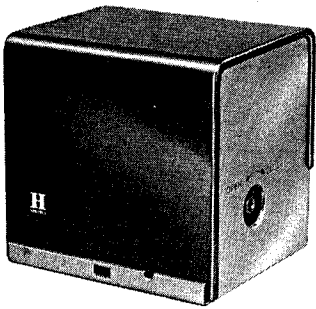




SPECIFICATION DATA

M436A; M836A & B DAMPER MOTORS

- Torque rating 15 or 20 pound inches
- Mounts in any position with output shaft horizontal
- Mounts directly coupled to 1/2 in., 3/8 in. or 1/4 in. damper shafts; or offset with standard damper linkage
- Two-position motor operation
- Return spring to return motor to start position if power is interrupted
- Two output shafts, one on either end of motor
- Thermal breakers on M436A and M836A for overload protection



application: These Series 40 and Series 80 Damper Motors are used in a variety of applications requiring light duty damper operators.

- Outdoor air dampers for combustion air in boiler rooms
- Backdraft dampers for exhaust fans
- Outdoor inlet dampers to industrial make-up air units
- Changeover dampers for heating and cooling systems
- Minimum-position damper for ventilation from outdoor air
- Two-position zone control

construction: Damper motors are housed in a sturdy "U" shaped metal case and cover. A return spring returns the motor to the start position if power is interrupted. Each motor has two hexagonal shafts, one on either end of the motor with the rotational direction stamped on the case. The M436A and the M836A are equipped with a thermal-breaker for overload protection during the lifting stroke or in a stalled condition. The case of these motors is equipped with one combination knockout for 1/2 or 3/4 inch conduit and one knockout for 1/2 inch conduit.

specifications:

| Model Number | Controller Required | Maximum Load Torque (in.-lb.) | Break-away Torque ^a (in.-lb.) | Opening Time ^b | Closing Time ^b | Damper Blade Area | A-C Voltage (60 cps) | Nominal Current (in amperes) | | Nominal Power (in watts) | |
|----------------------|---|-------------------------------|--|---------------------------|---------------------------|-------------------|----------------------|------------------------------|---------|--------------------------|---------|
| | | | | | | | | Opening | Holding | Opening | Holding |
| M436A (Line voltage) | 2-wire line-voltage thermostat or other SPST switching action | 20 | 30 | 45 sec. (nominal) | 30 sec. (nominal) | 13 sq. ft. | 120 | 0.37 | 0.12 | 27.0 | 8.5 |
| | | | | | | | 240 | 0.19 | 0.06 | 27.0 | 8.5 |
| M836A (Low voltage) | Any SPST switching action that does not include heat anticipation in the circuit | 20 | 30 | 45 sec. (nominal) | 30 sec. (nominal) | 13 sq. ft. | 24 | 1.85 | 0.6 | 27.0 | 8.5 |
| M836B (Low voltage) | Any SPST switching action including low-voltage thermostats with 0.9 amp heater setting | 15 | 30 | 1 1/2 min. (nominal) | 1 min. (nominal) | 10 sq. ft. | 24 | 0.9 | 0.9 | 12.0 | 12.0 |

^a"Break-away torque" refers to the momentary and occasional applied load (such as seized damper shaft) which the motor will withstand without damage, but which will damage the motor if applied continually.

^bWith maximum rated load.

AUXILIARY SWITCH RATING (in amperes):

| | 120v ac | 240v ac |
|--------------|---------|---------|
| Full Load | 7.2 | 3.6 |
| Locked Rotor | 43.2 | 21.6 |

40 volt-amperes Pilot Duty at 120/240v ac.

AUXILIARY SWITCH ACTION: spdt — normally open (R-W) contacts closed at the beginning of the power stroke (approximately 10 to 20 degrees). These same contacts open at the beginning of the return stroke (approximately 10 to 20 degrees).

ANGULAR STROKE: 75 degrees

DIMENSIONS: See Fig. 1

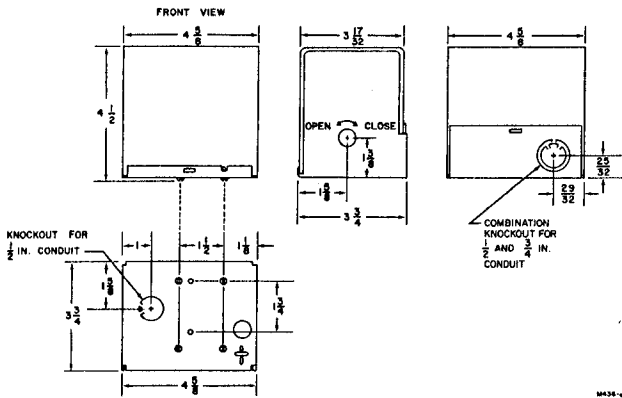


Fig. 1 — M436 or M836 Dimensions in Inches.

