

**MODUTROL\* MOTORS M634A,B&C**

YOUR UNIT CAN BE REBUILT  
SEND TO EPRI  
800-356-3774

**application:** The M634 Modutrol Motors provide two-position or floating control of valves or dampers, when used with appropriate controllers. Applicable controllers include Series 20 low voltage and Series 60 line voltage two-position controllers and Series 60 floating controllers. Where heat anticipation is required, the controller must include a low voltage anticipation heater.

The M634A is a low voltage motor requiring an external transformer. The M634B is available in all line voltages. The M634C is available in line or low voltage and includes integral, cam operated auxiliary switches. These switches provide a variety of adjustable switching combinations for auxiliary equipment (see Fig. 3). All line voltage motors contain an integral transformer to provide low voltage for the control circuit.

**construction:** The M634 is a reversible shaded pole motor containing a suitable gear train to give the proper torque and timing. A sturdy metal case houses the gear train and drive motor which are oil immersed to provide long life and quiet operation. The case is sealed and under normal conditions the oil fill requires no field maintenance. Knockouts for half-inch conduit are provided for wiring purposes and four mounting feet insure secure positioning of the motor (see Fig. 1).

**specifications:**

MODELS: M634A—24v 50/60 cps.

M634B—120, 240v 50/60 cps; 220v 50 cps.

M634C—24 or 120v, 50/60 cps; 220v, 50 cps, with integral auxiliary equipment switches.

**MOTOR RATINGS:**

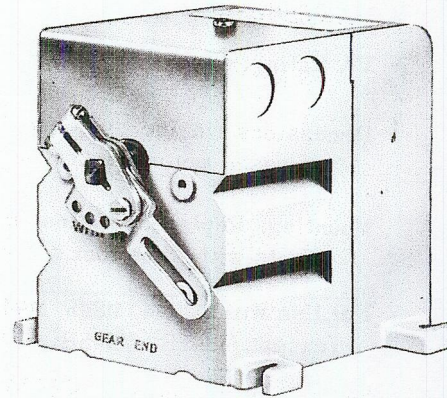
Model	Volts ac	Amperes	Watts	Integral Switches
M634A	24	1.6	24	—
M634B	120	0.32	24	—
	220-50 cps	0.16		
	240	0.16		
M634C	24	1.6	24	yes (2)
	120	0.32		
	220-50 cps	0.16		

**AUXILIARY SWITCH DIFFERENTIAL:** These switches, located inside the motor case, have a fixed differential of approximately ten angular degrees.

**INTEGRAL AUXILIARY SWITCH RATINGS (in amperes):**

	120 v	240 v
Full Load	8	4
Locked Rotor	48	24

**NOTE:** If both the normally open and the normally closed contacts are used on an individual switch, either contact is rated as shown in the above table; the opposite contact is rated at 40VA pilot duty only.



**MOTOR TIMING:** 1 minute.

**CRANK SHAFT:** Double ended, 3/8 in. square, 3/8 in. long.

**CRANK ARM:** Single arm is adjustable from minimum radius of 1 9/16 in. to 2 11/16 in. maximum. Operating stroke is 160 degrees. The arm is adjustable positionally through 360 degrees in 22 1/2 degree increments.

**DIMENSIONS:** See Fig. 1.

**MAXIMUM DEAD LOAD:** Cover end—50 pounds; Case end—100 pounds.

**TORQUE:** 35 inch-pounds at 85% of rated voltage.

**DAMPER RATING:** 23 square feet maximum.

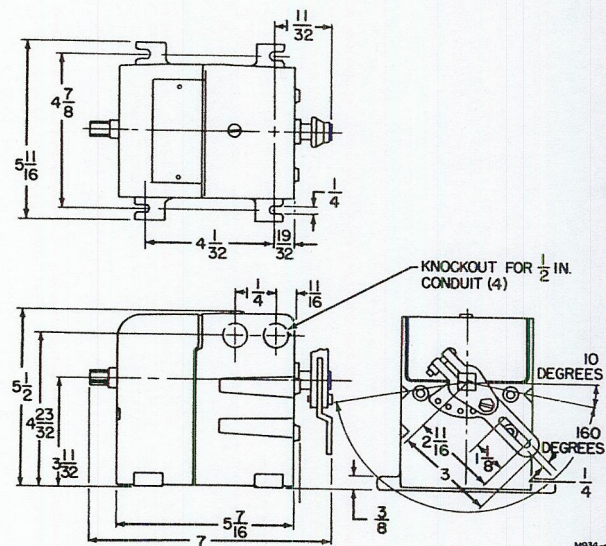


Fig. 1—Approximate Dimensions in Inches.

**AMBIENT TEMPERATURE RATING:** —30 to 125 F.

**APPROVAL:** Line voltage models listed by Underwriter's Laboratories, Inc.



**ACCESSORIES AVAILABLE:**

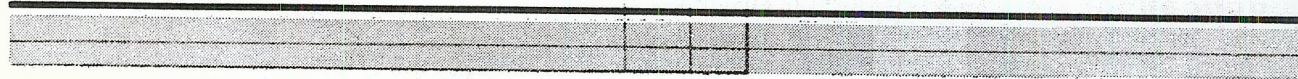
1. Q441B and D Auxiliary Switches (snap acting type for operating auxiliary equipment). See Form Number 95-2786.
2. Q455 and Q601 Valve Linkages. See Forms 77-5211 and 77-5209.
3. AT72 and AT92 Low-Voltage Transformers. See Forms 90-0520 and 90-0588.

