

M9164; M9174; M9184; M9191; M9194 Modutrol IV™ Motors



Series 90 Modutrol™ IV Motors are non-spring return modulating proportional control motors used with controllers that provide a Series 90 output to operate dampers or valves.

- 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
- All models have dual shafts (slotted and tapped on both ends)
- All models have auxiliary switch cams
- Fixed torque throughout the entire voltage range

Application: Electric

Control Signal: Proportional, 135 ohm

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

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

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

220741A2-90/U – Screw Terminal Adapter Kit for Series 90 Modutrol IV Series 2 and Series 3 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

Q7130A1006/U – Interface Module (4-7, 6-9 or 10.5-13.5 Vdc Control)

Q7230A1005/U – Interface Module (4-20 mA or 2-10 Vdc Control)

Q7330A1004/U – Interface Module (W936 or W945 Control)

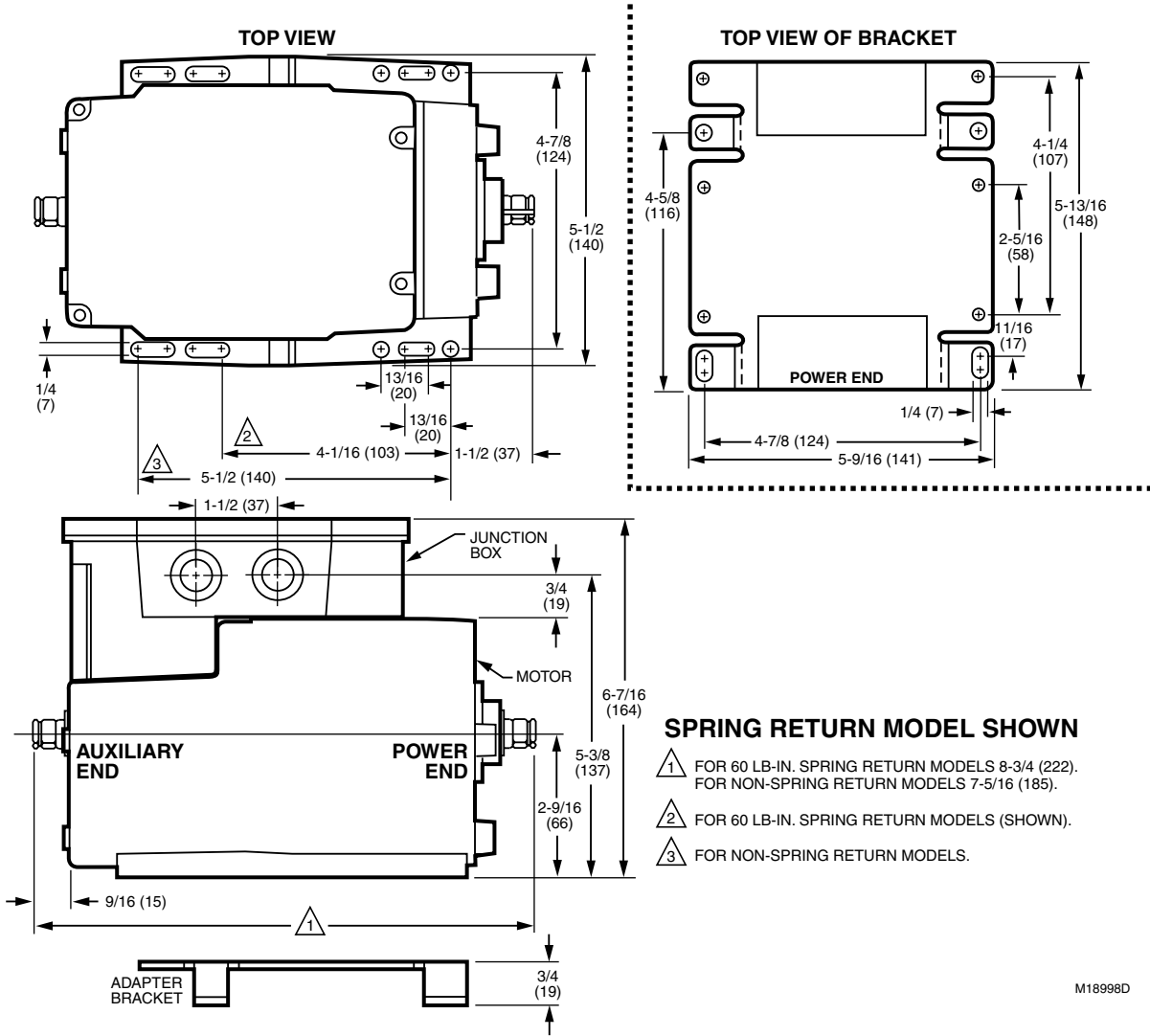
Material Number	Torque Rating (lb-in.)	Torque Rating (Nm)	Power Consumption	Timing, Nominal	Internal Auxiliary Switch	Factory Stroke Setting	Shaft Rotation (upon control signal increase)	Electrical Connections	Internal Transformer	Weight	Includes	Supply Voltage	Tradeline Value	Stroke
M9164A1005/U	35 lb-in.	4 Nm	Driving – 10 VA	30 - 60 sec	0	90 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	50004263-003	7.5 lb	Transformer	120V		Adjustable; 90 to 160 degrees, Asymmetrical
M9164A1013/U	35 lb-in.	4 Nm	Driving – 10 VA	30 - 60 sec	0	160 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	50004263-001	7.5 lb	Transformer	24V; 120V; 230V		Adjustable; 90 to 160 degrees, Asymmetrical
M9164A1070/U	35 lb-in.	4 Nm	Driving – 10 VA	30 - 60 sec	0	160 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	None	6.5 lb		24V		Adjustable; 90 to 160 degrees, Asymmetrical
M9164C1001/U	35 lb-in.	4 Nm	Driving – 10 VA	30 - 60 sec	2	160 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	None	6.5 lb		24V		Adjustable; 90 to 160 degrees, Asymmetrical
M9164C1068/U	35 lb-in.	4 Nm	Driving – 10 VA	30 - 60 sec	2	90 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	50004263-003	7.5 lb	Transformer	120V		Adjustable; 90 to 160 degrees, Asymmetrical
M9164D1009/U	35 lb-in.	4 Nm	Driving – 10 VA	30 - 60 sec	0	160 degrees	Counter-clockwise (as viewed from power end) (normally open)	Quick-connect terminals	None	6.5 lb		24V	Tradeline	Adjustable; 90 to 160 degrees, Asymmetrical
M9174B1027/U	75 lb-in.	8.5 Nm	Driving – 12 VA	30 - 60 sec	1	90 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	50004263-003	7.5 lb	Transformer	120V		Adjustable; 90 to 160 degrees, Asymmetrical

