

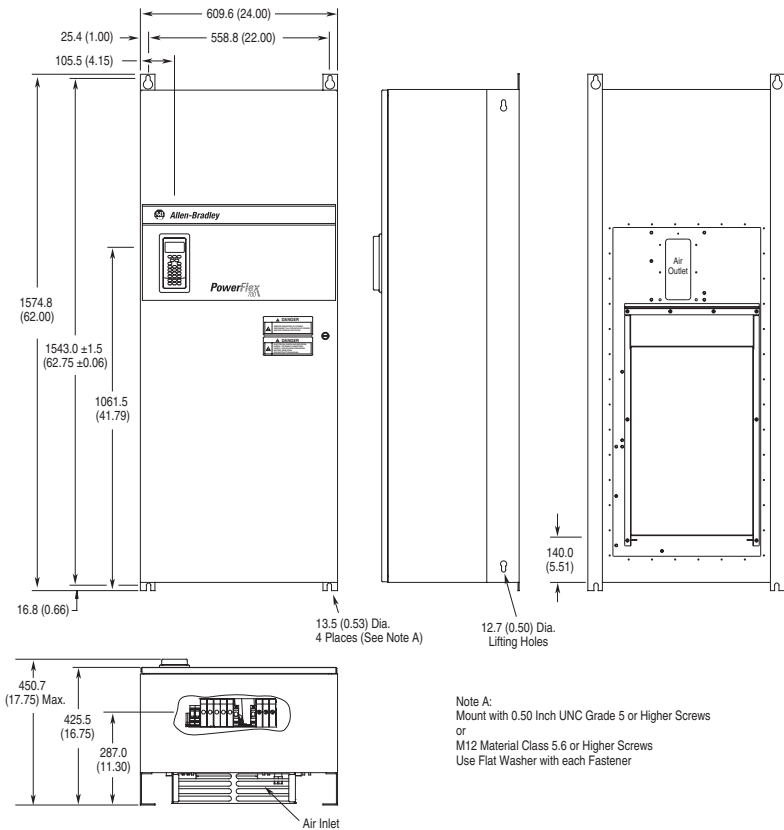


PowerFlex 700 User Manual Update

This document provides new information for the PowerFlex 700 Series B User Manual (publication 20B-UM002A-EN-P). Included is new information pertaining to Frames 5 & 6, NEMA Type 12 drives. Place this document with your User Manual for future reference.

Dimensions

Figure 1 Frame 5 NEMA Type 12 Standalone

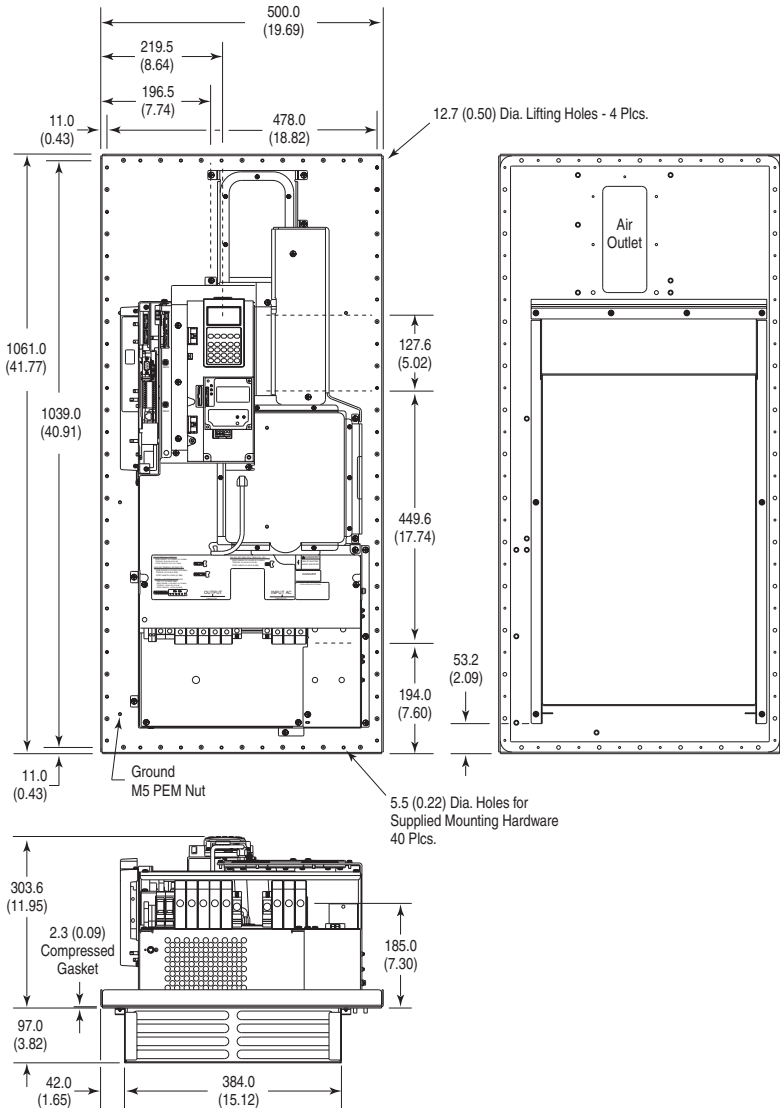


Dimensions are in millimeters and (inches)

Frame	Description	Approx. Weight ⁽¹⁾ kg (lbs.)	
		Drive	Drive & Packaging
5	Standalone	102.51 (226.0)	154.68 (341.0)

(1) Weights include HIM and Standard I/O.

