Honeywell

61-83-29-02
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Modutrol Motors

Model Selection Guide

This chart is intended for selection purposes only. For complete product application information, refer to individual product specification sheets.

Model	Power Supply Voltage (Vac)	Type of Controller or Input Signal Recommended	Timing (sec)	Stroke (deg)	Auxiliary Switches	Normal Position		Torque (lb–in)
						Mech.	Elec.	
2-POSITION SPRING RETURN								
M436A1090	120	2-wire, line voltage, spst	30	75	1	N.C.	—	20
M436A1116[a]	120	2-wire, line voltage, spst	30	75	1	N.C.	—	20
M436A1124[a]	240	2-wire, line voltage, spst	30	75	1	N.C.	—	20
M836A1034	24	2-wire, low voltage, spst	30	75	1	N.C.	—	20
M836A1042[a]	24	2-wire, low voltage, spst	30	75	1	N.C.	—	20
M436B1025	24	2-wire, line voltage, spst	25	75	1	N.C.	—	15
M847A1072	24	2-wire, low voltage, spst	20	45	0	N.C.	—	30 (oz-in)
M4185A1001	120	2-wire, line voltage, spst	60	160	0	N.C.	—	60
M4182B1002	120	2-wire, line voltage, spst	60	160	1	N.C.	N.C.	60
M4185B1009	120	2-wire, line voltage, spst	60	160	1	N.C.	—	60
M4185B1017	208/240	2-wire, line voltage, spst	60	160	1	N.C.	—	60
M8185B1034	24	2-wire, line voltage, spst	60	160	1	N.C.	N.C.	60
M4185B1058	120/208/240	2-wire, low voltage, spst	30	90	1	N.C.	—	60
M8185D1006[a]	24	2-wire, low voltage, spst	30/60	90/160	F/A[d]	N.C.	—	60
SPDT OR FLOATING								
M6161A1004	120	3-wire, line voltage, spdt	30	90	0	—	N.C.	35
M6181A1018	24	3-wire, line voltage, spdt	60	160	0	—	N.C	150
M6181F1009	24	3-wire, line voltage, spdt	30/60	90/160	2	—	N.C.	150
M6184A1007	24	3-wire, low voltage, spdt	60	160	0	—	N.C.	150
M6184A1015	24	3-wire, low voltage, spdt	30	90	0	—	—	150
M6184A1023	120	3-wire, line voltage, spdt	30	160	0	—	—	75
M6184B1005	120	3-wire, low voltage, spdt	120/240	90	1	—	—	150
M6184D1001	24	3-wire, low voltage, spdt	15/30	90/160	0	—	—	75
M6184D1035[a]	24	3-wire, low voltage, spdt	30/60	90/160	F/A[d]	—	—	150
M6184D1050	24	3-wire, line voltage, spdt	15/30	90/160	0	—	N.C.	75
M6184D1068	24	3-wire, low voltage, spdt	120/240	90/160	0	—	N.C.	150
M6184F1014	24	3-wire, line voltage, spdt	30/60	90/160	2	—	N.C.	150
M6194D1017[a]	24	3-wire, low voltage, spdt	120/240	90/160	F/A[d]	—	—	300
M6194E1006	24	3-wire, low voltage, spdt	120/240	90/160	1	—	N.C.	300
M6284A1006	24	spdt, position prop. controller DC300E[b],*,**	60	160	0	—	N.C.	150
M6284A1048	120	spdt, position prop. controller DC300E[b]	60	160	0	—	—	150
M6284A1055	120	spdt, position prop. controller DC300E[b]	30	90	0	—	—	150
M6284A1071	120	spdt, position prop. controller DC300E[b],*,**	30	90	F/A[d]	—	—	150
M6284A1089	120	spdt, position prop. controller DC300E[b],*,**	15	90	F/A[d]	—	—	75
M6284C1010	24	spdt, position prop. controller DC300E[b],*,**	30	90	2	—	N.C.	150
M6284D1000[a]	24	spdt, position prop. controller DC300E[b]	30/60	90/160	F/A[d]	—	—	150
M6281F1016	120	spdt, position prop. controller DC300E[b],*,**	30/60	90/160	2	—	N.C.	150
M6284F1013	24	spdt, position prop. controller DC300E[b]	30/60	90/160	2	—	—	150
M6284F1039	24	spdt, position prop. controller DC300E[b],*,**	30/60	90/160	2	—	N.C.	150
M6294D1008[a]	24	spdt, position prop. controller DC300E[b]	120/240	90/160	F/A[d]	—	—	300

*With cams — for field adding of auxiliary switches
**MOV Metal Oxidize Varistors — for position proportional controller

Industrial Automation and Control Division, 1100 Virginia Drive, Fort Washington, PA 19034

