

MAR 10, 50, 90



NEMA 4 Enclosure

Approvals

MAR Models Only

Canadian Standards Association
CSA NRTL/C—Enclosure 4



NEMA 7 Enclosure

Approvals

MAR Models Only

Canadian Standards Association
CSA NRTL/C—Class I, Divisions 1 & 2, Groups C & D
CSA NRTL/C—Class II, Divisions 1 & 2, Groups E, F & G
CSA NRTL/C—Approved to UL standard No. 429, Electrically Operated Valves
CSA NRTL/C—Approved to UL Standard No. 1203, Electrical Equipment for use in Explosion - proof And Dust - Ignition - proof Hazardous (Classified) Locations

Optional 7" Handwheel Available

Models

MAR10, 50, 90 – A.C. Supply
DCR10, 50, 90 – D.C. Supply

Typical Application

For on/off and modulating control of:

- Part turn ball, butterfly or plug valves
- Rotary dampers
- Rotating equipment
- Multi-turn valve types



Temperature Range

Standard: -40°F to +150°F
-40°C to +65°C
Optional: -60°F to +120°F
-50°C to +48°C
(Note: With Heaters Installed)
Optional:
Compliance to NFPA 130,
capable of operation after
exposure to ambient
temperature of 482°F (250°C)
for a minimum of 1 hour



Voltage

115 VAC, 1 Phase, 50/60 Hz.
230 VAC, 1 Phase, 50/60 Hz.
24 VAC, 1 Phase, 50/60 Hz.
12 VDC / 24 VDC



Torque Range

120 to 1,000 inch pounds
(13.5 to 112 newton meters)

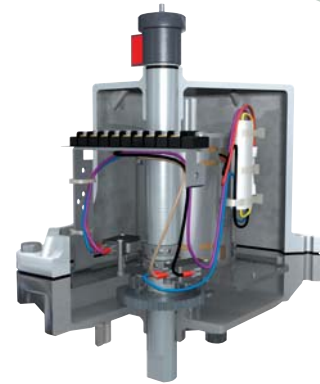


Speed Range

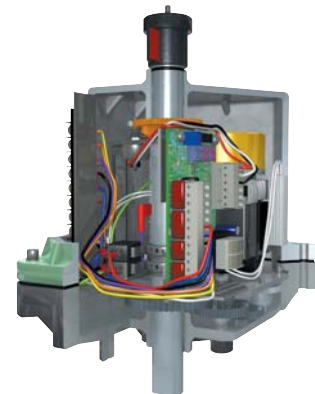
.5 to 60 seconds
for 90° revolution
7.5 and 30 RPM
for multi-turns

Standard Features

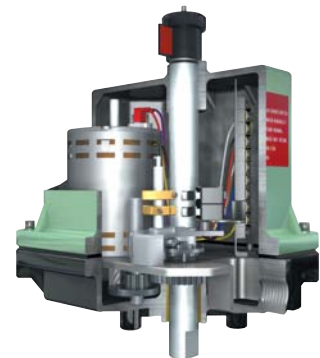
AC Voltages
2 – SPDT Switches,
PTC Heater
DC Voltages
2 – SPDT (High Current)
Switches



Open/Close



Modulating



Multi-Turn

115 & 230 VAC, 1 Phase, 50/60 Hz.

MAR	Model	Output Torque Inch Pounds (N.m)	Type	Speed of Operation 60 Hz. (50 Hz.)	Duty Cycle Rating 115 Vac, 1Ph., 50/60 Hz.	Duty Cycle Rating 230 Vac, 1Ph., 50/60 Hz.	Current Ratings 115 VAC		Current Ratings 230 VAC	
							N.L.A.*	L.R.A.*	N.L.A.*	L.R.A.*
							MAR10-.5MT	30 (3.4)	Multi-Turn	30 RPM N/A
MAR10-2	120 (13.5)	Part Turn	2 second/90° (2.5 seconds/90°)	50% (1)	50% (1)	0.40	0.60	0.30	0.40	
MAR10-2MT	120 (13.5)	Multi-Turn	7.5 RPM (6.2 RPM)	50% (2)	50% (2)	0.40	0.60	0.20	0.25	
MAR10-10	350 (40)	Part Turn	10 seconds/90° (12 seconds/90°)	50% (1)	50% (1)	0.40	0.60	0.20	0.25	
MAR10-30	425 (48)	Part Turn	30 seconds/90° (35 seconds/90°)	50% (2)	50% (2)	0.30	0.50	0.20	0.25	
MAR10-60	400 (45)	Part Turn	60 seconds/90° (70 seconds/90°)	50% (2)	50% (2)	0.35	0.55	0.20	0.25	
MAR50-2	600 (67)	Part Turn	2 seconds/90° (2.5 seconds/90°)	40% (1)	50% (1)	1.60	2.20	0.50	0.95	
MAR50-2MT	600 (67)	Multi-Turn	7.5 RPM (6.2 RPM)	40% (2)	50% (2)	1.60	2.20	0.50	0.95	
MAR50-.5MT	200 (22.5)	Multi-Turn	30 RPM N/A	25% (2)	— —	1.9	3.10	—	—	
MAR50-10	600 (67)	Part Turn	10 seconds/90° (12 seconds/90°)	50% (1)	50% (1)	0.50	0.80	0.30	0.50	
MAR50-30	700 (79)	Part Turn	30 seconds/90° (35 seconds/90°)	50% (2)	50% (2)	0.35	0.55	0.20	0.25	
MAR50-60	600 (67)	Part Turn	60 seconds/90° (70 seconds/90°)	50% (2)	50% (2)	0.30	1.50	0.20	0.25	
MAR90-5	1,000 (112)	Part Turn	5 seconds/90° (6 seconds/90°)	50% (1)	50% (1)	0.55	1.55	0.25	0.85	
MAR90-5MT	1,000 (112)	Multi-Turn	3 RPM (2.5 RPM)	50% (2)	50% (2)	0.55	0.55	0.25	0.85	
MAR90-15	1,000 (112)	Part Turn	15 seconds/90° (17.5 seconds/90°)	75% (2)	50% (2)	0.50	0.60	0.20	0.35	