Figure 2 Frame 5 NEMA Type 12 Flange Mount

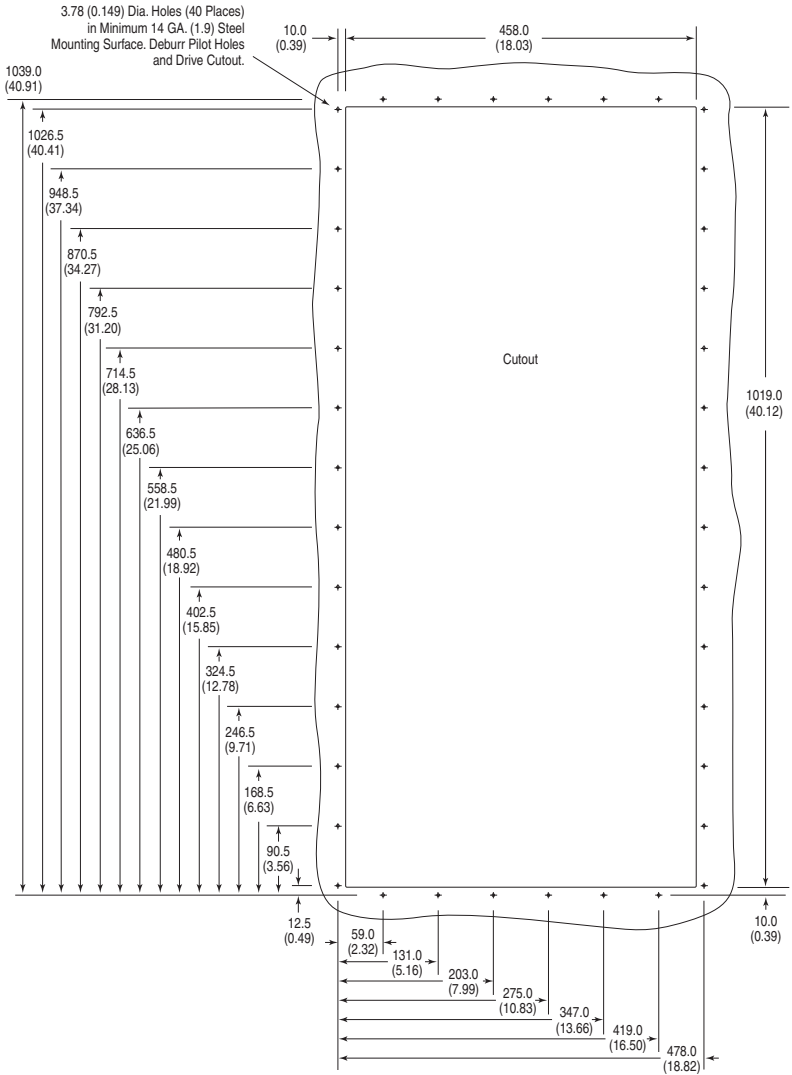


Dimensions are in millimeters and (inches)

Frame	Description	Approx. Weight ⁽¹⁾ kg (lbs.)	
		Drive	Drive & Packaging
5	Flange Mount	61.69 (136.0)	81.65 (180.0)