Model	Power Supply Voltage (Vac)	Type of Controller or Input Signal Recommended	Timing (sec)	Stroke (deg)	Auxiliary Switches	Normal Position		Torque (lb–in)
						Mech.	Elec.	
SPDT OR FLOATING WITH SPRING RETURN								
M6285A1005[a]	24	spdt, position prop. controller DC300E[b]	60	160	F/A[d]	N.C.	—	60
M6285A1013[a]	24	spdt, position prop. controller DC300E[b]	30	90	F/A[d]	N.C.	—	60
PROPORTIONAL REVERSING								
M7281A1007	120	4-20 mA	30	90	0	—	N.C.	150
M7282A1006	120	4-20 mA	30	90	0	—	N.C.	60
M7284A1004	120	4-20 mA, DC200C, DC300C, DC300K	30	90	0	—	N.C.	150
M7284A1012	120	4-20 mA, DC200C, DC300C, DC300K	60	160	0	—	N.C.	150
M7284A1020	120	4-20 mA, DC200C, DC300C, DC300K*	60	160	0	—	N.C.	150
M7284A1038	120	4-20 mA, DC200C, DC300C, DC300K*	15	90	F/A[d]	—	N.C.	75
M7284A1046	120	4-20 mA, DC200C, DC300C, DC300K*	30	90	F/A[d]	—	N.C.	150
M7294A1010	24	2-10Vdc	120	160	0	—	N.C.	300
M7964B1009	120	Thermistor	30	90	0	—	No	35
M7164G1030	120	10-13.5 Vdc	30	90		—	No	135
M7284C1000	120	4-20 mA, DC200C, DC300C, DC300K	30	90	2	—	N.C.	150
M7284C1018	120	4-20 mA, DC200C, DC300C, DC300K	60	160	2	—	N.C.	150
M7284C1026	120	4-20 mA	30	90	2	—	N.C.	150
M7284C1059	24	4-20 mA, DC200C, DC300C, DC300K***	30	90	2	—	N.C.	150
M7284C1067	24	4-20 mA, DC200C, DC300C, DC300K***	60	160	2	—	N.C.	150
M7284Q1009	120	4-20 mA adj. zero and span, DC200C, DC300C, DC300K	30	90	2	—	N.C.	150
M7294Q1007	120	4-20 mA adj. zero and span, DC200C, DC300C, DC300K	60	90	2	—	N.C.	300
M7284Q1033	24	4-20 mA adj. zero and span, DC200C, DC300C, DC300K***	30	90	2	—	N.C.	150
M7364A1015	120	0-10 mA, 3-wire	30	90	0	—	N.C.	35
M7384A1011	24	0-10 mA, 3-wire	30	90	0	—	N.C.	35
M9161A1024	120	135 ohm[c]	30	90	0	—	N.C.	35
M9164A1005	120	135 ohm[c]	30	90	0	—	N.C.	35
M9164A1021	120	135 ohm[c]	60	160	0	—	N.C.	35
M9164A1120	24	135 ohm[c]	30	90	0	—	N.C.	35
M9164C1050	120	135 ohm[c]	60	160	2	—	N.C.	35
M9164C1068	120	135 ohm[c]	30	90	2	—	N.C.	35
M9164D1009[a]	24	135 ohm[c]	30/60	90/160	F/A[d]	—	N.C.	35
M9171A1006	120	135 ohm[c]	60	160	0	—	N.C.	75
M9174B1019	120	135 ohm[c] ****	30	90	1	—	N.C.	75
M9174B1027	120	135 ohm[c]	30	90	1	—	N.C.	75
M9174C1025	120	135 ohm[c]	30	90	2	—	N.C.	75
M9174C1033	120	135 ohm[c]	60	160	2	—	N.C.	75

Model	Power Supply Voltage (Vac)	Type of Controller or Input Signal Recommended	Timing (sec)	Stroke (deg)	Auxiliary Switches	Normal Position		Torque (lb–in)
						Mech.	Elec.	
M9174D1007[a]	24	135 ohm[c]	30/60	90/160	F/A[d]	—	N.C.	75
M9175D1006	120	135 ohm[c] ****	30/60	90/160	0	N.C.	N.C.	25
M9175D1014	24	135 ohm[c] ****	30/60	90/160	0	N.C.	N.C.	25
M9181A1012	24	135 ohm[c]	60	160	0	—	N.C.	150
M9184A1001	24	135 ohm[c]	60	160	0	—	N.C.	150
M9184A1019	24	135 ohm[c]	60	160	0	—	N.C.	150
M9184A1035	24	135 ohm[c]	30	90	0	—	N.C.	150
M9184B1017	24	135 ohm[c]	30	90	1	—	N.C.	150
M9184C1031	24	135 ohm[c]	30	90	2	—	N.C.	150
M9184D1005	24	135 ohm[c] ****	15/30	90/160	0	—	N.C.	75
M9184D1013[a]	24	135 ohm[c]	30/60	90/160	F/A[d]	—	N.C.	150

