

Technical Data

Original Instructions

PowerFlex 750-Series Products with TotalFORCE Control

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Summary of Changes

This publication contains the following new or updated information. This list includes substantive updates only and is not intended to reflect all changes. Translated versions are not always available for each revision.

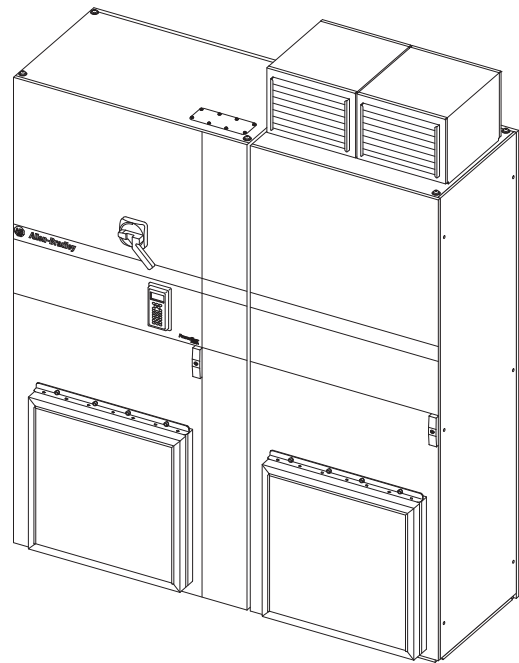
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Filtering and CM Cap Configuration table expanded.	11
EMC conformity clarified.	37
SEMI F47 compliance stated.	37
Instantaneous current limits clarified.	40
Added Low Speed Derating with Reduced Carrier Frequency tables for all product ratings.	52...99
High-speed semiconductor fuse requirement added for panel mount drives and bus supplies.	184
Updated Continuous AC Input Amp ratings: Frames 7...12 at 400V Frames 13...15 at 400V	189 202
Updated Continuous AC Input Amp ratings: Frames 6...12 at 480V Frames 13...15 at 480V	186 203
Updated Continuous AC Input Amp ratings: Frames 8...12 at 600V Frames 13...15 at 600V	195 204
Updated Continuous AC Input Amp ratings: Frames 8...12 at 690V Frames 13...15 at 690V	198 205
Frame 6 bus supply dimension drawing corrected.	241
Accessory kits listing expanded.	259

Introduction

PowerFlex® 750-Series products with TotalFORCE™ technology offer precise motor control along with solutions for harmonic mitigation, regeneration, and common-bus system configurations. TotalFORCE technology delivers exceptional motor control through precise, adaptive control of position, velocity, and torque for electric motors. It incorporates several patented features that are designed to help optimize your system and maintain productivity.

Maximize your productivity by taking advantage of the following key features that are offered in the PowerFlex 750-Series products with TotalFORCE technology:

- **PowerFlex 755TL Drive** – Provides harmonic mitigation and power factor correction by using active front end technology.
- **PowerFlex 755TR Drive** – Features built-in regeneration capability that helps reduce energy consumption by delivering regenerative energy from motors back to the incoming supply. Line regeneration can reduce the need for braking resistors and associated cooling equipment and helps avoid wasteful dissipation of energy. The drive also offers harmonic mitigation.
- **PowerFlex 755TM Drive System** – Select from a series of predesigned configurations for regenerative bus supplies and common bus inverters to optimize your system design and power consumption. Gain energy efficiency with motors that share energy between regenerating and motoring loads. A common bus drive system offers advantages such as design flexibility, energy optimization, and reduced installation costs. Systems provide harmonic mitigation and built-in regeneration capability.
- **Built-in Reflected Wave Filter** – This option provides improved motor protection in a cost effective prematched, space-saving package that eliminates the need for wiring to an external device.
- **Predictive Maintenance** – Helps improve productivity by estimating the remaining life span of drive components so preventive action can be taken before component wear-out causes unplanned downtime.
- **Market-leading power density** – High power ratings in a relatively compact footprint.
- **Serviceability** – Fast and easy servicing of drive helps save you time and reduce costs.
- **Roll in/roll out design** – Makes the drive easy to install and service. Power wiring can stay connected while unit is rolled out.
- **Patented slot-based hardware structure** – Allows you to select option modules for safety, feedback, communications, and I/O.
- **Safe Torque Off and Safe Speed Monitor** – Provide a choice for safety levels depending on your application requirements.
- **Load Observer** – Maintain productivity with control that adapts to operating conditions.
- **Voltage Boost** – Provides full voltage to the motor in applications where less than motor rated voltage is available.
- **Ride-Through** – Helps keep equipment running through power quality disturbances.
- **TorqProve™** – Patented control coordinates motor torque and brake operation in hoist applications.
- **Communications** – The PowerFlex 755T products feature built-in dual EtherNet/IP™ ports.

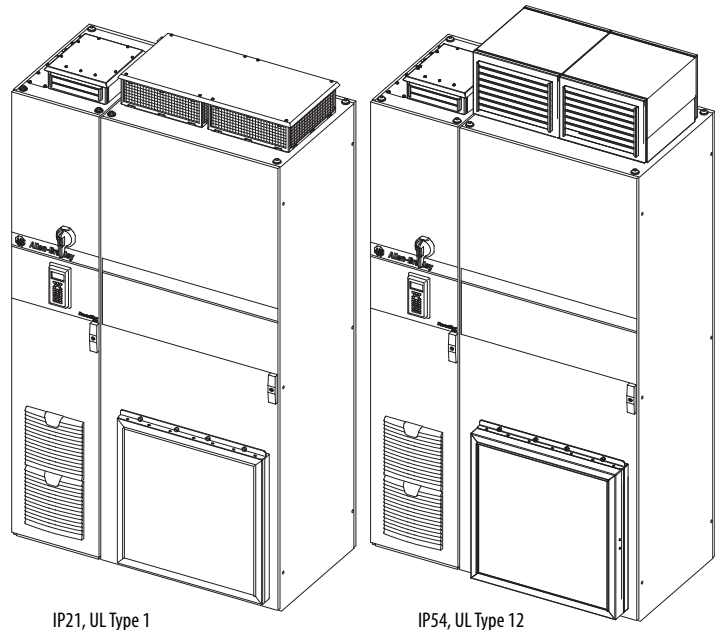
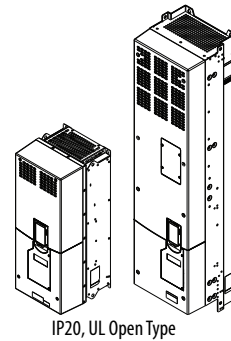


PowerFlex 755TL Low Harmonics Drives

- Low harmonics drive non-regenerative applications from 10...1800 Hp, 7.5...1400 kW, 400/480/600/690V
- IP20, UL Open Type/IP21, UL Type 1/IP54, UL Type 12

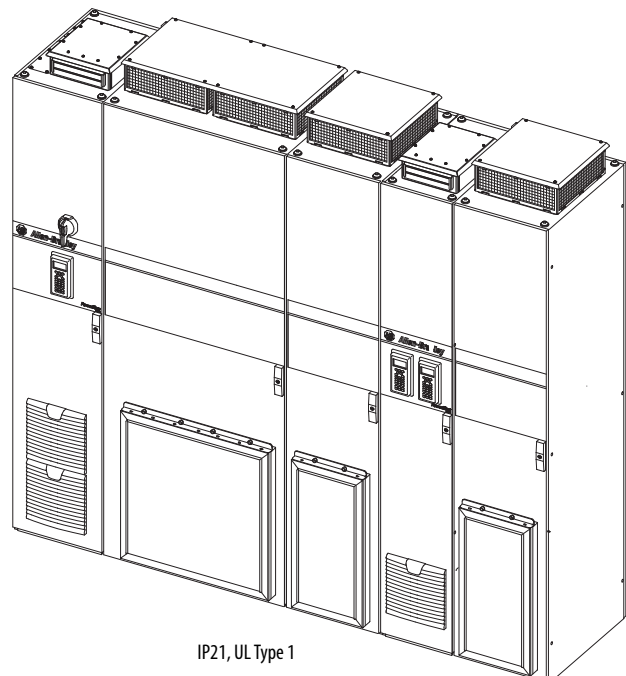
PowerFlex 755TR Regenerative Drives

- Regenerative applications from 10...6000 Hp, 7.5...4500 kW, 400/480/600/690V
- Reduction of Harmonic content
- IP20, UL Open Type/IP21, UL Type 1/IP54, UL Type 12



PowerFlex 755TM Drive Systems

- Low harmonics drive non-regenerative applications from 250...6000 Hp, 160...2300 kW (AC), 70...4800 kW (DC)
- Regenerative bus supplies
- Common bus inverters
- IP21, UL Type 1/IP54, UL Type 12 and Open Type (IP00)



Catalog Number Explanation

Catalog number positions 1...7 identify the product type and voltage rating.

1...3	4	5	6	7	8...10	11	12	13	14	15	16	17	18	
20G	1	G	3	D	740	L	N	A	N	N	N	N	N	-C0-P15...
A	B	C	D	E										

A

Drive		
Code	Type	Frames
20G	PowerFlex 755TL Drives	5...10
	PowerFlex 755TR Drives	5...15
	PowerFlex 755TM Common Bus Inverters	8...15
20J	PowerFlex 755TM Bus Supplies	6...15

B

Cooling Type		
Code	Description	Frames
1	Forced Air	5...15

C

Input Type		
Code	Description	Frames
6	Regenerative and Low Harmonic AFE, 755TR Drives	5...7
	Regenerative and Low Harmonic AFE, 755TM Bus Supplies	6...7
7	Low Harmonic AFE, 755TL Drives	5...7
D	Common Bus with DC Precharge	8...15
E	Common Bus without DC Precharge	8...15
F	Regenerative and Low Harmonic AFE, 755TR Drives	8...15
	Regenerative and Low Harmonic AFE, 755TM Bus Supplies	8...15
G	Low Harmonic AFE, 755TL Drives	8...10

D

Enclosure		
Code	Description	Frames
N	IP00, UL Open Type	5...6
3	IP21, UL Type 1; Floor Mount	7...15
4	IP54, UL Type 12; Floor Mount	7...15

E

Voltage Rating	
Code	Voltage
C	400V AC; 3 PH
D	480V AC; 3 PH
E	600V AC; 3 PH
F	690V AC; 3 PH

Catalog number positions 8...10 identify the product normal duty rating.

1...3	4	5	6	7	8...10	11	12	13	14	15	16	17	18	
20G	1	G	3	D	740	L	N	A	N	N	N	N	N	-C0-P15...
F1...F4														

F1

PowerFlex 755T ND Drive Ratings			
400V, 50 Hz Input			
Code	Amps	kW	Frame
015	15.4	7.5	5
022	22	11	
030	30	15	
037	37	18.5	
043	43	22	
060	60	30	
072	72	37	
085	85	45	
104	104	55	6
140	140	75	
176	170	90	
205	205	110	
260	260	132	
302	302	160	7
367	367	200	
460	460	250	
540	540	315	
585	600	315	
302	302	160	8
367	367	200	
460	460	250	
540	540	315	
585	585	315	
650	650	355	
750	750	400	
770	770	400	9
920	920	500	
1K0	1040	560	
1K1	1112	630	
1K2	1175	710	
1K4	1463	800	10
1K6	1590	850	
1K7	1715	1000	
2K1	2156	1250	11
2K8	2849	1650	
3K5	3542	2000	12
4K2	4235	2200	13
5K6	5621	2920	14
7K0	7007	3640	15

F2

PowerFlex 755T ND Drive Ratings			
480V, 60 Hz Input			
Code	Amps	Hp	Frame
014	14	10	5
022	22	15	
027	27	20	
034	34	25	
040	40	30	
052	52	40	
065	65	50	
077	77	60	
096	96	75	6
125	125	100	
156	156	125	
186	186	150	
248	248	200	
302	302	250	7
361	361	300	
430	430	350	
505	505	400	
617	600	500	
302	302	250	8
361	361	300	
430	430	350	
505	505	400	
545	545	450	
617	617	500	
710	710	600	
740	740	650	9
800	800	700	
960	960	800	
1K0	1045	900	
1K1	1135	1000	
1K3	1365	1100	10
1K4	1420	1250	
1K6	1655	1500	
2K0	2072	1800	11
2K6	2738	2400	
3K4	3404	3000	12
4K0	4070	3600	13
5K4	5402	4800	14
6K7	6734	6000	15

F3

PowerFlex 755T ND Drive Ratings			
600V, 60 Hz Input			
Code	Amps	Hp	Frame
011	11	10	5
017	17	15	
022	22	20	
027	27	25	
032	32	30	
041	41	40	
052	52	50	
062	62	60	
077	77	75	6
099	99	100	
125	125	125	
144	144	150	
192	192	200	7
242	242	250	
295	295	300	
355	355	350	
395	395	400	
242	242	250	8
295	295	300	
355	355	350	
395	395	400	
435	435	450	
545	545	550	9
595	580	600	
690	690	700	
760	760	800	
825	825	900	
980	980	1000	10
1K1	1045	1100	
1K2	1220	1250	
1K5	1430	1500	11
2K0	1946	2000	
2K4	2420	2500	12
2K9	2998	3100	13
3K9	3979	4100	14
4K9	4960	5100	15

F4

PowerFlex 755T ND Drive Ratings			
690V, 50 Hz Input			
Code	Amps	kW	Frame
015	15	11	5
020	20	15	
023	23	18.5	
030	30	22	
034	34	30	
046	46	37	
050	50	45	
061	61	55	
082	82	75	6
098	98	90	
119	119	110	
142	142	132	
171	171	160	7
215	215	200	
265	265	250	
330	330	315	
370	370	355	
215	215	200	8
265	265	250	
330	330	315	
370	370	355	
415	415	400	
505	505	500	9
565	565	560	
650	650	630	
735	735	710	
820	820	800	
920	920	900	10
1K0	1030	1000	
1K1	1150	1100	
1K4	1419	1400	11
1K8	1865	1800	
2K3	2318	2300	12
2K7	2778	2750	13
3K6	3687	3650	14
4K5	4596	4550	15

Catalog number positions 8...10 identify the product normal duty rating.

1...3 4 5 6 7 8...10 11 12 13 14 15 16 17 18
 20J 1 F 3 C 1K6 L N A N N N N N -C1-P16...
 G1...G4

G1

PowerFlex 755TM ND Bus Supply Ratings			
400V, 50 Hz Input			
Code	Amps	kW	Frame
140	150	87	6
176	182	106	
205	220	128	
260	279	162	
302	324	188	7
367	394	228	
460	494	286	
540	579	336	
585	644	373	
302	324	188	8
367	394	228	
460	494	286	
540	579	336	
585	628	364	
650	698	405	
750	805	467	
770	826	479	
920	987	572	9
1K0	1116	647	
1K1	1193	692	
1K2	1261	731	
1K4	1570	910	
1K6	1697	984	10
1K7	1840	1067	
2K1	2314	1342	
2K8	3057	1772	11
3K5	3801	2204	12
4K2	4546	2634	13
5K6	6030	3496	14
7K0	7517	4358	15

G2

PowerFlex 755TM ND Bus Supply Ratings			
480V, 60 Hz Input			
Code	Amps	kW	Frame
125	129	90	6
156	160	111	
186	191	133	
248	255	177	
302	311	216	7
361	371	258	
430	442	307	
505	519	361	
617	617	429	
302	311	216	8
361	371	258	
430	442	307	
505	519	361	
545	560	390	
617	635	442	
710	730	508	
740	761	529	
800	823	573	9
960	987	687	
1K0	1075	748	
1K1	1167	812	
1K3	1404	977	
1K4	1460	1016	10
1K6	1702	1184	
2K0	2131	1483	
2K6	2816	1959	11
3K4	3501	2436	12
4K0	4186	2912	13
5K4	5555	3865	14
6K7	6925	4818	15

G3

PowerFlex 755TM ND Bus Supply Ratings			
600V, 60 Hz Input			
Code	Amps	kW	Frame
077	79	69	6
099	102	89	
125	129	112	
144	148	129	
192	197	171	7
242	249	217	
295	303	263	
355	365	317	
395	406	353	
242	249	217	8
295	303	263	
355	365	317	
395	406	353	
435	447	389	
545	560	487	9
595	596	518	
690	710	617	
760	782	680	
825	848	737	
980	1008	877	10
1K1	1075	935	
1K2	1255	1091	
1K5	1471	1279	11
2K0	2001	1740	
2K4	2489	2164	12
2K9	3080	2678	13
3K9	4088	3555	14
4K9	5096	4432	15

G4

PowerFlex 755TM ND Bus Supply Ratings			
690V, 50 Hz Input			
Code	Amps	kW	Frame
082	84	84	6
098	101	101	
119	122	122	
142	146	146	
171	176	176	7
215	221	221	
265	272	272	
330	339	339	
370	380	380	
215	221	221	8
265	272	272	
330	339	339	
370	380	380	
415	426	426	
505	518	518	9
565	580	580	
650	667	667	
735	754	754	
820	842	842	
920	944	944	10
1K0	1057	1057	
1K1	1180	1180	
1K4	1456	1456	11
1K8	1914	1914	
2K3	2379	2379	12
2K7	2849	2849	13
3K6	3781	3781	14
4K5	4714	4714	15

Catalog number positions 8...10 identify the product normal duty rating.

1...3 4 5 6 7 8...10 11 12 13 14 15 16 17 18
 20G 1 D 3 F 2K3 M N D N N N N N -C0-C11-P15...
H1...H4

H1

PowerFlex 755T ND CBI Ratings			
400V, 50 Hz Input			
Code	Amps	kW	Frame
302	302	160	8
367	367	200	
460	460	250	
540	540	315	
585	585	315	
650	650	355	
750	750	400	
770	770	400	
920	920	500	9
1K0	1040	560	
1K1	1112	630	
1K2	1175	710	
1K4	1463	800	
1K6	1590	850	10
1K7	1715	1000	
2K1	2156	1250	11
2K8	2849	1650	
3K5	3542	2000	12
4K2	4235	2200	13
5K6	5621	2920	14
7K0	7007	3640	15

H2

PowerFlex 755T ND CBI Ratings			
480V, 60 Hz Input			
Code	Amps	Hp	Frame
302	302	250	8
361	361	300	
430	430	350	
505	505	400	
545	545	450	
617	617	500	
710	710	600	
740	740	650	
800	800	700	9
960	960	800	
1K0	1045	900	
1K1	1135	1000	
1K3	1365	1100	
1K4	1420	1250	10
1K6	1655	1500	
2K0	2072	1800	11
2K6	2738	2400	
3K4	3404	3000	12
4K0	4070	3600	13
5K4	5402	4800	14
6K7	6734	6000	15

H3

PowerFlex 755T ND CBI Ratings			
600V, 60 Hz Input			
Code	Amps	Hp	Frame
242	242	250	8
295	295	300	
355	355	350	
395	395	400	
435	435	450	
545	545	550	
595	580	600	9
690	690	700	
760	760	800	
825	825	900	
980	980	1000	

H4

PowerFlex 755T ND CBI Ratings			
690V, 50 Hz Input			
Code	Amps	kW	Frame
215	215	200	8
265	265	250	
330	330	315	
370	370	355	
415	415	400	
505	505	500	
565	565	560	9
650	650	630	
735	735	710	
820	820	800	
920	920	900	

H3			
PowerFlex 755T ND CBI Ratings			
600V, 60 Hz Input			
Code	Amps	Hp	Frame
1K1	1045	1100	10
1K2	1220	1250	
1K5	1430	1500	
2K0	1946	2000	11
2K4	2420	2500	12
2K9	2998	3100	13
3K9	3979	4100	14
4K9	4960	5100	15

H4			
PowerFlex 755T ND CBI Ratings			
690V, 50 Hz Input			
Code	Amps	kW	Frame
1K0	1030	1000	10
1K1	1150	1100	
1K4	1419	1400	
1K8	1865	1800	11
2K3	2318	2300	12
2K7	2778	2750	13
3K6	3687	3650	14
4K5	4596	4550	15

Catalog number positions 11...13 identify additional product configuration.

1...3	4	5	6	7	8...10	11	12	13	14	15	16	17	18	
20G	1	G	3	D	740	L	N	A	N	N	N	N	N	-C0-P15...
						I	J	K						

Filtering and CM Cap Configuration						
Code	EMC Filtering ⁽⁴⁾	PE-A ⁽⁵⁾	PE-B	DR ⁽⁶⁾	Reflective Wave Filtering	Frames
J ⁽¹⁾	Yes	Installed	Removed	—	No	8...15
K ⁽¹⁾	Yes	Installed	Removed	—	Yes	8...15
L ⁽²⁾	No	Installed	Removed	Installed	No	5...15
M ⁽²⁾	No	Installed	Removed	—	Yes	8...15
P ⁽³⁾	Yes	Installed	Removed	—	No	7

(1) Does not provide a C2 solution (C3 compliant), but does include some filtering.

(2) C3 compliant without additional filtering.

(3) Filtering with C2 compliance.

(4) EMC C2 ratings, conducted and radiated (IP54) or EMC C2 conducted only (IP21), are provided by 'P' filtering option for frame 7; C2 solutions kits are also available for frames 5, 6, and 8...10. See [Accessory Kits on page 259](#).

(5) Configuration does not apply to product type 20G with input types D and E. PE-A jumpers are removed when bus conditioner for marine applications (-P51) is selected.

(6) The DR jumper only applies to frame 5 and 6 drives.

J			
Dynamic Braking ⁽¹⁾			
Code	Internal Resistor	Internal Transistor	Frames
N	No	No	5...15

(1) Not available on Frames 8...15, specify Code 'N'.

K		
Door-mounted HIM (Frames 7...15)		
Code	Operator Interface and Control	Frames
A	No HIM with TotalFORCE Control	5...15
D	Enhanced LCD, Full Numeric, IP66, NEMA Type 4X/12 with TotalFORCE Control	7...15

Catalog number positions 14...18 are not used.

1...3	4	5	6	7	8...10	11	12	13	14	15	16	17	18	
20G	1	G	3	D	740	L	N	A	N	N	N	N	N	-C0-P15...

Power and control options are listed in the unnumbered field to right of position 18.

1...3	4	5	6	7	8...10	11	12	13	14	15	16	17	18	
20G	1	G	3	D	740	L	N	A	N	N	N	N	N	-C0-P15...

20G Control Options Selection

Code	Option	Frames	Input Type
C0	Torque Accuracy Module	5...12	D, E, F, G, 6, 7
		13...15	D, E
C11	Single Pod (with Control Bay) ⁽¹⁾	8...15	D, E
C12	Dual Pod (with Control Bay) ⁽¹⁾	8...15	D, E

(1) When code 'D' is selected in position 13, code C11 includes one door-mounted HIM and code C12 includes two door-mounted HIMs.

20J Control Options Selection

Code	Option	Frames	Input Type
C1	Control Transformer (Internal 240V) ⁽¹⁾	8...15	F

(1) This option only applies to 755TM regenerative and low harmonic bus supplies. If this option is not selected, a 240V AC, single-phase, neutral grounded external power source must be supplied by the customer.

20G Power Options Selection

Code	Option	Frames	Input Type
P15	Top Cable Exit with wiring bay	8...15	D, E, F, G
P16	Top Cable Entry with wiring bay	10...15	F, G
P17	Top Cable Entry no wiring bay	8...9	F, G
P46	System DC Bus (4700 Amp)	8...10	D, E, F, G
P50	DC Bus Conditioner	8...15	D, E, F, G
P51	DC Bus Conditioner – Marine Applications	5...12	D, E, F, G, 6, 7
P60	Back-to-back configuration	13...15	D, E, F, G

20J Power Options Selection

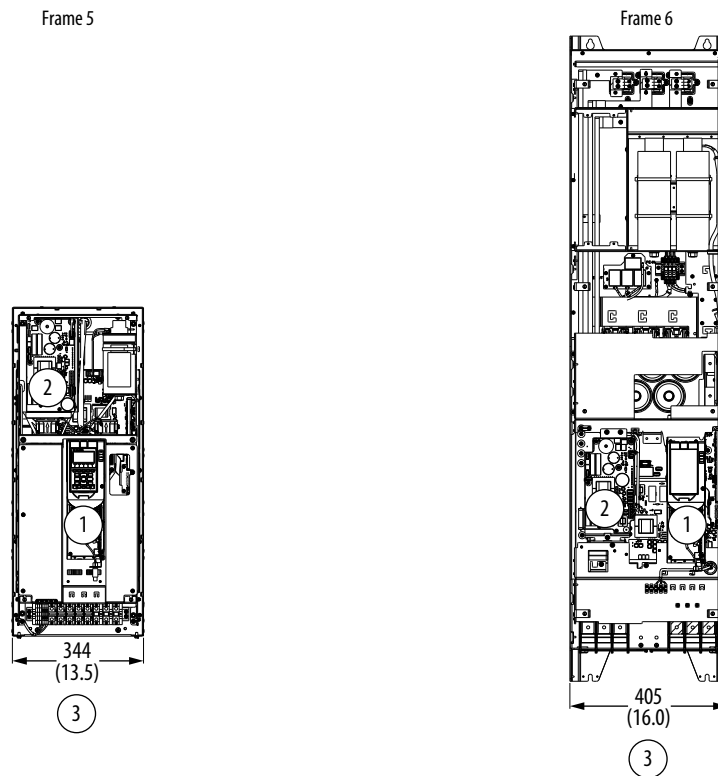
Code	Option	Frames	Input Type
P16	Top Cable Entry with wiring bay	10...15	F
P17	Top Cable Entry no wiring bay	8...9	F
P46	System DC Bus (4700 Amp)	8...10	F
P50	DC Bus Conditioner	8...15	F
P51	DC Bus Conditioner – Marine Applications	8...12	F

Frame Size Explanation

PowerFlex 750-Series products with TotalFORCE control are assigned frame size designators. These designations represent the various configurations of modules and hardware components that are packaged in a specific manner to obtain the full range of product offerings and power ratings. The products that are made possible through the combination of modular components and the assigned frame size designators are explained and illustrated in this section. All dimensions that are shown in the illustrations in this section are listed in millimeters and (inches).

PowerFlex 755TL and 755TR Drives

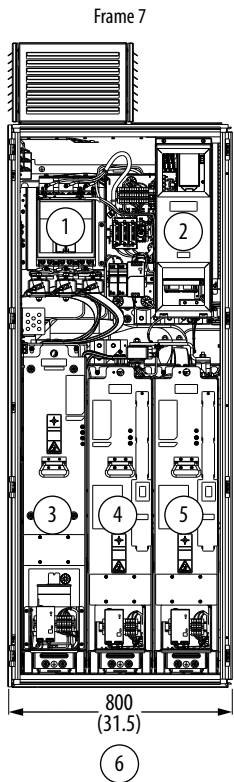
PowerFlex 755TL drive products are assigned frame sizes 5...12. PowerFlex 755TR drive products are assigned frame sizes 5...15. The major drive components shown in these illustrations.



Frame 5 enclosures are 357 mm (14 in.) deep. Frame 6 enclosures are 360.7 mm (14.2 in.) deep.

IP20, UL Open Type Enclosure Shown.

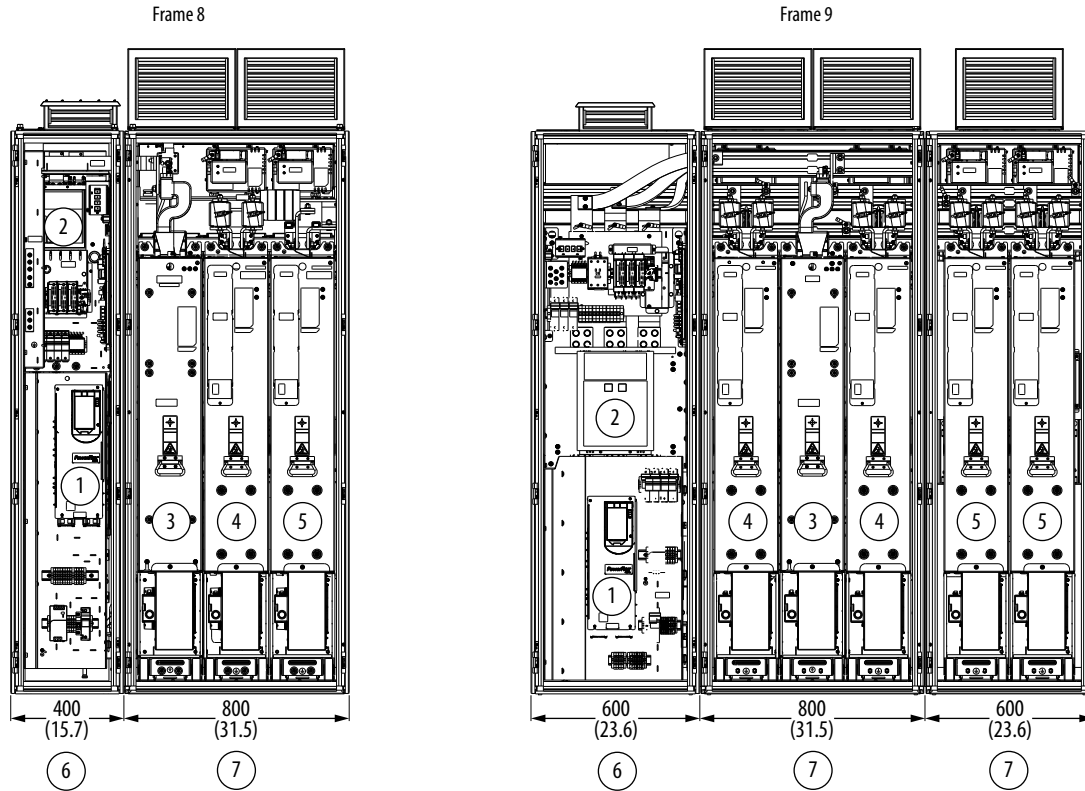
Item	Description
1	Control pod
2	AC precharge section
3	Chassis



All cabinet enclosures are 600 mm (23.6 in.) deep. IP54, UL Type 12 Enclosure Shown.

Item	Description
1	AC precharge section
2	Control pod
3	LCL filter

Item	Description
4	Line side converter
5	Motor side inverter
6	Cabinet

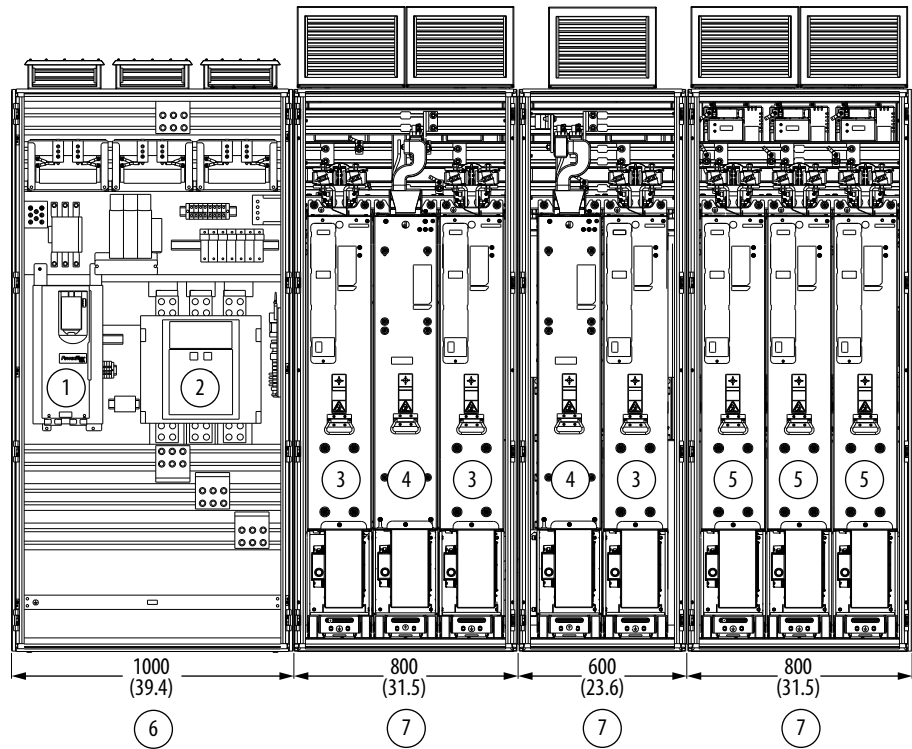


All cabinet enclosures are 600 mm (23.6 in.) deep. IP54, UL Type 12 Enclosure Shown.

Item	Description
1	Control pod
2	AC precharge module
3	LCL filter
4	Line side converter

Item	Description
5	Motor side inverter
6	Input bay
7	Power bay

Frame 10

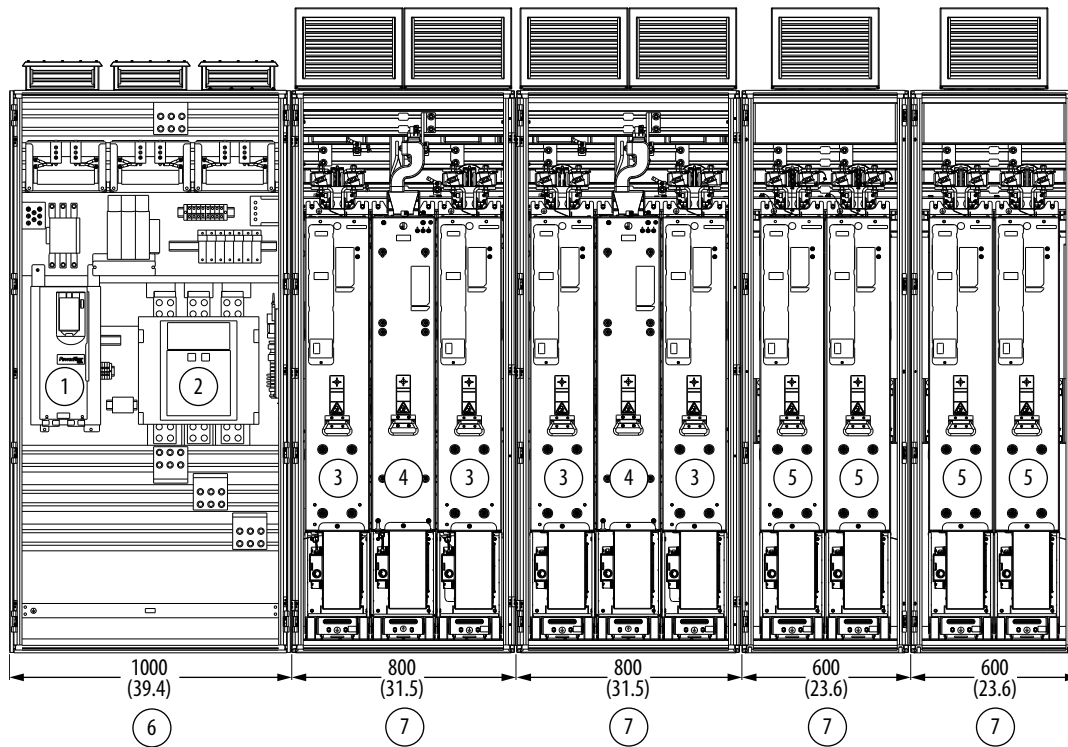


All cabinet enclosures are 600 mm (23.6 in.) deep. IP54, UL Type 12 Enclosure Shown.

Item	Description
1	Control pod
2	AC precharge section
3	Line side converter
4	LCL filter

Item	Description
5	Motor side inverter
6	Input bay
7	Power bay

Frame 11

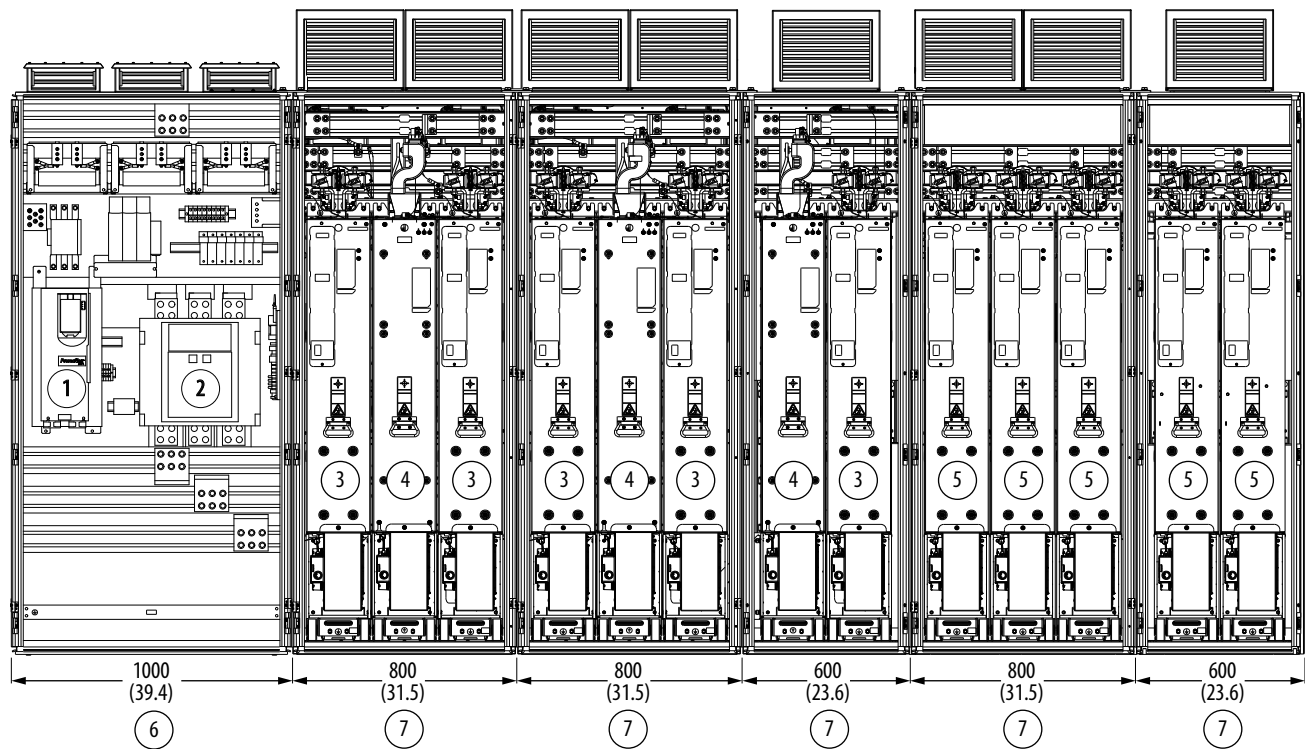


All cabinet enclosures are 600 mm (23.6 in.) deep. IP54, UL Type 12 Enclosure Shown.

Item	Description
1	Control pod
2	AC precharge section
3	Line side converter
4	LCL filter

Item	Description
5	Motor side inverter
6	Input bay
7	Power bay

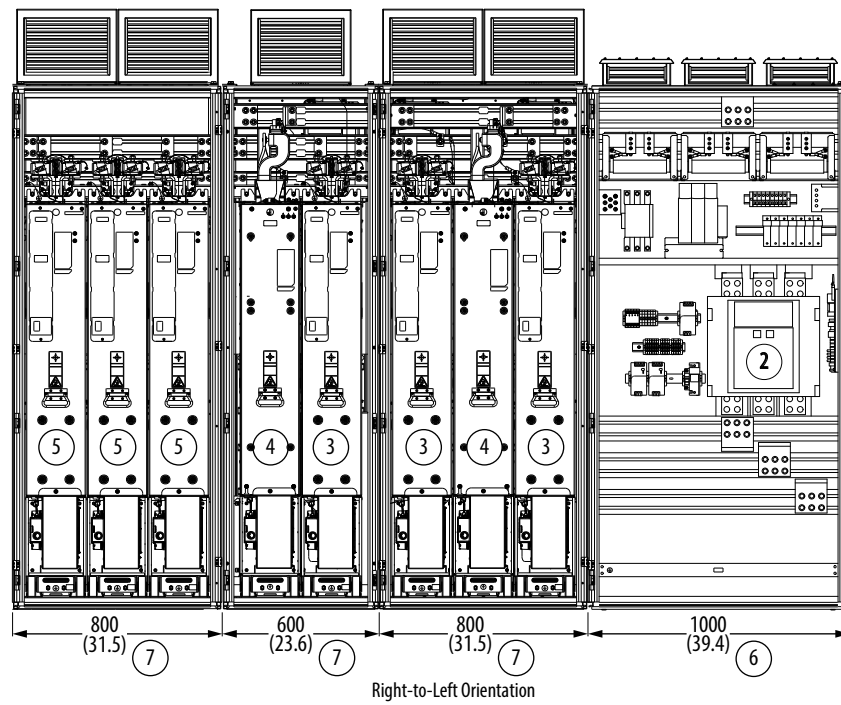
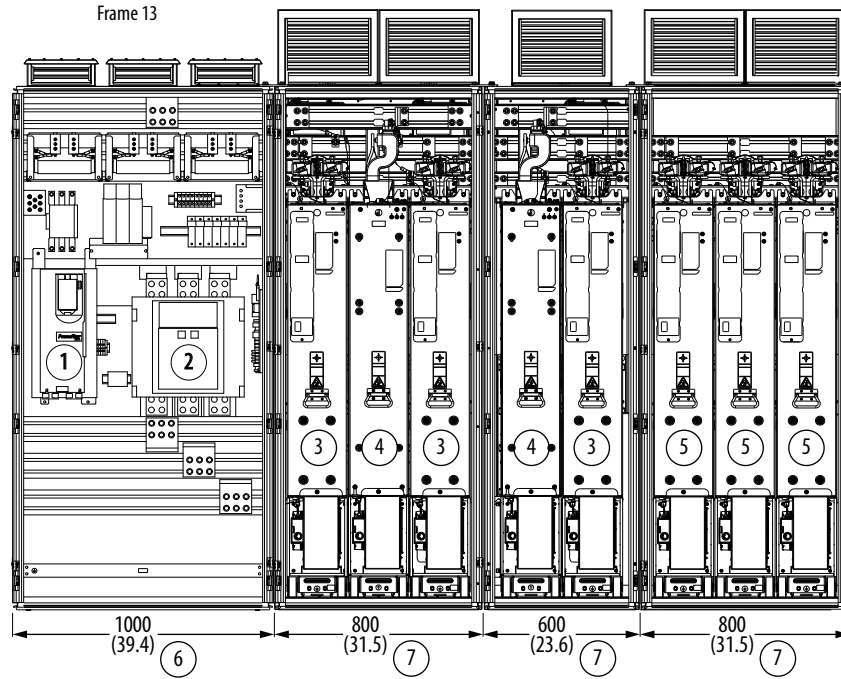
Frame 12



All cabinet enclosures are 600 mm (23.6 in.) deep. IP54, UL Type 12 Enclosure Shown.

Item	Description
1	Control pod
2	AC precharge section
3	Line side converter
4	LCL filter

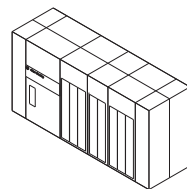
Item	Description
5	Motor side inverter
6	Input bay
7	Power bay



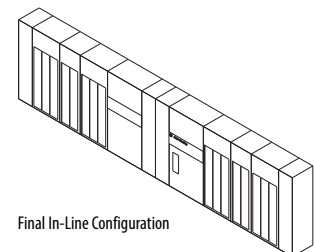
All cabinet enclosures are 600 mm (23.6 in.) deep.
IP54, UL Type 12 Enclosure Shown.

Entry and exit wire bays are omitted from this illustration.

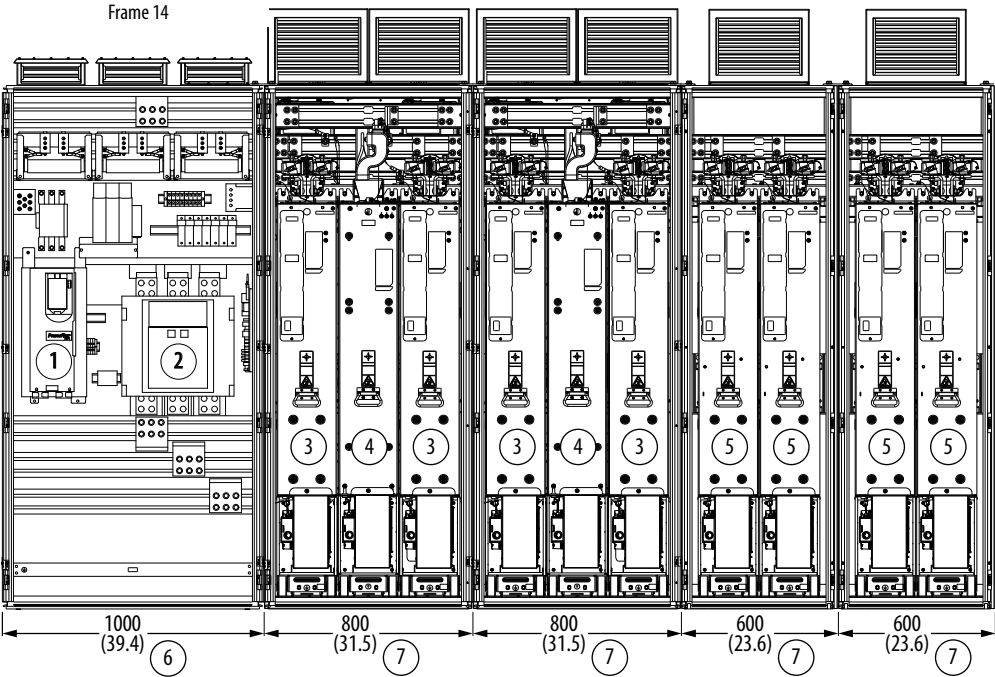
Item	Description	Item	Description
1	Control pod	5	Motor side inverter
2	AC precharge section	6	Input bay
3	Line side converter	7	Power bay
4	LCL filter		



Final Back-to-Back Configuration

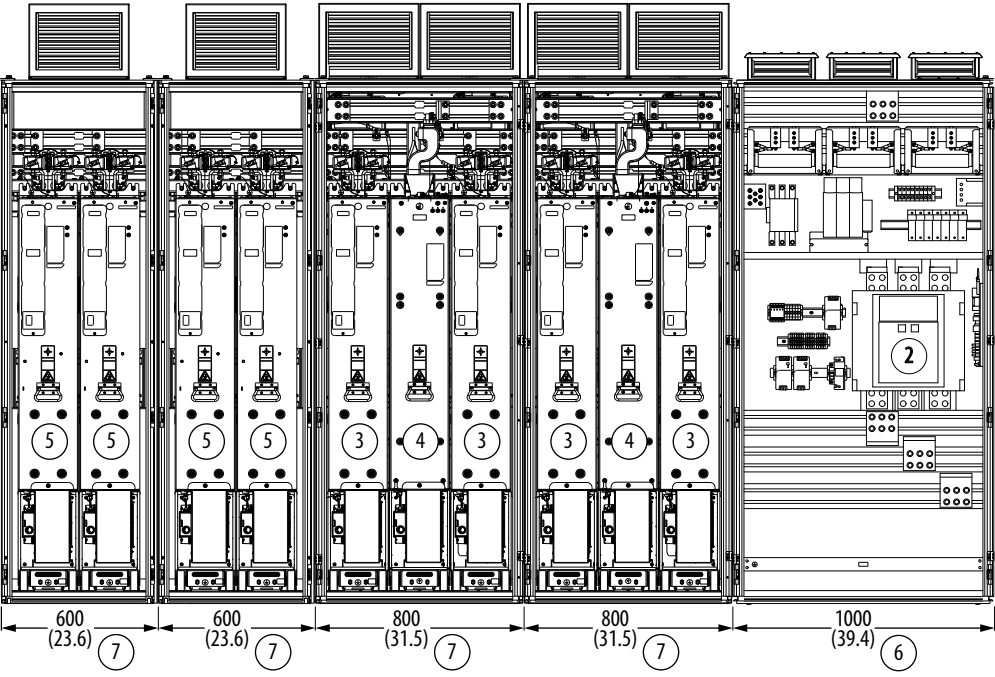


Final In-Line Configuration



Left-to-Right Orientation

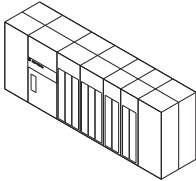
All cabinet enclosures are 600 mm (23.6 in.) deep.
IP54, UL Type 12 Enclosure Shown.



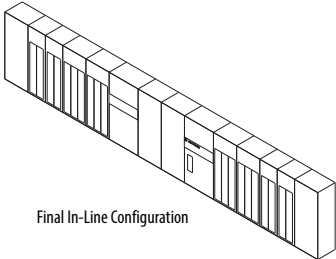
Right-to-Left Orientation

Entry and exit wire bays are omitted from this illustration.

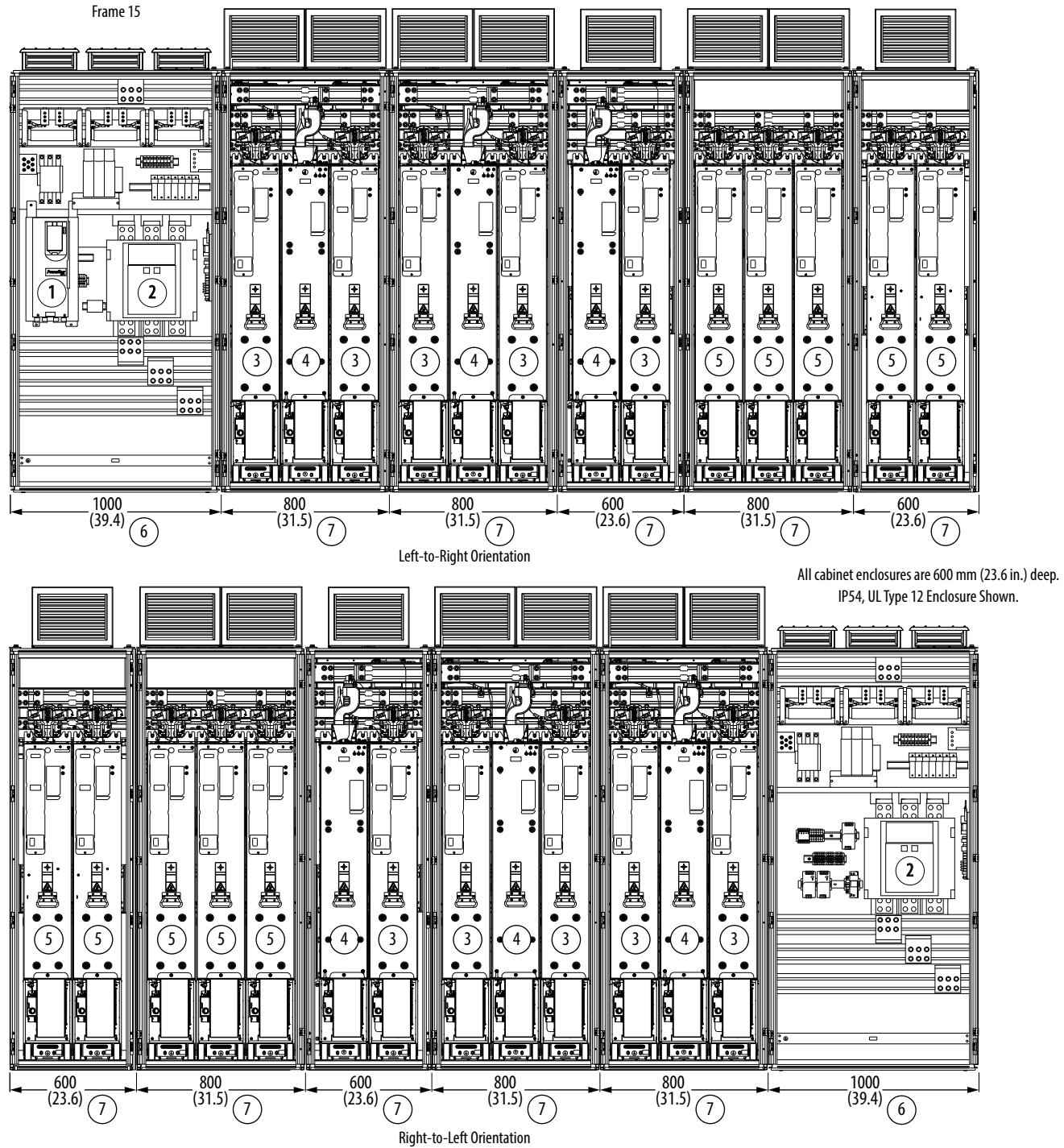
Item	Description	Item	Description
1	Control pod	5	Motor side inverter
2	AC precharge section	6	Input bay
3	Line side converter	7	Power bay
4	LCL filter		



Final Back-to-Back Configuration

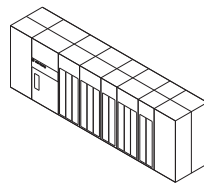


Final In-Line Configuration

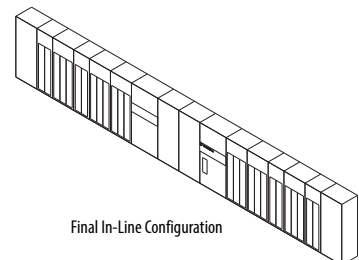


Entry and exit wire bays are omitted from this illustration.

Item	Description	Item	Description
1	Control pod	5	Motor side inverter
2	AC precharge section	6	Input bay
3	Line side converter	7	Power bay
4	LCL filter		



Final Back-to-Back Configuration

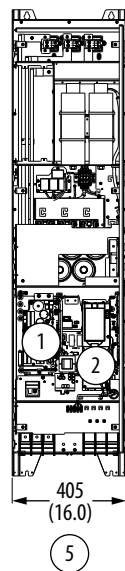


Final In-Line Configuration

PowerFlex 755TM Bus Supplies

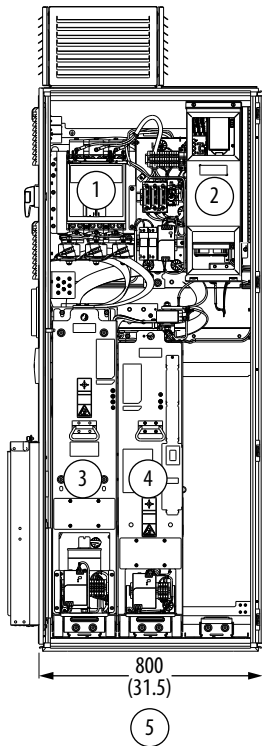
PowerFlex 755TM bus supply products are assigned frame sizes 6...15. The major components shown in these illustrations.

Frame 6



Frame 6 enclosures are 361 mm (14.2 in.) deep.
IP20, UL Open Type Enclosure Shown.

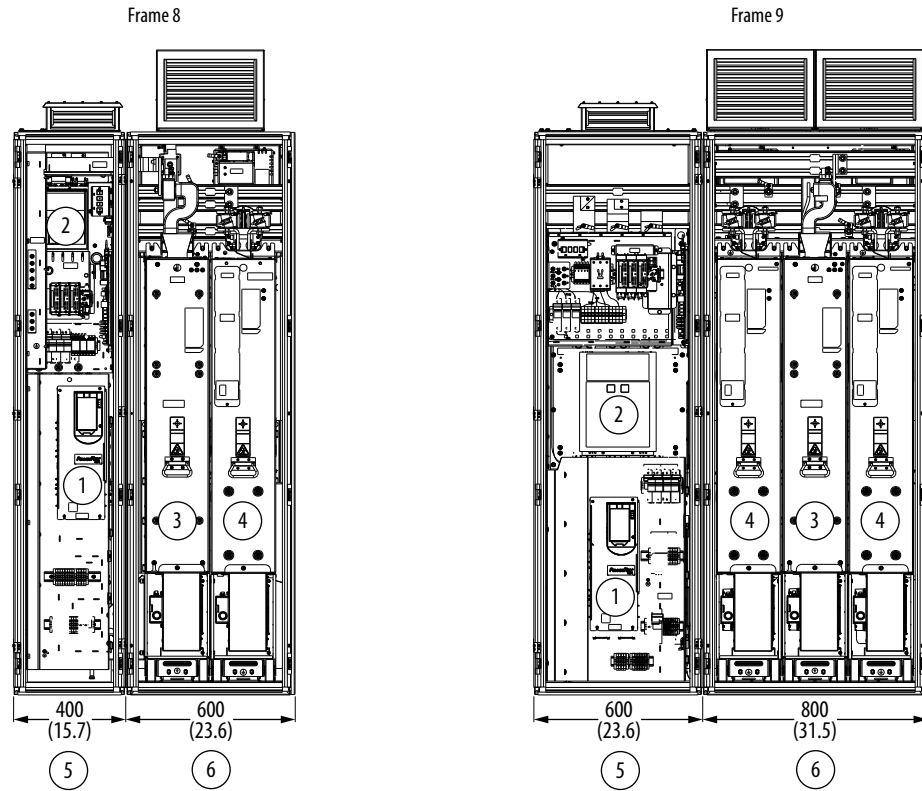
Frame 7



All cabinet enclosures are 600 mm (23.6 in.) deep.
Frame 7 IP54, UL Type 12 Enclosure Shown.

Item	Description
1	AC precharge section
2	Control pod
3	LCL filter

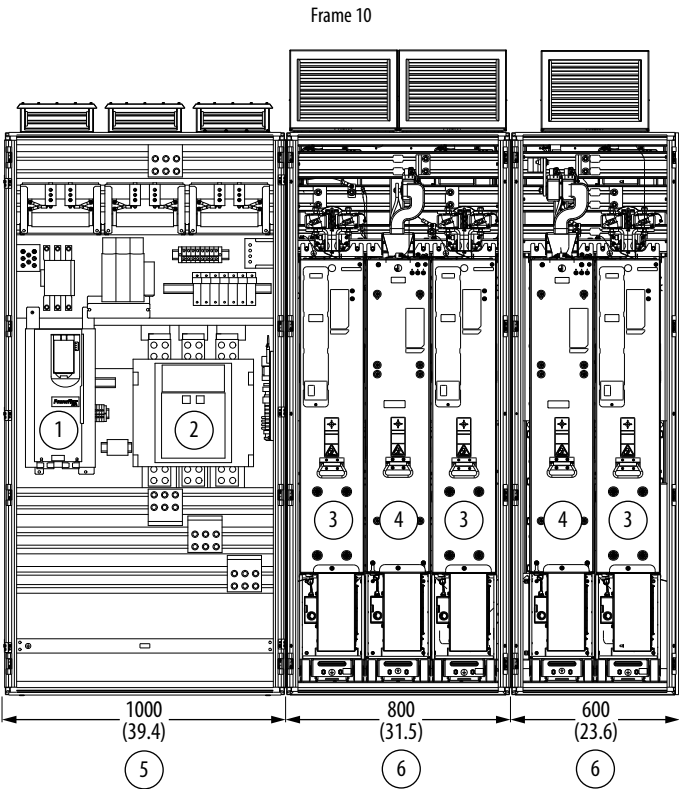
Item	Description
4	Line side converter
5	Chassis / Cabinet



All cabinet enclosures are 600 mm (23.6 in.) deep. IP54, UL Type 12 Enclosure Shown.

Item	Description
1	Control pod
2	AC precharge section
3	LCL filter

Item	Description
4	Line side converter
5	Input bay
6	Power bay

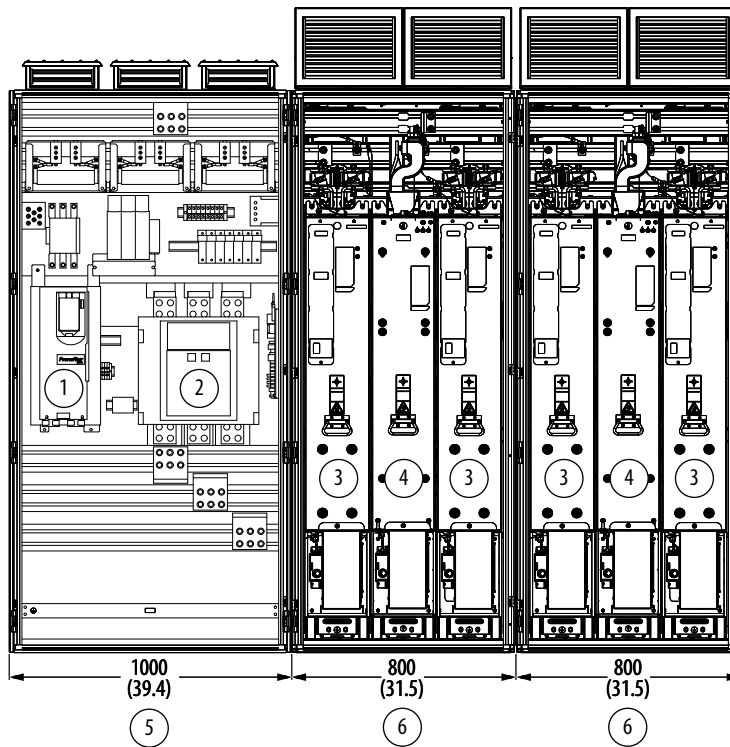


All cabinet enclosures are 600 mm (23.6 in.) deep. IP54, UL Type 12 Enclosure Shown.

Item	Description
1	Control pod
2	AC precharge section
3	Line side converter

Item	Description
4	LCL filter
5	Input bay
6	Power bay

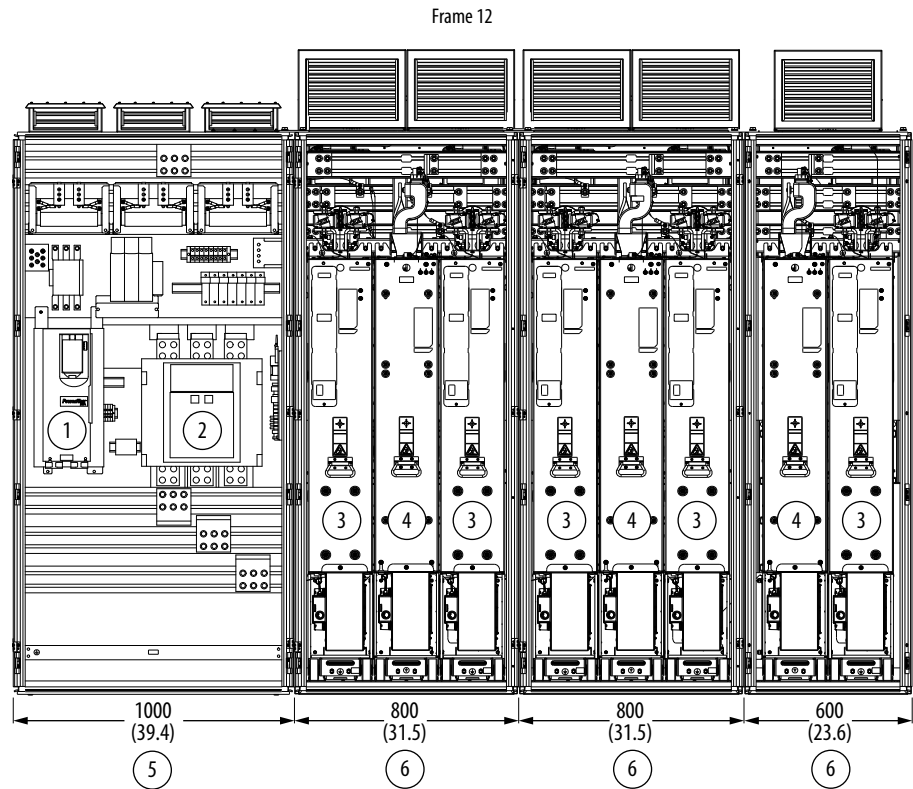
Frame 11



All cabinet enclosures are 600 mm (23.6 in.) deep. IP54, UL Type 12 Enclosure Shown.

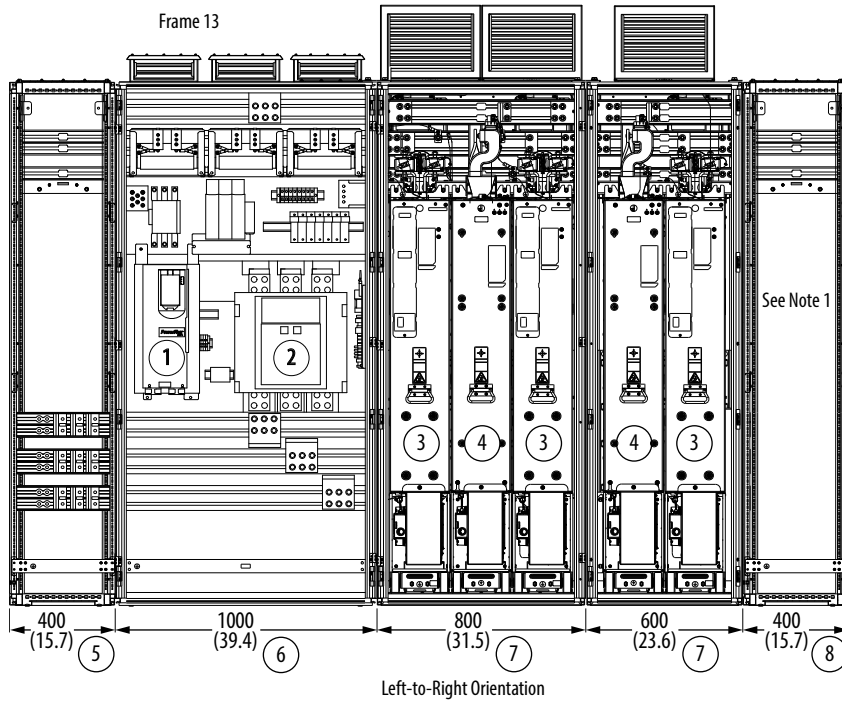
Item	Description
1	Control pod
2	AC precharge section
3	Line side converter

Item	Description
4	LCL filter
5	Input bay
6	Power bay

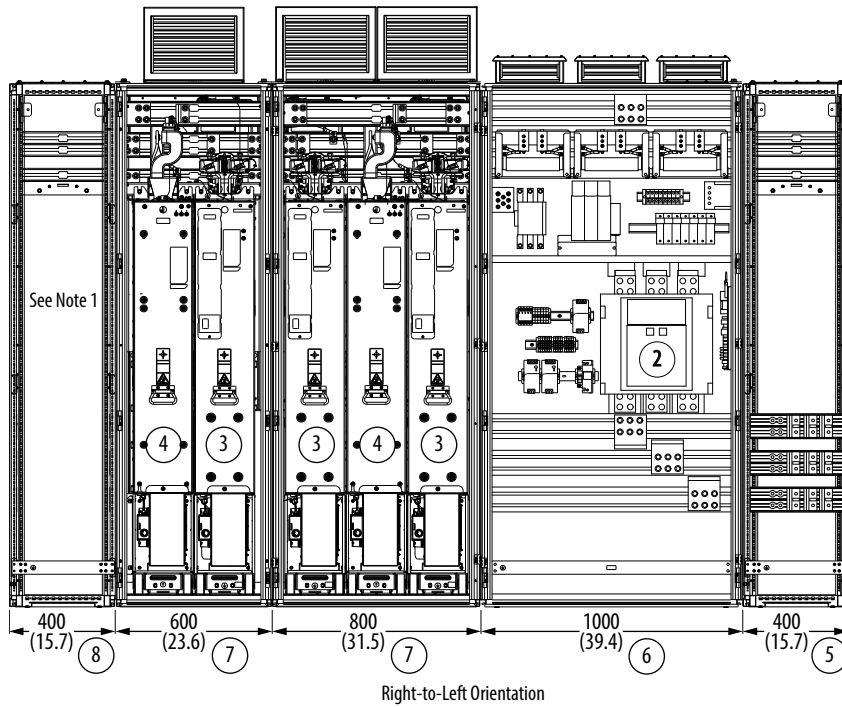


Item	Description
1	Control pod
2	AC precharge section
3	Line side converter

Item	Description
4	LCL filter
5	Input bay
6	Power bay

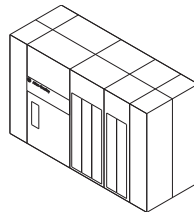


All cabinet enclosures are 600 mm (23.6 in.) deep.
IP54, UL Type 12 Enclosure Shown.

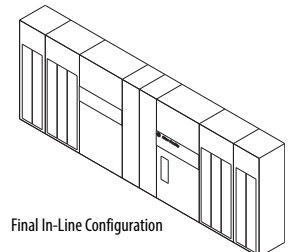


Note 1: 400 mm (15.7 in.) voltage balance bay only used with back-to-back configuration.

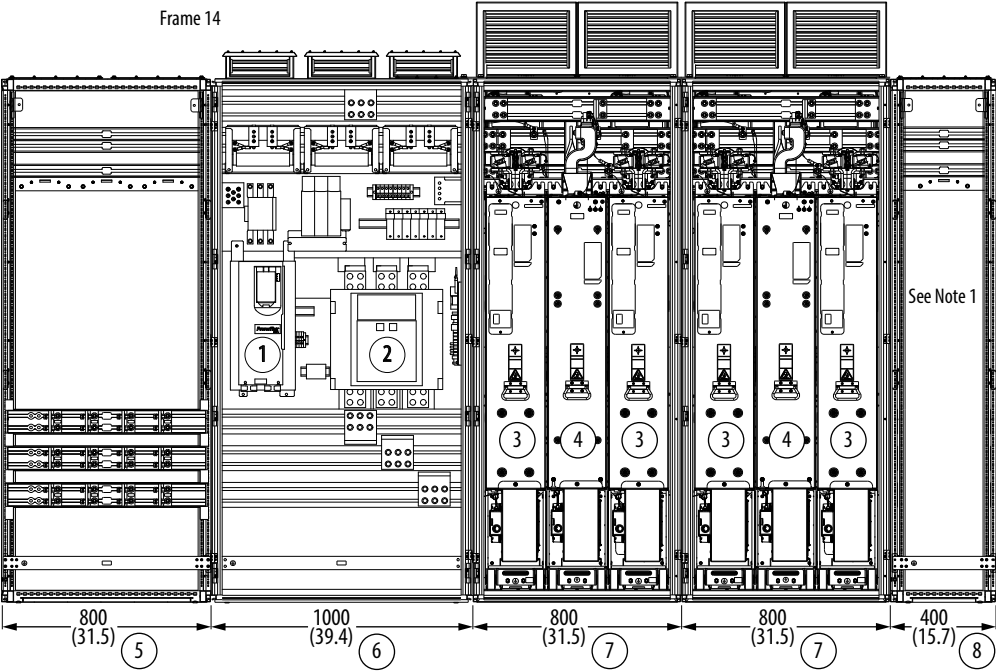
Item	Description	Item	Description
1	Control pod	5	Entry wire bay
2	AC precharge section	6	Input bay
3	Line side converter	7	Power bay
4	LCL filter	8	Voltage balance bay



Final Back-to-Back Configuration

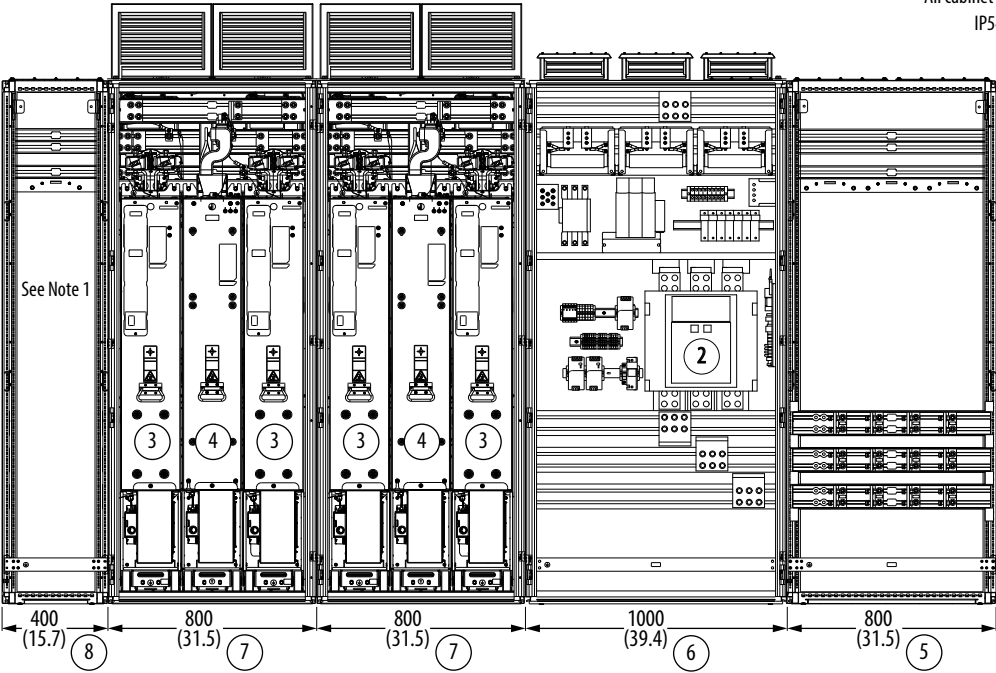


Final In-Line Configuration



Left-to-Right Orientation

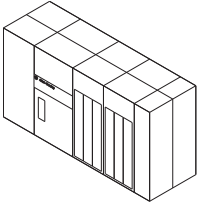
All cabinet enclosures are 600 mm (23.6 in.) deep.
IP54, UL Type 12 Enclosure Shown.



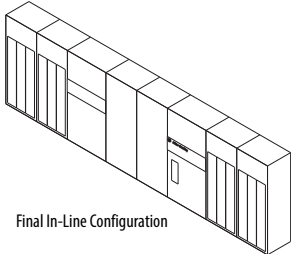
Right-to-Left Orientation

Note 1: 400 mm (15.7 in.) voltage balance bay only used with back-to-back configuration.

