

# Pump Panel Specifications

Bulletin Numbers 1232 and 1233

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## Additional Resources

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

Resource	Description
NEMA Contactor and Starter Specifications, publication <a href="#">500-TD014</a>	Provides specifications for Bulletin 500 product lines.
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.



# AB Drives

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## Specifications

### Electrical Ratings (Bulletins 1232, 1232X, 1233, 1233X)

NEMA Size	Load Voltage	Continuous Current Rating [A]	Service Limit Current Rating (1) [A]	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...40 Times Continuous Current)		Capacitor Switching kVAR (3)	Maximum Circuit Closing Inrush Current [A] Peak Including Offset
	[V]			1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	3Ø	3Ø
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	6	
	380			—	10	—	5	—	—	—	—	—	
	460			—	10	—	5	4.9	8.5	2.5	4.3	13.5	
575	—	10	—	5	6.2	11	3.1	5.3	17				
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				

- (1) **Service-Limit Current Ratings** — The service-limit current ratings that are shown represent the maximum rms current, in amperes, which the controller is permitted to carry for protracted periods in normal service. At service-limit current ratings, temperature rises are 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 that are used, should 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 that is encountered in rapid motor reversal in excess of five openings or closings per minute and should not be more than ten in a ten minute period.
- (3) If maximum available current (at capacitor terminals) is greater than 3000 A, contact your local Rockwell Automation Sales Office, Allen-Bradley Distributor, or NEMA ICS-2 Standard.

**Mechanical Ratings (Bulletins 1232, 1232X, 1233, 1233X)**

NEMA Size	Mechanical Life (Millions of Operations)	Maximum Number of Auxiliary Contacts	Operating Time [ms]	
			Pick-up (Average)	Drop-out (Average)
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

**Construction (Bulletins 1232, 1232X, 1233, 1233X)**

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	
1	#14...8 AWG	20 lb-in	Saddle or wire clamps	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.
2	#14...4 AWG	45 lb-in	Pressure terminals			
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>					

**Environmental (Bulletins 1232, 1232X, 1233, 1233X)**

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



## Short Circuit Rating

Combination contactors and starters with disconnect switch: Bulletins 1232X and 1233X

Combination Contactors and Starters with Disconnect Switch: Bulletin 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	
Combination Contactors and Starters with Circuit Breaker: Bulletin 1233X			
Enclosure Type	NEMA Size	Available Short Circuit Amperes RMS Symmetrical [A]	Maximum Voltage [V]
3R	0...5	65 000	480
	6	18 000	
3R	0...4	25 000	600
	5		
	6		

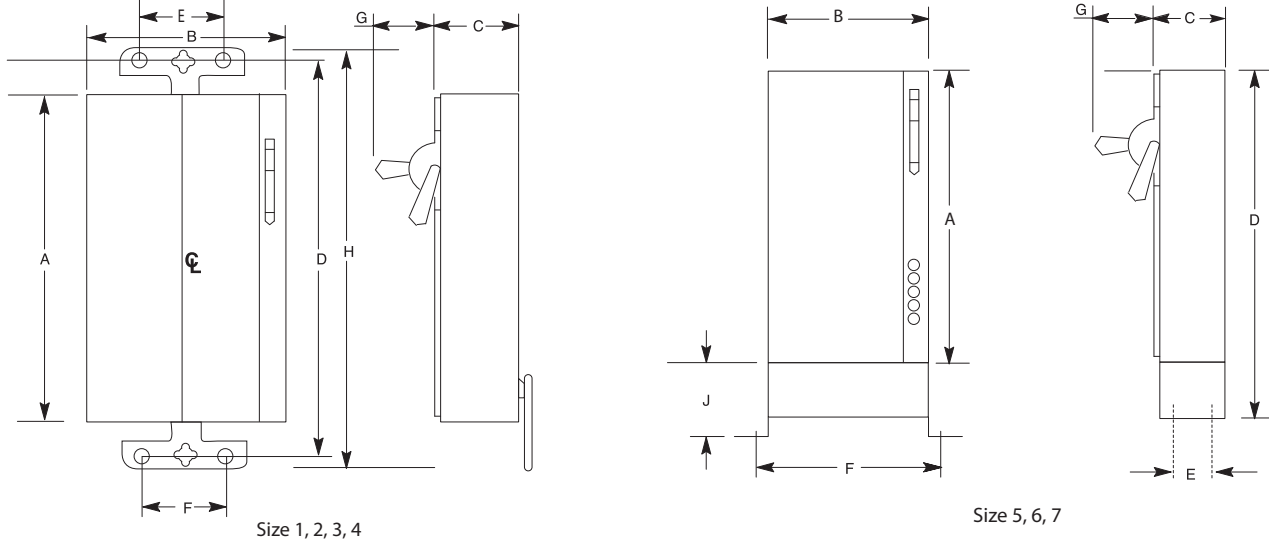
Size	Bulletins: 1233C, 1233F	Bulletins: 1232C, 1232F	Size	Bulletins: 1232S, 1233S
	Thermal Magnetic Breaker	Fusible Disconnect		Thermal Magnetic Breaker
25	5 000	70 000	90...180	10 000
30...135	10 000		310...320	18 000
201...251	18 000		361...520	30 000
317...361	30 000	69 000		
480	42 000			

