

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 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, http://www.ab.com	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 ⁽¹⁾	Maximum Hp Rating (Non-plugging and non-jogging duty)		Maximum Hp Rating (Plugging and jogging duty) ⁽²⁾		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 ⁽³⁾	Maximum Circuit Closing Inrush Current [A] Peak Including Offset
	[V]	[A]	[A]	1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	3Ø	3Ø
00	115	9	11	1/3	—	1/4	—	—	—	—	—	—	87
	200			—	1-1/2	—	1	—	—	—	—	—	
	230			1	1-1/2	1/2	1	—	—	—	—	—	
	380			—	1-1/2	—	1	—	—	—	—	—	
	460			—	2	—	1-1/2	—	—	—	—	—	
575	—	2	—	1-1/2	—	—	—	—	—	—	—		
0	115	18	21	1	—	1/2	—	0.6	—	0.3	—	—	140
	200			—	3	—	1-1/2	—	1.8	—	0.9	—	
	230			2	3	1	1-1/2	1.2	2.1	0.6	1	—	
	380			—	5	—	1-1/2	—	—	—	—	—	
	460			—	5	—	2	2.4	4.2	1.2	2.1	—	
575	—	5	—	2	3	5.2	1.5	2.6	—	—			
1	115	27	32	2	—	1	—	1.2	—	0.6	—	—	288
	200			—	7-1/2	—	3	—	3.6	—	1.8	—	
	230			3	7-1/2	2	3	2.4	4.3	1.2	2.1	—	
	380			—	10	—	5	—	—	—	—	—	
	460			—	10	—	5	—	4.9	8.5	2.5	4.3	
575	—	10	—	5	—	6.2	11	3.1	5.3	13.5	17		
1P	115	36	42	3	—	1-1/2	—	—	—	—	—	—	—
	230			5	—	3	—	—	—	—	—	—	—
2	115	45	52	3	—	2	—	2.1	—	1	—	—	483
	200			—	10	—	7-1/2	—	6.3	—	3.1	—	
	230			7-1/2	15	5	10	4.1	7.2	2.1	3.6	12	
	380			—	25	—	15	—	—	—	—	—	
	460			—	25	—	15	8.3	14	4.2	7.2	25	
575	—	25	—	15	10	18	5.2	8.9	31	—			
3	115	90	104	7-1/2	—	7-1/2	—	4.1	—	2	—	—	947
	200			—	25	—	15	—	12	—	6.1	—	
	230			15	30	15	20	8.1	14	4.1	7.0	27	
	380			—	50	—	30	—	—	—	—	—	
	460			—	50	—	30	16	28	8.1	14	53	
575	—	50	—	30	20	35	10	18	67	—			
4	115	135	156	—	—	—	—	6.8	—	3.4	—	—	1581
	200			—	40	—	25	—	20	—	10	—	
	230			—	50	—	30	14	23	6.8	12	40	
	380			—	75	—	50	—	—	—	—	—	
	460			—	100	—	60	27	47	14	23	80	
575	—	100	—	60	34	59	17	29	100	—			
5	115	270	311	—	—	—	—	14	—	6.8	—	—	3163
	200			—	75	—	60	—	41	—	20	—	
	230			—	100	—	75	27	47	14	24	80	
	380			—	150	—	125	—	—	—	—	—	
	460			—	200	—	150	54	94	27	47	160	
575	—	200	—	150	68	117	34	59	200	—			
6	115	540	621	—	—	—	—	27	—	14	—	—	6326
	200			—	150	—	125	—	81	—	41	—	
	230			—	200	—	150	54	94	27	47	160	
	380			—	300	—	250	—	—	—	—	—	
	460			—	400	—	300	108	188	54	94	320	
575	—	400	—	300	135	234	68	117	400	—			
7	230	810	932	—	300	—	—	—	—	—	—	240	9470
	460			—	600	—	—	—	—	—	—	480	
	575			—	600	—	—	—	—	—	—	600	
8	230	1215	1400	—	450	—	—	—	—	—	—	360	14205
	460			—	900	—	—	—	—	—	—	720	
	575			—	900	—	—	—	—	—	—	900	
9	230	2250	2590	—	800	—	—	—	—	—	—	665	25380
	460			—	1600	—	—	—	—	—	—	1325	
	575			—	1600	—	—	—	—	—	—	1670	

- (1) **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.
- (2) **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.
- (3) 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 http://ab.rockwellautomation.com/Motor-Control/NEMA-Contactors/Bulletin-500							
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				

Short Circuit Rating

Combination contactors and starters with disconnect switch: Bulletin 502, 506, 512, 522E, 522F, 522G, and 1232X

Combination Contactors and Starters with Disconnect Switch: Bulletin 502, 506, 512, 522E, 522F, 522G, and 1232X			
NEMA Size	Fuse Type	Available Short Circuit Amperes RMS Symmetrical [A]	Maximum Voltage [V]
0...3	H, K	5000	600
4...5	H, K	10 000	
0...5	J, R	100 000	
6	L	18 000	
7	L	18 000	

Combination Lighting Contactors with Disconnect Switch: Bulletin 502L			
Lighting Contactor Rating [A]	Fuse Type	Available Short Circuit Amperes RMS Symmetrical [A]	Maximum Voltage [V]
20...100	H, K	5000	600
200...300	H, K	10 000	
20...300	J, R	100 000	

Combination Contactors and Starters with Circuit Breaker: Bulletin 503, 507, 513, 523E, 523F, 523G, and 1233X⁽¹⁾			
Enclosure Type	NEMA Size	Available Short Circuit Amperes RMS Symmetrical [A]	Maximum Voltage [V]
1, 3R, 3R/4/12, 4/4X (stainless)	0...2	42 000	480
	3...5	65 000	
Unilock 3R, 7, & 9	0...2	42 000	
	3...5	65 000	
Bolted 3R, 7, & 9	0...2	65 000	
	6	18 000	
3R, 3R/4/12, 4/4X (stainless)	7	25 000	
	0...4	25 000	600
1, 3R, 3R/4/12, 4/4X (stainless)	5	35 000	
	0...3	5000	
Unilock 3R, 7, & 9	4...5	10 000	
	0...2	5000	
Bolted 3R, 7, & 9	6	18 000	
	7	25 000	

Combination Lighting Contactors with Circuit Breaker: Bulletin 503L⁽¹⁾			
Enclosure Type	Lighting Contactor Rating [A]	Available Short Circuit Amperes RMS Symmetrical [A]	Maximum Voltage [V]
1, 3R, 3R/4/12, 4/4X (stainless)	20...300	65 000	480
	20...300	65 000	
	20...300	65 000	
1, 3R, 3R/4/12, 4/4X (stainless)	20...300	25 000	600
	20...100	5000	
Unilock 3R, 7, & 9	20...300	10 000	
Unilock 3R, 7, & 9	20...300	5000	
Bolted 3R, 7, & 9	20...300	5000	

(1) For the most up-to-date SCCRs, please see the on-line Industrial Controls catalog at www.ab.com/catalogs.

AC Coil Data

NEMA Size	Operating Volt Amperes Burden [VA]		Heat Dissipation [W]	Coil Operating Limits
	60 Hz Coils			
	Inrush	Sealed		
00	70	8	2.7	85...110%
0	192	29	5.9	
1 & 1P	192	29	5.9	
2 (2...3poles)	240	29	5.9	
2 (4...5poles)	315	38	5.9	
3 (2...3poles)	660	45	10	
3 (4...5poles)	840	58	10	
4 (2...3poles)	1225	69	14.8	
4 (4...5poles)	1490	96	14.8	
5 (Series L)	1490	96	19.8	
6 ⁽¹⁾	4860	254	65.7	
6 (Interposing relay)	52.44	3.96	—	
7 ⁽²⁾	Economized DC Coil		—	
7 (Interposing relay)	74.40	9.84	—	
8 ⁽³⁾	Economized DC Coil		—	
8 (Interposing relay)	74.40	9.84	—	
9 ⁽⁴⁾	Economized DC Coil		—	
9 (Interposing relay)	144	19.20	—	

- (1) This rating is for the size 6 contactor coil only. All starters are shipped with an interposing relay as standard.
- (2) Size 7 starters are shipped with a 250 VA control circuit transformer and an interposing relay with a 120V coil. Voltage is then rectified to DC for the contactor coil.
- (3) Size 8 starters are shipped with a 350 VA control circuit transformer and an interposing relay with a 120V coil. Voltage is then rectified to DC for the contactor coil.
- (4) Size 9 starters are shipped with a 750 VA control circuit transformer and an interposing relay with a 120V coil. Voltage is then rectified to DC for the contactor coil.

Auxiliary Contacts (NEMA A600 and P300) — Bulletin 595, 596

Maximum AC Contact Rating Per Pole						
AC Rating Designation	Maximum Voltage 60 or 50 Hz	[A]		Continuous Carrying Current [A]	[VA]	
		Make	Break		Make	Break
A600	120	60	6	10	7200	720
	240	30	3	10	7200	720
	480	15	1.5	10	7200	720
	600	12	1.2	10	7200	720

Maximum DC Contact Rating Per Pole for 595, 596 Auxiliary Contacts (Maximum Continuous Carrying Current is 5 A)

DC Rating Designation	125V DC	250V DC	600V DC
P300	0.55 A	0.55 A (Requires 2 Contacts in Series)	—
	1.1 A (Requires 2 Contacts in Series)		

Load-Life Curves

Bulletin 500 Line contactors and starters are designed to provide superior performance in a variety of applications. These load-life curves are based on Rockwell Automation tests according to the requirements defined in IEC 947-4. Actual contact life may vary based on the application, duty cycle, and environmental conditions from that indicated by the curves.

To find the contactor's estimated electrical life, follow these guidelines:

- Choose the appropriate graph that most closely approximates the utilization category of the application.
- Locate the intersection of the life-load curve of the appropriate contactor with the application's operational current (I_e) found on the horizontal axis.
- Read the estimated contact life in millions of operations along the vertical axis.

Contact Life for Mixed Utilization Categories AC3 and AC4

In many applications, the utilization category cannot be defined as either purely AC3 or AC4. In those applications, the electrical life of the contactor can be estimated from the following equation:

$$L_{mixed} = \frac{L_{AC3}}{1 + P_{AC4} \left(\frac{L_{AC3}}{L_{AC4}} - 1 \right)}$$

Where:

L_{mixed} = Approximate contact life for a mixed AC3/AC4 utilization category application

L_{AC3} = Approximate contact life in operations for AC3 utilization category (from AC3 life-load curves below)

L_{AC4} = Approximate contact life in operations for AC4 utilization category (from AC4 life-load curves below)

P_{AC4} = Percentage of AC4 operations

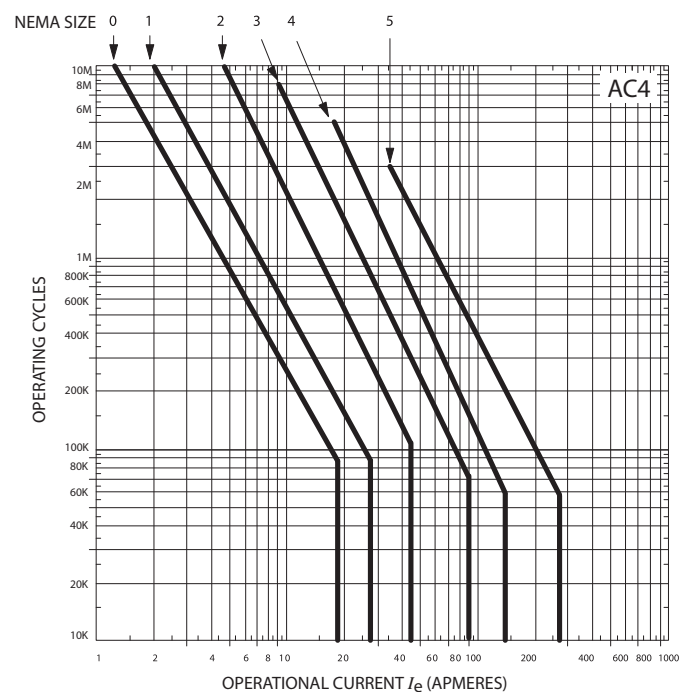
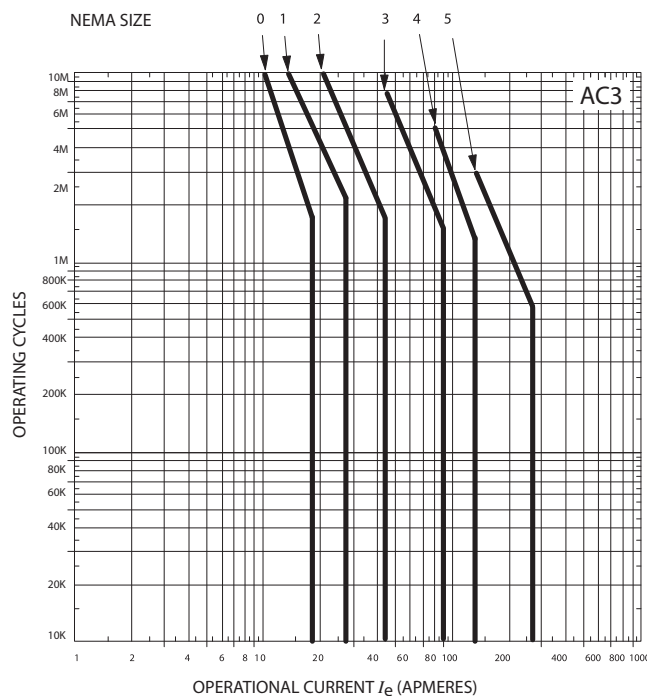
Utilization Categories

Category Typical Duty:

AC3 Starting of squirrel cage motors and switching off only after the motor is up to speed.

AC4 Starting of squirrel cage motors with inching and plugging duty.