*With cams — for field adding of auxiliary switches
*** Enhanced Series M7284 - 160 reposition across stroke.
****With Adapter,Bracket

Model	Power Supply Voltage (Vac)	Type of Controller or Input Signal Recommended	Timing (sec)	Stroke (deg)	Auxiliary Switches	Normal Position		Torque (lb–in)
						Mech.	Elec.	
PROPORTIONAL REVERSING (continued)								
M9184D1021[a]	24	135 ohm[c]	30/60	90/160	F/A[d]	—	N.C.	150
M9184F1000	24	135 ohm[c]	30/60	90/160	2	—	N.C.	150
M9184F1034	24	135 ohm[c]	30/60	90/160	2	—	N.C.	150
M9185E1019	24	135 ohm[c]	30/60	90/160	1	—	N.C.	60
M9194C1005	120	135 ohm[c]	60	90	2	—	N.C.	300
M9194D1003[a]	24	135 ohm[c]	120/240	90/160	F/A[d]	—	N.C.	300
M9194E1000	24	135 ohm[c]	120/240	90/160	1	—	N.C.	300
M9484D1002	24	135 ohm[c]	15/30	90/160	0	—	N.C.	75
M9484D1010	24	135 ohm[c]	30/60	90/160	0	—	N.C.	150
M9484D1028	24	135 ohm[c]	30/60	90/160	0	—	N.C.	150
M9484D1036	24	135 ohm[c]	15/30	90/160	0	—	N.C.	75
M9484E1009	24	135 ohm[c]	15/30	90/160	1	—	N.C.	75
M9484E1017	24	135 ohm[c]	30/60	90/160	1	—	N.C.	150
M9484E1033	24	135 ohm[c]	30/60	90/160	1	—	N.C.	150
M9484E1058	24	135 ohm[c]	30/60	90/160	1	—	N.C.	150
M9484F1007	24	135 ohm[c]	30/60	90/160	2	—	N.C.	150
M9484F1023	24	135 ohm[c]	15/30	90/160	2	—	N.C.	75
M9484F1031	24	135 ohm[c]	30/60	90/160	2	—	N.C.	150
M9484F1049	24	135 ohm[c]	30/60	90/160	2	—	N.C.	150
M9494D1000	24	135 ohm[c]	60/120	90/160	0	—	N.C.	300
PROPORTIONAL REVERSING WITH SPRING RETURN								
M7285A1003	120	4-20 mA, DC200C, DC300C, DC300K	30	90	0	N.C.	N.C.	60
M7285A1011	120	4-20 mA, DC200C, DC300C, DC300K	60	160	0	N.C.	N.C.	60
M7285C1009	120	4-20 mA, DC200C, DC300C, DC300K	30	90	2	N.C.	N.C.	60
M7285C1017	120	4-20 mA, DC200C, DC300C, DC300K	60	160	2	N.C.	N.C.	60
M7285Q1008	120	4-20 mA adj. zero and span, DC200C, DC300C, DC300K	30	90	2	N.C.	N.C.	60
M7285Q1016	120	4-20 mA adj. zero and span, DC200C, DC300C, DC300K	60	160	2	N.C.	N.C.	60
M9175D1014[a]	24	135 ohm[c]	30/60	90/160	F/A[d]	N.C.	N.C.	25

Model	Power Supply Voltage (Vac)	Type of Controller or Input Signal Recommended	Timing (sec)	Stroke (deg)	Auxiliary Switches	Normal Position		Torque (lb–in)
						Mech.	Elec.	
M9185A1018	24	135 ohm[c]	60	160	0	N.C.	N.C.	60
M9185A1026	24	135 ohm[c]	30	90	0	N.C.	N.C.	60
M9185C1006	24	135 ohm[c]	60	160	2	N.C.	N.C.	60
M9185D1004[a]	24	135 ohm[c]	30/60	90/160	F/A[d]	N.C.	N.C.	60
M9186G1006	24	135 ohm[c]	60	160	0	N.O.	N.O.	50

FOOTNOTES

[a]TRADELINE item.
[b]R7252 or DC300E DialaTrol (Industrial Automation and Control Division)
[c]Resistor kit, resistor board, or interface module can be used to drive Series 90 motor(s) with controllers that provide current or voltage electronic signal. Refer to Modutrol IV Motor Parts and Accessories section.
[d]Field-Addable—Internal auxiliary switches can be field added to TRADELINE models.
[e]UL555 listed for use with D6405D Smoke Dampers. Includes linkage hardware for internal mount.
[f]UL555 listed for use with D6405D Smoke Dampers. Includes linkage hardware for external mount.

