

TRANSFORMER RELAYS

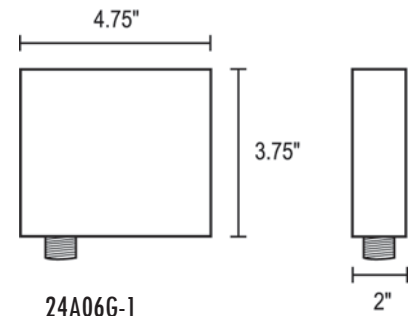
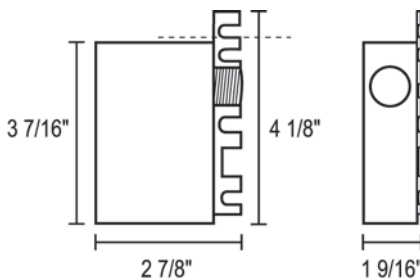
SILENT RELAYS



24A01G-3

MODEL	UPC #093319 PART #	TYPE	AMPS
24A01G-3	00535	Single Pole 240/24V Transformer Relay	25
24A05A-1	00543	Single Pole 120/24V Transformer Relay	22
24A05E-1	00540	Single Pole 208/24V Transformer Relay	25
24A05Z-1	00541	Single Pole 277/24V Transformer Relay	25
24A06G-1	00545	2 Circuit 240/24V Transformer Relay	50
24A07E-1	00548	Single Pole 208/24V Relay Skeleton Model	25
24A07G-1	00546	Single Pole 240/24V Relay Skeleton Model	25

These "Level-Temp" controls have been designed to operate with a low-voltage electric heat thermostat to provide a system for controlling electric warm air heaters and electric radiant heating devices such as duct heaters, wall heaters, baseboards, floor and ceiling cable heaters. When required, two or more Level-Temp Silent Operators can be operated by one two-wire low voltage thermostat.



24A06G-1

2"

SPECIFICATIONS

Temperature Range: -20° to 140°F (-29°C to 60°C)
Thermal: Average time delay: 45 seconds
Switch Action: Single pole single throw (normally open)
Accuracy: ±1.5°F, 120V
Power Source: 208VAC - 240VAC, 277 VAC, 50 - 60Hz
Mounting: ½" conduit hub or mounting tabs with several break-offs for 2, 3 or 4 hole mounting.

FEATURES

- Silent remote control of large wattage.
- Loads (heaters) can be accurately done by using these relays.

TECHNICAL

- 25 Amps.
- 240 Volt.
- 24 Volt control.
- ½" Threaded hub.

INSTALLATION

This relay should be installed at the power panel. Other locations include the junction box of the heater or the remote junction box near the heater. When tying relays together make sure they are in phase. Reading zero Volts between low voltage control leads will confirm proper phasing.