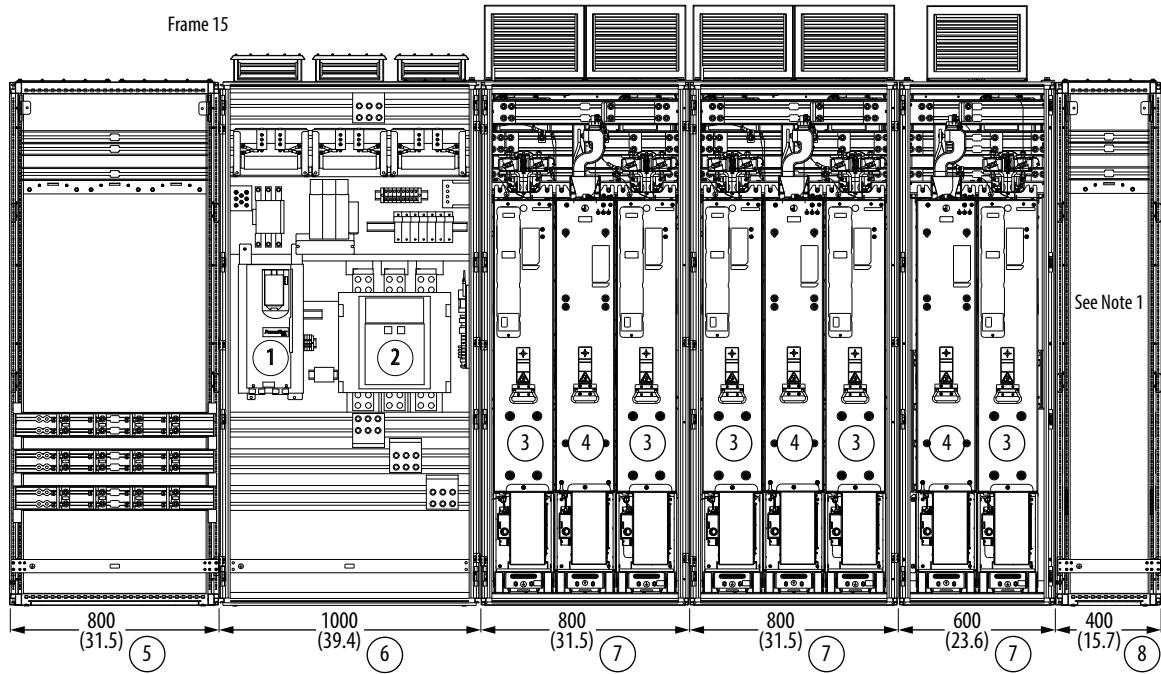
Item	Description	Item	Description
1	Control pod	5	Entry wire bay
2	AC precharge section	6	Input bay
3	LCL filter	7	Power bay
4	Line side converter	8	Voltage balance bay



Final Back-to-Back Configuration

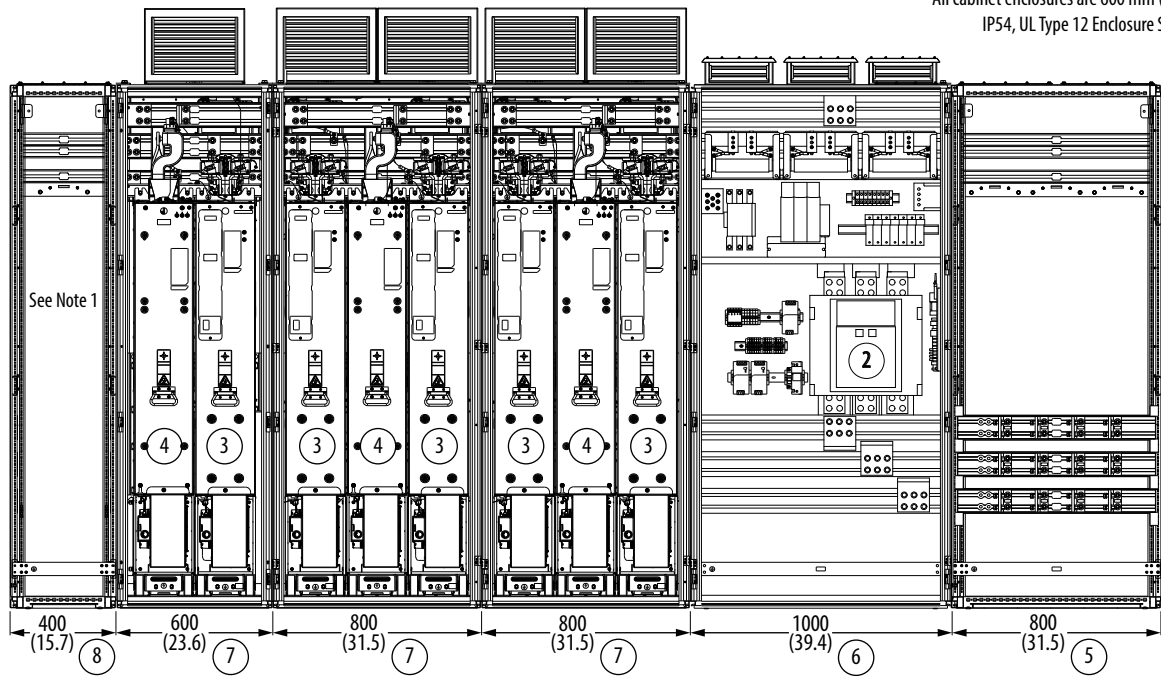


Final In-Line Configuration



Left-to-Right Orientation

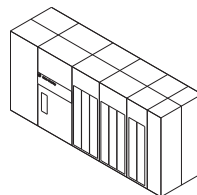
All cabinet enclosures are 600 mm (23.6 in.) deep.
IP54, UL Type 12 Enclosure Shown.



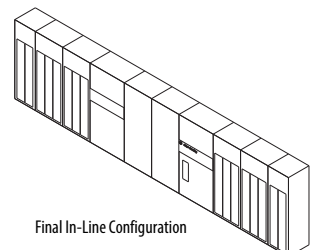
Right-to-Left Orientation

Note 1: 400 mm (15.7 in.) voltage balance bay only used with back-to-back configuration.

Item	Description	Item	Description
1	Control pod	5	Entry wire bay
2	AC precharge section	6	Input bay
3	Line side converter	7	Power bay
4	LCL filter	8	Voltage balance bay



Final Back-to-Back Configuration

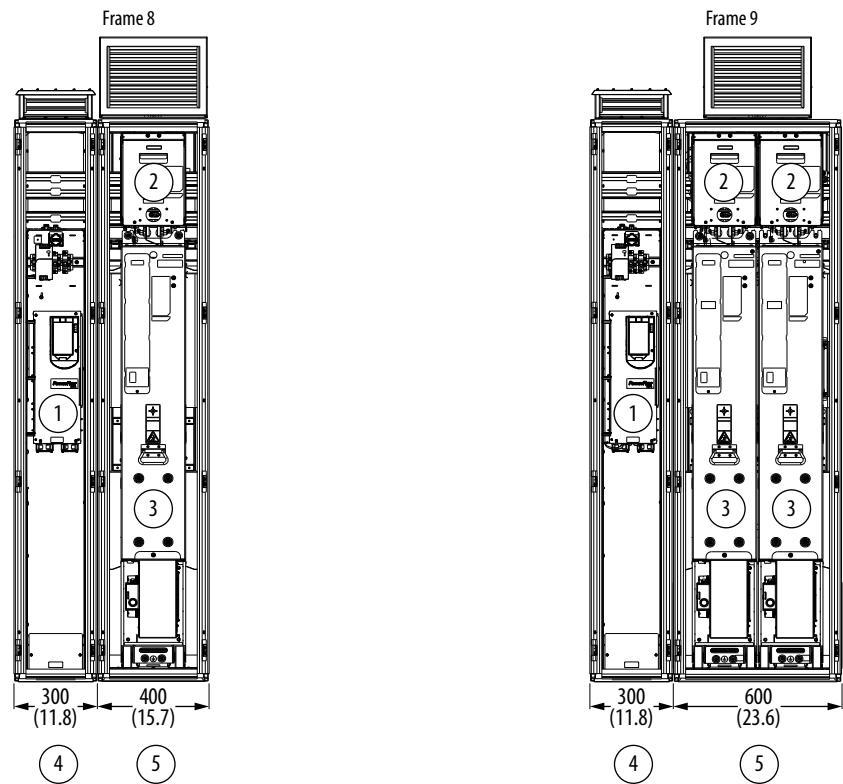


Final In-Line Configuration

PowerFlex 755TM Common Bus Inverters

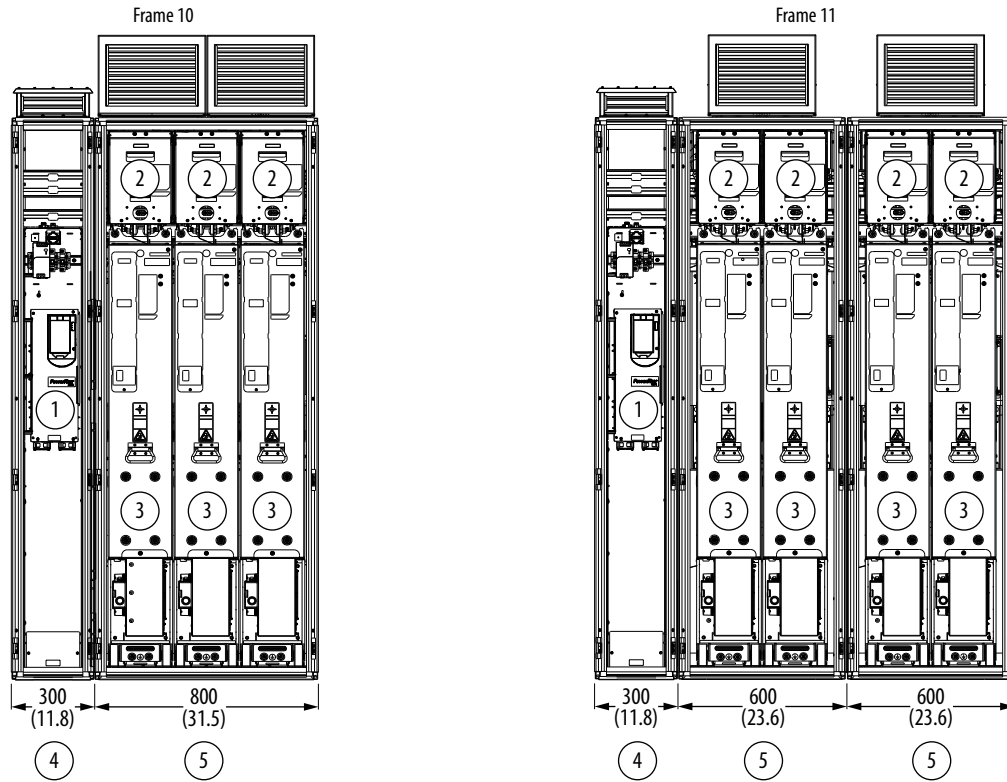
The common bus inverter offerings provide power structures that are combined with a bus supply to provide power to multiple motor applications.

One control pod is required for each PowerFlex 755TM Common Bus Inverter in the system. Single pod control bays (catalog option C11) with single power bays are depicted on pages 30...35. A dual pod control bay (catalog option C12) with dual power bays is depicted on page 36.



All cabinet enclosures are 600 mm (23.6 in.) deep. IP54, UL Type 12 Enclosure Shown.

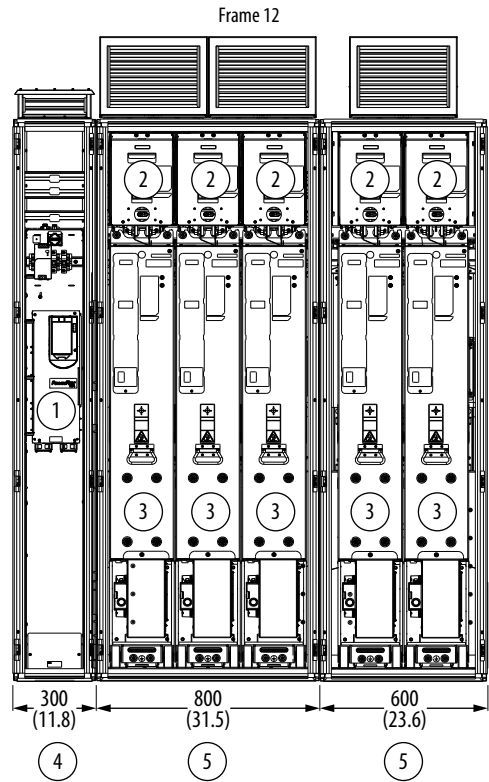
Item	Description	Item	Description
1	Control pod	4	Control bay (Option C11)
2	DC precharge module	5	Power bay
3	Motor side inverter		



All cabinet enclosures are 600 mm (23.6 in.) deep. IP54, UL Type 12 Enclosure Shown.

Item	Description
1	Control pod
2	DC precharge module
3	Motor side inverter

Item	Description
4	Control bay (Option C11)
5	Power bay

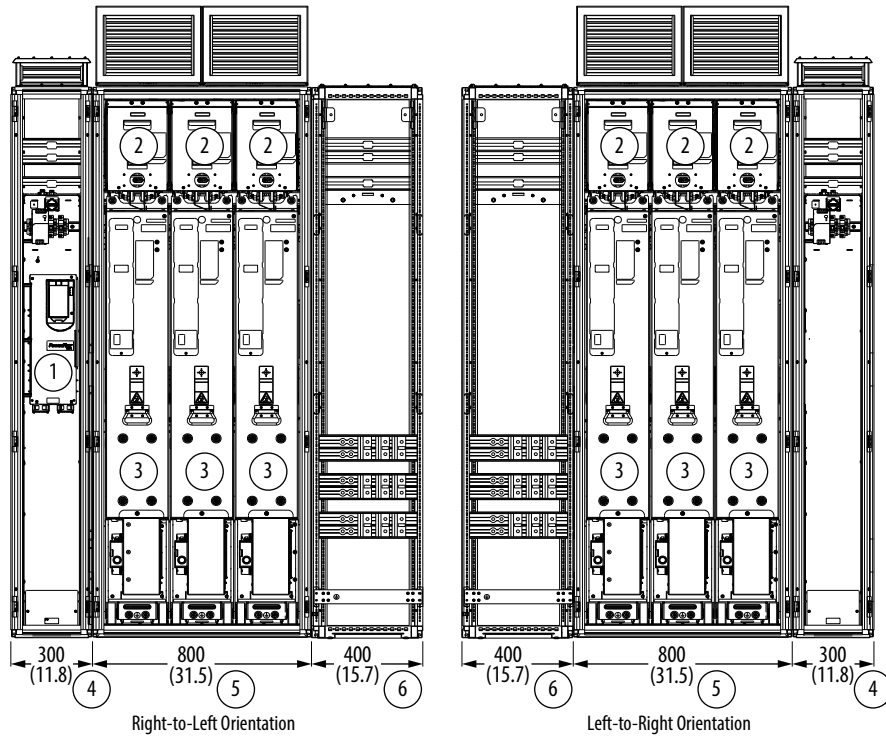


All cabinet enclosures are 600 mm (23.6 in.) deep. IP54, UL Type 12 Enclosure Shown.

Item	Description
1	Control pod
2	DC precharge module
3	Motor side inverter

Item	Description
4	Control bay (Option C11)
5	Power bay

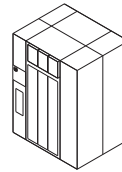
Frame 13



All cabinet enclosures are 600 mm (23.6 in.) deep. IP54, UL Type 12 Enclosure Shown.

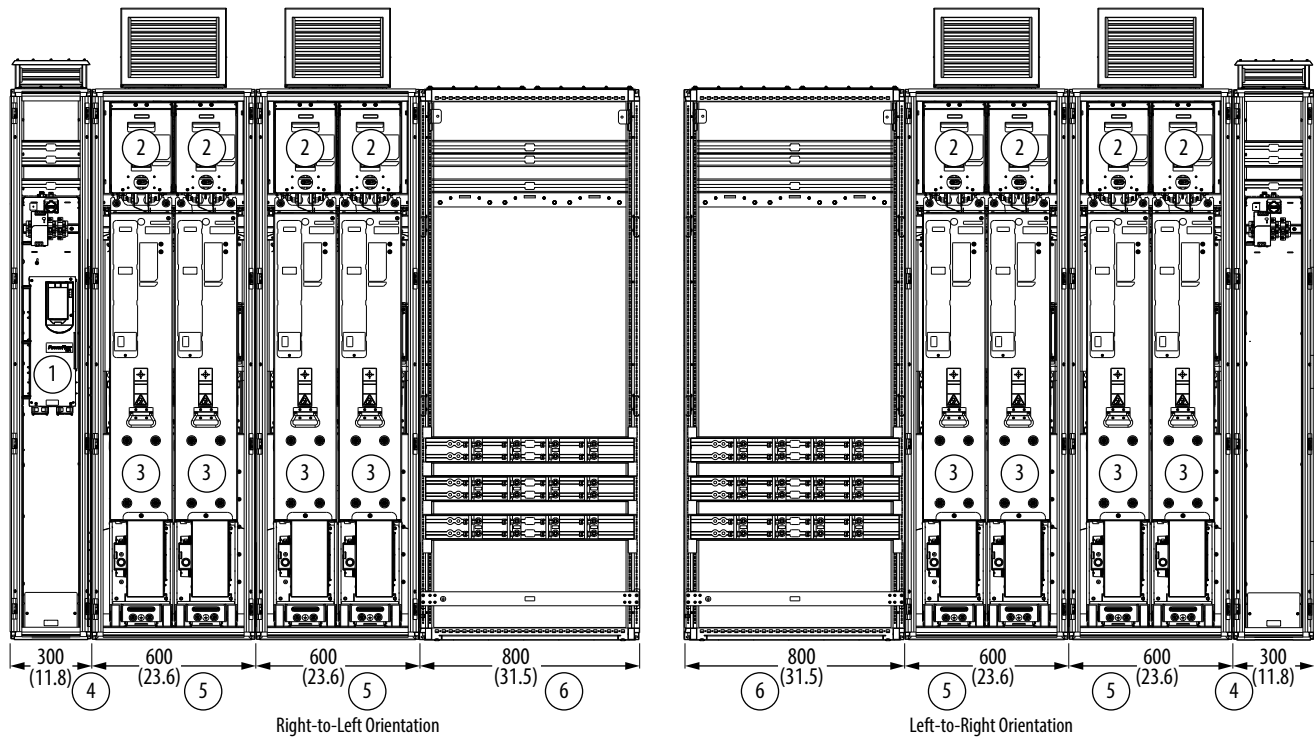
Item	Description
1	Control pod
2	DC precharge module
3	Motor side inverter

Item	Description
4	Control bay (Option C11)
5	Power bay
6	Voltage balance bay



Final Back-to-Back Configuration

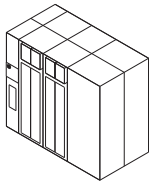
Frame 14



All cabinet enclosures are 600 mm (23.6 in.) deep. IP54, UL Type 12 Enclosure Shown.

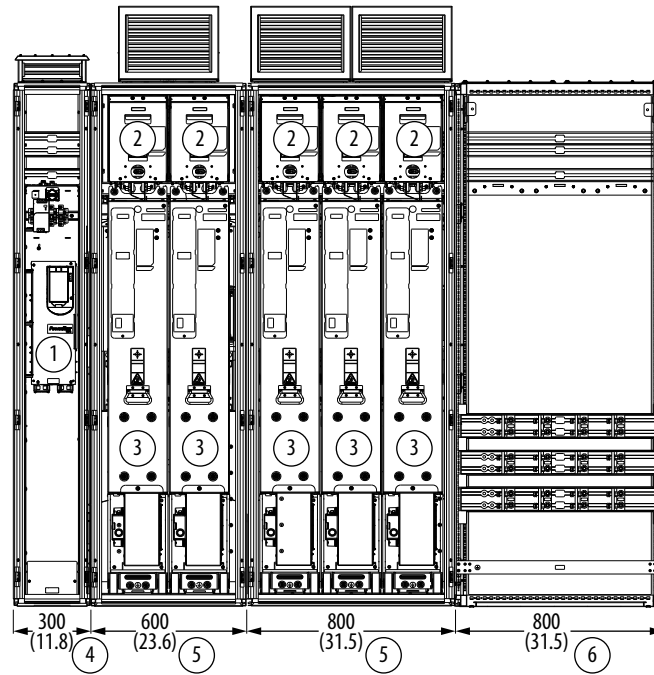
Item	Description
1	Control pod
2	DC precharge module
3	Motor side inverter

Item	Description
4	Control bay (Option C11)
5	Power bay
6	Voltage balance bay



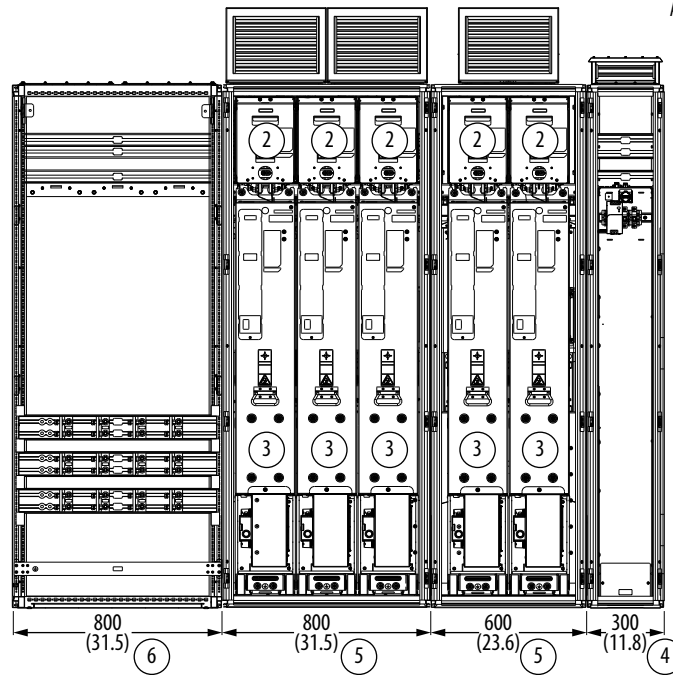
Final Back-to-Back Configuration

Frame 15



Left-to-Right Orientation

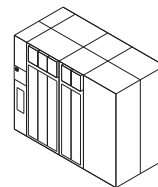
All cabinet enclosures are 600 mm (23.6 in.) deep.
IP54, UL Type 12 Enclosure Shown.



Right-to-Left Orientation

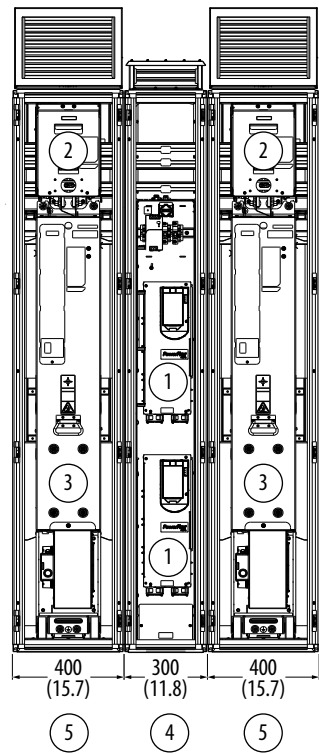
Item	Description
1	Control pod
2	DC precharge module
3	Motor side inverter

Item	Description
4	Control bay (Option C11)
5	Power bay
6	Voltage balance bay



Final Back-to-Back Configuration

Two Frame 8 Common Bus Inverters with Common Control Bay



All cabinet enclosures are 600 mm (23.6 in.) deep. IP54, UL Type 12 Enclosure Shown.

Item	Description
1	Control pod (Two pods shown)
2	DC precharge module
3	Motor side inverter

Item	Description
4	Control bay (Option C12)
5	Power bay

Certifications and Specifications

Product certifications	Rockwell Automation maintains current product certification information on its website at: http://www.rockwellautomation.com/global/certification/overview
CE	In conformity with the following European Directives: EMC Directive (2014/30/EU) Low Voltage Directive (2014/35/EU) RoHS Directive (2011/65/EU) Standards applied: EN 61800-3 EN 61800-5-1 Exposure to harmonics per Table 24 of IEC 61800-3 (second environment) results in drive shutdown in a safe condition.
China RoHS2	Compliant with China Restriction of Hazardous Substances Directive.
c-UL-us	UL: Listed to UL61800-5-1 up to 600V AC
EMC	In conformity with EMC Directive (2014/30/EU). C3 Directive for Conducted and Radiated Emissions: All PowerFlex 755T drives, bus supplies, and common bus inverters C2 Directive for Conducted and Radiated Emissions: Frame 5 with 20-750-EMC2-F5 accessory kit installed Frame 6 with 20-750-EMC2-F6 accessory kit installed Frame 7 with IP54, UL Type 12 enclosure and 'P' filtering option C2 Directive for Conducted Emissions: Frame 7 with IP21, UL Type 1 enclosure and 'P' filtering option Frame 8 with 20-750-MEMCC2-F8 and 20-750-MEMCC2-F8910 accessory kits installed Frame 9 with 20-750-MEMCC2-F9 and 20-750-MEMCC2-F8910 accessory kits installed Frame 10 with 20-750-MEMCC2-F10 and 20-750-MEMCC2-F8910 accessory kits installed
Functional safety	TÜV and Rheinland - Certification applies to 20-750-S, 20-750-S1, 20-750-S3 safety, and 20-750-S4 options when they are installed in the drive and are configured according to the appropriate safety manual. See Additional Resources on page 267 for list of publications. Standards applied: IEC 61508 PARTS 1...7 EN ISO 13849-1 EN 61800-3 IEC 62061 EN 61800-5-1 ISO 60204-1 IEC 61800-5-2 Machinery Directive (2006/42/EC)
KCC	Korean KC registration
Network communication	ODVA Declaration of Conformity to the EtherNet/IP Specification
Packaging directive	In conformity with the Packaging Directive (94/62/EC and amendments 2004/12/EC and 2005/20/EC)
REACH	Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).
Regulatory compliance mark (RCM)	Australian Communications and Media Authority In conformity with the following: Radiocommunications Act: 1992 Radiocommunications Standard: 2008 Radiocommunications Labeling Notice: 2008 Standards applied: EN 61800-3:2012
SEMI F47	Certified compliant with the SEMI F47 standard.

Category	Specification																												
Environmental compliance	Rockwell Automation maintains current product environmental information on its website at: http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page																												
Altitude	See Derating Guidelines starting on page 51.																												
Based on load	Based on EN61800-5-1 (Electro-thermal Safety Standard for drives)																												
Based on voltage	<table><tr><th colspan="5">Altitude Limit Above Sea Level ⁽¹⁾</th></tr><tr><th>System and Ground Configuration</th><th>Overvoltage Category ⁽²⁾</th><th>400/480V AC</th><th>600V AC</th><th>690V AC</th></tr><tr><td rowspan="2">Center Grounded (Y Neutral) w/Solid Ground</td><td>II</td><td>9000 m ⁽³⁾</td><td>7500 m ⁽³⁾</td><td>7500 m ⁽³⁾</td></tr><tr><td>III</td><td>4800 m</td><td>4800 m</td><td>4800 m</td></tr><tr><td rowspan="2">Ungrounded, Impedance Grounded, or Corner Grounded</td><td>II</td><td>4800 m</td><td>7500 m ⁽³⁾</td><td>4800 m</td></tr><tr><td>III</td><td>2000 m</td><td>4800 m</td><td>2000 m</td></tr></table> (1) Excluding failure from cosmic radiation. Cosmic radiation will increase rate of IGBT malfunction at altitudes greater than 3000 m above sea level. Concrete walls and ceilings or concrete walls and large bottles of water overhead are examples of ways to shield against cosmic radiation. (2) Overvoltage Categories: Category II (Isolation Transformer Level) - Typically two levels of isolation or protection from outdoor power lines. Category III (Most Common) Distribution Level Inside a Building - Typically one level of isolation or protection from outdoor power lines. (3) Product is limited to a maximum of 4800 m thermally. See the Ambient Temperature/Load Derating Guidelines starting on page 51.	Altitude Limit Above Sea Level ⁽¹⁾					System and Ground Configuration	Overvoltage Category ⁽²⁾	400/480V AC	600V AC	690V AC	Center Grounded (Y Neutral) w/Solid Ground	II	9000 m ⁽³⁾	7500 m ⁽³⁾	7500 m ⁽³⁾	III	4800 m	4800 m	4800 m	Ungrounded, Impedance Grounded, or Corner Grounded	II	4800 m	7500 m ⁽³⁾	4800 m	III	2000 m	4800 m	2000 m
Altitude Limit Above Sea Level ⁽¹⁾																													
System and Ground Configuration	Overvoltage Category ⁽²⁾	400/480V AC	600V AC	690V AC																									
Center Grounded (Y Neutral) w/Solid Ground	II	9000 m ⁽³⁾	7500 m ⁽³⁾	7500 m ⁽³⁾																									
	III	4800 m	4800 m	4800 m																									
Ungrounded, Impedance Grounded, or Corner Grounded	II	4800 m	7500 m ⁽³⁾	4800 m																									
	III	2000 m	4800 m	2000 m																									
Atmospheric protection	Conformity with IEC 60721-3-3, 3C2 and 3S2, for components manufactured by Rockwell Automation.																												
IEC	A suitable IP54, UL Type 12 Cabinet is required to meet the 3S2 requirement.																												
ISA	Harsh environments with a copper or silver reactivity level greater than 1000 angstroms per 30 days exposure are not allowed. No condensation is allowed. Maximum allowable humidity is 60% in the presence of corrosive gases. See ISA-71.04-2013 for details on how to measure reactivity levels on copper and silver test coupons.																												
Environmental impact	EU Environmental Directive: Restriction of Hazardous Substances (RoHS) Directive (2011/65/EU) – CE mark is required for the EU Registration, Evaluation and Authorization of Chemicals (REACH) Regulation (1907/2006) Packaging Directive (94/62/EC as amended by 2004/12/EC and 2005/20/EC) China Restriction of Hazardous Substance (RoHS) Directive																												
Surrounding air temperature	IP00, UL Open Type: -20...+40 °C (-4...+104 °F) Frames 5 and 6, all ratings																												
Ambient temperature	IP20, UL Type 1: -20...+40 °C (-4...+104 °F) Frames 5 and 6, all ratings IP21, UL Type 1: -20...+40 °C (-4...+104 °F) Frames 7...15, all ratings IP54, UL Type 12: -20...+40 °C (-4...+104 °F) Frames 7...15, all ratings																												
Surrounding air or ambient temperature with derating	50 °C (122 °F) or 60 °C (140 °F): Frames 5 and 6, all ratings 50 °C (122 °F) or 55 °C (134 °F): Frames 7...15, all ratings See Derating Guidelines on page 51 .																												
Storage temperature	-40...+70 °C (-40...+158 °F)																												
Relative humidity	5...95% non-condensing																												
UV radiation	The HIM is not UV rated.																												
Shock																													
Operating	Frames 5...15: Cabinet packaged products – 10 g peak for 11 ms duration (±1.0 ms), three shocks in each direction in each axis																												
Packaged for shipment	Frames 5...15: Meets ASTM International standards																												
Vibration																													
Operating	Frames 5...15: Cabinet packaged products – 1.000 mm (0.040 in.) displacement, 1 g peak																												
Packaged for shipment	Frames 5...15: Meets ASTM International standards																												

Category	Specification																																																																																										
Required volumetric airflow rate	<table><tr><th rowspan="2">Frame</th><th colspan="2">755TL and 755TR Drives</th><th colspan="2">755TM Bus Supplies</th><th colspan="2">755TM CBIs</th></tr><tr><th>CFM (ft³/min)</th><th>CMS (m³/sec)</th><th>CFM (ft³/min)</th><th>CMS (m³/sec)</th><th>CFM (ft³/min)</th><th>CMS (m³/sec)</th></tr><tr><td>5</td><td>580</td><td>0.27</td><td>—</td><td>—</td><td>—</td><td>—</td></tr><tr><td>6</td><td>642</td><td>0.30</td><td>642</td><td>0.30</td><td>—</td><td>—</td></tr><tr><td>7</td><td>1555</td><td>0.73</td><td>1090</td><td>0.51</td><td>—</td><td>—</td></tr><tr><td>8</td><td>2375</td><td>1.12</td><td>1675</td><td>0.79</td><td>975</td><td>0.46</td></tr><tr><td>9</td><td>3775</td><td>1.78</td><td>2375</td><td>1.12</td><td>1675</td><td>0.79</td></tr><tr><td>10</td><td>6500</td><td>3.07</td><td>4400</td><td>2.08</td><td>2375</td><td>1.12</td></tr><tr><td>11</td><td>7900</td><td>3.73</td><td>5100</td><td>2.41</td><td>3075</td><td>1.45</td></tr><tr><td>12</td><td>10,000</td><td>4.72</td><td>6500</td><td>3.07</td><td>3775</td><td>1.78</td></tr><tr><td>13</td><td>13,004</td><td>6.14</td><td>8802</td><td>4.15</td><td>5044</td><td>2.38</td></tr><tr><td>14</td><td>15,804</td><td>7.46</td><td>10,202</td><td>4.81</td><td>6850</td><td>3.23</td></tr><tr><td>15</td><td>20,004</td><td>9.44</td><td>13,002</td><td>6.14</td><td>8250</td><td>3.89</td></tr></table>	Frame	755TL and 755TR Drives		755TM Bus Supplies		755TM CBIs		CFM (ft ³ /min)	CMS (m ³ /sec)	CFM (ft ³ /min)	CMS (m ³ /sec)	CFM (ft ³ /min)	CMS (m ³ /sec)	5	580	0.27	—	—	—	—	6	642	0.30	642	0.30	—	—	7	1555	0.73	1090	0.51	—	—	8	2375	1.12	1675	0.79	975	0.46	9	3775	1.78	2375	1.12	1675	0.79	10	6500	3.07	4400	2.08	2375	1.12	11	7900	3.73	5100	2.41	3075	1.45	12	10,000	4.72	6500	3.07	3775	1.78	13	13,004	6.14	8802	4.15	5044	2.38	14	15,804	7.46	10,202	4.81	6850	3.23	15	20,004	9.44	13,002	6.14	8250	3.89
	Frame		755TL and 755TR Drives		755TM Bus Supplies		755TM CBIs																																																																																				
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	Entry and Exit Wire Bay																																																																																										
	Width	CFM (ft³/min)	CMS (m³/sec)																																																																																								
	400 mm (16 in.)	147	0.07																																																																																								
	800 mm (31 in.)	350	0.17																																																																																								
	Sound	Mean sound pressure levels measured at 2 meters. Values are expressed in dB(A).																																																																																									
		Frame	755TL and 755TR Drives				755TM Bus Supplies		755TM CBIs																																																																																		
IP00 UL Open Type			IP20 ⁽¹⁾ UL Type 1 ⁽²⁾	IP21 UL Type 1	IP54 UL Type 12	IP21 UL Type 1	IP54 UL Type 12	IP21 UL Type 1	IP54 UL Type 12																																																																																		
5		—	78	—	—	—	—	—	—																																																																																		
6		—	80	—	—	—	—	—	—																																																																																		
7		—	—	—	77	—	—	—	—																																																																																		
8		—	—	79	78	77	76	76	75																																																																																		
9		—	—	81	80	80	79	77	76																																																																																		
10		—	—	84	83	84	83	79	78																																																																																		
11		—	—	83	82	83	82	80	79																																																																																		
12		—	—	84	83	84	83	81	80																																																																																		
13		—	—	87	86	87	86	82	81																																																																																		
14		—	—	86	85	86	85	83	82																																																																																		
15		—	—	87	86	87	86	84	83																																																																																		
(1) The optional conduit box is required to meet the IP20 enclosure rating.																																																																																											
(2) The optional conduit box and debris hood is required to meet the UL Type 1 enclosure rating.																																																																																											
Surrounding environment	Pollution Degree 1 and 2: All enclosures acceptable.																																																																																										
	Pollution Degree 3 and 4: Enclosure that meets or exceeds IP54, UL Type 12 required.																																																																																										
(See page 215 for descriptions of each pollution degree rating.)																																																																																											

Category	Specification				
Protection		Motor Voltage			
		400V	480V	600V	690V
	AC line input overvoltage trip ⁽¹⁾	542V AC	542V AC	780V AC	780V AC
	AC line input undervoltage trip ⁽¹⁾	348V AC	418V AC	522V AC	600V AC
	Bus overvoltage trip	815V DC	815V DC	1172V DC	1172V DC
	Bus undervoltage shutoff	453V DC	543V DC	678V DC	781V DC
	Nominal bus voltage (full load), 6-pulse front end	540V DC	648V DC	810V DC	932V DC
	Nominal bus voltage (full load), AFE front end	580V DC	696V DC	870V DC	1000V DC
	(1) AC line overvoltage and AC line undervoltage trip levels represent the minimum and maximum AC input line voltage needed to prevent product undervoltage/overvoltage fault condition.				
	Drive overcurrent trip		Light Duty	Normal Duty	Heavy Duty
Software overcurrent trip		177% of LD drive rating	177% of ND drive rating	219% of HD drive rating	
Instantaneous current limit		110% of LD drive rating	150% of ND drive rating	180% of HD drive rating	
Calculations are based on the 400V current rating for 400/480V power structures and the 600V current rating for 600/690V power structures. Bus supply overcurrent is based on the rating of an equivalent 755T inverter/converter rating.					
Line transients		Up to 2000V line-to-line and 4000Vline-to-ground per IEC 61800-3			
Control logic noise immunity	Meets EMC standards.				
Power ride-thru	15 milliseconds at full load. No load ride-thru up to 10 minutes.				
Logic control ride-thru	0.5 seconds minimum, 2 seconds typical (40 milliseconds without logic power)				
Ground fault trip	Phase-to-ground on drive output				
Short circuit trip	Phase-to-phase on drive output				

Category	Specification																																																																																			
Electrical	AC input voltage tolerance	See page 45 for full power and operating range.																																																																																		
	Frequency tolerance	47 . . 63 Hz																																																																																		
	Three phase input	Three-phase input provides full rating for all drives. Single-phase operation is not permitted.																																																																																		
	DC input voltage tolerance	±10% of Nominal Bus Voltage. See the Protection category in this table on page 40 .																																																																																		
	Displacement power factor	0.98 across entire speed range. Can be as good as unity (1.0). This is regulated by algorithms in the active front end converter. The kVAR for power factor compensation setting is adjustable. When the kVAR command is set to zero, the converter regulates reactive current to maintain unity power factor. When a nonzero value is entered, it requests the amount of kVAR to command. Negative values are a lagging power factor and positive values are a leading power factor. When the converter is not delivering current, 67% of the full current rating of the converter is available to produce kVAR. As real current increases, while motoring or regenerating, the reactive current limit is automatically reduced.																																																																																		
	Efficiency Bus supplies and common bus inverters: Regenerative drives:	97% at rated amps 97% at rated amps																																																																																		
	Maximum short circuit current rating	Suitable for use on a circuit capable of delivering not more than 100 kA rms symmetrical amperes, up to 600V maximum and 65 kA rms symmetrical amperes at 690V maximum.																																																																																		
	Actual short circuit current rating	May be further limited by AIC rating of customer supplied branch circuit fuse/circuit breaker.																																																																																		
	Drive to motor power ratio	Minimum: Recommended not less than 1:2 ratio Maximum: Recommended not greater than 2:1 ratio																																																																																		
	Current draw	Control pod (20-750-MCPODn): 5.5A at 24V																																																																																		
	Digital input	<table><tr><td></td><td><u>DC</u></td><td><u>AC</u></td></tr><tr><td>Nominal:</td><td>24V DC</td><td>120V AC</td></tr><tr><td>Maximum:</td><td>30V DC</td><td>132V AC</td></tr><tr><td>High State:</td><td>20 . . . 24V DC</td><td>100 . . . 132V AC</td></tr><tr><td>Low State:</td><td>0 . . . 5V DC</td><td>0 . . . 30V AC</td></tr></table>		<u>DC</u>	<u>AC</u>	Nominal:	24V DC	120V AC	Maximum:	30V DC	132V AC	High State:	20 . . . 24V DC	100 . . . 132V AC	Low State:	0 . . . 5V DC	0 . . . 30V AC																																																																			
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Low State:	0 . . . 5V DC	0 . . . 30V AC																																																																																		
Power supplies	240V AC ±10% 24V DC ±5%: Vout +24V V Nominal +24V Vmin +24.8V (-5%) V Maximum +25.2V (+5%)																																																																																			
24V DC power requirements	<table><tr><td rowspan="2">Product</td><td colspan="11">Max Power (Watts)</td></tr><tr><td colspan="11">Frame</td></tr><tr><td></td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td></tr><tr><td>755TL and 755TR drives</td><td>240</td><td>240</td><td>240</td><td>213</td><td>276</td><td>339</td><td>402</td><td>465</td><td>528</td><td>654</td><td>780</td></tr><tr><td>755TM bus supplies</td><td>—</td><td>240</td><td>209</td><td>182</td><td>213</td><td>245</td><td>276</td><td>308</td><td>339</td><td>402</td><td>465</td></tr><tr><td>755TM bus supplies with one 755TM common bus inverter</td><td>—</td><td>—</td><td>—</td><td>157</td><td>188</td><td>220</td><td>251</td><td>283</td><td>314</td><td>377</td><td>440</td></tr><tr><td>755TM bus supplies with two 755TM common bus inverters</td><td>—</td><td>—</td><td>—</td><td>313</td><td>376</td><td>439</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td></tr></table>	Product	Max Power (Watts)											Frame												5	6	7	8	9	10	11	12	13	14	15	755TL and 755TR drives	240	240	240	213	276	339	402	465	528	654	780	755TM bus supplies	—	240	209	182	213	245	276	308	339	402	465	755TM bus supplies with one 755TM common bus inverter	—	—	—	157	188	220	251	283	314	377	440	755TM bus supplies with two 755TM common bus inverters	—	—	—	313	376	439	—	—	—	—	—
Product	Max Power (Watts)																																																																																			
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755TM bus supplies with two 755TM common bus inverters	—	—	—	313	376	439	—	—	—	—	—																																																																									
Method	Sine coded PWM with carrier frequency.																																																																																			
Carrier frequency	Motor Side Inverter on Frames 5 and 6: 2 (Default), 4, 8, 12 kHz Motor Side Inverter on Frames 7 and 15: 1.33 (Default), 2, 4 kHz Line Side Converter All Frames: 4 kHz (Fixed)																																																																																			
Output voltage range	0 to rated motor voltage																																																																																			
Output frequency range	0 . . . 325 Hz @ 1.33 and 2 kHz carrier 0 . . . 590 Hz @ 4 kHz carrier 90 Hz max for power modules with reflected wave filters (20-750-MI3-xxxxnnnn)																																																																																			

Category	Specification		
Control	Frequency accuracy Digital input Analog input	Within ±0.01% of set output frequency Within ±0.4% of set output frequency	
	Frequency control	Speed regulation with slip compensation (V/Hz and Sensorless Vector modes), 0.5% of base speed across 40:1 speed range, 40:1 operating range	
	Open-Loop ⁽¹⁾ (0 dB crossing) Velocity Loop Bandwidth	Load Ratio 1:0 (unloaded) 5:1 10:1 20:1 50:1	Bandwidth (Hz) 73 32 28 20 16
	Open-Loop ⁽¹⁾ (0 dB crossing) Position Loop Bandwidth	Load Ratio 1:0 (unloaded) 5:1 10:1 20:1 50:1	Bandwidth (Hz) 26 12 10 10 11
	Closed-Loop ⁽¹⁾ (-3 dB crossing) Velocity Loop Bandwidth	Load Ratio 1:0 (unloaded) 5:1 10:1 20:1 50:1	Bandwidth (Hz) 72 44 37 27 21
	Closed-Loop ⁽¹⁾ (-3 dB crossing) Position Loop Bandwidth	Load Ratio 1:0 (unloaded) 5:1 10:1 20:1 50:1	Bandwidth (Hz) 54 34 28 23 20
	Velocity Tracking Error for 1 Hz Oscillating Command	Load Ratio 1:0 (unloaded) 5:1 10:1 20:1 50:1	Tracking Error (dB) -57 -42 -41 -36 -33
	Position Tracking Error for 1 Hz Oscillating Command	Load Ratio 1:0 (unloaded) 5:1 10:1 20:1 50:1	Tracking Error (dB) -45 -35 -32 -29 -27
	Velocity Disturbance Rejection for 1 Hz Oscillating Command	Load Ratio 1:0 (unloaded) 5:1 10:1 20:1 50:1	Disturbance Rejection (dB) -61 -63 -66 -67 -71
	Position Disturbance Rejection for 1 Hz Oscillating Command	Load Ratio 1:0 (unloaded) 5:1 10:1 20:1 50:1	Disturbance Rejection (dB) 49 50 48 47 42

Category	Specification	
Control	Torque accuracy with encoder feedback (with optional torque accuracy module, see option C0 in 20G Control Options Selection on page 12)	$\pm 2\%$ motor rated torque
	Selectable motor control	• Induction Motor Volts per Hertz control • Induction Motor Sensorless Vector control • Induction Motor Economizer control • Induction Motor Flux Vector control (with and without encoder feedback) • Permanent Magnet Motor Control Closed/Open loop Flux Vector (Interior Permanent Magnet and Surface Permanent Magnet) • Permanent Magnet Motor Control Open Loop Flux Vector (Surface Mount Permanent Magnet)
	Stop modes	Multiple programmable stop modes including - Coast, Ramp, Current Limit, Fast Brake, and Decel to Hold.
	Accel/decel	Two independently programmable accel and decel times. Each time may be programmed from 0.1...3600 seconds in 0.1 second increments (0 to motor nameplate speed).
	S Curve time	Adjustable from 0 to 100% of ramp time (normal duty rating)
	Intermittent overload (All PowerFlex 755T products)	Light Duty: 110% Overload capability for up to 1 minute out of 10 minutes Normal Duty: 110% Overload capability for up to 1 minute out of 10 minutes 150% Overload capability for up to 3 seconds out of 60 seconds Heavy Duty: 150% Overload capability for up to 1 minute out of 10 minutes 180% Overload capability for up to 3 seconds out of 60 seconds
	Current limit capability	Proactive current limit programmable from 20 to 160% of rated output current. Independently programmable proportional and integral gain.
	Electronic motor overload protection	Class 10 motor overload protection according to NEC article 430 and motor over-temperature protection according to NEC article 430.126 (A)(2). UL61800-5-1 File E59272.

(1) Open and closed loop bandwidth do not refer to control without and with encoder feedback. It refers to closed loop (-3 dB) and open loop (0 dB crossing) control loop characterization. See the following [Explanation of Bandwidth](#) section for details.

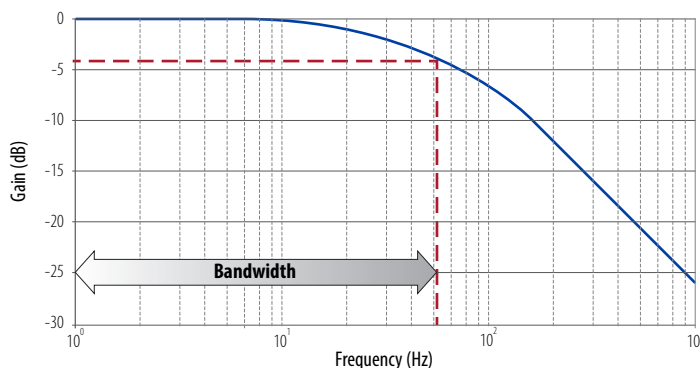
Explanation of Bandwidth

Bandwidth is a term that is used to indicate performance.

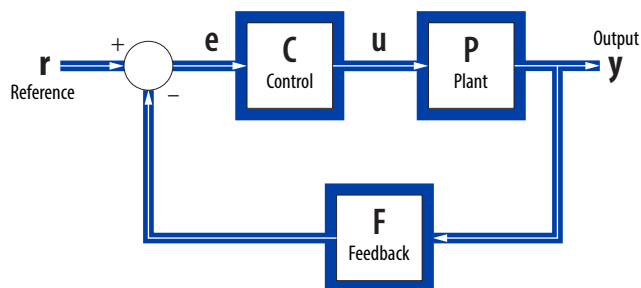
Closed Loop

Closed loop bandwidth is defined as the usable range of frequencies where the gain through a system is above -3 dB.

System Gain Versus Frequency

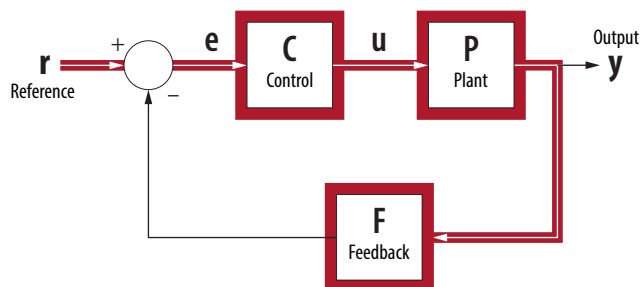


Closed loop bandwidth is a characterization of the entire classical system. Closed loop bandwidth reflects the propagation delays that are related to Control, Plant (motor and load), and Feedback (encoder and encoder input).



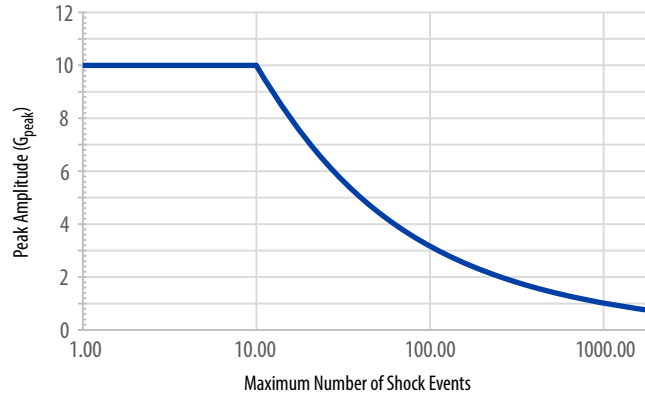
Open Loop Bandwidth

Open loop bandwidth is a characterization of the part of the system. It reflects propagation delays related to Control and Plant. This characterization excludes Feedback. Some control experts refer to this as '0 dB crossing' bandwidth.



Shock Events

PowerFlex 750-Series products can withstand a finite number of shock events. The maximum allowable number of shock events increases as the peak amplitude decreases. Below 0.7 G peak, the maximum total shock events should not exceed 2000 cycles.



Design Considerations

This section provides information for design considerations.

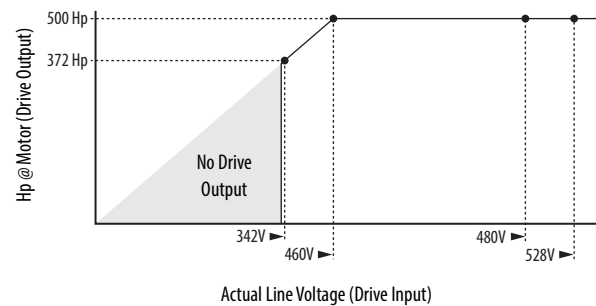
Input Voltage Tolerance

Drive Rating	Nominal Line Voltage	Nominal Motor Voltage	Drive Full Power Range	Drive Operating Range	
380...480	380	380	380...528	342...528	Hp @ Motor (Drive Output) No Drive Output Derated Power Range Full Power Range Drive Operating Range Nominal Motor Voltage -10% Nominal Motor Voltage Drive Rated Voltage Drive Rated Voltage +10% Actual Line Voltage (Drive Input)
	400	400	400...528		
	480	460	460...528		
600...690	600	575	575...759	517...759	
	690	660	660...759		
Drive Full Power Range = Nominal Motor Voltage to Drive Rated Voltage + 10%. Rated current is available across the entire Drive Full Power Range					
Drive Operating Range = Lowest Nominal Motor Voltage - 10% to Drive Rated Voltage + 10%. Drive Output is linearly derated when Actual Line Voltage is less than the Nominal Motor Voltage					

EXAMPLE Calculate the maximum power of a 500 Hp, 460V motor connected to a 480V-rated drive supplied with 348V Actual Line Voltage input.

- Actual Line Voltage / Nominal Motor Voltage = 74.3%
- 74.3% x 500 Hp = 372 Hp
- 74.3% x 60 Hz = 44.6 Hz

At 348V Actual Line Voltage, the maximum power the 500 Hp, 460V motor can produce is 372 Hp at 44.6 Hz.



IMPORTANT For maximum protection of the drive and its internal components, Rockwell Automation prefers the use of fast acting semiconductor fuses to other methods of circuit protection. This reduces risk of drive damage from power quality events, and improves machine and process utilization, thus maximizing productivity. See [Fuses and Circuit Breakers on page 184](#).

Control Transformer

Bus supplies include 240V fusing and control transformer when selected. See control option code C1 on page 12. These components are sized for loads representative of the number of common bus inverters for the frame rating.

Approximate Watts Loss

The following table lists watts loss data for drives, bus supplies, and common bus inverters products running at full load, full speed, and default carrier frequency in light duty mode.

Watts Loss for 400V 755T Devices

Catalog Number	Frame	Light Duty kW Output	Light Duty Cont. Output Amps	Total Watts Loss	
				755TL/TR Drives	755TM Common Bus Inverters
20G...C015	5	11	22	752	—
20G...C022	5	15	30	892	—
20G...C030	5	18.5	37	1,031	—
20G...C037	5	22	43	1,161	—
20G...C043	5	30	60	1,588	—
20G...C060	5	37	72	1,737	—
20G...C072	5	45	85	2,084	—
20G...C085	5	55	104	2,656	—
20G...C104	5	55	104	2,656	—
20G...C140	6	90	170	3,650	—
20G...C176	6	110	205	4,543	—
20G...C205	6	132	260	5,127	—
20G...C260	6	160	302	6,146	—
20G...C302	7	200	367	6,707	—
20G...C367	7	250	460	8,699	—
20G...C460	7	315	540	10,634	—
20G...C540	7	315	585	11,812	—
20G...C585	7	315	617	12,689	—
20G...C302	8	200	367	11,340	4,811
20G...C367	8	250	460	14,803	6,162
20G...C460	8	315	540	18,267	7,508
20G...C540	8	315	585	20,414	8,340
20G...C585	8	355	650	18,146	7,707
20G...C650	8	400	750	23,110	9,692
20G...C750	8	450	796	23,990	10,048
20G...C770	8	450	832	26,835	11,200
20G...C920	9	560	1040	31,740	13,993
20G...C1K0	9	630	1090	33,828	14,884

Catalog Number	Frame	Light Duty kW Output	Light Duty Cont. DC Output Amps	Total Watts Loss
				755TM Bus Supplies
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
20J...C140	6	106	182	2,648
20J...C176	6	128	220	3,285
20J...C205	6	162	279	3,422
20J...C260	6	188	324	4,066
20J...C302	7	228	394	4,086
20J...C367	7	286	494	5,358
20J...C460	7	336	579	6,608
20J...C540	7	364	628	7,375
20J...C585	7	384	662	7,948
20J...C302	8	228	394	6,594
20J...C367	8	286	494	8,740
20J...C460	8	336	579	10,894
20J...C540	8	364	628	12,231
20J...C585	8	387	667	10,615
20J...C650	8	467	805	13,673
20J...C750	8	479	826	14,209
20J...C770	8	518	893	15,947
20J...C920	9	647	1116	17,991
20J...C1K0	9	678	1170	19,211

Watts Loss for 400V 755T Devices (continued)

Catalog Number	Frame	Light Duty kW Output	Light Duty Cont. Output Amps	Total Watts Loss	
				755TL/TR Drives	755TM Common Bus Inverters
20G...C1K1	9	710	1182	31,010	13,958
20G...C1K2	9	800	1465	41,344	18,527
20G...C1K4	9	850	1581	46,064	20,615
20G...C1K6	10	1000	1715	45,311	20,435
20G...C1K7	10	1250	2150	60,912	27,393
20G...C2K1	10	1400	2330	68,143	30,622
20G...C2K8	11	1800	3078	86,593	40,450
20G...C3K5	12	2200	3846	111,599	51,249
20G...C4K2	13	2475	4576	136,286	61,244
20G...C5K6	14	3285	6074	173,186	80,900
20G...C7K0	15	4095	7571	223,198	102,498

Catalog Number	Frame	Light Duty kW Output	Light Duty Cont. DC Output Amps	Total Watts Loss
				755TM Bus Supplies
20J...C1K1	9	735	1268	17,367
20J...C1K2	9	911	1572	23,298
20J...C1K4	9	983	1696	26,007
20J...C1K6	10	1067	1840	25,316
20J...C1K7	10	1337	2307	34,207
20J...C2K1	10	1449	2500	38,328
20J...C2K8	11	1915	3303	47,198
20J...C3K5	12	2393	4127	61,667
20J...C4K2	13	2848	4912	76,656
20J...C5K6	14	3779	6519	94,396
20J...C7K0	15	4711	8126	123,334

Watts Loss for 480V 755T Devices

Catalog Number	Frame	Light Duty Hp Output	Light Duty Cont. Output Amps	Total Watts Loss	
				755TL/TR Drives	755TM Common Bus Inverters
20G...D014	5	15	22	796	—
20G...D022	5	20	27	892	—
20G...D027	5	25	34	1,042	—
20G...D034	5	30	40	1,185	—
20G...D040	5	40	52	1,510	—
20G...D052	5	50	65	1,656	—
20G...D065	5	60	77	1,980	—
20G...D077	5	75	96	2,562	—
20G...D096	5	75	96	2,562	—
20G...D125	6	125	156	3,539	—
20G...D156	6	150	186	4,327	—
20G...D186	6	200	248	4,975	—
20G...D248	6	250	302	6,279	—
20G...D302	7	300	361	6,854	—
20G...D361	7	350	430	8,320	—
20G...D430	7	400	485	9,597	—
20G...D505	7	450	545	11,100	—
20G...D617	7	500	617	13,054	—
20G...D302	8	300	361	11,568	4840

Catalog Number	Frame	Light Duty kW Output	Light Duty Cont. DC Output Amps	Total Watts Loss
				755TM Bus Supplies
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
20J...D125	6	111	160	2,583
20J...D156	6	133	191	3,148
20J...D186	6	177	255	3,285
20J...D248	6	216	311	4,089
20J...D302	7	258	371	4,154
20J...D361	7	307	442	5,072
20J...D430	7	347	499	5,879
20J...D505	7	390	560	6,837
20J...D617	7	441	635	8,091
20J...D302	8	258	371	6786

Watts Loss for 480V 755T Devices (continued)

Catalog Number	Frame	Light Duty Hp Output	Light Duty Cont. Output Amps	Total Watts Loss	
				755TL/TR Drives	755TM Common Bus Inverters
20G...D361	8	350	430	14,170	5825
20G...D430	8	400	485	16,493	6701
20G...D505	8	450	545	19,280	7748
20G...D545	8	500	617	17,322	7383
20G...D617	8	600	710	21,861	9189
20G...D710	8	650	765	23,149	9709
20G...D740	8	700	800	25,852	10,799
20G...D800	9	800	960	29,208	12,903
20G...D960	9	900	1045	32,645	14,365
20G...D1K0	9	1000	1135	29,520	13,387
20G...D1K1	9	1100	1365	38,046	17,180
20G...D1K3	9	1250	1520	44,113	19,881
20G...D1K4	10	1500	1655	44,394	20,019
20G...D1K6	10	1800	2070	59,059	26,537
20G...D2K0	10	2000	2240	65,776	29,525
20G...D2K6	11	2600	2960	83,398	38,960
20G...D3K4	12	3300	3696	106,950	48,975
20G...D4K0	13	3900	4400	131,552	59,050
20G...D5K4	14	5200	5840	166,796	77,920
20G...D6K7	15	6400	7280	213,900	97,950

Catalog Number	Frame	Light Duty kW Output	Light Duty Cont. DC Output Amps	Total Watts Loss
				755TM Bus Supplies
20J...D361	8	307	442	8425
20J...D430	8	347	499	9893
20J...D505	8	390	560	11,658
20J...D545	8	422	607	10,086
20J...D617	8	508	730	12,882
20J...D710	8	529	761	13,668
20J...D740	8	573	823	15,319
20J...D800	9	687	987	16,498
20J...D960	9	748	1075	18,507
20J...D1K0	9	802	1153	16,394
20J...D1K1	9	977	1404	21,250
20J...D1K3	9	1087	1563	24,707
20J...D1K4	10	1184	1702	24,751
20J...D1K6	10	1481	2129	33,109
20J...D2K0	10	1603	2304	36,937
20J...D2K6	11	2118	3044	45,334
20J...D3K4	12	2632	3784	59,082
20J...D4K0	13	3149	4527	73,874
20J...D5K4	14	4180	6008	90,668
20J...D6K7	15	5210	7489	118,164

Watts Loss for 600V 755T Devices

Catalog Number	Frame	Light Duty Hp Output	Light Duty Cont. Output Amps	Total Watts Loss	
				755TL/TR Drives	755TM Common Bus Inverters
20G...E011	5	15	17	825	—
20G...E017	5	20	22	934	—
20G...E022	5	25	27	1,051	—
20G...E027	5	30	32	1,177	—
20G...E032	5	40	41	1,427	—
20G...E041	5	50	52	1,772	—
20G...E052	5	60	62	2,124	—
20G...E062	5	75	77	2,719	—
20G...E077	6	100	99	2,836	—
20G...E099	6	125	125	3,516	—

Catalog Number	Frame	Light Duty kW Output	Light Duty Cont. DC Output Amps	Total Watts Loss
				755TM Bus Supplies
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
20J...E077	6	89	102	1,899
20J...E099	6	112	129	2,308

Watts Loss for 600V 755T Devices (continued)

Catalog Number	Frame	Light Duty Hp Output	Light Duty Cont. Output Amps	Total Watts Loss	
				755TL/TR Drives	755TM Common Bus Inverters
20G...E125	6	150	144	4,048	—
20G...E144	6	200	192	5,526	—
20G...E192	7	250	242	5,954	—
20G...E242	7	300	295	7,319	—
20G...E295	7	350	355	9,039	—
20G...E355	7	400	395	10,288	—
20G...E395	7	450	435	11,619	—
20G...E242	8	300	295	13,483	5312
20G...E295	8	350	355	16,499	6344
20G...E355	8	400	395	18,702	7090
20G...E395	8	450	435	21,059	7883
20G...E435	8	500	510	22,039	8483
20G...E545	8	600	580	25,885	9827
20G...E595	9	700	690	28,996	11,969
20G...E690	9	800	760	33,206	13,256
20G...E760	9	900	825	35,657	14,516
20G...E825	9	1000	980	38,230	15,908
20G...E980	9	1100	1102	44,018	18,202
20G...E1K1	10	1250	1220	48,145	19,811
20G...E1K2	10	1500	1430	57,543	23,430
20G...E1K5	10	1600	1624	66,994	27,059
20G...E2K0	11	2100	2146	84,849	35,627
20G...E2K4	12	2600	2668	108,608	44,685
20G...E2K9	13	3300	3190	133,988	54,118
20G...E3K9	14	4400	4234	169,698	71,254
20G...E4K9	15	5500	5278	217,216	89,370

Catalog Number	Frame	Light Duty kW Output	Light Duty Cont. DC Output Amps	Total Watts Loss
				755TM Bus Supplies
20J...E125	6	129	148	2,632
20J...E144	6	171	197	3,545
20J...E192	7	217	249	3,475
20J...E242	7	263	303	4,282
20J...E295	7	317	365	5,307
20J...E355	7	353	406	6,056
20J...E395	7	389	447	6,858
20J...E242	8	263	303	8212
20J...E295	8	317	365	10,212
20J...E355	8	353	406	11,681
20J...E395	8	389	447	13,258
20J...E435	8	456	524	13,667
20J...E545	8	518	596	16,200
20J...E595	9	617	710	17,130
20J...E690	9	680	782	20,073
20J...E760	9	737	848	21,285
20J...E825	9	877	1008	22,523
20J...E980	9	985	1133	26,068
20J...E1K1	10	1091	1255	28,541
20J...E1K2	10	1279	1471	34,395
20J...E1K5	10	1452	1670	40,298
20J...E2K0	11	1919	2207	49,697
20J...E2K4	12	2386	2744	64,508
20J...E2K9	13	2851	3278	80,596
20J...E3K9	14	3784	4351	99,394
20J...E4K9	15	4717	5424	129,016

Watts Loss for 690V 755T Devices

Catalog Number	Frame	Light Duty kW Output	Light Duty Cont. Output Amps	Total Watts Loss	
				755TL/TR Drives	755TM Common Bus Inverters
20G...F015	5	15	20	937	—
20G...F020	5	18.5	23	1,005	—
20G...F023	5	22	30	1,173	—
20G...F030	5	30	34	1,276	—

Catalog Number	Frame	Light Duty kW Output	Light Duty Cont. DC Output Amps	Total Watts Loss
				755TM Bus Supplies
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—

Watts Loss for 690V 755T Devices (continued)

Catalog Number	Frame	Light Duty kW Output	Light Duty Cont. Output Amps	Total Watts Loss	
				755TL/TR Drives	755TM Common Bus Inverters
20G...F034	5	37	46	1,615	—
20G...F046	5	45	50	1,738	—
20G...F050	5	55	61	2,103	—
20G...F061	5	75	82	2,905	—
20G...F082	6	90	98	3,043	—
20G...F098	6	110	119	3,641	—
20G...F119	6	132	142	4,343	—
20G...F142	6	160	171	5,299	—
20G...F171	7	200	215	5,740	—
20G...F215	7	250	265	7,035	—
20G...F265	7	315	330	8,918	—
20G...F330	7	355	370	10,190	—
20G...F370	7	400	415	11,723	—
20G...F215	8	250	265	12,875	5057
20G...F265	8	315	330	16,200	6171
20G...F330	8	355	370	18,459	6917
20G...F370	8	400	415	21,194	7814
20G...F415	8	450	460	20,668	7971
20G...F505	8	560	565	26,512	9990
20G...F565	9	630	650	24,768	10,319
20G...F650	9	710	735	33,893	13,383
20G...F735	9	800	820	37,242	15,075
20G...F820	9	900	920	37,736	15,605
20G...F920	9	1000	1074	45,212	18,529
20G...F1K0	10	1100	1150	48,104	19,660
20G...F1K1	10	1250	1344	56,985	23,033
20G...F1K4	10	1500	1582	68,911	27,546
20G...F1K8	11	2000	2091	87,377	36,268
20G...F2K3	12	2500	2599	111,745	45,474
20G...F2K7	13	3080	3108	137,822	55,092
20G...F3K6	14	4088	4125	174,754	72,536
20G...F4K5	15	5096	5142	223,490	90,948

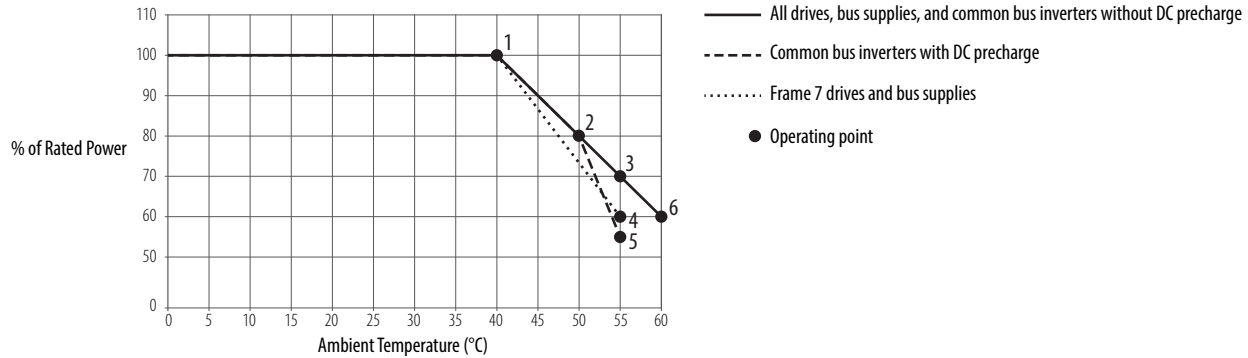
Catalog Number	Frame	Light Duty kW Output	Light Duty Cont. DC Output Amps	Total Watts Loss
				755TM Bus Supplies
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
F082	6	101	101	2,045
F098	6	122	122	2,411
F119	6	146	146	2,847
F142	6	176	176	3,451
F171	7	221	221	3,424
F215	7	272	272	4,199
F265	7	339	339	5,340
F330	7	380	380	6,116
F370	7	426	426	7,058
20J...F215	8	272	272	7851
20J...F265	8	339	339	10,079
20J...F330	8	380	380	11,602
20J...F370	8	426	426	13,455
20J...F415	8	472	472	12,788
20J...F505	8	580	580	16,657
20J...F565	9	580	580	14,519
20J...F650	9	754	754	20,625
20J...F735	9	842	842	22,308
20J...F820	9	944	944	22,308
20J...F920	9	1102	1102	26,922
20J...F1K0	10	1180	1180	28,629
20J...F1K1	10	1380	1380	34,201
20J...F1K4	10	1624	1624	41,708
20J...F1K8	11	2146	2146	51,558
20J...F2K3	12	2668	2668	66,824
20J...F2K7	13	3190	3190	83,416
20J...F3K6	14	4234	4234	103,116
20H...F4K5	15	5278	5278	133,648

Derating Guidelines

The following sections describe conditional derating guidelines.

Ambient Temperature Derating

The PowerFlex 750T products are designed to operate at -20...+40 °C (-4...+104 °F) ambient without derating. The following graph shows the derating curves for ambient temperatures above 40 °C (104 °F) at default carrier frequency.



Operating Point	Ambient Temperature	Description
1	40 °C (104 °F)	All drives, bus supplies, and common bus inverters operate at 100% rated current.
2	50 °C (122 °F)	All drives, bus supplies, and common bus inverters operate at 80% rated current.
3	55 °C (134 °F)	Drives, bus supplies, and common bus inverters without DC precharge operate at 70% rated current.
4	55 °C (134 °F)	Frame 7 drives and bus supplies operate at 60% rated current.
5	55 °C (134 °F)	Drives and common bus inverters with DC precharge operate at 55% rated current.
6	60 °C (140 °F)	Frame 5 and 6 drives operate at 60% rated current.

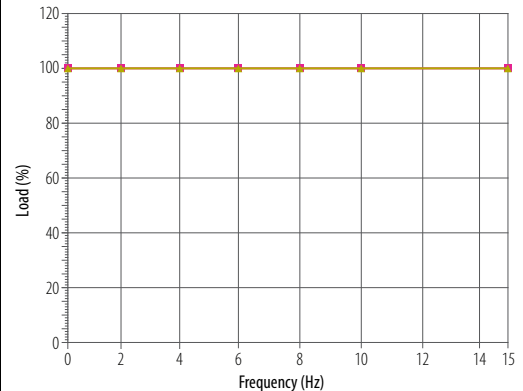
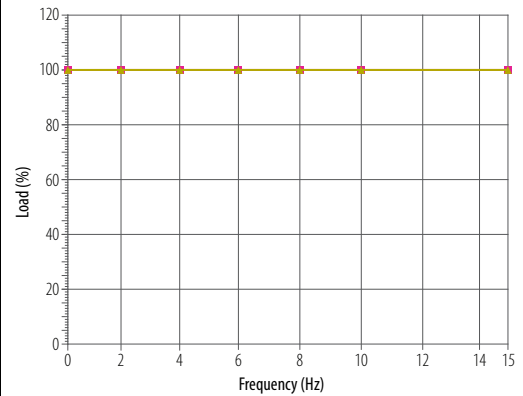
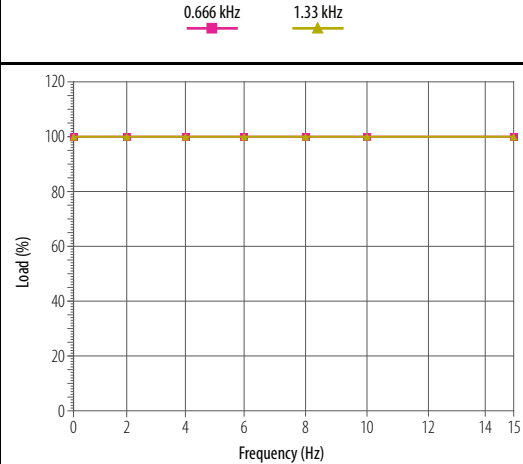
Voltage Boost Derating

When voltage control parameters are used to set the DC bus voltage reference to a value that is greater than the default value, the DC bus output current is reduced. This voltage boost does not affect overload capabilities. Consult factory for derate information.

