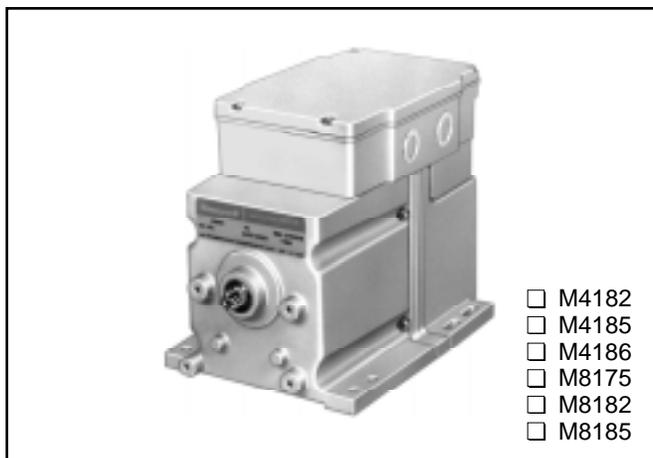


# M4182, M4185, M4186, M8175, M8182, M8185 Modutrol IV™ Motors

## SPECIFICATION DATA



- M4182
- M4185
- M4186
- M8175
- M8182
- M8185

## APPLICATION

The M4182, M4185, M4186, M8175, M8182 and M8185 are two-position spring return Modutrol Motors. They are used to operate dampers or valves in applications where it is necessary or desirable to have the controlled element return to the starting position in the event of power failure or interruption.

## FEATURES

- M8175 replaces M865. Other models replace M445 and M845.
- M8175 rated for 25 lb-in. torque; all others rated for 60 lb-in. torque.
- Auxiliary end shaft on TRADELINE® model can operate valve linkage. For use in normally open valve applications.
- Oil immersed motor and gear train for reliable performance and long life.
- Wiring box provides NEMA 3 weather protection.
- Quick-connect terminals standard—screw terminal adapter available.
- Adapter bracket for matching shaft height of older motors is standard with replacement motors.
- TRADELINE® motor has field adjustable stroke (90° to 160°).
- Die-cast aluminum housing.
- Integral auxiliary switches are available factory mounted, or can be field added to TRADELINE® models.



## SPECIFICATIONS

### TRADELINE® Models

TRADELINE® models are selected and packaged to provide ease of stocking, ease of handling, and maximum replacement value. TRADELINE® model specifications are the same as those of standard models, unless otherwise specified. M8185D1006 is a TRADELINE® model. TRADELINE® model has auxiliary switch cams.

### Standard Models

M4182A,B  
M4185A,B,E  
M4186H,L  
M8175B  
M8182B  
M8185A,B,D

#### Control Type

**41** is Series 40, line voltage, two position  
**81** is Series 80, low voltage, two position.

#### Power Designation

**7** is medium torque: 25 lb-in.  
**8** is high torque: 60 lb-in.

#### Spring Return Action

**5** is normally closed, dual-ended shaft  
**6** is normally open, dual-ended shaft  
**2** is normally closed, single-ended shaft  
**3** is normally open, single-ended shaft

#### Suffix Letter

**A:** Fixed stroke (90° or 160°), No auxiliary switch  
**B:** Fixed stroke (90° or 160°), 1 auxiliary switch  
**D:** Adjustable stroke (90° to 160°), No auxiliary switch  
**E:** Adjustable stroke (90° to 160°), 1 auxiliary switch  
**H:** Fixed stroke 160°, 1 auxiliary switch, Electrically normally open  
**L:** Adjustable stroke (90° to 160°), 1 auxiliary switch, Electrically normally open

### Electrical Ratings:

M4182, M4185, M4186, M8175, M8182, M8185	Voltage (V at 50/60 Hz)	Current Draw (A)	Power Consumption (W)
Without Transformer <sup>a</sup>	24	0.86	20
With Internal Transformer	120	0.25	25
	208	0.14	25
	240	0.13	25

<sup>a</sup> Internal transformer can be field added.

#### Controller Type:

Two wire, on-off switching action.

### Auxiliary Switch Ratings (Amperes):

One Contact Rating <sup>a</sup> Amps	120V	240V
Full Load	7.2	3.6
Locked Rotor	43.2	21.6

<sup>a</sup> 40 VA pilot duty, 120/240 Vac on opposite contact.

#### Dead Weight Load on Shaft:

Power or Auxiliary End: 200 lb (90.8 kg) maximum.  
Maximum Combined Load: 300 lb (136 kg).

#### Maximum Damper Rating:

M4182, M4185, M4186, M8182, M8185: B dim = 68 in. (1727 mm).

M8175: B dim = 34 in. (864 mm).

#### Ambient Temperature Ratings:

Maximum: 150°F (66°C) at 25% duty cycle.  
Minimum: Minus 40°F (-40°C).

#### Crankshaft:

3/8 in. (9.5 mm) square. M4185, M4186, M8175, and M8185 have dual-ended shaft. M4182, M8182 have single-ended shaft.

#### Underwriters Laboratories Inc. Listed:

File No. E4436, Guide No. XAPX .

#### Canadian Standards Association Certified:

General Listed File No. LR1620, Guide No. 400-E.

#### Torque and Timing:

	Timing (Sec.)		Torque lb-in. (N•m)
	90° Stroke Motors	160° Stroke Motors	
M8175	30	60	25 (2.8)
All others	30	60	60 (6.8)

#### Dimensions:

See Fig. 1.

#### Accessories:

ES650117 Explosion-proof Housing: Encloses motor for use in explosive atmospheres. Not for use with Q601, Q618, and Q455 Linkages. Order separately from Nelson Electric Co. To order, contact Nelson Electric, Order Services Dept., P.O. Box 726, Tulsa, OK 74101, (918) 627-5530. Requires Honeywell 7617DM Coupling.