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M9174C1025/U	75 lb-in.	8.5 Nm	Driving – 12 VA	30 - 60 sec	2	90 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	50004263-003	7.5 lb	Transformer	120V		Adjustable; 90 to 160 degrees, Asymmetrical
M9174C1033/U	75 lb-in.	8.5 Nm	Driving – 12 VA	30 - 60 sec	2	160 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	50004263-003	7.5 lb	Transformer	120V		Adjustable; 90 to 160 degrees, Asymmetrical
M9174C1041/U	75 lb-in.	8.5 Nm	Driving – 12 VA	30 - 60 sec	2	90 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	50004263-003	7.5 lb	Transformer	120V		Adjustable; 90 to 160 degrees, Asymmetrical
M9174D1007/U	75 lb-in.	8.5 Nm	Driving – 12 VA	30 - 60 sec	0	160 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	None	6.5 lb		24V	Tradeline	Adjustable; 90 to 160 degrees, Asymmetrical
M9174F1001/U	75 lb-in.	8.5 Nm	Driving – 17 VA	30 - 53 sec	2	160 degrees	Clockwise (as viewed from power end) (normally closed)	Screw terminals	None	6.5 lb		24V		Adjustable; 90 to 160 degrees, Asymmetrical
M9184A1019/U	150 lb-in.	17 Nm	Driving – 15 VA	30 - 60 sec	0	160 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	None	6.5 lb		24V		Adjustable; 90 to 160 degrees, Asymmetrical
M9184B1017/U	150 lb-in.	17 Nm	Driving – 15 VA	30 - 60 sec	1	90 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	None	6.5 lb		24V		Adjustable; 90 to 160 degrees, Symmetrical
M9184C1031/U	150 lb-in.	17 Nm	Driving – 15 VA	30 - 60 sec	2	90 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	None	6.5 lb		24V		Adjustable; 90 to 160 degrees, Symmetrical
M9184D1005/U	75 lb-in.	8.5 Nm	Driving – 15 VA	15 - 30 sec	0	90 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	None	6.5 lb		24V		Adjustable; 90 to 160 degrees, Symmetrical
M9184D1021/U	150 lb-in.	17 Nm	Driving – 15 VA	30 - 60 sec	0	160 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	None	6.5 lb		24V	Tradeline	Adjustable; 90 to 160 degrees, Symmetrical
M9184D4009/U	150 lb-in.	17 Nm	Driving – 15 VA	30 - 60 sec	0	160 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	None	6.5 lb		24V	Tradeline	Adjustable; 90 to 160 degrees, Symmetrical
M9184E4006/U	150 lb-in.	17 Nm	Driving – 15 VA	30 - 60 sec	1	160 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	None	6.5 lb		24V	Tradeline	Adjustable; 90 to 160 degrees, Symmetrical
M9184F1034/U	150 lb-in.	17 Nm	Driving – 15 VA	30 - 60 sec	2	90 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	None	6.5 lb		24V		Adjustable; 90 to 160 degrees, Symmetrical
M9191F1001/U	300 lb-in.	34 Nm	Driving – 15 VA	60 - 120 sec	2	90 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	None	6.5 lb		24V		Adjustable; 90 to 160 degrees, Symmetrical
M9194C1005/U	300 lb-in.	34 Nm	Driving – 15 VA	60 - 120 sec	2	90 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	50004263-002	7.5 lb	Transformer	120V		Adjustable; 90 to 160 degrees, Symmetrical
M9194D1003/U	300 lb-in.	34 Nm	Driving – 15 VA	120 - 240 sec	0	160 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	None	6.5 lb		24V	Tradeline	Adjustable; 90 to 160 degrees, Symmetrical

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M9194E1000/U	300 lb-in.	34 Nm	Driving – 15 VA	120 - 240 sec	1	90 degrees	Clockwise (as viewed from power end) (normally closed)	Quick-connect terminals	None	6.5 lb		24V		Adjustable; 90 to 160 degrees, Symmetrical

Dimensions in inches (millimeters)



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