Bulletin 500 Load / Life Curves — AC3 and AC4



Group Motor Ratings for NEMA Contactors / Starters

Manual Starters	FLA Range (Amps)	Group Rating (480V)		Contactors				
		without Limiter	with Limiter	Size 00	Size 0	Size 1	Size 2	Size 3
140-MN-0016	0.10...0.16	42 kA	42 kA	500-TO ⁽¹⁾	500-AO ⁽¹⁾	500-BO ⁽¹⁾	—	—
140-MN-0025	0.16...0.25	42 kA	42 kA	500-TO ⁽¹⁾	500-AO ⁽¹⁾	500-BO ⁽¹⁾	—	—
140-MN-0040	0.25...0.40	42 kA	42 kA	500-TO ⁽¹⁾	500-AO ⁽¹⁾	500-BO ⁽¹⁾	—	—
140-MN-0063	0.40...0.63	42 kA	42 kA	500-TO ⁽¹⁾	500-AO ⁽¹⁾	500-BO ⁽¹⁾	—	—
140-MN-0100	0.63...1.0	42 kA	42 kA	500-TO ⁽¹⁾	500-AO ⁽¹⁾	500-BO ⁽¹⁾	—	—
140-MN-0160	1.0...1.6	42 kA	42 kA	500-TO ⁽¹⁾	500-AO ⁽¹⁾	500-BO ⁽¹⁾	—	—
140-MN-0250	1.6...2.5	42 kA	42 kA	500-TO ⁽¹⁾	500-AO ⁽¹⁾	500-BO ⁽¹⁾	—	—
140-MN-0400	2.5...4.0	42 kA	42 kA	500-TO ⁽¹⁾	500-AO ⁽¹⁾	500-BO ⁽¹⁾	—	—
140-MN-0630	4.0...6.3	42 kA	42 kA	500-TO ⁽¹⁾	500-AO ⁽¹⁾	500-BO ⁽¹⁾	—	—
140-MN-1000	6.3...10.0	42 kA	42 kA	500-TO ⁽¹⁾	500-AO ⁽¹⁾	500-BO ⁽¹⁾	—	—
140-MN-1600	10.0...16.0	10 kA	42 kA	—	500-AO ⁽¹⁾	500-BO ⁽¹⁾	500-CO ⁽¹⁾	—
140-MN-2000	16.0...20.0	10 kA	14 kA	—	500-AO ⁽¹⁾	500-BO ⁽¹⁾	500-CO ⁽¹⁾	—
140-MN-2500	20.0...25.0	10 kA	10 kA	—	—	500-BO ⁽¹⁾	500-CO ⁽¹⁾	—
190-MN+190-P320	24.0...32.0	—	42 kA	—	—	—	500-CO ⁽¹⁾	500-DO ⁽¹⁾
190-MN+190-P400	32.0...42.0	—	30 kA	—	—	—	500-CO ⁽¹⁾	500-DO ⁽¹⁾

Manual Starters	FLA Range (Amps)	Group Rating (480V)		Starters				
		without Limiter	with Limiter	Size 00	Size 0	Size 1	Size 2	Size 3
140-MN-0016	0.10...0.16	42 kA	42 kA	509-TO ⁽¹⁾	509-AO ⁽¹⁾	509-BO ⁽¹⁾	—	—
140-MN-0025	0.16...0.25	42 kA	42 kA	509-TO ⁽¹⁾	509-AO ⁽¹⁾	509-BO ⁽¹⁾	—	—
140-MN-0040	0.25...0.40	42 kA	42 kA	509-TO ⁽¹⁾	509-AO ⁽¹⁾	509-BO ⁽¹⁾	—	—
140-MN-0063	0.40...0.63	42 kA	42 kA	509-TO ⁽¹⁾	509-AO ⁽¹⁾	509-BO ⁽¹⁾	—	—
140-MN-0100	0.63...1.0	42 kA	42 kA	509-TO ⁽¹⁾	509-AO ⁽¹⁾	509-BO ⁽¹⁾	—	—
140-MN-0160	1.0...1.6	42 kA	42 kA	509-TO ⁽¹⁾	509-AO ⁽¹⁾	509-BO ⁽¹⁾	—	—
140-MN-0250	1.6...2.5	42 kA	42 kA	509-TO ⁽¹⁾	509-AO ⁽¹⁾	509-BO ⁽¹⁾	—	—
140-MN-0400	2.5...4.0	42 kA	42 kA	509-TO ⁽¹⁾	509-AO ⁽¹⁾	509-BO ⁽¹⁾	—	—
140-MN-0630	4.0...6.3	42 kA	42 kA	509-TO ⁽¹⁾	509-AO ⁽¹⁾	509-BO ⁽¹⁾	—	—
140-MN-1000	6.3...10.0	42 kA	42 kA	509-TO ⁽¹⁾	509-AO ⁽¹⁾	509-BO ⁽¹⁾	—	—
140-MN-1600	10.0...16.0	10 kA	42 kA	—	509-AO ⁽¹⁾	509-BO ⁽¹⁾	509-CO ⁽¹⁾	—
140-MN-2000	16.0...20.0	10 kA	14 kA	—	509-AO ⁽¹⁾	509-BO ⁽¹⁾	509-CO ⁽¹⁾	—
140-MN-2500	20.0...25.0	10 kA	10 kA	—	—	509-BO ⁽¹⁾	509-CO ⁽¹⁾	—
190-MN+190-P320	24.0...32.0	—	42 kA	—	—	—	509-CO ⁽¹⁾	509-DO ⁽¹⁾
190-MN+190-P400	32.0...42.0	—	30 kA	—	—	—	509-CO ⁽¹⁾	509-DO ⁽¹⁾

(1) - Cat. No. is incomplete. Refer to the appropriate product selection application to complete.

Full Load Currents of 3-Phase, 60 Hertz AC Induction Motors

The full load currents listed below are “average values” for horsepower rated motors of several manufacturers at the more common rated voltages and speeds. These “average values”, along with the similar values listed in the U. S. National Electrical Code (NEC), should be used only as a guide for selecting suitable components for the Motor Branch Circuit. The rated full load current, shown on the motor nameplate, may vary considerably from the listed value depending on the specific motor design.

ATTENTION: The motor nameplate full load current should always be used in determining the rating of the devices used for Motor Running Overcurrent Protection.

HP	RPM ⁽¹⁾	Full Load Current [A]					
		208V	240V	480V	600V	2200V	4000V
1/4	3600	1.20	1.04	0.52	0.42	—	—
	1800	1.39	1.20	0.60	0.48	—	—
	1200	1.62	1.40	0.70	0.56	—	—
	900	—	—	—	—	—	—
1/3	3600	1.48	1.28	0.64	0.51	—	—
	1800	1.69	1.46	0.73	0.58	—	—
	1200	1.89	1.64	0.82	0.66	—	—
	900	—	—	—	—	—	—
1/2	3600	2.08	1.80	0.90	0.72	—	—
	1800	2.54	2.20	1.10	0.88	—	—
	1200	2.89	2.50	1.25	1.00	—	—
	900	—	—	—	—	—	—
3/4	3600	2.89	2.50	1.25	1.00	—	—
	1800	3.47	3.00	1.50	1.20	—	—
	1200	3.81	3.30	1.65	1.32	—	—
	900	—	—	—	—	—	—
1	3600	3.51	3.04	1.52	1.22	—	—
	1800	4.25	3.68	1.84	1.47	—	—
	1200	4.60	3.98	1.99	1.59	—	—
	900	—	—	—	—	—	—
1-1/2	3600	5.04	4.36	2.18	1.74	—	—
	1800	5.80	5.02	2.51	2.01	—	—
	1200	6.49	5.62	2.81	2.25	—	—
	900	—	—	—	—	—	—
2	3600	6.51	5.64	2.82	2.26	—	—
	1800	7.18	6.22	3.11	2.49	—	—
	1200	8.20	7.10	3.55	2.84	—	—
	900	—	—	—	—	—	—
3	3600	9.24	8.00	4.00	3.20	—	—
	1800	10.4	9.04	4.52	3.62	—	—
	1200	11.6	10.1	5.04	4.03	—	—
	900	—	—	—	—	—	—
5	3600	15.7	13.6	6.80	5.44	—	—
	1800	15.9	13.8	6.88	5.50	—	—
	1200	18.6	16.1	8.07	6.46	—	—
	900	—	—	—	—	—	—
7-1/2	3600	22.1	19.1	9.57	7.66	—	—
	1800	25.0	21.7	10.8	8.66	—	—
	1200	26.6	23.1	11.5	9.22	—	—
	900	—	—	—	—	—	—
10	3600	29.7	25.7	12.9	10.3	—	—
	1800	31.5	27.3	13.7	10.9	—	—
	1200	32.9	28.4	14.2	11.4	—	—
	900	—	—	—	—	—	—
15	3600	43.0	37.2	18.6	14.9	—	—
	1800	46.7	40.4	20.2	16.2	—	—
	1200	49.1	42.5	21.3	17.0	—	—
	900	—	—	—	—	—	—
20	3600	59.2	51.3	25.6	20.5	5.2	2.9
	1800	59.6	51.6	25.8	20.6	5.3	3.0
	1200	61.7	53.4	26.7	21.4	5.4	3.1
	900	—	—	—	—	5.8	3.2
25	3600	70.9	61.4	30.7	24.6	6.3	3.4
	1800	74.7	64.7	32.3	25.9	6.5	3.6
	1200	76.0	65.8	32.9	26.3	6.7	3.7
	900	—	—	—	—	6.9	3.8
30	3600	85.7	74.2	37.1	29.7	8.1	4.4
	1800	88.2	76.4	38.2	30.5	7.8	4.3
	1200	91.6	79.3	39.7	31.7	8.0	4.4
	900	—	—	—	—	8.2	4.5
40	3600	111	96.0	48.0	38.4	10.0	5.5
	1800	117	102	50.8	40.6	10.3	5.7
	1200	119	103	51.7	41.4	10.6	5.8
	900	—	—	—	—	11.5	6.3

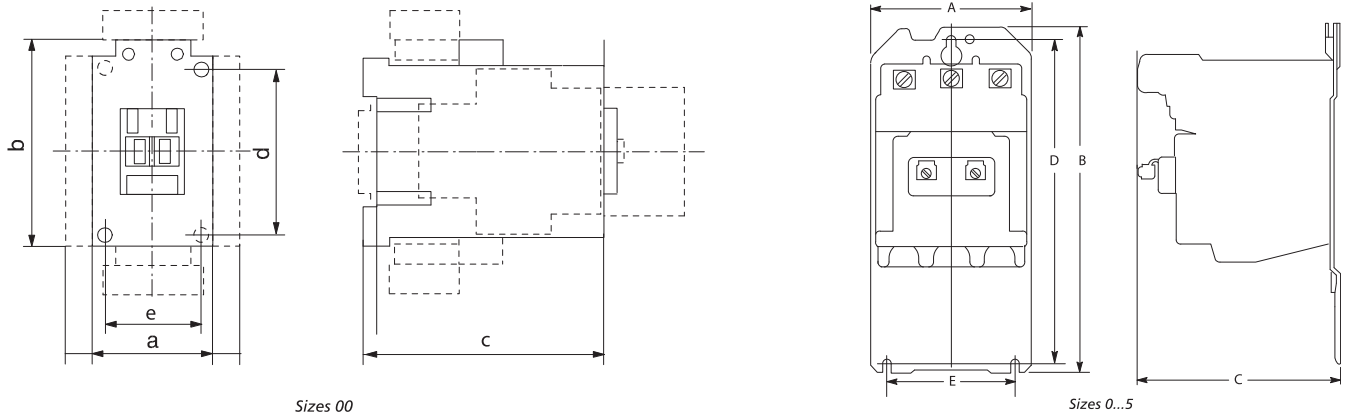
(1) Synchronous speed nameplate is usually less due to slip.

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Approximate Dimensions

Bulletin 500 and 500F Contactors — NEMA sizes 0...4

- Open Type without Enclosure



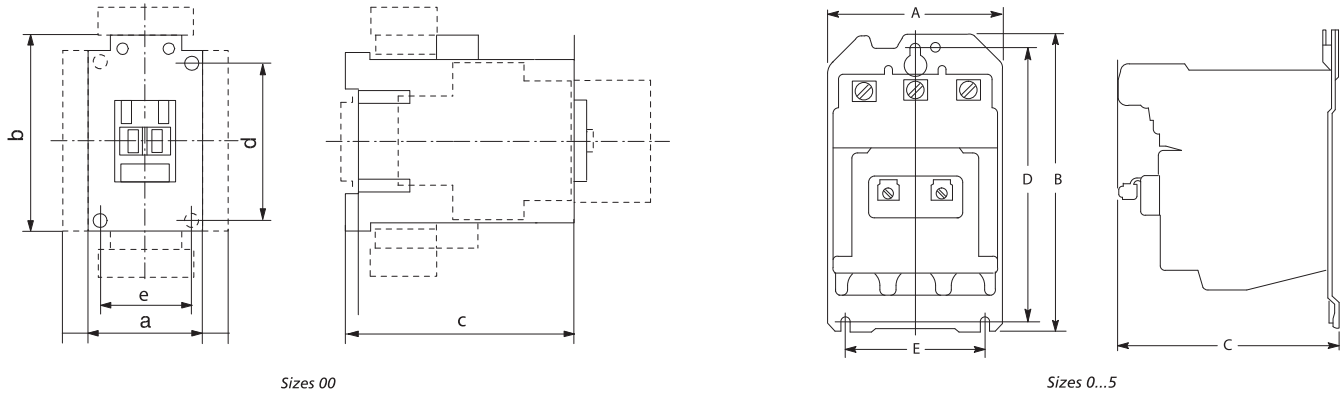
NEMA Size	Number of Switching Poles	Dimensions in Inches (Millimeters)					Approximate Shipping Weight [lb (kg)]
		A Width	B Height	C Depth	D	E	
0...1	2...3	3-9/16 (90.5)	7-5/8 (193)	4-15/32 (113)	7-1/16 (180)	2-3/4 (70)	3 (1.4)
	4	4-3/8 (111)					3-1/2 (1.6)
	5	4-15/16 (125)					4-3/4 (2.2)
2	2...3	3-15/16 (100)	9-25/32 (248)	4-23/32 (120)	9-1/4 (235)	3-5/32 (80)	4 (1.8)
	4	4-31/32 (126)					4-3/4 (2.2)
	5	5-1/2 (140)					6-1/4 (2.8)
3	2...3	6-1/8 (155.5)	10-3/64 (255)	6-19/32 (167.4)	8-21/32 (220)	5-33/64 (140)	14.5 (6.5)
	4	7-15/16 (201.6)					16 (7.25)
	5	8-13/16 (223.8)					18 (8)
4	2...3	7 (178)	12-11/64 (309) ⁽¹⁾	7-13/16 (198.4)	9-27/32 (250)	6-5/16 (160)	22 (10)
	4	9-1/16 (230.2)					25.5 (11.5)
	5	10-7/16 (265.1)					28.5 (13)

(1) For Feed-Through Wiring this dimension is 11-11/16 in. (297 mm).

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletin 500 and 500F Contactors — NEMA sizes 00, 5...9

- Open Type without Enclosure



Note: Top mounting hole on Size 00 is 1/4 in. (6.35 mm) to the left of centerline on Open Type. Mounting screws: 3...#10 for sizes 0...2, 1/4...#20, or 5/16...#18 for sizes 3...5.

NEMA Size	Number of Switching Poles	Dimensions in Inches (Millimeters)					Approximate Shipping Weight [lb (kg)]
		A Width	B Height	C Depth	D	E	
00 5/10A	1-2-3	1-25/32 (45)	3-3/16 (81)	3-11/64 (80.5)	2-23/64 (60)	1-25/64 (35)	1 (0.45)
0...1 15/20A 30A	2...3	3-9/16 (90.5)	6 (152) ⁽¹⁾	4-15/32 (113)	5-1/2 (140)	2-3/4 (70)	3 (1.4)
	4	4-3/8 (111)					3-1/2 (1.6)
	5	4-15/16 (125)					4-3/4 (2.2)
2 60A	2...3	3-15/16 (100)	6-27/32 (173) ⁽¹⁾	4-23/32 (120)	6-5/16 (160)	3-5/32 (80)	4 (1.8)
	4	4-31/32 (126)					4-3/4 (2.2)
	5	5-1/2 (140)					6-1/4 (2.8)
3 100A	2...3	6-1/8 (155.5)	10-3/64 (255)	6-19/32 (167.4)	8-21/32 (220)	5-33/64 (140)	14.5 (6.5)
	4	7-15/16 (201.6)					16 (7.25)
	5	8-13/16 (223.8)					18 (8)
4 200A	2...3	7 (178)	12-11/64 (309) ⁽²⁾	7-13/16 (198.4)	9-27/32 (250)	6-5/16 (160)	22 (10)
	4	9-1/16 (230.2)					25.5 (11.5)
	5	10-7/16 (265.1)					28.5 (13)
5 300A	2...3	7 (178)	13-25/64 (340) ⁽³⁾	8-17/32 (217)	9-27/32 (250)	6-5/16 (160)	24 (10.9)

(1) For Feed-Through Wiring this dimension is 6-15/16 in. (176 mm).
 (2) For Feed-Through Wiring this dimension is 11-11/16 in. (297 mm).
 (3) For Feed-Through Wiring this dimension is 12-37/64 in. (320 mm).