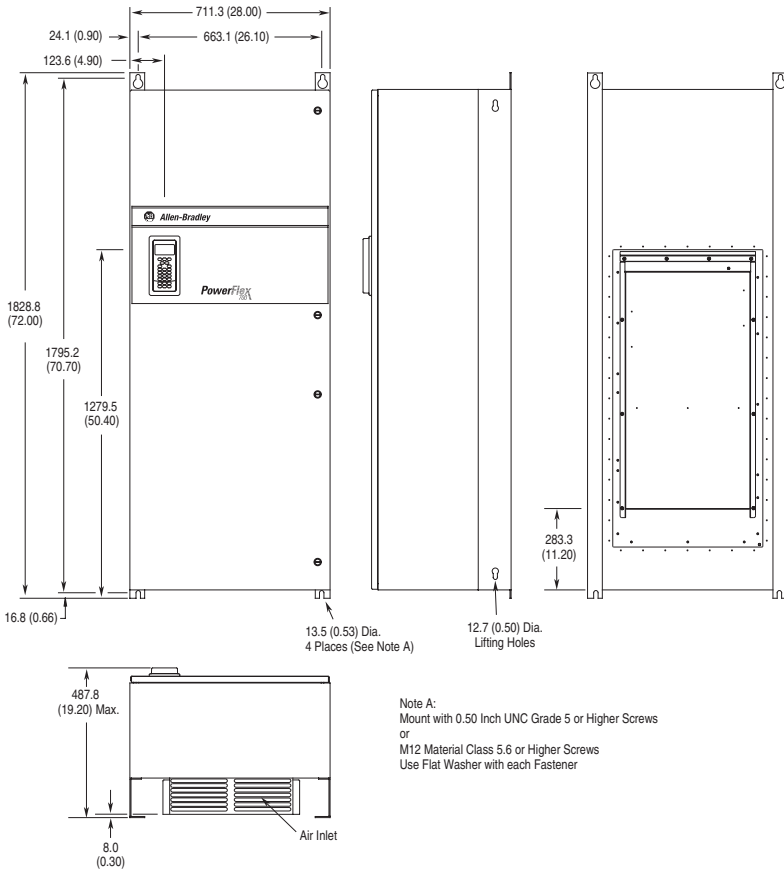
(1) Weights include HIM and Standard I/O.

Figure 3 Frame 5 Flange Mount - Cutout



Dimensions are in millimeters and (inches)

Figure 4 Frame 6 NEMA Type 12 Standalone

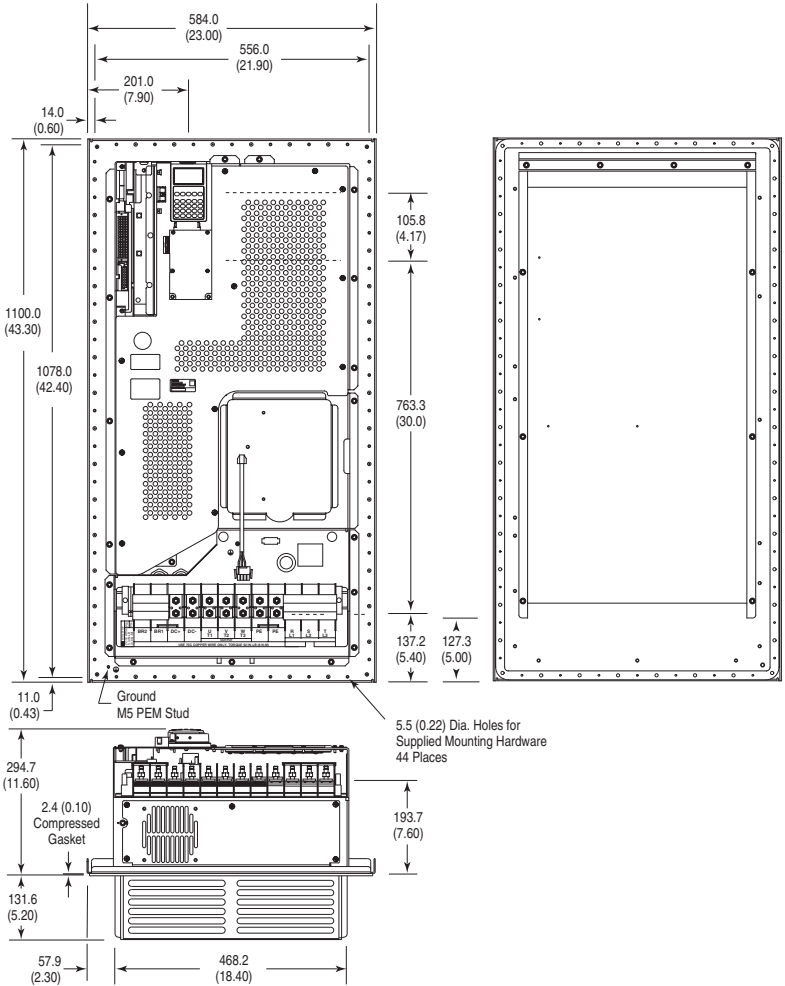


Dimensions are in millimeters and (inches)

Frame	Description	Approx. Weight ⁽¹⁾ kg (lbs.)	
		Drive	Drive & Packaging
6	Standalone	176.90 (390.0)	229.07 (505.0)

(1) Weights include HIM and Standard I/O.