DEFINITIONS

Normal Position: Mechanical normal—position motor spring returns to (N.C. or N.O.) when power loss occurs. Electrical normal—position (N.C. or N.O.) motor drives to when control wiring not connected to powered motor.
NOTE: No entry under Normal Position means that motor remains where it stops on loss of power or signal (does not return to normal position).
N.C.—Normally closed—shaft in full counterclockwise position, as viewed from power end.
N.O.—Normally open—shaft in full clockwise position, as viewed from power end.
CW—Shaft goes to clockwise position as viewed from power end.
CCW—Shaft goes to counterclockwise position as viewed from power end.

MODUTROL MOTOR PARTS AND ACCESSORIES

Order Number	Description	Use With
	CONTROLS	
220736A, B	Internal auxiliary switch kits	Modutrol IV TRADELINE motors
	HARDWARE	
Q605F, G, H, J	Damper linkage kits	Modutrol IV motors, includes 7617ADW crank arm
Q298B	Damper linkage, includes crank arm, push rod, ball joint, bushings	M436/M836; M6415/M7415/M8415 motors
27518	Ball joint	For 5/16 in. rod
7617DM	Coupling	Explosion-proof housing, Modutrol motors
ES650117*	Housing, explosion-proof	Modutrol motors on dampers (requires 7617DM)
4074EHB	Screw terminal adapter	M7405, M7415, M8405, M8415
220741A	Screw terminal adapter	Modutrol IV motors
7640QF	Terminal enclosure	M7405, M7415, M8405, M8415
4074EKV	Auxiliary switch	M6415, M7405, M7415, M8405, M8415
4074ERU	Modutrol IV weatherproofing kit	Modutrol IV non-spring return, spring return
	CRANK ARMS	
221455A	Crank arm — infinitely adjustable — short arm	Modutrol IV motors
4074ELY	Crank arm — Infinitely adjustable — long arm	Modutrol IV motors with mounting bracket
7616BR	Crank arm — standard — long arm	Modutrol IV motors with mounting bracket
7617ADW	Crank arm — standard — short arm	Modutrol IV motors
	POTENTIOMETERS	
Q181A	Auxiliary potentiometers	All Modutrol motors
Q209E	Cover mounted minimum position potentiometer	M9164; M9174; M9175; M9184; M9185; M9186; M9194; M9484; M9494
Q209F	Internal mounted minimum position potentiometer	
Q68B	Dual control potentiometer	Modutrol motors
Q709A	Actuator mounted minimum position potentiometer	M7405, M7415 actuators
S443A	Manual minimum position potentiometer	All Series 90 Modutrol motors
S963B	Remote potentiometers	All Series 90 Modutrol motors
Q769	6-9 volt adaptor	M7415A
	RESISTOR KITS	
4074BYK	Resistor kits	Parallel up to 6 Series 90 Modutrol motors with solid state drive circuits from one Series 90 controller.
4074EAU		Parallel up to 3 Series 90 Modutrol motors with solid state drive circuits from a W973 Singlezone Logic Panel or W7100 Discharge Air Controller
4074EDC		Drive one Series 90 Modutrol motor with solid state drive circuits from a 4-20 mA controller
4074EED		Parallel up to 4 Series 90 Modutrol motors with solid state drive circuits from a 4-20 mA controller

MODUTROL MOTOR PARTS AND ACCESSORIES

Order Number	Description	Use With
221508A	Resistor board	Can be used in place of any of the above 4 resistor kits with Series 90 Modutrol IV motors
TRANSFORMERS		
198162JA	24 Vac internal mount	Any Modutrol IV motor
198162EA	120 Vac internal mount	
198162GA	220 Vac internal mount	
198162AA	120/208/240 Vac internal mount	
INTERFACE MODULES		
Q7230A1005	Adjustable voltage or current control (includes 2-10 Vdc and 4-20 mA)	Series 90 Modutrol IV motors

*Order from Nelson Electric Co., Order Services Dept., P.O. Box 726, Tulsa, OK 74101, (918) 627-5530

MOTOR DAMPER APPLICATION GUIDE					
Torque		B Dimension[a]		Damper Rating	
lb-in	N•m	in	mm	sq ft	sq m
25	2.8	34	864	16	1.4
35	4	48	1219	23	2.1
50	6	68	1727	37	3.4
150	17	202	5131	46	4.3

[a]Maximum size damper that motor can operate. B dimension is the outside dimension of the frame perpendicular to the blades.