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletin 505 Full Voltage Reversing Starters with Eutectic Alloy Overload Relay

- Open Type without Enclosure



NEMA Size	Style	Dimensions in Inches (Millimeters)							Approximate Shipping Weight [lb (kg)]
		A Width	B Height	C Relay Reset Depth	D	E	F	G Depth	
00	With Eutectic Alloy Overload Protection	4-7/8 (124)	6-9/16 (167)	3-27/32 (98)	6-1/64 (153)	4-3/8 (111)	—	—	4 (1.8)
0...1		8 (203)	9-5/32 (233)	4-11/16 (119)	8-21/32 (220)	7-3/32 (180)	—	4-5/8 (117)	10 (4.5)
2		9-1/16 (230)	10-11/32 (263)	4-11/16 (119)	9-27/32 (250)	7-7/8 (200)	—	4-29/32 (125)	12-3/4 (5.8)
3		12-7/8 (327)	12-29/64 (316)	6-21/64 (161)	9-27/32 (250)	11-13/16 (300)	11-13/16 (300)	6-55/64 (174)	34 (15.5)
4		14-27/32 (377)	14-5/8 (371)	6-23/32 (171)	11-13/16 (300)	13-25/32 (350)	13-25/32 (350)	8-5/64 (205)	52 (24)
5		14-27/32 (377)	17-55/64 (453)	8-35/64 (217)	16-15/16 (430)	13-25/32 (350)	13-25/32 (350)	8-13/16 (224)	65 (29.5)
6		23-13/32 (594.5)	25-5/64 (637)	10-9/16 (268.5)	—	—	—	11-27/64 (290)	—
7		31-1/2 (800)	32-13/16 (833.4)	12-9/32 (311.9)	—	—	—	—	—
8		35-1/4 (896)	36-7/8 (937)	12-9/32 (311.9)	—	—	—	—	—
9		For dimensions, please contact your local Rockwell Automation sales office or Allen-Bradley distributor							
00	Without Overload Protection	4-7/8 (124)	4-5/16 (110)	2-3/16 (55.6)	3-3/4 (95.3)	4-3/8 (111)	—	—	2-3/4 (1.2)
0...1		8 (203)	7-19/32 (193)	—	7-3/32 (180)	7-3/32 (180)	—	4-5/8 (117)	8-3/4 (4)
2		9-1/16 (230)	8-3/8 (213)	—	7-7/8 (200)	7-7/8 (200)	—	4-29/32 (125)	11 (5)
3		12-7/8 (327)	10-21/32 (271)	—	9-27/32 (250)	11-13/16 (300)	11-13/16 (300)	6-55/64 (174)	30 (13.5)
4		14-27/32 (377)	12-23/32 (323)	—	11-13/16 (300)	13-25/32 (350)	13-25/32 (350)	8-5/64 (205)	47 (21.3)
5		14-27/32 (377)	12-23/32 (323)	—	11-13/16 (300)	13-25/32 (350)	13-25/32 (350)	8-13/16 (224)	47 (21.3)
6		23-13/32 (594.5)	17-1/16 (433)	—	—	—	—	11-27/64 (290)	—
7		31-1/2 (800)	32-13/16 (833.4)	—	—	—	—	11-11/32 (288.1)	—
8		35-1/4 (896)	36-7/8 (937)	—	—	—	—	11-13/16 (300)	—
9		For dimensions, please contact your local Rockwell Automation sales office or Allen-Bradley distributor							

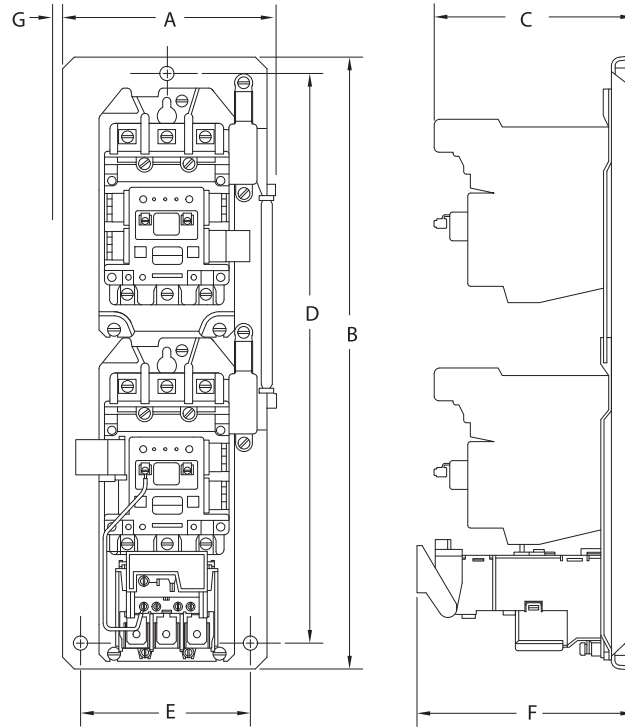
(1) Sizes 00...2 only.

(2) Sizes 3...5 only.

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletin 505V Full Voltage Reversing Starters with Solid State Overload Relay

- Open Type without Enclosure



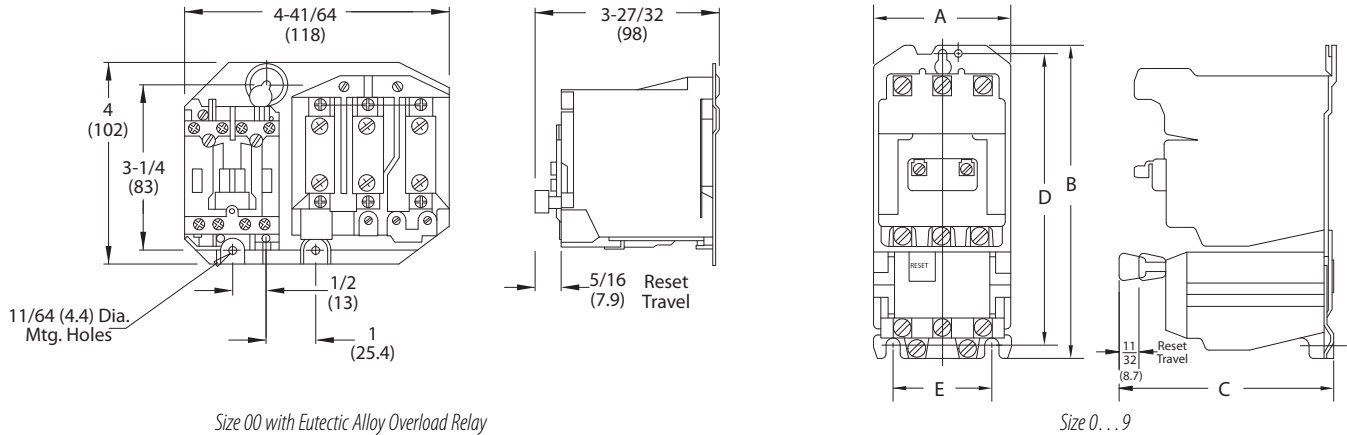
NEMA Size	Overload Relay	Dimensions in Inches (Millimeters)							Approximate Shipping Weight [lb (kg)]
		A Width	B Height	C Depth	D	E	F Relay Reset Depth	G ⁽¹⁾	
0...1	E1 Plus Solid-State	5-11/16 (144)	14-11/16 (373)	4-31/32 (126)	13-25/32 (350)	4-5/16 (109)	5 (127)	1/16 (1.6)	Size 0: 11.5 (5.2)
		5-11/16 (144)	16-27/32 (428)	4-31/32 (126)	13-25/32 (350)	4-11/32 (110)	5-9/32 (134)	1/16 (1.6)	Size 1: 12.2 (5.5)
2	E1 Plus Solid-State	6-1/8 (156)	17-1/16 (434)	5-7/32 (133)	15-3/4 (400)	4-23/32 (120)	5 (127)	1/4 (6.4)	14.5 (6.6)
		6-1/8 (156)	18-7/8 (479)	5-7/32 (133)	15-3/4 (400)	4-23/32 (120)	5-9/32 (134)	1/4 (6.4)	
3	E1 Plus Solid-State	7-17/32 (192)	25-1/8 (639)	7-19/32 (193)	21-21/32 (550)	5-29/32 (150)	7-1/16 (179)	1-3/32 (28)	57.4 (26.0)
		7-17/32 (192)	27-13/32 (696)	7-19/32 (193)	21-21/32 (550)	5-29/32 (150)	7-5/32 (182)	1-3/32 (28)	
4	E1 Plus Solid-State	8-5/32 (208)	29-3/32 (739)	8-13/16 (224)	25-19/32 (650)	6-23/32 (171)	7-15/32 (190)	2 (51)	86.0 (39.0)
		8-5/32 (208)	29-3/32 (739)	8-13/16 (224)	25-19/32 (650)	6-23/32 (171)	8-11/16 (221)	2-5/32 (55)	
5	E1 Plus Solid-State	8-7/16 (215)	37-7/8 (962)	9-17/32 (242)	36-31/32 (939)	6-11/16 (170)	9-9/32 (236)	2 (51)	112 (50.8)
		8-7/16 (215)	37-7/8 (962)	9-17/32 (242)	36-31/32 (939)	6-11/16 (170)	9-29/32 (252)	2 (51)	

(1) Allow additional space for internal wiring.

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

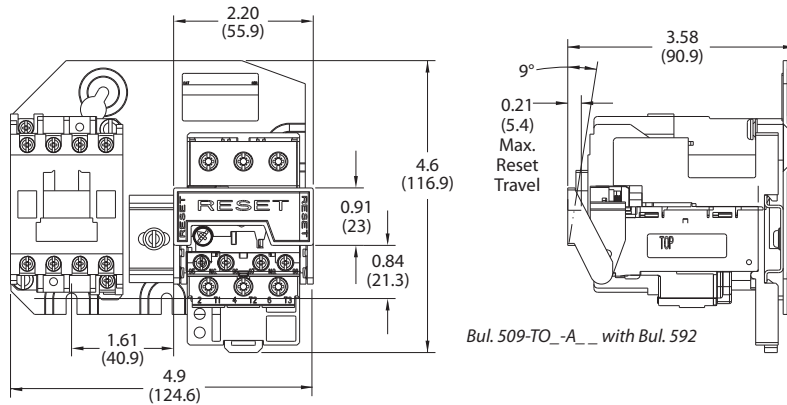
Bulletin 509 Full Voltage Starters with Eutectic Alloy and Solid-State Overload Relay

- Open Type without Enclosure



Size 00 with Eutectic Alloy Overload Relay

Size 0...9



Bul. 509-TO-A_ with Bul. 592

Size 00 with Solid-State Overload Relay

NEMA Size	Dimensions in Inches (Millimeters)					Approximate Shipping Weight [lb (kg)]
	A Width	B Height	C Relay Reset Depth	D	E	
00	(1)	(1)	(1)	(1)	(1)	0.9 (0.4)
0...1	3-9/16 (90.5)	7-5/8 (194)	4-1/2 (114)	7-3/32 (180)	2-3/4 (70)	4-1/4 (1.9)
2	3-15/16 (100)	9-5/32 (233)	4-1/2 (114)	8-21/32 (220)	3-5/32 (80)	5-3/4 (2.6)
3	6-11/64 (157)	12-29/64 (316)	6-1/16 (154)	8-21/32 (220)	5-33/64 (140)	15 (6.8)
4	7 (178)	14-21/32 (372)	7-13/16 (198)	9-27/32 (250)	6-5/16 (160)	23-1/5 (10.6)
5	7-3/8 (187)	16-7/16 (429)	8-17/32 (217)	14-32/32 (380)	6-5/16 (160)	35 (15.9)
6	13-1/4 (337)	25-3/32 (637)	11-7/16 (291)	17-23/32 (450)	11-13/16 (300)	160 (72)
7	16-1/2 (419)	30-27/32 (783)	12-9/32 (312)	18-5/16 (465)	15 (381)	247 (112)
8	21-1/2 (546)	39-1/2 (1003)	15-19/32 (396)	22-5/8 (575)	20 (508)	370 (168)
9	34 (864)	53-11/16 (1364)	28 (711)	—	—	—

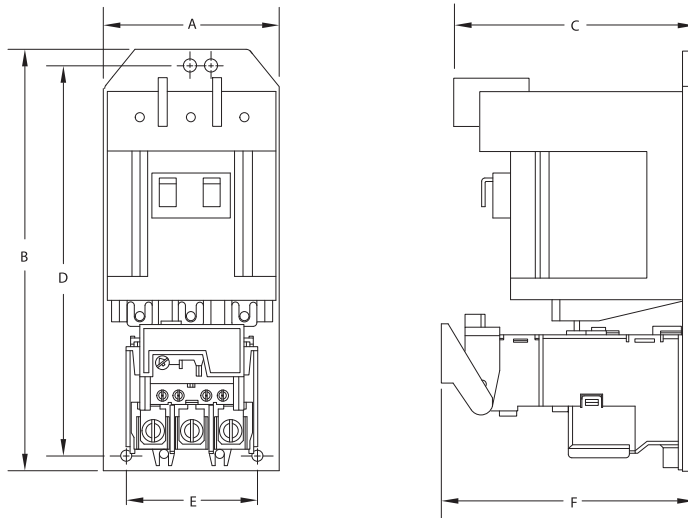
(1) See drawing for dimensions.

Approximate Dimensions

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletin 509 Full Voltage Starters with Solid-State Overload Relay

- Open Type without Enclosure



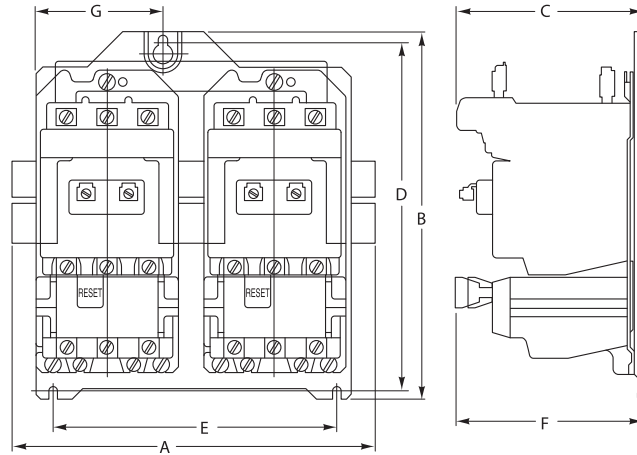
NEMA Size	Overload Relay	Dimensions in Inches (Millimeters)						Approximate Shipping Weight [lb (kg)]
		A Width	B Height	C Depth	D	E	F Relay Reset Depth	
0...1	E1 Plus Solid-State	3-9/16 (91)	7-5/8 (193)	4-15/32 (113)	7-1/16 (180)	2-3/4 (70)	4-1/2 (114)	4.3 (1.9)
	E3 Plus Solid-State	3-9/16 (91)	9-25/32 (248)	4-15/32 (113)	9-1/4 (235)	2-3/4 (70)	4-5/8 (118)	
2	E1 Plus Solid-State	3-15/16 (100)	9-5/32 (233)	4-11/16 (119)	8-5/8 (219)	3-5/32 (80)	4-1/2 (114)	6.0 (2.7)
	E3 Plus Solid-State	3-15/16 (100)	10-25/32 (274)	4-23/32 (120)	10-1/4 (260)	3-5/32 (80)	4-5/8 (118)	
3	E1 Plus Solid-State	6-1/8 (156)	12-7/16 (316)	6-19/32 (168)	8-21/32 (220)	5-1/2 (140)	6-1/16 (154)	16.0 (7.3)
	E3 Plus Solid-State	6-1/8 (156)	14-9/16 (370)	6-19/32 (168)	8-21/32 (220)	5-1/2 (140)	5-61/64 (151)	
4	E1 Plus Solid-State	6-1/2 (165)	16-1/2 (419)	7-13/16 (198)	14-31/32 (380)	6-5/16 (160)	7-27/32 (199)	24.6 (11.2)
	E3 Plus Solid-State	6-1/2 (165)	16-1/2 (419)	7-13/16 (198)	14-31/32 (380)	6-5/16 (160)	8-29/64 (215)	
5	E1 Plus Solid-State	6-1/2 (165)	16-29/32 (429)	8-11/32 (212)	14-31/32 (380)	6-5/16 (160)	7-5/8 (194)	33.9 (15.4)
	E3 Plus Solid-State	6-1/2 (165)	16-29/32 (429)	8-11/32 (212)	14-31/32 (380)	6-5/16 (160)	8-11/64 (208)	
6	E1 Plus Solid-State	13-1/4 (337)	25-3/32 (637)	11-13/32 (289)	17-23/32 (450)	11-13/16 (300)	9-25/32 (248)	116 (52.6)
	E3 Plus Solid-State	13-1/4 (337)	25-3/32 (637)	11-13/32 (289)	17-23/32 (450)	11-13/16 (300)	9-5/8 (244)	

Note: For Bulletin 509 Size 00, please contact your local Rockwell Automation sales office or Allen-Bradley distributor.

