

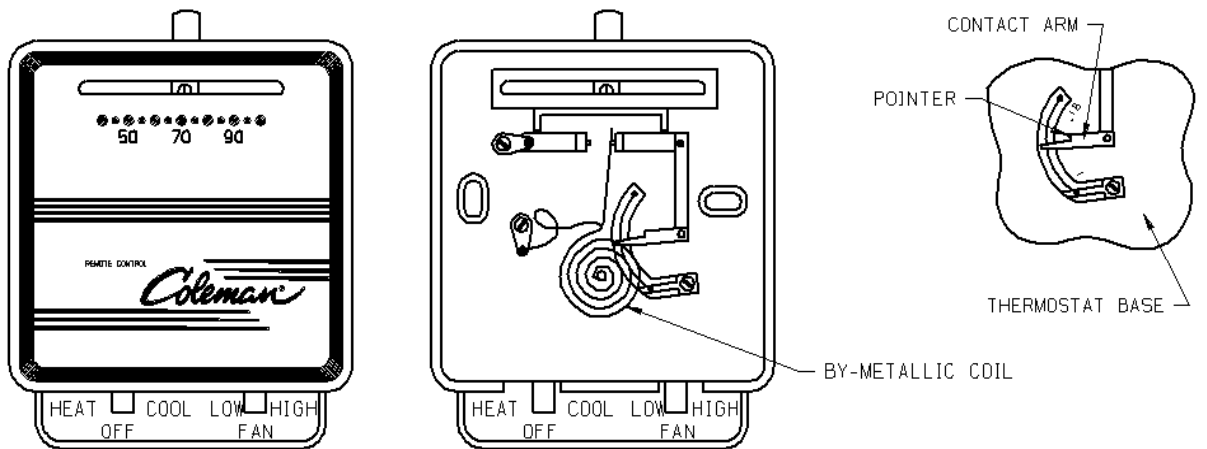
I.

INTRODUCTION TO WALL THERMOSTATS

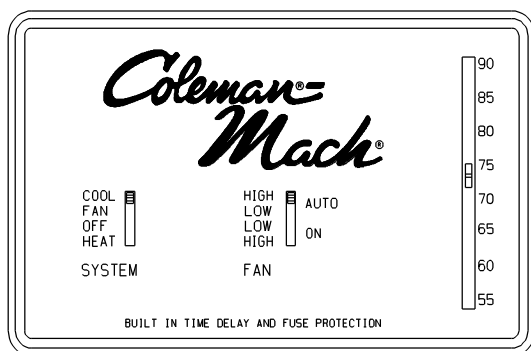
All of the air conditioning functions are controlled by the wall mounted thermostat . These thermostats utilize a **12 VDC** electrical circuit which is supplied by the vehicle manufacture or the installer of the A/C unit. Most of the thermostats provided by Recreation Vehicle Products are combination (Heat / Cool) thermostats. These thermostats are capable of operating both the roof top air conditioner and any furnace with a **12 VDC** control circuit.

The Figures below list three of the most commonly found Coleman/RV Products Wall Mounted Thermostats for rooftop air conditioners (heat pumps excluded). These thermostats are listed in chronological order from the oldest to the newest.

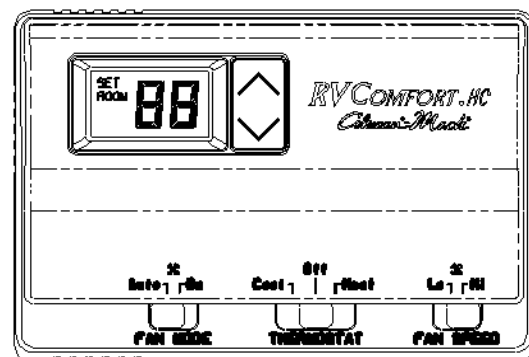
1. Mechanical / By-Metal Thermostats



2. Electronic Thermostats



3. Electronic Digital Display Thermostats



NOTE:

ALL THREE OF THESE THERMOSTATS ARE COMPLETELY INTERCHANGEABLE.

Thermostats are really nothing more than temperature controlled switches. When the need for Cooling or Heating exists the thermostat sends a 12VDC(+) signal to the control relays or a P.C. board which in turn energizes the air conditioner components or the furnace. (Note: Relays and P.C. boards will be further discussed later in lesson II).

The following chart shows the different electrical connections made by the thermostat during operation. The chart below assumes 12VDC(+) is supplied to thermostat Red wire “R” and that 12VDC(-) or ground is supplied to the Blue wire “B” at all times.

Thermostat Operations	Internal 12VDC(+) Connections Made
Cool Mode Selected On Low Fan	Red “R” to Yellow “Y” and Gray “GL”
Cool Mode Selected On High Fan	Red “R” to Yellow “Y” and Green “GH”
Heat Mode Selected On Any Fan Speed (Note: Furnace blower operates independently from sequencer or time delay in furnace)	Red “R” to White “W”
Fan Only Selected (Hi-Fan Only)	Red “R” to Green “GH”

Note: When the auto cool mode is selected on the thermostat the fan cycles “on” and “off” with the compressor as needed. When the on cool mode has been selected the fan runs continuously and the compressor cycles “on” and “off” as needed.

The following chart depicts thermostat wiring and the wiring destinations for air conditioners with control boxes containing Printed Circuit Boards.

THERMOSTAT TERMINAL / WIRE	CONTROL AND SUPPLY WIRING (OEM / VENDOR)	CEILING ASSEMBLY TERMINAL DESIGNATION
R or RED	ONE RED, (+) 12VDC SUPPLY WIRE TO THE THERMOSTAT	N /A
B or BLUE	TWO BLUE, ONE (-) 12VDC SUPPLY WIRE TO THE THERMOSTAT AND ONE BLUE WIRE TO CEILING ASSEMBLY / PLENUM	B
Y or YELLOW	ONE YELLOW, COMPRESSOR CONTROL WIRE TO CEILING ASSEMBLY / PLENUM	Y
GH or GREEN	ONE GREEN, HIGH FAN CONTROL WIRE TO CEILING ASSEMBLY / PLENUM	GH
GL or GRAY	ONE GRAY, LOW FAN CONTROL WIRE TO CEILING ASSEMBLY / PLENUM	GL
W or WHITE	ONE WHITE, 12VDC (+) FURNACE CONTROL WIRE FROM THE THERMOSTAT	FURNACE

NOTE: The (W) White wire is not available on COOL ONLY thermostats.

NOTE: THE CONNECTING WIRES TO THE THERMOSTAT ARE PROVIDED BY THE VEHICLE MANUFACTURER OR INSTALLER. THESE O.E.M. OR VENDOR SUPPLIED WIRES MAY NOT BE COLOR CODED AS NOTED IN THE CHART ABOVE. THE GROUND WIRE MUST BE A ZERO “0” RESISTANCE GROUND.