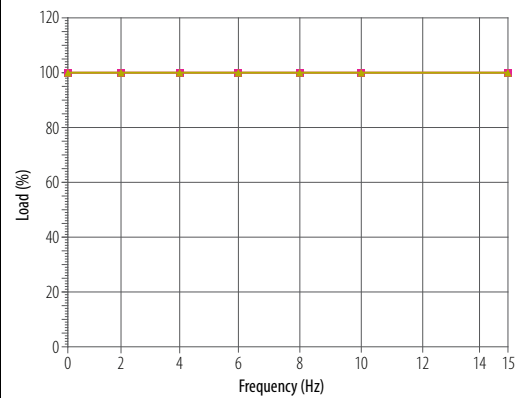
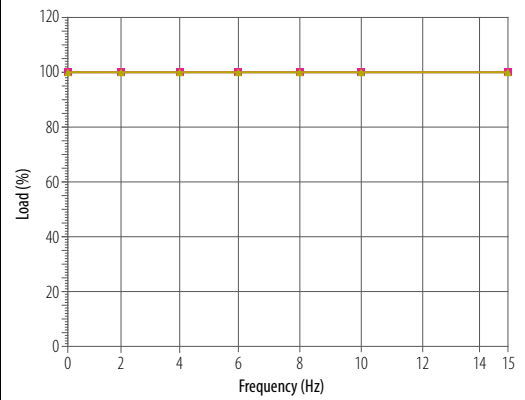
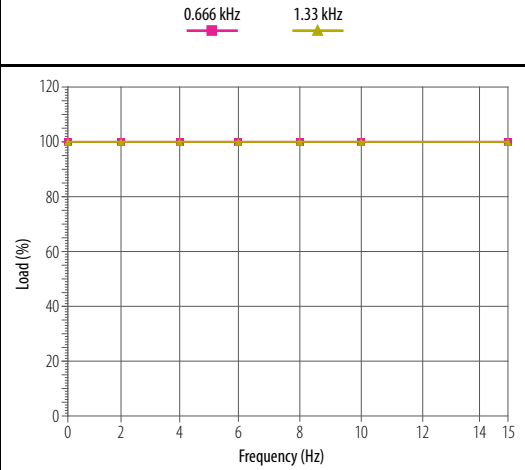
Low Speed Derating with Reduced Carrier Frequency

The following graphs show the reduced carrier frequency deratings for motor side inverters. If a catalog number is not shown, that drive can be operated without derating as long as the limits specified on page 51 are followed.

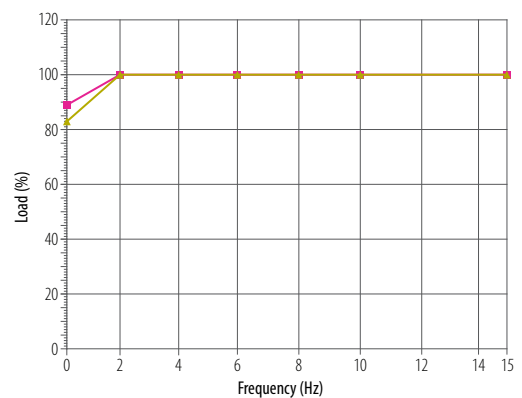
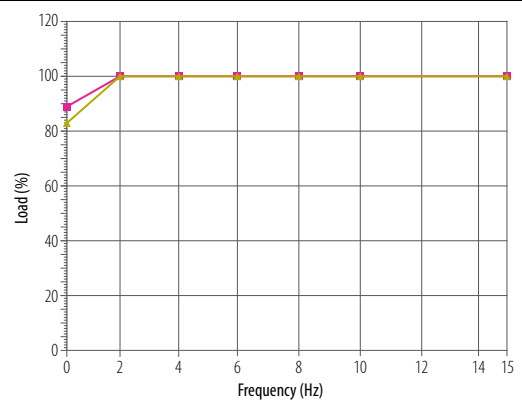
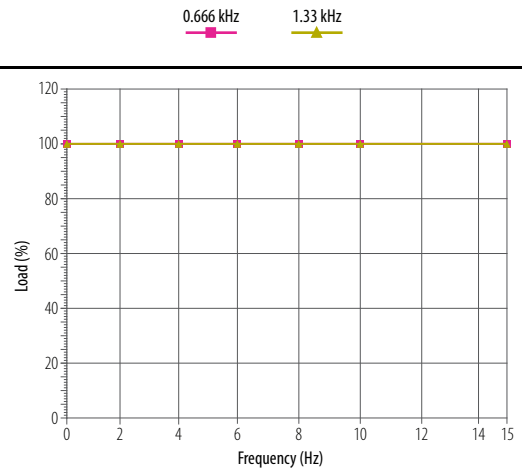
Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type		
		LD		ND		HD		Output Freq.	PWM Frequency	
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.666 kHz	1.33 kHz
C015	5	11	22	7.5	15.4	11.5	5.5	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
C022	5	15	30	11	22	7.5	15.4	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
C030	5	18.5	37	15	30	11	22	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100



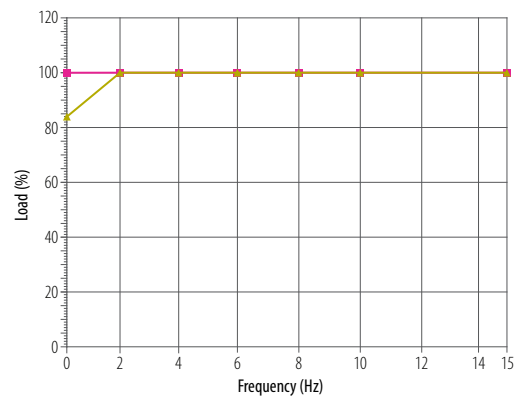
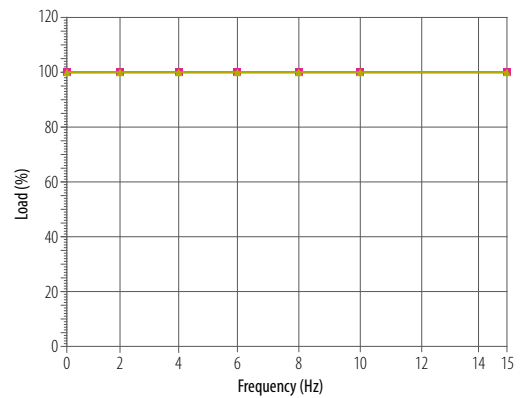
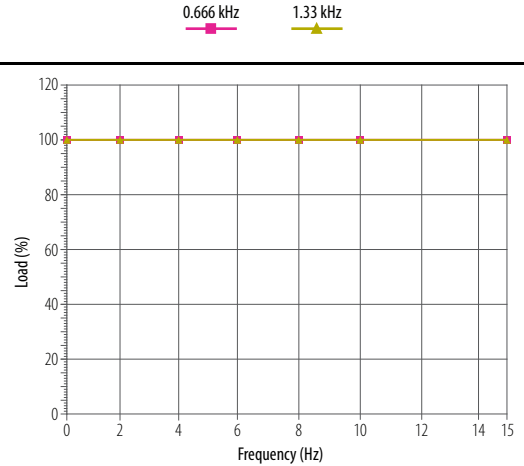
Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type		
		LD		ND		HD		Output Freq.	PWM Frequency	
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.666 kHz	1.33 kHz
C037	5	22	43	18.5	37	15	30	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
C043	5	30	60	22	43	18.5	37	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
C060	5	37	72	30	60	22	43	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100

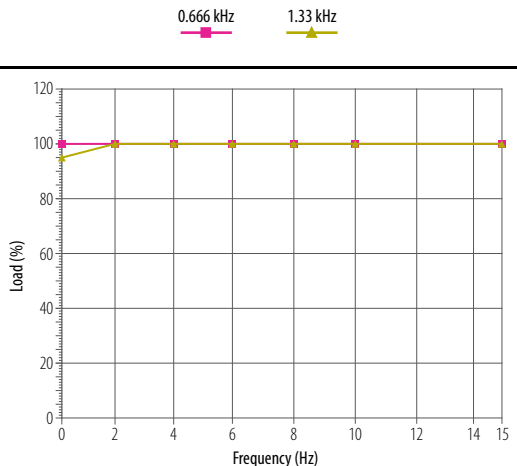


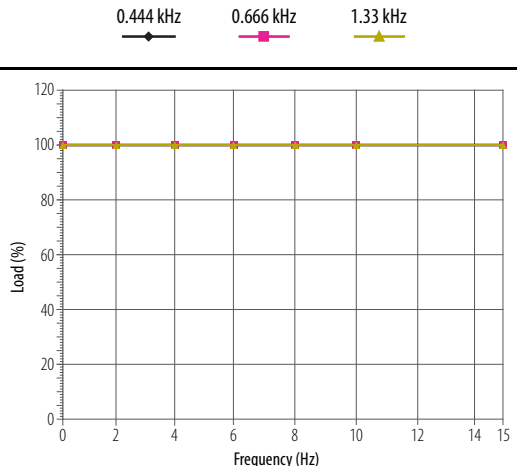
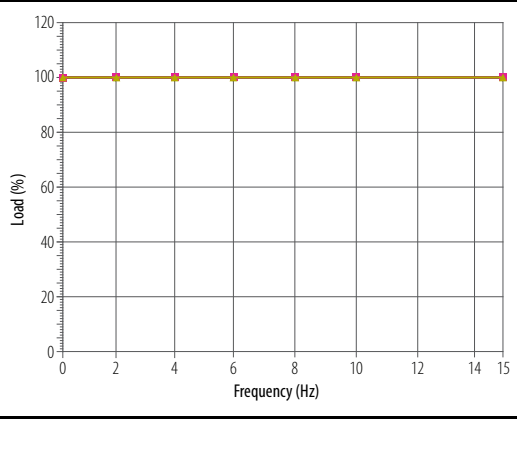
Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type		
		LD		ND		HD		Output Freq.	PWM Frequency	
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.666 kHz	1.33 kHz
C072	5	45	85	37	72	30	60	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
C085	5	55	104	45	85	37	72	0	89	83
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
C104	5	55	104	55	104	45	85	0	89	83
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100

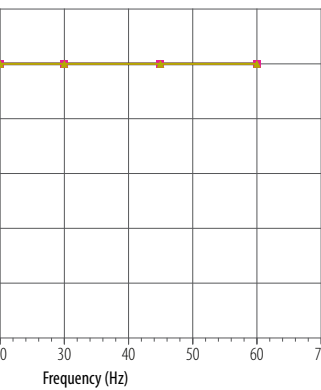


Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type		
		LD		ND		HD		Output Freq.	PWM Frequency	
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.666 kHz	1.33 kHz
C140	6	90	170	75	140	55	104	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
C176	6	110	205	90	170	75	140	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
C205	6	132	260	110	205	90	170	0	100	84
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100

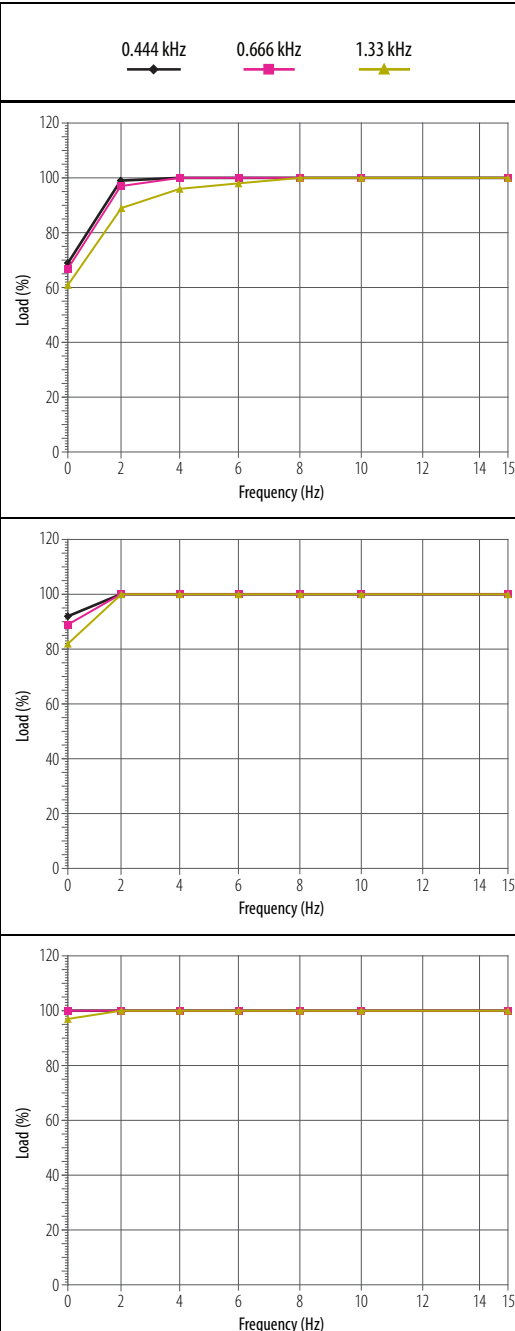
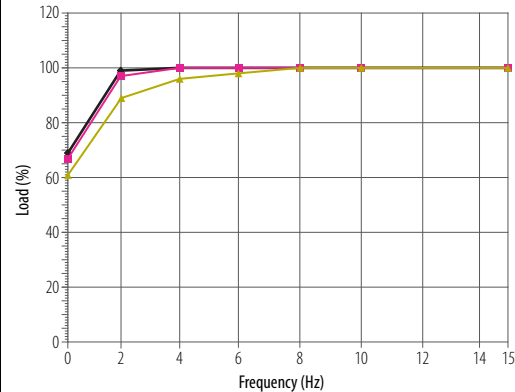
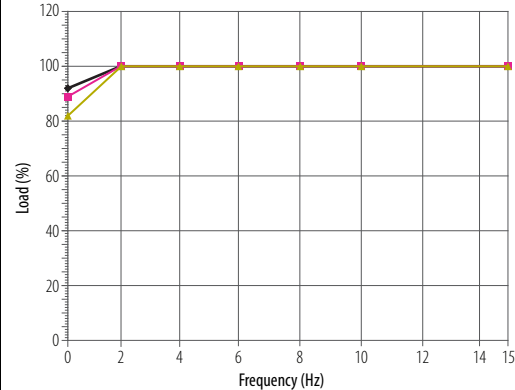
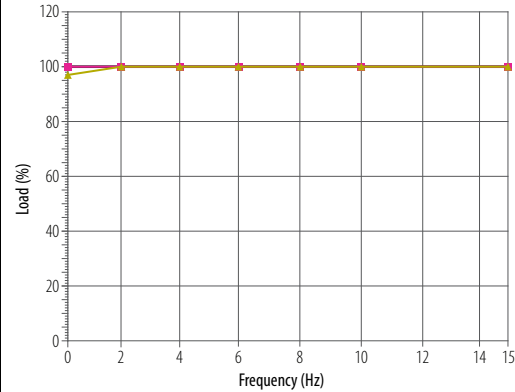


Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type			
		LD		ND		HD		Output Freq.	PWM Frequency		
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.666 kHz	1.33 kHz	
C260	6	160	302	132	260	110	205	0	100	95	
								2	100	100	
								4	100	100	
								6	100	100	
								8	100	100	
								10	100	100	
								15	100	100	
								20	100	100	
								30	100	100	
								45	100	100	
								60	100	100	

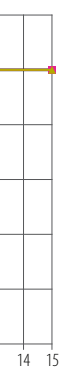
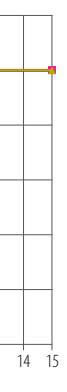
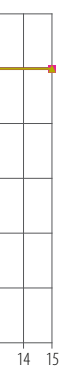
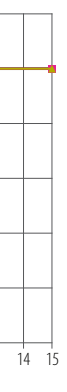
Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12											
		LD		ND		HD		Output Freq.		PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz 					
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz								
C302	7	200	367	160	302	132	260	0	100	100	100								
								2	100	100	100								
								4	100	100	100								
								6	100	100	100								
								8	100	100	100								
								10	100	100	100								
								15	100	100	100								
								20	100	100	100								
								30	100	100	100								
								45	100	100	100								
								60	100	100	100								
C367	7	250	460	200	367	160	302	0	100	100	100								
								2	100	100	100								
								4	100	100	100								
								6	100	100	100								
								8	100	100	100								
								10	100	100	100								
								15	100	100	100								
								20	100	100	100								
								30	100	100	100								
								45	100	100	100								
								60	100	100	100								

Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12									
		LD		ND		HD		Output Freq.		PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz			
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz						
C460	7	315	540	250	460	200	367	0	100	100	94						
								2	100	100	100						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						
								C540	7	315	585			315	540	250	460
2	100	100	100														
4	100	100	100														
6	100	100	100														
8	100	100	100														
10	100	100	100														
15	100	100	100														
20	100	100	100														
30	100	100	100														
45	100	100	100														
60	100	100	100														
C585	7	315	617	315	600	250	500					0	92				
								2	100	100	100						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						

Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12				
		LD		ND		HD		Output Freq.	PWM Frequency			
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz	
C302	8	200	367	160	302	132	260	0	100	100	97	0.444 kHz 0.666 kHz 1.33 kHz
								2	100	100	100	
								4	100	100	100	
								6	100	100	100	
								8	100	100	100	
								10	100	100	100	
								15	100	100	100	
								20	100	100	100	
								30	100	100	100	
								45	100	100	100	
								60	100	100	100	
C367	8	250	460	200	367	160	302	0	88	85	77	
								2	100	100	100	
								4	100	100	100	
								6	100	100	100	
								8	100	100	100	
								10	100	100	100	
								15	100	100	100	
								20	100	100	100	
								30	100	100	100	
								45	100	100	100	
								60	100	100	100	
C460	8	315	540	250	460	200	367	0	75	72	66	
								2	100	100	97	
								4	100	100	100	
								6	100	100	100	
								8	100	100	100	
								10	100	100	100	
								15	100	100	100	
								20	100	100	100	
								30	100	100	100	
								45	100	100	100	
								60	100	100	100	

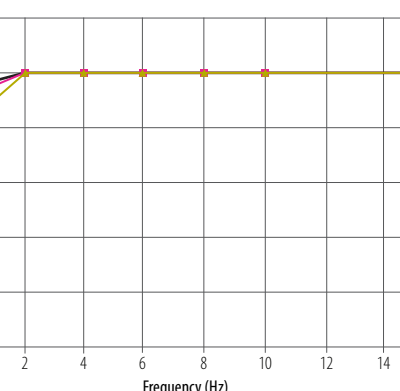
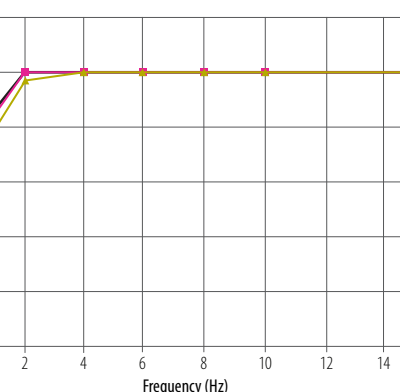
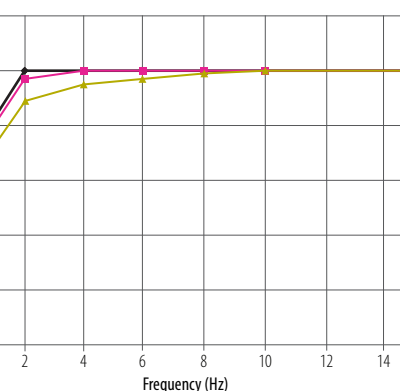
Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12									
		LD		ND		HD		Output Freq.		PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz 			
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz						
C540	8	315	585	315	540	250	460	0	69	67	61						
								2	99	97	89						
								4	100	100	96						
								6	100	100	98						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						
C585	8	355	650	315	585	250	472	0	82	75	58						
								2	100	100	88						
								4	100	100	95						
								6	100	100	97						
								8	100	100	99						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						
C302	8	200	367	160	302	132	260	0	100	100	97						
								2	100	100	100						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						

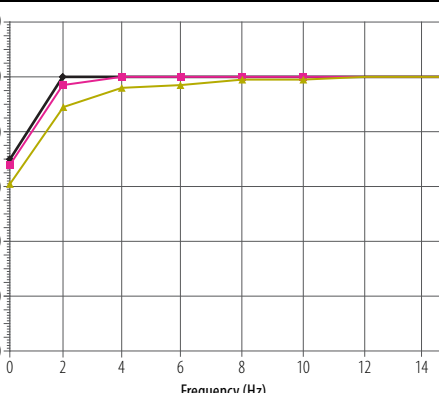
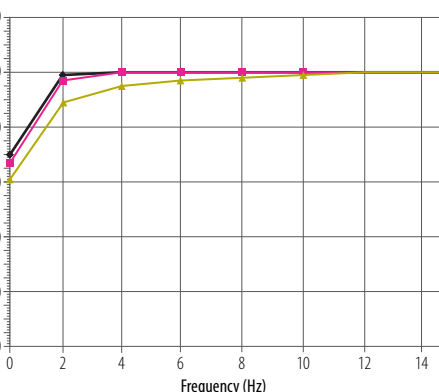
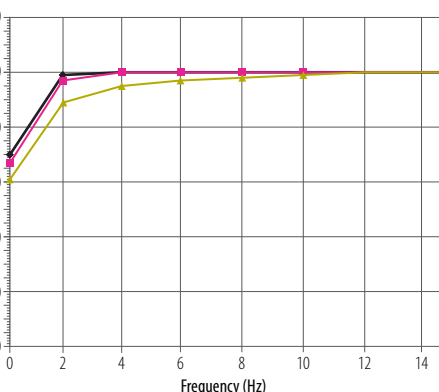
Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12										
		LD		ND		HD		Output Freq.	PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz					
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz	Load (%)						
C367	8	250	460	200	367	160	302	0	88	85	77							
								2	100	100	100							
								4	100	100	100							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							
								C460	8	315	540	250	460	200	367	0	75	72
2	100	100	97															
4	100	100	100															
6	100	100	100															
8	100	100	100															
10	100	100	100															
15	100	100	100															
20	100	100	100															
30	100	100	100															
45	100	100	100															
60	100	100	100															
C540	8	315	585	315	540	250	460									0	69	67
								2	99	97	89							
								4	100	100	96							
								6	100	100	98							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							

Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12									
		LD		ND		HD		Output Freq.		PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz 			
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz						
C585	8	355	650	315	585	250	472	0	94	90	82						
								2	100	100	100						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						
C650	8	400	750	355	650	315	540	0	78	75	68						
								2	100	100	99						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						
C750	8	450	796	400	750	315	585	0	76	73	66						
								2	100	100	97						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						

Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12										
		LD		ND		HD		Output Freq.	PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz					
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz							
C770	8	450	832	400	770	355	650	0	70	68	61							
								2	100	97	89							
								4	100	100	96							
								6	100	100	97							
								8	100	100	99							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							
								C920	9	560	1040		500	920	400	770	0	75
2	100	100	96															
4	100	100	100															
6	100	100	100															
8	100	100	100															
10	100	100	100															
15	100	100	100															
20	100	100	100															
30	100	100	100															
45	100	100	100															
60	100	100	100															
C1K0	9	630	1090	560	1040	500	920					0					71	69
								2	100	100	92							
								4	100	100	99							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							

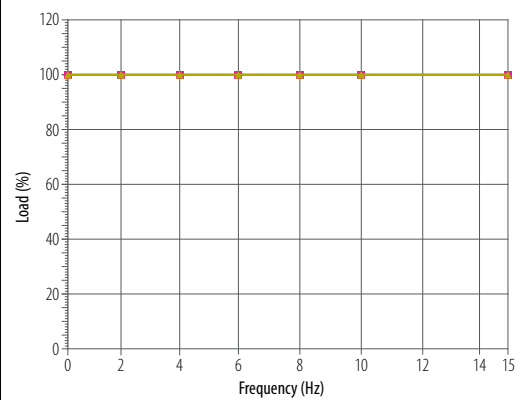
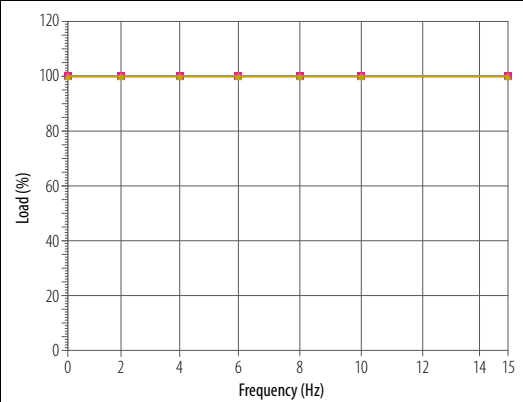
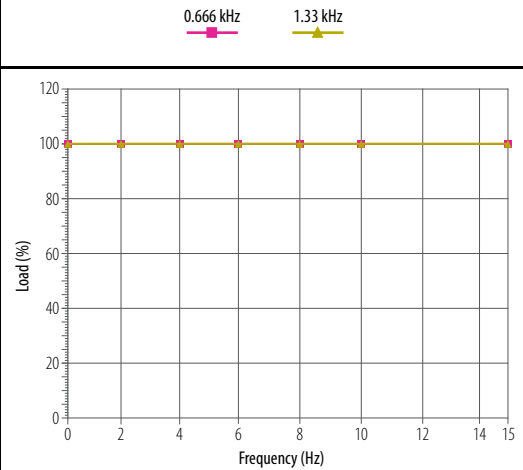
Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12						
		LD		ND		HD		Output Freq.	PWM Frequency			0.444 kHz 0.666 kHz 1.33 kHz		
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz			
C1K1	9	710	1182	630	1112	500	1040	0	94	90	82			
								2	100	100	100			
								4	100	100	100			
								6	100	100	100			
								8	100	100	100			
								10	100	100	100			
								15	100	100	100			
								20	100	100	100			
								30	100	100	100			
								45	100	100	100			
								60	100	100	100			
C1K2	9	800	1465	710	1175	560	1090	0	75	73	66			
								2	100	100	96			
								4	100	100	100			
								6	100	100	100			
								8	100	100	100			
								10	100	100	100			
								15	100	100	100			
								20	100	100	100			
								30	100	100	100			
								45	100	100	100			
								60	100	100	100			
C1K4	9	850	1581	800	1463	630	1175	0	70	68	61			
								2	100	97	89			
								4	100	100	95			
								6	100	100	97			
								8	100	100	99			
								10	100	100	100			
								15	100	100	100			
								20	100	100	100			
								30	100	100	100			
								45	100	100	100			
								60	100	100	100			

Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12										
		LD		ND		HD		Output Freq.	PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz 					
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz							
C1K6	10	1000	1715	850	1590	710	1465	0	95	92	83							
								2	100	100	100							
								4	100	100	100							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							
C1K7	10	1250	2150	1000	1715	800	1480	0	76	73	66							
								2	100	100	97							
								4	100	100	100							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							
C2K1 C4K2	10	1400	2330	1250	2156	1000	1715	0	70	68	61							
								2	100	97	89							
								4	100	100	95							
								6	100	100	97							
								8	100	100	99							
								10	100	100	100							
	13	2475	4576	2200	4235	1953	3575	15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							

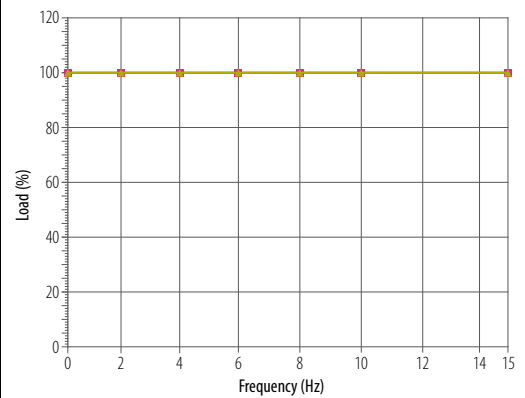
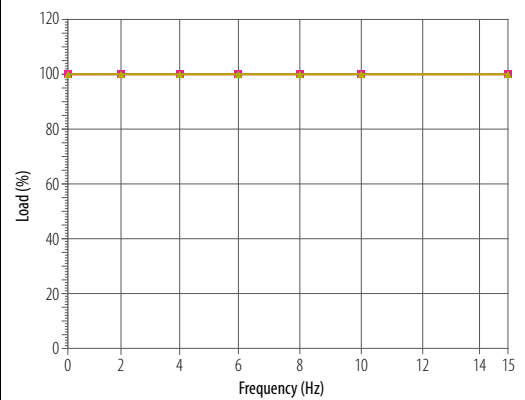
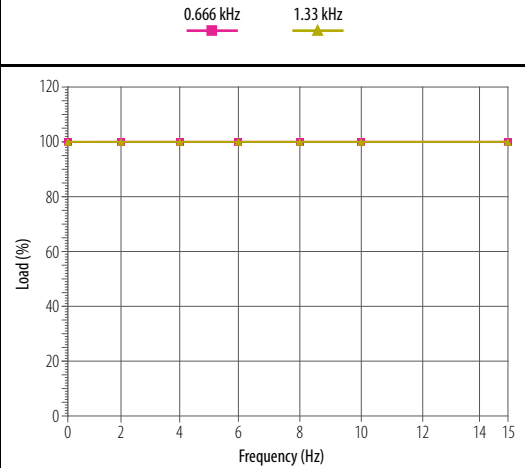
Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12											
		LD		ND		HD		Output Freq.		PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz 					
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz								
C2K8 C5K6	11	1800	3078	1650	2849	1400	2330	0	70	68	61								
	14	3285	6074	2920	5621	2592	4745	2	100	97	89								
								4	100	100	96								
								6	100	100	97								
								8	100	100	99								
								10	100	100	100								
								15	100	100	100								
								20	100	100	100								
								30	100	100	100								
								45	100	100	100								
							60	100	100	100									
C3K5 C7K0	12	2200	3846	2000	3542	1650	3032	0	70	67	61								
	15	4095	7571	3640	7007	3231	5915	2	99	97	89								
								4	100	100	95								
								6	100	100	97								
								8	100	100	98								
								10	100	100	99								
								15	100	100	100								
								20	100	100	100								
								30	100	100	100								
								45	100	100	100								
								60	100	100	100								

Cat. No. 20G...	Frame	480V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type				
		LD		ND		HD		Output Freq.	PWM Frequency		0.666 kHz 1.33 kHz	
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.666 kHz	1.33 kHz		
D014	5	15	22	10	14	7.5	11	0	100	100	Load (%) Frequency (Hz)	
								2	100	100		
								4	100	100		
								6	100	100		
								8	100	100		
								10	100	100		
								15	100	100		
								20	100	100		
								30	100	100		
								45	100	100		
								60	100	100		

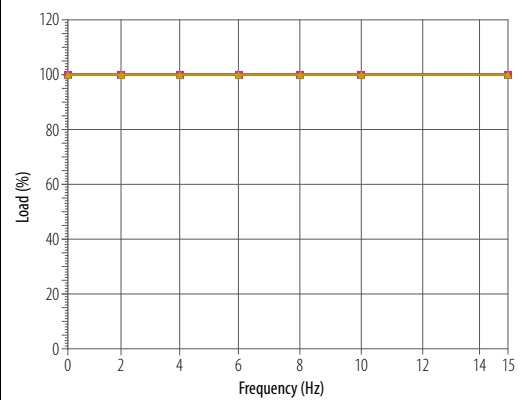
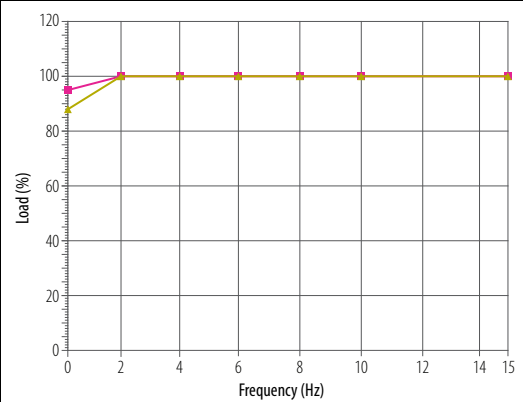
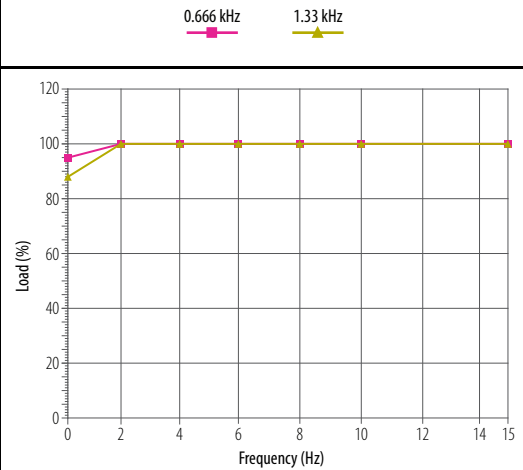
Cat. No. 20G...	Frame	480V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type		
		LD		ND		HD		Output Freq.	PWM Frequency	
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.666 kHz	1.33 kHz
D022	5	20	27	15	22	10	14	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
D027	5	25	34	20	27	15	22	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
D034	5	30	40	25	34	20	27	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100



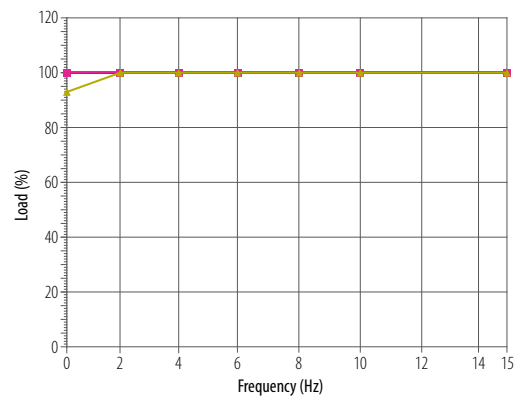
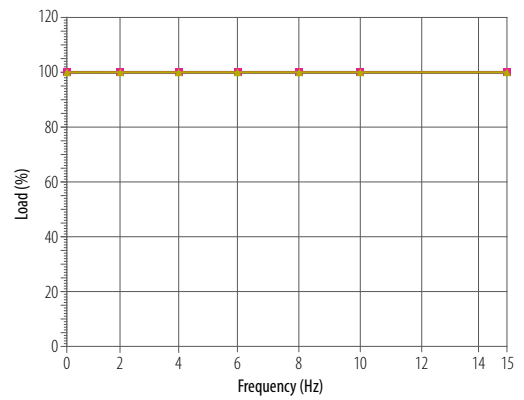
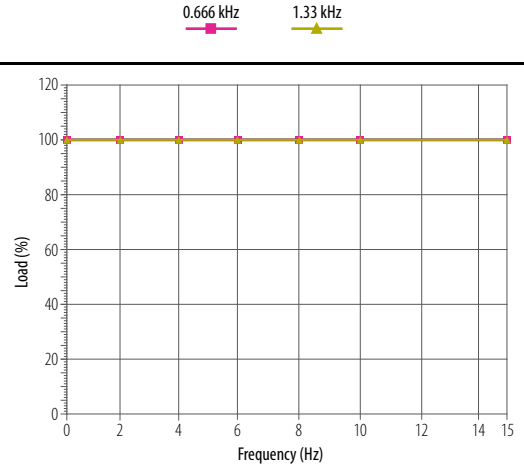
Cat. No. 20G...	Frame	480V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type		
		LD		ND		HD		Output Freq.	PWM Frequency	
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.666 kHz	1.33 kHz
D040	5	40	52	30	40	25	34	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
D052	5	50	65	40	52	30	40	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
D065	5	60	77	50	65	40	52	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100



Cat. No. 20G...	Frame	480V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type		
		LD		ND		HD		Output Freq.	PWM Frequency	
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.666 kHz	1.33 kHz
D077	5	75	96	60	77	50	65	0	95	88
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
D096	5	75	96	75	96	60	77	0	95	88
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
D125	6	125	156	100	125	75	96	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100

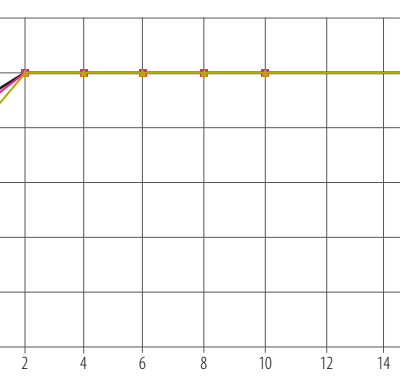


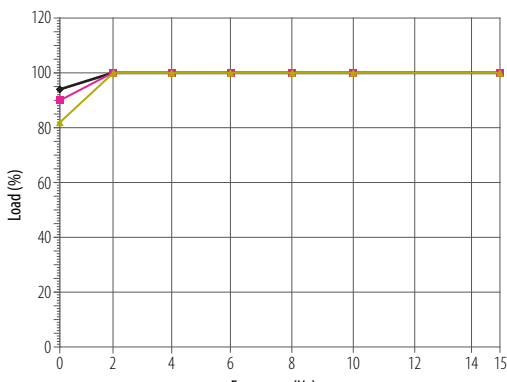
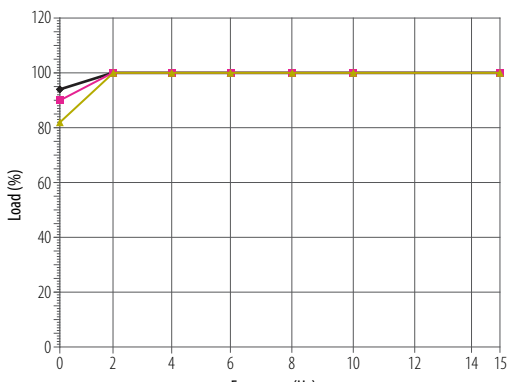
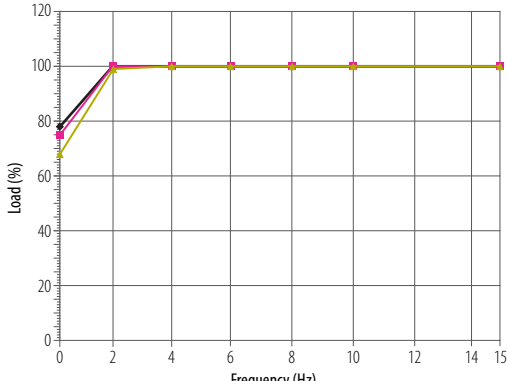
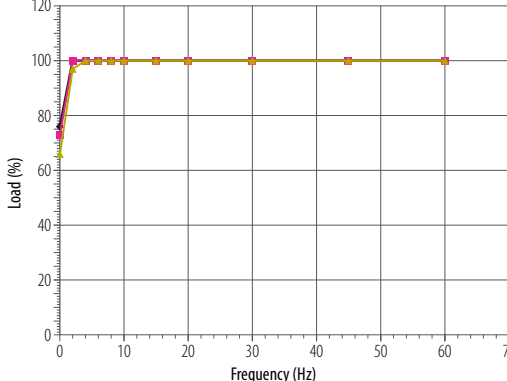
Cat. No. 20G...	Frame	480V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type		
		LD		ND		HD		Output Freq.	PWM Frequency	
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.666 kHz	1.33 kHz
D156	6	150	186	125	156	100	125	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
D186	6	200	248	150	186	125	156	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
D248	6	250	302	200	248	150	186	0	100	93
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100



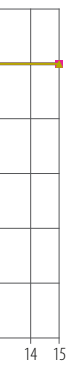
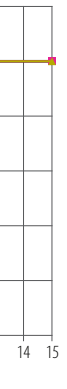
Cat. No. 20G...	Frame	480V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12				
		LD		ND		HD		Output Freq.	PWM Frequency			0.444 kHz 0.666 kHz 1.33 kHz
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz	
D302	7	300	361	250	302	200	248	0	100	100	100	
								2	100	100	100	
								4	100	100	100	
								6	100	100	100	
								8	100	100	100	
								10	100	100	100	
								15	100	100	100	
								20	100	100	100	
								30	100	100	100	
								45	100	100	100	
								60	100	100	100	
D361	7	350	430	300	361	250	302	0	100	100	100	
								2	100	100	100	
								4	100	100	100	
								6	100	100	100	
								8	100	100	100	
								10	100	100	100	
								15	100	100	100	
								20	100	100	100	
								30	100	100	100	
								45	100	100	100	
								60	100	100	100	
D430	7	400	485	350	430	300	361	0	100	100	100	
								2	100	100	100	
								4	100	100	100	
								6	100	100	100	
								8	100	100	100	
								10	100	100	100	
								15	100	100	100	
								20	100	100	100	
								30	100	100	100	
								45	100	100	100	
								60	100	100	100	

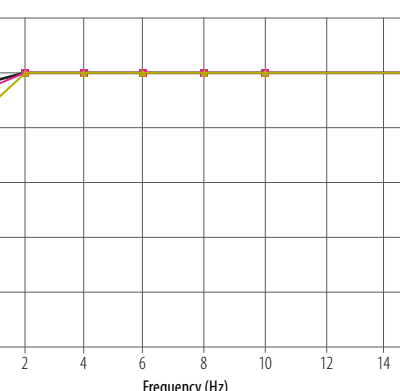
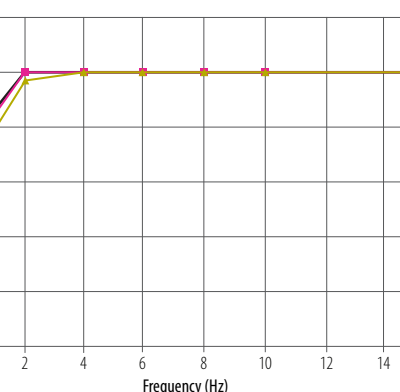
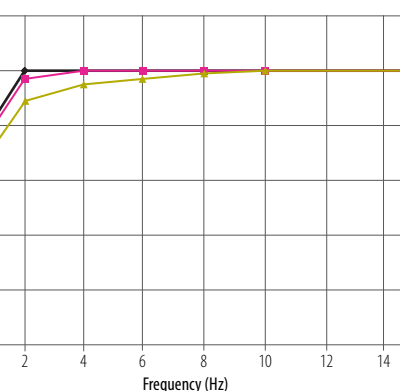
Cat. No. 20G...	Frame	480V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12									
		LD		ND		HD		Output Freq.		PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz 			
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz						
D505	7	450	545	400	505	350	430	0	100	99	90						
								2	100	100	100						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						
D617	7	500	617	500	600	400	500	0	91	88	79						
								2	100	100	100						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						
D302	8	300	361	250	302	200	248	0	100	100	97						
								2	100	100	100						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						

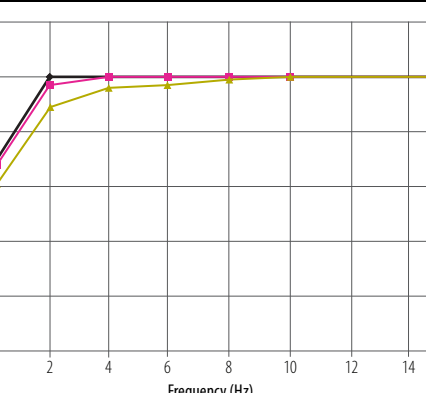
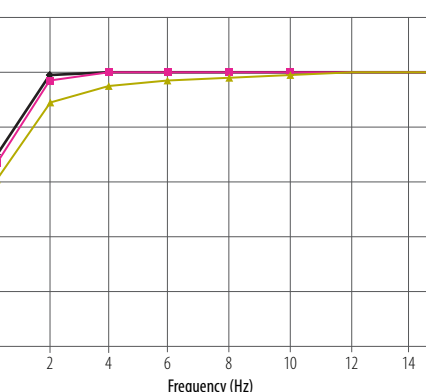
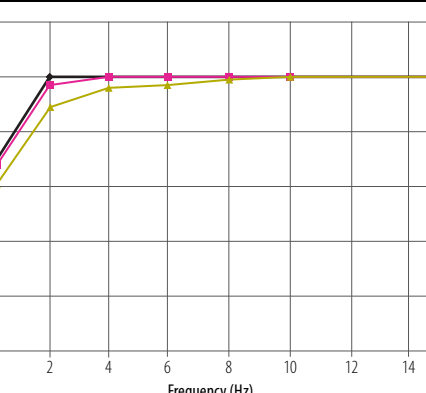
Cat. No. 20G...	Frame	480V AC Power Rating					Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12						
		LD		ND		HD	Output Freq.	PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz 	
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz		
D361	8	350	430	300	361	250	302	0	88	85	77		
								2	100	100	100		
								4	100	100	100		
								6	100	100	100		
								8	100	100	100		
								10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
								60	100	100	100		
D430	8	400	485	350	430	300	361	0	75	72	66		
								2	100	100	97		
								4	100	100	100		
								6	100	100	100		
								8	100	100	100		
								10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
								60	100	100	100		
D505	8	450	545	400	505	350	430	0	69	67	61		
								2	99	97	89		
								4	100	100	96		
								6	100	100	98		
								8	100	100	100		
								10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
								60	100	100	100		

Cat. No. 20G...	Frame	480V AC Power Rating					Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12						
		LD		ND		HD		Output Freq.		PWM Frequency			0.444 kHz 0.666 kHz 1.33 kHz 
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz		
D545	8	500	617	450	545	350	454	0	94	90	82		
								2	100	100	100		
								4	100	100	100		
								6	100	100	100		
								8	100	100	100		
								10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
								60	100	100	100		
D617	8	600	710	500	617	400	485	0	78	75	68		
								2	100	100	99		
								4	100	100	100		
								6	100	100	100		
								8	100	100	100		
								10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
								60	100	100	100		
D710	8	650	765	600	710	450	545	0	76	73	66		
								2	100	100	97		
								4	100	100	100		
								6	100	100	100		
								8	100	100	100		
								10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
								60	100	100	100		

Cat. No. 20G...	Frame	480V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12					0.444 kHz 0.666 kHz 1.33 kHz
		LD		ND		HD		Output Freq.	PWM Frequency				
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz		
D740	8	700	800	650	740	500	617	0	70	68	61		
								2	100	97	89		
								4	100	100	96		
								6	100	100	97		
								8	100	100	99		
								10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
								60	100	100	100		
D800	9	800	960	700	800	600	740	0	75	72	66		
								2	100	100	96		
								4	100	100	100		
								6	100	100	100		
								8	100	100	100		
								10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
								60	100	100	100		
D960	9	900	1045	800	960	700	800	0	71	69	63		
								2	100	100	92		
								4	100	100	99		
								6	100	100	100		
								8	100	100	100		
								10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
								60	100	100	100		

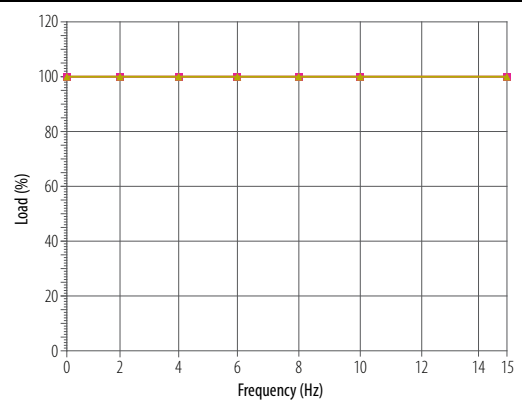
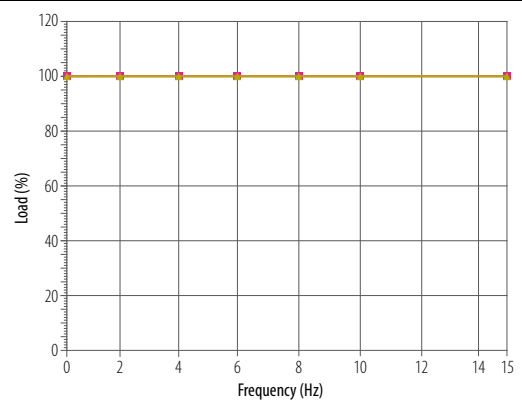
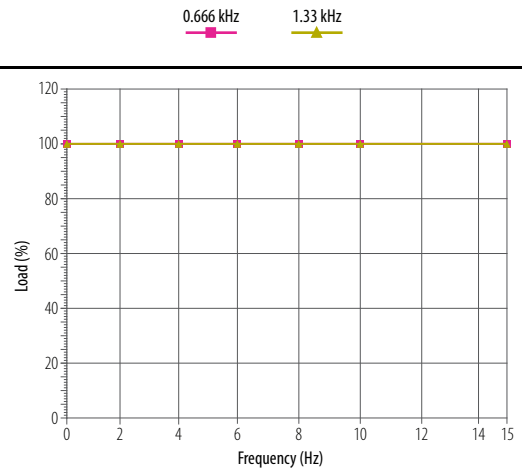
Cat. No. 20G...	Frame	480V AC Power Rating					Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12							
		LD		ND		HD		Output Freq.	PWM Frequency			0.444 kHz 0.666 kHz 1.33 kHz		
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz			
D1K0	9	1000	1135	900	1045	750	960	0	94	90	82			
								2	100	100	100			
								4	100	100	100			
								6	100	100	100			
								8	100	100	100			
								10	100	100	100			
								15	100	100	100			
								20	100	100	100			
								30	100	100	100			
								45	100	100	100			
								60	100	100	100			
D1K1	9	1100	1365	1000	1135	800	1045	0	75	73	66			
								2	100	100	96			
								4	100	100	100			
								6	100	100	100			
								8	100	100	100			
								10	100	100	100			
								15	100	100	100			
								20	100	100	100			
								30	100	100	100			
								45	100	100	100			
								60	100	100	100			
D1K3	9	1250	1520	1100	1365	900	1135	0	70	68	61			
								2	100	97	89			
								4	100	100	95			
								6	100	100	97			
								8	100	100	99			
								10	100	100	100			
								15	100	100	100			
								20	100	100	100			
								30	100	100	100			
								45	100	100	100			
								60	100	100	100			

Cat. No. 20G...	Frame	480V AC Power Rating					Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12						
		LD		ND		HD	Output Freq.	PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz 	
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz		
D1K4	10	1500	1655	1250	1420	1000	1365	0	95	92	83		
								2	100	100	100		
								4	100	100	100		
								6	100	100	100		
								8	100	100	100		
								10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
60	100	100	100										
D1K6	10	1800	2070	1500	1655	1100	1420	0	76	73	66		
								2	100	100	97		
								4	100	100	100		
								6	100	100	100		
								8	100	100	100		
								10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
60	100	100	100										
D2K0 D4K0	10	2000	2240	1800	2072	1500	1655	0	70	68	61		
								2	100	97	89		
								4	100	100	95		
								6	100	100	97		
								8	100	100	99		
	13	3900	4400	3600	4070	2800	3394	10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
60	100	100	100										

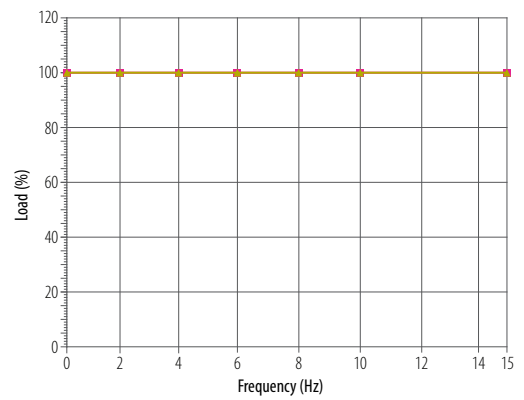
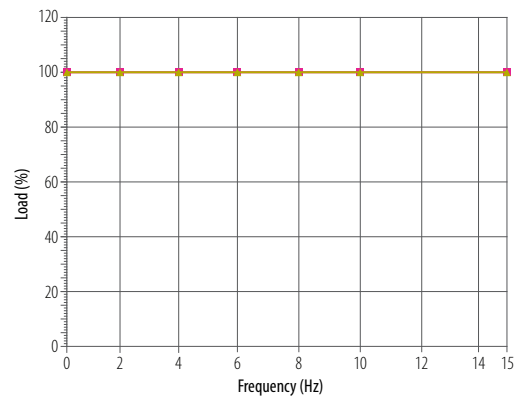
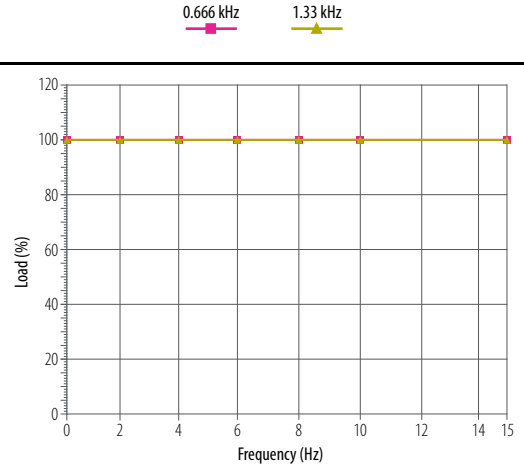
Cat. No. 20G...	Frame	480V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12					0.444 kHz 0.666 kHz 1.33 kHz 
		LD		ND		HD		Output Freq.	PWM Frequency				
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz		
D2K6 D5K4	11	2600	2960	2400	2738	2000	2240	0	70	68	61		
	14	5200	5840	4800	5402	3700	4504	2	100	97	89		
								4	100	100	96		
								6	100	100	97		
								8	100	100	99		
								10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
							60	100	100	100			
D3K4 D6K7	12	3300	3696	3000	3404	2400	2980	0	70	67	61		
	15	6400	7280	6000	6734	4600	5615	2	99	97	89		
								4	100	100	95		
								6	100	100	97		
								8	100	100	98		
								10	100	100	99		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
								60	100	100	100		

Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type																																	
		LD		ND		HD		Output Freq.	PWM Frequency		0.666 kHz 1.33 kHz																														
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.666 kHz	1.33 kHz																															
E011	5	15	17	10	11	7.5	9	0	100	100	Load (%) <table><thead><tr><th>Frequency (Hz)</th><th>0.666 kHz Load (%)</th><th>1.33 kHz Load (%)</th></tr></thead><tbody><tr><td>0</td><td>100</td><td>100</td></tr><tr><td>2</td><td>100</td><td>100</td></tr><tr><td>4</td><td>100</td><td>100</td></tr><tr><td>6</td><td>100</td><td>100</td></tr><tr><td>8</td><td>100</td><td>100</td></tr><tr><td>10</td><td>100</td><td>100</td></tr><tr><td>12</td><td>100</td><td>100</td></tr><tr><td>14</td><td>100</td><td>100</td></tr><tr><td>15</td><td>100</td><td>100</td></tr></tbody></table>	Frequency (Hz)	0.666 kHz Load (%)	1.33 kHz Load (%)	0	100	100	2	100	100	4	100	100	6	100	100	8	100	100	10	100	100	12	100	100	14	100	100	15	100	100
								Frequency (Hz)	0.666 kHz Load (%)	1.33 kHz Load (%)																															
								0	100	100																															
								2	100	100																															
								4	100	100																															
								6	100	100																															
								8	100	100																															
								10	100	100																															
								12	100	100																															
								14	100	100																															
								15	100	100																															
								2	100	100																															
4	100	100																																							
6	100	100																																							
8	100	100																																							
10	100	100																																							
15	100	100																																							
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45	100	100																																							
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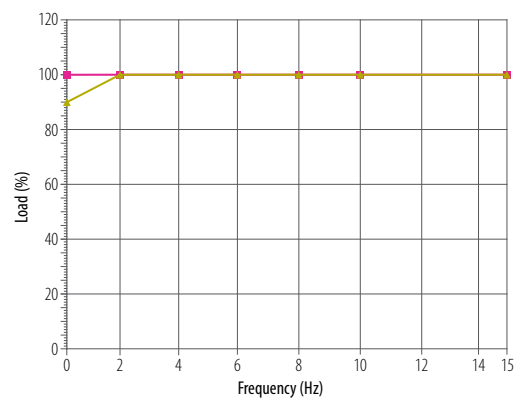
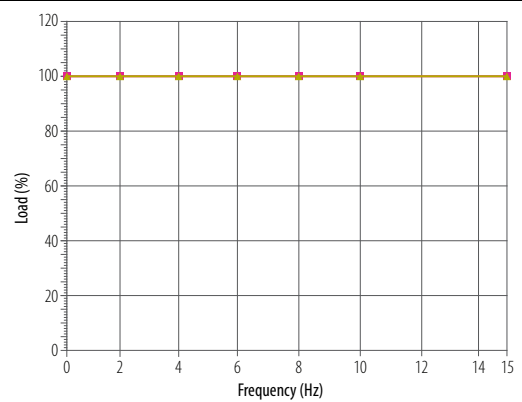
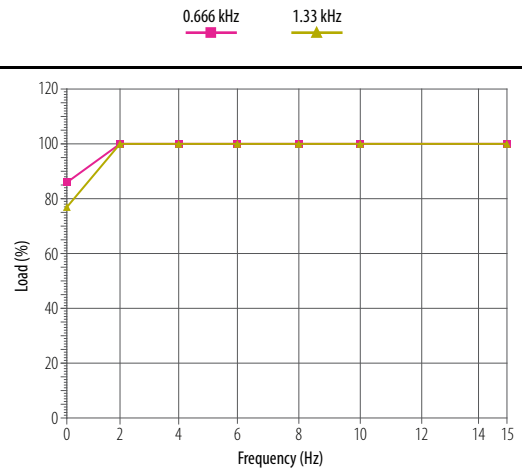
Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type		
		LD		ND		HD		Output Freq.	PWM Frequency	
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.666 kHz	1.33 kHz
E017	5	20	22	15	17	10	11	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
E022	5	25	27	20	22	15	17	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
E027	5	30	32	25	27	20	22	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100

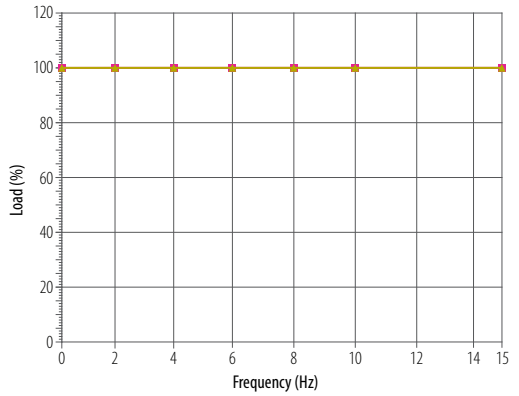


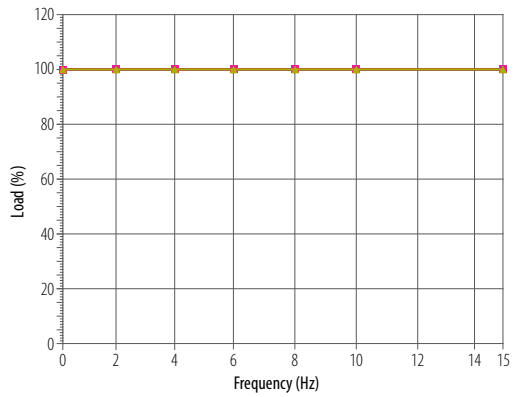
Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type		
		LD		ND		HD		Output Freq.	PWM Frequency	
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.666 kHz	1.33 kHz
E032	5	40	41	30	32	25	27	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
E041	5	50	52	40	41	30	32	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
E052	5	60	62	50	52	40	41	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100



Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type		
		LD		ND		HD		Output Freq.	PWM Frequency	
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.666 kHz	1.33 kHz
E062	5	75	77	60	62	50	52	0	86	77
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
E077	6	100	99	75	77	60	62	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
E099	6	125	125	100	99	75	77	0	100	90
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100

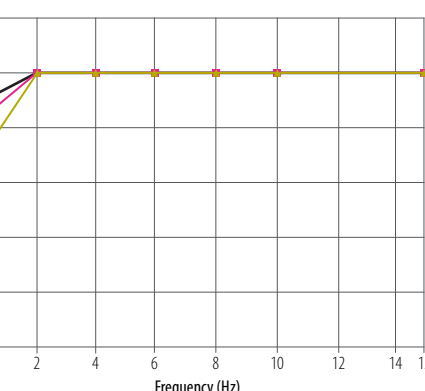
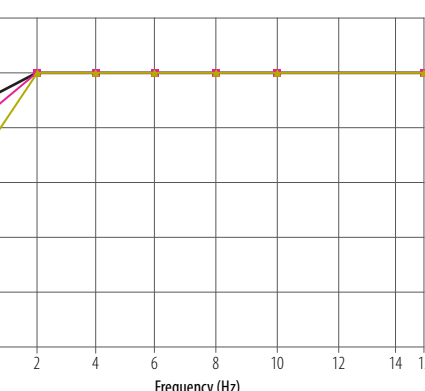
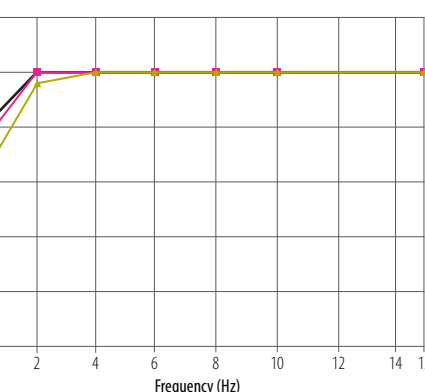
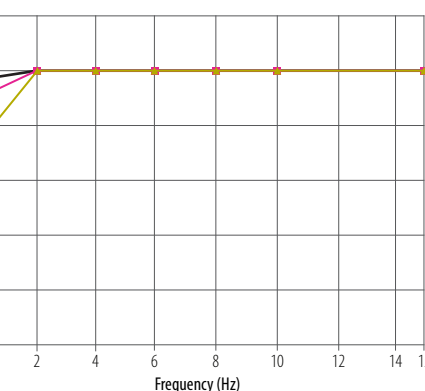


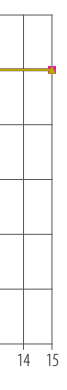
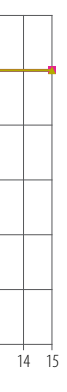
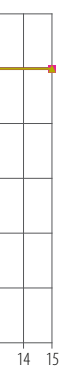
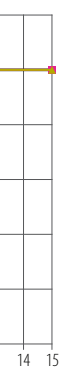
Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type			
		LD		ND		HD		Output Freq.	PWM Frequency		0.666 kHz 1.33 kHz 
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.666 kHz	1.33 kHz	
E125	6	150	144	125	125	100	99	0	100	100	
								2	100	100	
								4	100	100	
								6	100	100	
								8	100	100	
								10	100	100	
								15	100	100	
								20	100	100	
								30	100	100	
								45	100	100	
								60	100	100	
E144	6	200	192	150	144	125	125	0	100	100	
								2	100	100	
								4	100	100	
								6	100	100	
								8	100	100	
								10	100	100	
								15	100	100	
								20	100	100	
								30	100	100	
								45	100	100	
								60	100	100	

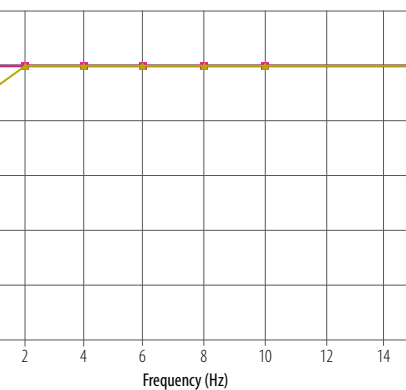
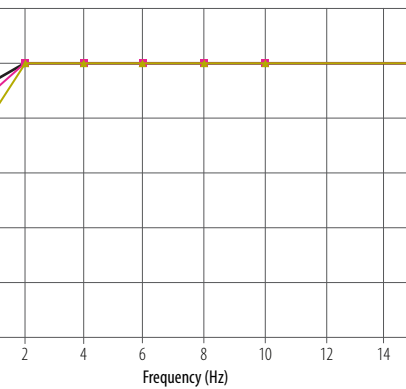
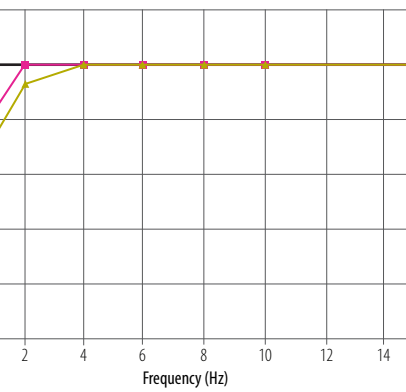
Cat. No. 20G...	Frame	600V AC Power Rating					Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12								
		LD		ND		HD		Output Freq.	PWM Frequency			0.444 kHz 0.666 kHz 1.33 kHz			
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz				
E192	7	250	242	200? ?????	192	150	144	0	100	100	100	Load (%) 			
								2	100	100	100				
								4	100	100	100				
								6	100	100	100				
								8	100	100	100				
								10	100	100	100				
								15	100	100	100				
								20	100	100	100				
								30	100	100	100				
								45	100	100	100				
								60	100	100	100				

Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12										
		LD		ND		HD		Output Freq.	PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz					
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz	Load (%)						
E242	7	300	295	250? ????	242	200	192	0	100	100	99							
								2	100	100	100							
								4	100	100	100							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							
E295	7	350	355	300? ????	295	250	242	0	100	95	79							
								2	100	100	100							
								4	100	100	100							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							
E355	7	400	395	350	355	300	295	0	90	85	73							
								2	100	100	100							
								4	100	100	100							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							

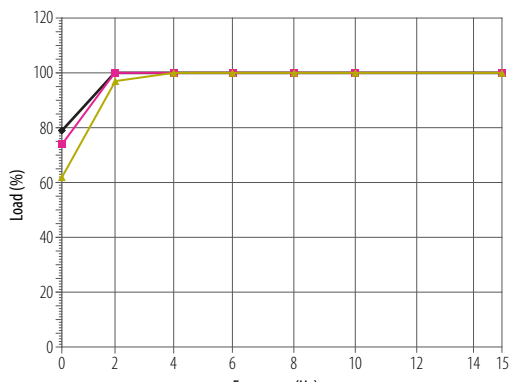
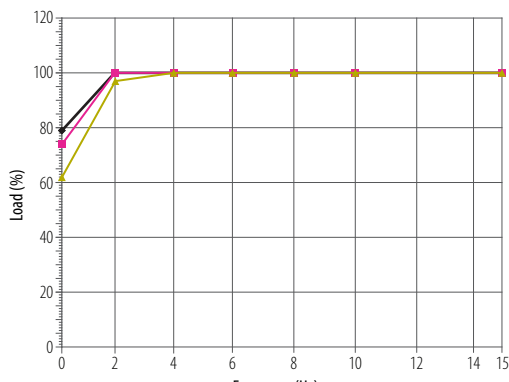
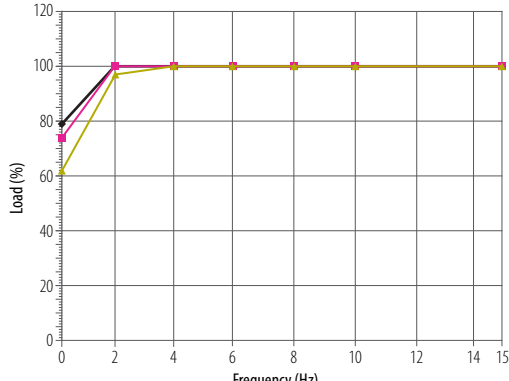
Cat. No. 20G...	Frame	600V AC Power Rating					Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12						
		LD		ND		HD		Output Freq.	PWM Frequency			0.444 kHz 0.666 kHz 1.33 kHz	
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz		
E395	7	450	435	400	395	350	355	0	80	76	65		
								2	100	100	95		
								4	100	100	100		
								6	100	100	100		
								8	100	100	100		
								10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
								60	100	100	100		
E242	8	300	295	250	242	200	192	0	100	100	99		
								2	100	100	100		
								4	100	100	100		
								6	100	100	100		
								8	100	100	100		
								10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
								60	100	100	100		
E295	8	350	355	300	295	250	242	0	100	95	79		
								2	100	100	100		
								4	100	100	100		
								6	100	100	100		
								8	100	100	100		
								10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
								60	100	100	100		

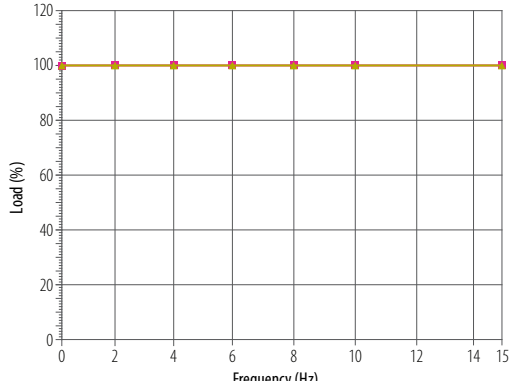
Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12										
		LD		ND		HD		Output Freq.	PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz 					
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz							
E355	8	400	395	350	355	300	295	0	90	84	71							
								2	100	100	100							
								4	100	100	100							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							
E395	8	450	435	400	395	350	355	0	80	75	63							
								2	100	100	96							
								4	100	100	100							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							
C435????	8	500	510	450	435	400	395	0	97	91	76							
								2	100	100	100							
								4	100	100	100							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							

Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12						
		LD		ND		HD		Output Freq.	PWM Frequency			0.444 kHz 0.666 kHz 1.33 kHz 		
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz			
E545	8	600	580	550	545	450	450	0	79	74	62			
								2	100	100	97			
								4	100	100	100			
								6	100	100	100			
								8	100	100	100			
								10	100	100	100			
								15	100	100	100			
								20	100	100	100			
								30	100	100	100			
								45	100	100	100			
								60	100	100	100			
E595	9	700	690	600	580	550	545	0	100	100	83			
								2	100	100	100			
								4	100	100	100			
								6	100	100	100			
								8	100	100	100			
								10	100	100	100			
								15	100	100	100			
								20	100	100	100			
								30	100	100	100			
								45	100	100	100			
								60	100	100	100			
E690	9	800	760	700	690	600	595	0	92	83	64			
								2	100	100	100			
								4	100	100	100			
								6	100	100	100			
								8	100	100	100			
								10	100	100	100			
								15	100	100	100			
								20	100	100	100			
								30	100	100	100			
								45	100	100	100			
								60	100	100	100			

Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12										
		LD		ND		HD		Output Freq.	PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz 					
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz							
E760	9	900	825	800	760	700	690	0	100	100	86							
								2	100	100	100							
								4	100	100	100							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							
								60	100	100	100							
E825	9	1000	980	900	825	800	760	0	89	83	70							
								2	100	100	100							
								4	100	100	100							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							
								60	100	100	100							
E980	9	1100	1102	1000	980	900	825	0	76	71	60							
								2	100	100	93							
								4	100	100	100							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							
								60	100	100	100							

Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12									
		LD		ND		HD		Output Freq.		PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz			
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz						
E1K1	10	1250	1220	1100	1045	1000	980	0	100	100	86						
								2	100	100	100						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						
E1K2	10	1500	1430	1250	1220	1100	1045	0	94	88	73						
								2	100	100	100						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						
E1K5 E2K9	10 13	1600 3300	1624 3190	1500 3100	1430 2998	1250 2500	1220 2475	0	80	75	62						
								2	100	100	97						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						

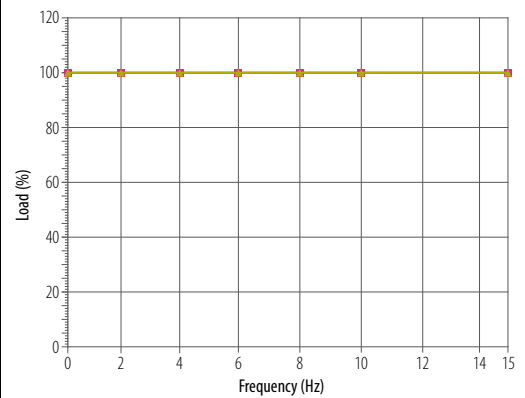
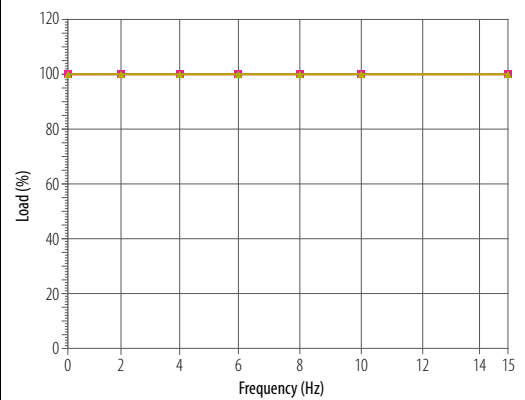
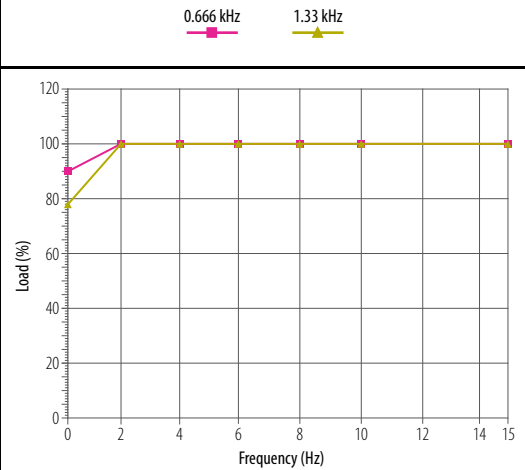
Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12					0.444 kHz 0.666 kHz 1.33 kHz 
		LD		ND		HD		Output Freq.	PWM Frequency				
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz		
E2K0 E3K9	11	2100	2146	2000	1946	1800	1700	0	79	74	62		
	14	4400	4234	4100	3979	3300	3285	2	100	100	97		
								4	100	100	100		
								6	100	100	100		
								8	100	100	100		
								10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
								60	100	100	100		
E2K4 E4K9	12	2600	2668	2500	2420	2100	2070	0	79	74	62		
	15	5500	5278	5100	4960	4100	4095	2	100	100	97		
								4	100	100	100		
								6	100	100	100		
								8	100	100	100		
								10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
								60	100	100	100		

