

MILLIVOLT CHECK

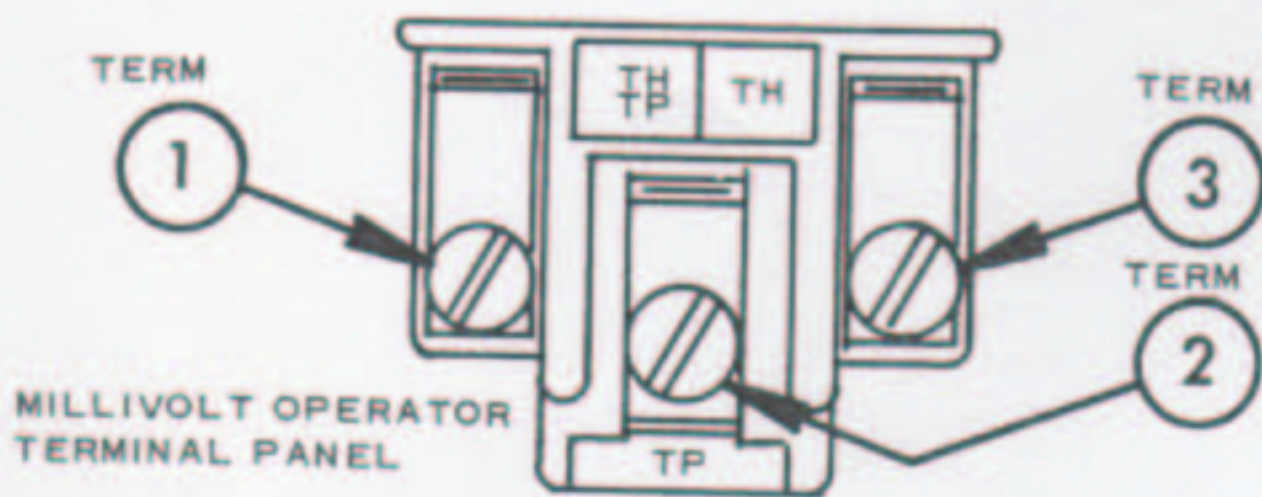
The Unitrol 7000 MV or 7000 MVR is a thermopile self-powered combination gas control. Before checking the millivolt system, the following operations should be performed and observations made:

1. The thermostat must be a type suitable for millivolt operation.
2. Inspect system for proper wiring (Fig. 1 or Fig. 2)
3. The thermostat leads and all wire connections should be cleaned and tightened to eliminate all unnecessary resistance.
4. Clean and/or adjust pilot for maximum flame impingement on thermopile.
5. If pilot will not remain lit when gas cock dial is released, check automatic pilot (Step D).

The millivolt system and individual components may be checked with a millivoltmeter having a 0-1000 MV range.

Conduct each check shown in chart below by connecting meter test leads to terminals as indicated.

All readings are closed circuit:



MILLIVOLT OPERATOR
TERMINAL PANEL

CHECK TEST	TO TEST	CONNECT METER LEADS TO TERMINALS	THERMOSTAT CONTACTS	METER READING SHOULD BE
A	COMPLETE SYSTEM	2 & 3	CLOSED	100 MV OR MORE
B	THERMOPILE OUTPUT	1 & 2	OPEN	GREATER THAN 250 - (CP-1) 325 - (CP-2)
C	SYSTEM RESISTANCE	1 & 3	CLOSED	LESS THAN 35 (CP-1) 80 (CP-2)
D	AUTO/PILOT DROPOUT	1 & 2	OPEN	BETWEEN 120 - 30 MV

A. COMPLETE MILLIVOLT SYSTEM CHECK

("A" Reading - Thermostat contacts CLOSED -- Gas Cock Dial "ON" - Main burner should come ON)

- a. If the reading is more than 100 millivolts and the automatic valve still does not come on - replace the automatic valve operator.
- b. If the closed circuit reading ("A" reading) is less than 100 millivolts, determine cause for low reading - proceed as follows:

B. THERMOPILE OUTPUT READING CHECK

("B" Reading - Thermostat contacts OPEN - Main burner OFF)

1. CP - 1 system - 250 millivolts minimum.
2. CP - 2 system - 325 millivolts minimum.

If the minimum millivolt reading is not obtainable, readjust pilot for maximum millivolt output. If millivolt reading is still below minimum specified, replace thermopile.

C. SYSTEM RESISTANCE CHECK

("C" Reading - Thermostat contacts CLOSED - Gas cock "ON" - Main burner should be ON)

1. CP - 1 system - less than 35 MV.
2. CP - 2 system - less than 80 MV.
3. If the "C" reading is more than that specified for the system being checked, this indicates the resistance in the system is excessive and must be reduced. To correct:
 - a. Clean and tighten thermostat leads and connections.
 - b. Shorten thermostat lead wires and/or replace with heavier gage wire.
 - c. Cycle thermostat rapidly (manually turn dial) to clean contacts.

