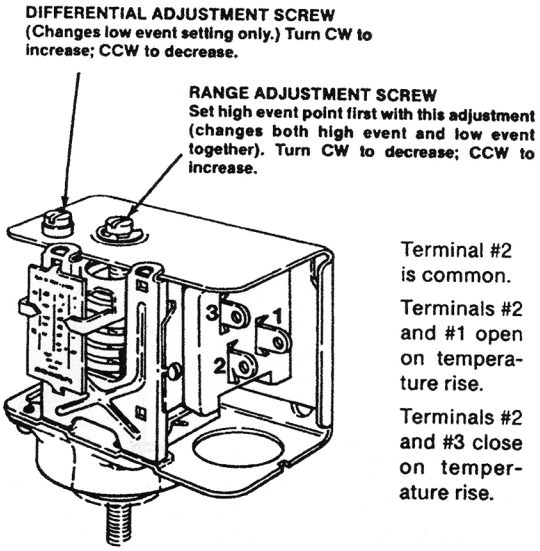



Figure 6

Robertshaw

Customer Service Telephone 1.800.304.6563
Customer Service Facsimile 1.800.426.0804
HVACCustomerService@robertshaw.com

For Technical Service
Telephone 1.800.445.8299
Facsimile 1.630.260.7294
TechnicalService@robertshaw.com

Robertshaw®, Ranco®, Paragon® and Uni-Line® are trademarks of Robertshaw, its subsidiaries and/or affiliated companies. All other brands mentioned may be the trademarks of their respective owners.

www.robertshaw.com
©2015 Robertshaw
3/15 –1531015-001-Rev C