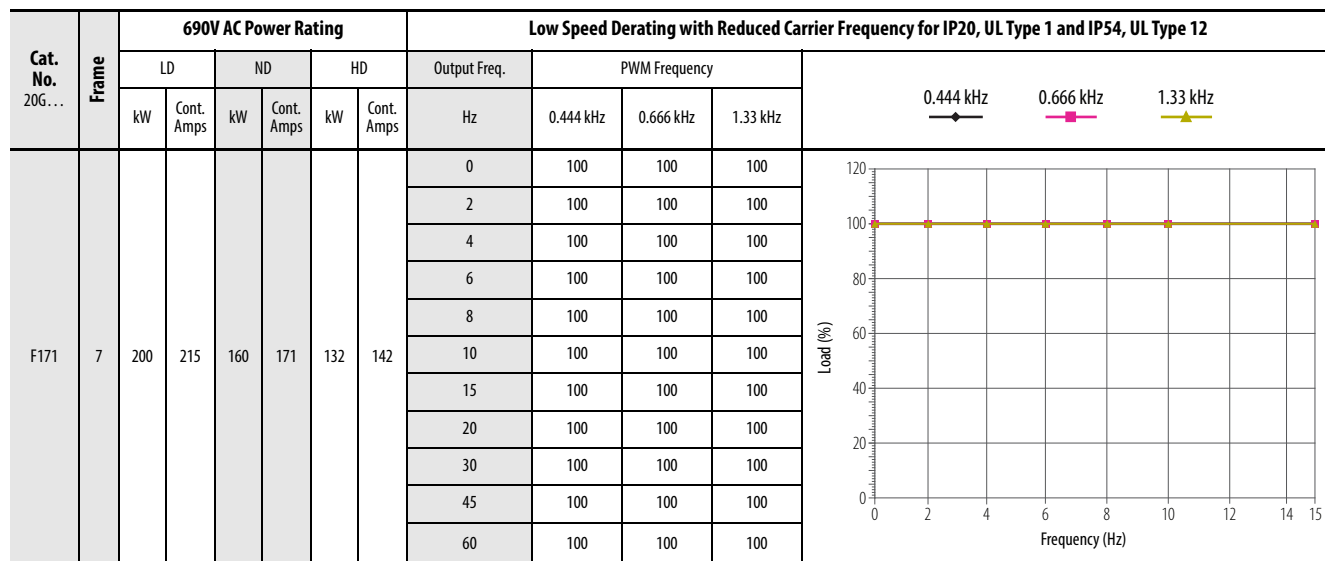
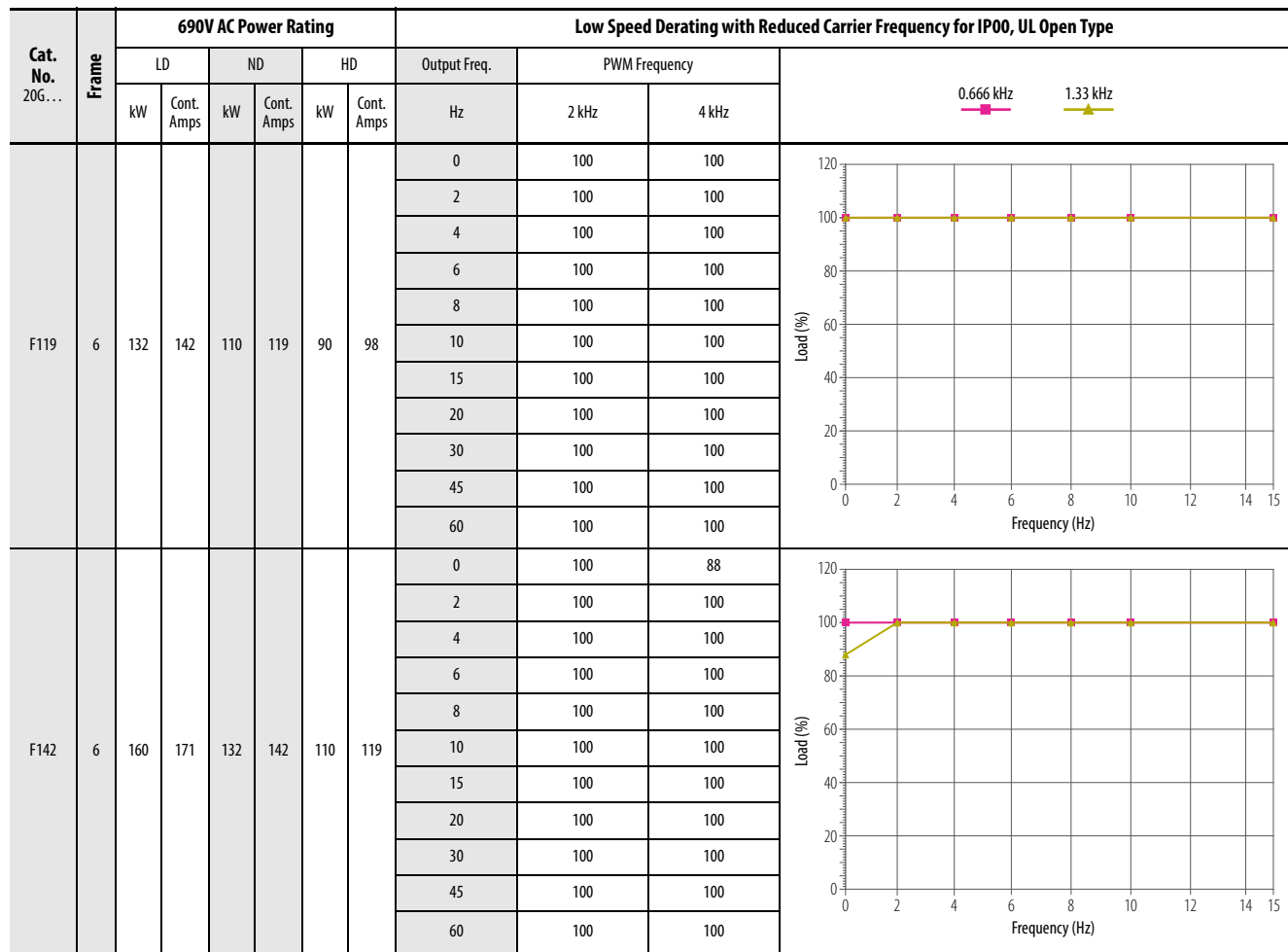
Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type				
		LD		ND		HD		Output Freq.	PWM Frequency		0.666 kHz 1.33 kHz	
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	2 kHz	4 kHz		
F015	5	15	20	11	15	7.5	12	0	100	100	Load (%) Frequency (Hz) 	
								2	100	100		
								4	100	100		
								6	100	100		
								8	100	100		
								10	100	100		
								15	100	100		
								20	100	100		
								30	100	100		
								45	100	100		
								60	100	100		

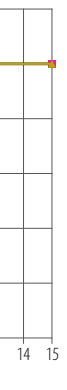
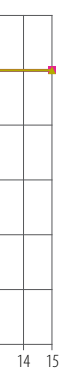
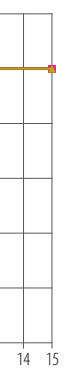
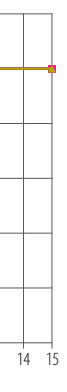
Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type			
		LD		ND		HD		Output Freq.	PWM Frequency		0.666 kHz 1.33 kHz
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	2 kHz	4 kHz	
F020	5	18.5	23	15	20	11	15	0	100	100	
								2	100	100	
								4	100	100	
								6	100	100	
								8	100	100	
								10	100	100	
								15	100	100	
								20	100	100	
								30	100	100	
								45	100	100	
								60	100	100	
F023	5	22	30	18.5	23	15	20	0	100	100	
								2	100	100	
								4	100	100	
								6	100	100	
								8	100	100	
								10	100	100	
								15	100	100	
								20	100	100	
								30	100	100	
								45	100	100	
								60	100	100	
F030	5	30	34	22	30	18.5	23	0	100	100	
								2	100	100	
								4	100	100	
								6	100	100	
								8	100	100	
								10	100	100	
								15	100	100	
								20	100	100	
								30	100	100	
								45	100	100	
								60	100	100	

Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type									
		LD		ND		HD		Output Freq.		PWM Frequency		0.666 kHz 1.33 kHz					
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	2 kHz	4 kHz							
F034	5	37	46	30	34	22	30	0	100	100							
								2	100	100							
								4	100	100							
								6	100	100							
								8	100	100							
								10	100	100							
								15	100	100							
								20	100	100							
								30	100	100							
								45	100	100							
								60	100	100							
F046	5	45	50	37	46	30	34	0	100	100							
								2	100	100							
								4	100	100							
								6	100	100							
								8	100	100							
								10	100	100							
								15	100	100							
								20	100	100							
								30	100	100							
								45	100	100							
								60	100	100							
F050	5	55	61	45	50	37	46	0	100	97							
								2	100	100							
								4	100	100							
								6	100	100							
								8	100	100							
								10	100	100							
								15	100	100							
								20	100	100							
								30	100	100							
								45	100	100							
								60	100	100							

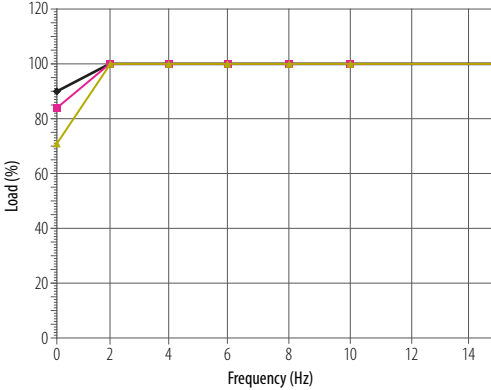
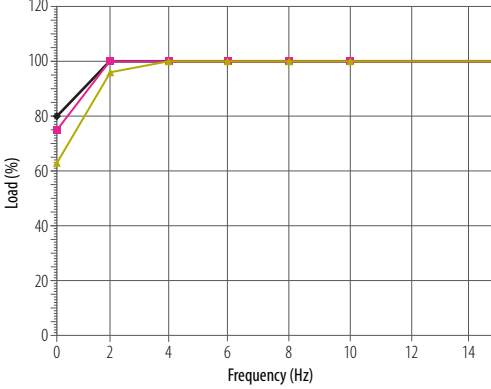
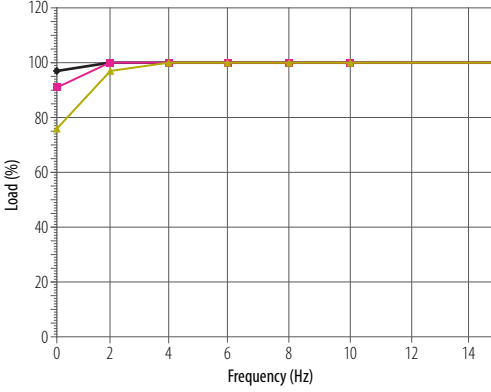
Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP00, UL Open Type		
		LD		ND		HD		Output Freq.	PWM Frequency	
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	2 kHz	4 kHz
F061	5	75	82	55	61	45	50	0	90	78
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
F082	6	90	98	75	82	55	61	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100
F098	6	110	119	90	98	75	82	0	100	100
								2	100	100
								4	100	100
								6	100	100
								8	100	100
								10	100	100
								15	100	100
								20	100	100
								30	100	100
								45	100	100
								60	100	100



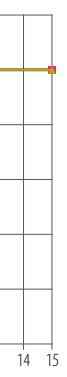
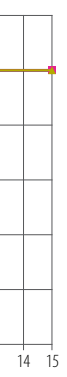


Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12									
		LD		ND		HD		Output Freq.		PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz 			
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz						
F215	7	250	265	200	215	160	171	0	100	100	86						
								2	100	100	100						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						
F265	7	315	330	250	265	200	215	0	92	86	72						
								2	100	100	100						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						
F330	7	355	370	315	330	250	265	0	83	77	64						
								2	100	100	95						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						

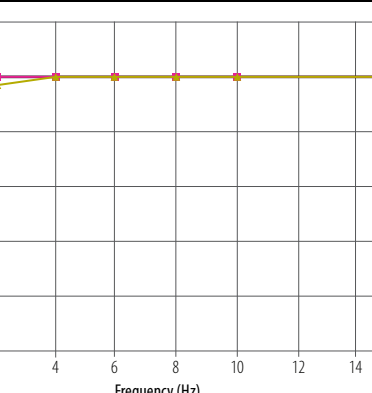
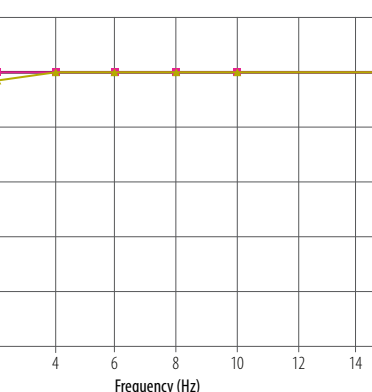
Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12										
		LD		ND		HD		Output Freq.	PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz					
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz							
F370	7	400	415	355	370	315	330	0	75	70	58							
								2	100	100	86							
								4	100	100	95							
								6	100	100	98							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							
								F215	8	250	265							200
2	100	100	100															
4	100	100	100															
6	100	100	100															
8	100	100	100															
10	100	100	100															
15	100	100	100															
20	100	100	100															
30	100	100	100															
45	100	100	100															
60	100	100	100															
F265	8	315	330	250	265	200	215					0	100	95	79			
								2	100	100	100							
								4	100	100	100							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							

Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12									
		LD		ND		HD		Output Freq.		PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz 			
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz						
F330	8	355	370	315	330	250	265	0	90	84	71						
								2	100	100	100						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						
F370	8	400	415	355	370	315	330	0	80	75	63						
								2	100	100	96						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						
F415	8	450	460	400	415	355	370	0	97	91	76						
								2	100	100	100						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						

Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12										
		LD		ND		HD		Output Freq.	PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz					
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz	Load (%)						
F505	8	560	565	500	505	400	415	0	79	74	62							
								2	100	100	97							
								4	100	100	100							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							
								F565	9	630	650	560	565	500	505	0	100	100
2	100	100	100															
4	100	100	100															
6	100	100	100															
8	100	100	100															
10	100	100	100															
15	100	100	100															
20	100	100	100															
30	100	100	100															
45	100	100	100															
60	100	100	100															
F650	9	710	735	630	650	560	565									0	92	83
								2	100	100	100							
								4	100	100	100							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							

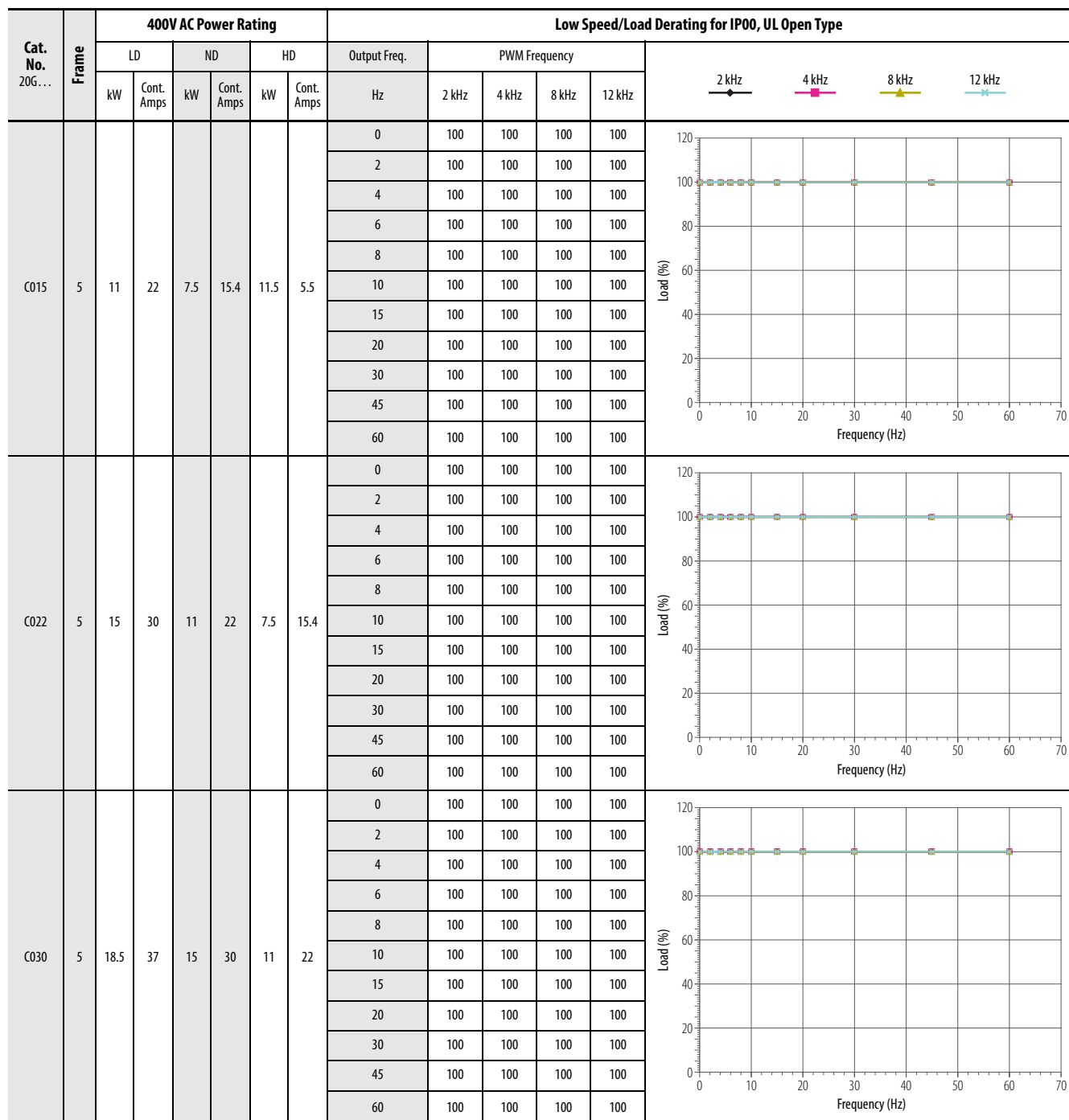
Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12									
		LD		ND		HD		Output Freq.		PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz 			
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz						
F735	9	800	820	710	735	630	650	0	100	100	86						
								2	100	100	100						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						
F820	9	900	920	800	820	710	735	0	89	83	70						
								2	100	100	100						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						
F920	9	1000	1074	900	920	800	820	0	76	71	60						
								2	100	100	93						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						

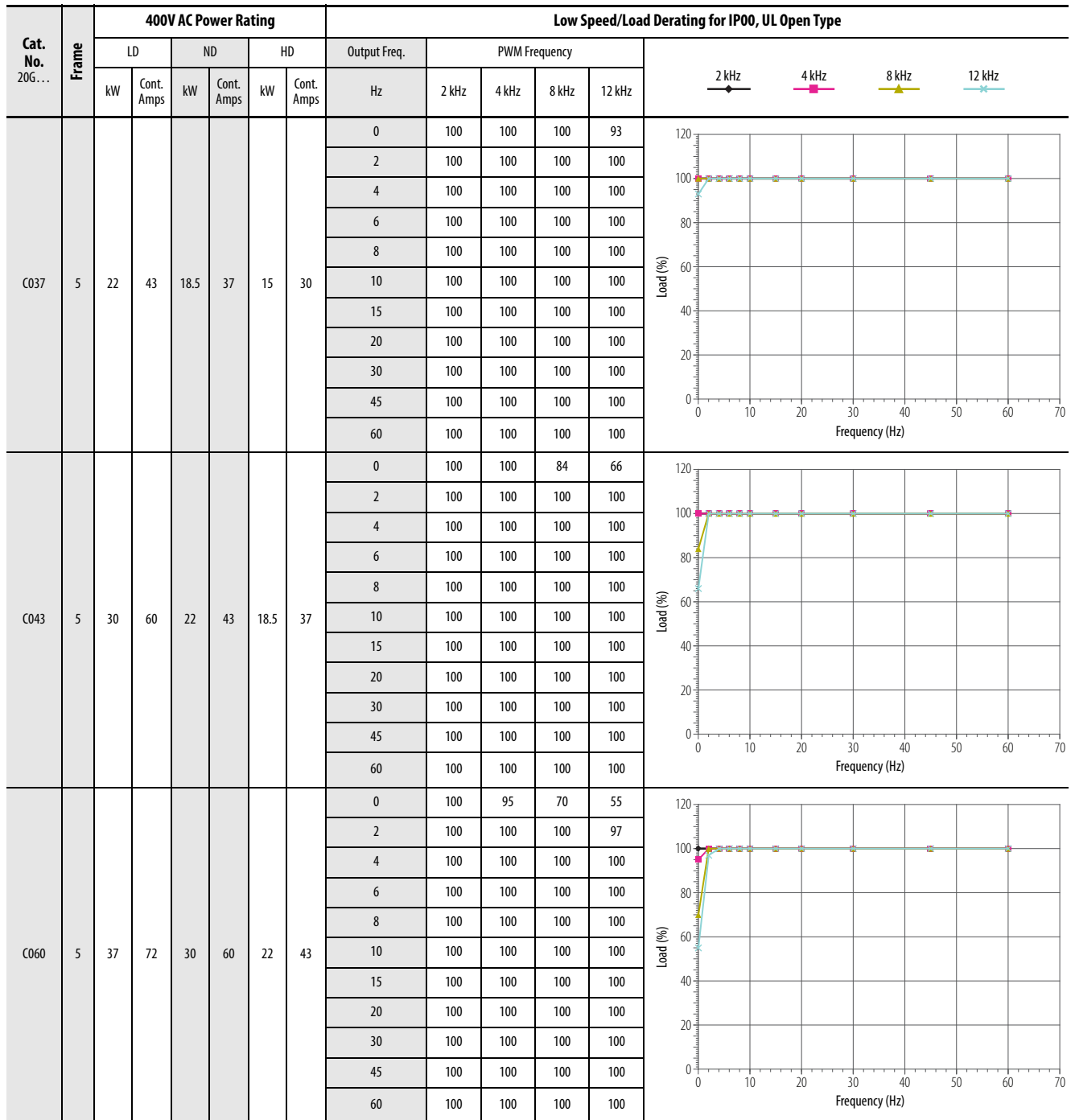
Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12										
		LD		ND		HD		Output Freq.	PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz					
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz							
F1K0	10	1100	1150	1000	1030	900	920	0	100	100	86							
								2	100	100	100							
								4	100	100	100							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							
F1K1	10	1250	1344	1100	1150	1000	1030	0	94	88	73							
								2	100	100	100							
								4	100	100	100							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							
F1K4 F2K7	10 13	1500 3080	1582 3108	1400 2750	1419 2778	1100 2200	1162 2283	0	80	75	62							
								2	100	100	97							
								4	100	100	100							
								6	100	100	100							
								8	100	100	100							
								10	100	100	100							
								15	100	100	100							
								20	100	100	100							
								30	100	100	100							
								45	100	100	100							
								60	100	100	100							

Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed Derating with Reduced Carrier Frequency for IP20, UL Type 1 and IP54, UL Type 12											
		LD		ND		HD		Output Freq.		PWM Frequency				0.444 kHz 0.666 kHz 1.33 kHz 					
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	0.444 kHz	0.666 kHz	1.33 kHz								
F1K8 F3K6	11	2000	2091	1800	1865	1500	1535	0	79	74	62								
	14	4088	4125	3650	3687	2920	3030	2	100	100	97								
								4	100	100	100								
								6	100	100	100								
								8	100	100	100								
								10	100	100	100								
								15	100	100	100								
								20	100	100	100								
								30	100	100	100								
								45	100	100	100								
							60	100	100	100									
F2K3 F4K5	12	2500	2599	2300	2318	2000	2020	0	79	74	62								
	15	5096	5142	4550	4596	3640	3777	2	100	100	97								
								4	100	100	100								
								6	100	100	100								
								8	100	100	100								
								10	100	100	100								
								15	100	100	100								
								20	100	100	100								
								30	100	100	100								
								45	100	100	100								
							60	100	100	100									

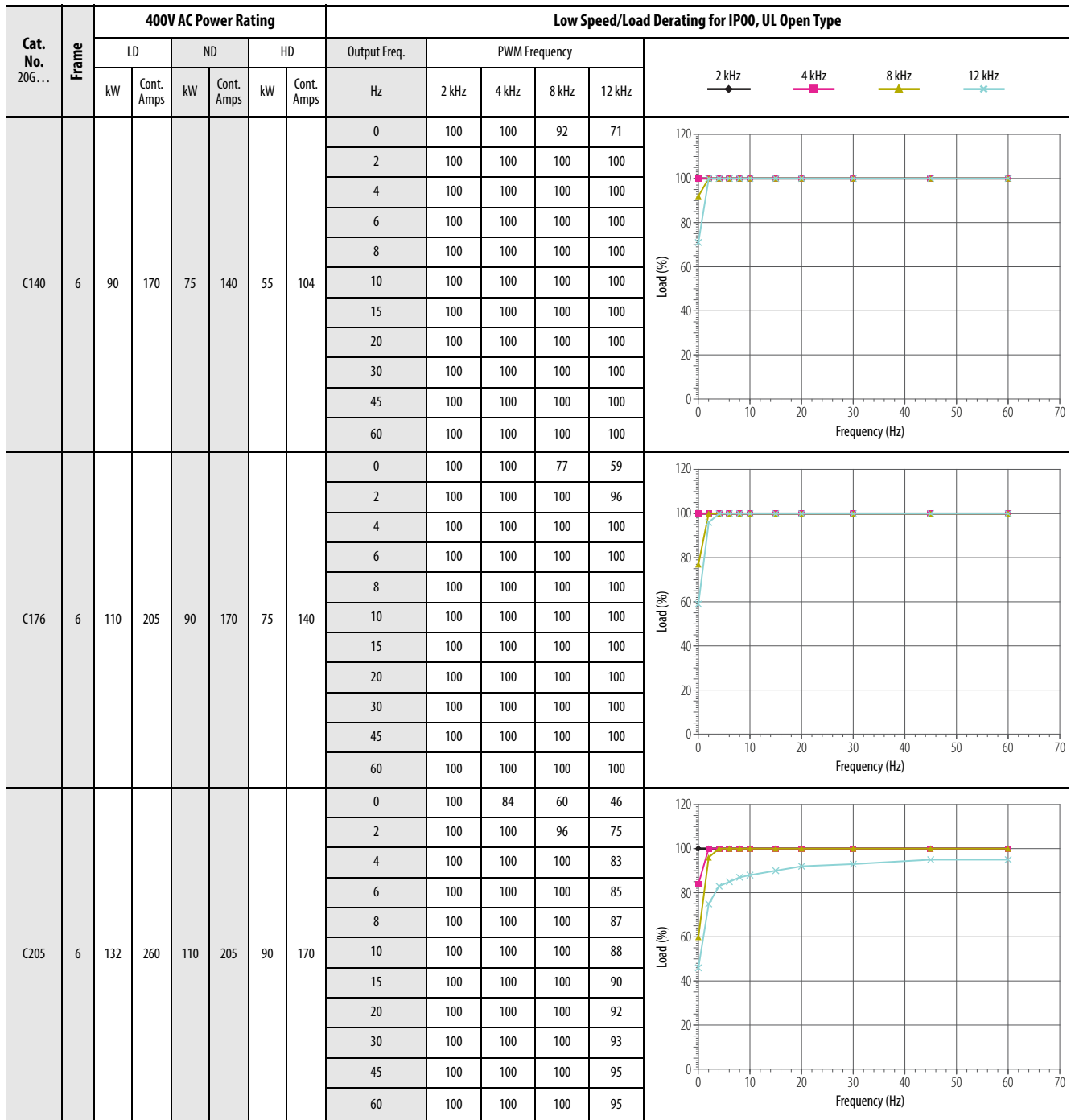
Low Speed Derating

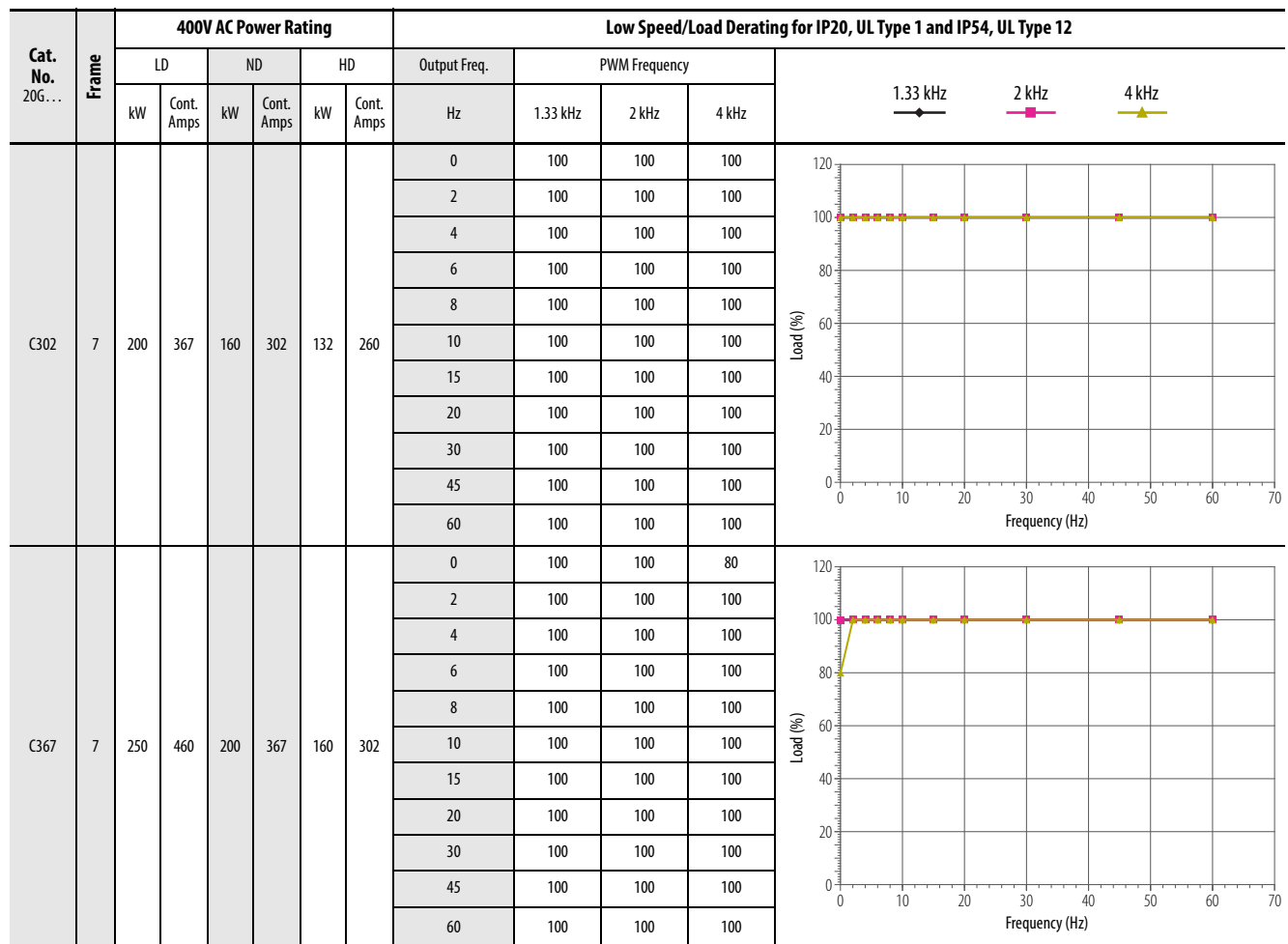
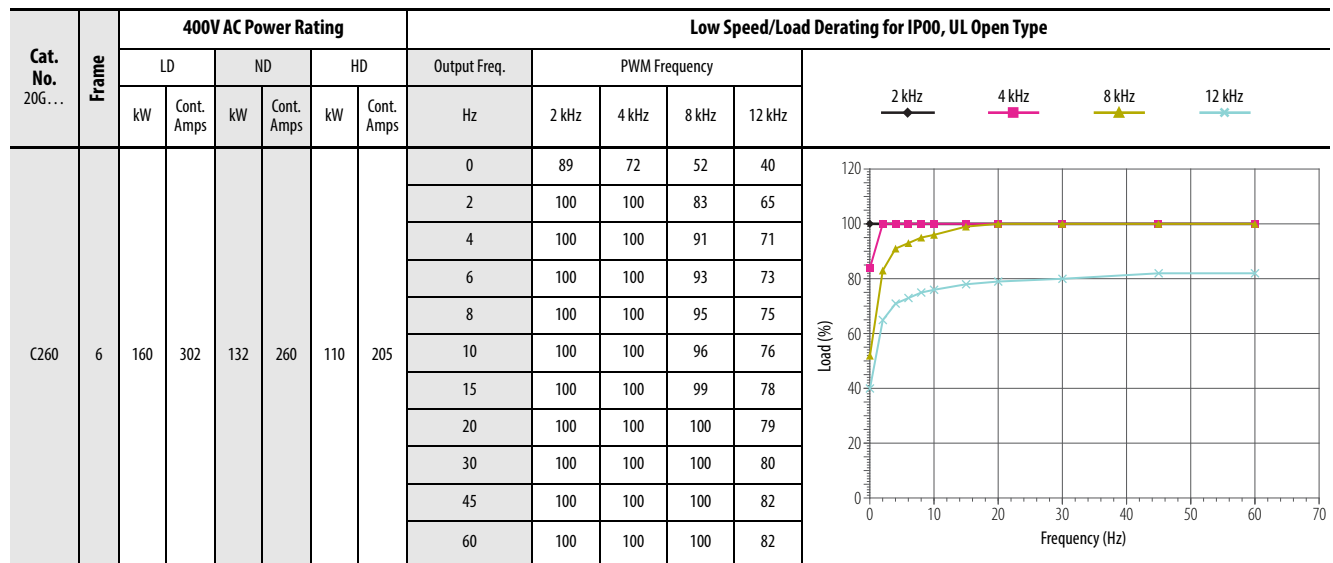
The following graphs show the carrier frequency deratings for motor side inverters. If a catalog number is not shown, that drive can be operated without derating as long as the limits specified on page 51 are followed.

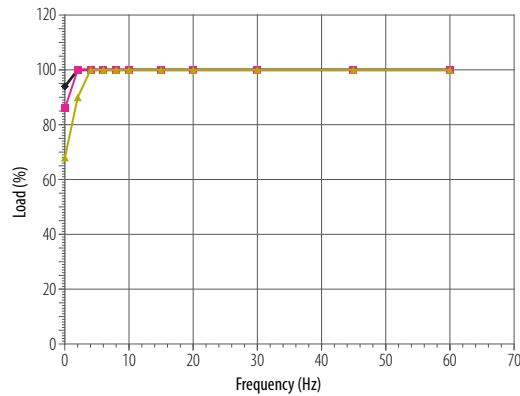


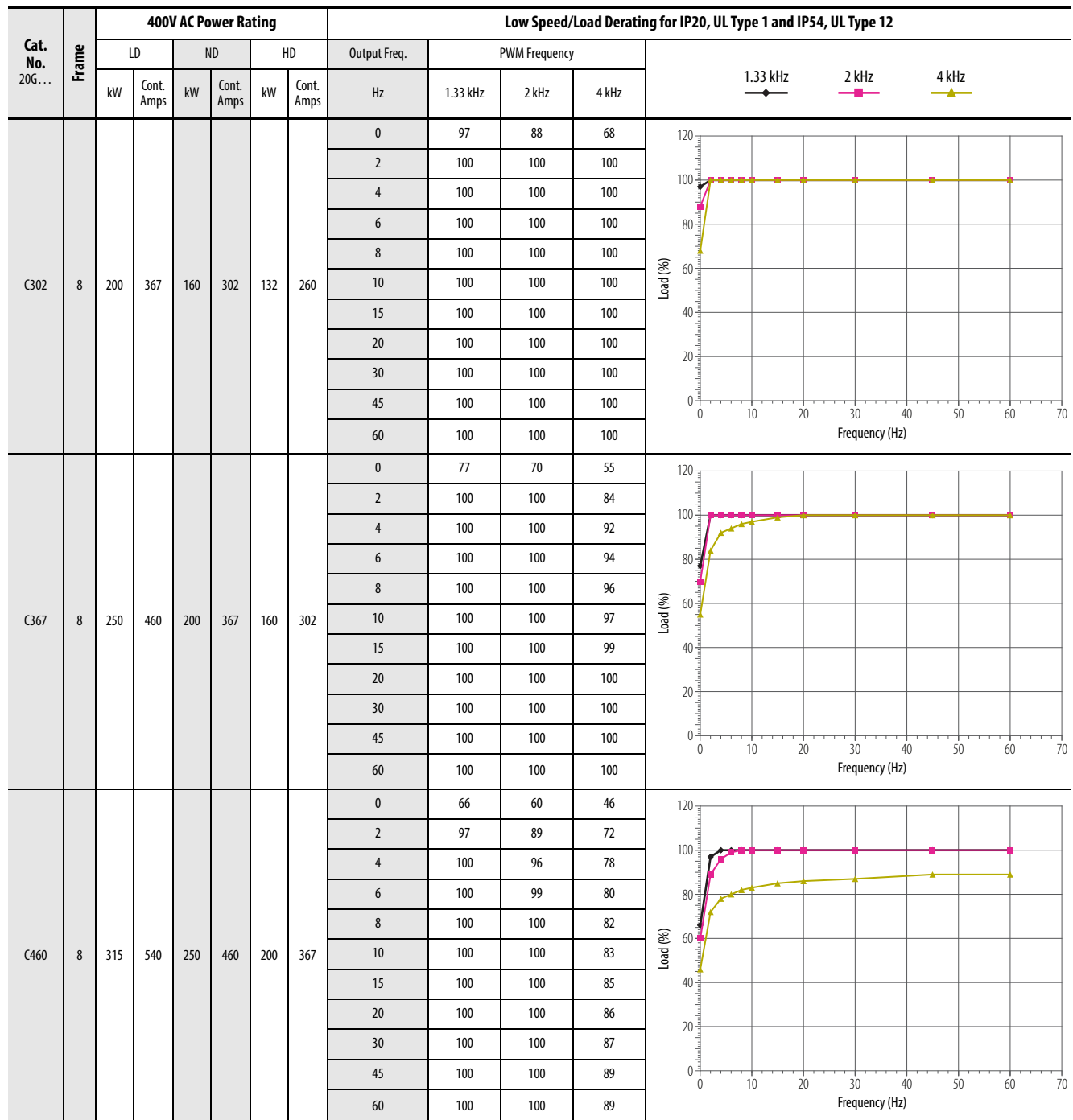


Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed/Load Derating for IP00, UL Open Type					
		LD		ND		HD		Output Freq.	PWM Frequency				
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	2 kHz	4 kHz	8 kHz	12 kHz	2 kHz 4 kHz 8 kHz 12 kHz
C072	5	45	85	37	72	30	60	0	96	80	59	47	
								2	100	100	100	82	
								4	100	100	100	92	
								6	100	100	100	95	
								8	100	100	100	98	
								10	100	100	100	100	
								15	100	100	100	100	
								20	100	100	100	100	
								30	100	100	100	100	
								45	100	100	100	100	
								60	100	100	100	100	
C085	5	55	104	45	85	37	72	0	78	65	48	38	
								2	100	100	83	67	
								4	100	100	93	75	
								6	100	100	96	78	
								8	100	100	99	80	
								10	100	100	100	81	
								15	100	100	100	84	
								20	100	100	100	86	
								30	100	100	100	88	
								45	100	100	100	90	
								60	100	100	100	91	
C104	5	55	104	55	104	45	85	0	78	65	48	38	
								2	100	100	83	67	
								4	100	100	93	75	
								6	100	100	96	78	
								8	100	100	99	80	
								10	100	100	100	81	
								15	100	100	100	84	
								20	100	100	100	86	
								30	100	100	100	88	
								45	100	100	100	90	
								60	100	100	100	91	

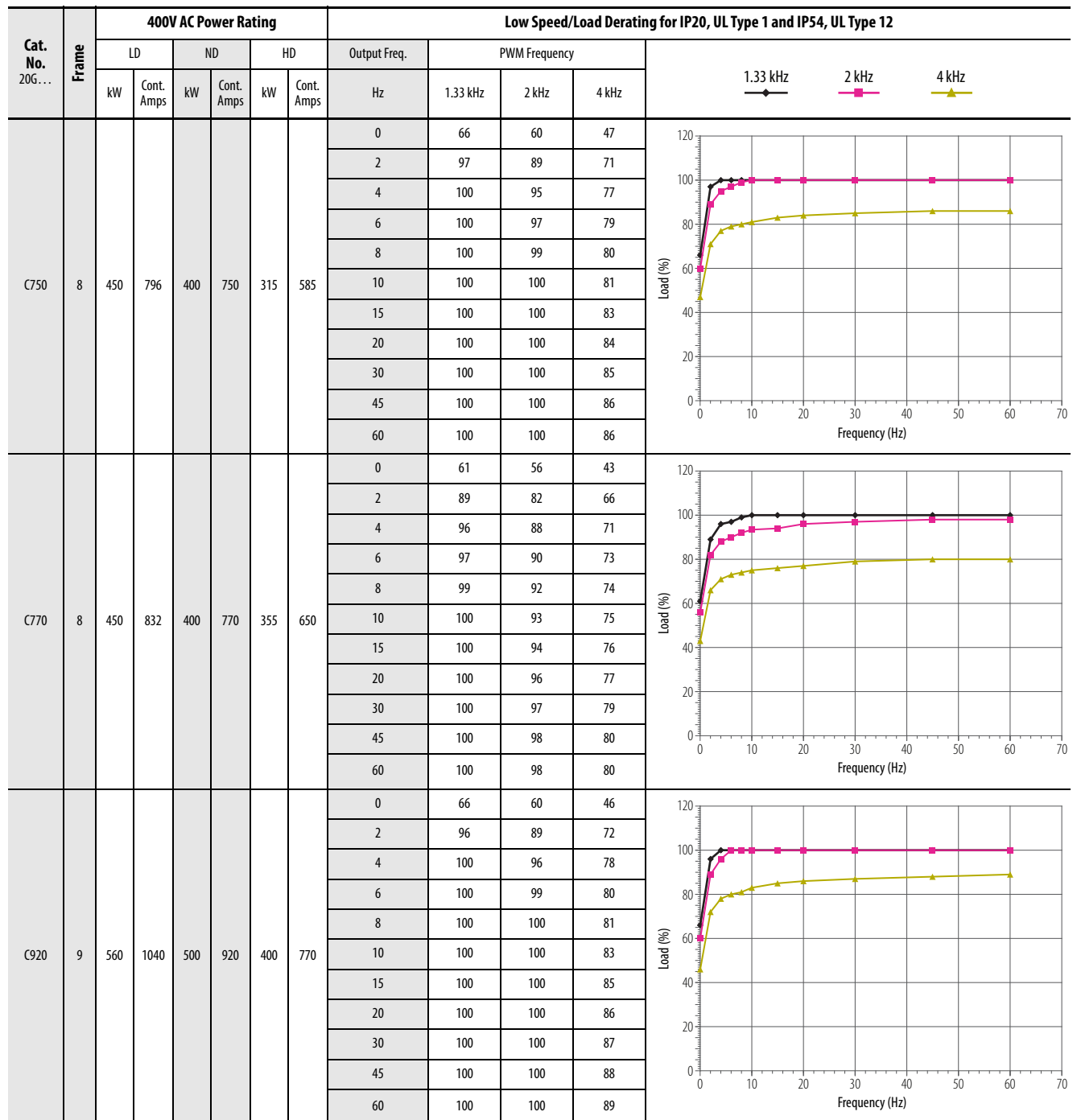


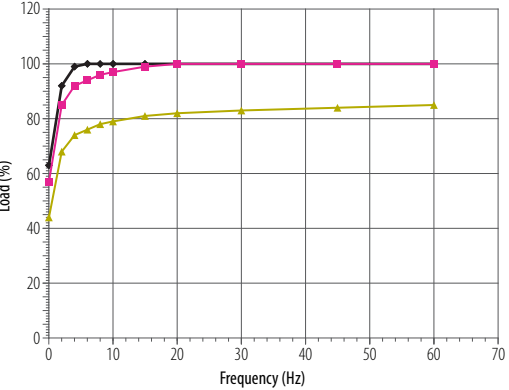
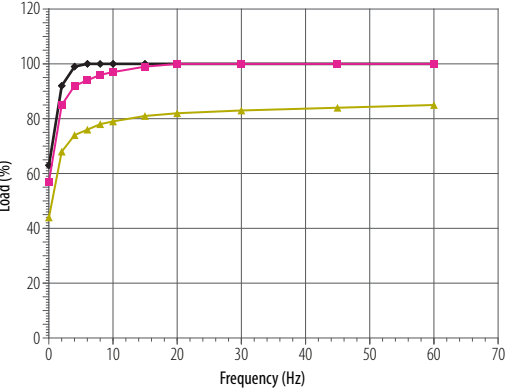


Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12							
		LD		ND		HD		Output Freq.		PWM Frequency					
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz	1.33 kHz	2 kHz	4 kHz	
C460	7	315	540	250	460	200	367	0	94	86	68	1.33 kHz 2 kHz 4 kHz 			
								2	100	100	90				
								4	100	100	100				
								6	100	100	100				
								8	100	100	100				
								10	100	100	100				
								15	100	100	100				
								20	100	100	100				
								30	100	100	100				
								45	100	100	100				
								60	100	100	100				
								C540	7	315	585				315
2	100	100	83												
4	100	100	92												
6	100	100	95												
8	100	100	97												
10	100	100	99												
15	100	100	100												
20	100	100	100												
30	100	100	100												
45	100	100	100												
60	100	100	100												
C585	7	315	617	315	600	250	500					0	82	75	
								2	100	97	79				
								4	100	100	87				
								6	100	100	90				
								8	100	100	92				
								10	100	100	94				
								15	100	100	97				
								20	100	100	99				
								30	100	100	100				
								45	100	100	100				
								60	100	100	100				



Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12						
		LD		ND		HD		Output Freq.	PWM Frequency			1.33 kHz 2 kHz 4 kHz		
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz			
C540	8	315	585	315	540	250	460	0	61	55	43			
								2	89	82	66			
								4	96	89	72			
								6	98	91	74			
								8	100	93	75			
								10	100	94	76			
								15	100	96	78			
								20	100	97	79			
								30	100	99	81			
								45	100	100	82			
								60	100	100	82			
C585	8	355	650	315	585	250	472	0	82	75	58			
								2	100	100	88			
								4	100	100	95			
								6	100	100	97			
								8	100	100	99			
								10	100	100	100			
								15	100	100	100			
								20	100	100	100			
								30	100	100	100			
								45	100	100	100			
								60	100	100	100			
C650	8	400	750	355	650	315	540	0	68	62	48			
								2	99	91	73			
								4	100	98	79			
								6	100	100	81			
								8	100	100	82			
								10	100	100	83			
								15	100	100	85			
								20	100	100	86			
								30	100	100	87			
								45	100	100	88			
								60	100	100	89			



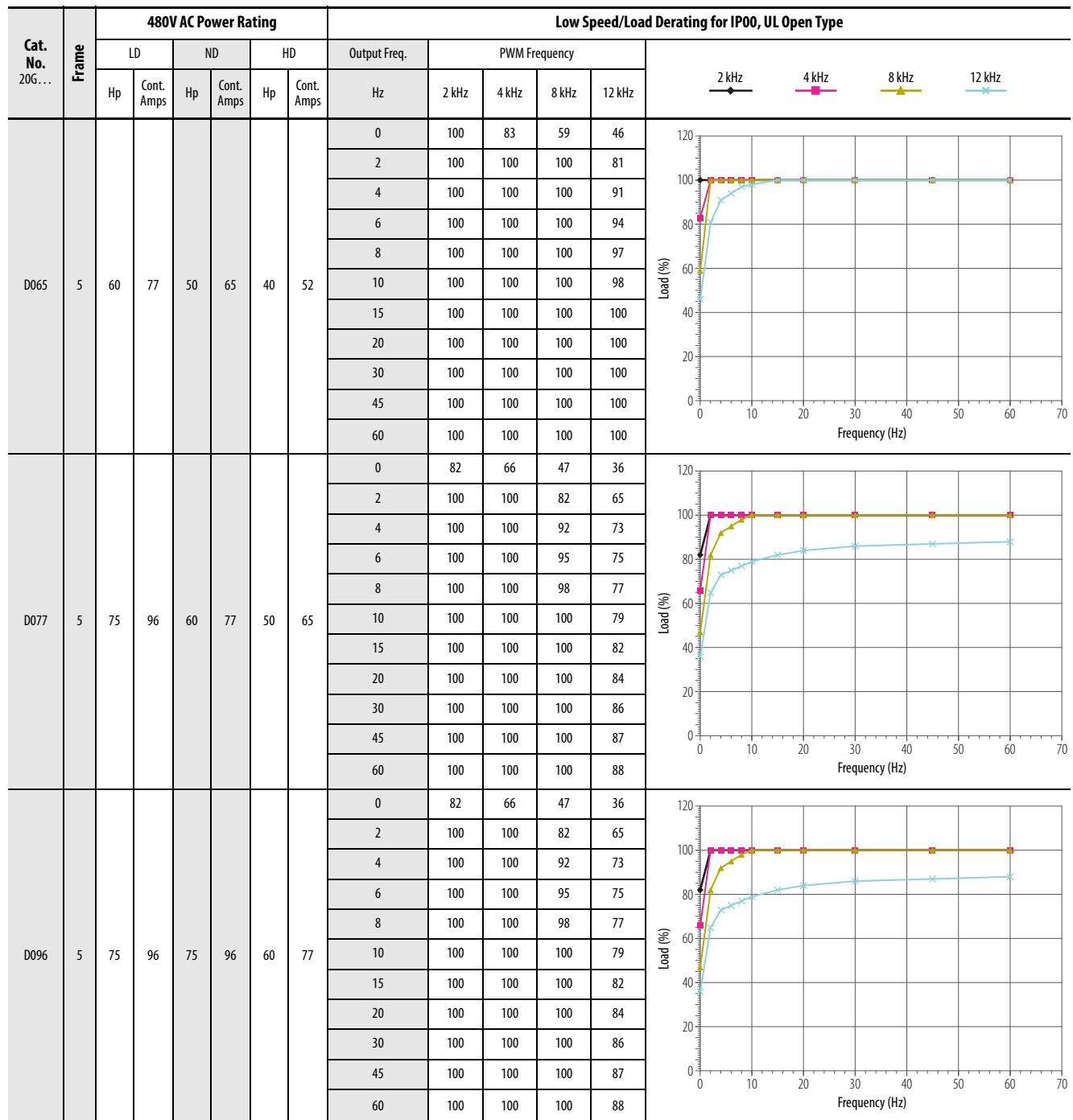
Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12											
		LD		ND		HD		Output Freq.		PWM Frequency				1.33 kHz 2 kHz 4 kHz 					
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz								
C1K0	9	630	1090	560	1040	500	920	0	63	57	44								
								2	92	85	68								
								4	99	92	74								
								6	100	94	76								
								8	100	96	78								
								10	100	97	79								
								15	100	99	81								
								20	100	100	82								
								30	100	100	83								
								45	100	100	84								
								60	100	100	85								
								C1K1	9	710	1182				630	1112	500	1040	0
2	100	100	88																
4	100	100	95																
6	100	100	97																
8	100	100	99																
10	100	100	100																
15	100	100	100																
20	100	100	100																
30	100	100	100																
45	100	100	100																
60	100	100	100																
C1K2	9	800	1465	710	1175	560	1090					0	66	60					47
								2	96	89	71								
								4	100	95	77								
								6	100	97	79								
								8	100	99	80								
								10	100	100	81								
								15	100	100	83								
								20	100	100	84								
								30	100	100	85								
								45	100	100	86								
								60	100	100	86								

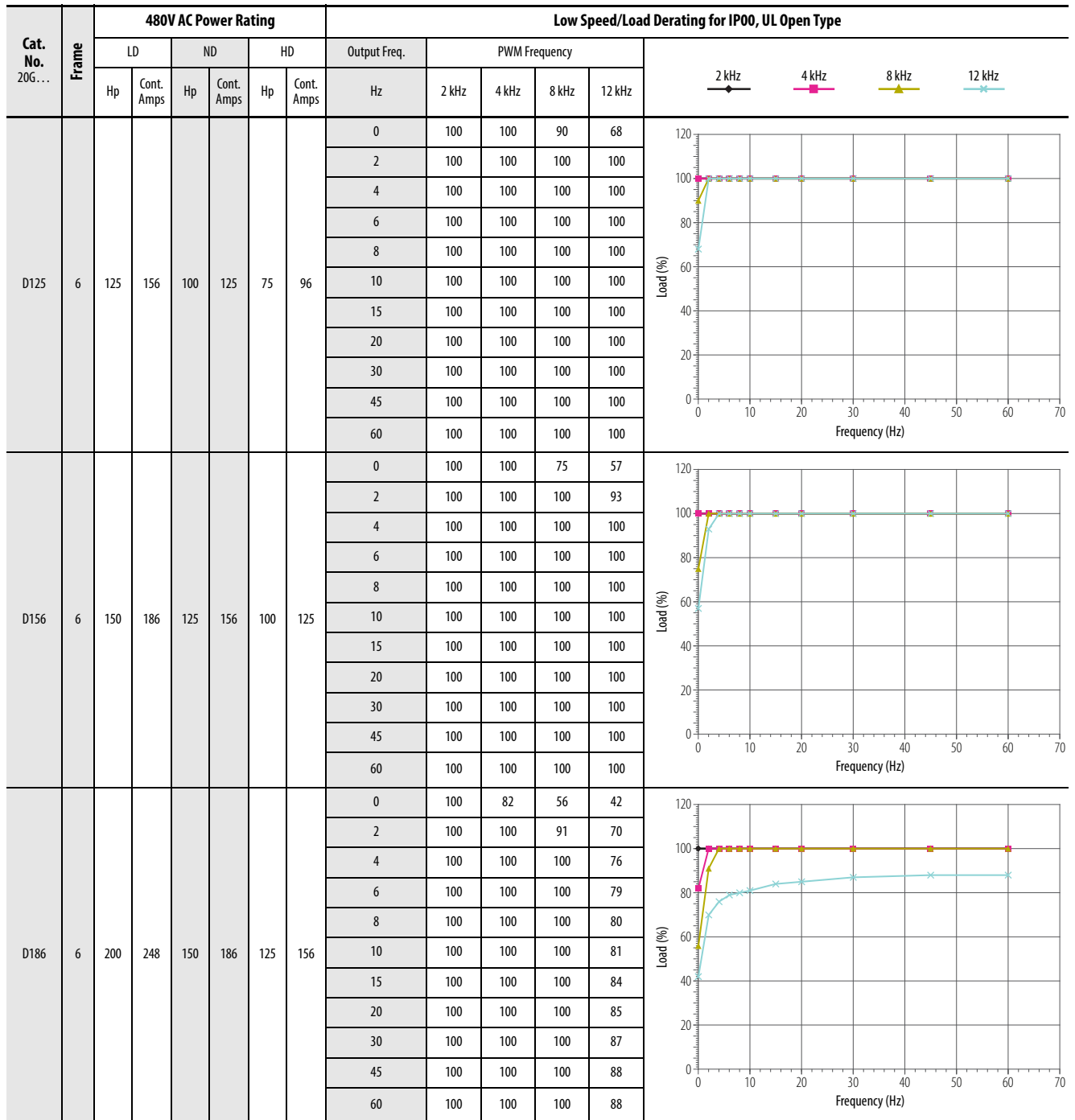
Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12						
		LD		ND		HD		Output Freq.	PWM Frequency			1.33 kHz 2 kHz 4 kHz		
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz			
C1K4	9	850	1581	800	1463	630	1175	0	61	56	43			
								2	89	82	66			
								4	96	88	71			
								6	97	90	73			
								8	99	92	74			
								10	100	93	75			
								15	100	94	76			
								20	100	96	77			
								30	100	97	79			
								45	100	98	80			
								60	100	98	80			
C1K6	10	1000	1715	850	1590	710	1465	0	83	76	59			
								2	100	100	90			
								4	100	100	97			
								6	100	100	99			
								8	100	100	100			
								10	100	100	100			
								15	100	100	100			
								20	100	100	100			
								30	100	100	100			
								45	100	100	100			
								60	100	100	100			
C1K7	10	1250	2150	1000	1715	800	1480	0	66	60	47			
								2	97	89	72			
								4	100	96	77			
								6	100	98	79			
								8	100	99	80			
								10	100	100	81			
								15	100	100	83			
								20	100	100	84			
								30	100	100	85			
								45	100	100	86			
								60	100	100	87			

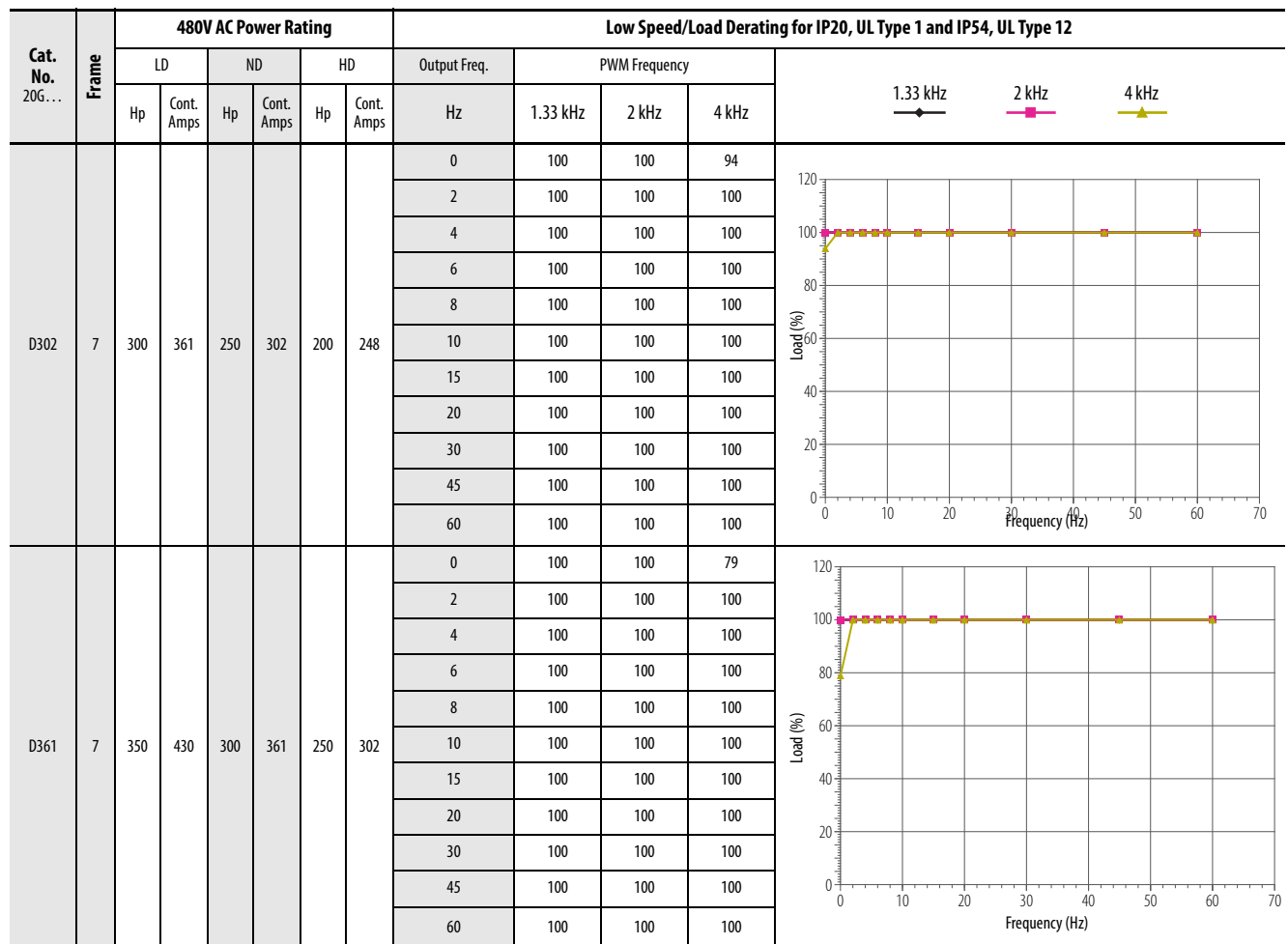
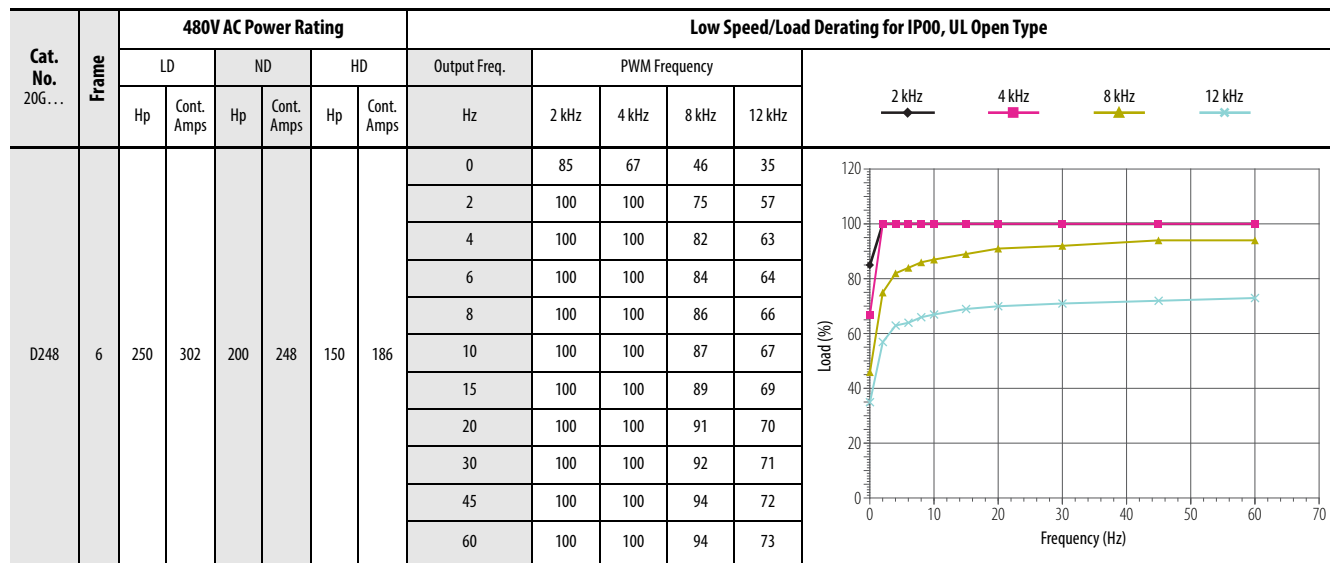
Cat. No. 20G...	Frame	400V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12						
		LD		ND		HD		Output Freq.	PWM Frequency			1.33 kHz 2 kHz 4 kHz		
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz			
C2K1 C4K2	10	1400	2330	1250	2156	1000	1715	0	61	56	43			
	13	2475	4576	2200	4235	1953	3575	2	89	82	66			
								4	96	88	71			
								6	97	90	73			
								8	99	92	74			
								10	100	93	75			
								15	100	94	76			
								20	100	96	77			
								30	100	97	79			
								45	100	98	80			
								60	100	98	80			
C2K8 C5K6	11	1800	3078	1650	2849	1400	2330	0	61	56	43			
	14	3285	6074	2920	5621	2592	4745	2	89	82	66			
								4	96	88	71			
								6	97	90	73			
								8	99	92	74			
								10	100	93	75			
								15	100	94	76			
								20	100	96	78			
								30	100	97	79			
								45	100	98	80			
								60	100	98	80			
C3K5 C7K0	12	2200	3846	2000	3542	1650	3032	0	61	55	43			
	15	4095	7571	3640	7007	3231	5915	2	89	82	66			
								4	95	88	71			
								6	97	90	72			
								8	98	91	74			
								10	99	92	75			
								15	100	94	76			
								20	100	95	77			
								30	100	96	78			
								45	100	97	79			
								60	100	98	80			

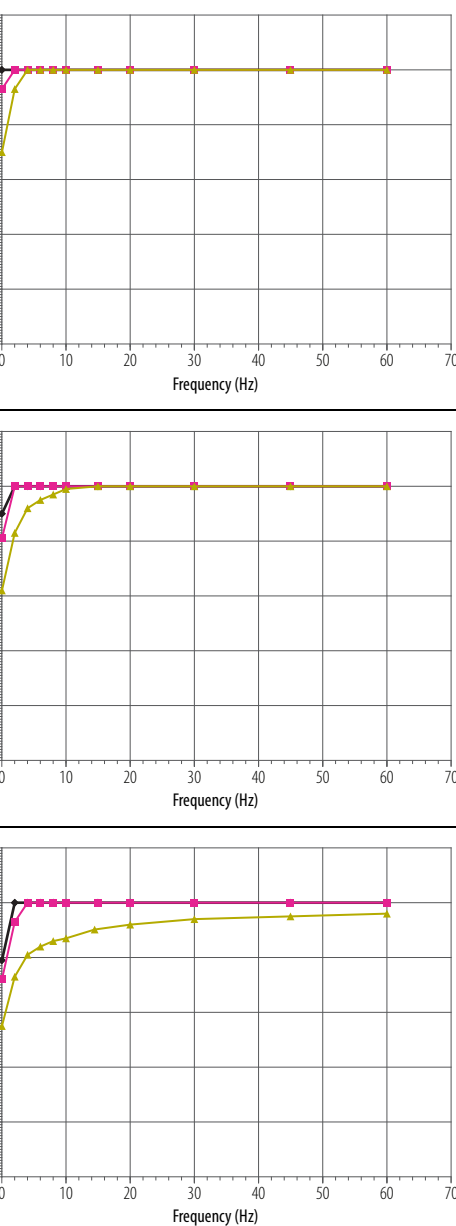
Cat. No. 20G...	Frame	480V AC Power Rating					Low Speed/Load Derating for IP00, UL Open Type												
		LD		ND		HD		Output Freq.		PWM Frequency					2 kHz 4 kHz 8 kHz 12 kHz				
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	2 kHz	4 kHz	8 kHz	12 kHz							
D014	5	15	22	10	14	7.5	11	0	100	100	100	100	Load (%) Frequency (Hz)						
								2	100	100	100	100							
								4	100	100	100	100							
								6	100	100	100	100							
								8	100	100	100	100							
								10	100	100	100	100							
								15	100	100	100	100							
								20	100	100	100	100							
								30	100	100	100	100							
								45	100	100	100	100							
								60	100	100	100	100							
								D022	5	20	27	15		22	10	14	0	100	100
2	100	100	100	100															
4	100	100	100	100															
6	100	100	100	100															
8	100	100	100	100															
10	100	100	100	100															
15	100	100	100	100															
20	100	100	100	100															
30	100	100	100	100															
45	100	100	100	100															
60	100	100	100	100															
D027	5	25	34	20	27	15	22						0				100	100	100
								2	100	100	100	100							
								4	100	100	100	100							
								6	100	100	100	100							
								8	100	100	100	100							
								10	100	100	100	100							
								15	100	100	100	100							
								20	100	100	100	100							
								30	100	100	100	100							
								45	100	100	100	100							
								60	100	100	100	100							

Cat. No. 20G...	Frame	480V AC Power Rating						Low Speed/Load Derating for IP00, UL Open Type					
		LD		ND		HD		Output Freq.	PWM Frequency				
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	2 kHz	4 kHz	8 kHz	12 kHz	2 kHz 4 kHz 8 kHz 12 kHz
D034	5	30	40	25	34	20	27	0	100	100	100	88	
								2	100	100	100	100	
								4	100	100	100	100	
								6	100	100	100	100	
								8	100	100	100	100	
								10	100	100	100	100	
								15	100	100	100	100	
								20	100	100	100	100	
								30	100	100	100	100	
								45	100	100	100	100	
								60	100	100	100	100	
D040	5	40	52	30	40	25	34	0	100	100	88	68	
								2	100	100	100	100	
								4	100	100	100	100	
								6	100	100	100	100	
								8	100	100	100	100	
								10	100	100	100	100	
								15	100	100	100	100	
								20	100	100	100	100	
								30	100	100	100	100	
								45	100	100	100	100	
								60	100	100	100	100	
D052	5	50	65	40	52	30	40	0	100	98	70	54	
								2	100	100	100	96	
								4	100	100	100	100	
								6	100	100	100	100	
								8	100	100	100	100	
								10	100	100	100	100	
								15	100	100	100	100	
								20	100	100	100	100	
								30	100	100	100	100	
								45	100	100	100	100	
								60	100	100	100	100	







Cat. No. 20G...	Frame	480V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12											
		LD		ND		HD		Output Freq.		PWM Frequency				1.33 kHz 2 kHz 4 kHz 					
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz								
D430	7	400	485	350	430	300	361	0	100	91	70								
								2	100	100	93								
								4	100	100	100								
								6	100	100	100								
								8	100	100	100								
								10	100	100	100								
								15	100	100	100								
								20	100	100	100								
								30	100	100	100								
								45	100	100	100								
								60	100	100	100								
D505	7	450	545	400	505	350	430	0	90	81	62								
								2	100	100	83								
								4	100	100	92								
								6	100	100	95								
								8	100	100	97								
								10	100	100	99								
								15	100	100	100								
								20	100	100	100								
								30	100	100	100								
								45	100	100	100								
								60	100	100	100								
D617	7	500	617	500	600	400	500	0	79	72	55								
								2	100	93	73								
								4	100	100	81								
								6	100	100	84								
								8	100	100	86								
								10	100	100	87								
								15	100	100	90								
								20	100	100	92								
								30	100	100	94								
								45	100	100	95								
								60	100	100	96								

Cat. No. 20G...	Frame	480V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12				
		LD		ND		HD		Output Freq.	PWM Frequency			1.33 kHz 2 kHz 4 kHz
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz	
D302	8	300	361	250	302	200	248	0	97	88	68	
								2	100	100	100	
								4	100	100	100	
								6	100	100	100	
								8	100	100	100	
								10	100	100	100	
								15	100	100	100	
								20	100	100	100	
								30	100	100	100	
								45	100	100	100	
								60	100	100	100	
D361	8	350	430	300	361	250	302	0	77	70	55	
								2	100	100	84	
								4	100	100	92	
								6	100	100	94	
								8	100	100	96	
								10	100	100	97	
								15	100	100	99	
								20	100	100	100	
								30	100	100	100	
								45	100	100	100	
								60	100	100	100	
D430	8	400	485	350	430	300	361	0	66	60	46	
								2	97	89	72	
								4	100	96	78	
								6	100	99	80	
								8	100	100	82	
								10	100	100	83	
								15	100	100	85	
								20	100	100	86	
								30	100	100	87	
								45	100	100	89	
								60	100	100	89	

Cat. No. 20G...	Frame	480V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12						
		LD		ND		HD		Output Freq.	PWM Frequency			1.33 kHz 2 kHz 4 kHz		
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz			
D505	8	450	545	400	505	350	430	0	61	55	43			
								2	89	82	66			
								4	96	89	72			
								6	98	91	74			
								8	100	93	75			
								10	100	94	76			
								15	100	96	78			
								20	100	97	79			
								30	100	99	81			
								45	100	100	82			
								60	100	100	82			
D545	8	500	617	450	545	350	454	0	82	75	58			
								2	100	100	88			
								4	100	100	95			
								6	100	100	97			
								8	100	100	99			
								10	100	100	100			
								15	100	100	100			
								20	100	100	100			
								30	100	100	100			
								45	100	100	100			
								60	100	100	100			
D617	8	600	710	500	617	400	485	0	68	62	48			
								2	99	91	73			
								4	100	98	79			
								6	100	100	81			
								8	100	100	82			
								10	100	100	83			
								15	100	100	85			
								20	100	100	86			
								30	100	100	87			
								45	100	100	88			
								60	100	100	89			

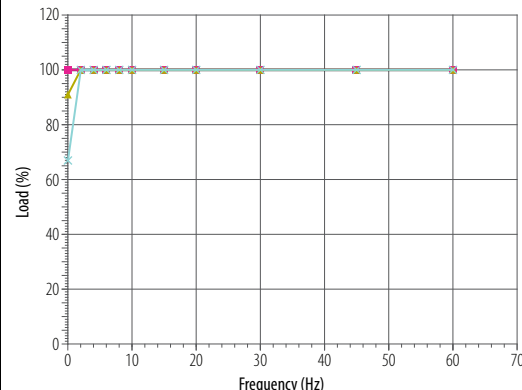
Cat. No. 20G...	Frame	480V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12						
		LD		ND		HD		Output Freq.	PWM Frequency			1.33 kHz 2 kHz 4 kHz		
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz			
D710	8	650	765	600	710	450	545	0	66	60	47			
								2	97	89	71			
								4	100	95	77			
								6	100	97	79			
								8	100	99	80			
								10	100	100	81			
								15	100	100	83			
								20	100	100	84			
								30	100	100	85			
								45	100	100	86			
								60	100	100	86			
D740	8	700	800	650	740	500	617	0	61	56	43			
								2	89	82	66			
								4	96	88	71			
								6	97	90	73			
								8	99	92	74			
								10	100	93	75			
								15	100	94	76			
								20	100	96	77			
								30	100	97	79			
								45	100	98	80			
								60	100	98	80			
D800	9	800	960	700	800	600	740	0	66	60	46			
								2	96	89	72			
								4	100	96	78			
								6	100	99	80			
								8	100	100	81			
								10	100	100	83			
								15	100	100	85			
								20	100	100	86			
								30	100	100	87			
								45	100	100	88			
								60	100	100	89			