## Approximate Dimensions

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

### Bulletins 1232, 1232C, 1232D, 1232F, 1232S, 1232X, 1233, 1233C, 1233D, 1233F, 1233S, 1233X

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



Bulletin No.	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	J	
1232D, 1233D	all	contact factory for information									
1232, 1233	1...2	27.50 (698)	10.5 (267)	8.26 (210)	28.88 (733)	(2)	7 (178)	5.56 (141)	29.75 (756)	—	40 (18.14)
1232X, 1233X	1...2	30 (762)	20.5 (521)	8.72 (221)	34.88 (886)	10 (254)	10 (254)	5.56 (141)	36.38 (924)	—	90 (40.82)
1232, 1233	3										
1232C, 1232F, 1233C, 1233F	25...43 A	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)
1232X, 1233X	3...4										
1232C, 1232F, 1233C, 1233F	108...135 A	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)
1232X, 1233X	5										
1233X	6	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)
1232C, 1232F, 1232S, 1233C, 1233F, 1233S	201 A										
1232X <sup>(1)</sup>	6	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)
1232C, 1232F, 1233C, 1233F	251...351 A										
1232X, 1233X	7										
1232C, 1232F, 1233C, 1233F	480 A										

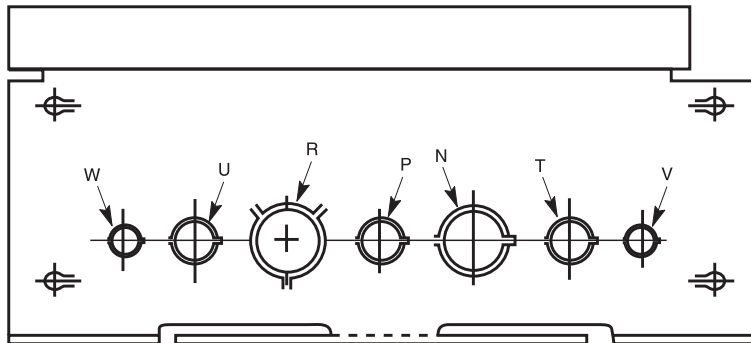
(1) Fusible disconnect switch with Class R fuses.

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

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

**Bulletins 1232, 1232C, 1232D, 1232F, 1232X, 1233, 1233C, 1233D, 1233F, 1233X**

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



Bulletin No.	NEMA Size	Approximate Dimensions in Inches (Millimeters)							
		N		P		R		T	
		Inside	Outside	Inside	Outside	Inside	Outside	Inside	Outside
1232D, 1233D	all	contact your local Rockwell Automation sales office for information							
1232, 1232X, 1233, 1233X	1...2	1-3/8 (35) 1 in. Hub	1-23/32 (44) 1-1/4 in. Hub	7/8 (22) 1/2 in. Hub	1-1/8 (29) 3/4 in. Hub	1-23/32 (44) 1-1/4 in. Hub	1-31/32 (50) 1-1/2 in. Hub	7/8 (22) 1/2 in. Hub	1-1/8 (29) 3/4 in. Hub
1232C, 1232F, 1233C, 1233F	25...43 A								
1232, 1233	3								
1232X, 1233X	3...4	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
1232C, 1232F, 1233C, 1233F	108...135 A								
1232X, 1233X	5	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	1-31/32 (50) 1-1/2 in. Hub	2-15/32 (63) 2 in. Hub
1232C, 1232F, 1233C, 1233F	201 A								

Bulletin No.	NEMA Size	Approximate Dimensions in Inches (Millimeters)					
		U		V		W	
		Inside	Outside	Inside	Outside	Inside	Outside
1232D, 1233D	all	contact your local Rockwell Automation sales office for information					
1232, 1232X, 1233, 1233X	1...2	7/8 (22) 1/2 in. Hub	1-1/8 (29) 3/4 in. Hub	—	—	7/8 (22) 1/2 in. Hub	1-1/8 (29) 3/4 in. Hub
1232C, 1232F, 1233C, 1233F	25...43 A						
1232, 1233	3						
1232X, 1233X	3...4	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
1232C, 1232F, 1233C, 1233F	108...135 A						
1232X, 1233X	5	7/8 (22) 1/2 in. Hub	1-1/8 (29) 3/4 in. Hub	3 (76) 2-1/2 in. Hub	3-5/8 (96) 3 in. Hub	3 (76) 2-1/2 in. Hub	3-5/8 (96) 3 in. Hub
1232C, 1232F, 1233C, 1233F	201 A						

**Notes:**

**AB Drives**

## Rockwell Automation Support

Use the following resources to access support information.

<b>Technical Support Center</b>	Knowledgebase Articles, How-to Videos, FAQs, Chat, User Forums, and Product Notification Updates.	<a href="http://www.rockwellautomation.com/knowledgebase">www.rockwellautomation.com/knowledgebase</a>
<b>Local Technical Support Phone Numbers</b>	Locate the phone number for your country.	<a href="http://www.rockwellautomation.com/global/support/get-support-now.page">www.rockwellautomation.com/global/support/get-support-now.page</a>
<b>Direct Dial Codes</b>	Find the Direct Dial Code for your product. Use the code to route your call directly to a technical support engineer.	<a href="http://www.rockwellautomation.com/global/support/direct-dial.page">www.rockwellautomation.com/global/support/direct-dial.page</a>
<b>Literature Library</b>	Installation Instructions, Manuals, Brochures, and Technical Data.	<a href="http://www.rockwellautomation.com/literature">www.rockwellautomation.com/literature</a>
<b>Product Compatibility and Download Center (PCDC)</b>	Get help determining how products interact, check features and capabilities, and find associated firmware.	<a href="http://www.rockwellautomation.com/global/support/pcdc.page">www.rockwellautomation.com/global/support/pcdc.page</a>

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Rockwell Automation maintains current product environmental information on its website at <http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page>.

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