Figure 5 Frame 6 NEMA Type 12 Flange Mount

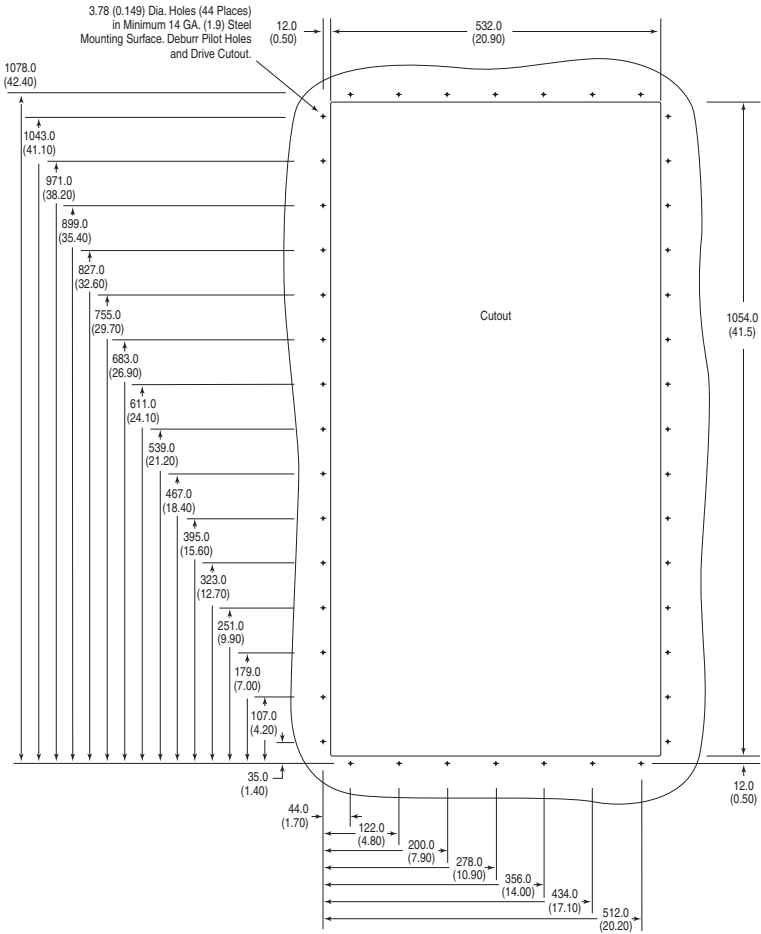


Dimensions are in millimeters and (inches)

Frame	Description	Approx. Weight ⁽¹⁾ kg (lbs.)	
		Drive	Drive & Packaging
6	Flange Mount	99.79 (220.0)	119.75 (264.0)

(1) Weights include HIM and Standard I/O.

Figure 6 Frame 6 Flange Mount - Cutout



Dimensions are in millimeters and (inches)

Ratings

Fuse and ratings information have been added for these drives on the following pages.

Table A.C. 400 Volt AC Input Protection Devices (See [page 11](#) for Notes)