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletin 520E, 520F, and 520G Multi-Speed Starters with Eutectic Alloy Overload Relay

- Open Type without Enclosure



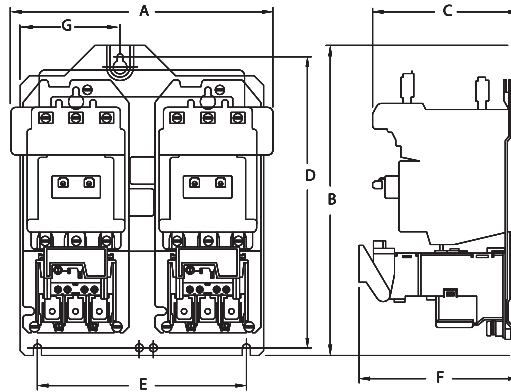
NEMA Size	Dimensions in Inches (Millimeters)							Approximate Shipping Weight [lb (kg)]
	A Width	B Height	C Depth	D	E	F Relay Reset Depth	G	
2-Speed Separate Winding Bulletin 520E								
0...1	8 (203)	9-5/32 (233)	4-11/16 (119)	8-21/32 (220)	7-3/32 (180)	—	4-5/8 (117)	11-1/4 (5.1)
2	9-1/16 (230)	10-11/32 (263)	4-11/16 (119)	9-27/32 (250)	7-7/8 (200)	—	4-29/32 (125)	13-3/4 (6.2)
3	12-7/8 (327)	12-29/64 (316)	6-21/64 (161)	9-27/32 (250)	11-13/16 (300)	6-1/16 (154)	6-55/64 (174)	34 (15.3)
4	14-27/32 (377)	15-1/64 (381)	6-23/32 (171)	11-13/16 (300)	13-25/32 (350)	7-13/16 (198)	8-5/64 (205)	54 (24.3)
5	16-13/16 (427)	17-55/64 (453)	8-35/64 (217)	16-15/16 (430)	15-3/4 (400)	8-17/32 (217)	8-13/16 (224)	82 (36.9)
2-Speed Consequent Pole Bulletin 520F and 520G								
0...1	9-5/16 (236.5)	9-5/32 (233)	4-11/16 (119)	8-21/32 (220)	7-3/32 (180)	—	4-5/8 (117)	12 (5.4)
2	10-1/4 (260.4)	10-11/32 (263)	4-11/16 (119)	9-27/32 (250)	7-7/8 (200)	—	4-29/32 (125)	15-1/4 (7)
3	16-1/4 (413)	12-29/64 (316.3)	6-21/64 (161)	9-27/32 (250)	13-25/32 (350)	6-1/16 (154)	6-55/64 (174)	44 (19.8)
4	18-7/32 (463)	14-39/64 (371)	6-23/32 (171)	11-13/16 (300)	15-3/4 (400)	7-13/16 (198)	8-5/64 (205)	63 (28.4)
5	18-11/32 (466)	17-55/64 (453)	8-35/64 (217)	16-15/16 (430)	15-3/4 (400)	8-17/32 (217)	8-13/16 (224)	85 (38.6)

Approximate Dimensions

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletin 520E, 520F and 520G Multi-Speed Starters with Solid State Overload Relay

- Open Type without Enclosure

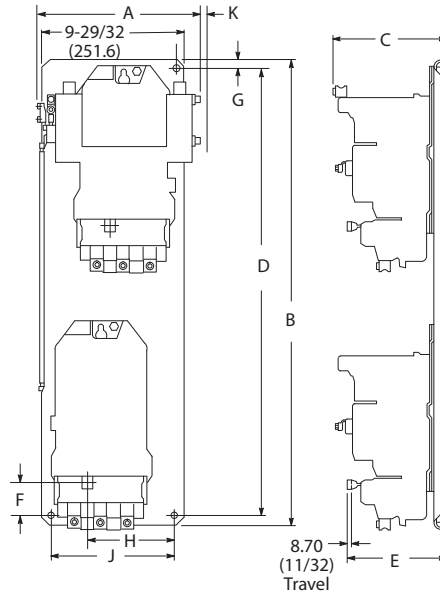


NEMA Size	Overload Relay	Dimensions in Inches (Millimeters)							Approximate Shipping Weight [lb (kg)]
		A Width	B Height	C Depth	D	E	F Relay Reset Depth	G	
2-Speed Separate Winding Bulletin 520E									
0...1	E1 Plus Solid-State	8 (203)	9-5/32 (233)	4-5/8 (118)	8-21/32 (220)	7-3/32 (180)	4-11/16 (118)	3-3/16 (81)	11.3 (5.1)
		8 (203)	11-11/32 (288)	4-5/8 (118)	10-27/32 (276)	7-3/32 (180)	4-31/32 (126)	3-3/16 (81)	
2	E1 Plus Solid-State	9-1/16 (230)	10-11/32 (263)	4-29/32 (125)	9-27/32 (250)	7-7/8 (200)	4-11/16 (118)	4-11/32 (110)	14.9 (6.8)
		9-1/16 (230)	12-5/32 (309)	4-29/32 (125)	11-21/32 (296)	7-7/8 (200)	4-31/32 (126)	4-11/32 (110)	
3	E1 Plus Solid-State	12-7/8 (327)	12-13/32 (315)	6-7/8 (175)	9-27/32 (250)	11-13/16 (300)	6-11/32 (161)	—	35.6 (16.1)
		12-7/8 (327)	14-9/16 (370)	6-55/64 (174)	9-27/32 (250)	11-13/16 (300)	6-17/64 (158)		
4	E1 Plus Solid-State	16-13/16 (427)	17-7/8 (454)	8-13/16 (224)	16-15/16 (430)	15-3/4 (400)	8-9/16 (217)	—	61.0 (27.7)
		16-13/16 (427)	17-7/8 (454)	8-13/16 (224)	16-15/16 (430)	15-3/4 (400)	9-3/16 (233)		
5	E1 Plus Solid-State	16-13/16 (427)	17-7/8 (454)	8-13/16 (224)	16-15/16 (430)	15-3/4 (400)	8-9/16 (217)	—	93.5 (42.4)
		16-13/16 (427)	17-7/8 (454)	8-13/16 (224)	16-15/16 (430)	15-3/4 (400)	9-3/16 (233)		
6	E1 Plus Solid-State	23-13/32 (595)	25-3/32 (637)	11-27/64 (290)	17-23/32 (450)	21-31/32 (558)	10-37/64 (269)	—	254 (115)
		23-13/32 (595)	25-3/32 (637)	11-27/64 (290)	17-23/32 (450)	21-31/32 (558)	11-9/16 (294)		
2-Speed Consequent Pole Bulletin 520F and 520G									
0...1	E1 Plus Solid-State	9-5/16 (237)	9-5/32 (233)	4-5/8 (117)	8-21/32 (220)	7-3/32 (180)	4-11/16 (118)	3-9/16 (91)	12.0 (5.4)
		9-5/16 (237)	11-11/32 (288)	4-5/8 (117)	10-27/32 (275)	7-3/32 (180)	4-31/32 (126)	3-9/16 (91)	
2	E1 Plus Solid-State	10-1/4 (260)	10-11/32 (263)	4-29/32 (125)	9-27/32 (250)	7-7/8 (200)	4-11/16 (118)	4-3/4 (121)	15.6 (7.1)
		10-1/4 (260)	12 (305)	4-29/32 (125)	11-1/2 (292)	7-7/8 (200)	4-31/32 (126)	4-3/4 (121)	
3	E1 Plus Solid-State	16-1/4 (413)	12-3/4 (324)	6-7/8 (175)	9-27/32 (250)	13-25/32 (350)	6-11/32 (161)	—	45.0 (20.4)
		16-1/4 (413)	14-7/8 (378)	6-7/8 (175)	9-27/32 (250)	13-25/32 (350)	6-15/32 (164)	—	
4	E1 Plus Solid-State	18-7/32 (463)	14-27/32 (377)	8-3/32 (205)	11-13/16 (300)	15-3/4 (400)	6-3/4 (172)	—	73.0 (33.1)
		18-3/4 (476)	16-1/16 (408)	8-3/32 (205)	11-13/16 (300)	15-3/4 (400)	7-15/16 (202)	—	
5	E1 Plus Solid-State	18-11/32 (466)	17-7/8 (454)	8-13/16 (224)	16-15/16 (430)	15-3/4 (400)	8-9/16 (217)	—	131 (59.4)
		18-11/32 (466)	17-7/8 (454)	8-13/16 (224)	16-15/16 (430)	15-3/4 (400)	9-3/16 (233)	—	

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletin 520VE, 520VF and 520VG Multi-Speed Starters with Eutectic Alloy Overload Relay

- Open Type without Enclosure



NEMA Size	Dimensions in Inches (Millimeters)										Approximate Shipping Weight [lb (kg)]
	A Width	B Height	C Depth	D	E Relay Reset Depth	F	G	H	J	K ⁽¹⁾	
2-Speed Separate Winding Bulletin 520VE											
0...1	5-11/16 (144.5)	17-9/64 (435.4)	4-15/16 (125.4)	15-3/4 (400)	5 (127)	1-11/32 (34.1)	29/64 (11.5)	1-13/16 (46)	4-21/64 (109.9)	1/16 (1.6)	5.4 (12)
2	6-1/8 (155.6)	20-37/64 (522.7)	4-5/8 (117.5)	19-11/16 (500)	4-5/16 (109.5)	1-21/32 (42.1)	29/64 (11.5)	2-27/32 (72.2)	4-23/32 (119.8)	1/4 (6.4)	6.8 (15)
3	7-17/32 (191.3)	30-5/16 (769.9)	7-1/4 (184.1)	27-9/16 (700.1)	6-45/64 (170.3)	2-55/64 (72.6)	5/8 (15.9)	3-41/64 (92.5)	5-29/32 (150)	1-3/32 (27.8)	18.1 (40)
4	8-5/16 (211.2)	35-1/4 (895.4)	8-23/64 (212.3)	31-1/2 (800.1)	7 (177.8)	2-63/64 (75.8)	5/8 (15.9)	3-63/64 (101.2)	6-11/16 (169.9)	1-1/2 (38.1)	60-1/2 (27.4)
5	8-7/16 (214.4)	42-11/64 (1071.1)	9-17/32 (242.1)	41-17/64 (1048.1)	9-17/64 (235.4)	5-45/64 (144.8)	29/64 (11.5)	3-23/32 (94.4)	6-11/16 (170)	3 (76.2)	—
2-Speed Consequent Pole Bulletin 520VF/520VG											
0...1	6-3/64 (164.7)	17-1/2 (444.5)	4-15/16 (125.4)	15-3/4 (400)	5 (127)	1-11/32 (34.1)	29/64 (11.5)	2-63/64 (75.8)	5-1/8 (130.2)	33/64 (13.1)	13 (5.9)
2	6-29/32 (175.4)	20-37/64 (522.7)	4-5/8 (117.5)	19-11/16 (500)	4-5/16 (109.5)	1-21/32 (42.1)	29/64 (11.5)	31-19/64 (83.7)	5-33/64 (140.1)	23/32 (18.1)	16 (7.3)
3	9-1/8 (231.8)	30-5/16 (777.9)	7-1/4 (184.1)	27-9/16 (700.1)	6-45/64 (170.3)	2-55/64 (72.6)	5/8 (15.9)	5-23/64 (136.2)	7-31/64 (190.1)	2-1/8 (54)	45-1/2 (20.7)
4	10-9/32 (261.1)	35-1/4 (895.4)	8-23/64 (212.3)	31-1/2 (800.1)	7 (177.8)	2-63/64 (75.8)	5/8 (15.9)	5-61/64 (151.2)	8-21/32 (219.9)	3-7/32 (81.8)	72-1/2 (32.9)
5	11-29/32 (302.4)	42-11/64 (1071.1)	9-17/32 (242.1)	41-17/64 (1048.1)	9-17/64 (235.4)	5-45/64 (144.8)	13/32 (10.3)	5-11/16 (144.4)	8-21/32 (220)	4 (101.6)	—

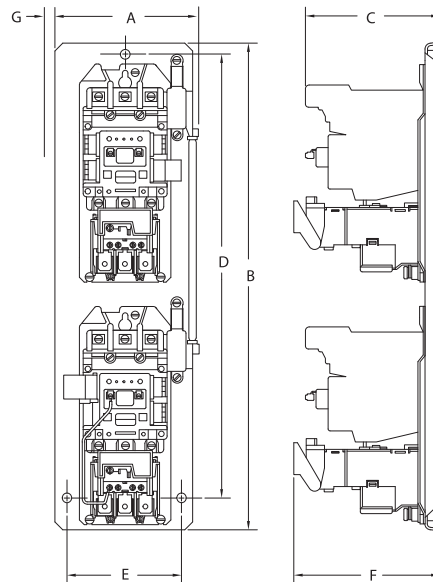
(1) Allow additional space for internal wiring.

Approximate Dimensions

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletin 520VE, 520VF and 520VG Multi-Speed Starters with Solid State Overload Relay

- Open Type without Enclosure



Note: The typical drawing above shows 3-point mounting. Sizes 3...5 have 4-point mounting holes at each corner of the mounting plate.

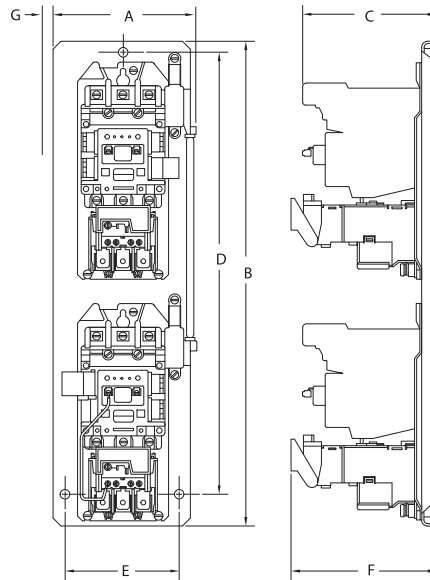
2-Speed Separate Winding Bulletin 520VE									
NEMA Size	Overload Relay	Dimensions in Inches (Millimeters)							Approximate Shipping Weight [lb (kg)]
		A Width	B Height	C Depth	D	E	F Relay Reset Depth	G ⁽¹⁾	
0...1	E1 Plus Solid-State	5-11/16 (145)	17-1/4 (438)	4-15/16 (126)	15-3/4 (400)	4-5/16 (109)	5 (127)	1/16 (1.6)	12.7 (5.3)
		5-11/16 (145)	21-1/2 (546)	4-15/16 (126)	15-3/4 (400)	4-11/32 (110)	5-9/32 (134)	1/16 (1.6)	
2	E1 Plus Solid-State	6-1/8 (156)	20-9/16 (522)	4-5/8 (118)	19-11/16 (500)	4-23/32 (120)	4-15/16 (125.5)	1/4 (6.4)	16.0 (7.3)
		6-1/8 (156)	23-13/16 (605)	4-5/8 (118)	19-11/16 (500)	4-23/32 (120)	5-9/32 (134)	1/4 (6.4)	
3	E1 Plus Solid-State	7-17/32 (192)	31-1/16 (789)	7-19/32 (193)	27-9/16 (700)	5-29/32 (150)	7-1/16 (179.4)	1-3/32 (28)	74.8 (33.9)
		7-17/32 (192)	35-9/16 (903)	7-19/32 (193)	34-23/32 (882)	5-29/32 (150)	7-5/32 (182)	1-3/32 (28)	
4	E1 Plus Solid-State	8-5/16 (208)	35 (889)	8-13/16 (224)	31-1/2 (800)	6-11/16 (170)	7-15/32 (190)	1-1/2 (38)	98.0 (44.4)
		8-5/16 (208)	37-23/32 (958)	8-13/16 (224)	36-13/16 (935)	6-11/16 (170)	8-23/32 (222)	1-1/8 (29)	
5	E1 Plus Solid-State	8-7/16 (215)	42-3/16 (1072)	9-17/32 (242)	41-9/32 (1049)	6-11/16 (170)	9-9/32 (236)	3 (76)	113 (51.2)
		8-7/16 (215)	42-3/16 (1072)	9-17/32 (242)	41-9/32 (1049)	6-11/16 (170)	9-9/32 (236)	3 (76)	

(1) Allow additional space for internal wiring.