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24A01G-3 - 24A07G-1 WIRING

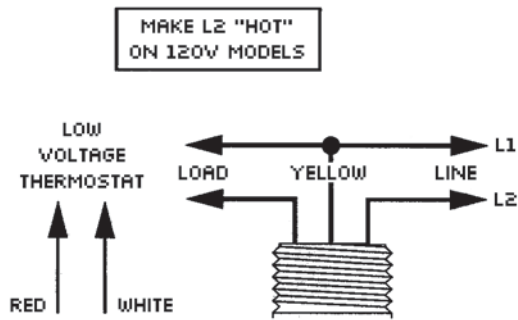


Fig. 1. Diagram of "LEVEL TEMP" wiring

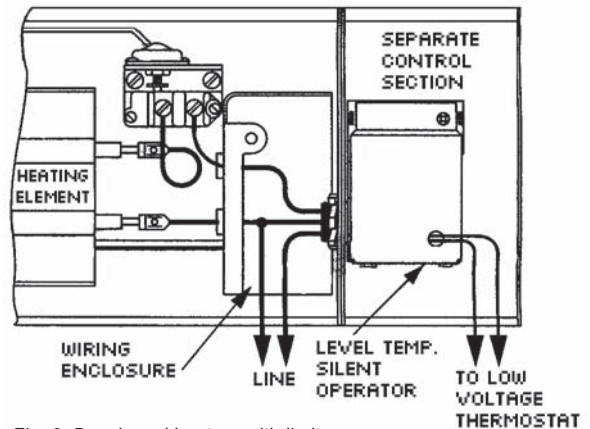


Fig. 2. Baseboard heaters with limit