Drive Catalog Number	kW Rating		PWM Freq. kHz	Temp. °C	Input Ratings Amps kVA	Output Amps 1 Min. 3 Sec. Cont.	Dual Element Time Delay Fuse		Non-Time Delay Fuse Min. ⁽¹⁾ Max. ⁽²⁾	Circuit Breaker ⁽³⁾ Max. ⁽⁸⁾	Motor Circuit Protector ⁽⁴⁾ Max. ⁽⁸⁾	140M Mgtor Starter with Adjustable Current Range ⁽⁵⁾⁽⁶⁾ Available Catalog Numbers - 140... ⁽⁷⁾
	ND	HD					Min. ⁽¹⁾	Max. ⁽²⁾				
400 Volt AC Input												
20BC1P3	0	0.37 0.25 4	4	50	1.1	0.77 1.3 1.4	1.9 3 3	3 3 3	6 6 15	3	3	M-C2E-B16 - -
20BC2P1	0	0.75 0.55 4	4	50	1.8	1.2 2.1 2.4	3.2 3 6	3 6 3	8 8 15	3	3	M-C2E-B25 M-D8E-B25 - -
20BC3P5	0	1.5 0.75 4	50	32	2.2 3.2 3.5 4.5	6 7 6	6 12 15	6 12 15	15 15 7	7	7	M-C2E-B40 M-D8E-B40 - -
20BC5P0	0	2.2 1.5 4	50	4.6	3.2 5.0 5.5 7.5	6 10 6	6 20 20	6 20 6	20 20 7	7	7	M-C2E-B63 M-D8E-B63 - -
20BC8P7	0	4 2.2 4	50	7.9	5.5 8.7 9.9 13.2 15	13 15 17.5 15	17.5 15 30	15 30 30	30 30 15	15	15	M-C2E-C10 M-D8E-C10 M-FBE-C10 - -
20BC011	0	5.5 4 4	50	10.8	7.5 11.5 13 17.4	15 15 25 15	25 15 45	15 45 45	45 45 15	15	15	M-C2E-C16 M-D8E-C16 M-FBE-C16 - -
20BC015	1	7.5 5.5 4	50	14.4	10.0 15.4 17.2 23.1 20	30 30 45 35 60	35 60 35 120	30 20 60	60 20 20	20	20	M-C2E-C20 M-D8E-C20 M-FBE-C20 - -
20BC022	1	11 7.5 4	50	20.6	14.3 22 24.2 33	30 30 45 30	45 30 80	30 80 80	80 30 30	30	30	M-C2E-C25 M-D8E-C25 M-FBE-C25 - -
20BC030	2	15 11 4	50	28.4	19.7 30 33 45	35 60 45 80	45 80 125	35 120 120	120 120 50	50	50	M-C2E-C32 - -
20BC037	2	18.5 15 4	50	35.0	24.3 37 45 60	45 60 45 80	45 80 150	45 150 150	150 150 60	60	60	M-FBE-C45 - -
20BC043	3	22 18.5 4	50	40.7	28.2 43 56 74	60 60 90 125	70 125 70 200	60 200 200	200 200 100	100	100	- -
20BC056	3	30 22 4	50	53	36.7 56 64 86	70 125 70 200	70 200 200	70 200 200	200 200 100	100	100	- -
20BC072	3	37 30 4	50	68.9	47.8 72 84 112	84 112 90 150	90 250 250	90 250 250	250 250 100	100	100	- -
20BC085	4	45 - 4	45	81.4	56.4 85 94 128	110 200 110 300	110 300 300	110 300 300	300 300 150	150	150	- -
		- 37 4	45	68.9	47.8 72 108 144	90 175 90 275	90 275 300	90 275 300	300 300 100	100	100	- -
20BC105	5	55 - 4	50 ⁽⁹⁾	100.5	69.6 105 116 158	125 225 125 400	125 400 400	125 400 400	400 400 150	150	150	- -
		- 45 4	50 ⁽⁹⁾	81.4	56.4 85 128 170	110 175 110 300	110 300 300	110 300 300	300 300 150	150	150	- -
20BC125	5	55 - 4	50 ⁽⁹⁾	121.1	83.9 125 138 163	163 163 200 300	163 200 300	163 200 300	300 300 150	150	150	- -
		- 45 4	50 ⁽⁹⁾	91.9	63.7 96 144 168	125 200 125 400	125 400 400	125 375 375	375 375 250	250	250	- -
20BC140	5	75 - 4	40 ⁽⁹⁾	136	93.9 140 154 190	200 300 200 400	200 400 400	200 400 400	400 400 250	250	250	- -
		- 55 4	40 ⁽⁹⁾	101	69.6 105 157 190	150 225 150 300	150 300 300	150 300 300	300 300 150	150	150	- -
20BC170	6	90 - 4	50 ⁽⁹⁾	164	126 170 187 255	250 300 200 400	250 400 400	250 400 400	400 500 250	250	250	- -
		- 75 4	50 ⁽⁹⁾	136	103 140 210 280	200 300 200 400	200 400 400	200 550 550	550 600 400	400	400	- -
20BC205	6	110 - 4	40 ⁽⁹⁾	199	148 205 220 289	250 300 250 450	250 450 450	250 450 450	450 600 400	400	400	- -
		- 90 4	40 ⁽⁹⁾	164	126 170 255 313	250 300 250 450	250 450 450	250 450 450	450 600 400	400	400	- -
20BC260	6	132 - 2	45 ⁽⁹⁾	255	177 260 286 390	350 550 350 750	350 750 750	350 750 750	750 750 400	400	400	- -
		- 110 2	50 ⁽⁹⁾	199	138 205 308 400	250 450 250 600	250 600 600	250 600 600	600 600 400	400	400	- -

Table A.E. 600 Volt AC Input Protection Devices (See [page 11](#) for Notes)