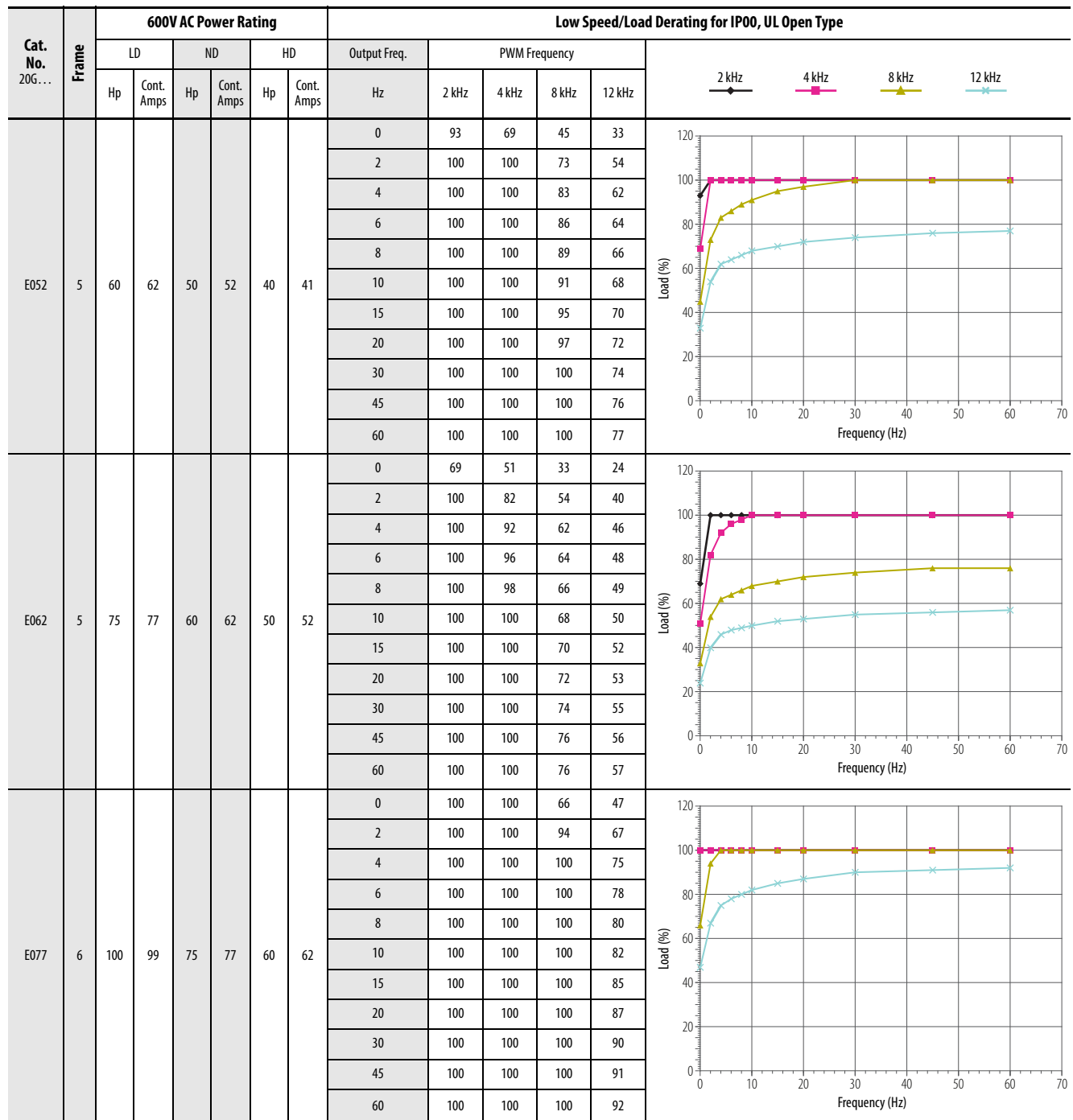
Cat. No. 20G...	Frame	480V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12							
		LD		ND		HD		Output Freq.		PWM Frequency			1.33 kHz 2 kHz 4 kHz		
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz				
D960	9	900	1045	800	960	700	800	0	63	57	44				
								2	92	85	68				
								4	99	92	74				
								6	100	94	76				
								8	100	96	78				
								10	100	97	79				
								15	100	99	81				
								20	100	100	82				
								30	100	100	83				
								45	100	100	84				
								60	100	100	85				
D1K0	9	1000	1135	900	1045	750	960	0	82	75	58				
								2	100	100	88				
								4	100	100	95				
								6	100	100	97				
								8	100	100	99				
								10	100	100	100				
								15	100	100	100				
								20	100	100	100				
								30	100	100	100				
								45	100	100	100				
								60	100	100	100				
D1K1	9	1100	1365	1000	1135	800	1045	0	66	60	47				
								2	96	89	71				
								4	100	95	77				
								6	100	97	79				
								8	100	99	80				
								10	100	100	81				
								15	100	100	83				
								20	100	100	84				
								30	100	100	85				
								45	100	100	86				
								60	100	100	86				

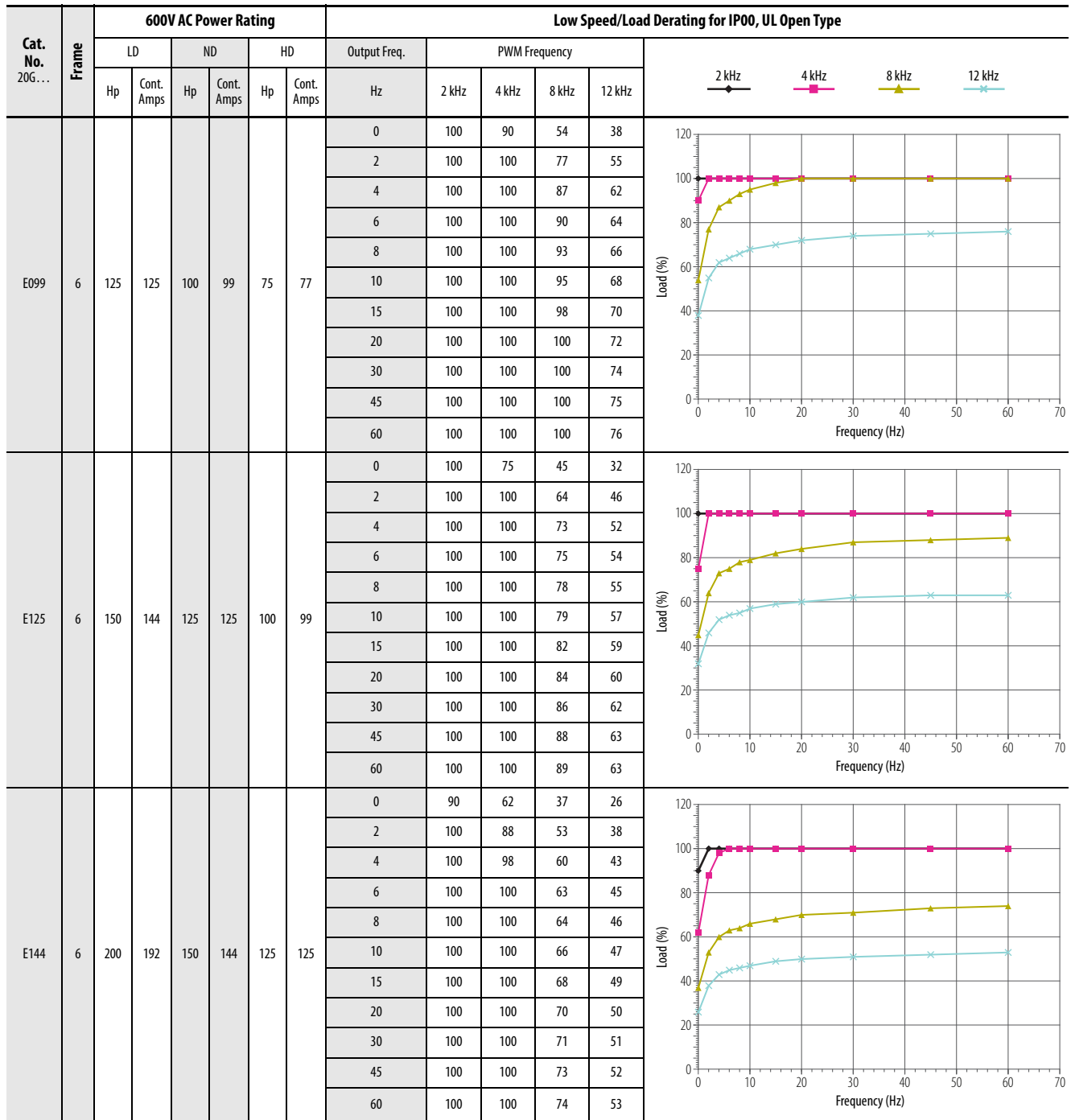
Cat. No. 20G...	Frame	480V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12					
		LD		ND		HD		Output Freq.	PWM Frequency			1.33 kHz 2 kHz 4 kHz	
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz		
D1K3	9	1250	1520	1100	1365	900	1135	0	61	56	43		
								2	89	82	66		
								4	96	88	71		
								6	97	90	73		
								8	99	92	74		
								10	100	93	75		
								15	100	94	76		
								20	100	96	77		
								30	100	97	79		
								45	100	98	80		
								60	100	98	80		
D1K4	10	1500	1655	1250	1420	1000	1365	0	83	76	59		
								2	100	100	90		
								4	100	100	97		
								6	100	100	99		
								8	100	100	100		
								10	100	100	100		
								15	100	100	100		
								20	100	100	100		
								30	100	100	100		
								45	100	100	100		
								60	100	100	100		
D1K6	10	1800	2070	1500	1655	1100	1420	0	66	60	47		
								2	97	89	72		
								4	100	96	77		
								6	100	98	79		
								8	100	99	80		
								10	100	100	81		
								15	100	100	83		
								20	100	100	84		
								30	100	100	85		
								45	100	100	86		
								60	100	100	87		

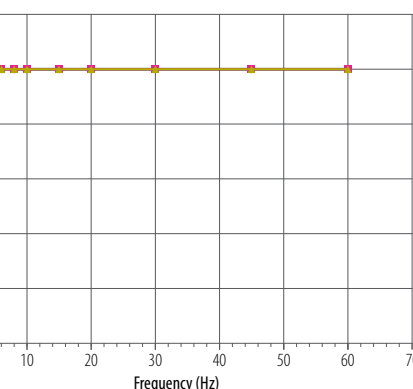
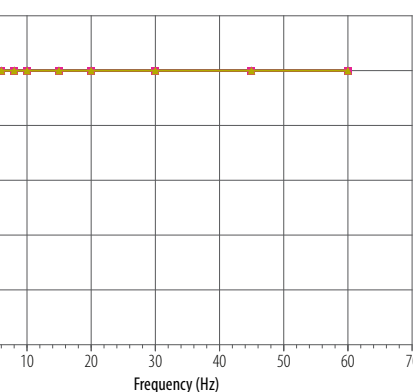
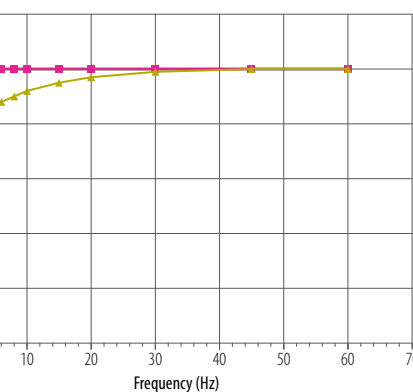
Cat. No. 20G...	Frame	480V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12									
		LD		ND		HD		Output Freq.		PWM Frequency				1.33 kHz 2 kHz 4 kHz			
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz						
D2K0 D4K0	10	2000	2240	1800	2072	1500	1655	0	61	56	43						
	13	2000	2240	1800	2072	1500	1655	2	89	82	66						
		4	96	88	71												
		6	97	90	73												
		8	99	92	74												
		10	100	93	75												
		15	100	94	76												
		20	100	96	77												
		30	100	97	79												
		45	100	98	80												
		60	100	98	80												
D2K6 D5K4	11	2600	2960	2400	2738	2000	2240	0	61	56	43						
	14	2600	2960	2400	2738	2000	2240	2	89	82	66						
		4	96	88	71												
		6	97	90	73												
		8	99	92	74												
		10	100	93	75												
		15	100	94	76												
		20	100	96	78												
		30	100	97	79												
		45	100	98	80												
		60	100	98	80												
D3K4 D6K7	12	3300	3696	3000	3404	2400	2980	0	61	55	43						
	15	3300	3696	3000	3404	2400	2980	2	89	82	66						
		4	95	88	71												
		6	97	90	72												
		8	98	91	74												
		10	99	92	75												
		15	100	94	76												
		20	100	95	77												
		30	100	96	78												
		45	100	97	79												
		60	100	98	80												

Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed/Load Derating for IP00, UL Open Type					
		LD		ND		HD		Output Freq.	PWM Frequency				2 kHz 4 kHz 8 kHz 12 kHz
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	2 kHz	4 kHz	8 kHz	12 kHz	
E011	5	15	17	10	11	7.5	9	0	100	100	100	100	
								2	100	100	100	100	
								4	100	100	100	100	
								6	100	100	100	100	
								8	100	100	100	100	
								10	100	100	100	100	
								15	100	100	100	100	
								20	100	100	100	100	
								30	100	100	100	100	
								45	100	100	100	100	
								60	100	100	100	100	
E017	5	20	22	15	17	10	11	0	100	100	100	87	
								2	100	100	100	100	
								4	100	100	100	100	
								6	100	100	100	100	
								8	100	100	100	100	
								10	100	100	100	100	
								15	100	100	100	100	
								20	100	100	100	100	
								30	100	100	100	100	
								45	100	100	100	100	
								60	100	100	100	100	
E022	5	25	27	20	22	15	17	0	100	100	91	67	
								2	100	100	100	100	
								4	100	100	100	100	
								6	100	100	100	100	
								8	100	100	100	100	
								10	100	100	100	100	
								15	100	100	100	100	
								20	100	100	100	100	
								30	100	100	100	100	
								45	100	100	100	100	
								60	100	100	100	100	

Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed/Load Derating for IP00, UL Open Type										
		LD		ND		HD		Output Freq.		PWM Frequency								
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	2 kHz	4 kHz	8 kHz	12 kHz	2 kHz 4 kHz 8 kHz 12 kHz					
E027	5	30	32	25	27	20	22	0	100	100	81	59						
								2	100	100	100	97						
								4	100	100	100	100						
								6	100	100	100	100						
								8	100	100	100	100						
								10	100	100	100	100						
								15	100	100	100	100						
								20	100	100	100	100						
								30	100	100	100	100						
								45	100	100	100	100						
								60	100	100	100	100						
								E032	5	40	41	30					32	25
2	100	100	97	72														
4	100	100	100	82														
6	100	100	100	85														
8	100	100	100	88														
10	100	100	100	90														
15	100	100	100	93														
20	100	100	100	96														
30	100	100	100	98														
45	100	100	100	100														
60	100	100	100	100														
E041	5	50	52	40	41	30	32						0	100	85	55		
								2	100	100	89	66						
								4	100	100	100	75						
								6	100	100	100	78						
								8	100	100	100	81						
								10	100	100	100	83						
								15	100	100	100	86						
								20	100	100	100	88						
								30	100	100	100	90						
								45	100	100	100	92						
								60	100	100	100	93						

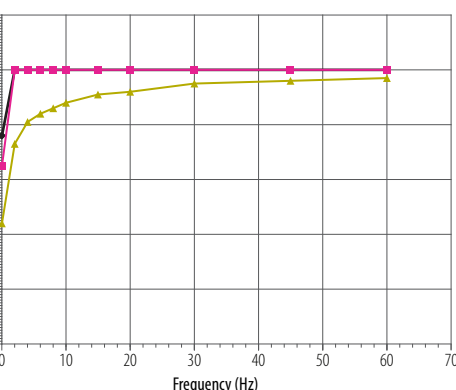
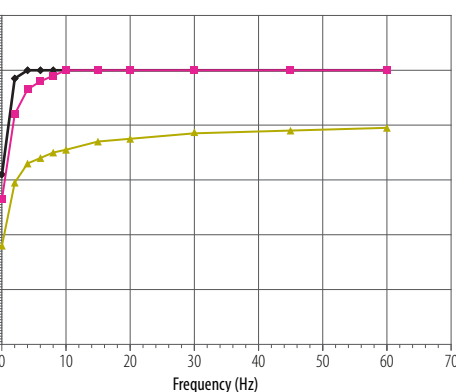
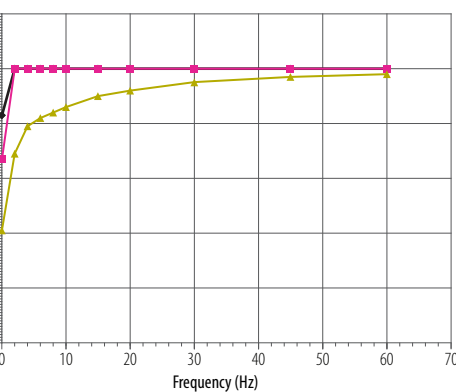


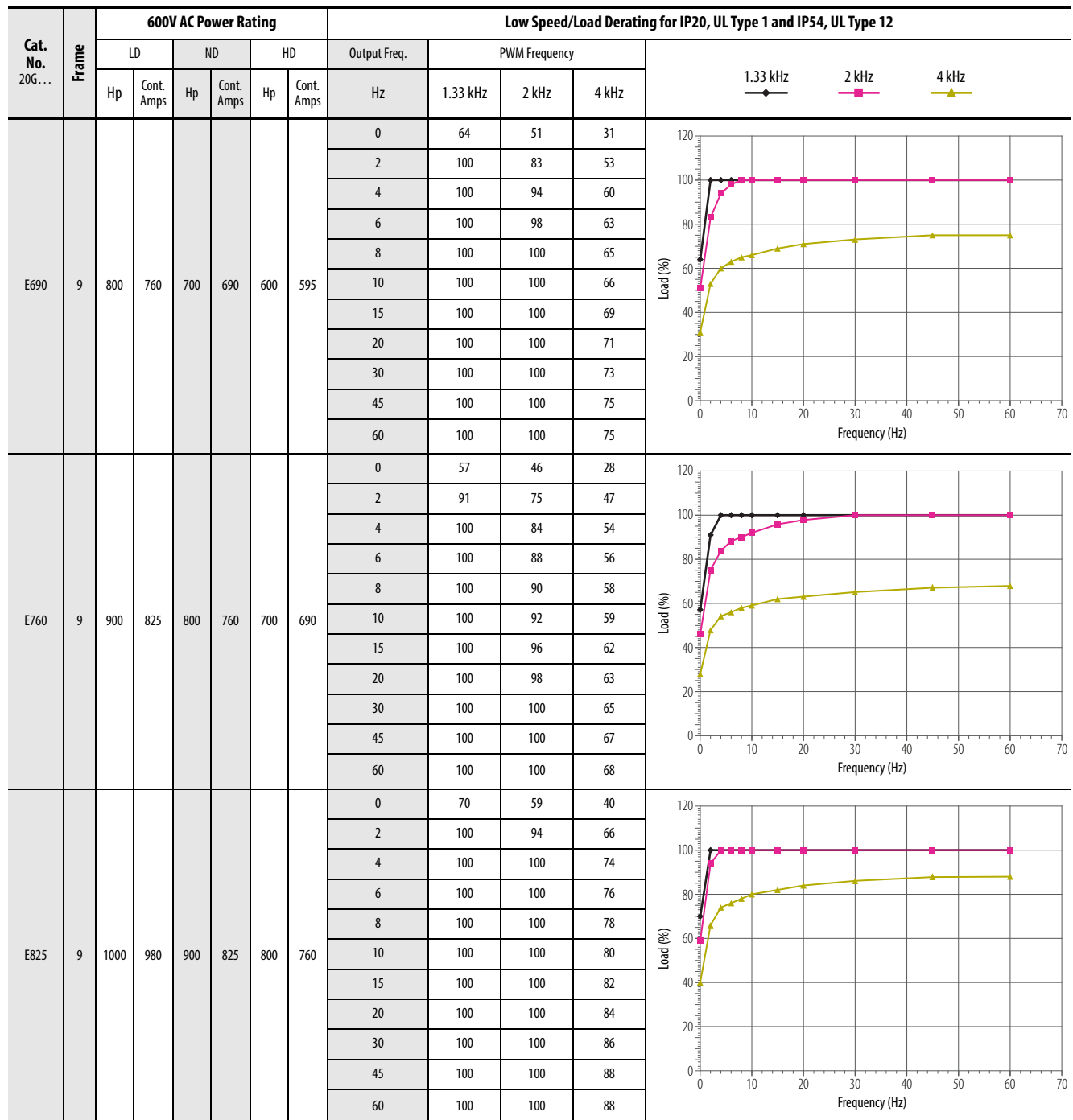


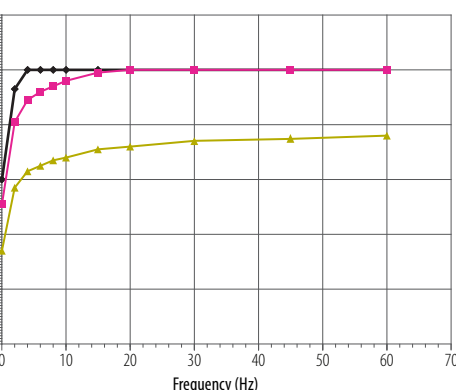
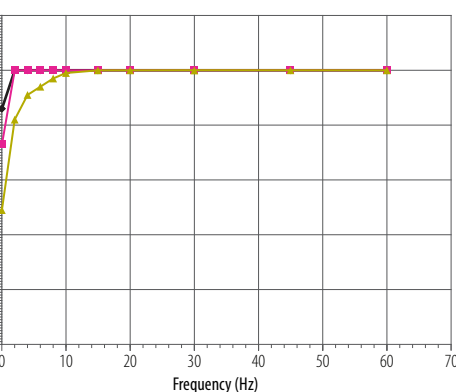
Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12									
		LD		ND		HD		Output Freq.		PWM Frequency				1.33 kHz 2 kHz 4 kHz			
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz						
E192	7	250	242	200	192	150	144	0	100	100	76						
								2	100	100	100						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						
E242	7	300	295	250	242	200	192	0	100	88	61						
								2	100	100	95						
								4	100	100	100						
								6	100	100	100						
								8	100	100	100						
								10	100	100	100						
								15	100	100	100						
								20	100	100	100						
								30	100	100	100						
								45	100	100	100						
								60	100	100	100						
E295	7	350	355	300	295	250	242	0	82	71	49						
								2	100	100	76						
								4	100	100	85						
								6	100	100	88						
								8	100	100	90						
								10	100	100	92						
								15	100	100	95						
								20	100	100	97						
								30	100	100	99						
								45	100	100	100						
								60	100	100	100						

Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12						
		LD		ND		HD		Output Freq.	PWM Frequency			1.33 kHz 2 kHz 4 kHz		
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz			
E355	7	400	395	350	355	300	295	0	73	63	44			
								2	100	94	68			
								4	100	100	76			
								6	100	100	78			
								8	100	100	80			
								10	100	100	82			
								15	100	100	84			
								20	100	100	86			
								30	100	100	88			
								45	100	100	90			
								60	100	100	91			
E395	7	450	435	400	395	350	355	0	65	56	39			
								2	95	84	60			
								4	100	93	67			
								6	100	96	70			
								8	100	98	71			
								10	100	100	73			
								15	100	100	75			
								20	100	100	77			
								30	100	100	79			
								45	100	100	80			
								60	100	100	81			
E242	8	300	295	250	242	200	192	0	99	85	57			
								2	100	100	93			
								4	100	100	100			
								6	100	100	100			
								8	100	100	100			
								10	100	100	100			
								15	100	100	100			
								20	100	100	100			
								30	100	100	100			
								45	100	100	100			
								60	100	100	100			

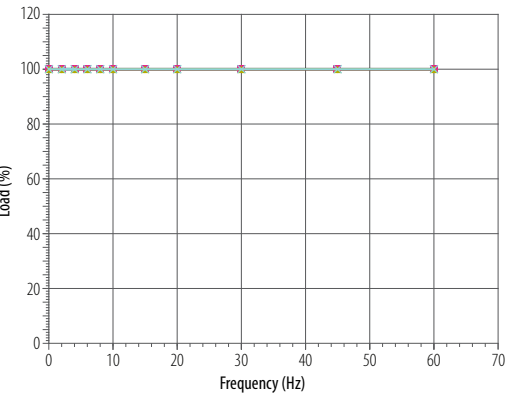
Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12					
		LD		ND		HD		Output Freq.	PWM Frequency			1.33 kHz 2 kHz 4 kHz	
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz		
E295	8	350	355	300	295	250	242	0	79	68	46		
								2	100	100	74		
								4	100	100	84		
								6	100	100	88		
								8	100	100	90		
								10	100	100	92		
								15	100	100	95		
								20	100	100	98		
								30	100	100	100		
								45	100	100	100		
								60	100	100	100		
E355	8	400	395	350	355	300	295	0	71	60	41		
								2	100	94	66		
								4	100	100	75		
								6	100	100	78		
								8	100	100	80		
								10	100	100	82		
								15	100	100	85		
								20	100	100	87		
								30	100	100	89		
								45	100	100	91		
								60	100	100	92		
E395	8	450	435	400	395	350	355	0	63	54	36		
								2	96	84	59		
								4	100	94	67		
								6	100	97	69		
								8	100	100	71		
								10	100	100	73		
								15	100	100	76		
								20	100	100	78		
								30	100	100	80		
								45	100	100	81		
								60	100	100	82		

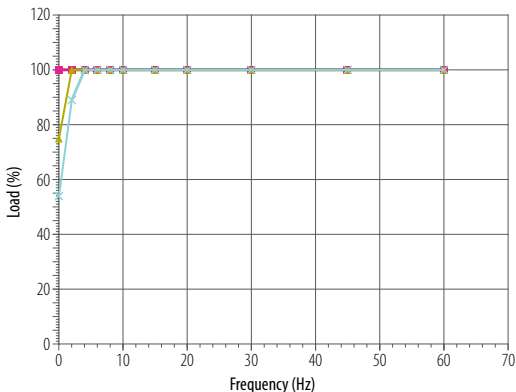
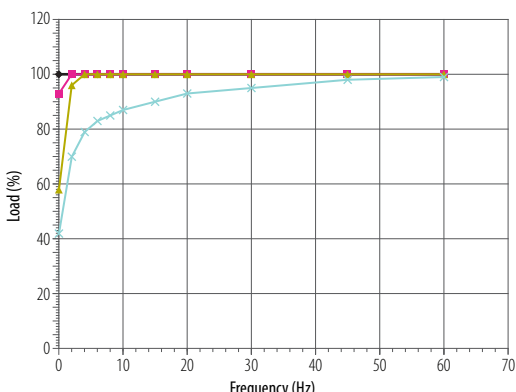
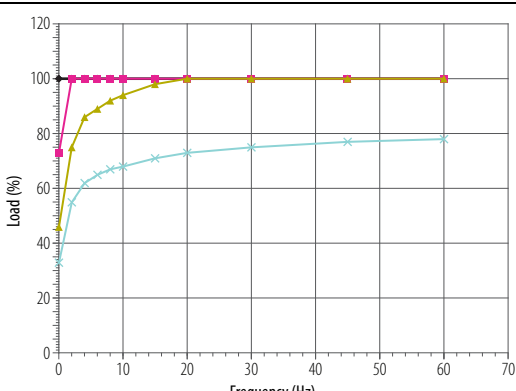
Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12									
		LD		ND		HD		Output Freq.		PWM Frequency				1.33 kHz 2 kHz 4 kHz 			
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz						
C435	8	500	510	450	435	400	395	0	76	65	44						
								2	100	100	73						
								4	100	100	81						
								6	100	100	84						
								8	100	100	86						
								10	100	100	88						
								15	100	100	91						
								20	100	100	92						
								30	100	100	95						
								45	100	100	96						
								60	100	100	97						
E545	8	600	580	550	545	450	450	0	62	53	36						
								2	97	84	59						
								4	100	93	66						
								6	100	96	68						
								8	100	98	70						
								10	100	100	71						
								15	100	100	74						
								20	100	100	75						
								30	100	100	77						
								45	100	100	78						
								60	100	100	79						
E595	9	700	690	600	580	550	545	0	83	67	41						
								2	100	100	69						
								4	100	100	79						
								6	100	100	82						
								8	100	100	84						
								10	100	100	86						
								15	100	100	90						
								20	100	100	92						
								30	100	100	95						
								45	100	100	97						
								60	100	100	98						

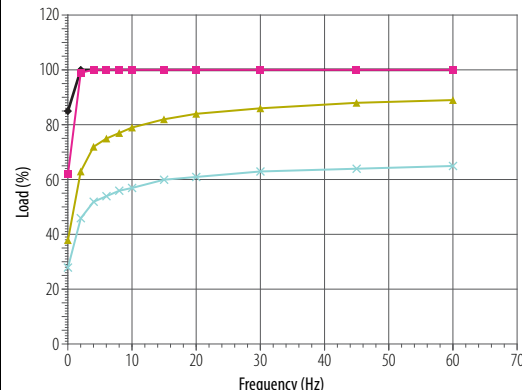
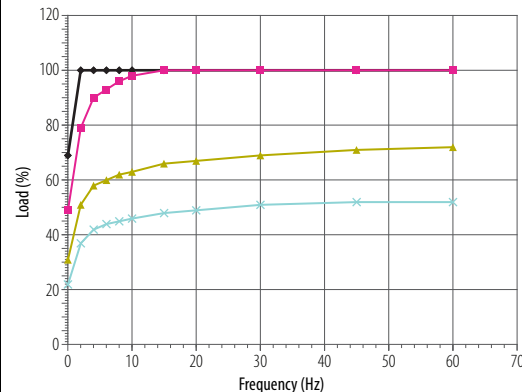
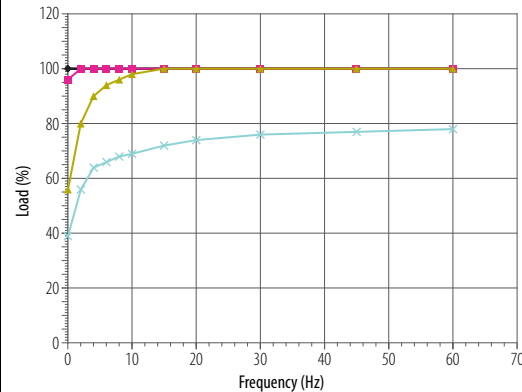


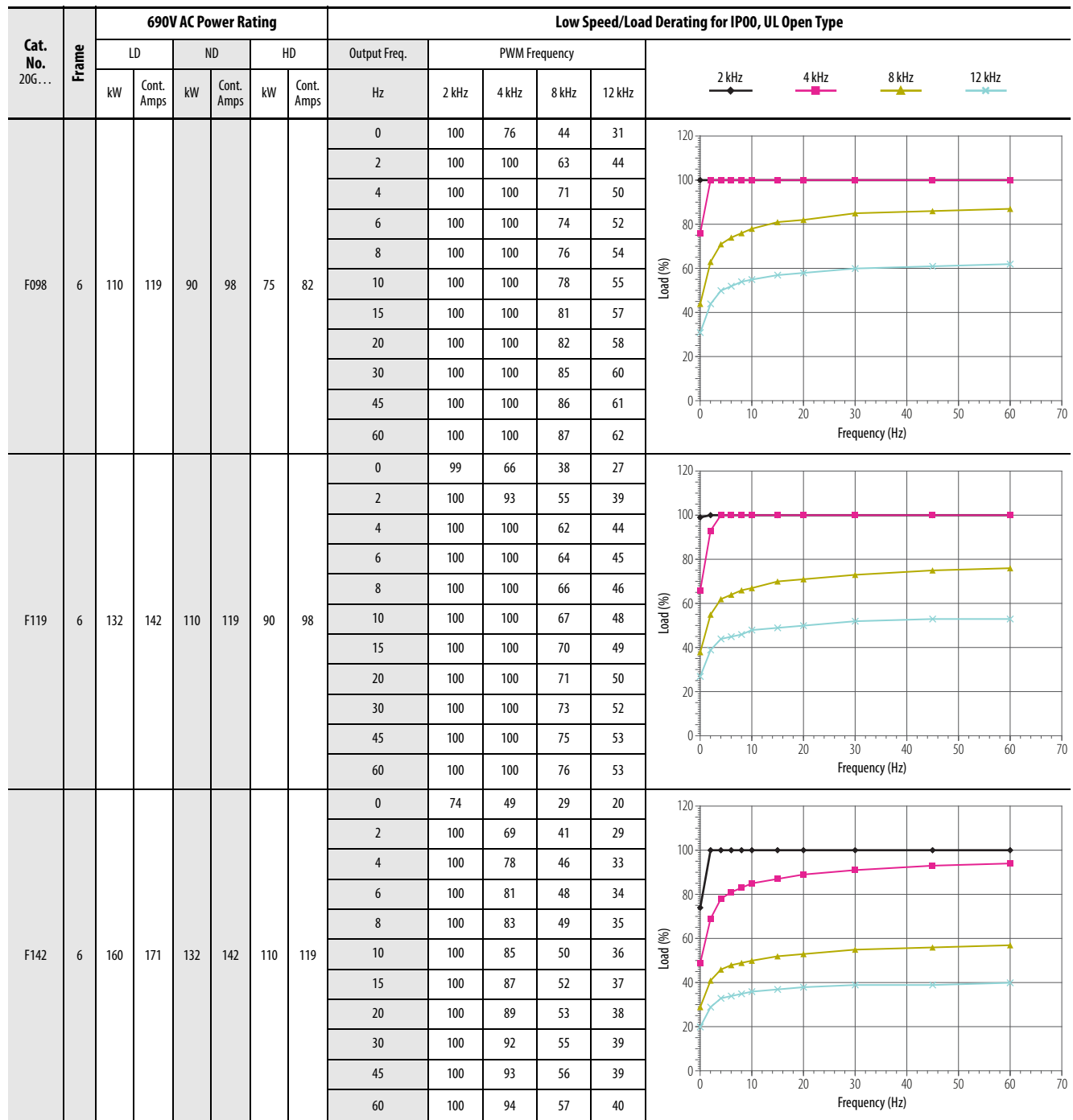
Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12											
		LD		ND		HD		Output Freq.		PWM Frequency				1.33 kHz 2 kHz 4 kHz 					
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz								
E980	9	1100	1102	1000	980	900	825	0	60	51	34								
								2	93	81	57								
								4	100	89	63								
								6	100	92	65								
								8	100	94	67								
								10	100	96	68								
								15	100	99	71								
								20	100	100	72								
								30	100	100	74								
								45	100	100	75								
								60	100	100	76								
								E1K1	10	1250	1220							1100	1045
2	100	100	82																
4	100	100	91																
6	100	100	94																
8	100	100	97																
10	100	100	99																
15	100	100	100																
20	100	100	100																
30	100	100	100																
45	100	100	100																
60	100	100	100																
E1K2	10	1500	1430	1250	1220	1100	1045					0	74	63	42				
								2	100	100	70								
								4	100	100	78								
								6	100	100	81								
								8	100	100	83								
								10	100	100	84								
								15	100	100	87								
								20	100	100	89								
								30	100	100	91								
								45	100	100	92								
								60	100	100	93								

Cat. No. 20G...	Frame	600V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12						
		LD		ND		HD		Output Freq.	PWM Frequency			1.33 kHz 2 kHz 4 kHz		
		Hp	Cont. Amps	Hp	Cont. Amps	Hp	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz			
E1K5 E2K9	10 13	1600 3300	1624 3190	1500 3100	1430 2998	1250 2500	1220 2475	0	62	53	36			
								2	97	85	59			
								4	100	94	66			
								6	100	96	68			
								8	100	99	70			
								10	100	100	72			
								15	100	100	74			
								20	100	100	75			
								30	100	100	77			
								45	100	100	78			
								60	100	100	79			
E2K0 E3K9	11 14	2100 4400	2146 4234	2000 4100	1946 3979	1800 3300	1700 3285	0	62	53	36			
								2	97	84	59			
								4	100	93	66			
								6	100	96	68			
								8	100	98	70			
								10	100	100	71			
								15	100	100	73			
								20	100	100	75			
								30	100	100	77			
								45	100	100	78			
								60	100	100	79			
E2K4 E4K9	12 15	2600 5500	2668 5278	2500 5100	2420 4960	2100 4100	2070 4095	0	62	53	36			
								2	97	84	59			
								4	100	93	66			
								6	100	96	68			
								8	100	98	70			
								10	100	100	71			
								15	100	100	73			
								20	100	100	75			
								30	100	100	77			
								45	100	100	78			
								60	100	100	79			

Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed/Load Derating for IP00, UL Open Type											
		LD		ND		HD		Output Freq.		PWM Frequency					2 kHz 4 kHz 8 kHz 12 kHz				
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	2 kHz	4 kHz	8 kHz	12 kHz							
F015	5	15	20	11	15	7.5	12	0	100	100	100	100							
								2	100	100	100	100							
								4	100	100	100	100							
								6	100	100	100	100							
								8	100	100	100	100							
								10	100	100	100	100							
								15	100	100	100	100							
								20	100	100	100	100							
								30	100	100	100	100							
								45	100	100	100	100							
								60	100	100	100	100							
								F020	5	18.5	23	15						20	11
2	100	100	100	100															
4	100	100	100	100															
6	100	100	100	100															
8	100	100	100	100															
10	100	100	100	100															
15	100	100	100	100															
20	100	100	100	100															
30	100	100	100	100															
45	100	100	100	100															
60	100	100	100	100															
F023	5	22	30	18.5	23	15	20						0	100	100	89	64		
								2	100	100	100	100							
								4	100	100	100	100							
								6	100	100	100	100							
								8	100	100	100	100							
								10	100	100	100	100							
								15	100	100	100	100							
								20	100	100	100	100							
								30	100	100	100	100							
								45	100	100	100	100							
								60	100	100	100	100							

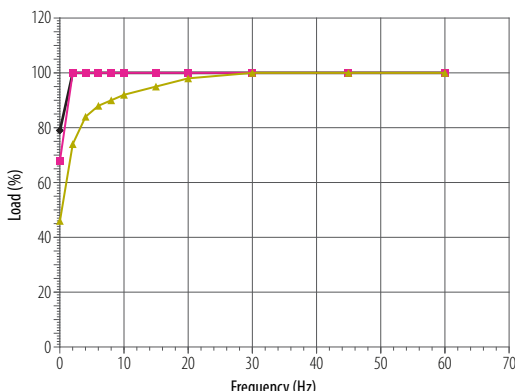
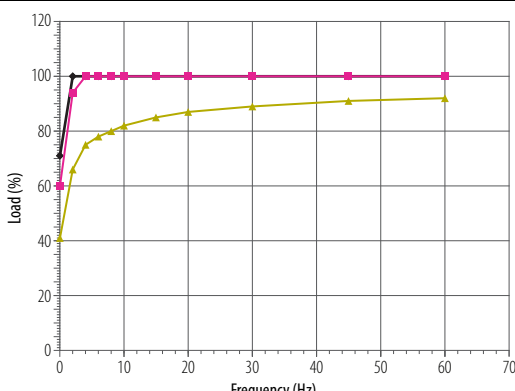
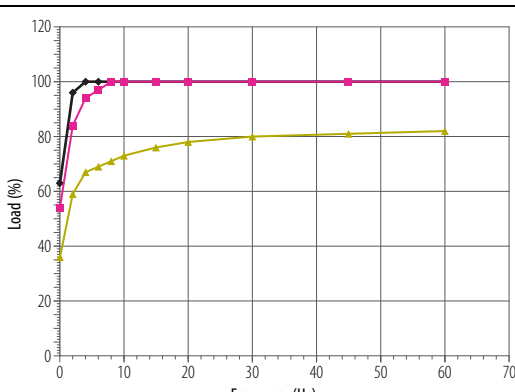
Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed/Load Derating for IP00, UL Open Type					
		LD		ND		HD		Output Freq.	PWM Frequency				
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	2 kHz	4 kHz	8 kHz	12 kHz	2 kHz 4 kHz 8 kHz 12 kHz
F030	5	30	34	22	30	18.5	23	0	100	100	75	54	
								2	100	100	100	89	
								4	100	100	100	100	
								6	100	100	100	100	
								8	100	100	100	100	
								10	100	100	100	100	
								15	100	100	100	100	
								20	100	100	100	100	
								30	100	100	100	100	
								45	100	100	100	100	
								60	100	100	100	100	
F034	5	37	46	30	34	22	30	0	100	93	58	42	
								2	100	100	96	70	
								4	100	100	100	79	
								6	100	100	100	83	
								8	100	100	100	85	
								10	100	100	100	87	
								15	100	100	100	90	
								20	100	100	100	93	
								30	100	100	100	95	
								45	100	100	100	98	
								60	100	100	100	99	
F046	5	45	50	37	46	30	34	0	100	73	46	33	
								2	100	100	75	55	
								4	100	100	86	62	
								6	100	100	89	65	
								8	100	100	92	67	
								10	100	100	94	68	
								15	100	100	98	71	
								20	100	100	100	73	
								30	100	100	100	75	
								45	100	100	100	77	
								60	100	100	100	78	

Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed/Load Derating for IP00, UL Open Type									
		LD		ND		HD		Output Freq.		PWM Frequency				2 kHz 4 kHz 8 kHz 12 kHz 			
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	2 kHz	4 kHz	8 kHz	12 kHz					
F050	5	55	61	45	50	37	46	0	85	62	38	28					
								2	100	99	63	46					
								4	100	100	72	52					
								6	100	100	75	54					
								8	100	100	77	56					
								10	100	100	79	57					
								15	100	100	82	60					
								20	100	100	84	61					
								30	100	100	86	63					
								45	100	100	88	64					
								60	100	100	89	65					
F061	5	75	82	55	61	45	50	0	69	49	31	22					
								2	100	79	51	37					
								4	100	90	58	42					
								6	100	93	60	44					
								8	100	96	62	45					
								10	100	98	63	46					
								15	100	100	66	48					
								20	100	100	67	49					
								30	100	100	69	51					
								45	100	100	71	52					
								60	100	100	72	52					
F082	6	90	98	75	82	55	61	0	100	96	56	39					
								2	100	100	80	56					
								4	100	100	90	64					
								6	100	100	94	66					
								8	100	100	96	68					
								10	100	100	98	69					
								15	100	100	100	72					
								20	100	100	100	74					
								30	100	100	100	76					
								45	100	100	100	77					
								60	100	100	100	78					

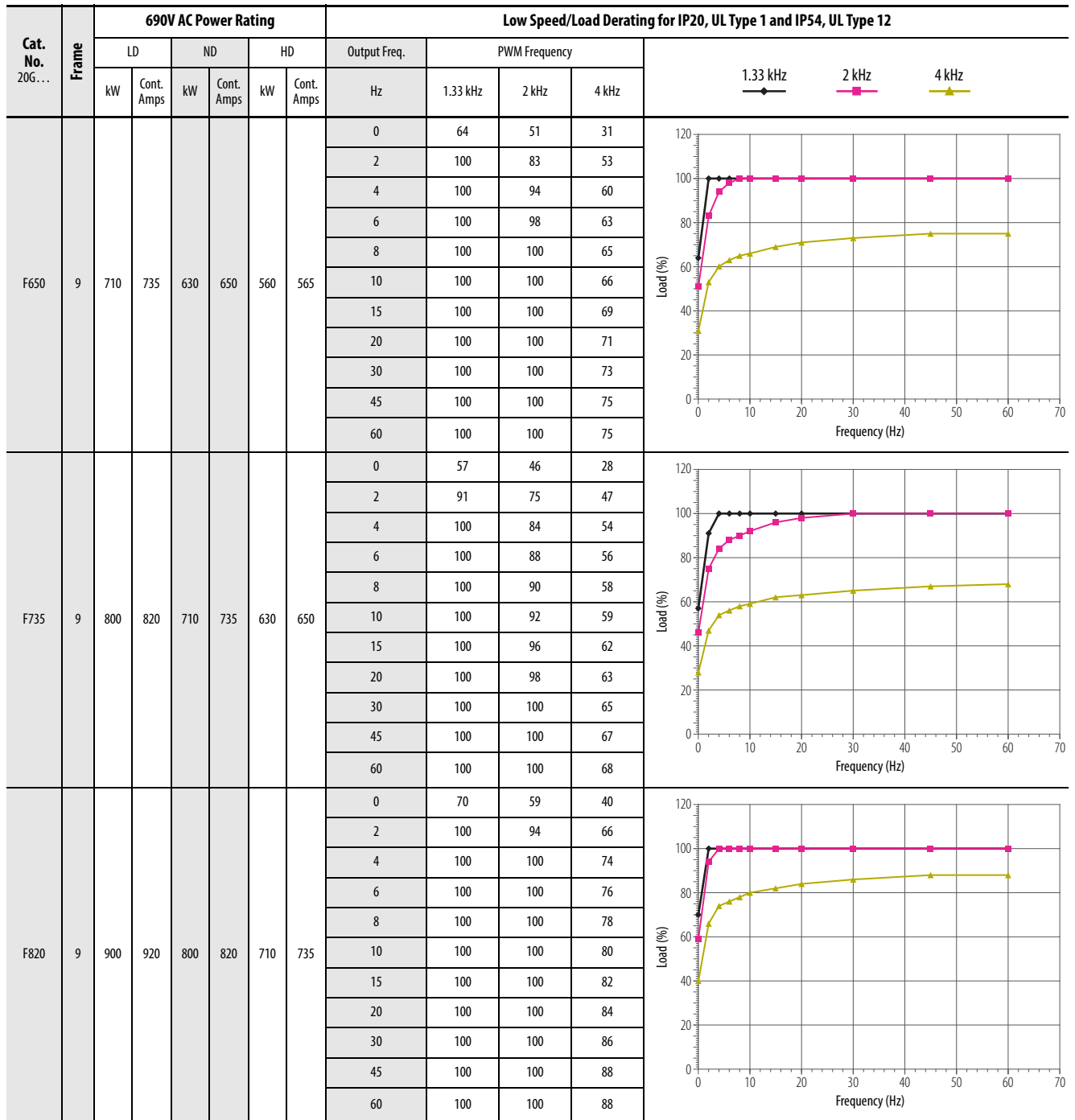


Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12						
		LD		ND		HD		Output Freq.	PWM Frequency			1.33 kHz 2 kHz 4 kHz		
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz			
F171	7	200	215	160	171	132	142	0	100	89	60			
								2	100	100	93			
								4	100	100	100			
								6	100	100	100			
								8	100	100	100			
								10	100	100	100			
								15	100	100	100			
								20	100	100	100			
								30	100	100	100			
								45	100	100	100			
								60	100	100	100			
F215	7	250	265	200	215	160	171	0	86	73	49			
								2	100	100	76			
								4	100	100	85			
								6	100	100	88			
								8	100	100	90			
								10	100	100	92			
								15	100	100	95			
								20	100	100	97			
								30	100	100	100			
								45	100	100	100			
								60	100	100	100			
F265	7	315	330	250	265	200	215	0	72	61	41			
								2	100	91	63			
								4	100	100	71			
								6	100	100	73			
								8	100	100	75			
								10	100	100	76			
								15	100	100	79			
								20	100	100	81			
								30	100	100	83			
								45	100	100	84			
								60	100	100	85			

Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12						
		LD		ND		HD		Output Freq.	PWM Frequency			1.33 kHz 2 kHz 4 kHz		
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz			
F330	7	355	370	315	330	250	265	0	64	54	36			
								2	95	82	57			
								4	100	91	64			
								6	100	94	66			
								8	100	96	67			
								10	100	98	69			
								15	100	100	71			
								20	100	100	73			
								30	100	100	74			
								45	100	100	76			
								60	100	100	76			
F370	7	400	415	355	370	315	330	0	58	49	33			
								2	86	74	51			
								4	95	83	58			
								6	98	85	60			
								8	100	87	61			
								10	100	89	62			
								15	100	91	64			
								20	100	93	66			
								30	100	95	67			
								45	100	97	69			
								60	100	98	69			
F215	8	250	265	200	215	160	171	0	99	85	57			
								2	100	100	93			
								4	100	100	100			
								6	100	100	100			
								8	100	100	100			
								10	100	100	100			
								15	100	100	100			
								20	100	100	100			
								30	100	100	100			
								45	100	100	100			
								60	100	100	100			

Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12							
		LD		ND		HD		Output Freq.		PWM Frequency					
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz	1.33 kHz	2 kHz	4 kHz	
F265	8	315	330	250	265	200	215	0	79	68	46				
								2	100	100	74				
								4	100	100	84				
								6	100	100	88				
								8	100	100	90				
								10	100	100	92				
								15	100	100	95				
								20	100	100	98				
								30	100	100	100				
								45	100	100	100				
								60	100	100	100				
F330	8	355	370	315	330	250	265	0	71	60	41				
								2	100	94	66				
								4	100	100	75				
								6	100	100	78				
								8	100	100	80				
								10	100	100	82				
								15	100	100	85				
								20	100	100	87				
								30	100	100	89				
								45	100	100	91				
								60	100	100	92				
F370	8	400	415	355	370	315	330	0	63	54	36				
								2	96	84	59				
								4	100	94	67				
								6	100	97	69				
								8	100	100	71				
								10	100	100	73				
								15	100	100	76				
								20	100	100	78				
								30	100	100	80				
								45	100	100	81				
								60	100	100	82				

Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12						
		LD		ND		HD		Output Freq.	PWM Frequency			1.33 kHz 2 kHz 4 kHz		
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz			
F415	8	450	460	400	415	355	370	0	76	65	44			
								2	100	100	73			
								4	100	100	81			
								6	100	100	84			
								8	100	100	86			
								10	100	100	88			
								15	100	100	91			
								20	100	100	92			
								30	100	100	95			
								45	100	100	96			
								60	100	100	97			
F505	8	560	565	500	505	400	415	0	62	53	36			
								2	97	84	59			
								4	100	93	66			
								6	100	96	68			
								8	100	98	70			
								10	100	100	71			
								15	100	100	74			
								20	100	100	75			
								30	100	100	77			
								45	100	100	78			
								60	100	100	79			
F565	9	630	650	560	565	500	505	0	83	67	41			
								2	100	100	69			
								4	100	100	79			
								6	100	100	82			
								8	100	100	84			
								10	100	100	86			
								15	100	100	90			
								20	100	100	92			
								30	100	100	95			
								45	100	100	97			
								60	100	100	98			

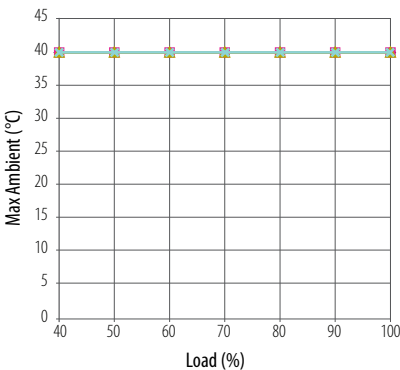
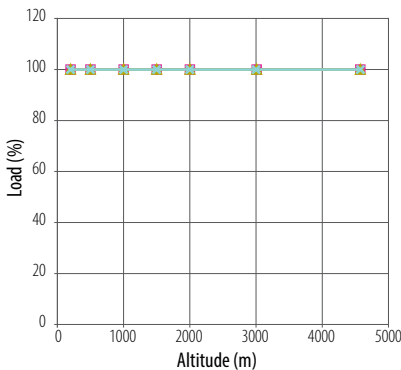
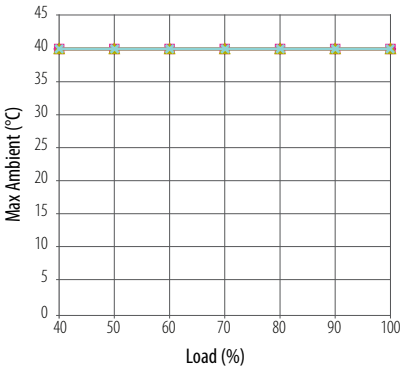
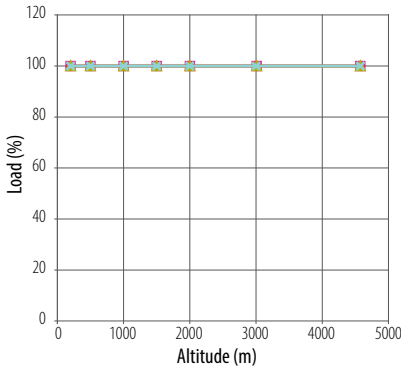
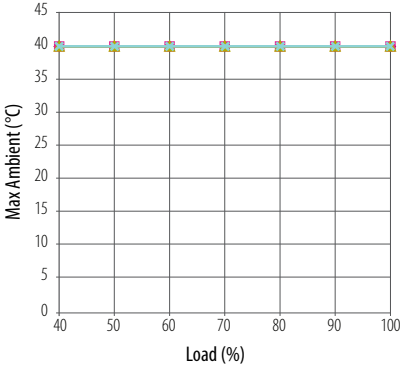
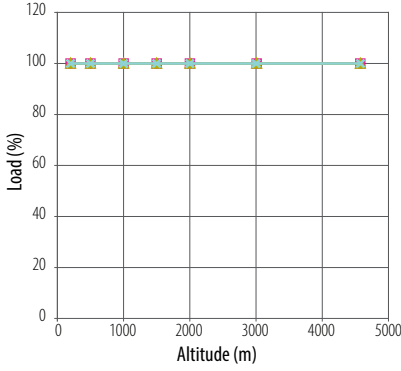


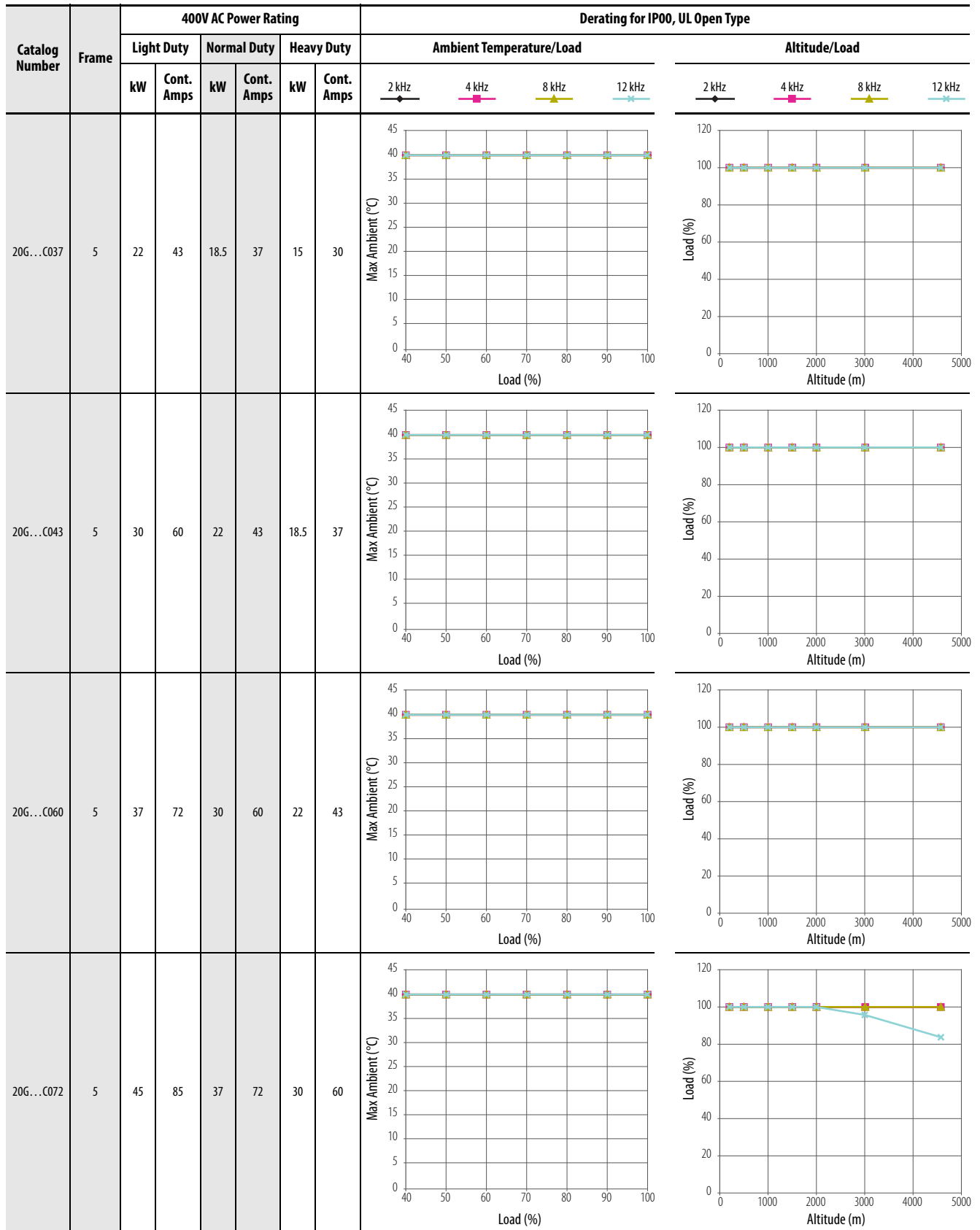
Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12						
		LD		ND		HD		Output Freq.	PWM Frequency			1.33 kHz 2 kHz 4 kHz		
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz			
F920	9	1000	1074	900	920	800	820	0	60	51	34			
								2	93	81	57			
								4	100	89	63			
								6	100	92	65			
								8	100	94	67			
								10	100	96	68			
								15	100	99	71			
								20	100	100	72			
								30	100	100	74			
								45	100	100	75			
								60	100	100	76			
F1K0	10	1100	1150	1000	1030	900	920	0	86	73	49			
								2	100	100	82			
								4	100	100	91			
								6	100	100	94			
								8	100	100	97			
								10	100	100	99			
								15	100	100	100			
								20	100	100	100			
								30	100	100	100			
								45	100	100	100			
								60	100	100	100			
F1K1	10	1250	1344	1100	1150	1000	1030	0	74	63	42			
								2	100	100	70			
								4	100	100	78			
								6	100	100	81			
								8	100	100	83			
								10	100	100	84			
								15	100	100	87			
								20	100	100	89			
								30	100	100	91			
								45	100	100	92			
								60	100	100	93			

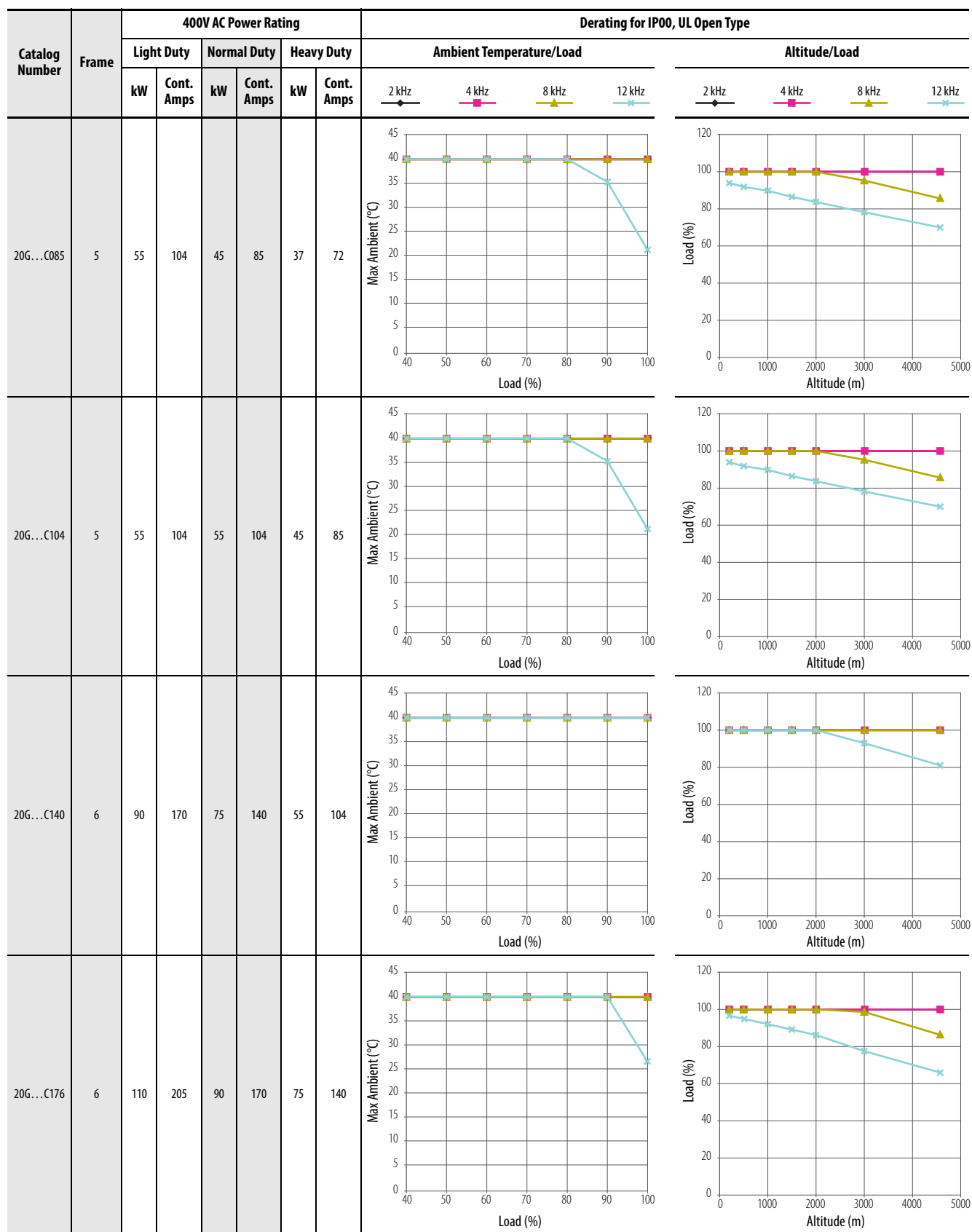
Cat. No. 20G...	Frame	690V AC Power Rating						Low Speed/Load Derating for IP20, UL Type 1 and IP54, UL Type 12						
		LD		ND		HD		Output Freq.	PWM Frequency			1.33 kHz 2 kHz 4 kHz		
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	Hz	1.33 kHz	2 kHz	4 kHz			
F1K4 F2K7	10	1500	1582	1400	1419	1100	1162	0	62	53	36			
	13	3080	3108	2750	2778	2200	2283	2	97	85	59			
								4	100	94	66			
								6	100	96	68			
								8	100	99	70			
								10	100	100	72			
								15	100	100	74			
								20	100	100	75			
								30	100	100	77			
								45	100	100	78			
								60	100	100	79			
F1K8 F3K6	11	2000	2091	1800	1865	1500	1535	0	62	53	36			
	14	4088	4125	3650	3687	2920	3030	2	97	84	59			
								4	100	93	66			
								6	100	96	68			
								8	100	98	70			
								10	100	100	71			
								15	100	100	73			
								20	100	100	75			
								30	100	100	77			
								45	100	100	78			
								60	100	100	79			
F2K3 F4K5	12	2500	2599	2300	2318	2000	2020	0	62	53	36			
	15	5096	5142	4550	4596	3640	3777	2	97	84	59			
								4	100	93	66			
								6	100	96	68			
								8	100	98	70			
								10	100	100	71			
								15	100	100	73			
								20	100	100	75			
								30	100	100	77			
								45	100	100	78			
								60	100	100	79			

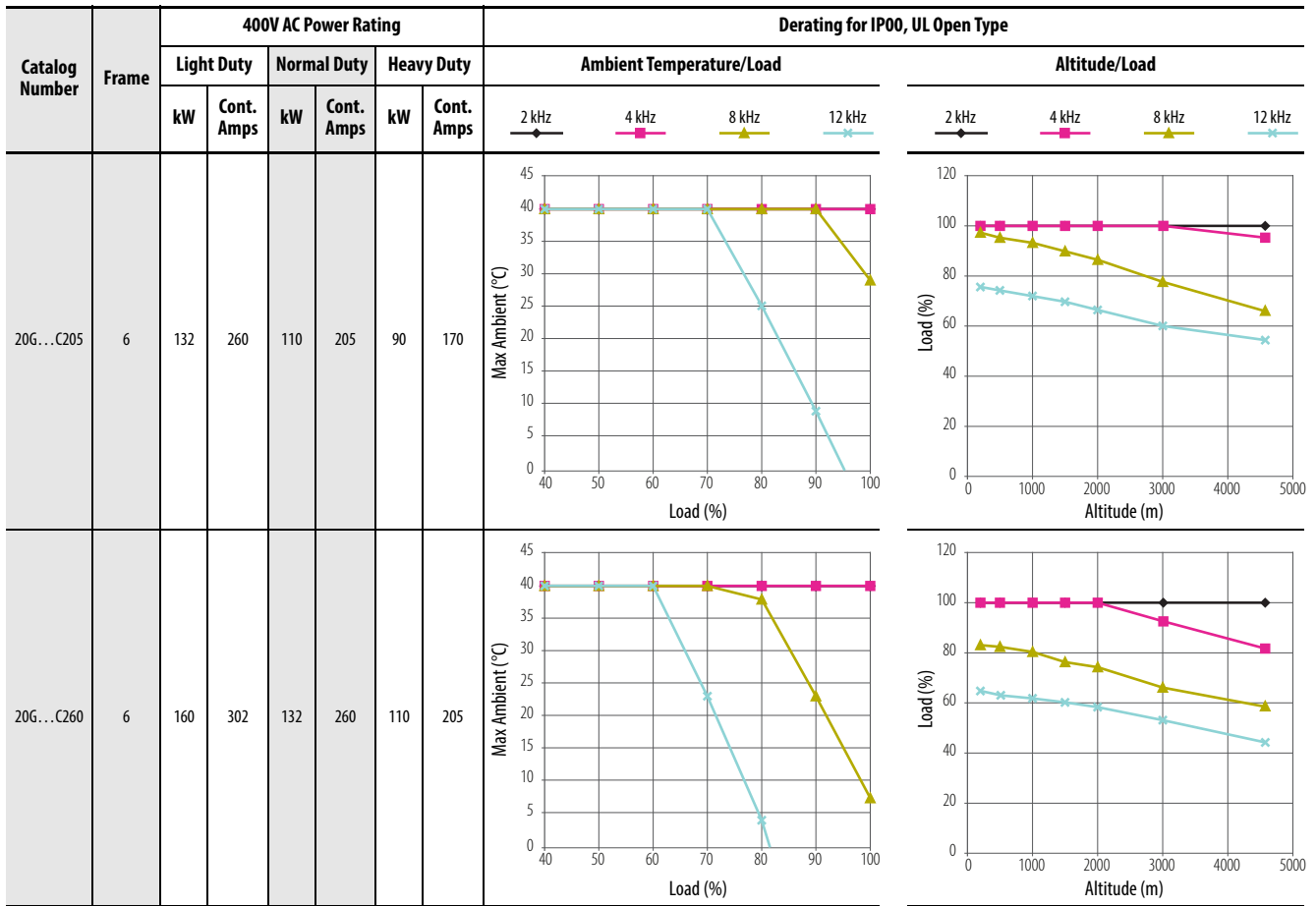
Carrier Frequency Derating

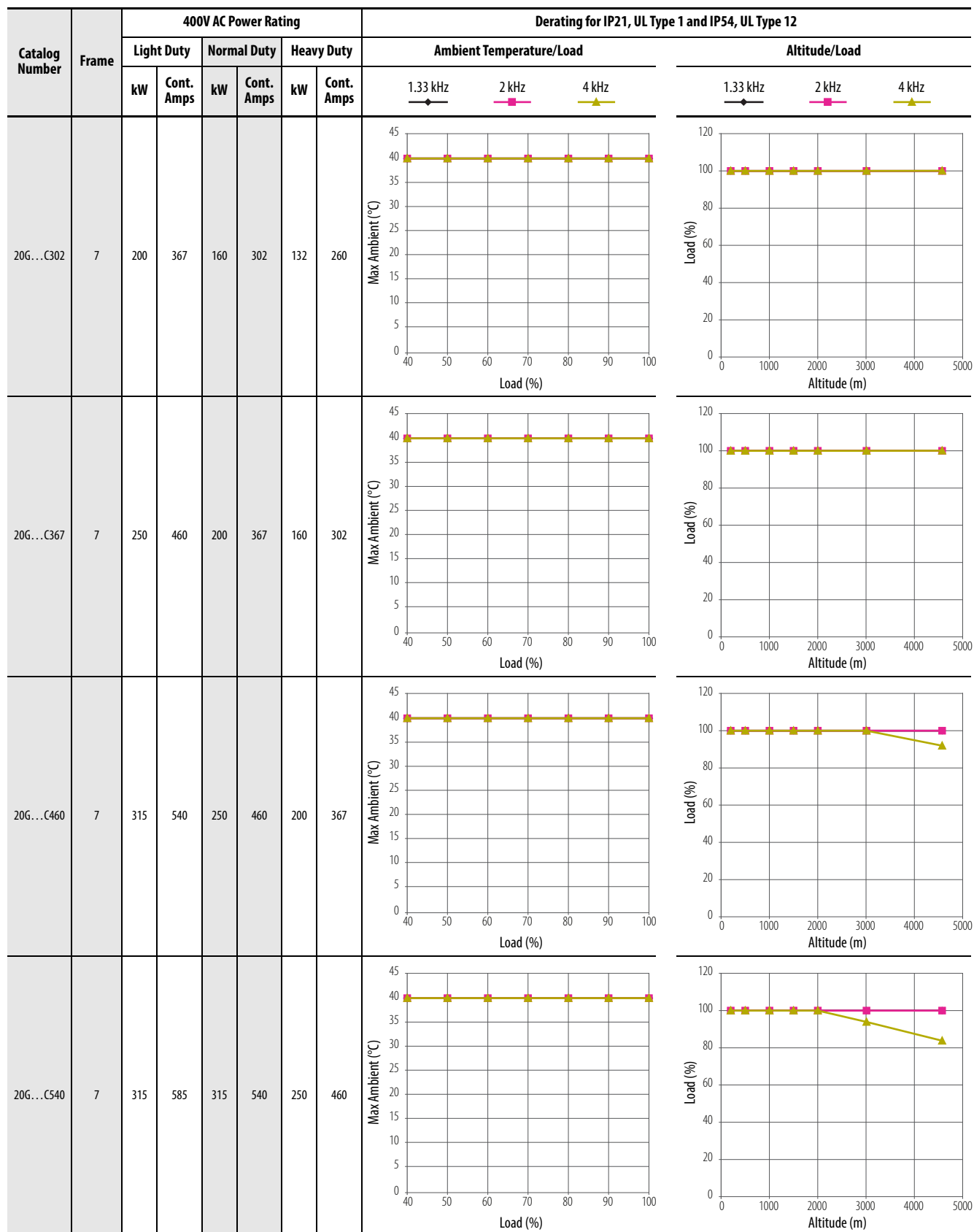
The following graphs show the carrier frequency deratings for motor side inverters. If a catalog number is not shown, that drive can be operated without derating as long as the limits specified on page 51 are followed.