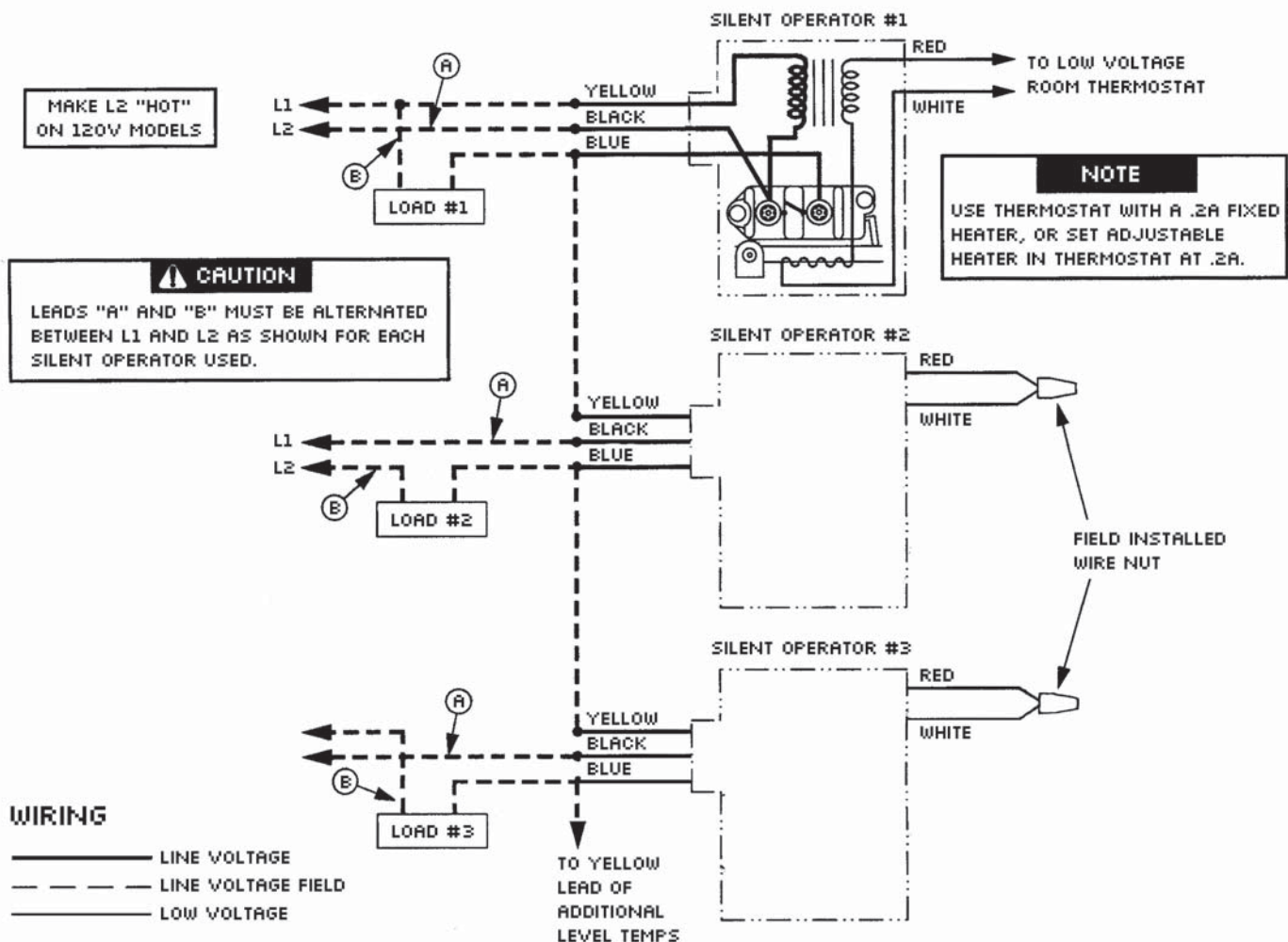
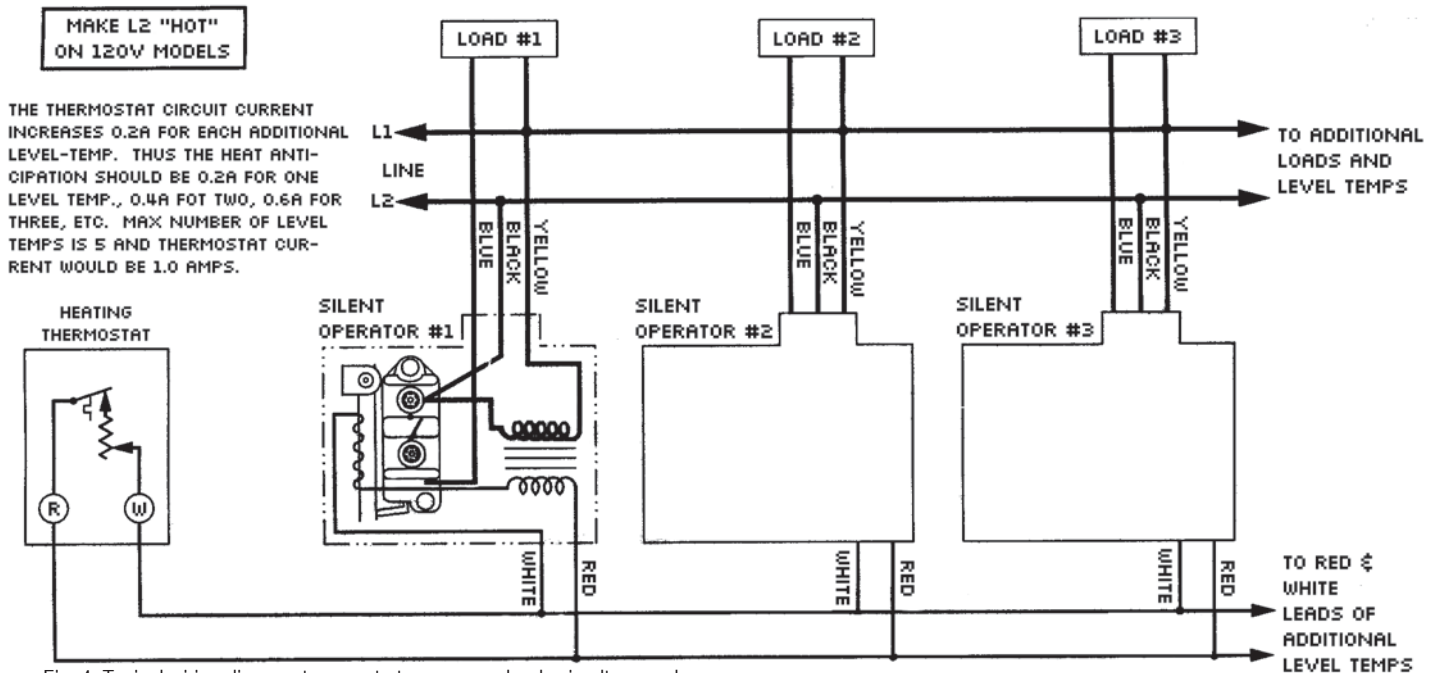


Fig. 3. Typical wiring diagram to "Sequence" two or more loads

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USING ONE THERMOSTAT AND TWO OR MORE SILENT OPERATORS TO "SEQUENCE" LOADS