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletin 520VE, 520VF and 520VG Multi-Speed Starters with Solid State Overload Relay (Continued)

- Open Type without Enclosure



2-Speed Consequent Pole Bulletin 520VF and 520VG

NEMA Size	Overload Relay	Dimensions in Inches (Millimeters)							Approximate Shipping Weight [lb (kg)]
		A Width	B Height	C Depth	D	E	F Relay Reset Depth	G ⁽¹⁾	
0...1	E1 Plus Solid-State	6-5/8 (168)	17-1/2 (444.5)	4-15/16 (126)	15-3/4 (146)	5-1/8 (130)	5 (127)	1/2 (13)	12.7 (5.8)
		7 (177)	22-11/16 (576)	4-15/16 (126)	15-3/4 (146)	5-1/8 (130)	5-9/32 (134)	17/32 (13)	
2	E1 Plus Solid-State	6-29/32 (176)	20-19/32 (523)	4-5/8 (118)	19-11/16 (500)	5-17/32 (141)	4-5/16 (110)	3/4 (19)	16.0 (7.3)
		6-29/32 (176)	23-13/16 (605)	4-5/8 (118)	19-11/16 (500)	5-17/32 (141)	5-9/32 (134)	3/4 (19)	
3	E1 Plus Solid-State	9-1/8 (232)	31-1/16 (789)	7-19/32 (193)	27-9/16 (700)	7-1/2 (191)	7-1/16 (179)	2-1/8 (54)	74.8 (33.9)
		10-3/32 (256)	35-9/16 (903)	7-19/32 (193)	34-23/32 (882)	7-1/2 (191)	7-5/32 (182)	1-25/32 (29)	
4	E1 Plus Solid-State	11-23/32 (298)	35 (889)	8-13/16 (224)	31-1/2 (800)	8-21/32 (220)	7-15/32 (190)	3-7/32 (82)	98.0 (44.4)
		11-23/32 (298)	37-23/32 (958)	8-13/16 (224)	36-13/16 (935)	8-21/32 (220)	8-23/32 (222)	1-25/32 (29)	
5	E1 Plus Solid-State	11-29/32 (303)	42-3/16 (1072)	9-17/32 (242)	41-9/32 (1049)	8-21/32 (220)	9-9/32 (236)	4 (102)	113 (51.2)
		11-29/32 (303)	42-3/16 (1072)	9-17/32 (242)	41-9/32 (1049)	8-21/32 (220)	9-9/32 (236)	4 (102)	

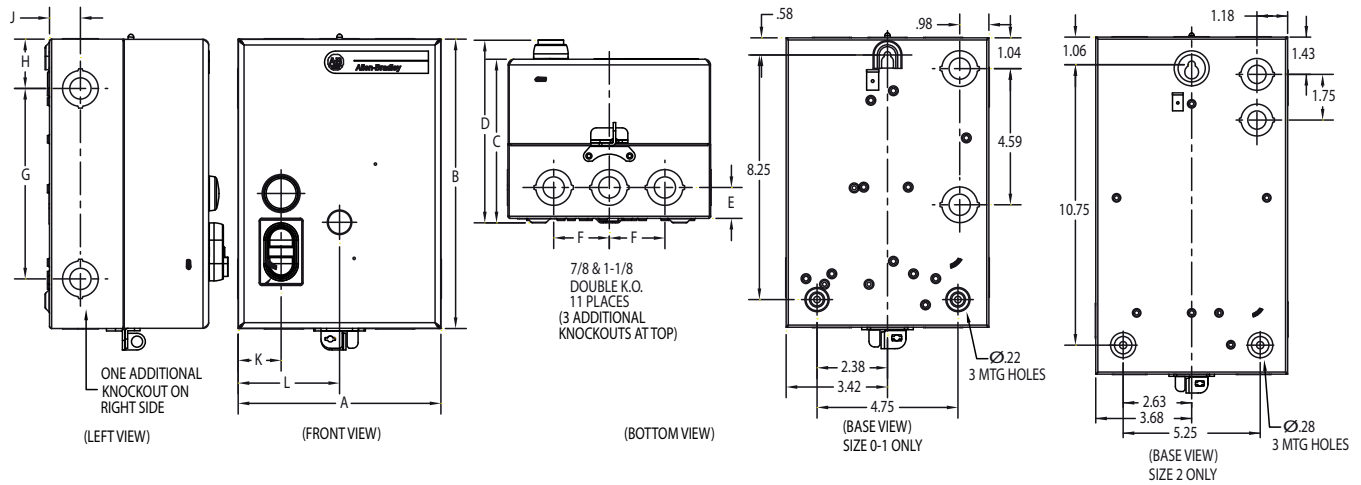
(1) Allow additional space for internal wiring.

Approximate Dimensions

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletins 500 & 509 Contactors & Starters 3-Pole

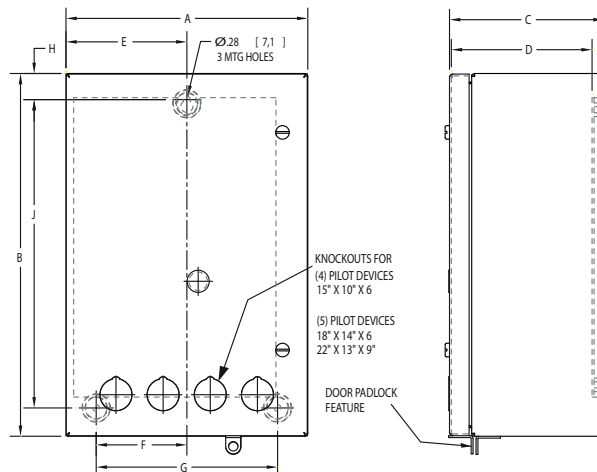
- Type 1 General Purpose Lift-Off Enclosure



NEMA Size/ Current Rating	Dimensions in Inches (Millimeters)										
	A Width	B Height	C Depth	D	E	F	G	H	J	K	L
00...1	6.84 (174)	9.76 (248)	5.52 (140)	6.16 (156)	1.04 (26)	1.88 (48)	6.42 (163)	1.66 (42)	1.04 (26)	1.45 (37)	3.42 (87)
2	7.35 (187)	12.91 (328)	5.53 (140)	6.24 (158)	1.27 (32)	2.38 (60)	8.88 (226)	1.94 (49)	1.27 (32)	1.49 (38)	3.68 (93)

Bulletins 500, 505, 509, 520E, 520F and 520G Contactors / Starters 3-...5-Pole

- Type 1 Hinged Enclosure — with or without Control Transformer



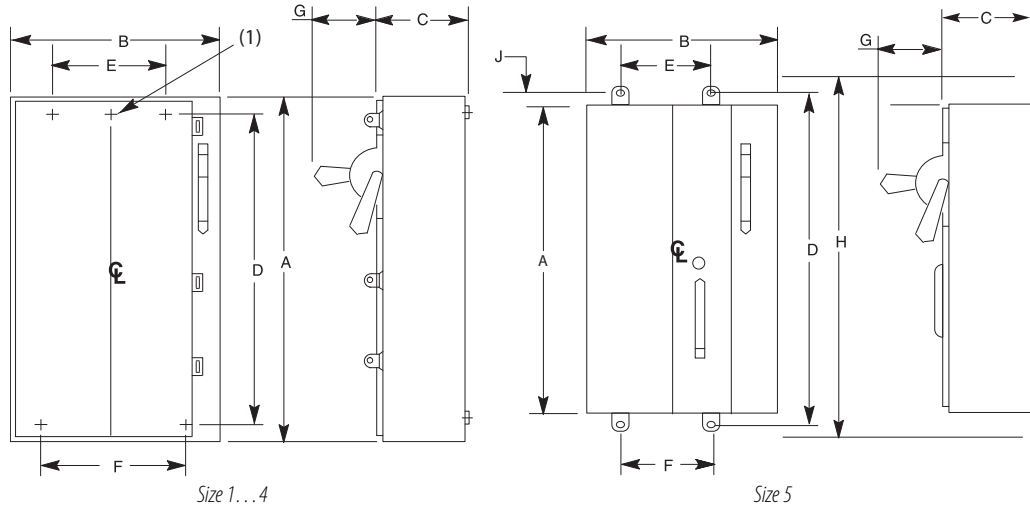
NEMA Size/ Current Rating	Bulletin No.	Dimensions in Inches (Millimeters)								
		A Width	B Height	C Depth	D	E Mounting	F Mounting	G Mounting	H	J (Mounting)
00...1	500 & 509	10.00 (254)	15.00 (381)	6.39 (162)	5.82 (148)	5.00 (127)	3.75 (95)	7.50 (191)	1.08 (27)	12.75 (324)
2	500 & 509 without transformer	14.00 (356)	18.00 (457)	6.39 (162)	5.83 (148)	7.00 (178)	5.75 (146)	11.50 (292)	1.00 (25)	15.75 (400)
0...1	505 & 520	13.00 (330)	22.00 (559)	8.50 (216)	7.89 (201)	6.50 (165)	5.25 (133)	10.50 (267)	1.08 (27)	19.75 (502)
3	500 & 509									
2	505 & 520									

Note: For Types 3R/12, 4/4X, 4X, and Bolted Type 7 & 9 and 3R, 7 & 9 dimensions, please contact your local Rockwell Automation sales office or Allen-Bradley distributor.

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletins 500, 502, 503, 505, 506/X, 507/X, 509, 512/M/V, 513/M/V, 520E/F/G, 522E/F/G, 523E/F/G, 530, 532, 533, 540, 542, 543, 570, 572 and 573

- Type 1 (Enclosure Code "A") General Purpose Painted Enclosure



NEMA Size	Bulletin No.	Approximate Dimensions in Inches (Millimeters)							Approximate Shipping Weight [lb (kg)]
		A Height	B Width	C Depth	D Mounting	E Mounting	F Mounting	G Handle Depth	
0...2	506X, 507X	27.50 (968)	10.50 (267)	8.25 (210)	25.13 (639)	(1)	5.25 (133)	5.56 (141)	40 (18.14)
0...2	502, 503, 512, 513								
0...2	506, 507, 512M, 513M, 522E, 522F, 522G, 523E, 523F, 523G								
3	502, 503, 505, 512, 513, 520E, 520F, 520G	30 (762)	20.5 (521)	9.88 (251)	27.63 (702)	15.25 (387)	15.25 (387)	5.56 (141)	90 (40.82)
4	500, 503, 509, 513								
1PW, 2PW	530, 532, 533								
1YD	540, 542, 543								
3	506, 507, 522E, 522F, 522G, 523E, 523F, 523G								
4	505, 506, 507, 520E, 520F, 520G, 522E, 522F, 522G, 523E, 523F, 523G	50 (1270)	22 (559)	11.19 (284)	47.63 (1210)	15.25 (387)	15.25 (387)	5.56 (141)	250 (113.4)
5	500, 505, 509, 520E, 520F, 520G								
3PW	530, 532, 533								
2YD, 3YD	540, 542, 543								
2	570, 572, 573								
5	502, 503, 506, 506X, 507, 507X, 512, 513, 523E, 523F, 523G								
6	500, 505, 509, 520E	56 (1422)	30.5 (775)	13.79 (350)	57.63 (1463)	20 (508)	25.25 (641)	7.62 (194)	360 (163.3)
4PW	530, 532, 533								
5PW	532, 533								
4YD	540, 542, 543								
3, 4	570, 572, 573								
5YD	540, 542, 543								
5, 6	570, 572, 573	60 (1524)	37.38 (949)	16.00 (406)	61.69 (1567)	33.88 (861)	33.88 (861)	7.62 (194)	420 (190.5)
5	522E, 522F, 522G								
5PW	530								

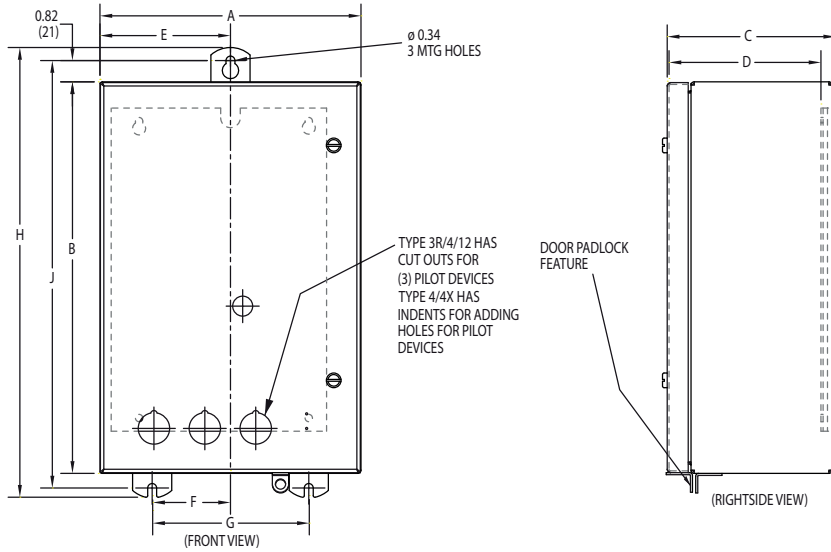
(1) Sizes 0, 1, and 2 have one top mounting hole located on the center line. Larger size enclosures have two top mounting holes located as shown.