Drive Catalog Number	HP Rating		PWM Freq. kHz	Temp. °C	Input Ratings		Output Amps		Dual Element Time Delay Fuse		Non-Time Delay Fuse	Circuit Breaker ⁽³⁾	Motor Circuit Protector ⁽⁴⁾	140M Motor Starter with Adjustable Current Range ⁽⁵⁾⁽⁶⁾						
	ND	HD			Amps	kVA	Cont.	1 Min.	3 Sec.	Min. ⁽¹⁾					Max. ⁽²⁾	Max. ⁽⁸⁾	Max. ⁽⁸⁾	Available Catalog Numbers - 140... ⁽⁷⁾		
600 Volt AC Input																				
20BE1P7	0	1	0.5	4	50	1.3	1.4	1.7	2	2.6	2	4	2	6	15	3	M-C2E-B16	-	-	
20BE2P7	0	2	1	4	50	2.1	2.1	2.7	3.6	4.8	3	6	3	10	15	3	M-C2E-B25	-	-	
20BE3P9	0	3	2	4	50	3.0	3.1	3.9	4.3	5.9	6	9	6	15	15	7	M-C2E-B40	M-D8E-B40	-	
20BE6P1	0	5	3	4	50	5.3	5.5	6.1	6.7	9.2	9	12	9	20	20	15	M-C2E-B63	M-D8E-B63	-	
20BE9P0	0	7.5	5	4	50	7.8	8.1	9	9.9	13.5	10	20	10	35	30	15	M-C2E-C10	M-D8E-C10	M-F8E-C10	
20BE011	1	10	7.5	4	50	9.9	10.2	11	13.5	18	15	25	15	40	40	15	M-C2E-C10	M-D8E-C10	M-F8E-C10	
20BE017	1	15	10	4	50	15.4	16.0	17	18.7	25.5	20	40	20	60	50	20	M-C2E-C16	M-D8E-C16	M-F8E-C16	
20BE022	2	20	15	4	50	20.2	21.0	22	25.5	34	30	50	30	80	80	30	M-C2E-C25	M-D8E-C25	M-F8E-C25	
20BE027	2	25	20	4	50	24.8	25.7	27	33	44	35	60	35	100	100	50	-	M-F8E-C25	-CMN-2500	
20BE032	3	30	25	4	50	29.4	30.5	32	40.5	54	40	70	40	125	125	50	-	M-F8E-C32	-CMN-4000	
20BE041	3	40	30	4	50	37.6	39.1	41	48	64	50	90	50	150	150	100	-	M-F8E-C32	-CMN-4000	
20BE052	3	50	40	4	50	47.7	49.6	52	61.5	82	60	110	60	200	200	100	-	M-F8E-C45	-CMN-6300	
20BE062	4	60	50	2	50	58.2	60.5	62	78	104	80	125	80	225	225	100	-	M-F8E-C45	-CMN-6300	
20BE077	5	75	-	2	50 ⁽⁹⁾	72.3	75.1	77	85	116	90	150	90	300	300	100	-	M-F8E-C45	-CMN-9000	
						60	2	50 ⁽⁹⁾	58.2	60.5	63	94	126	90	250	250	100	-	M-F8E-C45	-CMN-9000
20BE089	5	100	-	2	40 ⁽⁹⁾	92.9	96.6	99	109	126	125	200	125	375	375	150	-	M-F8E-C45	-CMN-9000	
						40	2	40 ⁽⁹⁾	72.3	75.1	77	116	138	100	300	300	100	-	M-F8E-C45	-CMN-9000
20BE125	6	125	-	2	50 ⁽⁹⁾	117	122	125	138	188	150	250	150	375	375	250	-	M-F8E-C45	-CMN-9000	
						100	2	50 ⁽⁹⁾	93	96.6	99	149	198	125	375	375	150	-	M-F8E-C45	-CMN-9000
20BE144	6	150	-	2	50 ⁽⁹⁾	135	141	144	158	216	175	300	175	400	400	250	-	M-F8E-C45	-CMN-9000	
						150	2	50 ⁽⁹⁾	117	122	125	188	250	150	375	375	250	-	M-F8E-C45	-CMN-9000

Table A.F 690 Volt AC Input Protection Devices (See page.11 for Notes)

Drive Catalog Number	kW Rating		PWM Freq. kHz	Temp. °C	Input Ratings		Output Amps		Dual Element Time Delay Fuse		Non-Time Delay Fuse		Circuit Breaker ⁽³⁾		Motor Circuit Protector ⁽⁴⁾		
	ND	HD			Amps	kVA	1 Min.	3 Sec.	Min. ⁽¹⁾	Max. ⁽²⁾	Min. ⁽¹⁾	Max. ⁽²⁾	Max. ⁽⁸⁾	Max. ⁽⁸⁾	Min. ⁽⁸⁾	Max. ⁽⁸⁾	
690 Volt AC Input																	
20BF032	5	45	—	4	50 ⁽⁹⁾	46.9	56.1	52	57	78	60	110	60	175	175	—	—
	—	—	37.5	4	50 ⁽⁹⁾	40.1	48.0	46	69	92	50	90	50	150	150	—	—
20BF060	5	55	—	4	50 ⁽⁹⁾	57.7	68.9	60	66	90	80	125	80	225	225	—	—
	—	—	45	4	50 ⁽⁹⁾	46.9	56.1	52	78	104	60	110	60	175	175	—	—
20BF082	5	75	—	2	50 ⁽⁹⁾	79.0	94.4	82	90	123	100	200	100	375	375	—	—
	—	—	55	2	50 ⁽⁹⁾	57.7	68.9	60	90	120	80	125	80	225	225	—	—
20BF098	5	90	—	2	40 ⁽⁹⁾	94.7	113	98	108	127	125	200	125	375	375	—	—
	—	—	75	2	40 ⁽⁹⁾	79.0	94.4	82	123	140	100	200	100	375	375	—	—
20BF119	6	110	—	2	50 ⁽⁹⁾	115	137	119	131	179	150	250	150	400	—	—	—
	—	—	90	2	50 ⁽⁹⁾	94.7	113	98	147	196	125	200	125	375	—	—	—
20BF142	6	132	—	2	50 ⁽⁹⁾	138	165	142	156	213	175	300	175	450	—	—	—
	—	—	110	2	50 ⁽⁹⁾	115	137	119	179	238	150	250	150	400	—	—	—

Notes:

- (1) Minimum protection device size is the lowest rated device that supplies maximum protection without nuisance tripping.
- (2) Maximum protection device size is the highest rated device that supplies drive protection. For US NEC, minimum size is 125% of motor FLA. Ratings shown are maximum.
- (3) Circuit Breaker - inverse time breaker. For US NEC, minimum size is 125% of motor FLA. Ratings shown are maximum.
- (4) Motor Circuit Protector - instantaneous trip circuit breaker. For US NEC minimum size is 125% of motor FLA. Ratings shown are maximum.
- (5) Bulletin 140M with adjustable current range should have the current trip set to the minimum range that the device will not trip.
- (6) Manual Self-Protected (Type E) Combination Motor Controller, UL listed for 208 Wye or Delta, 240 Wye or Delta, 480Y/277 or 600Y/347. Not UL listed for use on 480V or 600V Delta/Delta systems.
- (7) The AIC ratings of the Bulletin 140M Motor Protector may vary. See publication 140M-SG001B-EN-P.
- (8) Maximum allowable rating by US NEC. Exact size must be chosen for each installation.
- (9) UL Type 12/IP54 (flange mount) heatsink ambient temperature rating is 40° C/ambient of unprotected drive portion (inside enclosure) is 55° C. The ambient temperature for the UL Type 12/IP54 Standalone drives is 40° C.

Table A.G 540 Volt DC Input Protection Devices

Drive Catalog Number	Frame	kW Rating		DC Input Ratings		Output Amps			Fuse	Bussmann Style Fuse
		ND	HD	Amps	kW	Cont.	1 Min.	3 Sec.		
540 Volt DC Input										
20BC1P3 ⁽²⁾	1	0.37	0.25	1.3	0.7	1.3	1.4	1.9	3	BUSSMANN_JKS-3
20BC2P1 ⁽²⁾	1	0.75	0.55	2.1	1.1	2.1	2.4	3.2	6	BUSSMANN_JKS-6
20BC3P5 ⁽²⁾	1	1.5	0.75	3.7	2.0	3.5	4.5	6.0	8	BUSSMANN_JKS-8
20BC5P0 ⁽²⁾	1	2.2	1.5	5.3	2.9	5.0	5.5	7.5	10	BUSSMANN_JKS-10
20BC8P7 ⁽²⁾	1	4	3.0	9.3	5.0	8.7	9.9	13.2	20	BUSSMANN_JKS-20
20BC011 ⁽²⁾	1	5.5	4	12.6	6.8	11.5	13	17.4	25	BUSSMANN_JKS-25
20BC015 ⁽²⁾	1	7.5	5.5	16.8	9.1	15.4	17.2	23.1	30	BUSSMANN_JKS-30
20BC022 ⁽²⁾	1	11	7.5	24	13	22	24.2	33	45	BUSSMANN_JKS-45
20BC030 ⁽²⁾	2	15	11	33.2	17.9	30	33	45	60	BUSSMANN_JKS-60
20BC037 ⁽²⁾	2	18.5	15	40.9	22.1	37	45	60	80	BUSSMANN_JKS-80
20BC043 ⁽²⁾	3	22	18.5	47.5	25.7	43	56	74	90	BUSSMANN_JKS-90
20BC056 ⁽²⁾	3	30	22	61.9	33.4	56	64	86	110	BUSSMANN_JKS-110
20BC072 ⁽²⁾	3	37	30	80.5	43.5	72	84	112	150	BUSSMANN_JKS-150
20BC085 ⁽²⁾	4	45	–	95.1	51.3	85	94	128	200	BUSSMANN_JKS-200
		–	37	80.5	43.5	72	108	144	150	BUSSMANN_JKS-150
20BH105 ⁽¹⁾⁽²⁾	5	55	–	117.4	63.4	105	116	158	200	BUSSMANN_JKS-200
		–	45	95.1	51.3	85	128	170	200	BUSSMANN_JKS-200
20BH125 ⁽¹⁾⁽²⁾	5	55	–	139.8	75.5	125	138	163	225	BUSSMANN_JKS-225
		–	45	91.9	63.7	96	144	168	150	
20BH140 ⁽¹⁾⁽²⁾	6	75	–	158.4	85.6	140	154	190	300	BUSSMANN_JKS-300
		–	55	117.4	63.4	105	158	190	200	BUSSMANN_JKS-200
20BH170 ⁽¹⁾⁽²⁾	6	90	–	192.4	103.9	170	187	255	350	BUSSMANN_JKS-350
		–	75	158.4	85.6	140	210	280	300	BUSSMANN_JKS-300
20BH205 ⁽¹⁾⁽²⁾	6	110	–	232	125.3	205	220	289	400	BUSSMANN_JKS-400
		–	90	192.4	103.9	170	255	313	350	BUSSMANN_JKS-350

(1) Also applies to “P” voltage class.

(2) UL Type 12/IP54 (flange mount) heatsink ambient temperature rating is 40° C/ambient of unprotected drive portion (inside enclosure) is 55° C. The ambient temperature for the UL Type 12/IP54 Standalone drives is 40° C.