* (N.L.A.) — No Load Ampere (L.R.A.) — Locked Rotor Ampere (1) — Open/Close Service (2) — Open/Close or Modulating Service

Duty Cycle

The percentage of time the electric motor is energized vs. the time it is at rest, in reversing duty and with the actuator running at it's rated load - maximum published torque.

Standard Modulating Duty Rating

- 12 motor starts (corrections) per minute.
- At the rated duty cycle for that model.
- With the speed of operation a minimum of 15 seconds for 90° or slower.
- With positioning accuracy of (+/-) 1% of total span.

Isolation Relays

To operate multiple actuators in parallel from a single signal requires isolating relays in the field wiring. Consult factory.

Note — Multi-turn models are available with the following number of turns:
1.4, 5, 8, 13, 18, 26 or 50. Must be specified when the order is placed.

24 VAC

MAR	Model	Output Torque Inch Pounds (N.m)	Type	Speed of Operation 60 Hz. (50 Hz.)	Duty Cycle Rating 24 VAC	Current Ratings 24 VAC	
						N.L.A.*	L.R.A.*
						MAR10-2	120 (13.5)
MAR10-2MT	120 (13.5)	Multi-Turn	7.5 RPM	25% (1)	2.8	3.50	
MAR10-10	350 (40)	Part Turn	10 seconds/90°	25% (1)	1.90	2.70	
MAR10-30	425 (48)	Part Turn	30 seconds/90°	25% (1)	1.70	2.40	
MAR10-60	400 (45)	Part Turn	60 seconds/90°	25% (1)	1.80	2.50	
MAR50-10	600 (67)	Part Turn	10 seconds/90°	25% (1)	3.80	4.70	
MAR50-30	700 (79)	Part Turn	30 seconds/90°	25% (1)	1.90	2.70	
MAR90-15	1,000 (112)	Part Turn	15 seconds/90°	25% (1)	2.40	4.00	

12 & 24 VDC

DCR	Model	Output Torque Inch Pounds (N.m)	Type	No Load Speed of Operation	Duty Cycle Rating 12 VDC	Duty Cycle Rating 24 VDC	Current Ratings 12 VDC		Current Ratings 24 VDC	
							N.L.A.*	L.R.A.*	N.L.A.*	L.R.A.*
							DCR10-2	250 (28)	Part Turn	.6 seconds/90°
DCR10-2MT	250 (28)	Multi-Turn	25 RPM	50% (2)	50% (2)	1.00	12.50	0.75	6.80	
DCR10-10	400 (45)	Part Turn	6.4 seconds/90°	50% (1)	50% (1)	0.19	3.90	0.08	2.10	
DCR50-2	600 (67)	Part Turn	.7 seconds/90°	50% (1)	50% (1)	1.00	22.00	0.75	12.00	
DCR50-2MT	600 (67)	Multi-Turn	21 RPM	50% (2)	50% (2)	1.00	22.00	0.75	12.00	
DCR50-10	600 (67)	Part Turn	5.6 seconds/90°	50% (1)	50% (1)	0.90	5.80	0.50	2.40	
DCR50-30	700 (79)	Part Turn	21 seconds/90°	50% (2)	50% (2)	0.15	2.65	0.06	1.15	
DCR50-60	750 (84)	Part Turn	42 seconds/90°	50% (2)	50% (2)	0.15	2.65	0.06	1.15	
DCR90-5	900 (101)	Part Turn	2.2 seconds/90°	50% (1)	50% (1)	1.00	12.50	0.75	6.80	
DCR90-5MT	900 (101)	Multi-Turn	7 RPM	50% (2)	50% (2)	1.00	12.50	0.75	6.80	
DCR90-15	900 (101)	Part Turn	5.6 seconds/90°	50% (2)	50% (2)	0.90	5.80	0.50	2.40	

* (N.L.A.) — No Load Ampere (L.R.A.) — Locked Rotor Ampere (1) — Open/Close Service (2) — Open/Close or Modulating Service

Limit Switches (MAR Models)

Standard: Two-single pole, double throw type (SPDT) with an option for 2 or 4 additional.

Ratings: UL and CSA listed.
15 amp & 1/2 H.P. at 125 or 250 VAC; 1/2 amp at 125 VDC; 1/4 amp at 250 VDC; 5 amp at 120 VAC

Optional: All double pole, double throw type (DPDT).

Ratings: UL and CSA listed.
10 amp at 125/250 VAC (form ZZ); 1/2 H.P. at 125 VDC; 3/4 H.P. at 250 VAC

Limit Switches (DCR Models)

Ratings: UL and CSA listed.
MIL-PRF-8805 Qualified Listing
25 amp at 277 VAC; 1 H.P. at 125 VAC; 2 H.P. at 250 VAC

Isolation Relays

To operate multiple actuators in parallel from a single signal requires isolating relays in the field wiring. Consult factory.

Note — Multi-turn models are available with the following number of turns: 1.4, 5, 8, 13, 18, 26 or 50. Must be specified when the order is placed.

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