Approximate Dimensions

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletins 500, 505, 509, 520E, 520F and 520G Contactors / Starters 3-...5-Pole

- Type 3R/12 Rainproof, Dusttight, 4/4X Watertight, Non-metallic Enclosure — with or without Control Transformer

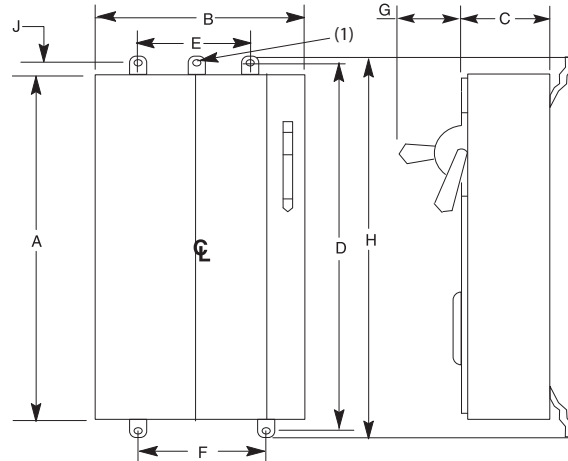


NEMA Size/ Current Rating	Bulletin No.	Approximate Dimensions in Inches (Millimeters)								
		A Width	B Height	C Depth	D	E Mounting	F Mounting	G Mounting	H	J Mounting
00...1	500 & 509	10.00 (254)	15.00 (381)	6.45 (164)	5.82 (148)	5.00 (127)	3.00 (76)	6.00 (152)	17.23 (438)	16.38 (416)
2	500 & 509 without transformer	14.00 (356)	18.00 (457)	6.45 (164)	5.83 (148)	7.00 (178)	5.00 (127)	10.00 (254)	20.23 (514)	19.38 (492)
0...1	505 & 509	13.00 (330)	22.00 (559)	8.57 (218)	7.89 (201)	6.50 (165)	4.43 (113)	9.00 (229)	24.23 (615)	23.38 (594)

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletins 500, 502, 503, 505, 506/X, 507/X, 509, 512/M/V, 513/M/V, 520E/F/G, 522E/F/G, 523E/F/G, 530, 532, 533, 540, 542, 543, 570, 572 and 573

- Type 3R/4/12 (Enclosure Codes "D", "F", and "J") Rainproof, Dusttight — Industrial Use Enclosures



NEMA Size	Bulletin No.	Approximate Dimensions in Inches (Millimeters)									Approximate Shipping Weight [lb (kg)]
		A Height	B Width	C Depth	D Mounting	E Mounting	F Mounting	G Handle Depth	H	J	
0...2	506X, 507X	27.50 (698)	10.50 (267)	8.25 (210)	28.88 (733)	(1)	5.25 (133)	5.56 (141)	29.88 (759)	0.81 (21)	40 (18.14)
	502, 507, 503, 512, 513										
3	506, 507, 512M, 513M, 522E, 522F, 522G, 523E, 523F, 523G										
3	502, 507, 503, 505, 512, 513, 520E, 520F, 520G	30 (762)	20.5 (521)	10.19 (259)	31.38 (797.05)	15.25 (387)	15.25 (387)	5.56 (141)	32.38 (822)	0.81 (21)	90 (40.82)
4	500, 509, 513										
1PW, 2PW	530, 532, 533										
1YD	540, 542, 543										
3	506, 507, 522E, 522F, 522G, 523E, 523F, 523G										
4	502, 505, 507, 512, 520E, 520F, 520G, 522E, 522F, 522G, 523E, 523F, 523G	50 (1270)	22 (559)	11.5 (292)	51.38 (1305)	15.25 (387)	15.25 (387)	5.56 (141)	52.38 (1330)	0.71 (18)	250 (113.4)
5	500, 509, 520E, 520F, 520G										
3PW	530, 532, 533										
2YD, 3YD	540, 542, 543										
2	570, 572, 573										
4PW	530, 532, 533										
5PW	532, 533										
4YD	540, 542, 543										
3, 4	570, 572, 573	56 (1422)	30.5 (775)	13.79 (350)	57.63 (313)	20 (508)	25.25 (641)	7.62 (194)	62.62 (1590)	1 (25.4)	360 (163.3)
5	502, 503, 506, 512, 513, 523E, 523F, 523G										
6	500, 505, 509, 512 ⁽²⁾ , 513, 520E										
6	512 ⁽³⁾										
5	522E, 522F, 522G										
5PW	530	60 (1524)	37.38 (949)	16 (906)	61.69 (1567)	33.88 (861)	33.88 (861)	7.62 (194)	63.5 (1613)	1.5 (38)	420 (190.5)
5YD	540, 542, 543										
5, 6	570, 572, 573										
7	512, 513	84 (2134)	39.5 (1003)	18 (457)	—	—	—	7.62 (194)	—	—	650 (249.8)

(1) Sizes 0, 1, and 2 have one top mounting hole located on the center line. All sizes in large enclosures have two top mounting holes located as shown.

(2) Fusible disconnect switch with Class J fuses.

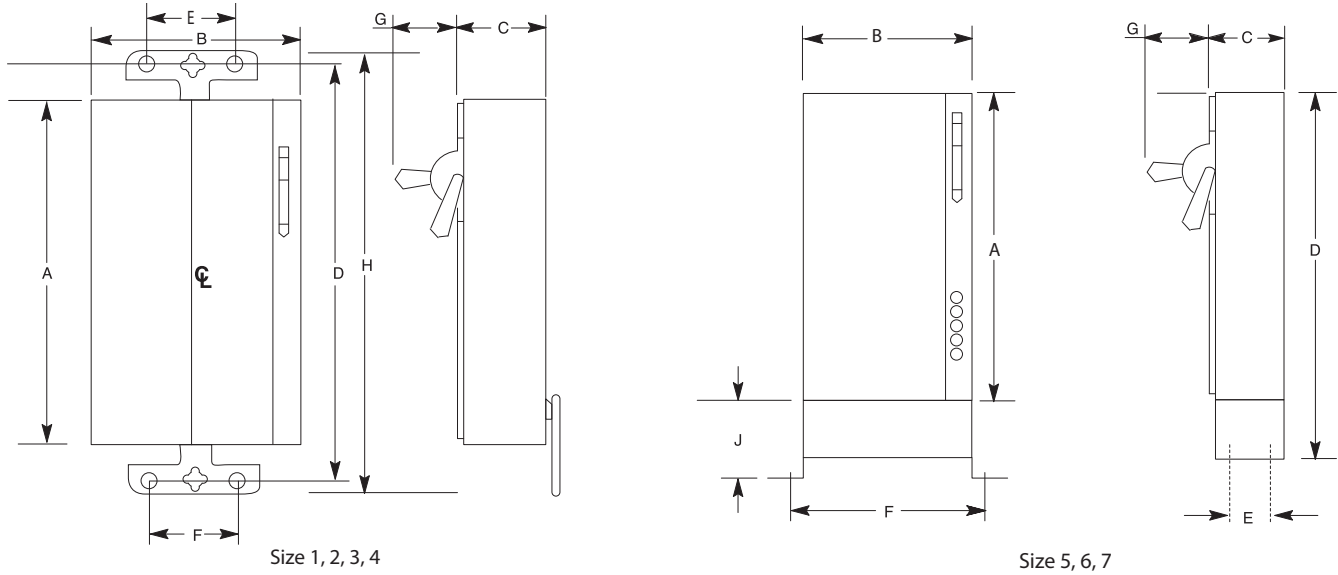
(3) Fusible disconnect switch with Class R fuses.

Approximate Dimensions

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletin 1232X, 1233X, 1242, 1243, 1272, 1273, 1282, 1283

- Type 3R (Enclosure Code "N") Rainproof. Enclosures with Extra Panel Space



NEMA Size	Bulletin No.	Approximate Dimensions in Inches (Millimeters)									Approximate Shipping Weight [lb (kg)]
		A Height	B Width	C Depth	D Mounting	E Mounting	F Mounting	G Handle Depth	H	J	
1...2	1232X	30	20.5	8.72	34.88	10	10	5.56	36.38	—	90
1...2	1233X	(762)	(521)	(221)	(886)	(254)	(254)	(141)	(924)	—	(40.82)
3...4	1232X, 1233X	50 (1270)	22 (559)	9.90 (251)	54.88 (1394)	15.25 (387)	15.25 (387)	5.56 (141)	56.38 (1432)	—	250 (113.4)
1PW, 2PW	1282, 1283										
1YD, 2YD	1242, 1243										
2	1272, 1273										
4	1232X										
3PW, 4PW	1282	56 (1422)	30.5 (775)	13.78 (350)	—	11 (279)	40.72 (1034)	7.62 (194)	—	—	360 (163.3)
3PW...5PW	1283										
3YD, 4YD	1242										
3YD...5YD	1243										
3, 4	1272										
3...5	1273										
5	1232X, 1233X	56 (1422)	30.5 (775)	13.78 (350)	65.68 (1668)	11 (279)	33.84 (860)	7.62 (194)	—	9.68 (246)	360 (163.3)
6	1233X										
5PW	1282										
5YD	1242										
5, 6	1272										
6	1273										
6	1232X ⁽¹⁾										
6	1232X ⁽²⁾	60 (1524)	37.38 (949)	16 (406)	69.68 (1769.9)	11 (279)	40.72 (1034)	7.62 (194)	—	9.68 (246)	420 (190.5)
7	1232X, 1233X	84 (2134)	39.5 (1003)	18 (457)	93.68 (2379.5)	11 (279)	42.84 (1088)	7.62 (194)	—	9.68 (246)	650 (294.8)

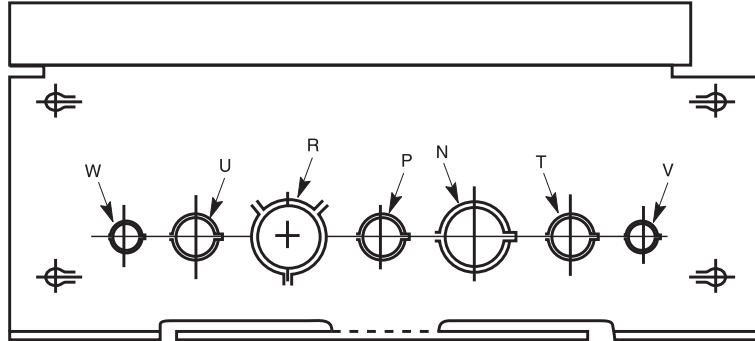
(1) Fusible disconnect switch with Class J fuses.

(2) Fusible disconnect switch with Class R fuses.

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletins 1232X and 1233X

- Type 3R (Enclosure Code "N") Rainproof Enclosures with Extra Panel Space



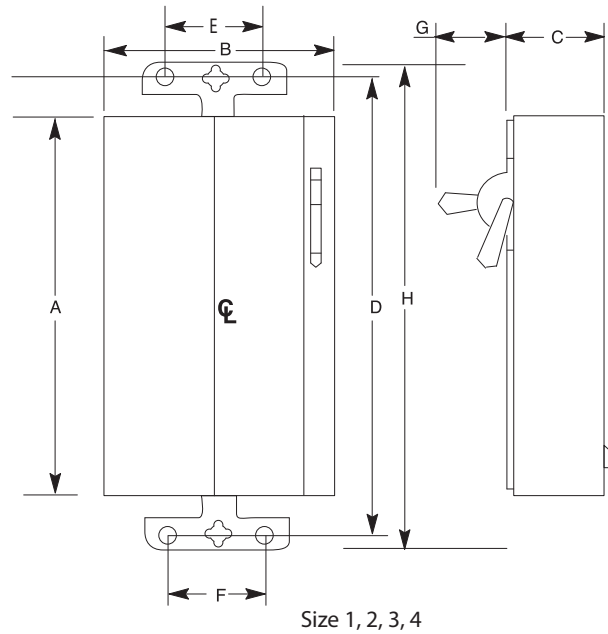
Bulletin No.	NEMA Size	Approximate Dimensions in Inches (Millimeters)							
		N		P		R		T	
		Inside	Outside	Inside	Outside	Inside	Outside	Inside	Outside
1232X 1233X	1	1-3/8 (35)	1-23/32 (44)	7/8 (22)	1-1/8 (29)	1-23/32 (44)	1-31/32 (50)	7/8 (22)	1-1/8 (29)
	2	1 in. Hub	1-1/4 in. Hub	1/2 in. Hub	3/4 in. Hub	1-1/4 in. Hub	1-1/2 in. Hub	1/2 in. Hub	3/4 in. Hub
	3	7/8 (22)	1-1/8 (29)	1-31/32 (50)	2-15/32 (63)	1-3/8 (35)	—	1-3/8 (35)	1-23/32 (44)
	4	1/2 in. Hub	3/4 in. Hub	1-1/2 in. Hub	2 in. Hub	1 in. Hub	—	1 in. Hub	1-1/4 in. Hub
	5	7/8 (22)	1-1/8 (29)	—	—	1-31/32 (50)	2-15/32 (63)	1-31/32 (50)	2-15/32 (63)
		1/2 in. Hub	3/4 in. Hub			1-1/2 in. Hub	2 in. Hub	1-1/2 in. Hub	2 in. Hub

Bulletin No.	NEMA Size	Approximate Dimensions in Inches (Millimeters)					
		U		V		W	
		Inside	Outside	Inside	Outside	Inside	Outside
1232X 1233X	1	7/8 (22)	1-1/8 (29)	—	—	7/8 (22)	1-1/8 (29)
	2	1/2 in. Hub	3/4 in. Hub	—	—	1/2 in. Hub	3/4 in. Hub
	3	7/8 (22)	1-1/8 (29)	1-31/32 (50)	2-15/32 (63)	3 (76)	3 (76)
	4	1/2 in. Hub	3/4 in. Hub	1-1/2 in. Hub	2 in. Hub	2-1/2 in. Hub	2-1/2 in. Hub
	5	7/8 (22)	1-1/8 (29)	3 (76)	3-5/8 (96)	3 (76)	3-5/8 (96)
		1/2 in. Hub	3/4 in. Hub	2-1/2 in. Hub	3 in. Hub	2-1/2 in. Hub	3 in. Hub

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletins 1232 and 1233

- Type 3R (Enclosure Code "N") Rainproof - Narrow Enclosure



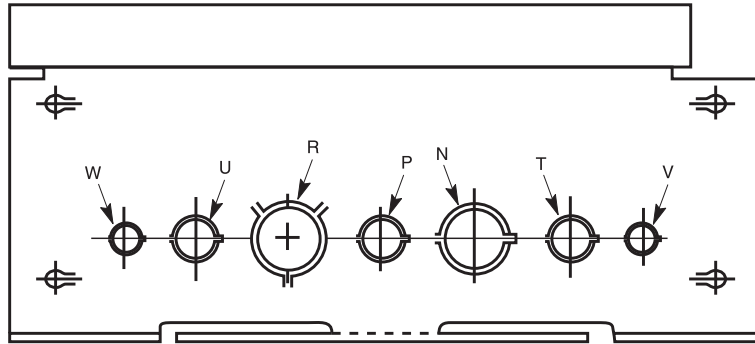
NEMA Size	Approximate Dimensions in Inches (Millimeters)								Approximate Shipping Weight [lb (kg)]
	A Height	B Width	C Depth	D Mounting	E Mounting	F Mounting	G Handle Depth	H	
1...2	27.50 (698)	10.5 (267)	8.26 (210)	28.88 (733)	(1)	7 (178)	5.56 (141)	29.75 (756)	40 (18.14)
3	30 (762)	20.5 (521)	8.72 (221)	34.88 (886)	10 (254)	10 (254)	5.56 (141)	36.38 (924)	90 (40.82)

(1) Sizes 1 and 2 have one top mounting hole located on the center line. All sized in large enclosures have two top mounting holes located as shown.

