

Modutrol IV Motors

M7274; M7284; M7294 Modutrol IV™ Motors



The Series 72 Modutrol IV Motors spring return and non-spring return motors are used to control dampers and valves. The motors accept a current or voltage signal from an electronic controller to position a damper or valve at any point between open and closed.

- Integral spring return returns motor to normal position in the event of power failure on spring return models

Application: Electric

Frequency: 50 Hz; 60 Hz

Fail Safe Mode: Non-Spring Return

Auxiliary Switch Ratings: AFL - 120 Vac – 7.2A; ALR - 120 Vac – 43.2A; AFL - 240 Vac – 3.6A; ALR - 240 Vac – 21.6A

External Auxiliary Switches Available: Yes

Shaft Rotation (upon control signal increase): Clockwise (as viewed from power end) (normally closed)

Mounting: Foot-mounted

Feedback: No

Shaft Dimensions: 0.375 in. Square (10 mm Square)

Motor shafts: 2; Dual-ended shaft

Deadweight Load on Shaft: Either End – 200 lbs.; Combined on both Shafts – 300 lbs.

Approximate, Dimensions: 6 7/16 in. high x 5 1/2 in. wide x 7 5/16 in. deep (164 mm high x 140 mm wide x 185 mm deep)

Ambient Temperature Range: -40°F to +150°F (-40°C to +60°C)

Approvals, Underwriters Laboratories Inc.: Listed: File No. E4436, Guide No. XAPX for USA and Canada

Approvals, CE: EN55011 (Emission) EN50082-2 (Immunity) 73/23/EEC (LVD)

Approvals, RoHS: 2011/65/ES

- Integral junction box provides NEMA 3 weather protection if motor is mounted in the upright position
- Motor and circuitry operate from 24 Vac
- Quick-connect terminals are standard – screw terminal adapter is available
- Adapter bracket for matching shaft height of older motors is available
- Motors have field adjustable stroke (90 to 160 degrees)
- Integral auxiliary switches are available factory mounted, or can be field added
- Spring return motors can operate valve linkages from power end or auxiliary end shafts for normally closed or normally open valve applications
- All models have dual shafts (slotted and tapped on both ends)
- All models have auxiliary switch cams
- Fixed torque throughout the entire voltage range
- Motors are designed for either normally open or normally closed valves and dampers
- Models available with adjustable start (zero) and span
- Models available with 4 to 20 mA input signal
- Die-cast aluminum housing

Accessories:

220736A/U – Internal Auxiliary Switch Assembly - 1 Switch

220736B/U – Internal Auxiliary Switch Assembly - 2 Switches

220738A/U – Adapter Bracket. Adjusts shaft height to match Modutrol III motors

220741A2-72/U – Screw Terminal Adapter Kit for Series 72 Modutrol IV Series 2 motors - Converts quick-connect terminals to screw terminals

221455A/U – Infinitely adjustable Motor Crank Arm

4074ERU/U – Weatherproofing kit. Protects motor from driving rain when mounted in any position. Not needed if motor is mounted upright.