Q607 External Auxiliary Switch: Controls auxiliary equipment as a function of motor position.

Internal Auxiliary Switch Kits: Can be field-installed on TRADELINE® model.

220736A: One-switch kit.

220736B: Two-switch kit.

Q605 Damper Linkage: Connects motor to damper.  
Includes motor crank arm.

Q618 Linkage: Connects Modutrol motor to water or steam valve.

Q601 Bracket and Linkage Assembly: Connects Modutrol motor to water or steam valve.

Q100A,B Linkage: Connects Modutrol motor to butterfly valve.

7617ADW Adjustable Crank Arm: Approximately 0.75 in. (19 mm) shorter than 7616BR Crank Arm. Can rotate through downward position and clear base of motor without requiring use of adapter bracket.

221455A Infinitely Adjustable Crank Arm: Approximately 0.75 in. (19 mm) shorter than the 4074ELY Crank Arm. Can rotate through downward position and clear base of motor without requiring use of adapter bracket.

220741A Screw Terminal Adapter: Converts the standard quick-connect terminals to screw terminals.

Transformers: Mounted internally, provide 24 Vac power to motor.

198162JA: 24 Vac; 50/60 Hz (for electrical isolation).

198162EA: 120 Vac; 50/60 Hz.

198162GA: 220 Vac; 50/60 Hz.

198162AA: 120/208/240 Vac; 50/60 Hz.

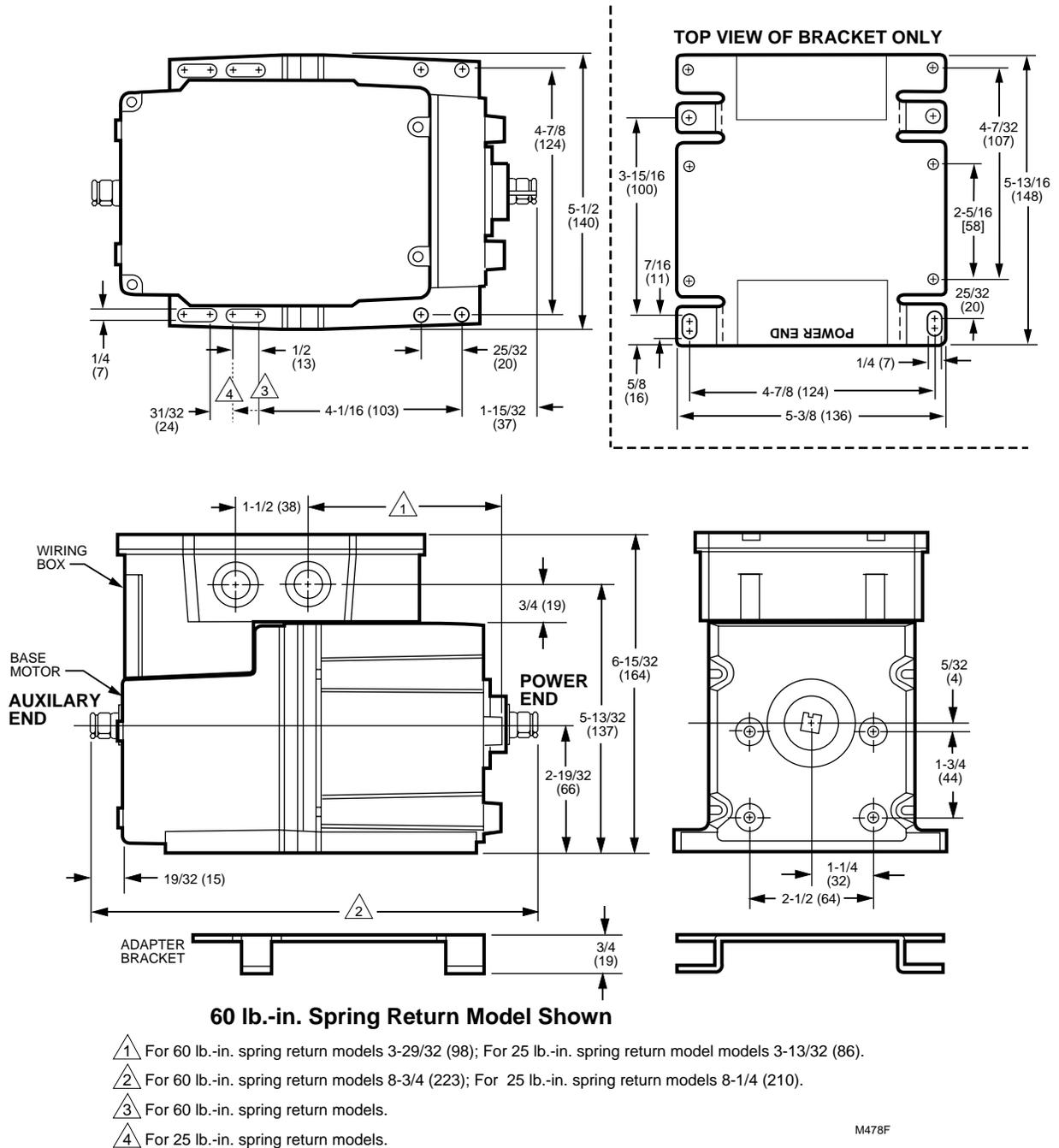


Fig. 1. M4185/M4186/M8175/M8185 mounting dimensions in in. (mm).

NOTE: M4182/M8182 motors do not have auxiliary shaft, but all other dimensions are the same.