4. Q605 Damper Linkage. See Form 95-1347.

NOTE: Use accessories that do not require a tapped hole in the end of the drive-shaft.

**WHEN SPECIFYING, INDICATE:**

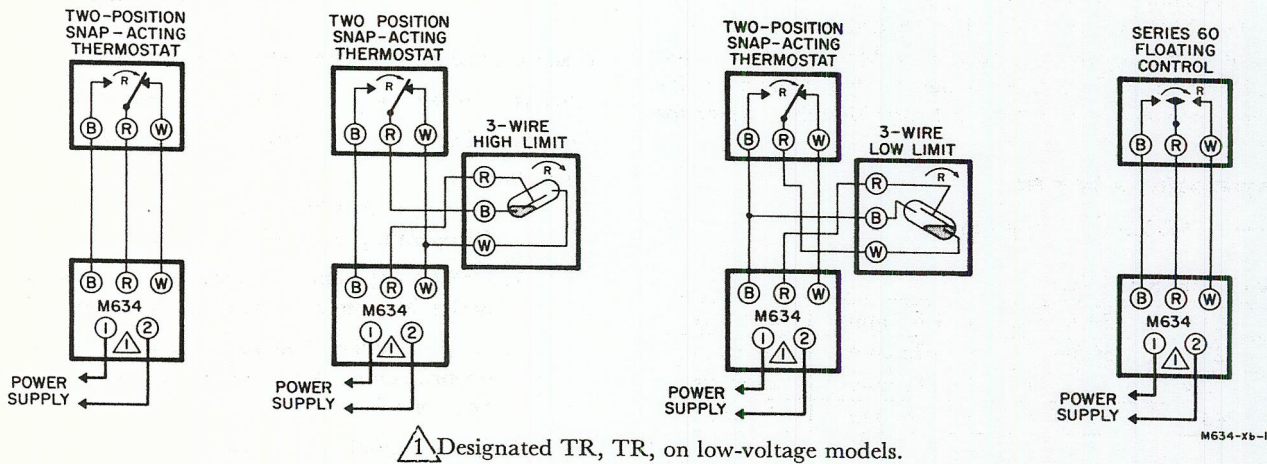
1. Model Number.
2. Voltage and Frequency.
3. Accessory(ies), if desired.



**typical operation:** When using the M634A as a two position actuator, the motor plus linkage provides the valve or damper positioning required to maintain a selected set point temperature. Models equipped with integral auxiliary switches, or those utilizing the Q441 auxiliary switches permit automatic switching of auxiliary equipment.

**connection diagrams:**

The following basic diagrams represent some of the more common hookups used. The many variations and combinations of these elementary systems make possible the proper operation of the various functions of air conditioning systems, heating systems, etc.



△ Designated TR, TR, on low-voltage models.

Fig. 2—Typical Terminal to Terminal Hook-up for Motors in Two-Position and Floating Control Applications.

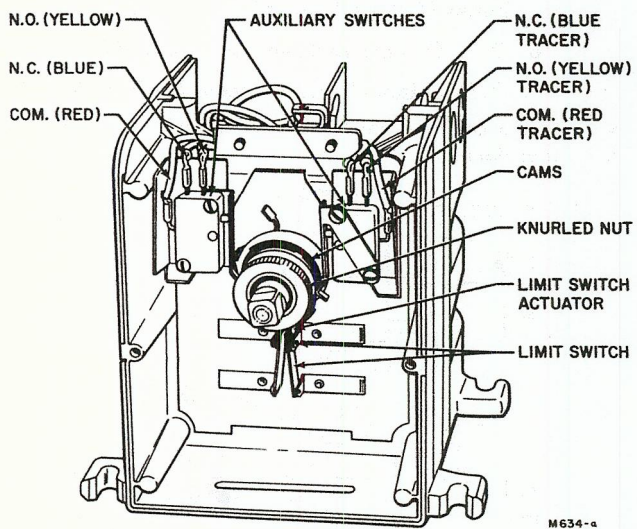


Fig. 3—M634C with Integral Auxiliary Switches—(cover-end view) Note: Motor Drives clockwise when R-Ware jumpered.

**IMPORTANT:** After the linkage for operating the valve or damper is connected to the motor, it may be necessary to interchange the blue and white connections at the motor terminals to obtain the proper action of the valve or damper on a temperature increase or decrease at the controller.

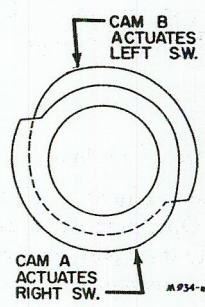


Fig. 4—Cam Arrangement when Shipped from Factory—as viewed from cover-end. Both Auxiliary Switches are in their Normal position