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletins 1232 and 1233

- Type 3R (Enclosure Code "N") Rainproof Narrow Enclosures



Bulletin No.	NEMA Size	Approximate Dimensions in Inches (Millimeters)							
		N		P		R		T	
		Inside	Outside	Inside	Outside	Inside	Outside	Inside	Outside
1232 1233	1	1-3/8 (35)	1-23/32 (44)	7/8 (22)	1-1/8 (29)	1-23/32 (44)	1-31/32 (50)	7/8 (22)	1-1/8 (29)
	2	1 in. Hub	1-1/4 in. Hub	1/2 in. Hub	3/4 in. Hub	1-1/4 in. Hub	1-1/2 in. Hub	1/2 in. Hub	3/4 in. Hub
	3	7/8 (22) 1/2 in. Hub	1-1/8 (29) 3/4 in. Hub	1-31/32 (50) 1-1/2 in. Hub	2-15/32 (63) 2 in. Hub	1-3/8 (35) 1 in. Hub	1-31/32 (50) 1-1/2 in. Hub	1-3/8 (35) 1 in. Hub	1-23/32 (44) 1-1/4 in. Hub

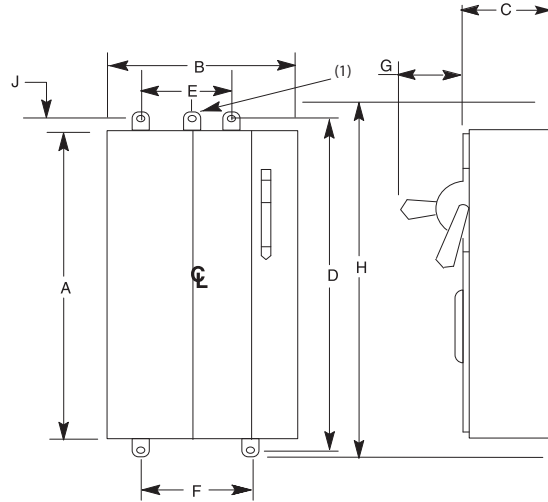
Bulletin No.	NEMA Size	Approximate Dimensions in Inches (Millimeters)					
		U		V		W	
		Inside	Outside	Inside	Outside	Inside	Outside
1232 1233	1	7/8 (22)	1-1/8 (29)	—	—	7/8 (22)	1-1/8 (29)
	2	1/2 in. Hub	3/4 in. Hub	—	—	1/2 in. Hub	3/4 in. Hub
	3	7/8 (22) 1/2 in. Hub	1-1/8 (29) 3/4 in. Hub	1-31/32 (50) 1-1/2 in. Hub	2-15/32 (63) 2 in. Hub	3 (76) 2-1/2 in. Hub	3 (76) 2-1/2 in. Hub

Approximate Dimensions

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletins 500, 502, 503, 505, 506, 507, 509, 512/M, 513/M, 520E/F/G, 522E/F/G and 523E/F/G

- Type 4/4X (Enclosure Codes "C") Stainless Steel — Industrial Use Enclosures



NEMA Size	Bulletin No.	A Height	B Width	C Depth	D Mounting	E Mounting	F Mounting	G Handle Depth	H	J	Approximate Shipping Weight [lb (kg)]
0...2	502, 503, 512, 513	27.50 (698)	10.50 (267)	8.25 (210)	28.88 (733)	(1)	7 (178)	5.56 (141)	29.75 (756)	0.81 (21)	40 (18.14)
0...2	506, 507, 512M, 513M, 522E, 522F, 522G, 523E, 523F, 523G,	30 (762)	20.5 (521)	9.88 (251)	31.38 (797)	17 (432)	17 (432)	5.56 (141)	32.26 (819)	0.81 (21)	90 40.82
3	502, 503, 505, 512, 513, 520E, 520F, 520G										
4	500, 503, 509, 513										
3	506, 507, 522E, 522F, 522G, 523E, 523F, 523G	50 (1270)	22 (559)	11.19 (284)	51.38 (1305)	18.5 (470)	18.5 (470)	5.56 (141)	52.26 (1327)	0.81 (21)	250 (113.4)
4	502, 505, 506, 507, 512, 520E, 520F, 520G, 522F, 523G, 523E, 523F, 523G										
5	500, 505, 509, 520E, 520F, 520G										
5...6	503, 507, 513, 523E, 523F, 523G	56 (1422)	30.5 (775)	12.34 (313)	57.63 (1464)	20 (508)	25.25 (641)	5.56 (141)	58.62 (1489)	1 (25.4)	360 (163.3)
5	512							7.62 (194)			
6	500, 505, 509, 512 ⁽²⁾ , 520E										
5...6	502, 506										

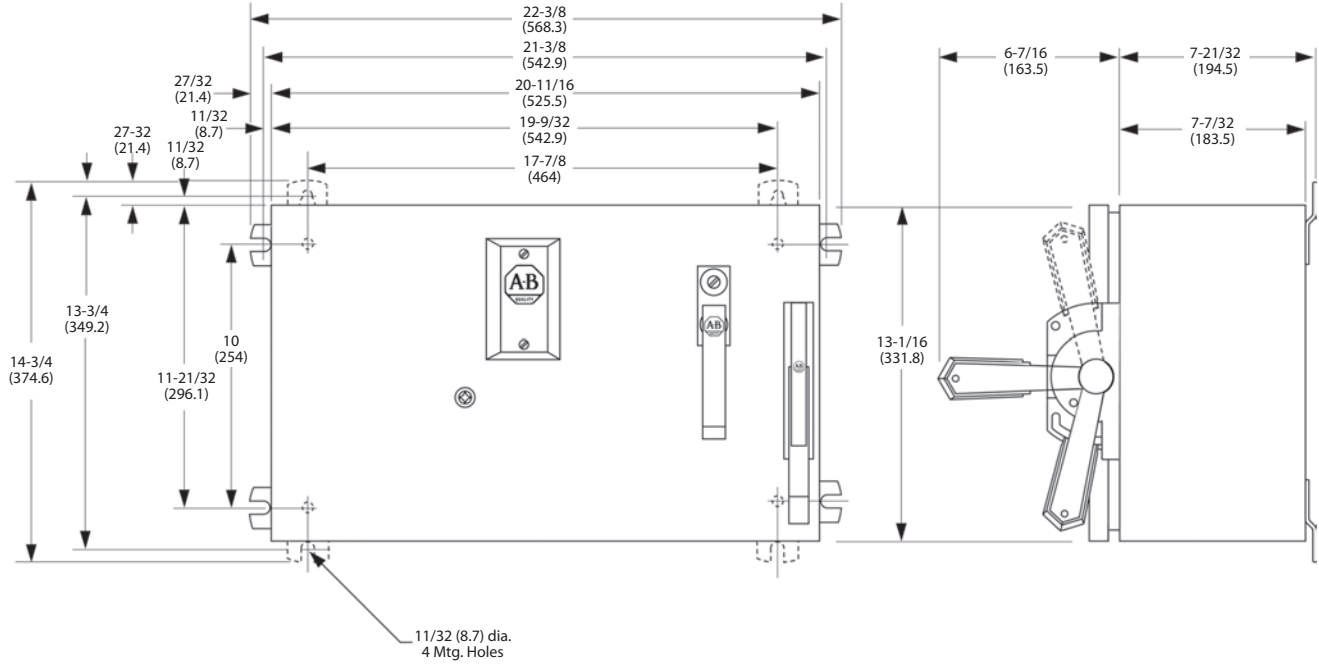
(1) Sizes 0, 1, and 2 have one top mounting hole located on the center line. All sizes in large enclosures have two top mounting holes located as shown.

(2) Fusible disconnect switch with Class J fuses.

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletins 512H and 513H

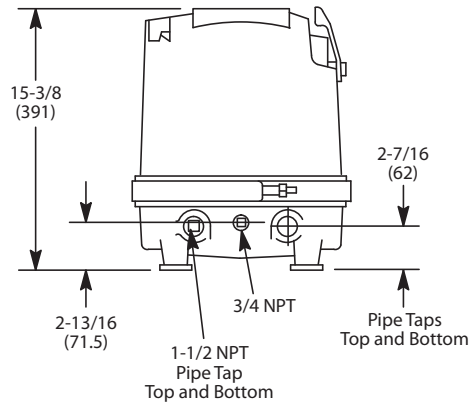
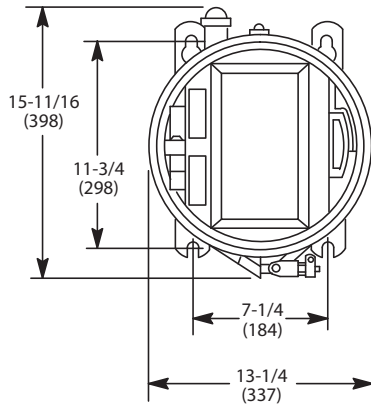
- Type 12 (Enclosure Codes "J") Stainless Steel — Industrial Use Horizontal Enclosures



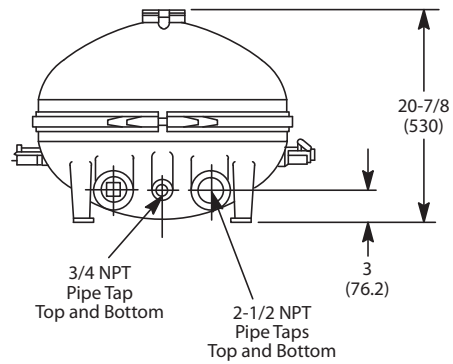
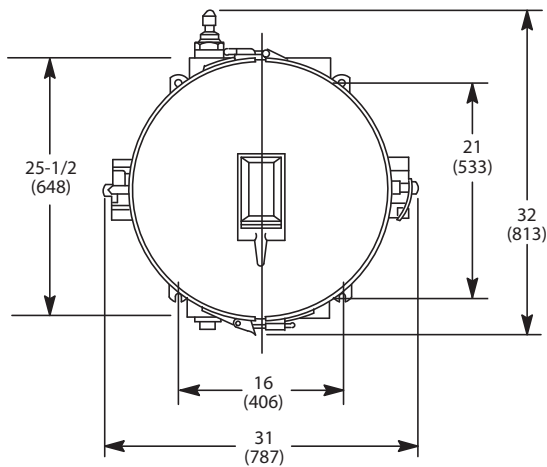
Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletins 505, 509 and 513

- Unilock Enclosures — Type 3R, 7 & 9, Class I (Enclosure Code "U") Groups C & D, Class II, Groups E, F & G — Divisions 1 & 2



Sizes 0...2



Sizes 3...5

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletins 505, 520E, 520F, 520G Starters

- Bolted Enclosures — Type 3R, 7 & 9, Class I, Groups C & D, Class II, Groups E, F & G — Divisions 1 & 2

NEMA Size	Bulletins 505, 520E		Bulletins 520F, 520G	
	with CCT ⁽¹⁾	without CCT ⁽¹⁾	with CCT ⁽¹⁾	without CCT ⁽¹⁾
0	Figure 1A	Figure 1A	Figure 1B	Figure 1B
1	Figure 1A	Figure 1A	Figure 1B	Figure 1B
2	Figure 1B	Figure 1B	Figure 1B	Figure 1B
3	Figure 1C	Figure 1B	Figure 1C	Figure 1C
4	Figure 1C	Figure 1C	Figure 1C	Figure 1C

(1) CCT = Control circuit transformer

Figure 1A

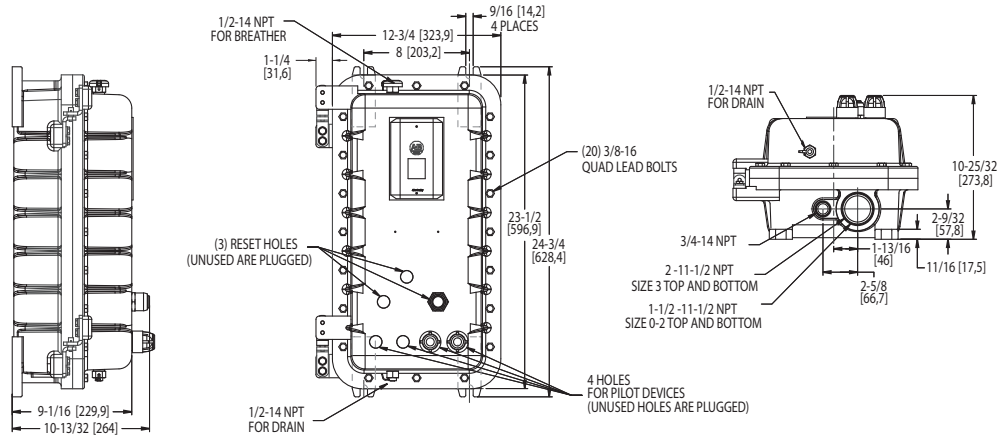


Figure 1B

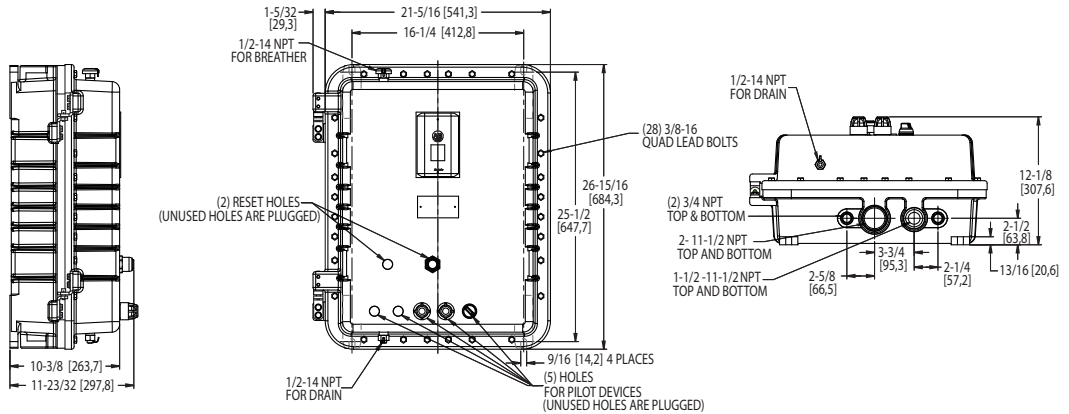
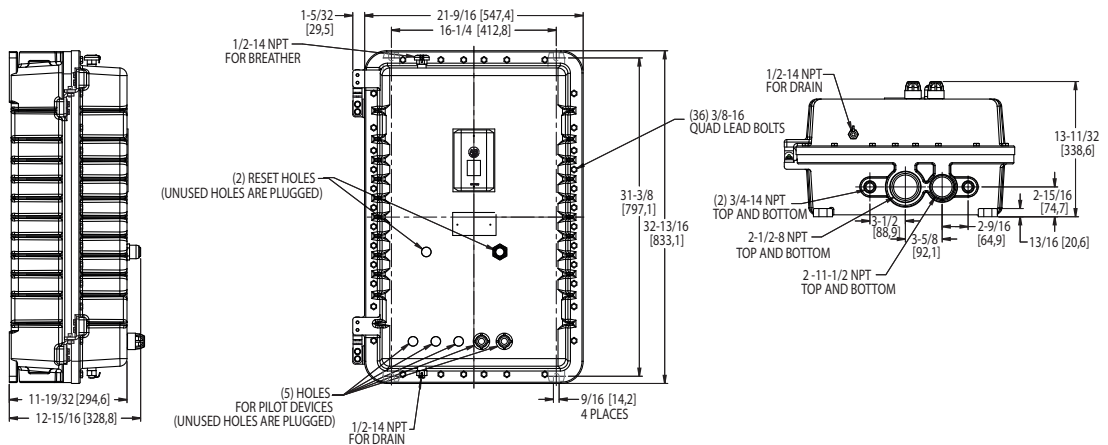


Figure 1C



Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletins 500 and 509 Contactors

- Bolted Enclosures — Type 3R, 7 & 9, Class I, Groups C & D, Class II, Groups E, F, & G — Divisions 1 & 2

NEMA Size	Bulletins 500 and 509	
	with CCT ⁽¹⁾	without CCT ⁽¹⁾
0	Figure 2C	Figure 2A
1	Figure 2C	Figure 2A
2	Figure 2C	Figure 2B
3	Figure 2D	Figure 2C
4	Figure 2E	Figure 2E
5	Figure 2F	Figure 2F