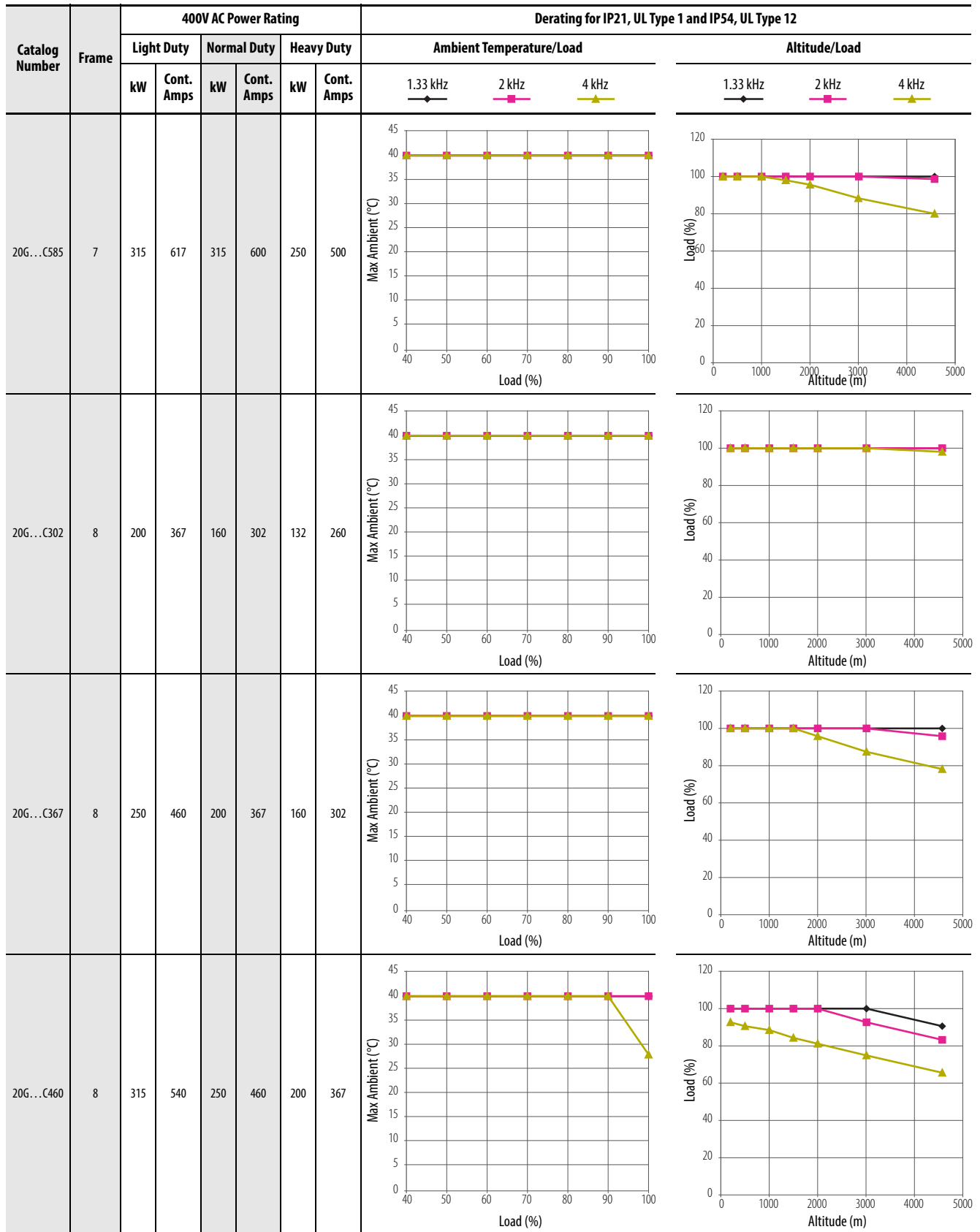
Catalog Number	Frame	400V AC Power Rating						Derating for IP00, UL Open Type							
		Light Duty		Normal Duty		Heavy Duty		Ambient Temperature/Load				Altitude/Load			
		kW	Cont. Amps	kW	Cont. Amps	kW	Cont. Amps	2 kHz	4 kHz	8 kHz	12 kHz	2 kHz	4 kHz	8 kHz	12 kHz
20G...C015	5	11	22	7.5	15.4	11.5	5.5								
20G...C022	5	15	30	11	22	7.5	15.4								
20G...C030	5	18.5	37	15	30	11	22								