Table A.H 650 Volt DC Input Protection Devices

Drive Catalog Number	Frame	kW Rating		DC Input Ratings		Output Amps			Fuse	Bussmann Style Fuse
		ND	HD	Amps	kW	Cont.	1 Min.	3 Sec.		
650 Volt DC Input										
20BD1P1 ⁽²⁾	0	0.5	0.33	1.0	0.6	1.1	1.2	1.6	6	BUSSMANN_JKS-6
20BD2P1 ⁽²⁾	0	1	0.75	1.9	1.2	2.1	2.4	3.2	6	BUSSMANN_JKS-6
20BD3P4 ⁽²⁾	0	2	1.5	3.0	2.0	3.4	4.5	6.0	6	BUSSMANN_JKS-6
20BD5P0 ⁽²⁾	0	3	2	4.5	2.9	5.0	5.5	7.5	10	BUSSMANN_JKS-10
20BD8P0 ⁽²⁾	0	5	3	8.1	5.2	8.0	8.8	12	15	BUSSMANN_JKS-15
20BD011 ⁽²⁾	0	7.5	5	11.1	7.2	11	12.1	16.5	20	BUSSMANN_JKS-20
20BD014 ⁽²⁾	1	10	7.5	14.7	9.5	14	16.5	22	30	BUSSMANN_JKS-30
20BD022 ⁽²⁾	1	15	10	23.3	15.1	22	24.2	33	45	BUSSMANN_JKS-45
20BD027 ⁽²⁾	2	20	15	28.9	18.8	27	33	44	60	BUSSMANN_JKS-60
20BD034 ⁽²⁾	2	25	20	36.4	23.6	34	40.5	54	70	BUSSMANN_JKS-70
20BD040 ⁽²⁾	3	30	25	42.9	27.8	40	51	68	80	BUSSMANN_JKS-80
20BD052 ⁽²⁾	3	40	30	55.7	36.1	52	60	80	100	BUSSMANN_JKS-100
20BD065 ⁽²⁾	3	50	40	69.7	45.4	65	78	104	150	BUSSMANN_JKS-150
20BD077 ⁽²⁾	4	60	–	84.5	54.7	77	85	116	150	BUSSMANN_JKS-150
		–	50	67.9	45.4	65	98	130	150	BUSSMANN_JKS-150
20BR096 ⁽¹⁾⁽²⁾	5	75	–	105.3	68.3	96	106	144	200	BUSSMANN_JKS-200
		–	60	84.5	54.7	77	116	154	150	BUSSMANN_JKS-150
20BR125 ⁽¹⁾⁽²⁾	5	100	–	137.1	88.9	125	138	163	250	BUSSMANN_JKS-250
		–	75	105.3	68.3	96	144	168	200	BUSSMANN_JKS-200
20BR156 ⁽¹⁾⁽²⁾	6	125	–	171.2	110.9	156	172	234	300	BUSSMANN_JKS-300
		–	100	137.1	88.9	125	188	250	250	BUSSMANN_JKS-250
20BR180 ⁽¹⁾⁽²⁾	6	150	–	204.1	132.2	180	198	270	400	BUSSMANN_JKS-400
		–	125	171.2	110.9	156	234	312	300	BUSSMANN_JKS-300

(1) Also applies to “J” voltage class.

(2) UL Type 12/IP54 (flange mount) heatsink ambient temperature rating is 40° C/ambient of unprotected drive portion (inside enclosure) is 55° C. The ambient temperature for the UL Type 12/IP54 Standalone drives is 40° C.

www.rockwellautomation.com

Corporate Headquarters

Rockwell Automation, 777 East Wisconsin Avenue, Suite 1400, Milwaukee, WI, 53202-5302 USA, Tel: (1) 414.212.5200, Fax: (1) 414.212.5201

Headquarters for Allen-Bradley Products, Rockwell Software Products and Global Manufacturing Solutions

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444
Europe/Middle East/Africa: Rockwell Automation SAINV, Vorstlaan/Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640
Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

Headquarters for Dodge and Reliance Electric Products

Americas: Rockwell Automation, 6040 Ponders Court, Greenville, SC 29615-4617 USA, Tel: (1) 864.297.4800, Fax: (1) 864.281.2433
Europe/Middle East/Africa: Rockwell Automation, Herman-Heinrich-Gossen-Strasse 3, 50858 Köln, Germany, Tel: 49 (0) 2234 379410, Fax: 49 (0) 2234 3794164
Asia Pacific: Rockwell Automation, 55 Newton Road, #11-01/02 Revenue House, Singapore 307987, Tel: (65) 6356-9077, Fax: (65) 6356-9011

U.S. Allen-Bradley Drives Technical Support

Tel: (1) 262.512.8176, Fax: (1) 262.512.2222, Email: support@drives.ra.rockwell.com, Online: www.ab.com/support/abdrives