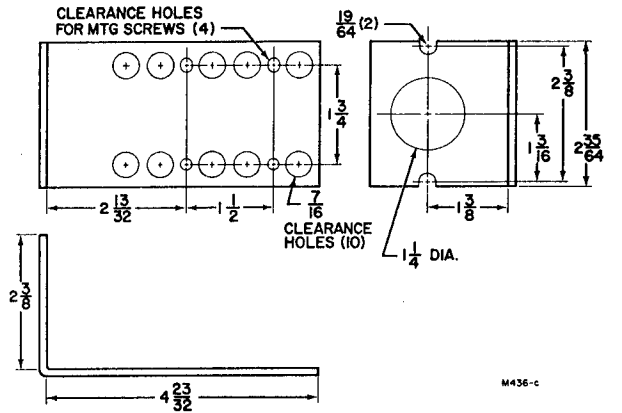


Fig. 2—Dimensions of Bracket in Inches. Bag Assembly Part Number 7640JM.

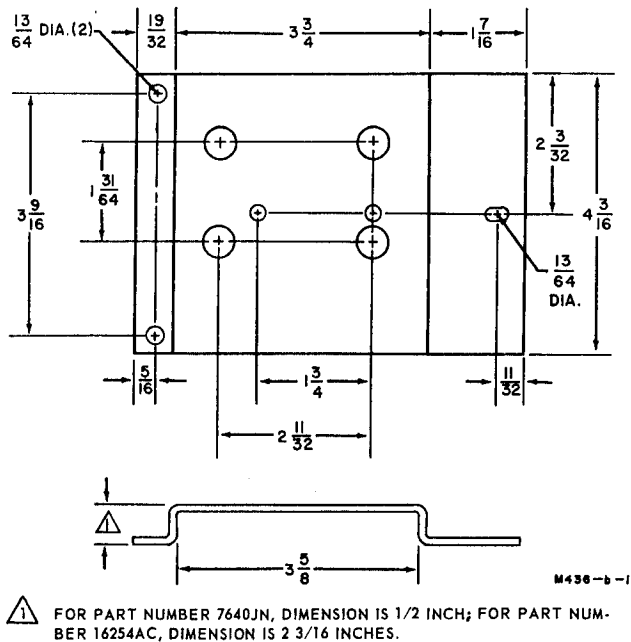


Fig. 3—Dimensions of Brackets in Inches. Part Nos. 7640JN and 16254AC.

MOUNTING BRACKETS AND ACCESSORIES (order separately):

Bracket—Part No. 7640JM

Part No. 7640JN

Part No. 16254AC

Bag Assembly—Part No. 7640JE—for direct coupling to damper shaft.

Part No. 7640JL—for offset mounting for crankshaft coupling.

Bag Assembly—Part No. 4074BRU—for end switch mounting to Q607 Auxiliary Switch.

AMBIENT TEMPERATURE RATING: 32 to 125 F.

WHEN SPECIFYING, INDICATE:

1. Voltage.
2. Complete Model Number.
3. Bracket Part Number.
4. Bag Assembly Part Number.
5. Q605 Damper Linkage and Diameter of Damper Shaft if Offset Mounting is Desired.
6. Optional Q607 Auxiliary Switch.

typical operation: Consider the M436 or M836 Damper Motor in a ventilation application using outdoor air for cooling. The outdoor air sensor, a two-position thermostat, senses when the outdoor air temperature is too warm to maintain the room temperature. This warm air temperature causes the contacts of the thermostat to close, supplying a circuit to power the damper motor. The motor drives the damper to a position where the warm air is closed off and mechanical cooling takes over in the controlled area. When this happens the contacts of the auxiliary switch open or close depending on how the damper motor is linked to the damper shaft.

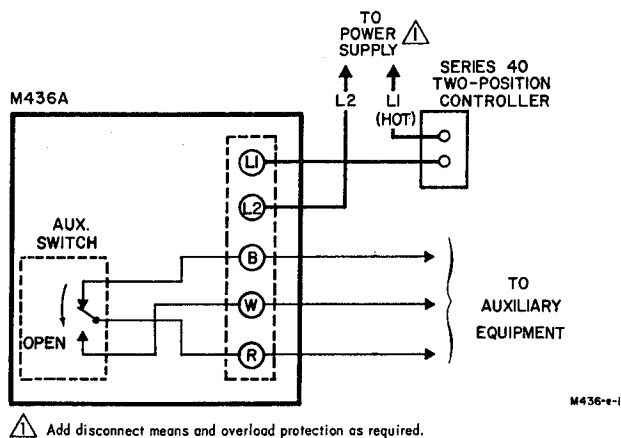


Fig. 4 — Typical Connections to M436A Damper Motor.