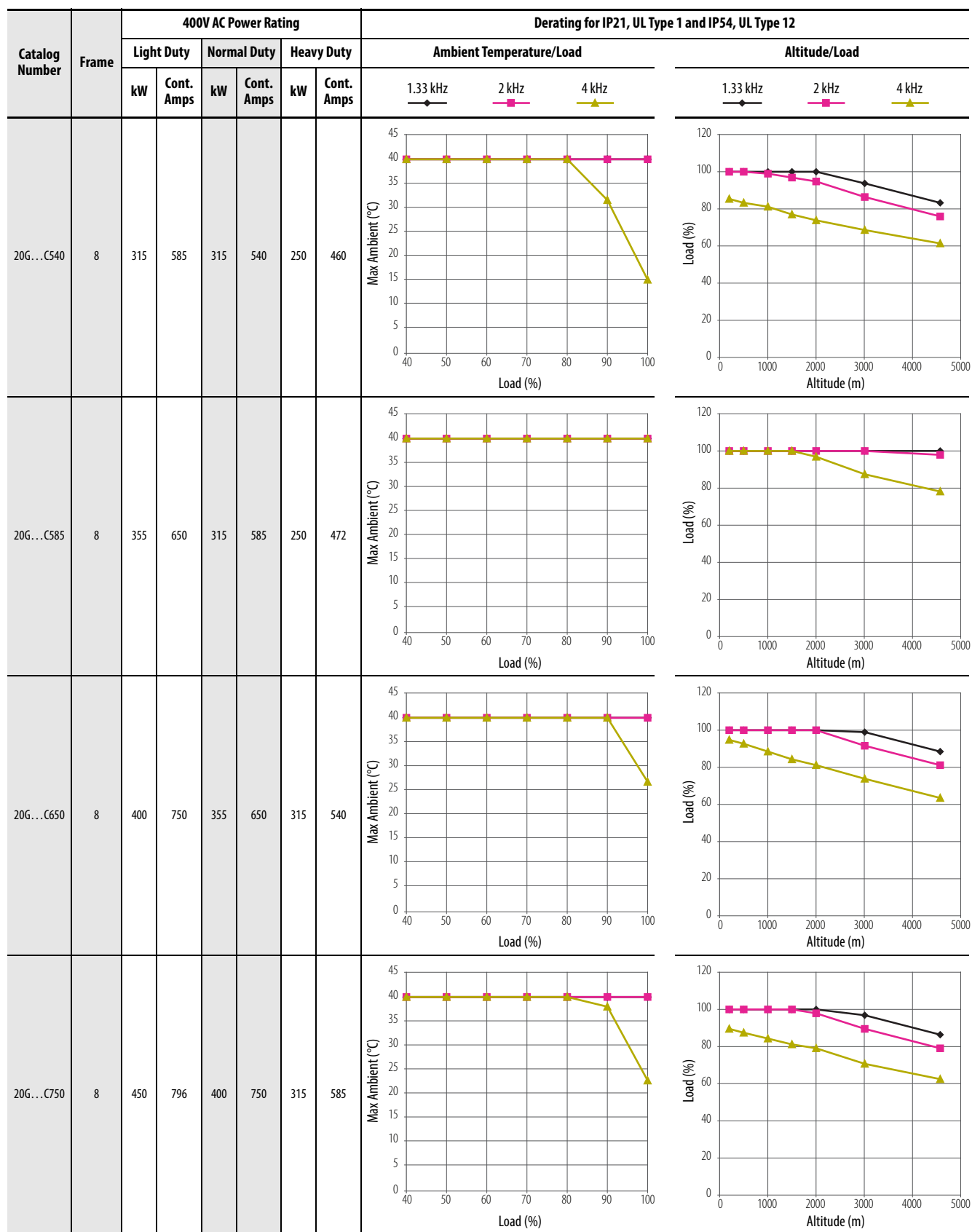


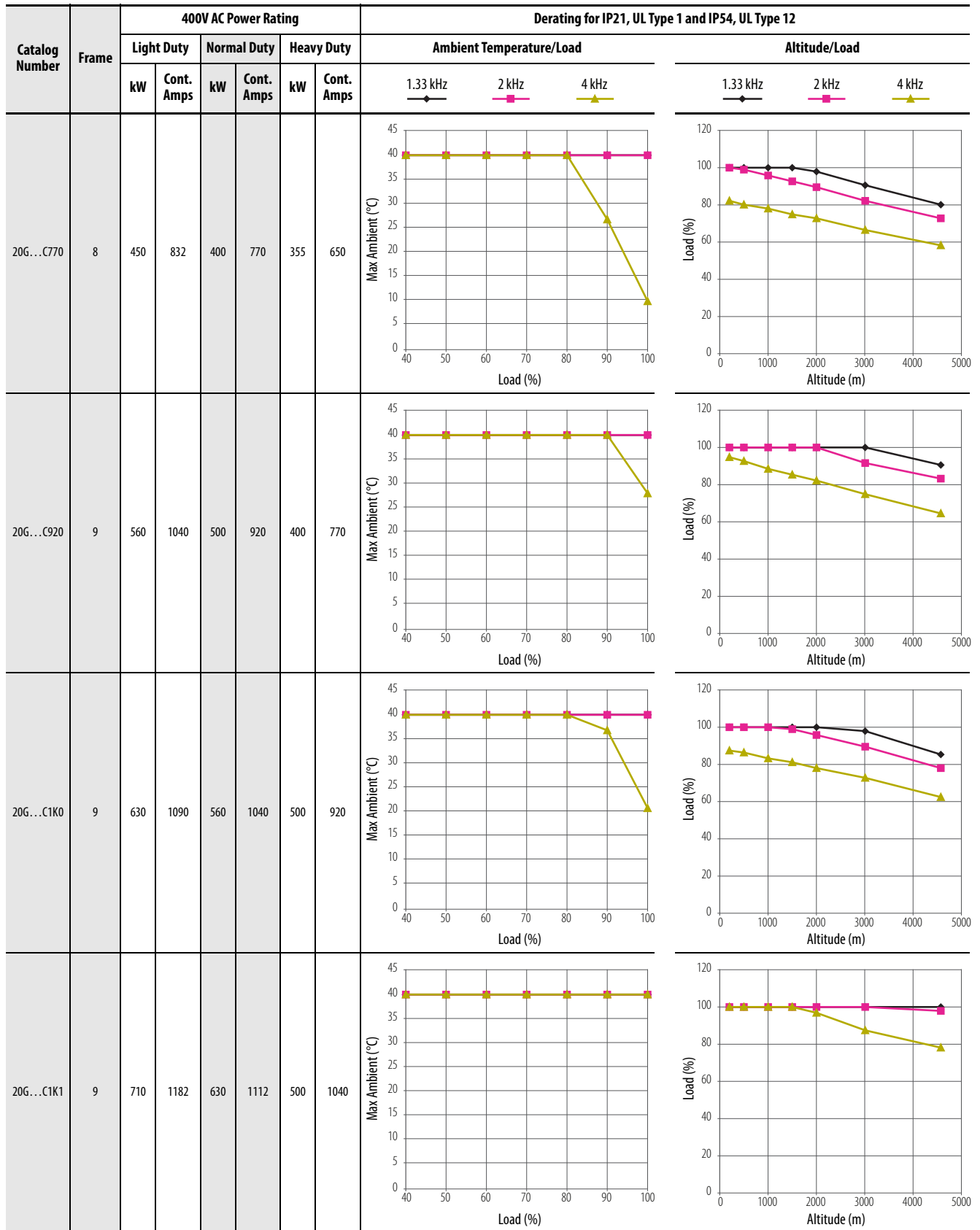


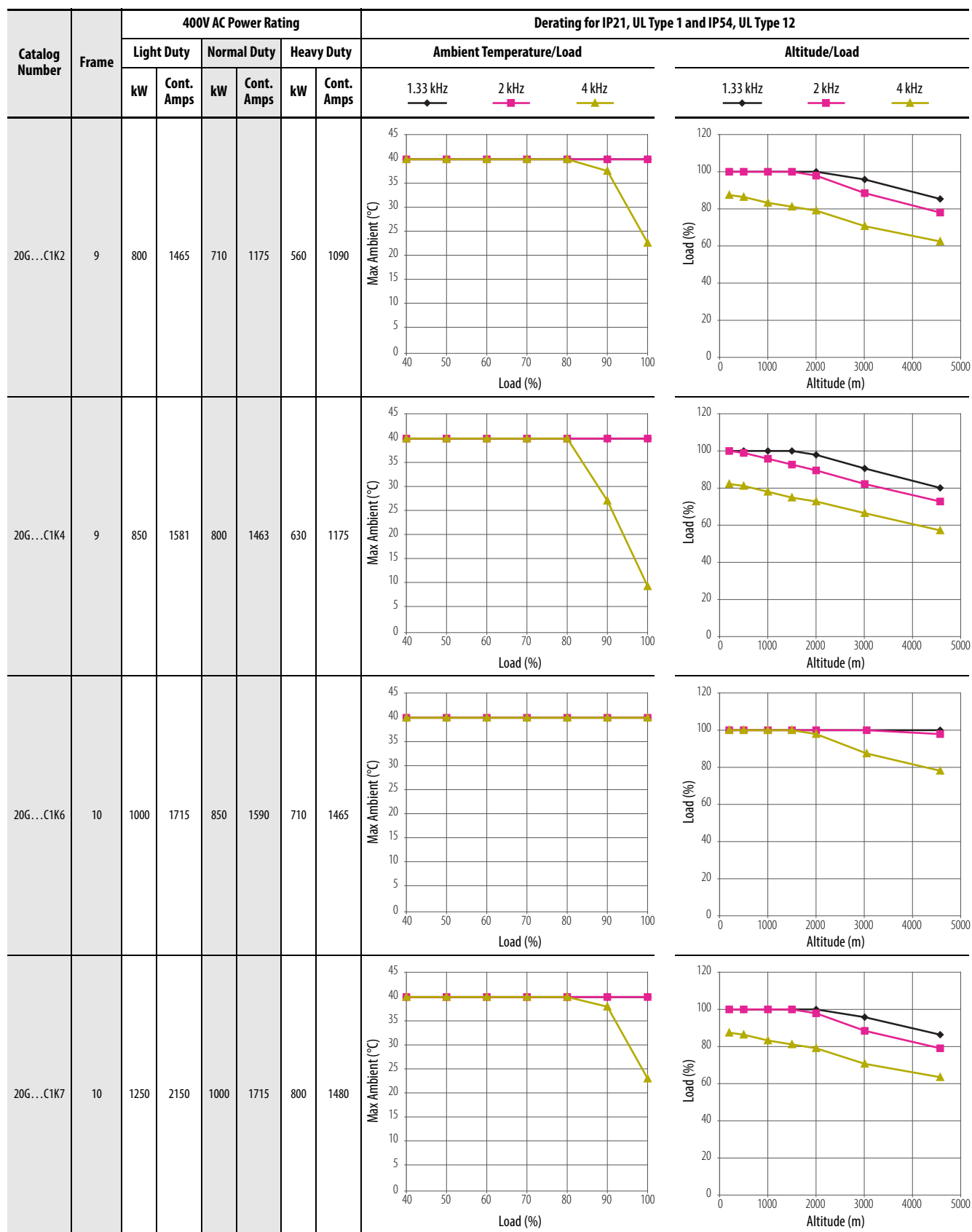


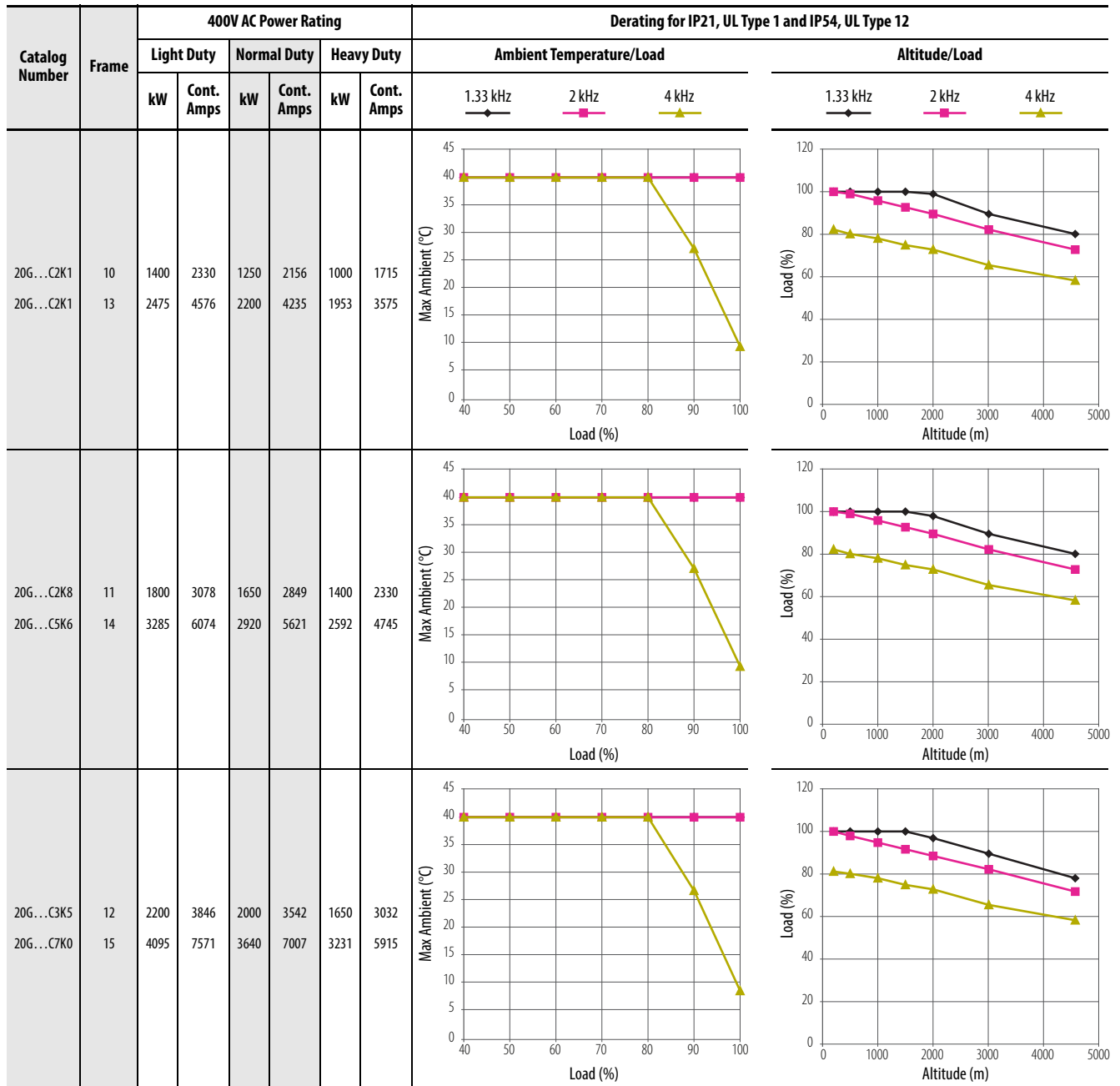


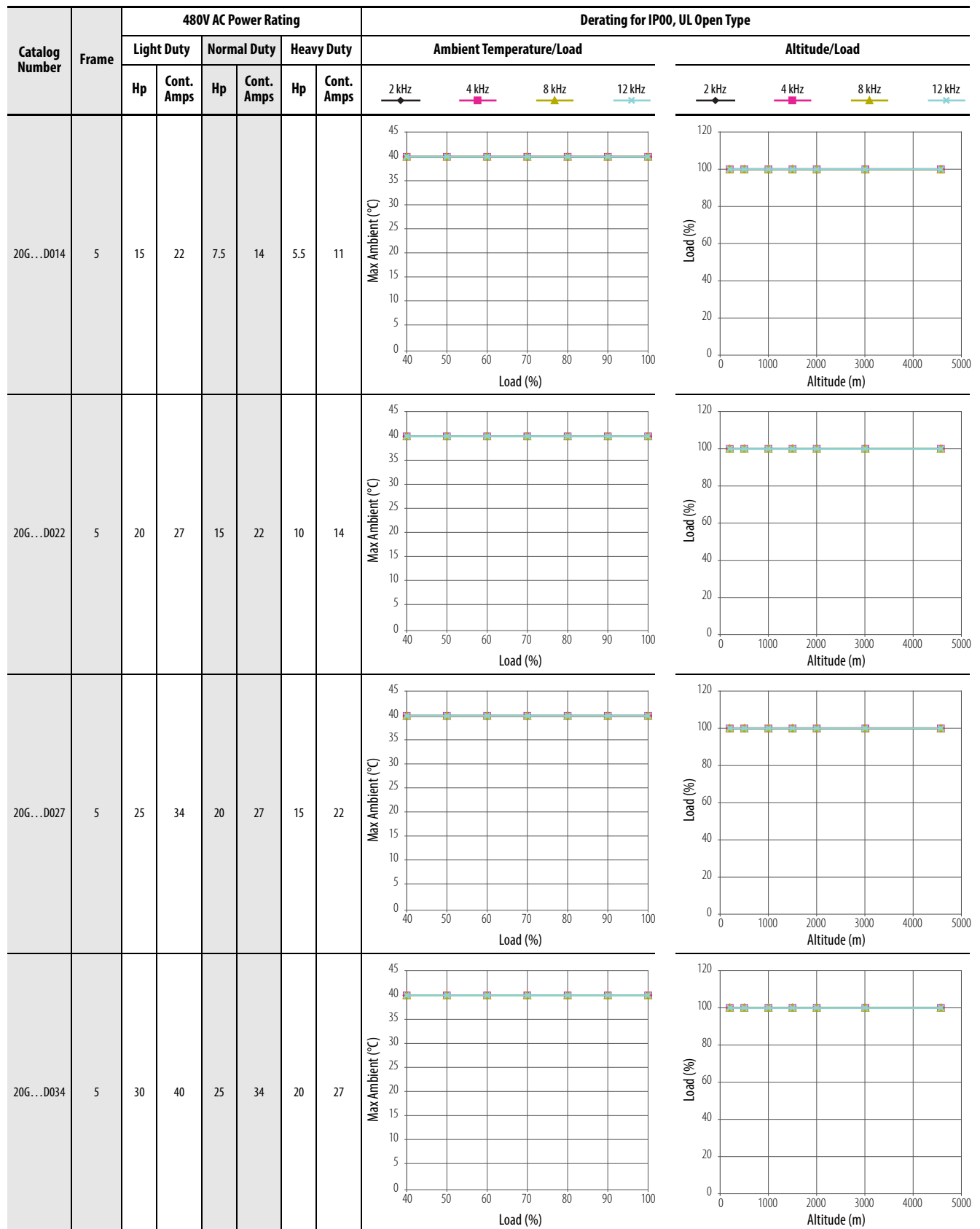


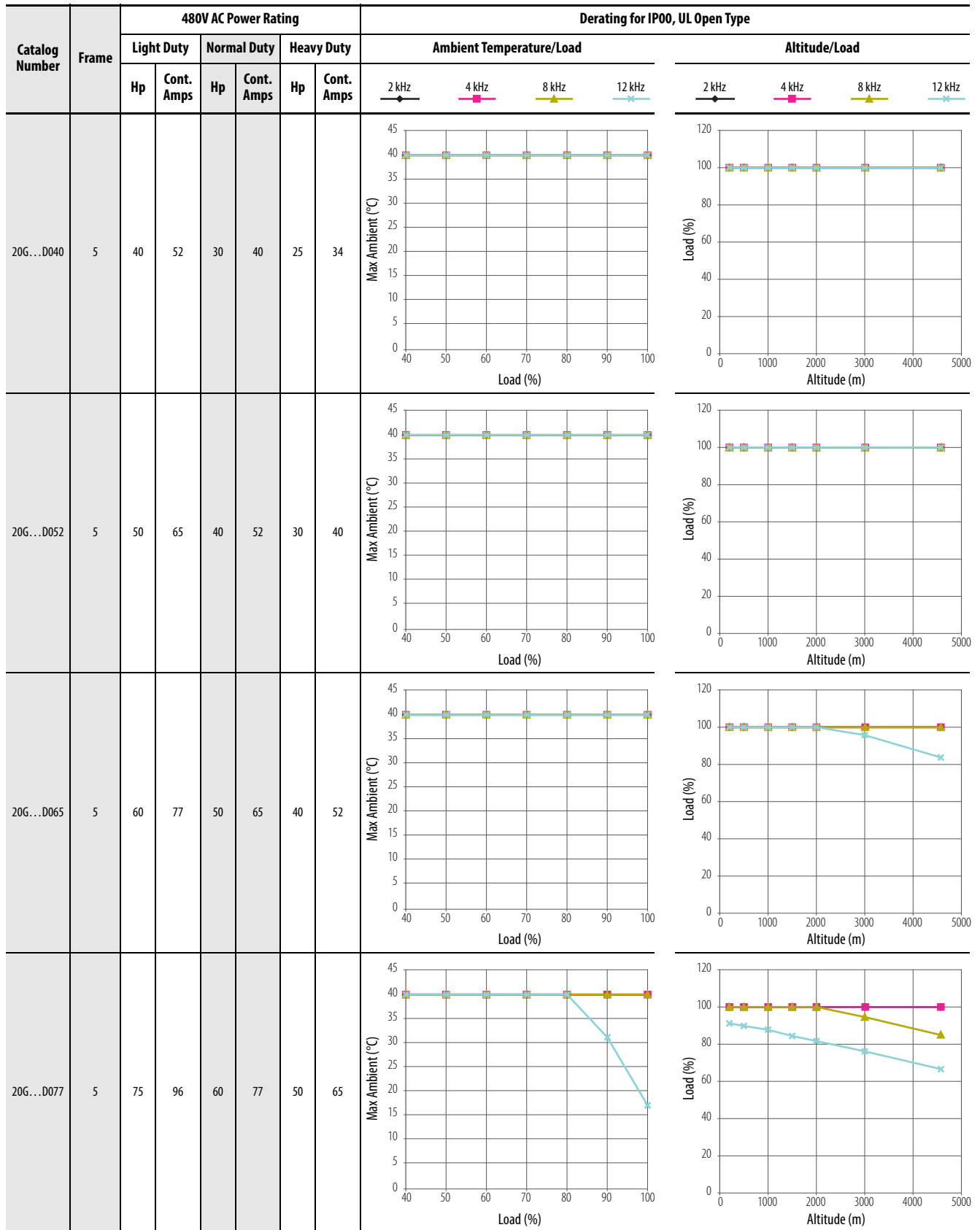


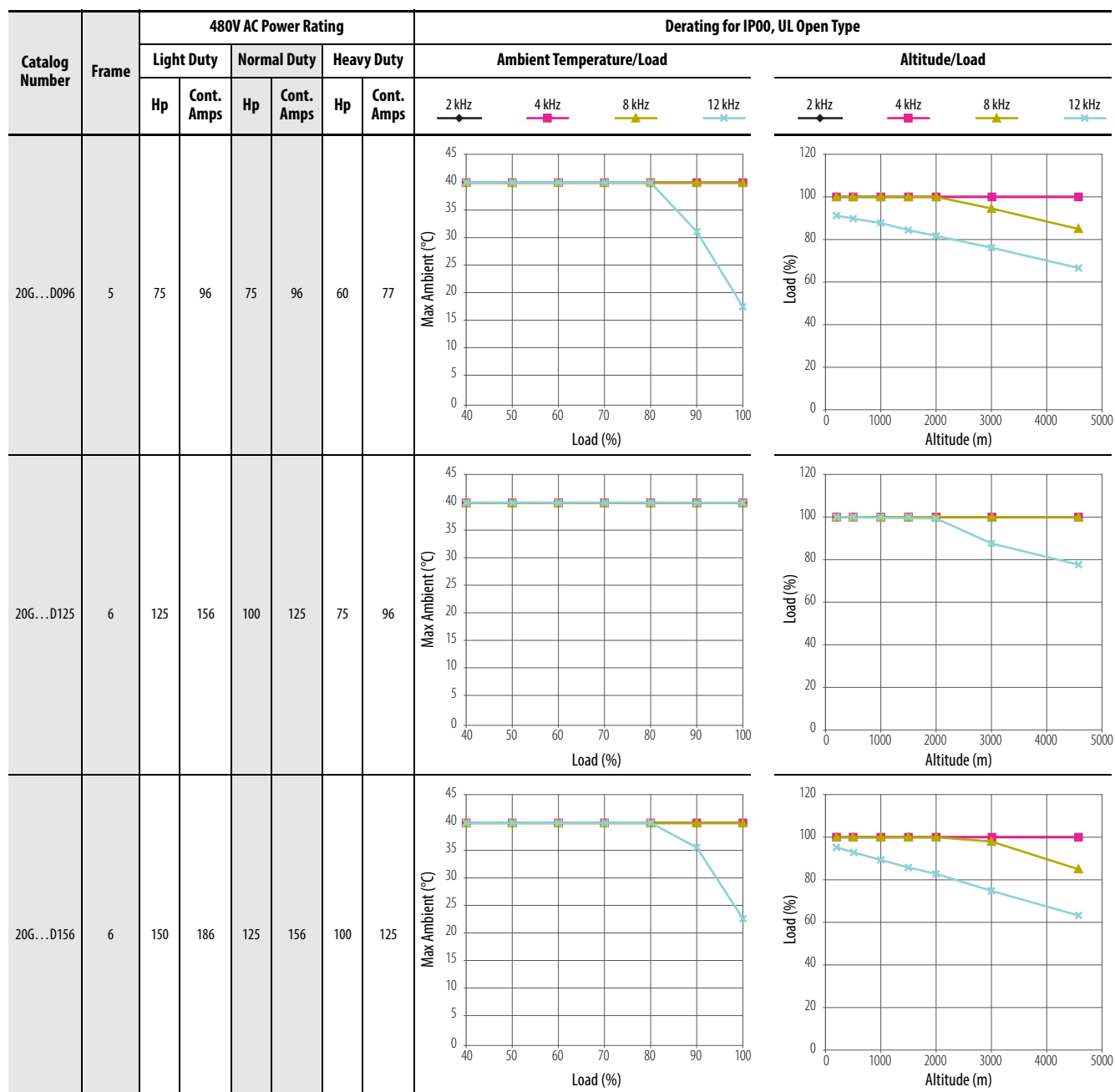


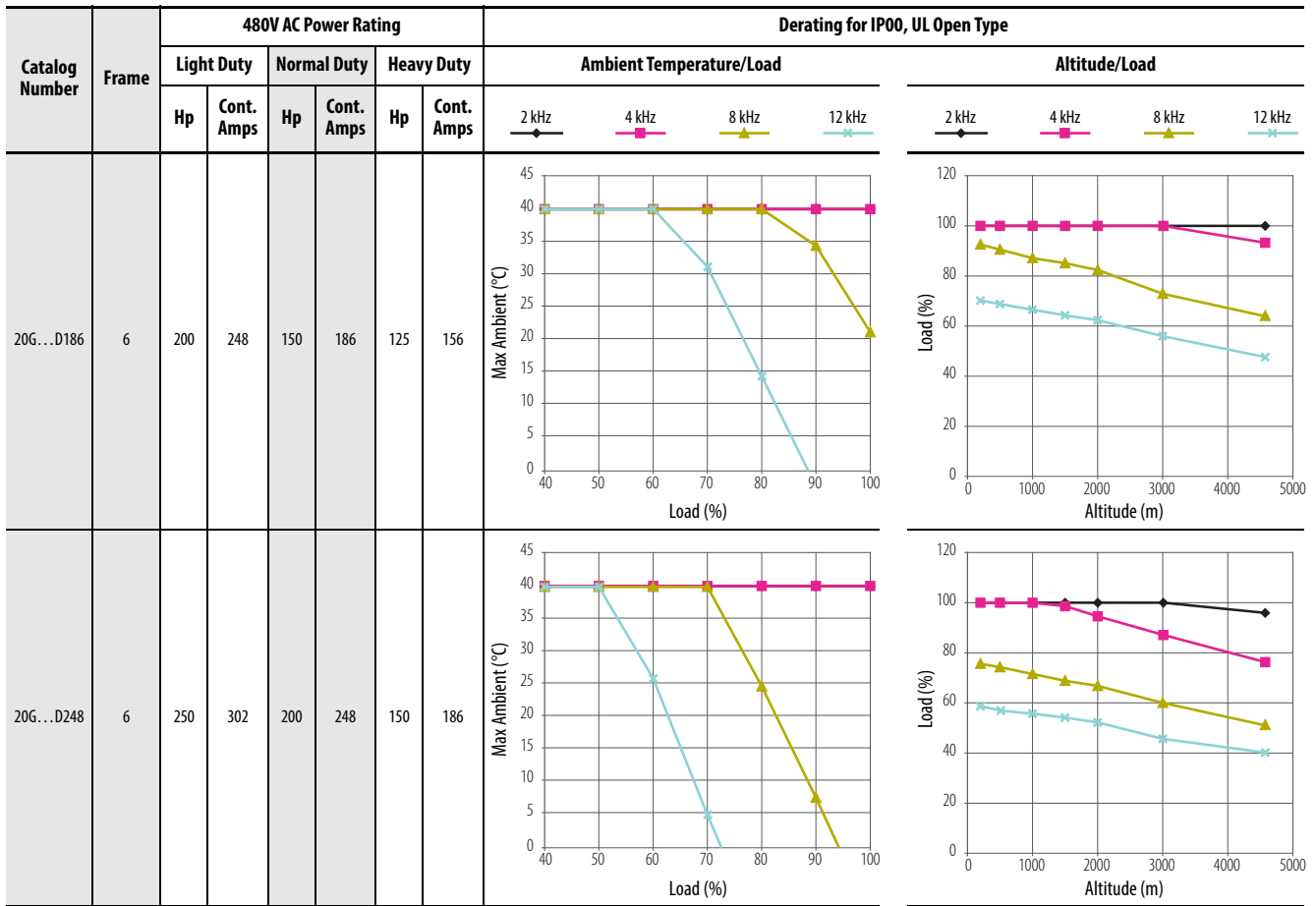


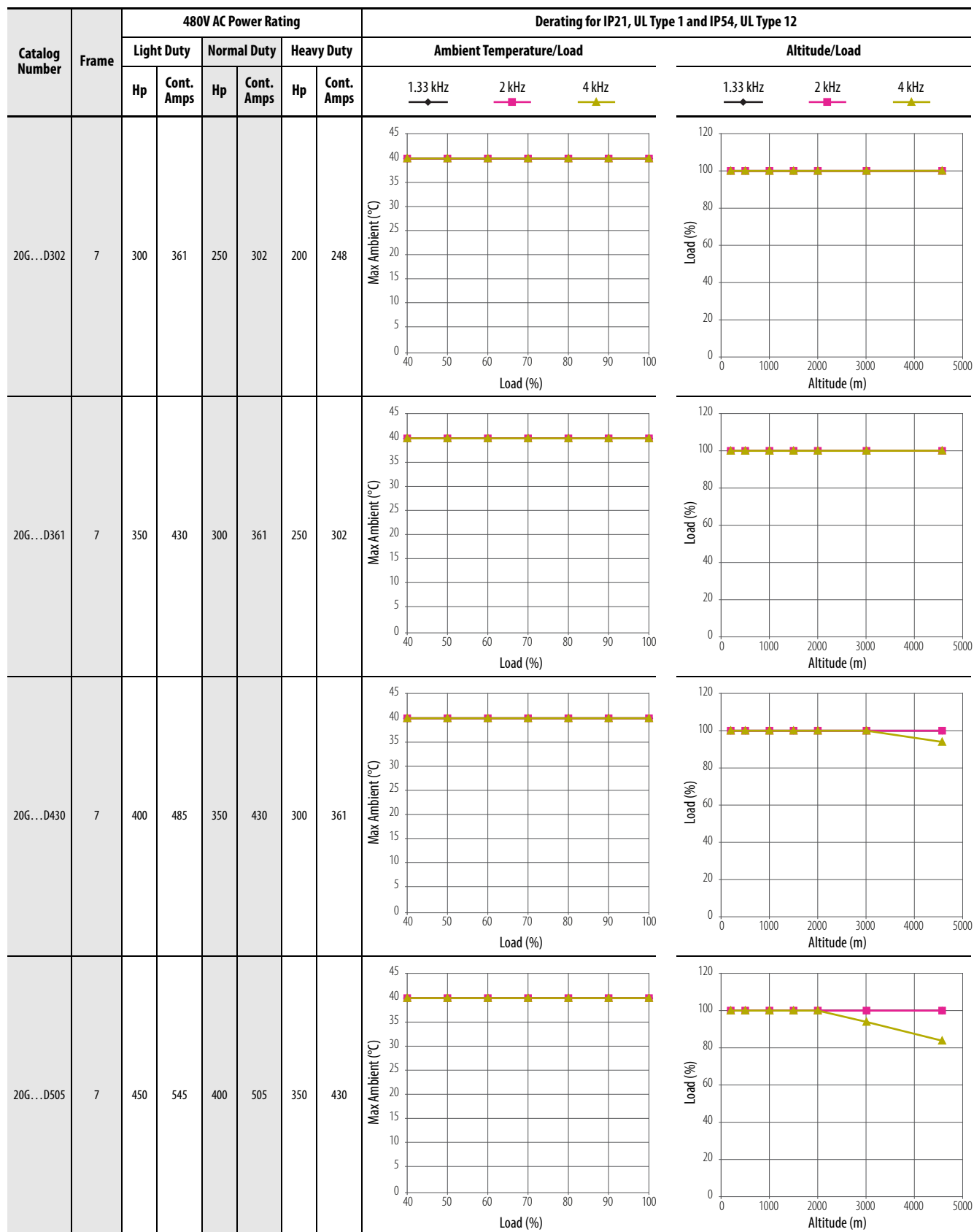


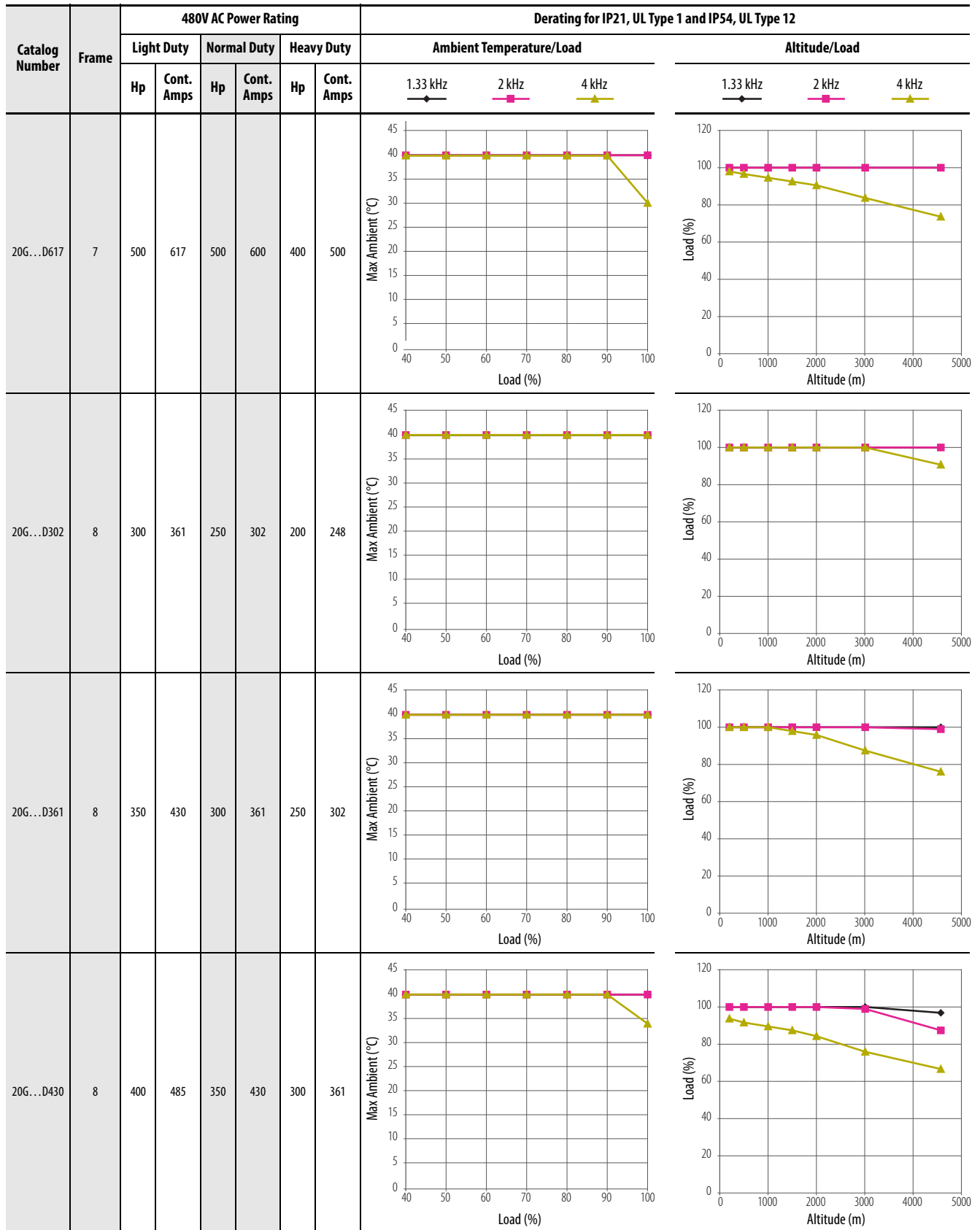


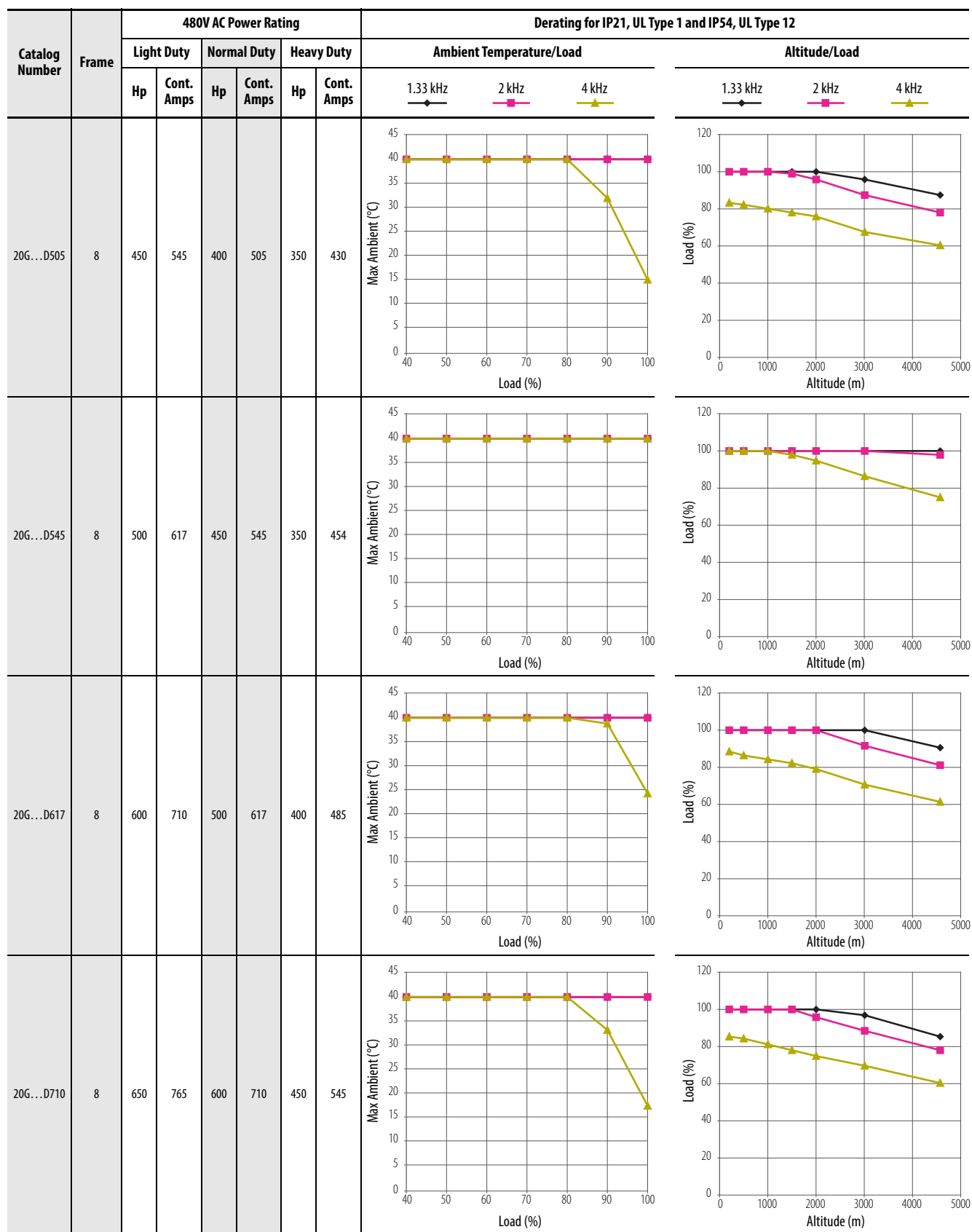


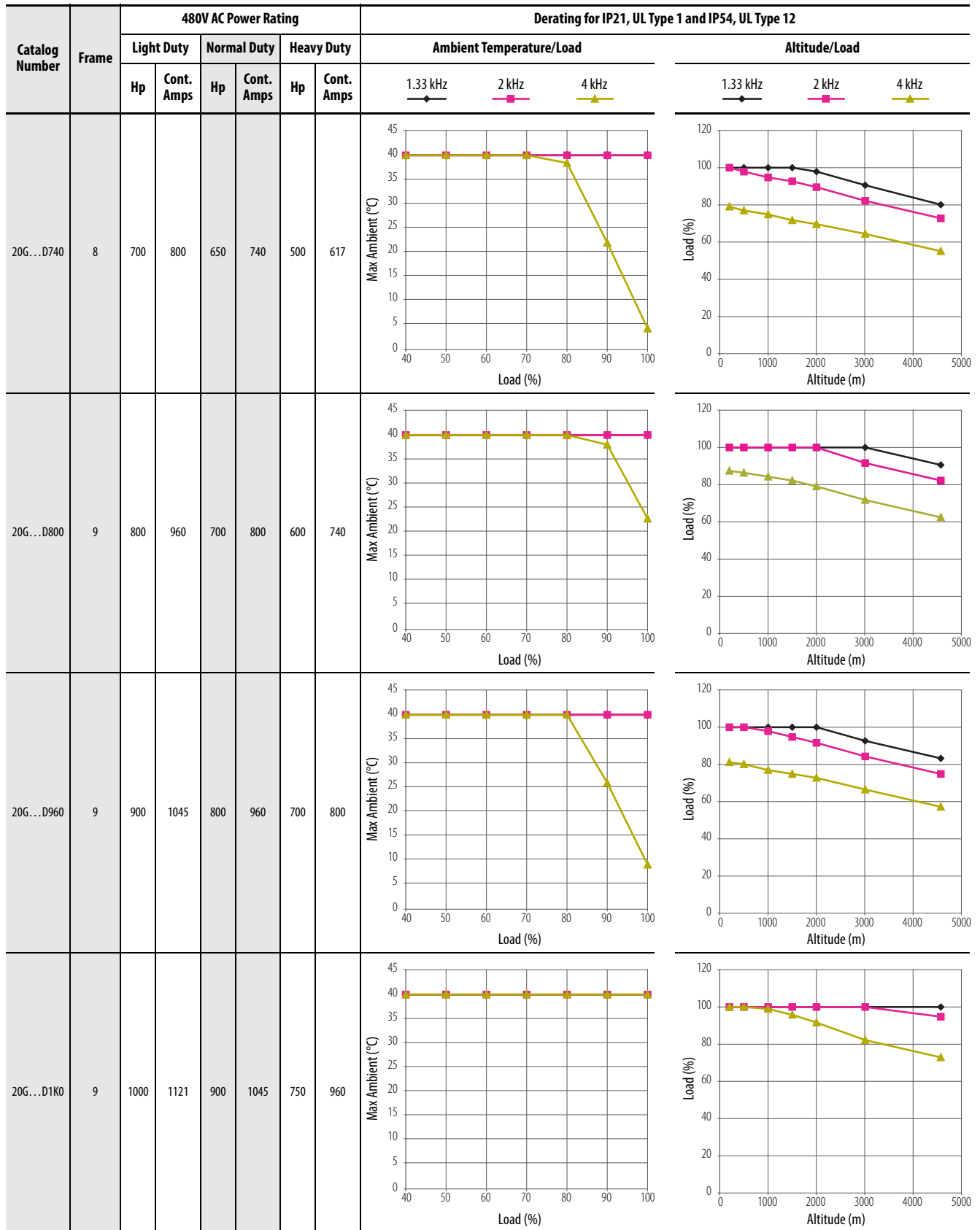


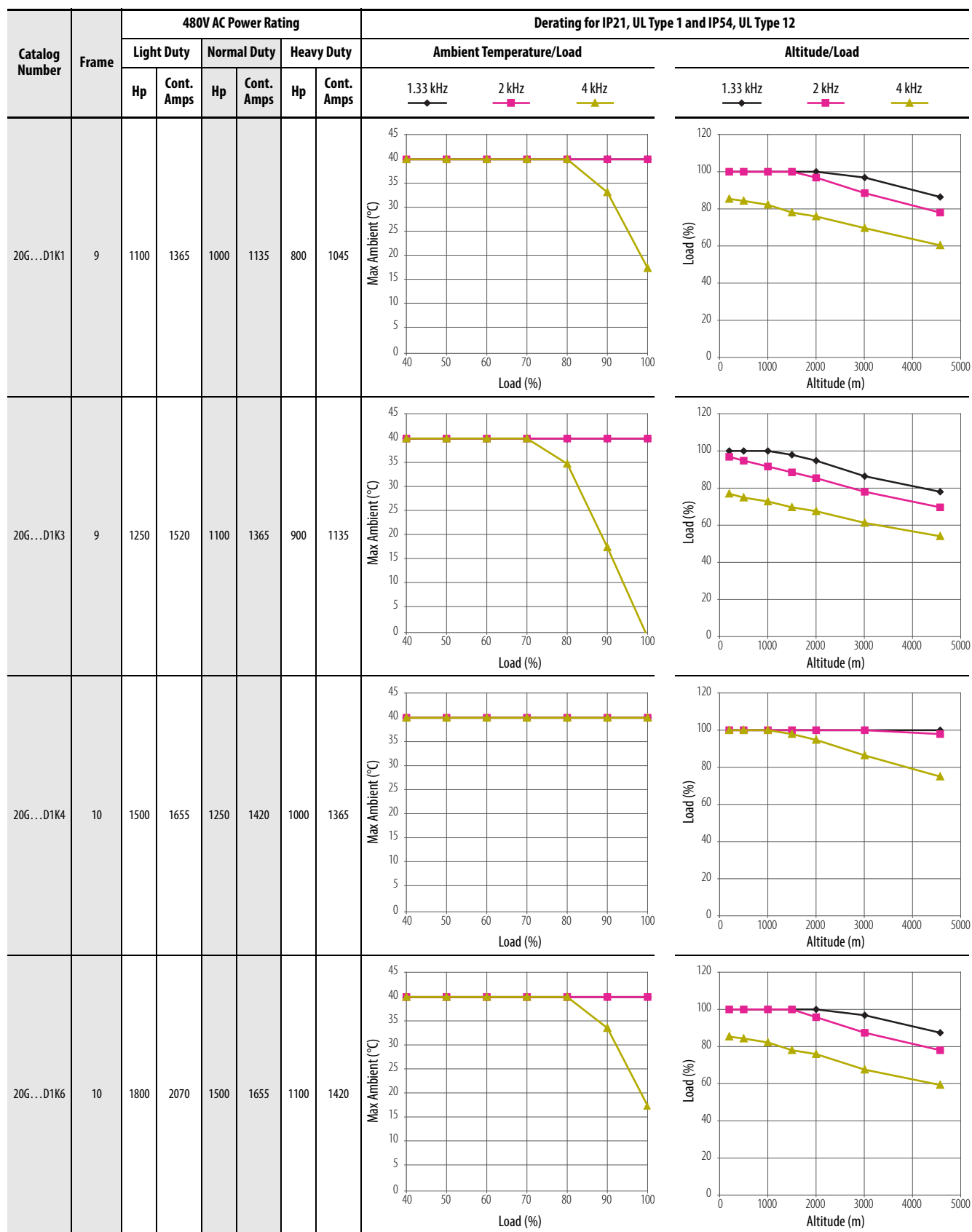


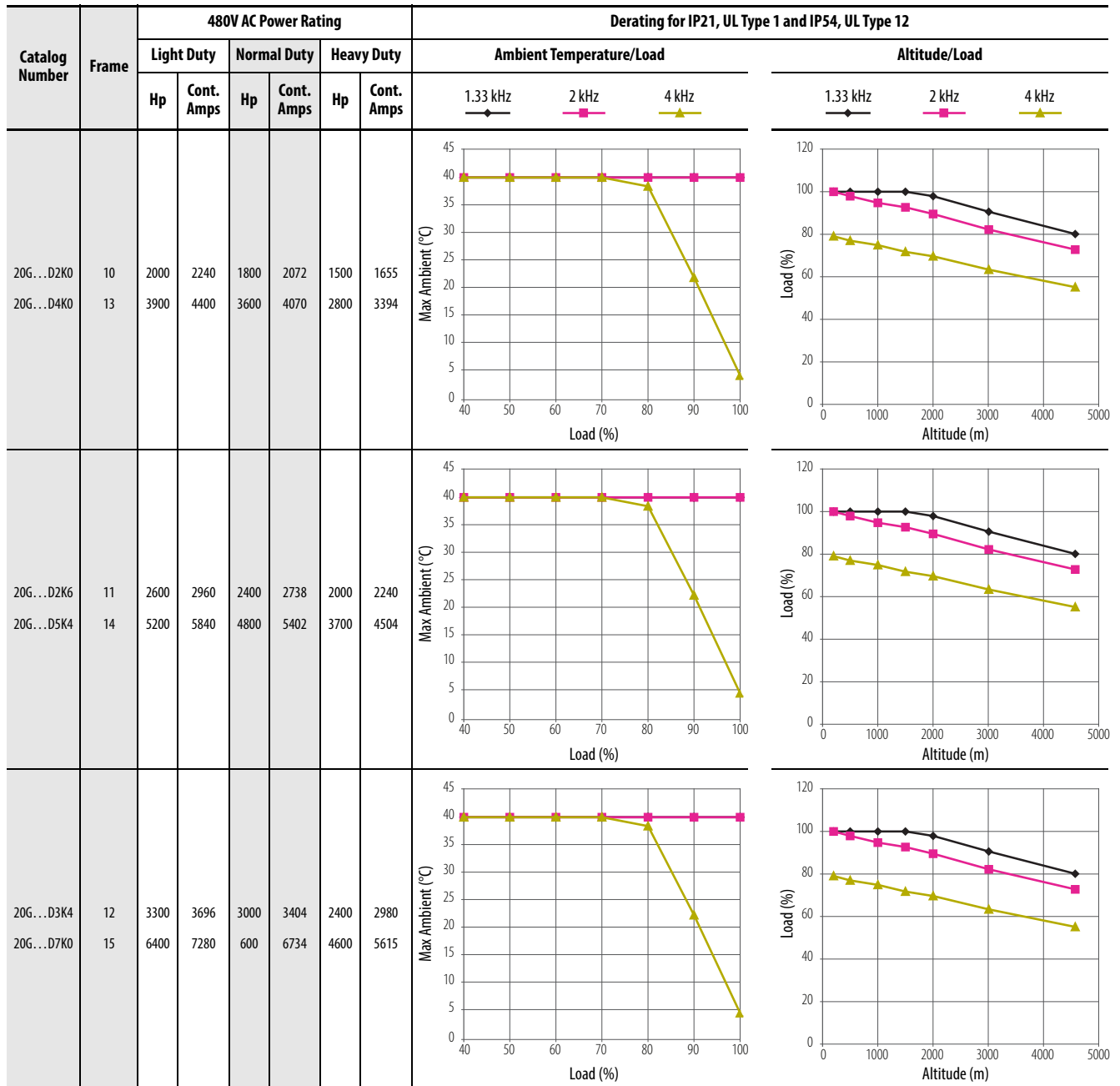


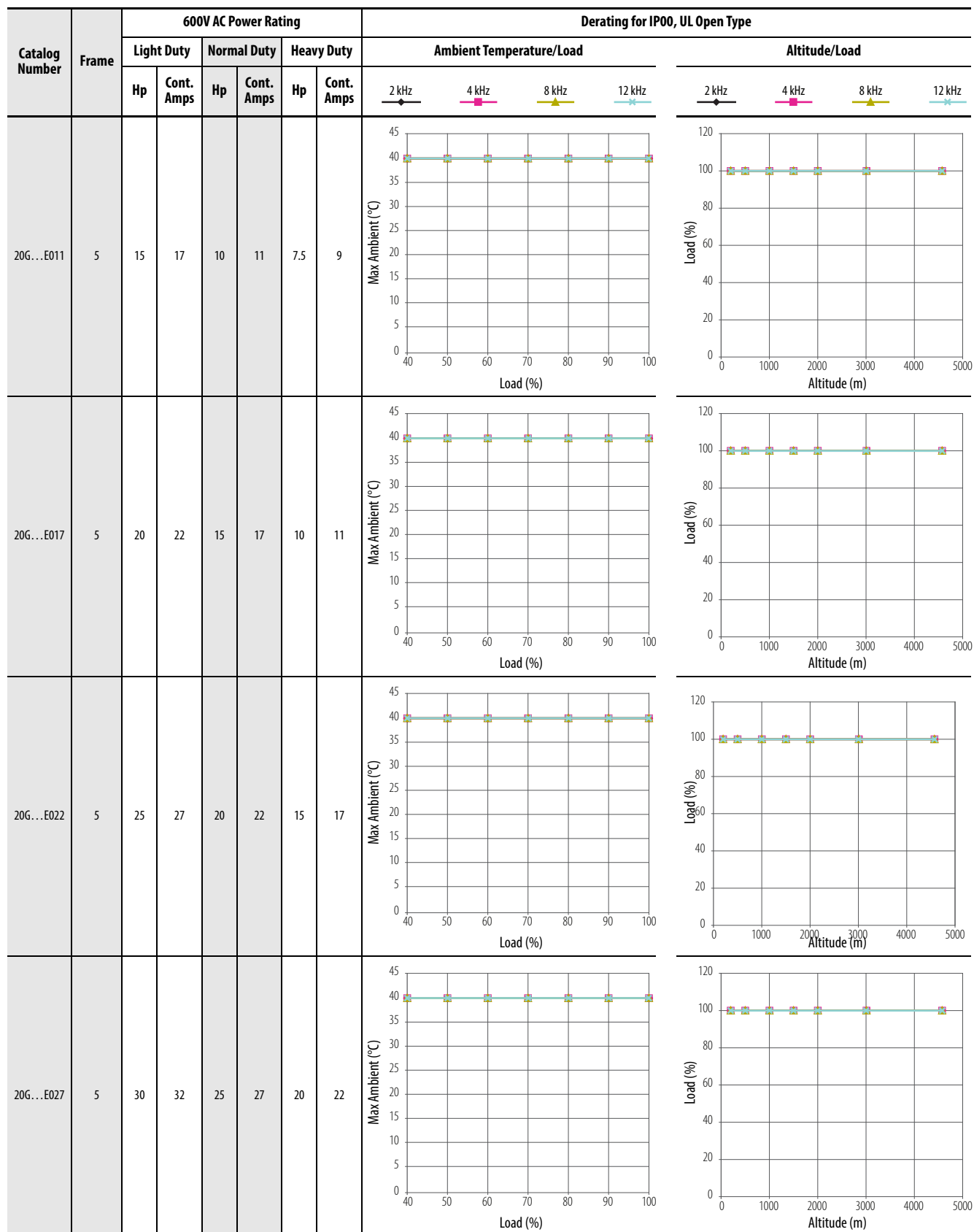


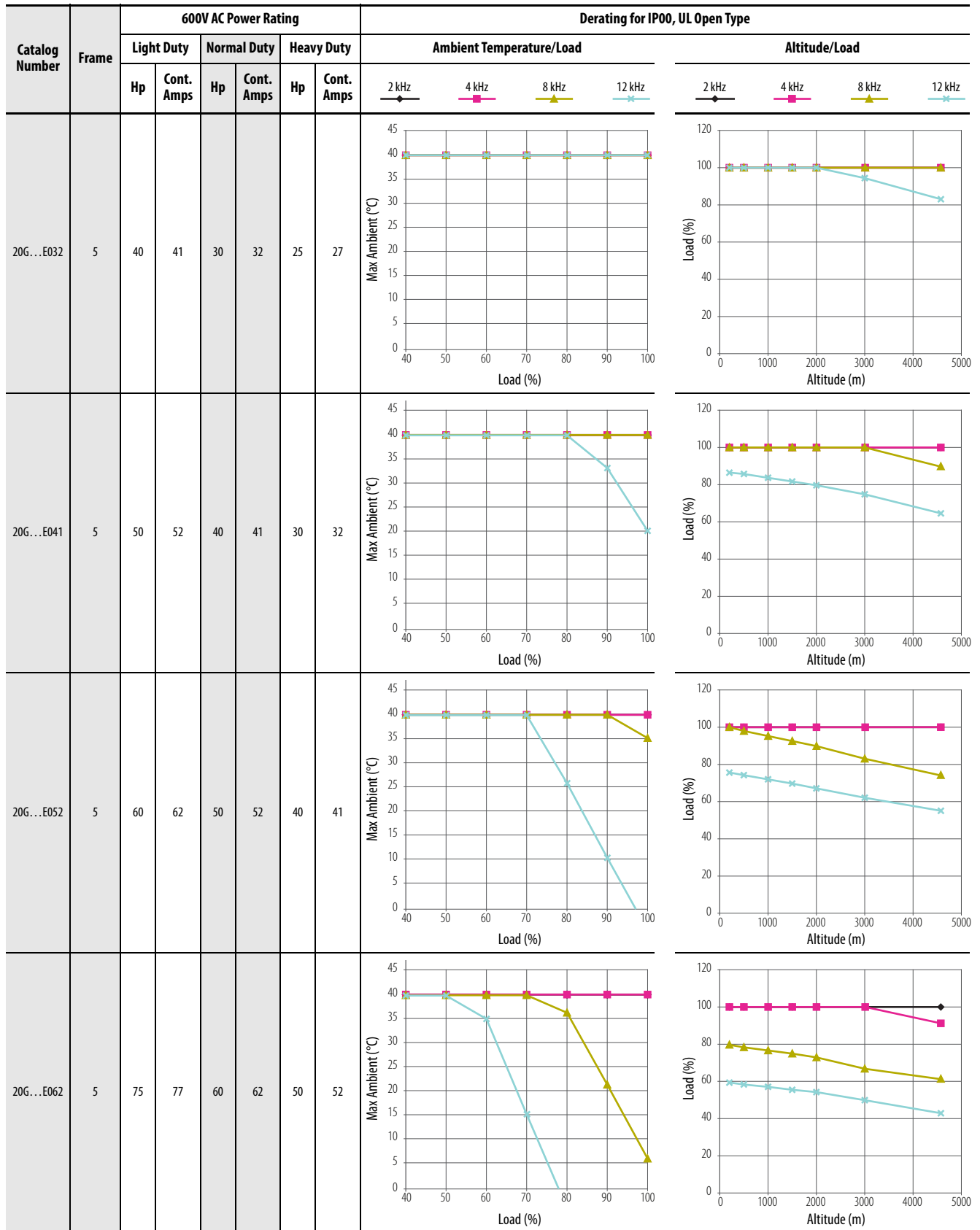


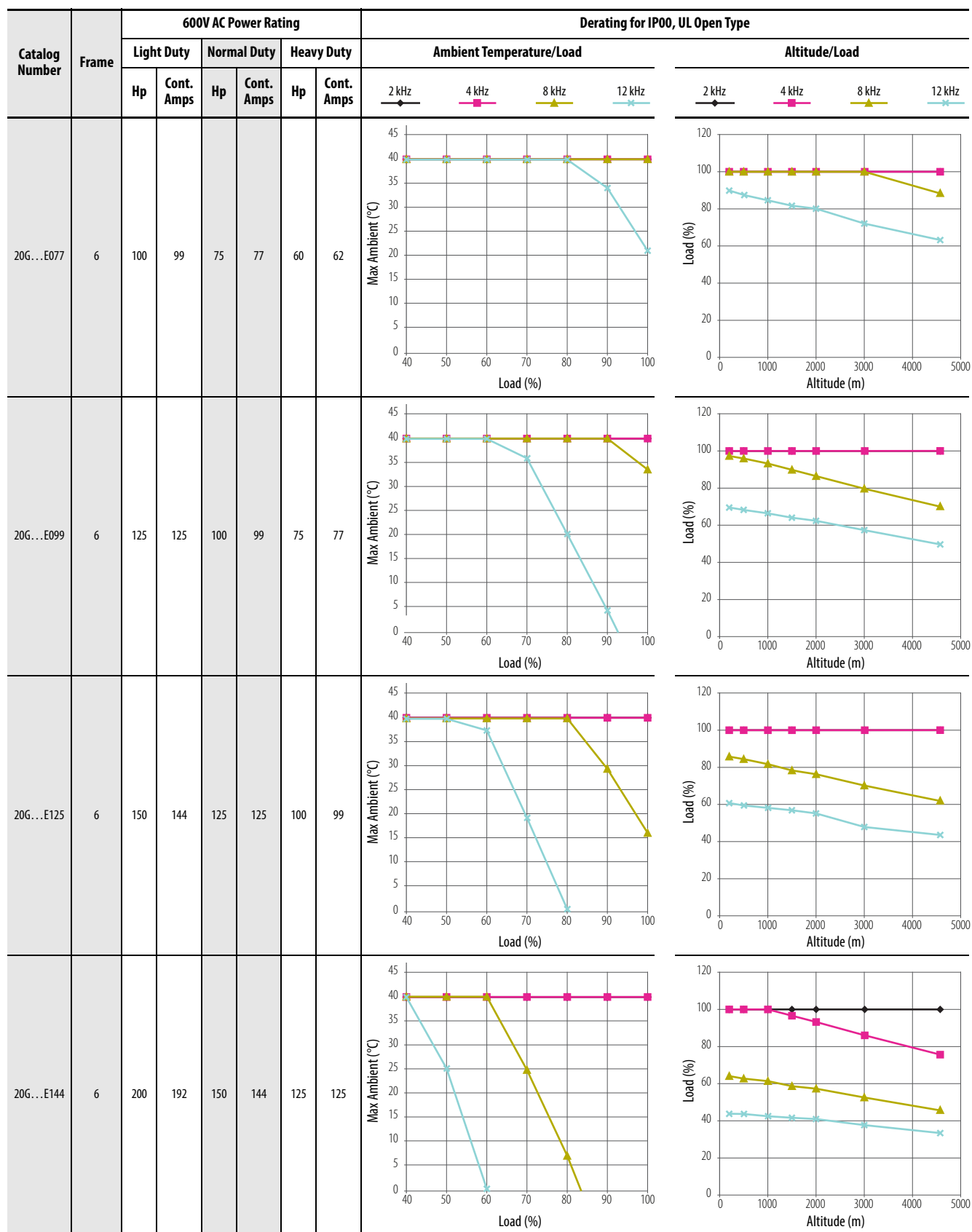


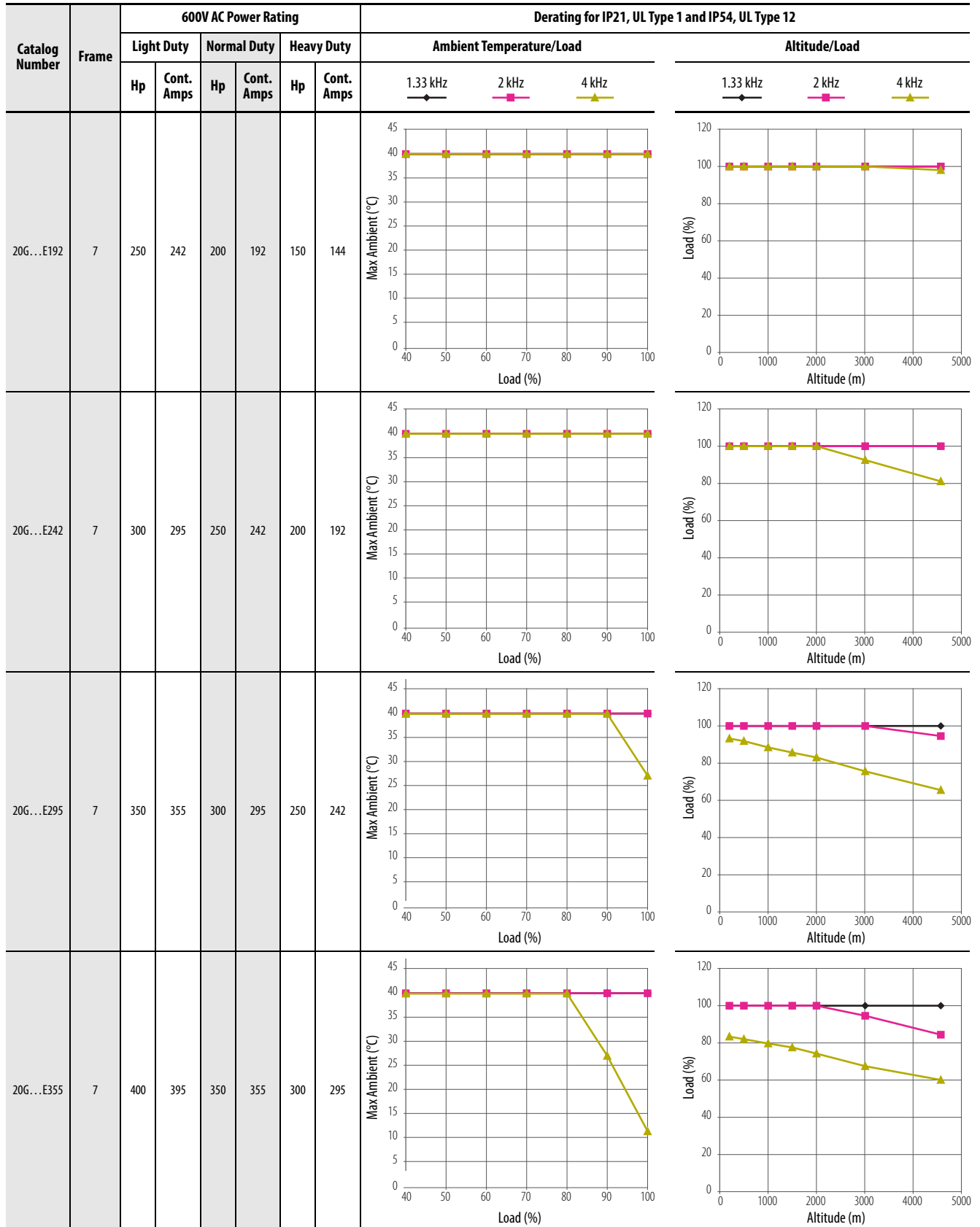


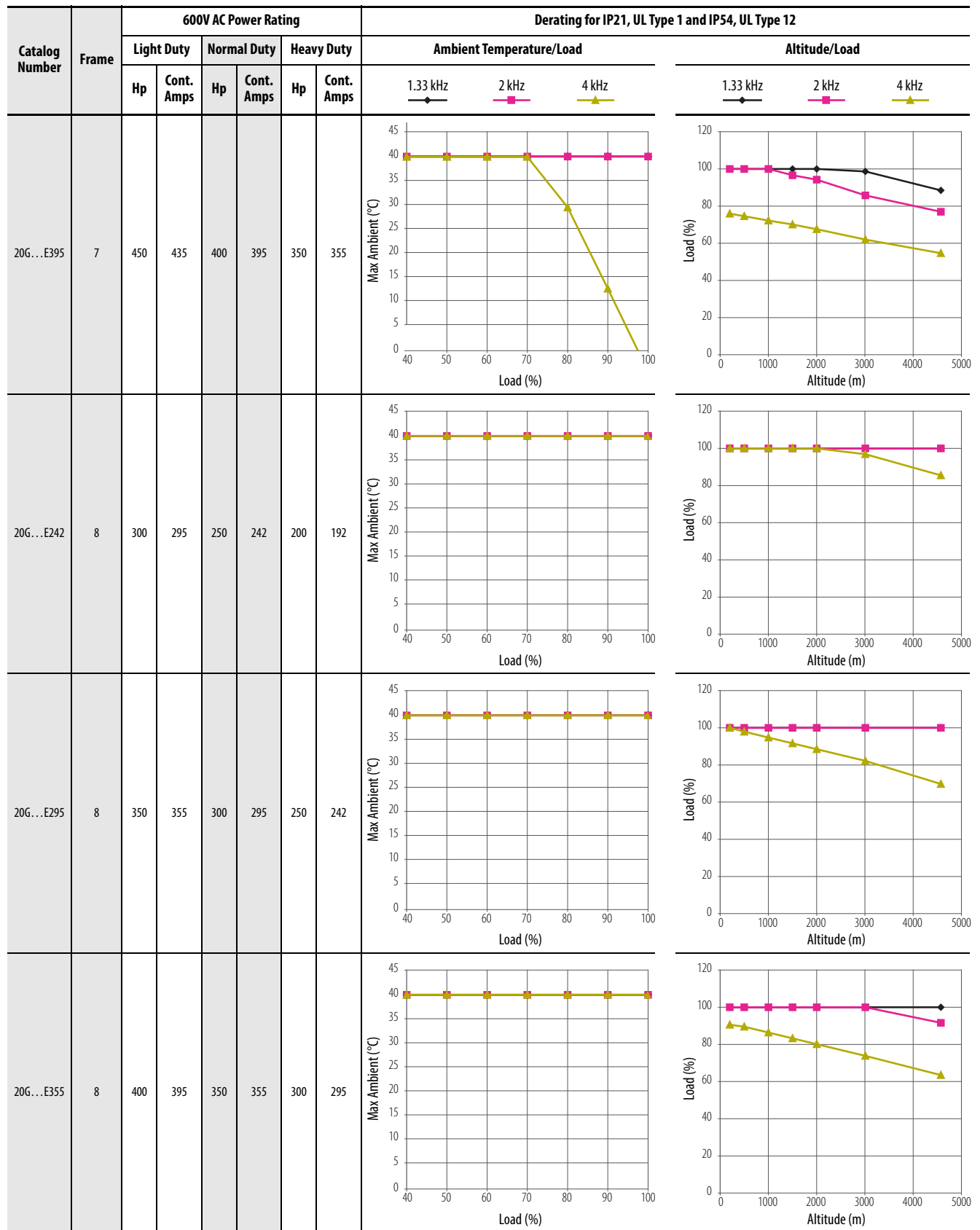


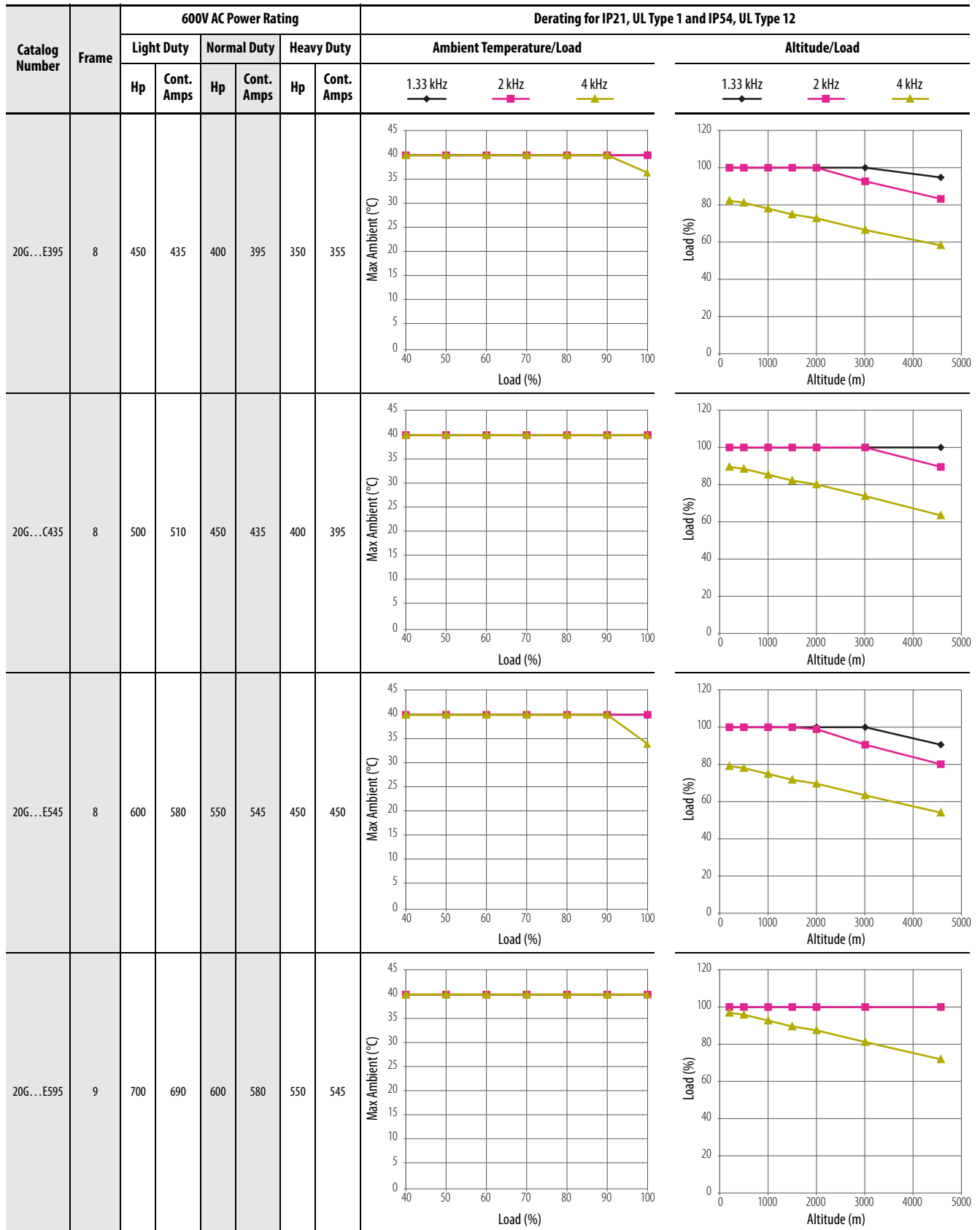


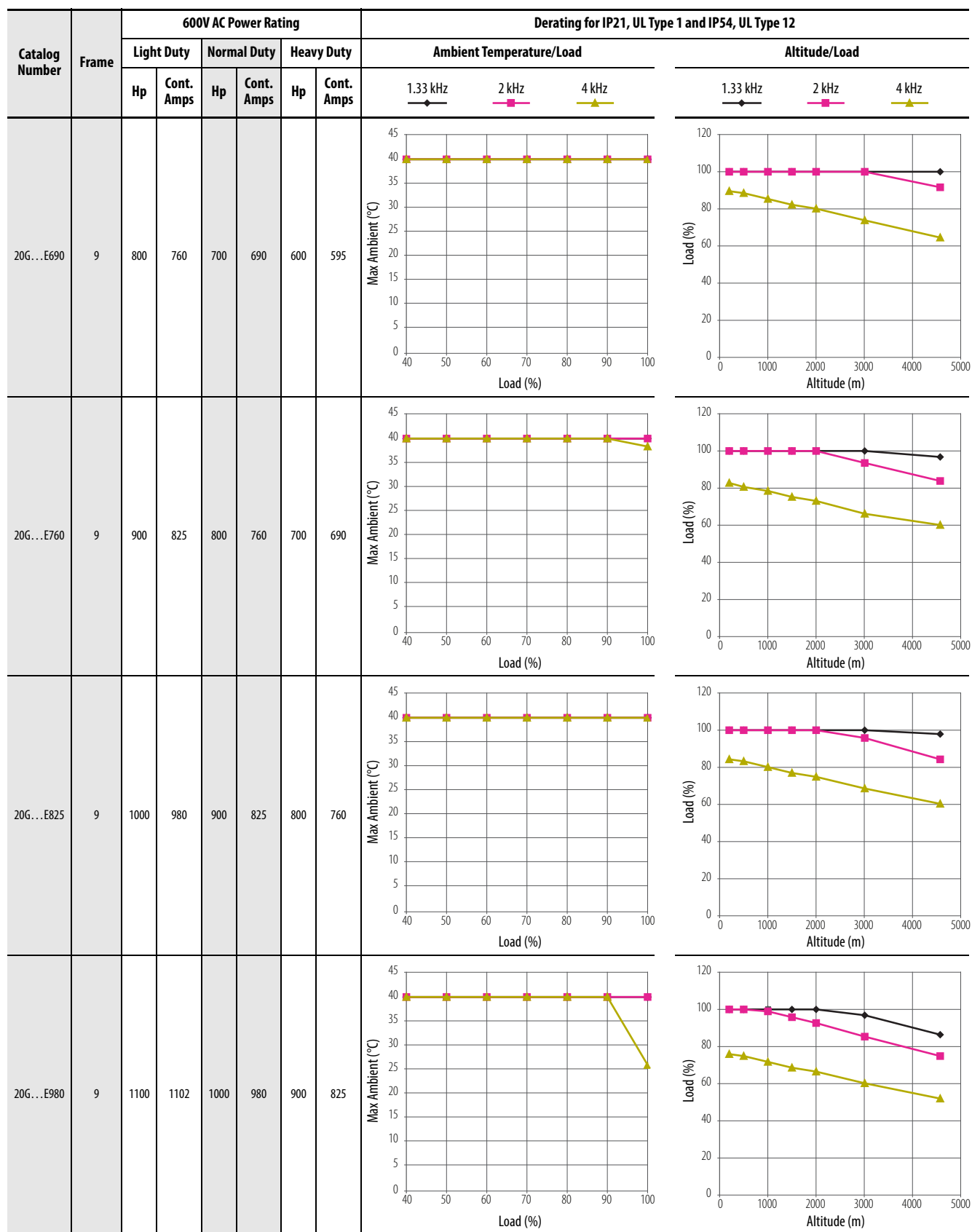


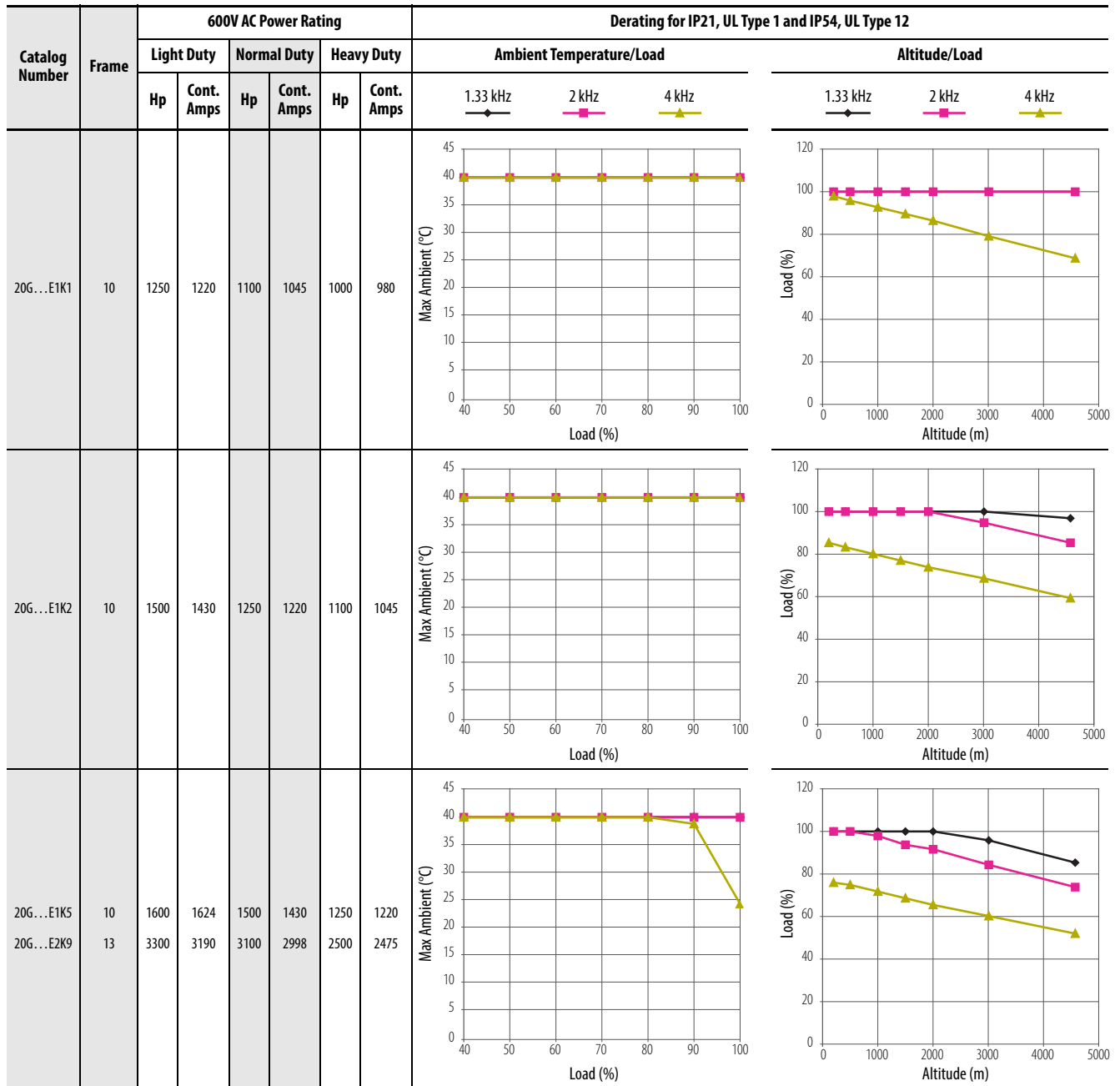


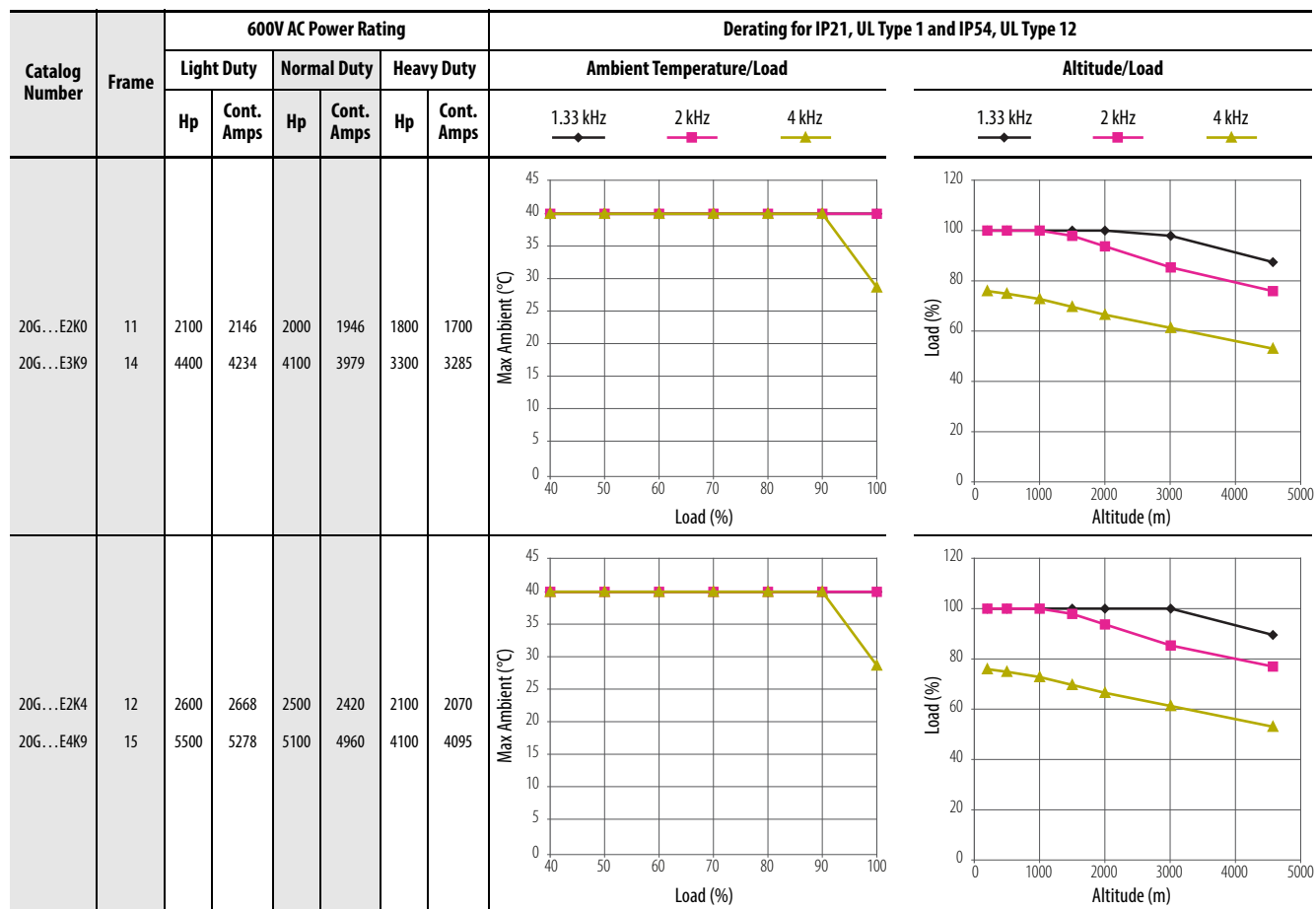


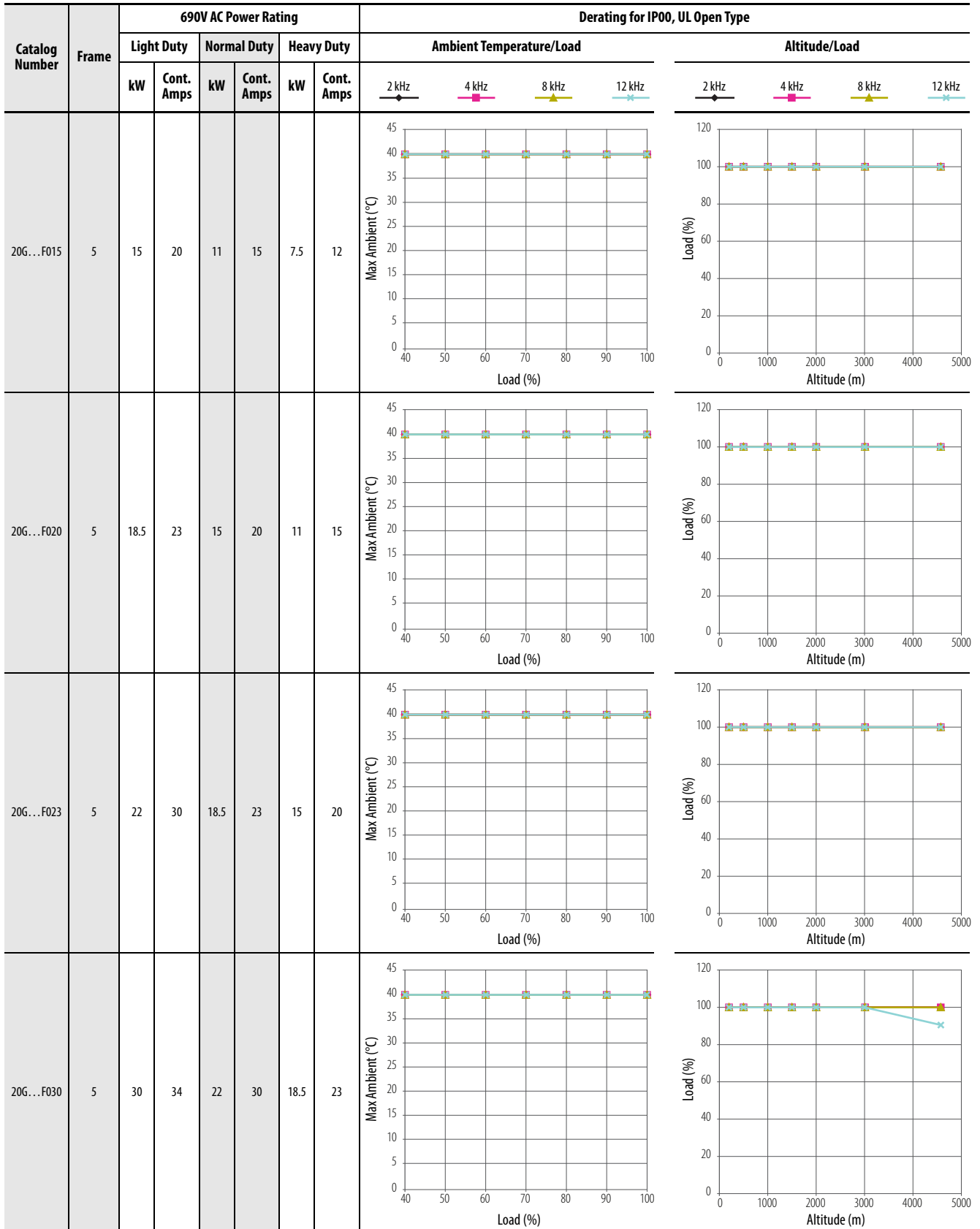


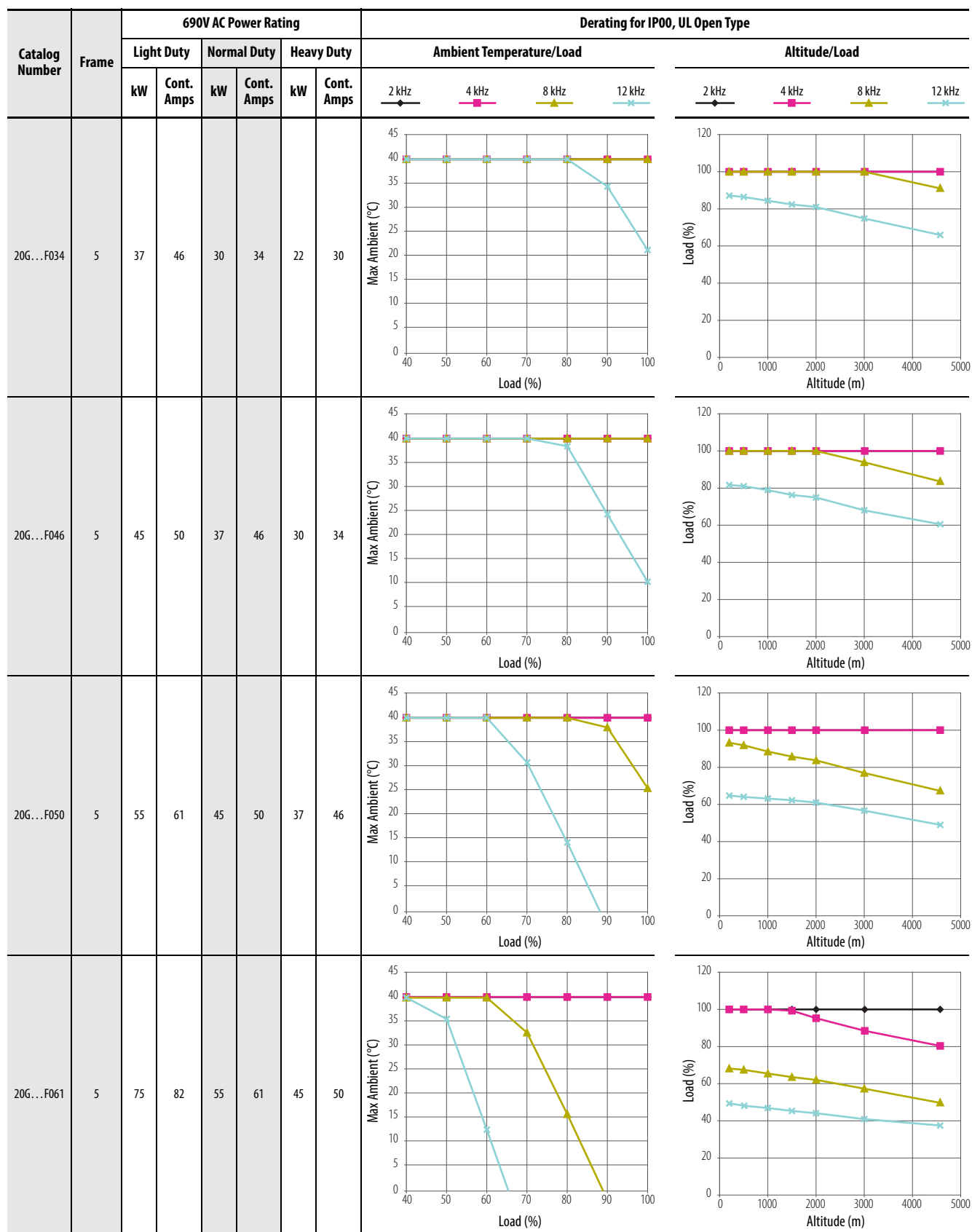


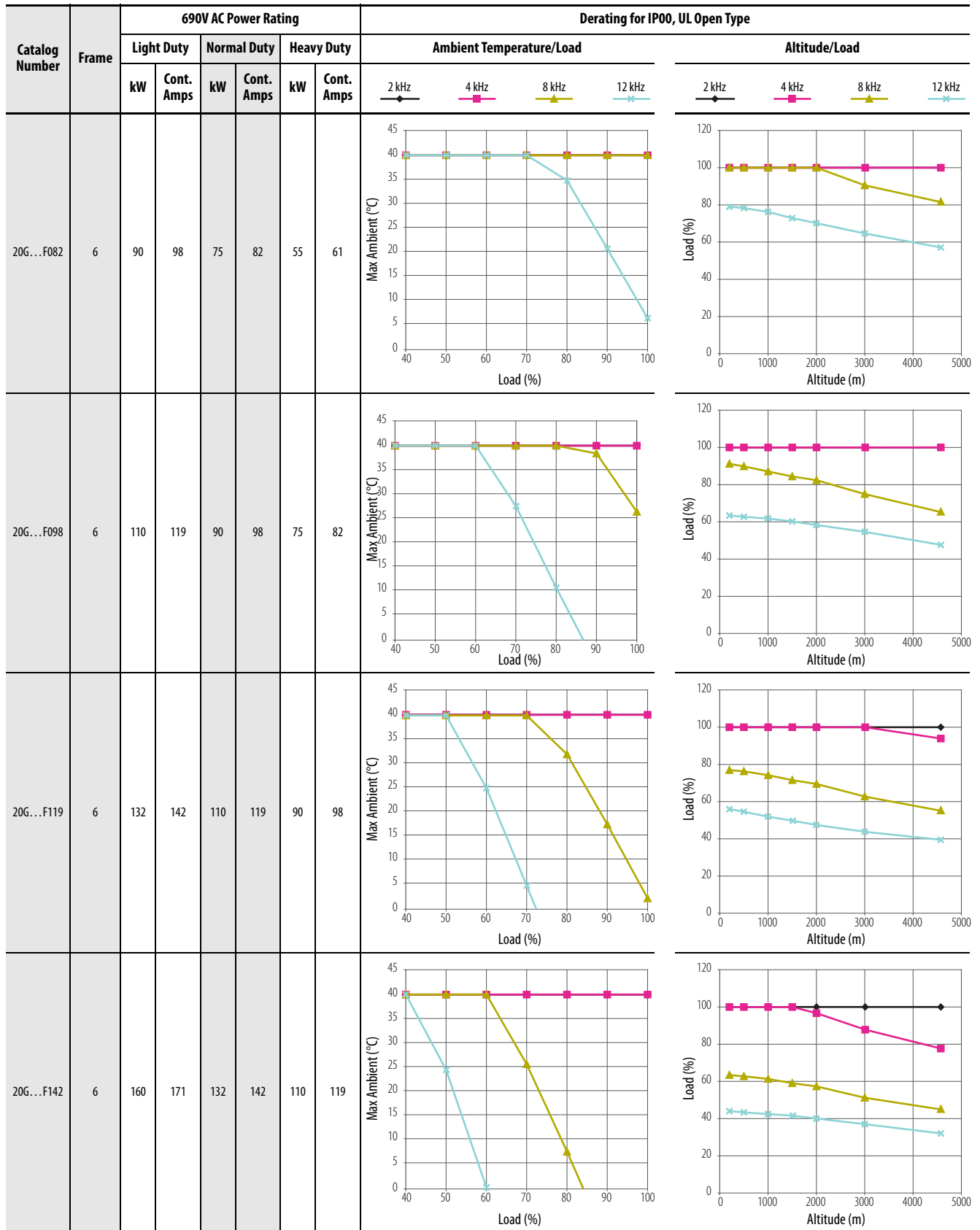


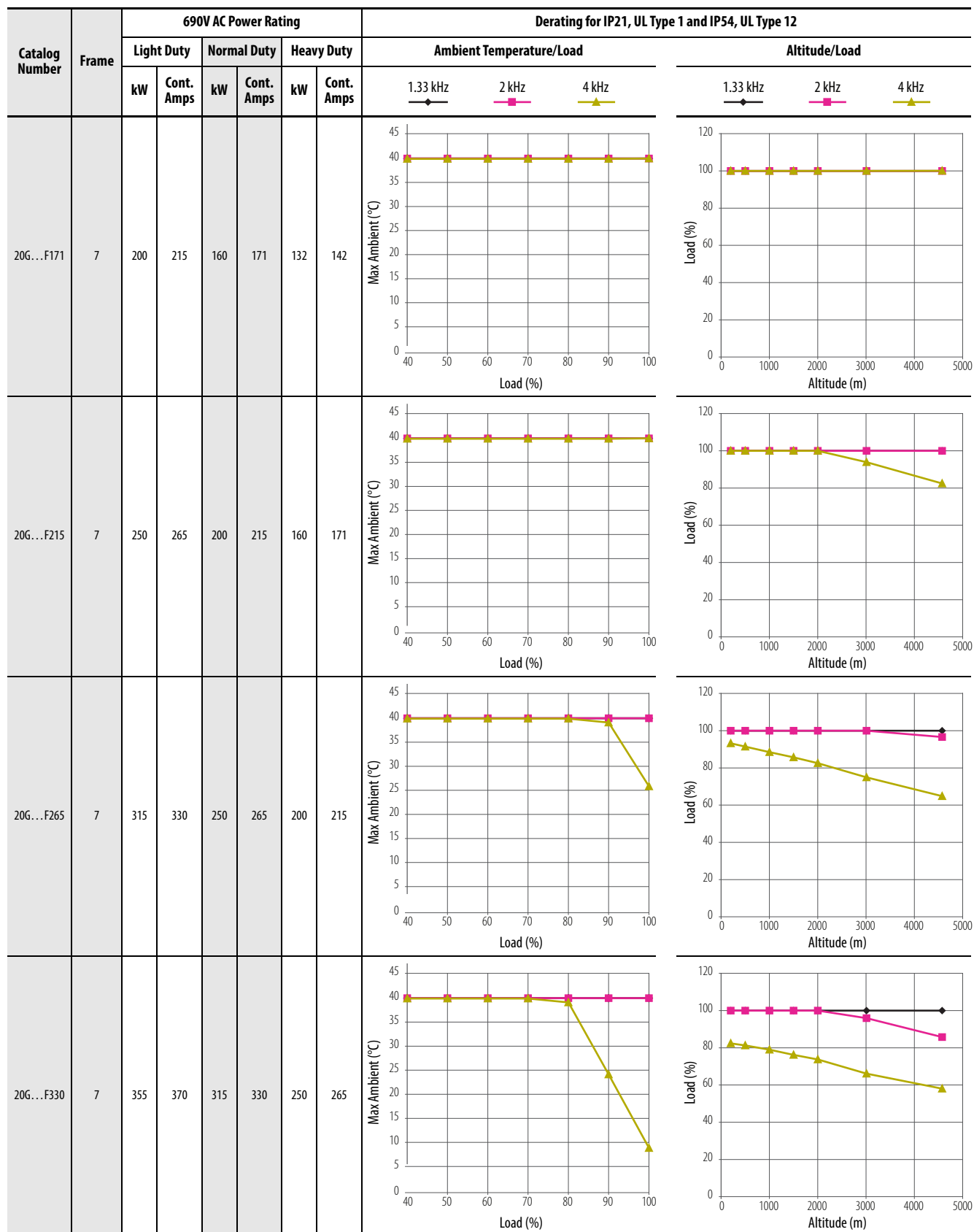


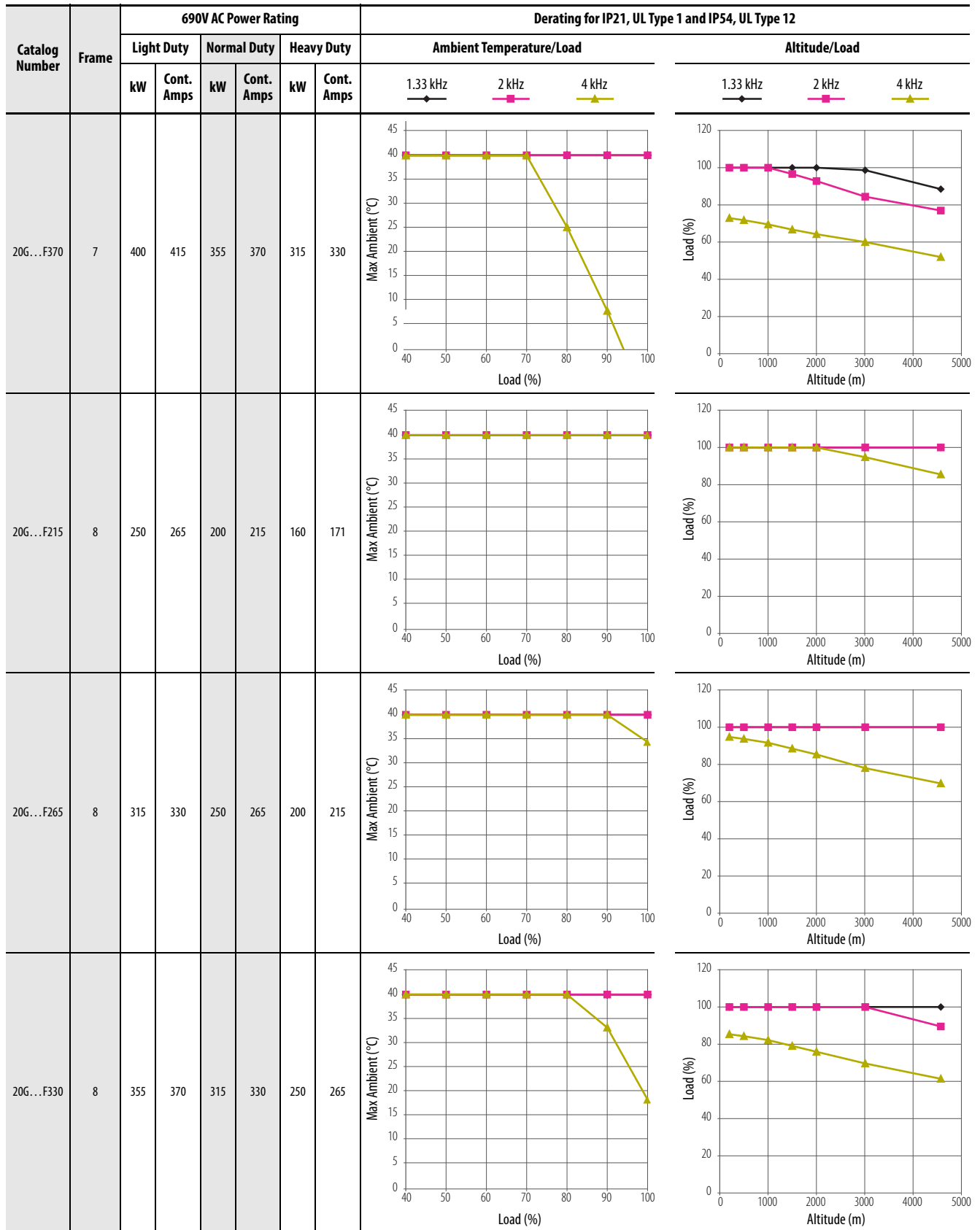


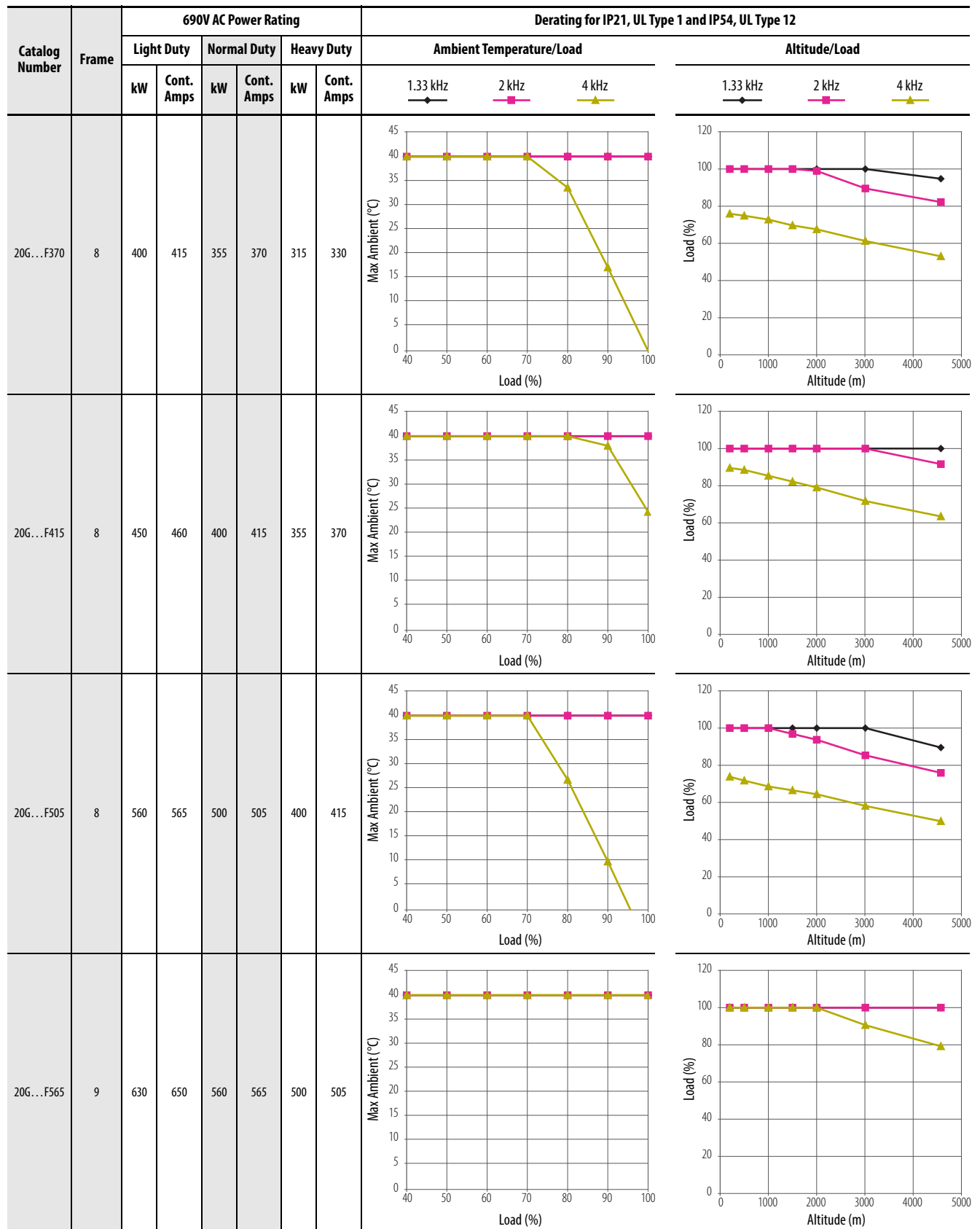


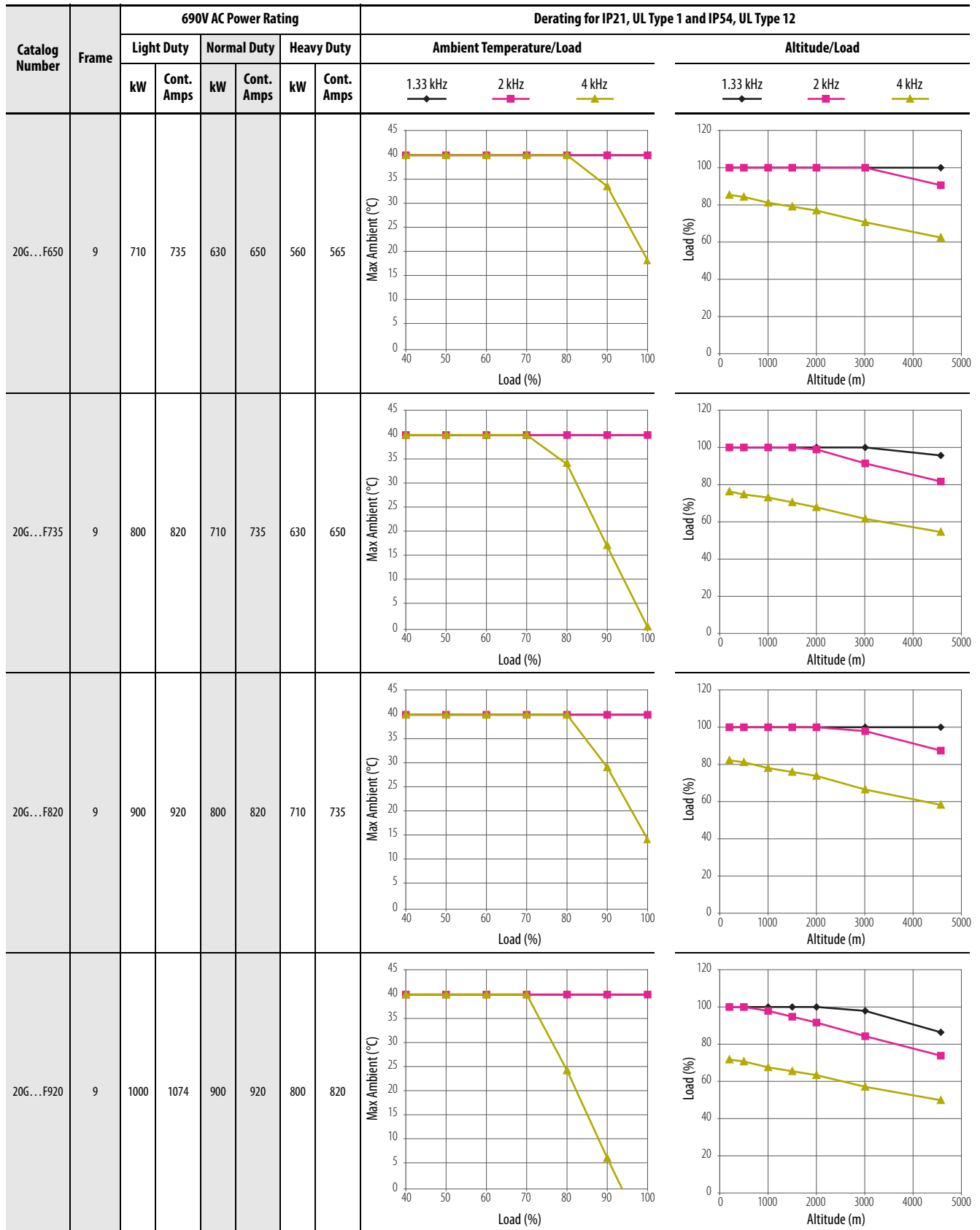


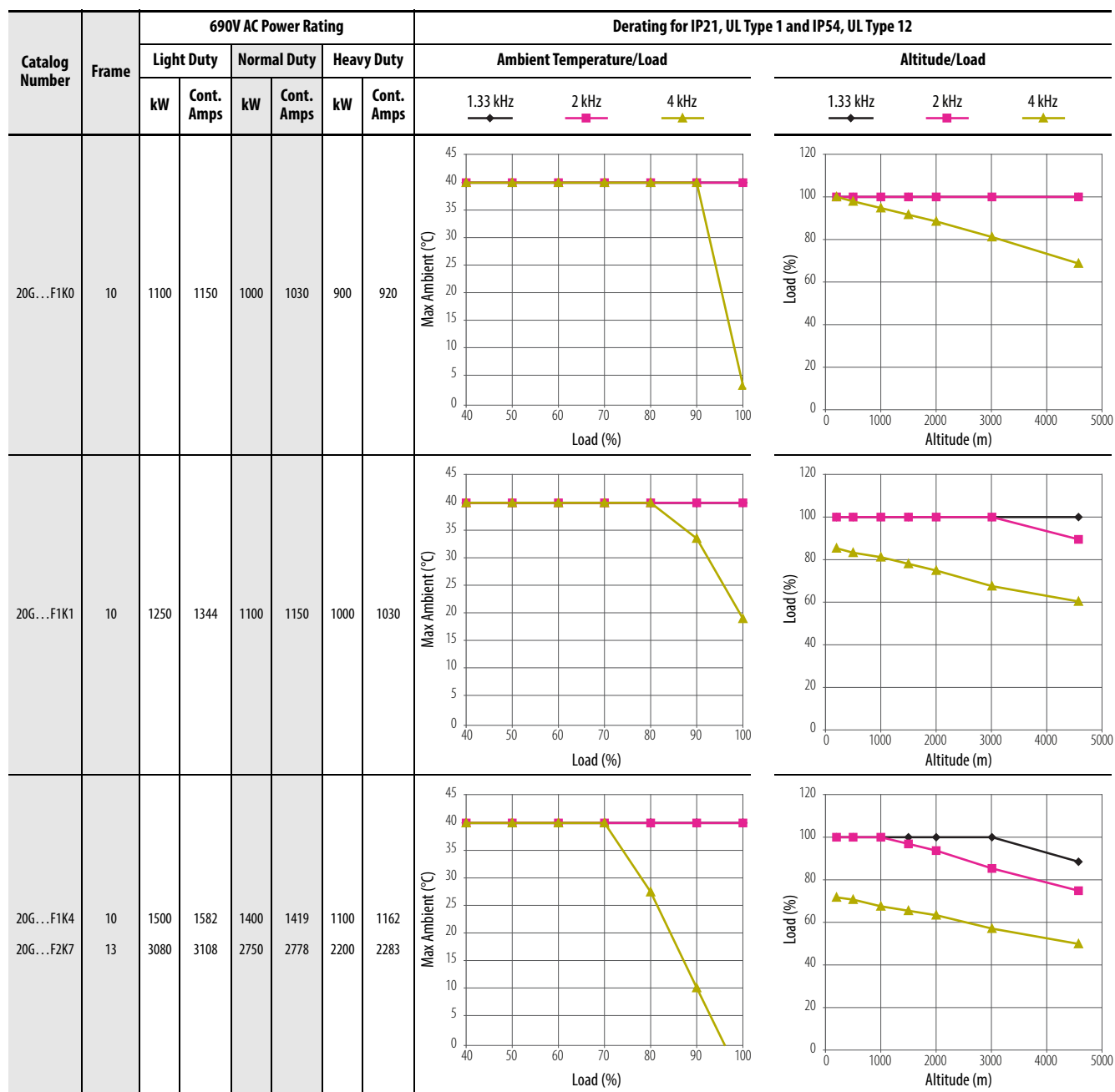


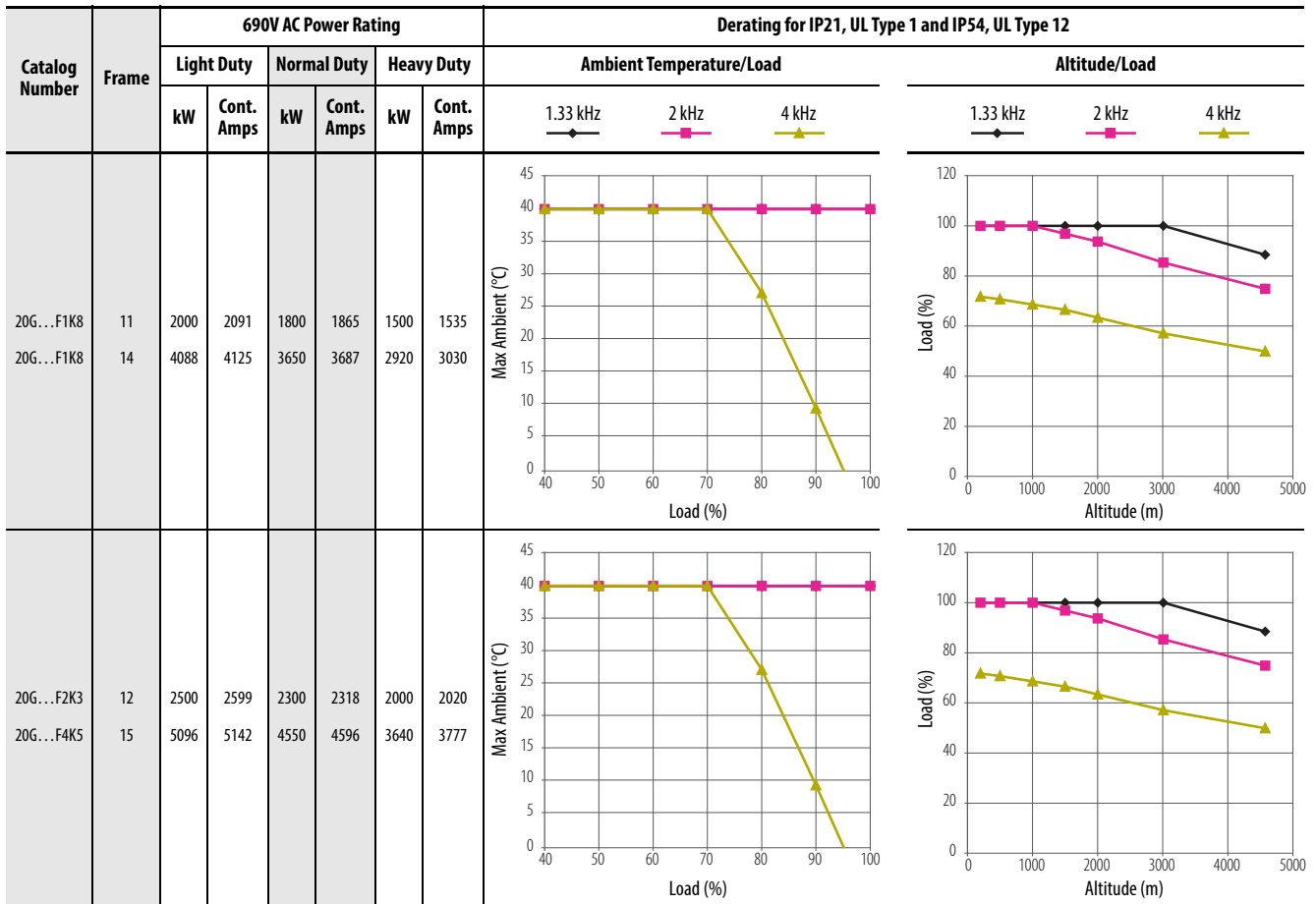












Fuses and Circuit Breakers

The tables on the following pages provide recommended AC line input fuse and circuit breaker information. Sizes that are listed are the recommended sizes that are based on 40 °C (104 °F) and the U.S. NEC. Other country, state, or local codes can require different ratings. In addition, floor mount drives and bus supplies (frames 7...15) include AC line and DC bus fuses (with blown fuse indicators) to provide short circuit protection. Panel mount drives and bus supplies (frames 5...6) require the use of external high-speed semiconductor fuses to provide short circuit protection.

Fusing

The recommended fuse types are listed here. If available current ratings do not match the ratings that are listed in the tables provided, choose the next higher fuse rating.

- IEC – Use type gG or equivalent conforming to EN60269-1, Parts 1 and 2.
- UL – 400, 480, and 600V-class frame 5 and 6 products use high-speed semiconductor FWP series fuses.
- UL – 690V-class frame 5 and 6 products use high-speed semiconductor FWJ series fuses.
- UL – Frames 7...15 products use Class T, RK1, J, or L type conforming to UL 248.

Circuit Breakers

The ‘non-fuse’ listings in the following tables include inverse time circuit breakers and instantaneous trip circuit breakers (motor circuit protectors). Both types of circuit breakers are acceptable for IEC installations.

IMPORTANT	Rockwell Automation recommends the use of external fuses for branch circuit protection. External fusing helps protect the drive in the event of an internal short caused by an industrial accident while the drive is energized. Circuit breakers can be used in series with fuses as means for disconnection.
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400 Volt AC Input											540 Volt DC Input	
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input	AC Input Protection Devices			DC Ouput Protection Devices ⁽²⁾	
					1 min	3 s		Amps	Minimum FWP Series Fuse	High Speed Semiconductor Fuse		Continuous DC Output
							Amps			Amps	Bussmann Part No.	
7.5 kW	5	22	Light	20x...C015	24	—	21	FWP-40B	100	FWP-100B	100	FWP-100B
		15.4	Normal		17	23	14	FWP-40B	100	FWP-100B	100	FWP-100B
		11.5	Heavy		17	21	11	FWP-40B	100	FWP-100B	100	FWP-100B
11 kW	5	30	Light	20x...C022	33	—	28	FWP-50B	100	FWP-100B	100	FWP-100B
		22	Normal		24	33	21	FWP-50B	100	FWP-100B	100	FWP-100B
		15.4	Heavy		23	28	14	FWP-50B	100	FWP-100B	100	FWP-100B
15 kW	5	37	Light	20x...C030	41	—	35	FWP-70B	100	FWP-100B	100	FWP-100B
		30	Normal		33	45	28	FWP-70B	100	FWP-100B	100	FWP-100B
		22	Heavy		33	40	21	FWP-70B	100	FWP-100B	100	FWP-100B
18.5 kW	5	43	Light	20x...C037	47	—	40	FWP-80B	100	FWP-100B	100	FWP-100B
		37	Normal		41	56	35	FWP-80B	100	FWP-100B	100	FWP-100B
		30	Heavy		45	54	28	FWP-80B	100	FWP-100B	100	FWP-100B
22 kW	5	60	Light	20x...C043	66	—	56	FWP-100B	100	FWP-100B	100	FWP-100B
		43	Normal		47	65	40	FWP-100B	100	FWP-100B	100	FWP-100B
		37	Heavy		56	67	35	FWP-100B	100	FWP-100B	100	FWP-100B
30 kW	5	72	Light	20x...C060	79	—	67	FWP-125B	200	FWP-200A	175	FWP-175A
		60	Normal		66	90	56	FWP-125B	200	FWP-200A	175	FWP-175A
		43	Heavy		65	77	40	FWP-125B	200	FWP-200A	175	FWP-175A
37 kW	5	85	Light	20x...C072	94	—	79	FWP-150B	200	FWP-200A	175	FWP-175A
		72	Normal		79	108	67	FWP-150B	200	FWP-200A	175	FWP-175A
		60	Heavy		90	108	56	FWP-150B	200	FWP-200A	175	FWP-175A
45 kW	5	104	Light	20x...C085	114	—	97	FWP-175B	200	FWP-200A	175	FWP-175A
		85	Normal		94	128	79	FWP-175B	200	FWP-200A	175	FWP-175A
		72	Heavy		108	130	67	FWP-175B	200	FWP-200A	175	FWP-175A
55 kW	5	104	Light	20x...C104	114	—	97	FWP-175B	200	FWP-200A	175	FWP-175A
		104	Normal		114	156	97	FWP-175B	200	FWP-200A	175	FWP-175A
		85	Heavy		128	153	79	FWP-175B	200	FWP-200A	175	FWP-175A
75 kW	6	170	Light	20x...C140	187	—	159	FWP-300B	350	FWP-350A	350	FWP-350A
		140	Normal		154	210	131	FWP-300B	350	FWP-350A	350	FWP-350A
		104	Heavy		156	187	97	FWP-300B	350	FWP-350A	350	FWP-350A
90 kW	6	205	Light	20x...C176	226	—	192	FWP-350B	350	FWP-350A	350	FWP-350A
		170	Normal		187	255	159	FWP-350B	350	FWP-350A	350	FWP-350A
		140	Heavy		210	252	131	FWP-350B	350	FWP-350A	350	FWP-350A
110 kW	6	260	Light	20x...C205	286	—	243	FWP-450B	600	FWP-600A	500	FWP-500A
		205	Normal		226	308	192	FWP-450B	600	FWP-600A	500	FWP-500A
		170	Heavy		255	306	159	FWP-450B	600	FWP-600A	500	FWP-500A
132 kW	6	302	Light	20x...C260	332	—	282	FWP-600B	600	FWP-600A	500	FWP-500A
		260	Normal		286	390	243	FWP-600B	600	FWP-600A	500	FWP-500A
		205	Heavy		308	369	192	FWP-600B	600	FWP-600A	500	FWP-500A

- (1) 'Applied Rating' refers to the motor that will be connected to the drive. For example, a 'C043' drive can be used in Normal Duty mode on a 30 kW motor, in Heavy Duty mode on a 22 kW motor or in Light Duty mode on a 37 kW motor. The drive can be programmed for each mode. Wiring and fuses can be sized based on the programmed mode. For any given drive catalog number, Normal Duty mode provides higher continuous current but smaller overload current with respect to Heavy Duty mode. See parameter 0:36 [Duty Rating Act].
- (2) DC output fusing is required for bus supplies and for drive configurations that use the DC output terminals.
- (3) The Cooper Bussmann part number listed, or an equivalent device, is recommended for use on the DC output.

600 Volt AC and 810 Volt DC Input Protection Devices—Frames 5...6

600 Volt AC Input											810 Volt DC Input	
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input	AC Input Protection Devices			DC Ouput Protection Devices ⁽²⁾	
								Minimum FWP Series Fuse	High Speed Semiconductor Fuse		Continuous DC Output	DC Output Protection Devices
					1 min	3 s	Amps	Amps	Amps	Bussmann Part No.	Amps	Bussmann Part No. ⁽³⁾
10 Hp	5	17	Light	20x...E011	19	—	15	FWP-30B	150	FWP-150A	125	FWJ-125A
		11	Normal		12	17	10	FWP-30B	150	FWP-150A	125	FWJ-125A
		9	Heavy		14	16	8	FWP-30B	150	FWP-150A	125	FWJ-125A
15 Hp	5	22	Light	20x...E017	24	—	20	FWP-40B	150	FWP-150A	125	FWJ-125A
		17	Normal		19	26	15	FWP-40B	150	FWP-150A	125	FWJ-125A
		11	Heavy		17	20	10	FWP-40B	150	FWP-150A	125	FWJ-125A
20 Hp	5	27	Light	20x...E022	30	—	24	FWP-50B	150	FWP-150A	125	FWJ-125A
		22	Normal		24	33	20	FWP-50B	150	FWP-150A	125	FWJ-125A
		17	Heavy		26	31	15	FWP-50B	150	FWP-150A	125	FWJ-125A
25 Hp	5	32	Light	20x...E027	35	—	29	FWP-60B	150	FWP-150A	125	FWJ-125A
		27	Normal		30	41	24	FWP-60B	150	FWP-150A	125	FWJ-125A
		22	Heavy		33	40	20	FWP-60B	150	FWP-150A	125	FWJ-125A
30 Hp	5	41	Light	20x...E032	45	—	37	FWP-70B	150	FWP-150A	125	FWJ-125A
		32	Normal		35	48	29	FWP-70B	150	FWP-150A	125	FWJ-125A
		27	Heavy		41	49	24	FWP-70B	150	FWP-150A	125	FWJ-125A
40 Hp	5	52	Light	20x...E041	57	—	47	FWP-90B	150	FWP-150A	125	FWJ-125A
		41	Normal		45	62	37	FWP-90B	150	FWP-150A	125	FWJ-125A
		32	Heavy		48	58	29	FWP-90B	150	FWP-150A	125	FWJ-125A
50 Hp	5	62	Light	20x...E052	68	—	56	FWP-125B	150	FWP-150A	125	FWJ-125A
		52	Normal		57	78	47	FWP-125B	150	FWP-150A	125	FWJ-125A
		41	Heavy		62	74	37	FWP-125B	150	FWP-150A	125	FWJ-125A
60 Hp	5	77	Light	20x...E062	85	—	69	FWP-150B	150	FWP-150A	125	FWJ-125A
		62	Normal		68	93	56	FWP-150B	150	FWP-150A	125	FWJ-125A
		52	Heavy		78	94	47	FWP-150B	150	FWP-150A	125	FWJ-125A
75 Hp	6	99	Light	20x...E077	109	—	89	FWP-175B	350	FWP-350A	300	FWJ-300A
		77	Normal		85	116	69	FWP-175B	350	FWP-350A	300	FWJ-300A
		62	Heavy		93	112	56	FWP-175B	350	FWP-350A	300	FWJ-300A
100 Hp	6	125	Light	20x...E099	138	—	112	FWP-225B	350	FWP-350A	300	FWJ-300A
		99	Normal		109	149	89	FWP-225B	350	FWP-350A	300	FWJ-300A
		77	Heavy		116	139	69	FWP-225B	350	FWP-350A	300	FWJ-300A
125 Hp	6	144	Light	20x...E125	158	—	129	FWP-250B	350	FWP-350A	300	FWJ-300A
		125	Normal		138	188	112	FWP-250B	350	FWP-350A	300	FWJ-300A
		99	Heavy		149	178	89	FWP-250B	350	FWP-350A	300	FWJ-300A
150 Hp	6	192	Light	20x...E144	211	—	172	FWP-350B	350	FWP-350A	300	FWJ-300A
		144	Normal		158	216	129	FWP-350B	350	FWP-350A	300	FWJ-300A
		125	Heavy		188	225	112	FWP-350B	350	FWP-350A	300	FWJ-300A

(1) 'Applied Rating' refers to the motor that will be connected to the drive. For example, a 'E041' drive can be used in Normal Duty mode on a 40 Hp motor, in Heavy Duty mode on a 30 Hp motor or in Light Duty mode on a 50 Hp motor. The drive can be programmed for each mode. Wiring and fuses can be sized based on the programmed mode. For any given drive catalog number, Normal Duty mode provides higher continuous current but smaller overload current with respect to Heavy Duty mode. See parameter 0:36 [Duty Rating Act].

(2) DC output fusing is required for bus supplies and for drive configurations that use the DC output terminals.

(3) The Cooper Bussmann part number listed, or an equivalent device, is recommended for use on the DC output.

690 Volt AC and 932 Volt DC Input Protection Devices—Frames 5...6

690 Volt AC Input										932 Volt DC Input	
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input Amps	AC Input Protection Devices			DC Output Protection Devices ⁽⁴⁾
					1 min	3 s		Minimum FWJ Series Fuse	Dual Element Time Delay Fuse		Continuous DC Output Amps
								Amps	1/Phase Min ⁽²⁾	Max ⁽³⁾	DC Output Protection Devices ⁽⁵⁾
11 kW	5	20	Light	20x...F015	22	—	18	FWJ-35A	125	FWJ-125A	125
		15	Normal		17	23	13	FWJ-35A	125	FWJ-125A	125
		12	Heavy		18	22	11	FWJ-35A	125	FWJ-125A	125
15 kW	5	23	Light	20x...F020	25	—	21	FWJ-40A	125	FWJ-125A	125
		20	Normal		22	30	18	FWJ-40A	125	FWJ-125A	125
		15	Heavy		23	27	13	FWJ-40A	125	FWJ-125A	125
18.5 kW	5	30	Light	20x...F023	33	—	27	FWJ-50A	125	FWJ-125A	125
		23	Normal		25	35	21	FWJ-50A	125	FWJ-125A	125
		20	Heavy		30	36	18	FWJ-50A	125	FWJ-125A	125
22 kW	5	34	Light	20x...F030	37	—	30	FWJ-60A	125	FWJ-125A	125
		30	Normal		33	45	27	FWJ-60A	125	FWJ-125A	125
		23	Heavy		35	41	21	FWJ-60A	125	FWJ-125A	125
30 kW	5	46	Light	20x...F034	51	—	41	FWJ-80A	125	FWJ-125A	125
		34	Normal		37	51	30	FWJ-80A	125	FWJ-125A	125
		30	Heavy		45	54	27	FWJ-80A	125	FWJ-125A	125
37 kW	5	50	Light	20x...F046	55	—	45	FWJ-90A	125	FWJ-125A	125
		46	Normal		51	69	41	FWJ-90A	125	FWJ-125A	125
		34	Heavy		51	61	30	FWJ-90A	125	FWJ-125A	125
45 kW	5	61	Light	20x...F050	67	—	55	FWJ-125A	125	FWJ-125A	125
		50	Normal		55	75	45	FWJ-125A	125	FWJ-125A	125
		46	Heavy		69	83	41	FWJ-125A	125	FWJ-125A	125
55 kW	5	82	Light	20x...F061	90	—	73	FWJ-150A	125	FWJ-125A	125
		61	Normal		67	92	55	FWJ-150A	125	FWJ-125A	125
		50	Heavy		75	90	45	FWJ-150A	125	FWJ-125A	125
75 kW	6	98	Light	20x...F082	108	—	88	FWJ-175A	300	FWJ-300A	300
		82	Normal		90	123	73	FWJ-175A	300	FWJ-300A	300
		61	Heavy		92	110	55	FWJ-175A	300	FWJ-300A	300
90 kW	6	119	Light	20x...F098	131	—	106	FWJ-200A	300	FWJ-300A	300
		98	Normal		108	147	88	FWJ-200A	300	FWJ-300A	300
		82	Heavy		123	148	73	FWJ-200A	300	FWJ-300A	300
110 kW	6	142	Light	20x...F119	156	—	127	FWJ-250A	300	FWJ-300A	300
		119	Normal		131	179	106	FWJ-250A	300	FWJ-300A	300
		98	Heavy		147	176	88	FWJ-250A	300	FWJ-300A	300
132 kW	6	171	Light	20x...F142	188	—	153	FWJ-300A	300	FWJ-300A	300
		142	Normal		156	213	127	FWJ-300A	300	FWJ-300A	300
		119	Heavy		179	214	106	FWJ-300A	300	FWJ-300A	300

(1) 'Applied Rating' refers to the motor that will be connected to the drive. For example, a 'F046' drive can be used in Normal Duty mode on a 37 kW motor, in Heavy Duty mode on a 30 kW motor or in Light Duty mode on a 45 kW motor. The drive can be programmed for each mode. Wiring and fuses can be sized based on the programmed mode. For any given drive catalog number, Normal Duty mode provides higher continuous current but smaller overload current with respect to Heavy Duty mode. See parameter 0:36 [Duty Rating Act].

(2) Minimum protection device size is the lowest rated device that supplies maximum protection without nuisance tripping.

(3) 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.

(4) DC output fusing is required for bus supplies and for drive configurations that use the DC output terminals.

(5) The Cooper Bussmann part number listed, or an equivalent device, is recommended for use on the DC output.

400 Volt AC and 540 Volt DC Input Protection Devices - Frames 7...12

400 Volt AC Input																	540 Volt DC Input			
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input	AC Input Integral Semiconductor Fuse Size (170M Type) ⁽²⁾			AC Input Protection Devices					Input Quantities	DC Input Integral Semiconductor Fuse Kit ⁽⁷⁾			
					1 min	3 s		Amps	2xLCL Amps	Qty.	1xLCL Amps	Qty.	Dual Element Time Delay Fuse	Max ⁽⁴⁾	1/Phase Min ⁽³⁾			Max ⁽⁴⁾	Circuit Breaker ⁽⁵⁾	Motor Circuit Protector ⁽⁶⁾
160 kW	7	367	Light	20x...C302	404	—	343	—	—	900	1	500	650	500	1100	500	900	500	2	
		302	Normal		332	453	282	—	—	900	1	400	500	400	900	400	750	400	2	
		260	Heavy		390	468	243	—	—	900	1	350	450	350	800	350	650	350	2	
200 kW	7	460	Light	20x...C367	506	—	430	—	—	900	1	600	800	600	1350	600	1100	600	2	
		367	Normal		404	551	343	—	—	900	1	500	650	500	1100	500	900	500	2	
		302	Heavy		453	544	282	—	—	900	1	400	500	400	900	400	750	400	2	
250 kW	7	540	Light	20x...C460	594	—	505	—	—	900	1	700	900	700	1600	700	1350	700	2	
		460	Normal		506	690	430	—	—	900	1	600	800	600	1350	600	1100	600	2	
		367	Heavy		551	661	343	—	—	900	1	500	650	500	1100	500	900	500	2	
315 kW	7	585	Light	20x...C540	644	—	547	—	—	900	1	750	1000	750	1800	750	1400	750	2	
		540	Normal		594	810	505	—	—	900	1	700	900	700	1600	700	1350	700	2	
		460	Heavy		690	828	430	—	—	900	1	600	800	600	1350	600	1100	600	2	
315 kW	7	617	Light	20x...C585	679	—	577	—	—	900	1	800	1000	800	1900	800	1600	800	2	
		600	Normal		660	900	561	—	—	900	1	750	900	750	1800	750	1400	750	2	
		500	Heavy		750	900	467	—	—	900	1	650	800	650	1400	650	1200	650	2	
160 kW	8	367	Light	20x...C302	404	—	343	—	—	900	1	500	650	500	1100	500	900	500	2	
		302	Normal		332	453	282	—	—	900	1	400	500	400	900	400	750	400	2	
		260	Heavy		390	468	243	—	—	900	1	350	450	350	800	350	650	350	2	
200 kW	8	460	Light	20x...C367	506	—	430	—	—	900	1	600	800	600	1350	600	1100	600	2	
		367	Normal		404	551	343	—	—	900	1	500	650	500	1100	500	900	500	2	
		302	Heavy		453	544	282	—	—	900	1	400	500	400	900	400	750	400	2	
250 kW	8	540	Light	20x...C460	594	—	505	—	—	900	1	700	900	700	1600	700	1350	700	2	
		460	Normal		506	690	430	—	—	900	1	600	800	600	1350	600	1100	600	2	
		367	Heavy		551	661	343	—	—	900	1	500	650	500	1100	500	900	500	2	
315 kW	8	585	Light	20x...C540	644	—	547	—	—	900	1	750	1000	750	1800	750	1400	750	2	
		540	Normal		594	810	505	—	—	900	1	700	900	700	1600	700	1350	700	2	
		460	Heavy		690	828	430	—	—	900	1	600	800	600	1350	600	1100	600	2	
315 kW	8	650	Light	20x...C585	715	—	582	—	—	1250	1	900	1100	900	1900	900	1600	900	2	
		585	Normal		644	878	547	—	—	1250	1	750	1000	750	1800	750	1400	750	2	
		472	Heavy		708	850	430	—	—	1250	1	600	800	600	1400	600	1200	600	2	

See [page 191](#) for notes.

400 Volt AC and 540 Volt DC Input Protection Devices - Frames 7 ...12 (continued)

400 Volt AC Input																				540 Volt DC Input			
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input	AC Input Protection Devices				Input Quantities	DC Input Integral Semiconductor Fuse Kit ⁽⁷⁾										
					1 min	3 s		Dual Element Time Delay Fuse	Circuit Breaker ⁽⁵⁾				Motor Circuit Protector ⁽⁶⁾	Continuous DC Input	Amps	Qty.							
									2xLCL Amps	1xLCL Amps	Qty.						Max ⁽⁴⁾	1/Phase Min ⁽³⁾	Max ⁽⁴⁾	Min	Max		
355 kW	8	750	Light	20x...C650	825	—	701	—	1000	1200	1000	2000	1000	1800	1000	864	1400	2					
		650	Normal		715	975	608	—	—	1250	1	900	1100	900	1900	1600	900	749	1400	2			
		540	Heavy		810	972	505	—	—	1250	1	700	900	1600	700	1350	700	622	1400	2			
400 kW	8	796	Light	20x...C750	876	—	720	—	—	1000	1400	1000	2400	1000	1900	1000	917	1400	2				
		750	Normal		825	1125	701	—	—	1250	1	1000	1200	1000	2000	1000	1800	1000	864	1400	2		
		585	Heavy		878	1053	547	—	—	1250	1	750	1000	1800	750	1400	750	674	1400	2			
400 kW	8	832	Light	20x...C770	915	—	778	—	—	1250	1	1100	2400	1100	2000	1000	959	1400	2				
		770	Normal		847	1155	720	—	—	1250	1	1000	1350	1000	2400	1000	1900	1000	887	1400	2		
		650	Heavy		975	1170	600	—	—	1250	1	900	1100	1900	900	1600	900	749	1400	2			
500 kW	9	1040	Light	20x...C920	1144	—	972	1800	1	—	1350	1800	3000	1350	2500	1350	1198	1400	4				
		920	Normal		1012	1380	860	1800	1	—	1200	1600	1200	2500	1200	2400	1200	1060	1400	4			
		770	Heavy		1155	1386	720	1800	1	—	1000	1350	1000	2400	1000	1900	1000	887	1400	4			
560 kW	9	1090	Light	20x...C1K0	1199	—	1019	1800	1	—	1400	1900	3000	1400	3000	1400	1256	1400	4				
		1040	Normal		1144	1560	972	1800	1	—	1350	1800	3000	1350	2500	1350	1198	1400	4				
		920	Heavy		1380	1656	860	1800	1	—	1200	1600	1200	2500	1200	2400	1200	1060	1400	4			
630 kW	9	1182	Light	20x...C1K1	1300	—	1105	2000	1	—	1500	2000	3500	1500	3000	1500	1362	1400	4				
		1112	Normal		1223	1667	1039	2000	1	—	1400	1900	3500	1400	3000	1400	1281	1400	4				
		1040	Heavy		1560	1872	972	2000	1	—	1350	1800	3000	1350	2500	1350	1198	1400	4				
710 kW	9	1465	Light	20x...C1K2	1612	—	1370	2000	1	—	1900	2500	4000	1900	3500	1800	1688	1400	4				
		1175	Normal		1293	1763	1099	2000	1	—	1500	2000	3500	1500	3000	1500	1354	1400	4				
		1090	Heavy		1635	1962	1019	2000	1	—	1400	1900	3000	1400	3000	1400	1256	1400	4				
800 kW	9	1581	Light	20x...C1K4	1739	—	1478	2000	1	—	2000	3000	4500	2000	4000	1900	1821	1400	4				
		1463	Normal		1612	2198	1368	2000	1	—	1900	2500	4000	1900	3500	1900	1688	1400	4				
		1175	Heavy		1763	2115	1099	2000	1	—	1500	2000	3500	1500	3000	1500	1354	1400	4				
850 kW	10	1715	Light	20x...C1K6	1887	—	1603	2000	1	1250	3000	2400	5000	2400	4500	2400	1976	1400	6				
		1590	Normal		1749	2385	1478	2000	1	1250	3000	2000	4000	2000	4000	2000	1832	1400	6				
		1465	Heavy		2198	2637	1370	2000	1	1250	2500	1900	3500	1900	3500	1900	1688	1400	6				
1000 kW	10	2150	Light	20x...C1K7	2365	—	2010	2000	1	1250	3800	3000	6000	3000	5000	3000	2477	1400	6				
		1715	Normal		1887	2573	1603	2000	1	1250	3000	2400	5000	2400	4500	2400	1976	1400	6				
		1480	Heavy		2220	2664	1384	2000	1	1250	2500	1900	3800	1900	3800	1900	1705	1400	6				

See [page 191](#) for notes.

400 Volt AC and 540 Volt DC Input Protection Devices - Frames 7 ... 12 (continued)

400 Volt AC Input																					
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input	AC Input Protection Devices				Input Quantities									
								AC Input Integral Semiconductor Fuse Size (170M Type) ⁽²⁾				Dual Element Time Delay Fuse		Circuit Breaker ⁽⁵⁾		Motor Circuit Protector ⁽⁶⁾	Continuous DC Input	DC Input Integral Semiconductor Fuse Kit ⁽⁷⁾			
					1 min	3 s	Amps	2xLCL Amps	Qty.	1xLCL Amps	Qty.	1/Phase Min ⁽³⁾	Max ⁽⁴⁾	1/Phase Min ⁽³⁾	Max ⁽⁴⁾				Min	Max	Amps
1250 kW	10	2330	Light	20x...C2K1	2563	—	2178	2000	1	1250	1	3000	4000	3000	6000	3000	6000	2684	1400	6	
		2156	Normal		2372	3234	2016	2000	1	1250	1	3000	3800	3000	6000	3000	5000	3000	1400	6	
		1715	Heavy		2573	3087	1603	2000	1	1250	1	2400	3000	2400	5000	2400	4500	2400	1400	6	
1650 kW	11	3078	Light	20x...C2K8	3386	—	2878	2000	2	—	—	4000	5000	4000	6000	4000	6000	3546	1400	8	
		2849	Normal		3134	4274	2664	2000	2	—	—	3800	5000	3800	6000	3800	6000	3800	1400	8	
		2330	Heavy		3495	4194	2179	2000	2	—	—	3000	4000	3000	6000	3000	6000	3000	2684	1400	8
2000 kW	12	3846	Light	20x...C3K5	4231	—	3578	2000	2	1250	1	5000	6000	5000	6000	5000	6000	4431	1400	10	
		3542	Normal		3896	5313	3312	2000	2	1250	1	4500	6000	4500	6000	4500	6000	4500	4081	1400	10
		3032	Heavy		4548	5458	2835	2000	2	1250	1	3800	5000	3800	6000	3800	6000	3800	3493	1400	10

540 Volt DC Input				Input Quantities	DC Input Integral Semiconductor Fuse Kit ⁽⁷⁾
Continuous DC Input	Amps	Qty.			
2684	1400	6			
2484	1400	6			
1976	1400	6			
3546	1400	8			
3282	1400	8			
2684	1400	8			
4431	1400	10			
4081	1400	10			
3493	1400	10			

(1) 'Applied Rating' refers to the motor that will be connected to the drive. For example, a 'C460' drive can be used in Normal Duty mode on a 250 kW motor, in Heavy Duty mode on a 200 kW motor or in Light Duty mode on a 315 kW motor. The drive can be programmed for each mode. Wiring and fuses can be sized based on the programmed mode. For any given drive catalog number, Normal Duty mode provides higher continuous current but smaller overload current with respect to Heavy Duty mode. See parameter 306 [Duty Rating].