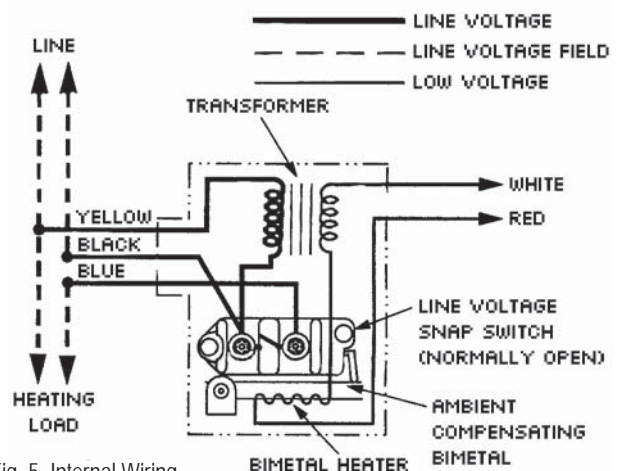
Figure 3 shows how several Level-Temp Silent Operators can be used to "sequence on" separate heating loads. This may be accomplished by "jumping" the thermostat leads of the additional silent operators, and wiring them in careful conformance to the recommended wiring diagram. Note that only one silent operator is in the thermostat circuit. Therefore, set the adjustable heater in thermostat at .2A, or use a thermostat with a .2A fixed heater.

SEQUENCE OF OPERATIONS: A circuit is completed through the bi-metal heater of the first silent operator as the contacts of the low voltage thermostat close. In approximately 45 seconds, the line voltage snap-

switch of this operator closes, energizing heating load #1 and the transformer primary of silent operator #2. Since the thermostat leads of this operator are "jumped", its bi-metal heater immediately begins its warping action. In approximately 45 seconds the line voltage switch of operator #2 closes to energize heating load #2 and the transformer primary of silent operator #3. This "sequence on" pattern continues until all successive silent operators and heating loads have been energized. When the single Level-Temp room thermostat opens its contacts each separate heating load will be "sequenced off" in intervals of approximately 45 seconds.

OPERATION

Basic Silent Operator components are a line-to-low voltage transformer, a low voltage bi-metal heater, an ambient compensating bi-metal and a normally open single pole single throw line voltage snap-action switch. In operation a circuit is completed through the bi-metal heater as the low voltage room thermostat closes its contacts. In approximately 45 seconds the warping action of the heater closes the line voltage snap-action to energize the heating load. When the thermostat opens its contacts the bi-metal heater cools for approximately 45 seconds before the line voltage switch opens to de-energize the heating load.



