

M9164; M9174; M9184; M9194 Modutrol IV™ Series 3 Motors



Series 90 Modutrol™ IV Motors 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 Type: Electric

Dimensions, Approximate: 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)

Fail Safe Mode: Non-Spring Return

Control Signal: Proportional, 135 ohm

Feedback: No

Frequency: 50 Hz; 60 Hz

External Auxiliary Switches Available: Yes

Auxiliary Switch Ratings AFL - 120 Vac: 7.2A

Auxiliary Switch Ratings ALR - 120 Vac: 43.2A

Auxiliary Switch Ratings AFL - 240 Vac: 3.6A

Auxiliary Switch Ratings ALR - 240 Vac: 21.6A

Mounting: Foot-mounted

Motor Shafts: Dual-ended shaft

Shaft Shape: square

Shaft Dimensions: 0.375 in. (10 mm)

Shaft Rotation (upon control signal increase):

M9164A,C; M9174B,C,D,F; M9184A,C,D,E,F; M9194D,E: Clockwise (as viewed from power end) (normally closed)

M9164D: Counter-clockwise (as viewed from power end) (normally open)

Deadweight Load on Shaft (Either End): 200 lbs.

Deadweight Load (Combined on both Shafts): 300 lbs.

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

Weight: 7.5 lb

Approvals

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

Underwriters Laboratories, Inc: Listed: File No. E4436, Guide No.

XAPX for USA and Canada

Accessories:

Q7230A1005-Interface module, provides adjustable zero & span, voltage or current control

4074ERU-Weatherproofing kit. Protects motor from driving rain when mounted in any position

220736A-Internal Auxiliary Switch Assembly - 1 Switch

220736B-Internal Auxiliary Switch Assembly - 2 Switches

220738A-Adapter Bracket. Adjusts shaft height to match Modutrol III motors

220741A2-90-Screw Terminal Adapter Kit for Series 90 Modutrol IV Series

2and Series 3 motors - Converts quick-connect terminals to Accessories:

221455A-Infinitely adjustable Motor Crank Arm

50017460-001-24/120/230 Vac Internal Transformers for Series 2 and 3

Motors

50017460-003-120 Vac Internal Transformers for Series 2 and 3 Motors

Product Number	Torque/Force		Voltage	Nominal Timing (sec)	Electrical Connections	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Includes	Internal Transformer
	lb-in., lb	Nm, N								
M9164A1005/U	35 lb-in	4 Nm	120V	30-60 sec	Quick-connect terminals	0	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer	50004263-003
M9164A1013/U	35 lb-in	4 Nm	24/120/230V	30-60 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer	50004263-001
M9164A1070/U	35 lb-in	4 Nm	24V	30-60 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	None
M9164C1001/U	35 lb-in	4 Nm	24V	30-60 sec	Quick-connect terminals	2	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	None
M9164C1068/U	35 lb-in	4 Nm	120V	30-60 sec	Quick-connect terminals	2	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer	50004263-003
* M9164D1009/U	35 lb-in	4 Nm	24V	30-60 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	None
M9174B1027/U	75 lb-in.	8.5 Nm	120V	30-60 sec	Quick-connect terminals	1	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer	50004263-003
M9174C1025/U	75 lb-in.	8.5 Nm	120V	30-60 sec	Quick-connect terminals	2	90 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer	50004263-003
M9174C1033/U	75 lb-in.	8.5 Nm	120V	30-60 sec	Quick-connect terminals	2	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	Transformer	50004263-003

* TRADELINE models • SUPER TRADELINE models

Modutrol IV Motors

	Product Number	Torque/Force		Voltage	Nominal Timing (sec)	Electrical Connections	Internal Auxiliary Switch	Factory Stroke Setting	Stroke	Includes	Internal Transformer
		lb-in., lb	Nm, N								
*	M9174D1007/U	75 lb-in.	8.5 Nm	24V	30-60 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	None
	M9174F1001/U	75 lb-in.	8.5 Nm	24 V	30/53	Screw terminals	2	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	None
	M9184A1019/U	150 lb-in.	17 Nm	24V	30-60 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees, Asymmetrical	—	None
	M9184C1031/U	150 lb-in.	17 Nm	24V	30-60 sec	Quick-connect terminals	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	None
	M9184D1005/U	75 lb-in.	8.5 Nm	24V	15-30 sec	Quick-connect terminals	0	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	None
*	M9184D1021/U	150 lb-in.	17 Nm	24V	30-60 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	None
*	M9184E4006	150 lb-in.	17 Nm	24V	30-60 sec	Quick-connect terminals	1	160 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	None
	M9184F1034/U	150 lb-in.	17 Nm	24V	30-60 sec	Quick-connect terminals	2	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	None
*	M9194D1003/U	300 lb-in.	34 Nm	24V	120-240 sec	Quick-connect terminals	0	160 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	None
	M9194E1000/U	300 lb-in.	34 Nm	24V	120-240 sec	Quick-connect terminals	1	90 degrees	Adjustable; 90 to 160 degrees, Symmetrical	—	None

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