50017460-001/U – 24/120/230 Vac Internal Transformers for Series 2 Motors

50017460-003/U – 120 Vac Internal Transformers for Series 2 Motors

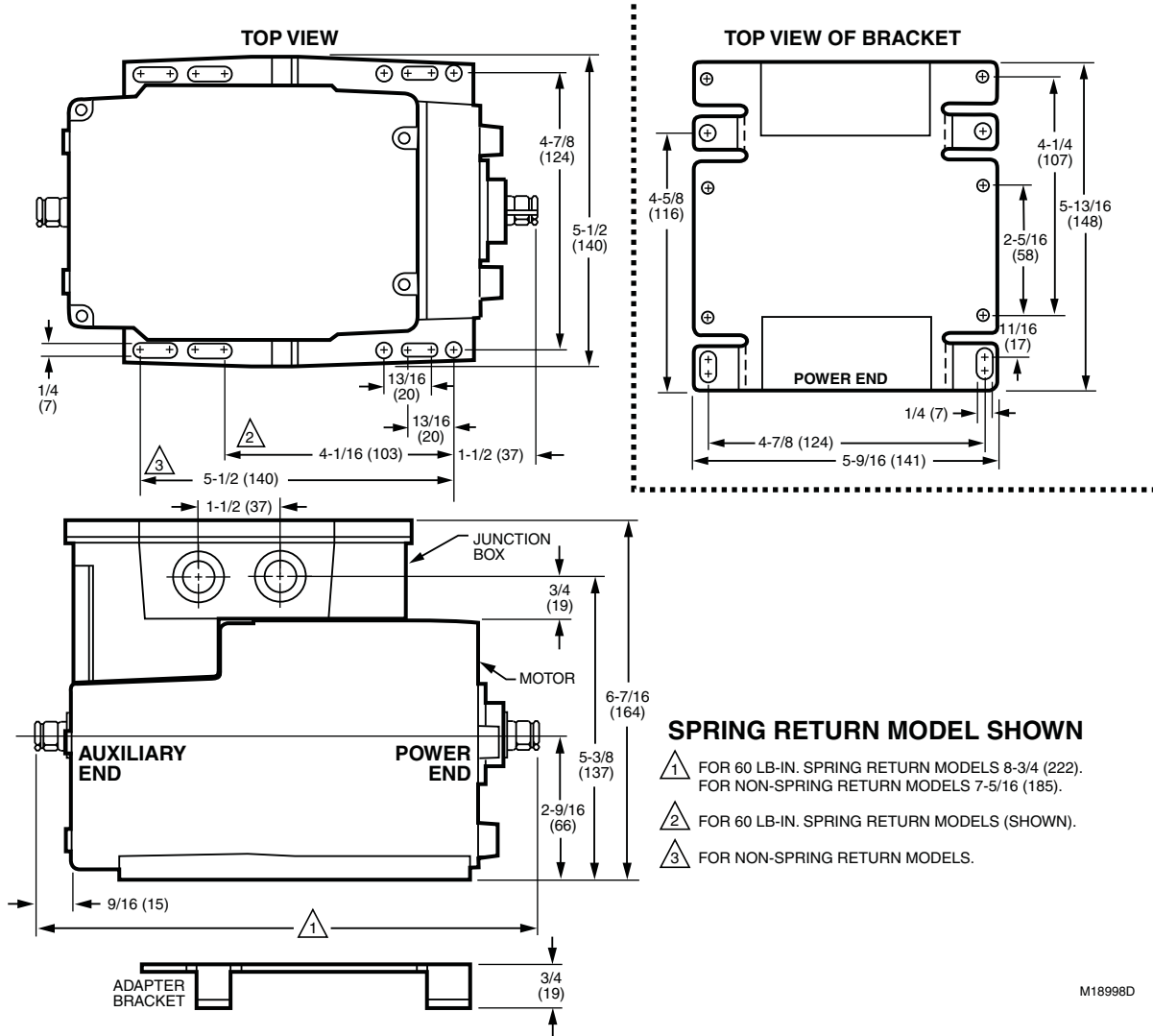
Material Number	Torque Rating (lb-in.)	Torque Rating (Nm)	Supply Voltage	Timing, Nominal	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Control Signal	Electrical Connections	Power Consumption	Weight	Internal Transformer	Comments	Includes
M7274Q1009/U	75 lb-in.	8.5 Nm	24V	15 - 27 sec	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	Modulating, 4-20 mA	Screw terminals	Driving – 29 VA	7 lb	None	Adjustable zero and span for split range applications	
M7284A1004/U	150 lb-in.	17 Nm	120V	30 - 60 sec	0	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	Modulating, 4-20 mA	Screw terminals	Driving – 15 VA	7.5 lb	50004263-002		Transformer and Screw Terminal Adapter
M7284A1012/U	150 lb-in.	17 Nm	120V	30 - 60 sec	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Modulating, 4-20 mA	Screw terminals	Driving – 15 VA	7.5 lb	50004263-002		Transformer and Screw Terminal Adapter
M7284A1038/U	75 lb-in.	8.5 Nm	120V	15 - 30 sec	0	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Modulating, 4-20 mA	Screw terminals	Driving – 15 VA	7.5 lb	50004263-002		Transformer and Screw Terminal Adapter
M7284A1079/U	150 lb-in.	17 Nm	24V	30 - 60 sec	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Modulating, 2-10 Vdc	Quick-connect terminals	Driving – 15 VA	6.5 lb	None		
M7284C1000/U	150 lb-in.	17 Nm	120V	30 - 60 sec	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	Modulating, 4-20 mA	Screw terminals	Driving – 15 VA	7.5 lb	50004263-002		Transformer and Screw Terminal Adapter
M7284C1083/U	150 lb-in.	17 Nm	24V; 120V; 230V	30 sec	2	90 degrees	Fixed; 90 degrees, Symmetrical	Modulating, 4-20 mA	Screw terminals	Driving – 15 VA	7.5 lb	50004263-001	Enhanced models, additional repositions	Transformer
M7284C1091/U	150 lb-in.	17 Nm	24V; 120V; 230V	60 sec	2	160 degrees	Fixed; 160 degrees, Asymmetrical	Modulating, 4-20 mA	Screw terminals	Driving – 15 VA	7.5 lb	50004263-001	Enhanced models, additional repositions	Transformer