D. AUTOMATIC PILOT DROPOUT CHECK

1. Extinguish pilot and observe meter. Hold gas cock dial depressed until maximum output is observed. Then extinguish pilot.
2. Dropout of automatic pilot magnet (sound should be audible) should occur between 120 millivolts and 30 millivolts. If dropout occurs outside these limits, change the automatic pilot magnet assembly.

NOTES:

Systems using a two lead thermopile equivalent to the CP - 2 shall meet the specifications for CP - 2 systems.

Systems using a two lead thermopile equivalent to a CP - 1 shall meet the specifications for CP - 1 systems.

The CP - 1 system is only recommended for use with a cabinet mounted Robertshaw RT1HMV thermostat with a maximum lead length of 8 feet of 14 gage wire.

CP - 1 and CP - 2 thermopiles can be identified by checking the stamping on the hex of the connector nut.

FIG. 1 SCHEMATIC CP-2 (COAXIAL)

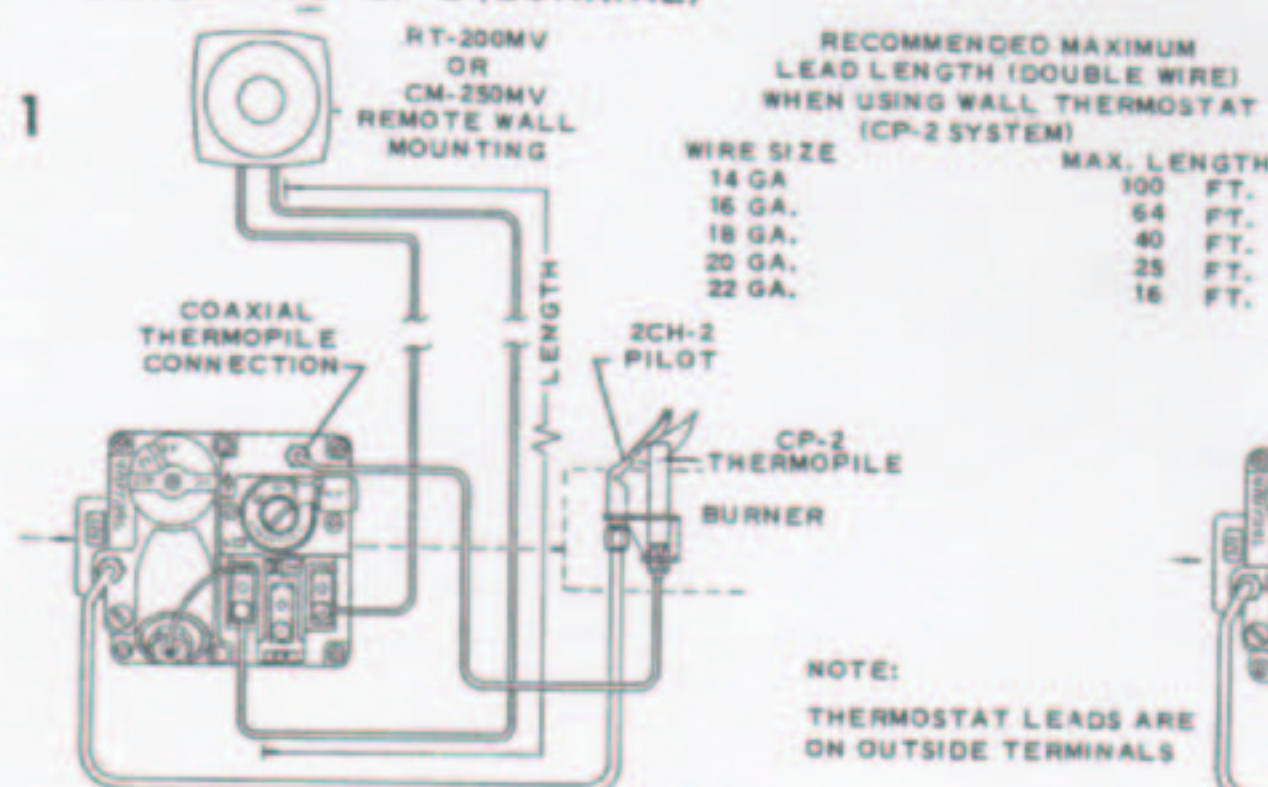


FIG. 2 SCHEMATIC 2 LEAD THERMOPILE

