

# NEMA Contactor, Starter, and Pump Panel Specifications

Bulletin Numbers 500 and 1200 Product Lines

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## Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
Industrial Automation Wiring and Grounding Guidelines, publication <a href="#">1770-4.1</a>	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, <a href="http://www.ab.com">http://www.ab.com</a>	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at <http://www.rockwellautomation.com/global/literature-library/>. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.



# 500 & 1200 Line NEMA Contactors, Starters, Pump Panels

## Specifications

### Electrical Ratings

NEMA Size	Load Voltage	Continuous Current Rating	Service Limit Current Rating <sup>(1)</sup>	Maximum Hp Rating (Non-plugging and non-jogging duty)		Maximum Hp Rating (Plugging and jogging duty) <sup>(2)</sup>		Transformer Primary Switching kVa Rating (Inrush Current ≤ 20 times Continuous Current)		Transformer Primary Switching kVa Rating (Inrush Current = 20 to 40 times Continuous Current)		Capacitor Switching kVAR <sup>(3)</sup>	Maximum Circuit Closing Inrush Current [A] Peak Including Offset
				1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	3Ø	3Ø
	[V]	[A]	[A]										
00	115 200 230 380 460 575	9	11	1/3 — 1 — — —	— 1-1/2 1-1/2 1-1/2 2 2	1/4 — 1/2 — — —	— 1 1 1 1-1/2 1-1/2	— — — — — —	— — — — — —	— — — — — —	— — — — — —	— — — — — —	87
0	115 200 230 380 460 575	18	21	1 — 2 — — —	— 3 3 5 5 5	1/2 — 1 — — —	— 1-1/2 1-1/2 1-1/2 2 2	0.6 — 1.2 — 2.4 3	— 1.8 2.1 — 4.2 5.2	0.3 — 0.6 — 1.2 1.5	— 0.9 1 — 2.1 2.6	— — — — — —	140
1	115 200 230 380 460 575	27	32	2 — 3 — — —	— 7-1/2 7-1/2 10 10 10	1 — 2 — — —	— 3 3 5 5 5	1.2 — 2.4 — 4.9 6.2	— 3.6 4.3 — 8.5 11	0.6 — 1.2 — 2.5 3.1	— 1.8 2.1 — 4.3 5.3	— — 6 — 13.5 17	288
1P	115 230	36	42	3 5	— —	1-1/2 3	— —	— —	— —	— —	— —	— —	— —
2	115 200 230 380 460 575	45	52	3 — 7-1/2 — — —	10 15 25 25 25	2 — 5 — — —	— 7-1/2 10 15 15 15	2.1 — 4.1 — 8.3 10	— 6.3 7.2 — 14 18	1 — 2.1 — 4.2 5.2	— 3.1 3.6 — 7.2 8.9	— 12 25 31	483
3	115 200 230 380 460 575	90	104	7-1/2 — 15 — — —	— 25 30 50 50 50	7-1/2 — 15 — — —	— 15 20 30 30 30	4.1 — 8.1 — 16 20	— 12 14 — 28 35	2 — 4.1 — 8.1 10	— 6.1 7.0 — 14 18	— — 27 — 53 67	947
4	115 200 230 380 460 575	135	156	— — — — — —	— 40 50 75 100 100	— — — — — —	— 25 30 50 60 60	6.8 — 14 — 27 34	— 20 23 — 47 59	3.4 — 6.8 — 14 17	— 10 12 — 23 29	— 40 80 100	1581
5	115 200 230 380 460 575	270	311	— — — — — —	— 75 100 150 200 200	— — — — — —	— 60 75 125 150 150	14 — 27 — 54 68	— 41 47 — 94 117	6.8 — 14 — 27 34	— 20 24 — 47 59	— 80 160 200	3163
6	115 200 230 380 460 575	540	621	— — — — — —	— 150 200 300 400 400	— — — — — —	— 125 150 250 300 300	— 27 54 — 108 135	— 81 94 — 188 234	— 14 27 — 54 68	— 41 47 — 94 117	— 160 320 400	6326
7	230 460 575	810	932	— — —	300 600 600	— — —	— — —	— — —	— — —	— — —	— — —	240 480 600	9470
8	230 460 575	1215	1400	— — —	450 900 900	— — —	— — —	— — —	— — —	— — —	— — —	360 720 900	14205
9	230 460 575	2250	2590	— — —	800 1600 1600	— — —	— — —	— — —	— — —	— — —	— — —	665 1325 1670	25380

- Service-Limit Current Ratings** — The service-limit current ratings shown represent the maximum rms current, in amperes, which the controller shall be permitted to carry for protracted periods in normal service. At service-limit current ratings, temperature rises shall be permitted to exceed those obtained by testing the controller at its continuous current rating. The current rating of overload relays or the trip current of other motor protective devices used shall not exceed the service-limit current rating of the controller.
- Plugging or Jogging Service** — The listed horsepower ratings are recommended for those applications requiring repeated interruption of stalled motor current encountered in rapid motor reversal in excess of five openings or closings per minute and shall not be more than ten in a ten minute period.
- If maximum available current (at capacitor terminals) is greater than 3000 A, please contact your local Rockwell Automation sales office, Allen-Bradley distributor, or NEMA ICS-2 Standard.

## Mechanical Ratings

NEMA Size	Mechanical Life (Millions of Operations)	Maximum Number of Auxiliary Contacts	Operating Time [ms]	
			Pick-up (Average)	Drop-out (Average)
00	10	5	20	16
0	10	8	21	16
1	10	8	22	14
2	10	8	27	13
3	5	8	37	20
4	5	8	27	20
5	5	8	25	18
6	5	4	25...79	10...22
7	—	8	88	40
8	—	8	88	45
9	—	8	118	84

## Construction

NEMA Size	Wire Size for Power Terminals	Required Torque on Power Terminal Wire Clamps and Pressure Connectors or Lugs	Type of Power Terminal	Contact Material		Requirements for Sizing of Wire		
				Power Contacts	Auxiliary Contacts			
00	#16...10 AWG	9 lb•in	Pressure terminals	Silver alloy	Silver	All wire rated 167 °F (75 °C) or higher must be sized per the local Electrical Code for 167 °F (75 °C) wire.		
0	#14...10 AWG	20 lb•in	Saddle or wire clamps					
1	#14...8 AWG	20 lb•in	Pressure terminals					
2	#14...4 AWG	45 lb•in						
3	#8...1/0 AWG	150 lb•in						
4	#6...4/0 AWG	275 lb•in						
5	#4 AWG...500 MCM	375 lb•in						
6	Lugs sold separately <a href="http://ab.rockwellautomation.com/Motor-Control/NEMA-Contactors/Bulletin-500">http://ab.rockwellautomation.com/Motor-Control/NEMA-Contactors/Bulletin-500</a>							
7								
8								
9	Direct bus connections only							

## Environmental

NEMA Size	Operating Position	Operating Temperature Range	Altitude	Corrosion-Resistance
00	Horizontal	Starters with eutectic alloy Overload relay -13...+149 °F (-25...+65 °C)  Starters with SMP Overload relay -13...+131 °F (-25...+55 °C)  (provided condensation is prevented)	10 000 feet before derating	All metal parts are treated for corrosion-resistance
0	Vertical			
1				
2				
3				
4				
5	Horizontal			
6	Vertical			
7				
8				
9				