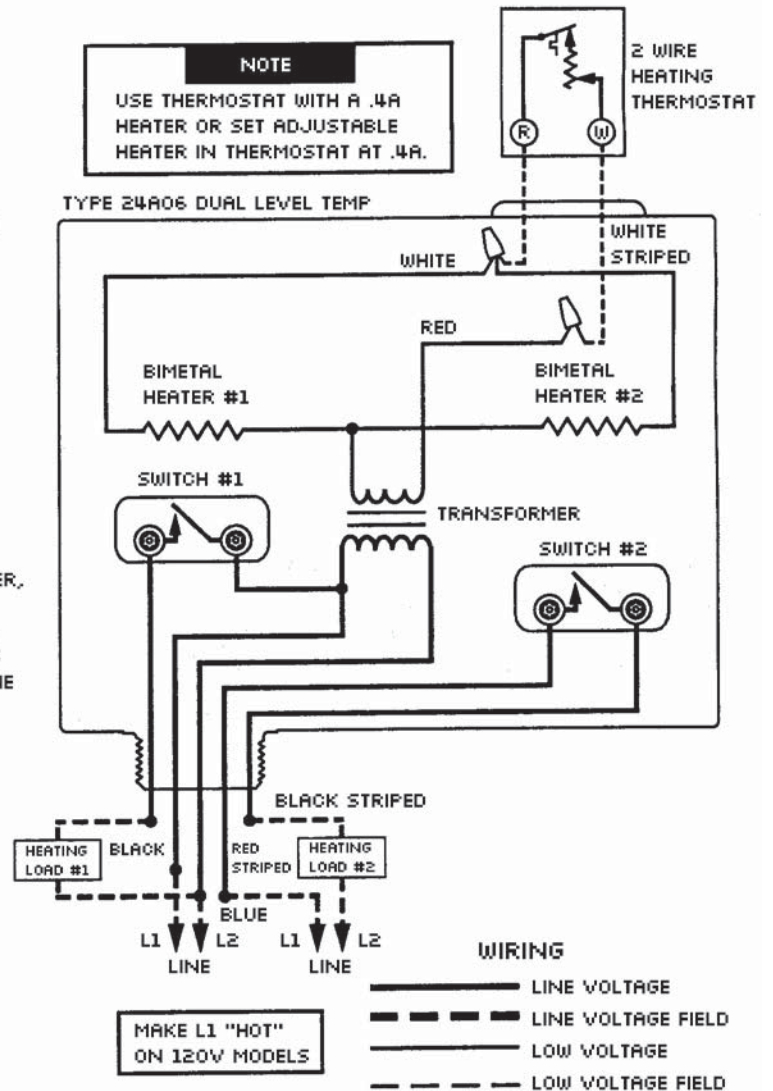
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24A06G-1 WIRING

FIG. 2. USING TWO-WIRE HEATING THERMOSTAT TO OPERATE TWO SEPARATE HEATING LOADS.

OPERATION

AS THE THERMOSTAT CLOSES ITS CONTACTS, BIMETAL HEATERS #1 AND #2 ARE ENERGIZED. APPROXIMATELY 45 SECONDS LATER, THE WARPING ACTION OF THESE HEATERS CLOSES LINE VOLTAGE SWITCHES #1 AND #2 TO ENERGIZE HEATING LOADS #1 AND #2. WHEN THE THERMOSTAT OPENS ITS CONTACTS, BIMETAL HEATERS #1 AND #2 COOL FOR APPROXIMATELY 45 SECONDS BEFORE LINE VOLTAGE SWITCHES #1 AND #2 OPEN TO DE-ENERGIZE THE HEATING LOADS.



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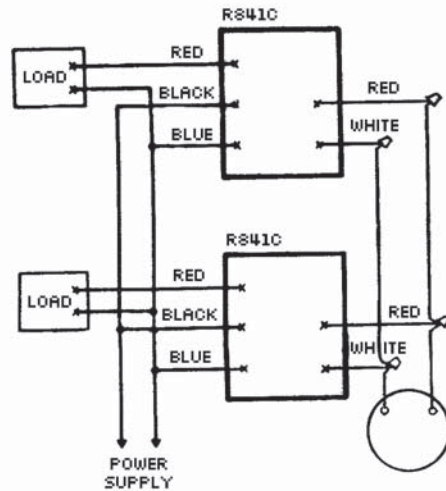
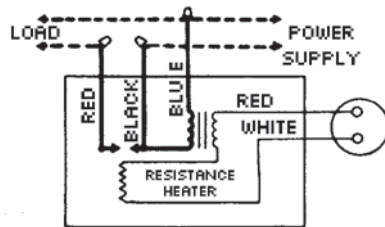
R841C & R841E



R841C1227

MODEL	UPC #093319 PART #	TYPE	AMPS
R841C1227	13000	Single Pole 240V Silent Relay	22
R841E1068	13005	Double Pole 240V Silent Relay	44

R841C INTERNAL SCHEMATIC AND CONNECTION DIAGRAM.



TYPICAL WIRING DIAGRAM SHOWING CONNECTIONS FOR TWO R841C RELAYS USED WITH ONE TWO-WIRE LOW VOLTAGE THERMOSTAT. SET THERMOSTAT HEATER AT 0.4 AMP.