(1) CCT = Control circuit transformer

Figure 2A

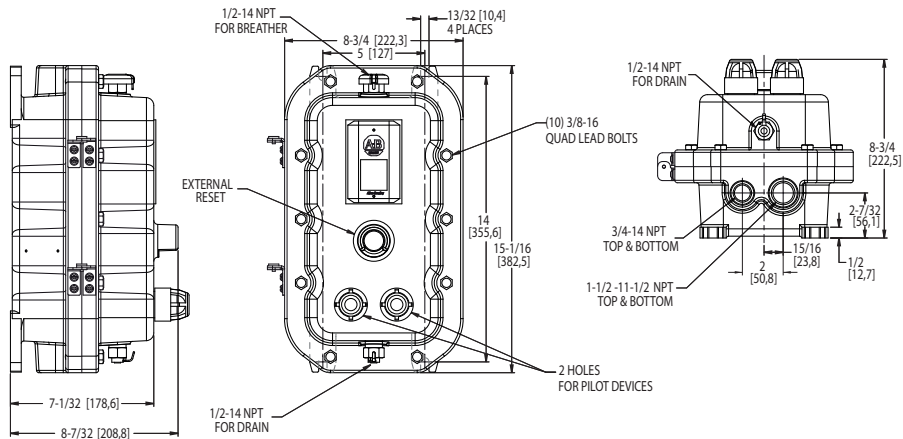


Figure 2B

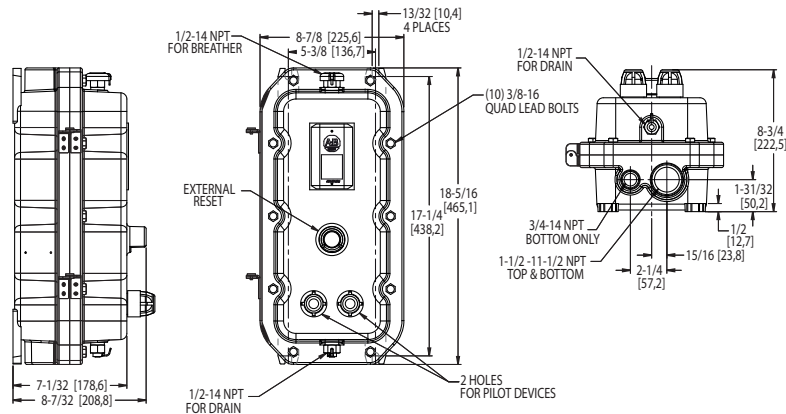
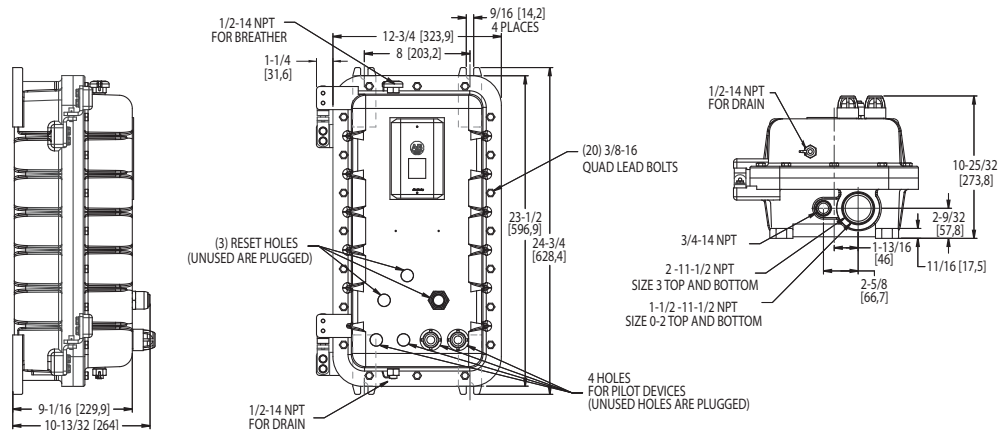


Figure 2C



Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletins 500 and 509 Contactors (Continued)

- Bolted Enclosures — Type 3R, 7 & 9, Class I, Groups C & D, Class II, Groups E, F, & G — Divisions 1 & 2

NEMA Size	Bulletins 500 and 509	
	with CCT ⁽¹⁾	without CCT ⁽¹⁾
0	Figure 2C	Figure 2A
1	Figure 2C	Figure 2A
2	Figure 2C	Figure 2B
3	Figure 2D	Figure 2C
4	Figure 2E	Figure 2E
5	Figure 2F	Figure 2F

(1) CCT = Control circuit transformer

Figure 2D

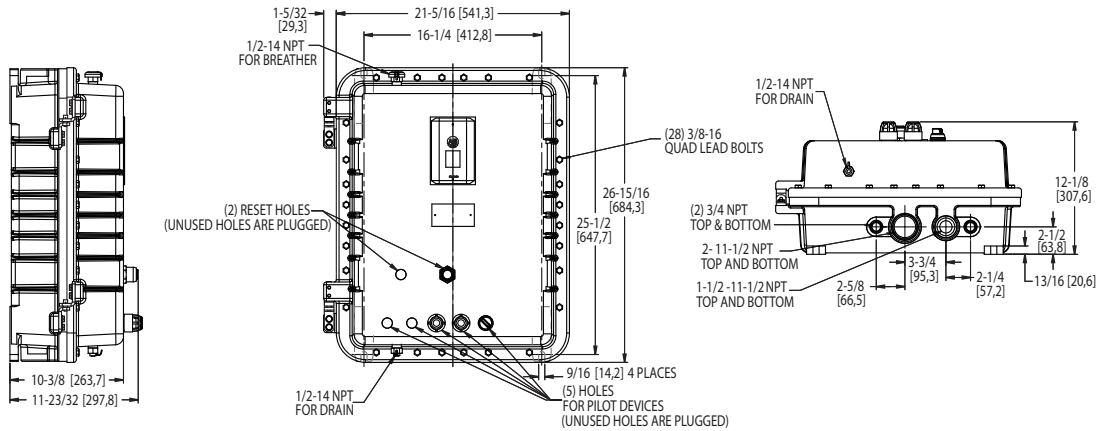


Figure 2E

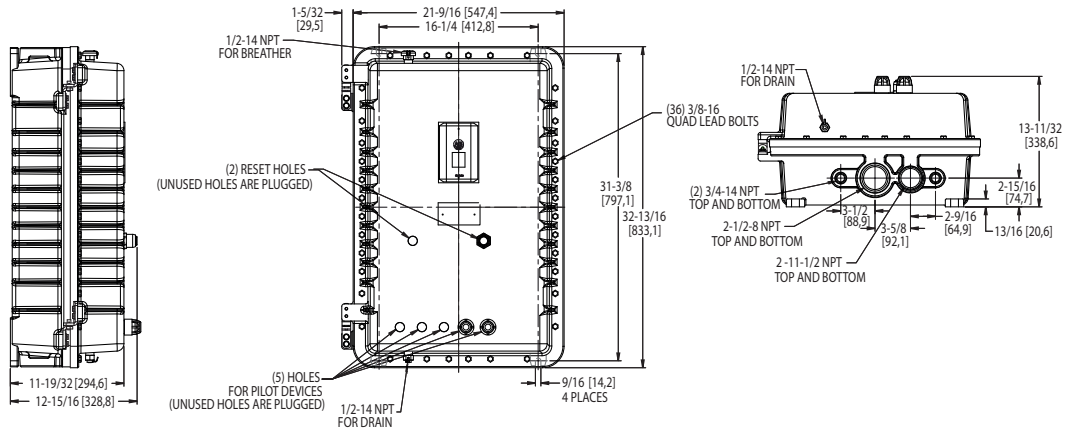
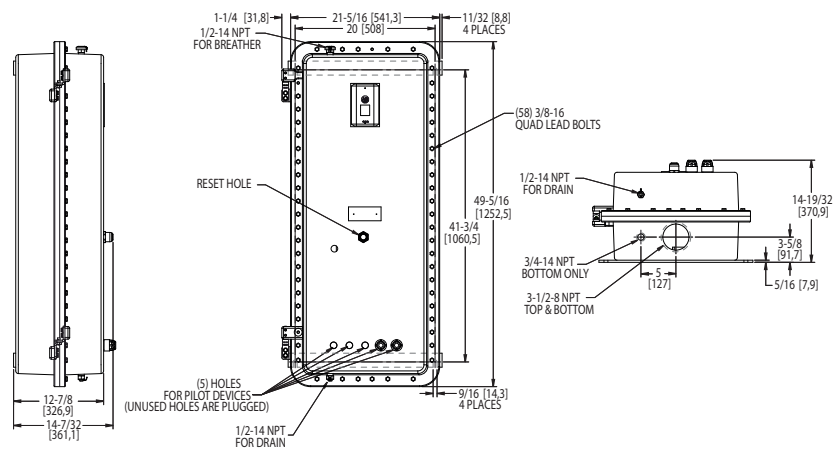


Figure 2F



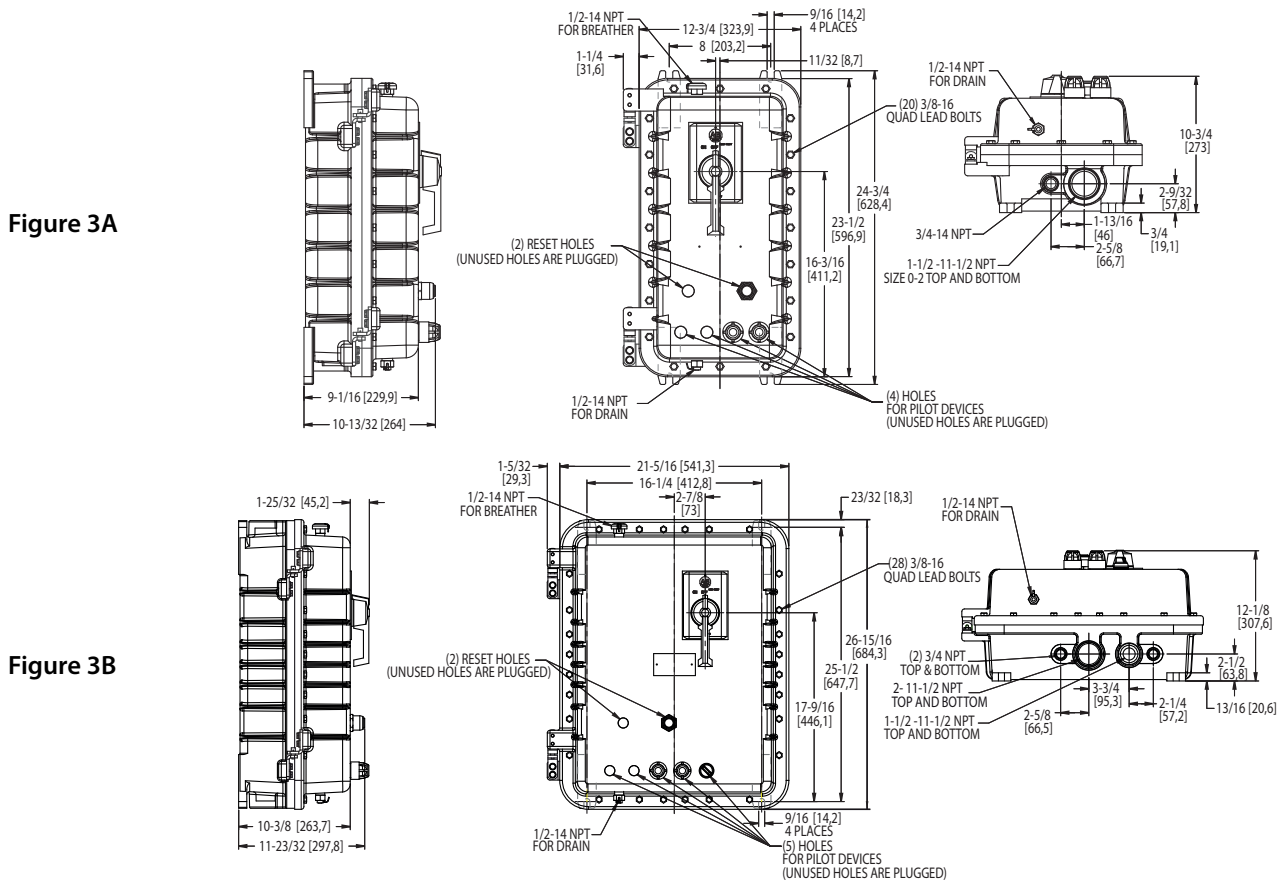
Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletins 503, 507, 513 Starters

- Bolted Enclosures — Type 3R, 7 & 9, Class I, Groups C & D, Class II, Groups E, F, & G — Divisions 1 & 2

NEMA Size	Bulletins 503 and 513		Bulletin 507	
	with CCT ⁽¹⁾	without CCT ⁽¹⁾	with CCT ⁽¹⁾	without CCT ⁽¹⁾
0	Figure 3A	Figure 3A	Figure 3B ⁽²⁾	Figure 3A
1	Figure 3A	Figure 3A	Figure 3B ⁽²⁾	Figure 3A
2	Figure 3A	Figure 3A	Figure 3B	Figure 3B
3	Figure 3B	Figure 3B	Figure 3C	Figure 3C
4	Figure 3C	Figure 3C	Figure 3D	Figure 3D
5	Figure 3D	Figure 3D	—	—

- (1) CCT = Control circuit transformer
 (2) Figure 3A should be used for 80VA maximum transformers



Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.

Bulletins 503, 507, 513 Starters (Continued)

- Bolted Enclosures — Type 3R, 7 & 9, Class I, Groups C & D, Class II, Groups E, F, & G — Divisions 1 & 2

NEMA Size	Bulletins 503 and 513		Bulletin 507	
	with CCT ⁽¹⁾	without CCT ⁽¹⁾	with CCT ⁽¹⁾	without CCT ⁽¹⁾
0	Figure 3A	Figure 3A	Figure 3B	Figure 3A
1	Figure 3A	Figure 3A	Figure 3B	Figure 3A
2	Figure 3A	Figure 3A	Figure 3B	Figure 3B
3	Figure 3B	Figure 3B	Figure 3C	Figure 3C
4	Figure 3C	Figure 3C	Figure 3D	Figure 3D
5	Figure 3D	Figure 3D	—	—

(1) CCT = Control circuit transformer

Figure 3C

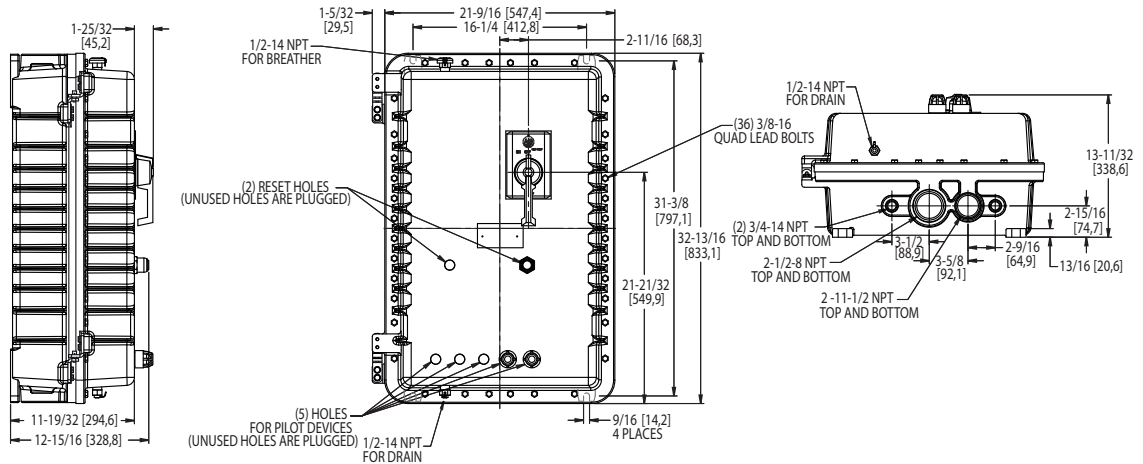
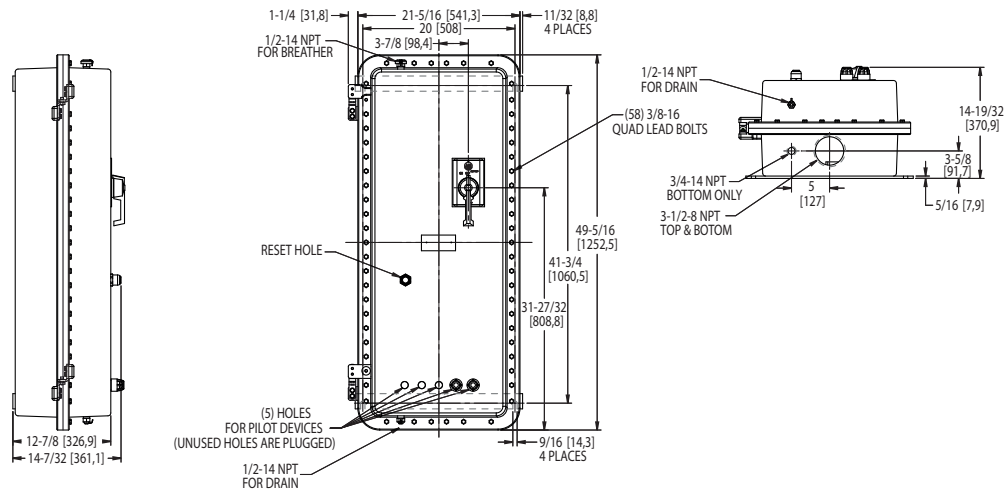


Figure 3BD



Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

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