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M7284Q1009/C	150 lb-in.	17 Nm	120V	30 - 60 sec	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	Modulating, 4-20 mA	Screw terminals	Driving - 15 VA	7.5 lb	50004263-002	Adjustable zero and span for split range applications	Transformer and Screw Terminal Adapter
M7284Q1009/U	150 lb-in.	17 Nm	120V	30 - 60 sec	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	Modulating, 4-20 mA	Screw terminals	Driving - 15 VA	7.5 lb	50004263-002	Adjustable zero and span for split range applications	Transformer and Screw Terminal Adapter
M7284Q1082/U	150 lb-in.	17 Nm	24V; 120V; 230V	30 sec	2	90 degrees	Fixed; 90 degrees, Symmetrical	Modulating, 4-20 mA	Screw terminals	Driving - 15 VA	7.5 lb	50004263-006	Enhanced models, additional repositions (160°); Adjustable zero and span for split range applications	Transformer
M7284Q1090/U	150 lb-in.	17 Nm	24V; 120V; 230V	60 sec	2	160 degrees	Fixed; 160 degrees, Asymmetrical	Modulating, 4-20 mA	Screw terminals	Driving - 15 VA	7.5 lb	50004263-006	Enhanced models, additional repositions (160°); Adjustable zero and span for split range applications	Transformer
M7284Q1098/U	150 lb-in.	17 Nm	24V	30 - 53 sec	2	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Modulating, 2-10 Vdc	Screw terminals	Driving - 20 VA	6.5 lb	None	Adjustable zero and span for split range applications; Enhanced models, additional repositions	
M7284Q1106/U	150 lb-in.	17 Nm	24V	30 - 60 sec	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	Modulating, 4-20 mA	Screw terminals	Driving - 15 VA	7.5 lb	None	Adjustable zero and span for split range applications	
M7294A1010/U	300 lb-in.	34 Nm	24V	60 - 120 sec	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Modulating, 2-10 Vdc	Quick-connect terminals	Driving - 15 VA	6.5 lb	None		
M7294Q1007/U	300 lb-in.	34 Nm	120V	60 - 120 sec	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	Modulating, 4-20 mA	Screw terminals	Driving - 15 VA	7.5 lb	50004263-002	Adjustable zero and span for split range applications	Transformer and Screw Terminal Adapter
M7294Q1015/U	300 lb-in.	34 Nm	24V	60 - 107 sec	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	Modulating, 4-20 mA	Screw terminals	Driving - 29 VA	7.5 lb	None	Adjustable zero and span for split range applications	Screw Terminal Adapter

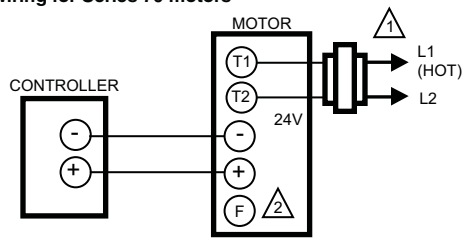
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Dimensions in inches (millimeters)



M18998D

Typical wiring for Series 70 motors



- 1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
- 2 CONNECTING F TO - WILL DRIVE MOTOR TO FULLY OPEN.

M5778