Refer to [Intermittent overload on page 43](#) for an explanation of Duty Ratings.

(2) These AC line fuses (with blown fuse indicators) are included in the drive to provide drive short circuit protection. AC input protection devices for branch circuit protection based on US NEC are listed in the table. Each LCL filter has one fuse per phase.

(3) Minimum protection device size is the lowest rated device that supplies maximum protection without nuisance tripping.

(4) 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.

(5) Circuit Breaker - inverse time breaker. For US NEC, minimum size is 125% of motor FLA. Ratings shown are maximum.

(6) Recommended Motor circuit protector - Instantaneous trip circuit breaker. The trip setting should be set to the input current of the drive and should be sized for the continuous current of the system.

(7) These DC line fuses (with blown fuse indicators) are included in the drive to provide drive short circuit protection.

480 Volt AC and 650 Volt DC Input Protection Devices - Frames 7 ...12

Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number (x = G or J)	Output Overload Amps 1 min 3 s	Continuous AC Input Amps	480 Volt AC Input						AC Input Protection Devices				650 Volt DC Input	
							AC Input Integral Semiconductor Fuse Size (170M Type) ⁽²⁾			Dual Element Time Delay Fuse			Non-Time Delay Fuse		Circuit Breaker ⁽⁵⁾		Continuous DC Input Amps	DC Input Integral Semiconductor Fuse Kit ⁽⁷⁾
							2xLCL Amps	Qty.	1xLCL Amps	Qty.	Max ⁽⁴⁾	1/Phase Min ⁽³⁾	Max ⁽⁴⁾	1/Phase Min ⁽³⁾	Min	Max		
250 Hp	7	361	Light	20x...D302	397	—	—	—	900	1	500	500	650	500	500	900	371	1400 2
		302	Normal		332	453	—	—	900	1	400	400	500	400	400	750	311	1400 2
		248	Heavy		372	446	—	—	900	1	350	350	400	350	350	600	255	1400 2
300 Hp	7	430	Light	20x...D361	473	—	—	—	900	1	600	600	750	600	600	1000	442	1400 2
		361	Normal		397	542	—	—	900	1	500	500	650	500	500	900	371	1400 2
		302	Heavy		453	544	—	—	900	1	400	400	500	400	400	750	311	1400 2
350 Hp	7	485	Light	20x...D430	534	—	—	—	900	1	650	650	800	650	650	1200	499	1400 2
		430	Normal		473	645	—	—	900	1	600	600	750	600	600	1000	442	1400 2
		361	Heavy		542	650	—	—	900	1	500	500	650	500	500	900	371	1400 2
400 Hp	7	545	Light	20x...D505	600	—	—	—	900	1	700	700	900	700	700	1350	560	1400 2
		505	Normal		556	758	—	—	900	1	650	650	800	650	650	1200	519	1400 2
		430	Heavy		645	774	—	—	900	1	600	600	750	600	600	1000	442	1400 2
500 Hp	7	617	Light	20x...D617	679	—	—	—	900	1	800	800	1000	800	800	1600	635	1400 2
		600	Normal		660	900	—	—	900	1	750	750	900	750	750	1400	617	1400 2
		500	Heavy		750	900	—	—	900	1	650	650	800	650	650	1200	514	1400 2
250 Hp	8	361	Light	20x...D302	397	—	—	—	900	1	500	500	650	500	500	900	399	1400 2
		302	Normal		332	453	—	—	900	1	400	400	500	400	400	750	333	1400 2
		248	Heavy		372	446	—	—	900	1	350	350	400	350	350	600	274	1400 2
300 Hp	8	430	Light	20x...D361	473	—	—	—	900	1	600	600	750	600	600	1000	475	1400 2
		361	Normal		397	542	—	—	900	1	500	500	650	500	500	900	399	1400 2
		302	Heavy		453	544	—	—	900	1	400	400	500	400	400	750	333	1400 2
350 Hp	8	485	Light	20x...D430	534	—	—	—	900	1	650	650	800	650	650	1200	535	1400 2
		430	Normal		473	645	—	—	900	1	600	600	750	600	600	1000	475	1400 2
		361	Heavy		542	650	—	—	900	1	500	500	650	500	500	900	399	1400 2
400 Hp	8	545	Light	20x...D505	600	—	—	—	900	1	700	700	900	700	700	1350	602	1400 2
		505	Normal		556	758	—	—	900	1	650	650	800	650	650	1200	558	1400 2
		430	Heavy		645	774	—	—	900	1	600	600	750	600	600	1000	475	1400 2
450 Hp	8	617	Light	20x...D545	679	—	—	—	1250	1	800	800	1000	800	800	1500	681	1400 2
		545	Normal		600	818	—	—	1250	1	700	700	900	700	700	1350	602	1400 2
		454	Heavy		681	817	—	—	1250	1	600	600	800	600	600	1100	501	1400 2

See [page 194](#) for notes.

480 Volt AC and 650 Volt DC Input Protection Devices - Frames 7 ... 12 (continued)

480 Volt AC Input																					650 Volt DC Input			
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number (x = G or J)	Output Overload Amps		Continuous AC Input	AC Input Protection Devices						Input Quantities Continuous DC Input Amps	DC Input Integral Semiconductor Fuse Kit ⁽⁷⁾ Amps	Qty.								
								AC Input Integral Semiconductor Fuse Size (170M Type) ⁽²⁾			Dual Element Time Delay Fuse						Non-Time Delay Fuse			Circuit Breaker ⁽⁵⁾				
								2xLCL Amps	Qty.	1xLCL Amps	Qty.	Max ⁽⁴⁾	1/Phase Min ⁽³⁾				Max ⁽⁴⁾	1/Phase Min ⁽³⁾	Max ⁽⁴⁾	Min	Max	Motor Circuit Protector ⁽⁶⁾		
500 Hp	8	710	Light	20x...D617	781	—	636	—	1250	1	900	1200	900	2000	900	1800	900	2						
		617	Normal		679	926	553	—	1250	1	800	1000	800	1800	800	1500	800	2						
		485	Heavy		728	873	435	—	1250	1	700	800	700	1400	700	1200	700	2						
600 Hp	8	765	Light	20x...D710	842	—	663	—	1250	1	1000	1350	1000	2400	1000	1900	1000	2						
		710	Normal		781	1065	636	—	1250	1	900	1200	900	2000	900	1800	900	2						
		545	Heavy		818	981	488	—	1250	1	700	900	700	1600	700	1350	700	2						
650 Hp	8	800	Light	20x...D740	880	—	717	—	1250	1	1000	1400	1000	2400	1000	2000	1000	2						
		740	Normal		814	1110	663	—	1250	1	1000	1200	1000	2000	1000	1800	1000	2						
		617	Heavy		926	1111	553	—	1250	1	800	1000	800	1800	800	1500	800	2						
700 Hp	9	960	Light	20x...D800	1056	—	860	1800	1	—	1200	1600	1200	3000	1200	2400	1200	4						
		800	Normal		880	1200	717	1800	1	—	1000	1400	1000	2400	1000	2000	1000	4						
		740	Heavy		1110	1332	663	1800	1	—	1000	1200	1000	2000	1000	1800	1000	4						
800 Hp	9	1045	Light	20x...D960	1150	—	936	1800	1	—	1350	1800	1350	3000	1350	2500	1350	4						
		960	Normal		1056	1440	860	1800	1	—	1200	1600	1200	3000	1200	2400	1200	4						
		800	Heavy		1200	1440	717	1800	1	—	1000	1400	1000	2400	1000	2000	1000	4						
900 Hp	9	1135	Light	20x...D1K0	1249	—	1004	2000	1	—	1500	1900	1500	3500	1500	3000	1500	4						
		1045	Normal		1150	1568	936	2000	1	—	1350	1800	1350	3000	1350	2500	1350	4						
		960	Heavy		1440	1728	860	2000	1	—	1200	1600	1200	3000	1200	2400	1200	4						
1000 Hp	9	1365	Light	20x...D1K1	1502	—	1223	2000	1	—	1800	2400	1800	4000	1800	3500	1800	4						
		1135	Normal		1249	1703	1017	2000	1	—	1500	1900	1500	3500	1500	3000	1500	4						
		1045	Heavy		1568	1881	936	2000	1	—	1350	1800	1350	3000	1350	2500	1350	4						
1100 Hp	9	1520	Light	20x...D1K3	1672	—	1362	2000	1	—	1900	2500	1900	4500	1900	3800	1900	4						
		1365	Normal		1502	2048	1223	2000	1	—	1800	2400	1800	4000	1800	3500	1800	4						
		1135	Heavy		1703	2043	1017	2000	1	—	1500	1900	1500	3500	1500	3000	1500	4						
1250 Hp	10	1655	Light	20x...D1K4	1821	—	1483	2000	1	1250	1	2400	3000	2400	5000	2400	4000	2400	6					
		1420	Normal		1562	2130	1272	2000	1	1250	1	1800	2400	1800	4000	1800	3500	1800	6					
		1365	Heavy		2048	2457	1223	2000	1	1250	1	1800	2400	1800	4000	1800	3500	1800	6					
1500 Hp	10	2070	Light	20x...D1K6	2277	—	1855	2000	1	1250	1	3000	3500	3000	6000	3000	5000	3000	6					
		1655	Normal		1821	2483	1483	2000	1	1250	1	2400	3000	2400	5000	2400	4000	2400	6					
		1420	Heavy		2130	2556	1272	2000	1	1250	1	1800	2400	1800	4000	1800	3500	1800	6					

See page 194 for notes.

480 Volt AC and 650 Volt DC Input Protection Devices - Frames 7 ... 12 (continued)

480 Volt AC Input																			650 Volt DC Input		
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input	AC Input Integral Semiconductor Fuse Size (170M Type) ⁽²⁾				AC Input Protection Devices						Continuous DC Input	Input Quantities	DC Input Integral Semiconductor Fuse Kit ⁽⁷⁾	
								2xLCL Amps	Qty.	1xLCL Amps	Qty.	Dual Element Time Delay Fuse		Non-Time Delay Fuse		Circuit Breaker ⁽⁵⁾					Motor Circuit Protector ⁽⁶⁾
												Max ⁽⁴⁾	1/Phase Min ⁽³⁾	Max ⁽⁴⁾	1/Phase Min ⁽³⁾	Min	Max				
1800 Hp	10	2240	Light	20x...D2K0	1 min	3 s	Amps	2xLCL Amps	Qty.	1xLCL Amps	Qty.	Max ⁽⁴⁾	1/Phase Min ⁽³⁾	Max ⁽⁴⁾	Min	Max	Amps	Qty.			
		2072	Normal		2464	—	2007	2000	1	1250	1	3000	4000	3000	6000	3000	5000	2473	1400	6	
		1655	Heavy		2279	3108	1857	2000	1	1250	1	3000	3500	3000	6000	3000	5000	2288	1400	6	
2400 Hp	11	2960	Light	20x...D2K6	3256	—	2652	2000	2	—	—	3800	5000	3800	6000	3800	6000	3268	1400	8	
		2738	Normal		3012	4107	2453	2000	2	—	—	3500	4500	3500	6000	3500	6000	3023	1400	8	
		2240	Heavy		3360	4032	2007	2000	2	—	—	3000	3800	3000	6000	3000	5000	2473	1400	8	
3000 Hp	12	3696	Light	20x...D3K4	4066	—	33297	2000	2	1250	1	5000	6000	5000	6000	5000	6000	4081	1400	10	
		3404	Normal		3744	5106	3050	2000	2	1250	1	4500	6000	4500	6000	4500	6000	3758	1400	10	
		2980	Heavy		4470	5364	2670	2000	2	1250	1	3800	5000	3800	6000	3800	6000	3290	1400	10	

(1) 'Applied Rating' refers to the motor that will be connected to the drive. For example, a 'D430' drive can be used in Normal Duty mode on a 350 Hp motor, in Heavy Duty mode on a 300 Hp motor or in Light Duty mode on a 400 Hp motor. The drive can be programmed for each mode. Wiring and fuses can be sized based on the programmed mode. For any given drive catalog number, Normal Duty mode provides higher continuous current but smaller overload current with respect to Heavy Duty mode. See parameter 306 [Duty Rating].

Refer to [Intermittent overload on page 43](#) for an explanation of Duty Ratings.

- (2) These AC line fuses (with blown fuse indicators) are included in the drive to provide drive short circuit protection. AC input protection devices for branch circuit protection based on US NEC are listed in the table. Each LCL filter has one fuse per phase.
- (3) Minimum protection device size is the lowest rated device that supplies maximum protection without nuisance tripping.
- (4) 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.
- (5) Circuit Breaker - inverse time breaker. For US NEC, minimum size is 125% of motor FLA. Ratings shown are maximum.
- (6) Recommended Motor circuit protector - Instantaneous trip circuit breaker. The trip setting should be set to the input current of the drive and should be sized for the continuous current of the system.
- (7) These DC line fuses (with blown fuse indicators) are included in the drive to provide drive short circuit protection.

600 Volt AC and 810 Volt DC Input Protection Devices - Frames 7 ...12

Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number (x = G or J)	Output Overload Amps		Continuous AC Input	AC Input Integral Semiconductor Fuse Size ⁽²⁾				AC Input Protection Devices				Motor Circuit Protector ⁽⁶⁾		810 Volt DC Input	
								Amps	2xLCL Amps	Qty.	1xLCL Amps	Qty.	Dual Element Time Delay Fuse		Non-Time Delay Fuse	Circuit Breaker ⁽⁵⁾		Continuous DC Input	DC Input Integral Semiconductor Fuse Kit ⁽⁷⁾
					1 min	3 s							1/Phase ⁽³⁾ Min	Max ⁽⁴⁾		Min	Max		
200 Hp	7	242	Light	20x...E192	266	—	217	—	—	700	1	350	400	350	750	350	600	249	1100 2
		192	Normal		211	288	172	—	—	700	1	250	350	250	600	250	500	197	1100 2
		144	Heavy		216	259.2	129	—	—	700	1	175	400	200	400	200	350	148	1100 2
250 Hp	7	295	Light	20x...E242	325	—	264	—	—	700	1	400	500	400	900	400	750	303	1100 2
		242	Normal		266	363	217	—	—	700	1	350	400	350	750	350	600	249	1100 2
		192	Heavy		288	345.6	172	—	—	700	1	250	350	250	600	250	500	197	1100 2
300 Hp	7	355	Light	20x...E295	391	—	318	—	—	700	1	450	600	450	1000	450	900	365	1100 2
		295	Normal		325	442.5	264	—	—	700	1	400	500	400	900	400	750	303	1100 2
		242	Heavy		363	435.6	217	—	—	700	1	350	400	350	750	350	600	249	1100 2
350 Hp	7	395	Light	20x...E355	435	—	354	—	—	700	1	500	700	500	1100	500	1000	406	1100 2
		355	Normal		391	532.5	318	—	—	700	1	450	600	450	1000	450	900	365	1100 2
		295	Heavy		443	531	264	—	—	700	1	400	500	400	900	400	750	303	1100 2
400 Hp	7	435	Light	20x...E395	479	—	390	—	—	700	1	600	750	600	1350	600	1100	447	1100 2
		395	Normal		435	592.5	354	—	—	700	1	500	700	500	1100	500	1000	406	1100 2
		355	Heavy		533	639	318	—	—	700	1	450	600	450	1000	450	900	365	1100 2
250 Hp	8	295	Light	20x...E242	325	—	264	—	—	700	1	400	500	400	900	400	750	326	1100 2
		242	Normal		266	363	217	—	—	700	1	350	400	350	750	350	600	267	1100 2
		192	Heavy		288	346	172	—	—	700	1	250	350	250	600	250	500	212	1100 2
300 Hp	8	355	Light	20x...E295	391	—	318	—	—	700	1	450	600	450	1000	450	900	392	1100 2
		295	Normal		325	443	264	—	—	700	1	400	500	400	900	400	750	326	1100 2
		242	Heavy		363	436	217	—	—	700	1	350	400	350	750	350	600	267	1100 2
350 Hp	8	395	Light	20x...E355	435	—	354	—	—	700	1	500	700	500	1100	500	1000	436	1100 2
		355	Normal		391	533	318	—	—	700	1	450	600	450	1000	450	900	392	1100 2
		295	Heavy		443	531	264	—	—	700	1	400	500	400	900	400	750	326	1100 2
400 Hp	8	435	Light	20x...E395	479	—	390	—	—	700	1	600	750	600	1350	600	1100	480	1100 2
		395	Normal		435	593	354	—	—	700	1	500	700	500	1100	500	1000	436	1100 2
		355	Heavy		533	639	318	—	—	700	1	450	600	450	1000	450	900	392	1100 2
450 Hp	8	510	Light	20x...E435	561	—	457	—	—	900	1	650	900	650	1500	650	1200	563	1100 2
		435	Normal		479	653	390	—	—	900	1	600	750	600	1350	600	1100	480	1100 2
		395	Heavy		593	711	354	—	—	900	1	500	700	500	1100	500	1000	436	1100 2

See [page 197](#) for notes.

600 Volt AC and 810 Volt DC Input Protection Devices - Frames 7 ...12 (continued)

600 Volt AC Input																				810 Volt DC Input		
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input	AC Input Protection Devices					Input Quantities	DC Input Integral Semiconductor Fuse Kit ⁽⁷⁾								
								Continuous AC Input	AC Input Integral Semiconductor Fuse Size (170M Type) ⁽²⁾	Dual Element Time Delay Fuse					Non-Time Delay Fuse		Circuit Breaker ⁽⁵⁾		Motor Circuit Protector ⁽⁶⁾			
										2xLCL Amps	Qty.	1xLCL Amps			Qty.	Max ⁽⁴⁾	1/Phase Min ⁽³⁾	Max ⁽⁴⁾		Min	Max	
550 Hp	8	580	Light	20x...E545	638	—	520	—	—	900	1	750	1000	750	1800	750	1400	750	640	1100	2	
		545	Normal		600	818	488	—	—	900	1	700	900	700	1600	700	1350	700	602	1100	2	
		450	Heavy		675	810	403	—	—	900	1	600	800	600	1350	600	1100	600	497	1100	2	
600 Hp	9	690	Light	20x...E595	759	—	618	—	—	1250	1	900	1200	900	2000	900	1800	900	762	1100	4	
		580	Normal		638	870	520	—	—	1250	1	750	1000	750	1800	750	1400	750	640	1100	4	
		545	Heavy		818	981	488	—	—	1250	1	700	900	700	1600	700	1350	700	602	1100	4	
700 Hp	9	760	Light	20x...E690	836	—	681	—	—	1250	1	1000	1350	1000	2400	1000	1900	1000	839	1100	4	
		690	Normal		759	1035	618	—	—	1250	1	900	1200	900	2000	900	1800	900	762	1100	4	
		595	Heavy		893	1071	520	—	—	1250	1	750	1000	750	1800	750	1400	750	657	1100	4	
800 Hp	9	825	Light	20x...E760	908	—	739	—	—	1250	1	1100	1400	1100	2400	1100	2000	1100	911	1100	4	
		760	Normal		836	1140	681	—	—	1250	1	1000	1350	1000	2400	1000	1900	1000	839	1100	4	
		690	Heavy		1035	1242	618	—	—	1250	1	900	1200	900	2000	900	1800	900	762	1100	4	
900 Hp	9	980	Light	20x...E825	1078	—	878	—	—	1600	1	1350	1800	1350	3000	1350	2400	1350	1082	1100	4	
		825	Normal		908	1238	739	—	—	1600	1	1100	1400	1100	2400	1100	2000	1100	911	1100	4	
		760	Heavy		1140	1368	681	—	—	1600	1	1000	1350	1000	2400	1000	1900	1000	839	1100	4	
1000 Hp	9	1102	Light	20x...E980	1212	—	987	—	—	1600	1	1400	1900	1400	3500	1400	2500	1400	1217	1100	4	
		980	Normal		1078	1470	878	—	—	1600	1	1350	1800	1350	3000	1350	2400	1350	1082	1100	4	
		825	Heavy		1238	1485	739	—	—	1600	1	1100	1400	1100	2400	1100	2000	1100	911	1100	4	
1100 Hp	10	1220	Light	20x...E1K1	1342	—	1093	—	—	1600	1	1600	2000	1600	3500	1600	3000	1600	1347	1100	6	
		1045	Normal		1150	1568	936	—	—	1600	1	1350	1800	1350	3000	1350	2500	1350	1154	1100	6	
		980	Heavy		1470	1764	878	—	—	1600	1	1350	1800	1350	3000	1350	2400	1350	1082	1100	6	
1250 Hp	10	1430	Light	20x...E1K2	1573	—	1281	—	—	1600	1	1800	2500	1800	4500	1800	3500	1800	1579	1100	6	
		1220	Normal		1342	1830	1093	—	—	1600	1	1600	2000	1600	3500	1600	3000	1600	1347	1100	6	
		1045	Heavy		1568	1881	936	—	—	1600	1	1350	1800	1350	3000	1350	2500	1350	1154	1100	6	
1500 Hp	10	1624	Light	20x...E1K5	1786	—	1455	—	—	1600	1	2400	3000	2400	5000	2400	4000	2400	1793	1100	6	
		1430	Normal		1573	2145	1281	—	—	1600	1	1800	2500	1800	4500	1800	3500	1800	1579	1100	6	
		1220	Heavy		1830	2196	1093	—	—	1600	1	1600	2000	1600	3500	1600	3000	1600	1347	1100	6	
2000 Hp	11	2146	Light	20x...E2K0	2361	—	1923	—	—	1600	2	3000	3800	3000	6000	3000	5000	3000	2369	1100	8	
		1946	Normal		2141	2919	1744	—	—	1600	2	2500	3500	2500	6000	2500	5000	2500	2148	1100	8	
		1700	Heavy		2550	3060	1523	—	—	1600	2	2400	3000	2400	5000	2400	4500	2400	1877	1100	8	

See [page 197](#) for notes.

600 Volt AC and 810 Volt DC Input Protection Devices - Frames 7 ... 12 (continued)

600 Volt AC Input																	810 Volt DC Input			
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input	AC Input Protection Devices				Input Quantities		DC Input Integral Semiconductor Fuse Kit ⁽⁷⁾						
					1 min	3 s		2xLCL Amps	AC Input Integral Semiconductor Fuse Size (170M Type) ⁽²⁾		Circuit Breaker ⁽⁵⁾		Continuous DC Input							
									1/Phase Min ⁽³⁾	Qty.	1xLCL Amps	Qty.			Dual Element Time Delay Fuse	Min	Max			
																		Motor Circuit Protector ⁽⁶⁾		
				(x = G or J)			Amps						Amps	Qty.						
2500Hp	12	2668	Light	20x...E2K4	2935	—	2391	1600	2	900	1	3500	4500	3500	6000	3500	1100	10		
		2420	Normal		2662	3630	2168	1600	2	900	1	3500	4000	3500	6000	3500	1100	10		
		2070	Heavy		3105	3726	1855	1600	2	900	1	3000	3500	3000	5000	3000	1100	10		

(1) 'Applied Rating' refers to the motor that will be connected to the drive. For example, a 'E355' drive can be used in Normal Duty mode on a 350 Hp motor, in Heavy Duty mode on a 300 Hp motor or in Light Duty mode on a 400 Hp motor. The drive can be programmed for each mode. Wiring and fuses can be sized based on the programmed mode. For any given drive catalog number, Normal Duty mode provides higher continuous current but smaller overload current with respect to Heavy Duty mode. See parameter 306 [Duty Rating]. Refer to [Intermittent overload on page 43](#) for an explanation of Duty Ratings.

(2) These AC line fuses (with blown fuse indicators) are included in the drive to provide drive short circuit protection. AC input protection devices for branch circuit protection based on US NEC are listed in the table. Each LCL filter has one fuse per phase.

(3) Minimum protection device size is the lowest rated device that supplies maximum protection without nuisance tripping.

(4) 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.

(5) Circuit Breaker - inverse time breaker. For US NEC, minimum size is 125% of motor FLA. Ratings shown are maximum.

(6) Recommended Motor circuit protector - Instantaneous trip circuit breaker. The trip setting should be set to the input current of the drive and should be sized for the continuous current of the system.

(7) These DC line fuses (with blown fuse indicators) are included in the drive to provide drive short circuit protection.

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See [page 200](#) for notes.

690 Volt AC and 932 Volt DC Input Protection Devices - Frames 7 ...12 (continued)

690 Volt AC Input																				932 Volt DC Input		
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input	AC Input Integral Semiconductor Fuse Size (170M Type) ⁽²⁾				AC Input Protection Devices						Input Quantities	DC Input Integral Semiconductor Fuse Kit ⁽⁷⁾			
					1 min	3 s		Amps	2xLCL Amps	Qty.	1xLCL Amps	Qty.	Dual Element Time Delay Fuse		Non-Time Delay Fuse					Circuit Breaker ⁽⁵⁾		Motor Circuit Protector ⁽⁶⁾
													Min ⁽³⁾	Max ⁽⁴⁾	1/Phase Min ⁽³⁾	Max ⁽⁴⁾	Min			Max		
500 kW	8	565	Light	20x...F505	622	—	505	—	—	900	1	750	1000	750	1600	750	1400	623	1100	2		
		505	Normal		556	758	452	—	—	900	1	650	800	650	1500	650	1200	556	1100	2		
		415	Heavy		623	747	371	—	—	900	1	600	700	600	1200	600	1000	457	1100	2		
560 kW	9	650	Light	20x...F565	715	—	581	1250	1	—	—	900	1100	900	1900	900	1600	716	1100	4		
		565	Normal		622	848	505	1250	1	—	—	750	1000	750	1600	750	1400	623	1100	4		
		505	Heavy		758	909	452	1250	1	—	—	650	800	650	1500	650	1200	556	1100	4		
630 kW	9	735	Light	20x...F650	809	—	657	1250	1	—	—	1000	1200	1000	2000	1000	1800	810	1100	4		
		650	Normal		715	975	581	1250	1	—	—	900	1100	900	1900	900	1600	716	1100	4		
		565	Heavy		848	1017	505	1250	1	—	—	750	1000	750	1600	750	1400	623	1100	4		
710 kW	9	820	Light	20x...F735	902	—	733	1250	1	—	—	1100	1400	1100	2400	1100	2000	904	1100	4		
		735	Normal		809	1103	657	1250	1	—	—	1000	1200	1000	2000	1000	1800	810	1100	4		
		650	Heavy		975	1170	581	1250	1	—	—	900	1100	900	1900	900	1600	716	1100	4		
800 kW	9	920	Light	20x...F820	1012	—	823	1600	1	—	—	1200	1600	1200	2500	1200	2400	1014	1100	4		
		820	Normal		902	1230	733	1600	1	—	—	1100	1400	1100	2400	1100	2000	904	1100	4		
		735	Heavy		1103	1323	657	1600	1	—	—	1000	1200	1000	2000	1000	1800	810	1100	4		
900 kW	9	1074	Light	20x...F920	1181	—	960	1600	1	—	—	1350	1800	1350	3000	1350	2500	1183	1100	4		
		920	Normal		1012	1380	823	1600	1	—	—	1200	1600	1200	2500	1200	2400	1014	1100	4		
		820	Heavy		1230	1476	733	1600	1	—	—	1100	1400	1100	2400	1100	2000	904	1100	4		
1000 kW	10	1150	Light	20x...F1K0	1265	—	1028	1250	1	900	1	1500	2000	1500	3500	1500	3000	1267	1100	6		
		1030	Normal		1133	1545	921	1250	1	900	1	1350	1800	1350	3000	1350	2500	1135	1100	6		
		920	Heavy		1380	1656	823	1250	1	900	1	1200	1600	1200	2500	1200	2400	1014	1100	6		
1100 kW	10	1344	Light	20x...F1K1	1478	—	1202	1250	1	900	1	1800	2400	1800	4000	1800	3500	1481	1100	6		
		1150	Normal		1265	1725	1028	1250	1	900	1	1500	2000	1500	3500	1500	3000	1267	1100	6		
		1030	Heavy		1545	1854	921	1250	1	900	1	1350	1800	1350	3500	1350	2500	1135	1100	6		
1400 kW	10	1582	Light	20x...F1K4	1740	—	1365	1250	1	900	1	2000	3000	2000	4500	2000	4000	1743	1100	6		
		1419	Normal		1561	2129	1269	1250	1	900	1	1800	2400	1800	4000	1800	3500	1564	1100	6		
		1162	Heavy		1743	2092	1039	1250	1	900	1	1500	2000	1500	3500	1500	3000	1280	1100	6		
1800 kW	11	2091	Light	20x...F1K8	2300	—	1803	1600	2	—	—	3000	3500	3000	6000	3000	5000	2304	1100	8		
		1865	Normal		2052	2798	1668	1600	2	—	—	2400	3500	2400	5000	2400	4500	2055	1100	8		
		1535	Heavy		2303	2763	1373	1600	2	—	—	2000	2500	2000	4500	2000	3800	1692	1100	8		

See [page 200](#) for notes.

690 Volt AC and 932 Volt DC Input Protection Devices - Frames 7 ... 12 (continued)

690 Volt AC Input																		932 Volt DC Input			
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input	AC Input Integral Semiconductor Fuse Size (170M Type) ⁽²⁾				AC Input Protection Devices						Input Quantities	DC Input Integral Semiconductor Fuse Kit ⁽⁷⁾		
					1 min	3 s		Amps	2xLCL Amps	Qty.	1xLCL Amps	Qty.	1/Phase Min ⁽³⁾	Max ⁽⁴⁾	Dual Element Time Delay Fuse	Circuit Breaker ⁽⁵⁾				Motor Circuit Protector ⁽⁶⁾	
																Min	Max				
2300kW	12	2599	Light	20x...F2K3	2859	—	2242	1600	2	900	1	3500	4500	3500	6000	3500	2864	1100	10		
		2318	Normal		2550	3477	2073	1600	2	900	1	3000	4000	3000	6000	3000	3000	2554	1100	10	
		2020	Heavy		3030	3636	1807	1600	2	900	1	3000	3500	3000	6000	3000	3000	2226	1100	10	

(1) 'Applied Rating' refers to the motor that will be connected to the drive. For example, a 'F330' drive can be used in Normal Duty mode on a 315 kW motor, in Heavy Duty mode on a 250 kW motor or in Light Duty mode on a 355 kW motor. The drive can be programmed for each mode. Wiring and fuses can be sized based on the programmed mode. For any given drive catalog number, Normal Duty mode provides higher continuous current but smaller overload current with respect to Heavy Duty mode. See parameter 306 [Duty Rating]. Refer to [Intermittent overload on page 43](#) for an explanation of Duty Ratings.

(2) These AC line fuses (with blown fuse indicators) are included in the drive to provide drive short circuit protection. AC input protection devices for branch circuit protection based on US NEC are listed in the table. Each LCL filter has one fuse per phase.

(3) Minimum protection device size is the lowest rated device that supplies maximum protection without nuisance tripping.

(4) 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.

(5) Circuit Breaker - inverse time breaker. For US NEC, minimum size is 125% of motor FLA. Ratings shown are maximum.

(6) Recommended Motor circuit protector - Instantaneous trip circuit breaker. The trip setting should be set to the input current of the drive and should be sized for the continuous current of the system.

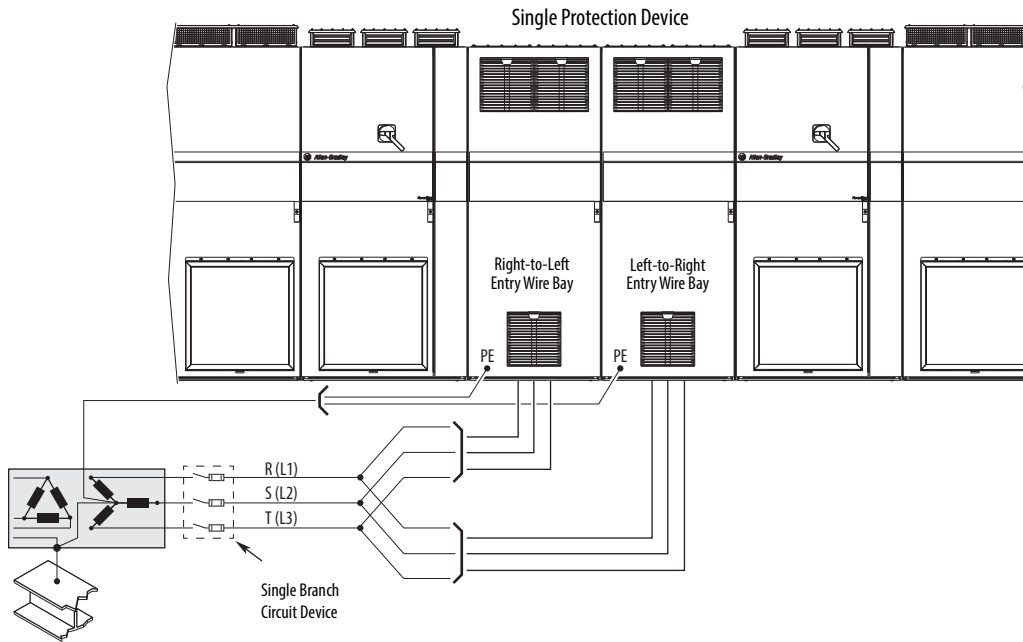
(7) These DC line fuses (with blown fuse indicators) are included in the drive to provide drive short circuit protection.

Dual Input Drives Fuse and Circuit Breakers

Frame 13...15 products require dual AC line inputs. Dependent on the output current rating, a single protection device can be used or dual protection devices are required. The following Input Protection Device tables, the top table lists single protection device ratings and the bottom table lists dual protection device ratings.

Single Protection Device Scheme

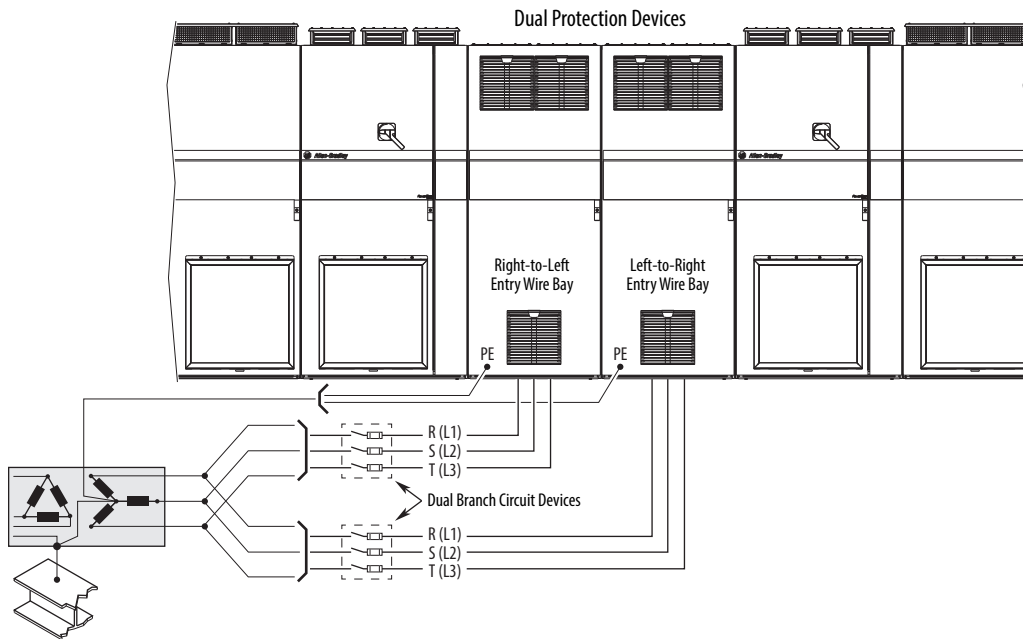
A single branch circuit protection device can be used with PowerFlex 755T products that are rated less than 5400 A.



Dual Protection Device Scheme

Use dual branch circuit protection devices in a dual-input configuration for PowerFlex 755T products that are rated over 5400 A.

Important: Do not wire dual branch circuit protection devices in parallel.



400 Volt AC and 540 Volt DC Input Protection Devices for Single Branch Circuit Device Configurations - Frames 13...15

400 Volt AC Input – Single Branch Circuit Device (See page 201)																		540 Volt DC Input			
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input	AC Input Integral Semiconductor Fuse Size (1700M Type) ⁽²⁾				AC Input Protection Devices						Input Quantities	DC Input Integral Semiconductor Fuse Kit ⁽⁷⁾		
								Dual Element Time Delay Fuse – 1/Phase		Non-Time Delay Fuse – 1/Phase		Circuit Breaker ⁽⁵⁾			Motor Circuit Protector ⁽⁶⁾						
					1 min	3 s	Amps	2xLCL Amps	Qty.	1xLCL Amps	Qty.	Min ⁽³⁾	Max ⁽⁴⁾	Min ⁽³⁾		Max ⁽⁴⁾	Min	Max	Amps	Qty.	
2200 kW	13	4576	Light	20x...C4K2	5034	—	4279	2000	2	1250	2	6000	6000	6000	6000	6000	6000	5275	1400	12	
		4659	6353		3960	2000	2	1250	2	6000	6000	6000	6000	6000	6000	6000	6000	4879	1400	12	
		5363	6435		3300	2000	2	1250	2	5000	6000	5000	6000	5000	6000	5000	6000	4070	1400	12	
2920 kW	14	6074	Light	20x...C5K6	6681	—	5679	2000	4	—	—	—	—	—	—	—	—	7001	1400	16	
		6183	8432		5256	2000	4	—	—	—	—	—	—	—	—	—	—	6475	1400	16	
		7118	8541		4380	2000	4	—	—	6000	6000	6000	6000	6000	6000	6000	5402	1400	16		
3640 kW	15	7571	Light	20x...C7K0	8328	—	7080	2000	4	1250	2	—	—	—	—	—	—	8727	1400	20	
		7708	10,511		6552	2000	4	1250	2	—	—	—	—	—	—	—	8072	1400	20		
		8873	10,647		5460	2000	4	1250	2	—	6000	—	6000	—	6000	—	6734	1400	20		

Single Branch Circuit Device

Single Branch Circuit Device

400 Volt AC and 540 Volt DC Input Protection Devices for Dual Branch Circuit Device Configurations - Frames 13...15

Dual Branch Circuit Devices																				
400 Volt AC Input – Dual Branch Circuit Devices (See page 201)																				
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input	AC Input Integral Semiconductor Fuse Size (1700M Type) ⁽²⁾				AC Input Protection Devices						Input Quantities	DC Input Integral Semiconductor Fuse Kit ⁽⁷⁾	
								Dual Element Time Delay Fuse – 1/Phase		Non-Time Delay Fuse – 1/Phase		Circuit Breaker ⁽⁵⁾		Motor Circuit Protector ⁽⁶⁾						
					1 min	3 s	Amps	2xLCL Amps	Qty.	1xLCL Amps	Qty.	Min ⁽³⁾	Max ⁽⁴⁾		Min ⁽³⁾	Max ⁽⁴⁾	Min	Max	Amps	Qty.
2200 kW	13	4576	Light	20x...C4K2	5034	—	4279	2000	2	1250	2	3000	4000	3000	6000	3000	6000	5275	1400	12
		4659	6353		3960	2000	2	1250	2	3000	3800	3000	6000	3000	5000	4879	1400	12		
		5363	6435		3300	2000	2	1250	2	2400	3000	2400	5000	2400	4500	4070	1400	12		
2920 kW	14	6074	Light	20x...C5K6	6681	—	5679	2000	4	—	—	3800	5000	3800	6000	3800	6000	7001	1400	16
		6183	8432		5256	2000	4	—	—	3800	5000	3800	6000	3800	6000	6475	1400	16		
		7118	8541		4380	2000	4	—	—	3000	4000	3000	6000	3000	6000	5402	1400	16		
3640 kW	15	7571	Light	20x...C7K0	8328	—	7080	2000	4	1250	2	5000	6000	5000	6000	5000	6000	8727	1400	20
		7708	10,511		6552	2000	4	1250	2	4500	6000	4500	6000	4500	6000	8072	1400	20		
		8873	10,647		5460	2000	4	1250	2	3800	5000	3800	6000	3800	6000	6734	1400	20		

Dual Branch Circuit Device

(1) 'Applied Rating' refers to the motor that will be connected to the drive. For example, a 'C460' drive can be used in Normal Duty mode on a 250 kW motor, in Heavy Duty mode on a 315 kW motor. The drive can be programmed for each mode. Wiring and fuses can be sized based on the programmed mode. For any given drive catalog number, Normal Duty mode provides higher continuous current but smaller overload current with respect to Heavy Duty mode. See parameter 306 [Duty Rating]. Refer to [Intermittent overload on page 43](#) for an explanation of Duty Ratings.

(2) These AC line fuses (with blown fuse indicators) are included in the drive to provide drive short circuit protection. AC input protection devices for branch circuit protection based on US NEC are listed in the table. Each LCL filter has one fuse per phase.

(3) Minimum protection device size is the lowest rated device that supplies maximum protection without nuisance tripping.

(4) 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.

(5) Circuit Breaker – inverse time breaker. For US NEC, minimum size is 125% of motor FLA. Ratings shown are maximum.

(6) Recommended Motor circuit protector – instantaneous trip circuit breaker. The trip setting should be set to the input current of the drive and should be sized for the continuous current of the system.

(7) These DC line fuses (with blown fuse indicators) are included in the drive to provide drive short circuit protection.

480 Volt AC and 650 Volt DC Input Protection Devices for Single Branch Circuit Device Configurations - Frames 13...15

Single Branch Circuit Device																			
480 Volt AC Input – Single Branch Circuit Device (See page 201)																			
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input	AC Input Integral Semiconductor Fuse Size (170M Type) ⁽²⁾				AC Input Protection Devices						Input Quantities	DC Input Integral Semiconductor Fuse Kit ⁽⁷⁾
								Dual Element Time Delay Fuse – 1/Phase		Non-Time Delay Fuse – 1/Phase		Circuit Breaker ⁽⁵⁾		Motor Circuit Protector ⁽⁶⁾					
					1 min	3 s	Amps	2xLCL Amps	Qty.	1xLCL Amps	Qty.	Min ⁽³⁾	Max ⁽⁴⁾		Min ⁽³⁾	Max ⁽⁴⁾	Min	Max	
3600 Hp	13	4400	Light	20x...D4K0	4840	—	3944	2000	2	1250	2	6000	6000	6000	6000	6000	3944	1400	12
		4070	Normal		4477	6105	3647	2000	2	1250	2	6000	6000	6000	6000	6000	3647	1400	12
		3394	Heavy		5091	6109	3042	2000	2	1250	2	4500	6000	4500	6000	4500	3042	1400	12
4800 Hp	14	5840	Light	20x...D5K4	6424	—	5234	2000	4	—	—	—	—	—	—	5234	1400	16	
		5402	Normal		5942	8103	4840	2000	4	—	—	—	—	—	—	4840	1400	16	
		4504	Heavy		6756	8107	4037	2000	4	—	6000	6000	6000	6000	6000	4037	1400	16	
6000 Hp	15	7280	Light	20x...D6K7	8008	—	6525	2000	4	1250	2	—	—	—	—	6525	1400	20	
		6734	Normal		7407	10,101	6033	2000	4	1250	2	—	—	—	—	6033	1400	20	
		5615	Heavy		8423	10,107	5032	2000	4	1250	2	—	—	—	—	5032	1400	20	

Single Branch Circuit Device

480 Volt AC and 650 Volt DC Input Protection Devices for Dual Branch Circuit Device Configurations - Frames 13...15

Dual Branch Circuit Devices																				
480 Volt AC Input – Dual Branch Circuit Devices (See page 201)																				
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input	AC Input Integral Semiconductor Fuse Size (1700M Type) ⁽²⁾				AC Input Protection Devices						Input Quantities	DC Input Integral Semiconductor Fuse Kit ⁽⁷⁾	
								Dual Element Time Delay Fuse – 1/Phase		Non-Time Delay Fuse – 1/Phase		Circuit Breaker ⁽⁵⁾		Motor Circuit Protector ⁽⁶⁾						
					1 min	3 s	Amps	2xLCL Amps	Qty.	1xLCL Amps	Qty.	Min ⁽³⁾	Max ⁽⁴⁾		Min ⁽³⁾	Max ⁽⁴⁾	Min	Max		Amps
3600 Hp	13	4400	Light	20x...D4K0	4840	—	3944	2000	2	1250	2	3000	4000	3000	6000	5000	3000	3944	1400	12
		4070	Normal		4477	6105	3647	2000	2	1250	2	3000	3500	3000	6000	5000	3000	3647	1400	12
		3394	Heavy		5091	6109	3042	2000	2	1250	2	2400	3000	2400	5000	4000	2400	3042	1400	12
4800 Hp	14	5840	Light	20x...D5K4	6424	—	5234	2000	4	—	—	3800	5000	3800	6000	6000	3800	5234	1400	16
		5402	Normal		5942	8103	4840	2000	4	—	—	3500	4500	3500	6000	6000	3500	4840	1400	16
		4504	Heavy		6756	8107	4037	2000	4	—	—	3000	3800	3000	6000	5000	3000	4037	1400	16
6000 Hp	15	7280	Light	20x...D6K7	8008	—	6525	2000	4	1250	2	5000	6000	5000	6000	6000	5000	6525	1400	20
		6734	Normal		7407	10,101	6033	2000	4	1250	2	4500	6000	4500	6000	6000	4500	6033	1400	20
		5615	Heavy		8423	10,107	5032	2000	4	1250	2	3800	5000	3800	6000	6000	3800	5032	1400	20

Dual Branch Circuit Device

(1) Applied Rating refers to the motor that will be connected to the drive. For example, a 'C460' drive can be used in Normal Duty mode on a 250 kW motor, in Heavy Duty mode on a 200 kW motor or in Light Duty mode on a 315 kW motor. The drive can be programmed for each mode. Wiring and fuses can be sized based on the programmed mode. For any given drive catalog number, Normal Duty mode provides higher continuous current but smaller overload current with respect to Heavy Duty mode. See parameter 306 [Duty Rating]. Refer to [Intermittent overload on page 43](#) for an explanation of Duty Ratings.

(2) These AC line fuses (with blown fuse indicators) are included in the drive to provide drive short circuit protection. AC input protection devices for branch circuit protection based on US NEC are listed in the table. Each LCL filter has one fuse per phase.

(3) Minimum protection device size is the lowest rated device that supplies maximum protection without nuisance tripping.

(4) 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.

(5) Circuit Breaker – inverse time breaker. For US NEC, minimum size is 125% of motor FLA. Ratings shown are maximum.

(6) Recommended Motor circuit protector – instantaneous trip circuit breaker. The trip setting should be set to the input current of the drive and should be sized for the continuous current of the system.

(7) These DC line fuses (with blown fuse indicators) are included in the drive to provide drive short circuit protection.

600 Volt AC and 810 Volt DC Input Protection Devices for Single Branch Circuit Device Configurations - Frames 13...15

600 Volt AC Input – Single Branch Circuit Device (See page 201)																		
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input	AC Input Integral Semiconductor Fuse Size (1700M Type) ⁽²⁾				AC Input Protection Devices					Input Quantities	810 Volt DC Input
								Dual Element Time Delay Fuse – 1/Phase		Non-Time Delay Fuse – 1/Phase		Circuit Breaker ⁽⁵⁾			Motor Circuit Protector ⁽⁶⁾			
					1 min	3 s	Amps	2xLCL Amps	Qty.	1xLCL Amps	Qty.	Min ⁽³⁾	Max ⁽⁴⁾	Min ⁽³⁾		Max ⁽⁴⁾	Min	Max
3100 Hp	13	3190	Light	20x...E2K9	3509	—	2860	2000	2	1250	2	4000	6000	4000	6000	2860	1100 12	
		2998	Normal		3298	4497	2684	2000	2	1250	2	3800	5000	3800	6000	2684	1100 12	
		2475	Heavy		3713	4455	2217	2000	2	1250	2	3500	4500	3500	6000	2217	1100 12	
4100 Hp	14	4234	Light	20x...E3K9	4657	—	3796	2000	4	—	—	6000	6000	6000	6000	3796	1100 16	
		3979	Normal		4377	5969	3562	2000	4	—	—	5000	6000	5000	6000	3562	1100 16	
		3285	Heavy		4928	5913	2942	2000	4	—	—	4500	6000	4500	6000	2942	1100 16	
5100 Hp	15	5278	Light	20x...E4K9	5806	—	4732	2000	4	1250	2	—	—	—	—	4732	1100 20	
		4960	Normal		5456	7440	4441	2000	4	1250	2	—	—	—	—	4441	1100 20	
		4095	Heavy		6143	7371	3667	2000	4	1250	2	6000	6000	6000	6000	3667	1100 20	

Single Branch Circuit Device

600 Volt AC and 810 Volt DC Input Protection Devices for Dual Branch Circuit Device Configurations - Frames 13...15

Dual Branch Circuit Devices																				
600 Volt AC Input – Dual Branch Circuit Devices (See page 201)																				
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input	AC Input Integral Semiconductor Fuse Size (1700M Type) ⁽²⁾			AC Input Protection Devices					Input Quantities	810 Volt DC Input			
								Dual Element Time Delay Fuse – 1/Phase		Non-Time Delay Fuse – 1/Phase		Circuit Breaker ⁽⁵⁾		Motor Circuit Protector ⁽⁶⁾						
					1 min	3 s	Amps	2xLCL Amps	Qty.	1xLCL Amps	Qty.	Min ⁽³⁾	Max ⁽⁴⁾		Min ⁽³⁾	Max ⁽⁴⁾	Min	Max	Amps	Qty.
3100 Hp	13	3190	Light	20x...E2K9	3509	—	2860	2000	2	1250	2	2000	3000	2000	5000	2000	4000	2860	1100	12
		2998	Normal		3298	4497	2684	2000	2	1250	2	1900	2500	1900	4500	1900	3500	2684	1100	12
		2475	Heavy		3713	4455	2217	2000	2	1250	2	1600	2000	1600	3500	1600	3000	2217	1100	12
4100 Hp	14	4234	Light	20x...E3K9	4657	—	3796	2000	4	—	—	3000	3800	3000	6000	3000	5000	3796	1100	16
		3979	Normal		4377	5969	3562	2000	4	—	—	2500	3500	2500	6000	2500	5000	3562	1100	16
		3285	Heavy		4928	5913	2942	2000	4	—	—	2400	3000	2400	5000	2400	4000	2942	1100	16
5100 Hp	15	5278	Light	20x...E4K9	5806	—	4732	2000	4	1250	2	3500	4500	3500	6000	3500	6000	4732	1100	20
		4960	Normal		5456	7440	4441	2000	4	1250	2	3500	4000	3500	6000	3500	6000	4441	1100	20
		4095	Heavy		6143	7371	3667	2000	4	1250	2	3000	3500	3000	6000	3000	5000	3667	1100	20

(1) Applied Rating refers to the motor that will be connected to the drive. For example, a 'C460' drive can be used in Normal Duty mode on a 250 kW motor, in Heavy Duty mode on a 315 kW motor, or in Light Duty mode on a 315 kW motor. The drive can be programmed for each mode. Wiring and fuses can be sized based on the programmed mode. For any given drive catalog number, Normal Duty mode provides higher continuous current but smaller overload current with respect to Heavy Duty mode. See parameter 306 [Duty Rating]. Refer to [Intermittent overload on page 43](#) for an explanation of Duty Ratings.

(2) These AC line fuses (with blown fuse indicators) are included in the drive to provide drive short circuit protection. AC input protection devices for branch circuit protection based on US NEC are listed in the table. Each LCL filter has one fuse per phase.

(3) Minimum protection device size is the lowest rated device that supplies maximum protection without nuisance tripping.

(4) 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.

(5) Circuit Breaker – inverse time breaker. For US NEC, minimum size is 125% of motor FLA. Ratings shown are maximum.

(6) Recommended Motor circuit protector – Instantaneous trip circuit breaker. The trip setting should be set to the input current of the drive and should be sized for the continuous current of the system.

(7) These DC line fuses (with blown fuse indicators) are included in the drive to provide drive short circuit protection.

690 Volt AC and 932 Volt DC Input Protection Devices for Single Branch Circuit Devices - Frames 13...15

690 Volt AC Input – Single Branch Circuit Device (See page 201)																	932 Volt DC Input			
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input	AC Input Integral Semiconductor Fuse Size (1700M Type) ⁽²⁾				AC Input Protection Devices						Continuous DC Input	Input Quantities	DC Input Integral Semiconductor Fuse Kit ⁽⁷⁾
								Non-Time Delay Fuse – 1/Phase		Time Delay Fuse – 1/Phase		Circuit Breaker ⁽⁵⁾		Motor Circuit Protector ⁽⁶⁾						
					1 min	3 s	Amps	2xLCL Amps	Qty.	1xLCL Amps	Qty.	Min ⁽³⁾	Max ⁽⁴⁾		Min ⁽³⁾	Max ⁽⁴⁾	Min	Max		
2750 kW	13	3108	Light	20x...F2K7	3419	—	2778	2000	2	1250	2	4000	5000	4000	6000	4000	2778	1100	12	
		2778	Normal		3056	4167	2486	2000	2	1250	2	3500	5000	3500	6000	3500	2486	1100	12	
		2283	Heavy		3425	4109	2041	2000	2	1250	2	3000	4000	3000	6000	3000	2041	1100	12	
3650 kW	14	4125	Light	20x...F3K6	4538	—	3687	2000	4	—	—	6000	6000	6000	6000	6000	3687	1100	16	
		3687	Normal		4056	5531	3300	2000	4	—	—	5000	6000	5000	6000	5000	3300	1100	16	
		3030	Heavy		4545	5454	2708	2000	4	—	—	3800	5000	3800	6000	3800	2708	1100	16	
4550 kW	15	5142	Light	20x...F4K5	5656	—	4596	2000	4	1250	2	—	—	—	—	—	4596	1100	20	
		4596	Normal		5056	6894	4113	2000	4	1250	2	6000	6000	6000	6000	6000	4113	1100	20	
		3777	Heavy		5666	6799	3376	2000	4	1250	2	5000	6000	5000	6000	5000	3376	1100	20	

Single Branch Circuit Device

Single Branch Circuit Device

690 Volt AC and 932 Volt DC Input Protection Devices for Dual Branch Circuit Devices - Frames 13...15

690 Volt AC Input – Dual Branch Circuit Devices (See page 201)																	932 Volt DC Input			
Applied Rating ⁽¹⁾	Frame	Cont. Output Amps	Duty	Catalog Number	Output Overload Amps		Continuous AC Input	AC Input Integral Semiconductor Fuse Size ⁽²⁾				AC Input Protection Devices						Input Quantities	DC Input Integral Semiconductor Fuse Kit ⁽⁷⁾	
								Dual Element Time Delay Fuse – 1/Phase		Non-Time Delay Fuse – 1/Phase		Circuit Breaker ⁽⁵⁾		Motor Circuit Protector ⁽⁶⁾						
					1 min	3 s	Amps	2xLCL Amps	Qty.	1xLCL Amps	Qty.	Min ⁽³⁾	Max ⁽⁴⁾		Min ⁽³⁾	Max ⁽⁴⁾	Min	Max		Amps
2750 kW	13	3108	Light	20x...F2K7	3419	—	2778	2000	2	1250	2	2000	3000	2000	4500	2000	2000	2778	1100	12
		2778	Normal		3056	4167	2486	2000	2	1250	2	1800	2400	1800	4000	1800	3500	2486	1100	12
		2283	Heavy		3425	4109	2041	2000	2	1250	2	1500	2000	1500	3500	1500	3000	2041	1100	12
3650 kW	14	4125	Light	20x...F3K6	4538	—	3687	2000	4	—	—	3000	3500	3000	6000	3000	3000	3687	1100	16
		3687	Normal		4056	5531	3300	2000	4	—	—	2400	3500	2400	5000	2400	4500	3300	1100	16
		3030	Heavy		4545	5454	2708	2000	4	—	—	1900	2500	1900	4500	1900	3800	2708	1100	16
4550 kW	15	5142	Light	20x...F4K5	5656	—	4596	2000	4	1250	2	3500	4500	3500	6000	3500	3500	4596	1100	20
		4596	Normal		5056	6894	4113	2000	4	1250	2	3000	4000	3000	6000	3000	6000	4113	1100	20
		3777	Heavy		5666	6799	3376	2000	4	1250	2	2500	3500	2500	6000	2500	5000	3376	1100	20

Dual Branch Circuit Devices

(1) Applied Rating refers to the motor that will be connected to the drive. For example, a 'C460' drive can be used in Normal Duty mode on a 250 kW motor, in Heavy Duty mode on a 315 kW motor. The drive can be programmed for each mode. Wiring and fuses can be sized based on the programmed mode. For any given drive catalog number, Normal Duty mode provides higher continuous current but smaller overload current with respect to Heavy Duty mode. See parameter 306 [Duty Rating].

Refer to [Intermittent overload on page 43](#) for an explanation of Duty Ratings.

(2) These AC line fuses (with blown fuse indicators) are included in the drive to provide drive short circuit protection. AC input protection devices for branch circuit protection based on US NEC are listed in the table. Each LCL filter has one fuse per phase.

(3) Minimum protection device size is the lowest rated device that supplies maximum protection without nuisance tripping.

(4) 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.

(5) Circuit Breaker – inverse time breaker. For US NEC, minimum size is 125% of motor FLA. Ratings shown are maximum.

(6) Recommended Motor circuit protector – Instantaneous trip circuit breaker. The trip setting should be set to the input current of the drive and should be sized for the continuous current of the system.

(7) These DC line fuses (with blown fuse indicators) are included in the drive to provide drive short circuit protection.

Cable Considerations

Power Cable Types Acceptable for 400...690 Volt Installations

A variety of cable types are acceptable for drive installations. For an in-depth discussion of cable types, including a table of maximum motor cable lengths, refer to the PowerFlex 750-Series Products with TotalFORCE Control Installation Instructions, publication [750-IN100](#) or Wiring and Grounding Guidelines for Pulse Width Modulated (PWM) AC Drives, publication [DRIVES-IN001](#).

Selection Considerations

Type		Cable Type(s)	Description	Min. Insulation Rating
Input Power (1) (2)	Standard	—	- Three tinned copper conductors with XLPE insulation. - Maximum 500 MCM conductors. - Copper braid/aluminum foil combination shield and tinned copper drain wire, three drain wires per cable assembly. - PVC jacket.	600V, 75 °C (167 °F) ⁽⁵⁾
Motor	Standard	—	- Three tinned copper conductors with XLPE insulation. - Maximum 500 MCM conductors. - Copper braid/aluminum foil combination shield and tinned copper drain wire, three drain wires per cable assembly. - PVC jacket.	400...600V systems: 600V, 75 °C (167 °F) 690V systems: 2000V, 90 °C (194 °F)
Signal (1) (3) (4)	Standard Analog I/O	—	0.750 mm ² (18 AWG), twisted pair, 100% shield w/drain.	300V, 75...90 °C (167...194 °F)
	Remote Pot	—	0.750 mm ² (18 AWG), 3 conductor, shielded.	
	Encoder/ Pulse I/O < 30 m (100 ft)	Combined	0.196 mm ² (24 AWG) individually shielded pairs.	
	Encoder/ Pulse I/O 30...152 m (100...500 ft)	Signal	0.196 mm ² (24 AWG) individually shielded pairs.	
		Power	0.750 mm ² (18 AWG) in. individually shielded pairs	
		Combined	0.330 mm ² (22 AWG), power is 0.500 mm ² (20 AWG) individually shielded pairs.	
	Encoder/ Pulse I/O 152...259 m (500...850 ft.)	Signal	0.196 mm ² (24 AWG) individually shielded pairs.	
		Power	0.750 mm ² (18 AWG) individually shielded pairs.	
		Combined	0.750 mm ² (18 AWG) individually shielded pairs.	
Control Power	Un-shielded	—	Per US NEC or applicable national or local code.	300V, 60 °C (140 °F)
Digital I/O Safety Inputs Homing Inputs (1) (3) (4)	Un-shielded	—	Per US NEC or applicable national or local code.	300V, 60 °C (140 °F)
	Shielded	Multi-conductor shielded cable	0.750 mm ² (18 AWG), 3 conductor, shielded.	

(1) Signal wires should be separated from power wires by at least 0.3 meters (1 foot).

(2) The use of shielded wire for AC input power may not be necessary but is always recommended.

(3) If the wires are short and contained within a cabinet which has no sensitive circuits, the use of shielded wire may not be necessary, but is always recommended.

(4) I/O terminals labeled '(—)' or 'Common' are not referenced to earth ground and are designed to greatly reduce common mode interference. Grounding these terminals can cause signal noise. For CE installations, 115V I/O must use shielded cable or have a cable length less than 30 m (98 ft).

(5) The minimum insulation rating for input power wire must be at least equal to the nominal system voltage rating.

Power Wiring

The following section describes the cabling requirements for three-phase power and motor connections. Follow applicable local codes to determine power and motor cable conductor size and quantity.

For detailed installation instructions, including cable entry and exit and customer connections options, refer to the PowerFlex 750-Series Products with TotalFORCE Control Installation Instructions, publication [750-IN100](#).

Input Power Cables

- Frame 5 and 6 drives provide for input power cable connections at the bottom of the chassis.
- Frame 7 drives and bus supplies provide for power cable entry through either the top or the bottom of the cabinet.
- Frame 8...12 drives and bus supplies provide for power cable entry through the bottom of the input bay.
- Frame 8 and 9 drives and bus supplies that are equipped with the P17 power option provide for power cable entry through the top conduit plate of the input bay.
- Optional entry wiring bays are available to accommodate power cable top entry for frame 10...12 drives and bus supplies.
- Frame 13...15 drives and bus supplies include entry wiring bays.

Motor Cables

- Frame 5 and 6 drives provide for motor cable connections at the bottom of the chassis.
- Frame 7 drives provide for power cable exit through either the top or the bottom of the cabinet.
- Frame 8...12 drives and common bus inverters provide for power cable exit through the bottom of the power bay (inverter).
- Optional exit wiring bays are available to accommodate motor cable top exit for all drives and common bus inverters, frames 8...12.
- Frame 13...15 in-line drive configurations and common bus converters include exit wiring bays.
- Frame 13...15 back-to-back drive configurations include a voltage balance bay.

Motor Considerations

Due to the operational characteristics of AC variable frequency drives, motors with inverter grade insulation systems designed to meet or exceed NEMA MG1 Part 31.40.4.2 standards for resistance to spikes of 1600 volts are recommended.

Guidelines must be followed when using non-inverter grade motors to avoid premature motor failures. Refer to Wiring and Grounding Guidelines for Pulse Width Modulated (PWM) AC Drives, publication [DRIVES-IN001](#) for recommendations.

Rating/Frame Cross-Reference

400/480V AC 755TL Drives

Catalog Number	Light Duty kW Output	Normal Duty kW Output	Heavy Duty kW Output	Catalog Number	Light Duty Hp Output	Normal Duty Hp Output	Heavy Duty Hp Output	Enclosure Code/Frame Size		
								N (IP00, UL Open Type)	3 (IP21, UL Type 1)	4 (IP54, UL Type 12)
400 Volt				480 Volt				5	—	—
20G...C015	11	7.5	5.5	20G...D014	15	10	7.5			
20G...C022	15	11	7.5	20G...D022	20	15	10			
20G...C030	18.5	15	11	20G...D027	25	20	15			
20G...C037	22	18.5	15	20G...D034	30	25	20			
20G...C043	30	22	18.5	20G...D040	40	30	25			
20G...C060	37	30	22	20G...D052	50	40	30			
20G...C072	45	37	30	20G...D065	60	50	40			
20G...C085	55	45	37	20G...D077	75	60	50			
20G...C104	55	55	45	20G...D096	75	75	60	6	—	—
20G...C140	90	75	55	20G...D125	125	100	75			
20G...C176	110	90	75	20G...D156	150	125	100			
20G...C205	132	110	90	20G...D186	200	150	125			
20G...C260	160	132	110	20G...D248	250	200	150			
20G...C302	200	160	132	20G...D302	300	250	200			
20G...C367	250	200	160	20G...D361	350	300	250			
20G...C460	315	250	200	20G...D430	400	350	300			
20G...C540	315	315	250	20G...D505	450	400	350			
20G...C585	315	315	250	20G...D617	500	500	400			
20G...C302	200	160	132	20G...D302	300	250	200	—	8	8
20G...C367	250	200	160	20G...D361	350	300	250			
20G...C460	315	250	200	20G...D430	400	350	300			
20G...C540	315	315	250	20G...D505	450	400	350			
20G...C585	355	315	250	20G...D545	500	450	350			
20G...C650	400	355	315	20G...D617	600	500	400			
20G...C750	450	400	315	20G...D710	650	600	450			
20G...C770	450	400	355	20G...D740	700	650	500			
20G...C920	560	500	400	20G...D800	800	700	600			
20G...C1K0	630	560	500	20G...D960	900	800	700		9	9
20G...C1K1	710	630	500	20G...D1K0	1000	900	750			
20G...C1K2	800	710	560	20G...D1K1	1100	1000	800			
20G...C1K4	850	800	630	20G...D1K3	1250	1100	900			
20G...C1K6	1000	850	710	20G...D1K4	1500	1250	1000			
20G...C1K7	1250	1000	800	20G...D1K6	1800	1500	1100			
20G...C2K1	1400	1250	1000	20G...D2K0	2000	1800	1500			

600/690V AC 755TL Drives

Catalog Number	Light Duty Hp Output	Normal Duty Hp Output	Heavy Duty Hp Output	Catalog Number	Light Duty kW Output	Normal Duty kW Output	Heavy Duty kW Output	Enclosure Code/Frame Size		
600 Volt				690 Volt				N (IP00, UL Open Type)	3 (IP21, UL Type 1)	4 (IP54, UL Type 12)
20G...E011	15	10	7.5	20G...F015	15	11	7.5	5	—	—
20G...E017	20	15	10	20G...F020	18.5	15	11			
20G...E022	25	20	15	20G...F023	22	18.5	15			
20G...E027	30	25	20	20G...F030	30	22	18.5			
20G...E032	40	30	25	20G...F034	37	30	22			
20G...E041	50	40	30	20G...F046	45	37	30			
20G...E052	60	50	40	20G...F050	55	45	37			
20G...E062	75	60	50	20G...F061	75	55	45			
20G...E077	100	75	60	20G...F082	90	75	55	6	—	—
20G...E099	125	100	75	20G...F098	110	90	75			
20G...E125	150	125	100	20G...F119	132	110	90			
20G...E144	200	150	125	20G...F142	160	132	110			
20G...E192	250	200	150	20G...F171	200	160	132	—	7	7
20G...E242	300	250	200	20G...F215	250	200	160			
20G...E295	350	300	250	20G...F265	315	250	200			
20G...E355	400	350	300	20G...F330	355	315	250			
20G...E395	450	400	350	20G...F370	400	355	315		8	8
20G...E242	300	250	200	20G...F215	250	200	160			
20G...E295	350	300	250	20G...F265	315	250	200			
20G...E355	400	350	300	20G...F330	355	315	250			
20G...E395	450	400	350	20G...F370	400	355	315			
20G...E435	500	450	400	20G...F415	450	400	355		9	9
20G...E545	600	550	450	20G...F505	560	500	400			
20G...E595	700	600	550	20G...F565	630	560	500			
20G...E690	800	700	600	20G...F650	710	630	560			
20G...E760	900	800	700	20G...F735	800	710	630		10	10
20G...E825	1000	900	800	20G...F820	900	800	710			
20G...E980	1100	1000	900	20G...F920	1000	900	800			
20G...E1K1	1250	1100	1000	20G...F1K0	1100	1000	900			
20G...E1K2	1500	1250	1100	20G...F1K1	1250	1100	1000			
20G...E1K5	1600	1500	1250	20G...F1K4	1500	1400	1100			

400/480V AC 755TR Drives

Catalog Number	Light Duty kW Output	Normal Duty kW Output	Heavy Duty kW Output	Catalog Number	Light Duty Hp Output	Normal Duty Hp Output	Heavy Duty Hp Output	Enclosure Code/Frame Size			
								N (IP00, UL Open Type)	3 (IP21, UL Type 1)	4 (IP54, UL Type 12)	
400 Volt				480 Volt				5	—	—	
20G...C015	11	7.5	5.5	20G...D014	15	10	7.5				
20G...C022	15	11	7.5	20G...D022	20	15	10				
20G...C030	18.5	15	11	20G...D027	25	20	15				
20G...C037	22	18.5	15	20G...D034	30	25	20				
20G...C043	30	22	18.5	20G...D040	40	30	25				
20G...C060	37	30	22	20G...D052	50	40	30				
20G...C072	45	37	30	20G...D065	60	50	40				
20G...C085	55	45	37	20G...D077	75	60	50				
20G...C104	55	55	45	20G...D096	75	75	60	6			
20G...C140	90	75	55	20G...D125	125	100	75				
20G...C176	110	90	75	20G...D156	150	125	100				
20G...C205	132	110	90	20G...D186	200	150	125				
20G...C260	160	132	110	20G...D248	250	200	150				
20G...C302	200	160	132	20G...D302	300	250	200	—	7	7	
20G...C367	250	200	160	20G...D361	350	300	250				
20G...C460	315	250	200	20G...D430	400	350	300				
20G...C540	315	315	250	20G...D505	450	400	350				
20G...C585	315	315	250	20G...D617	500	500	400				
20G...C302	200	160	132	20G...D302	300	250	200		8	8	8
20G...C367	250	200	160	20G...D361	350	300	250				
20G...C460	315	250	200	20G...D430	400	350	300				
20G...C540	315	315	250	20G...D505	450	400	350				
20G...C585	355	315	250	20G...D545	500	450	350				
20G...C650	400	355	315	20G...D617	600	500	400	9		9	9
20G...C750	450	400	315	20G...D710	650	600	450				
20G...C770	450	400	355	20G...D740	700	650	500				
20G...C920	560	500	400	20G...D800	800	700	600				
20G...C1K0	630	560	500	20G...D960	900	800	700				
20G...C1K1	710	630	500	20G...D1K0	1000	900	750	10	10	10	
20G...C1K2	800	710	560	20G...D1K1	1100	1000	800				
20G...C1K4	850	800	630	20G...D1K3	1250	1100	900				
20G...C1K6	1000	850	710	20G...D1K4	1500	1250	1000				
20G...C1K7	1250	1000	800	20G...D1K6	1800	1500	1100				
20G...C2K1	1400	1250	1000	20G...D2K0	2000	1800	1500	11	11	11	
20G...C2K8	1800	1650	1400	20G...D2K6	2600	2400	2000	12	12	12	
20G...C3K5	2200	2000	1650	20G...D3K4	3300	3000	2400	13	13	13	
20G...C4K2	2475	2200	1953	20G...D4K0	3900	3600	2800	14	14	14	
20G...C5K6	3285	2920	2592	20G...D5K4	5200	4800	3700	15	15	15	
20G...C7K0	4095	3640	3231	20G...D6K7	6400	6000	4600				

600/690V AC 755TR Drives

Catalog Number	Light Duty Hp Output	Normal Duty Hp Output	Heavy Duty Hp Output	Catalog Number	Light Duty kW Output	Normal Duty kW Output	Heavy Duty kW Output	Enclosure Code/Frame Size		
600 Volt				690 Volt				N (IP00, UL Open Type)	3 (IP21, UL Type 1)	4 (IP54, UL Type 12)
20G...E011	15	10	7.5	20G...F015	15	11	7.5	5	—	—
20G...E017	20	15	10	20G...F020	18.5	15	11			
20G...E022	25	20	15	20G...F023	22	18.5	15			
20G...E027	30	25	20	20G...F030	30	22	18.5			
20G...E032	40	30	25	20G...F034	37	30	22			
20G...E041	50	40	30	20G...F046	45	37	30			
20G...E052	60	50	40	20G...F050	55	45	37			
20G...E062	75	60	50	20G...F061	75	55	45			
20G...E077	100	75	60	20G...F082	90	75	55	6	—	—
20G...E099	125	100	75	20G...F098	110	90	75			
20G...E125	150	125	100	20G...F119	132	110	90			
20G...E144	200	150	125	20G...F142	160	132	110			
20G...E192	250	200	150	20G...F171	200	160	132	—	7	7
20G...E242	300	250	200	20G...F215	250	200	160			
20G...E295	350	300	250	20G...F265	315	250	200			
20G...E355	400	350	300	20G...F330	355	315	250			
20G...E395	450	400	350	20G...F370	400	355	315		8	8
20G...E242	300	250	200	20G...F215	250	200	160			
20G...E295	350	300	250	20G...F265	315	250	200			
20G...E355	400	350	300	20G...F330	355	315	250			
20G...E395	450	400	350	20G...F370	400	355	315			
20G...E435	500	450	400	20G...F415	450	400	355		9	9
20G...E545	600	550	450	20G...F505	560	500	400			
20G...E595	700	600	550	20G...F565	630	560	500			
20G...E690	800	700	600	20G...F650	710	630	560			
20G...E760	900	800	700	20G...F735	800	710	630		10	10
20G...E825	1000	900	800	20G...F820	900	800	710			
20G...E980	1100	1000	900	20G...F920	1000	900	800			
20G...E1K1	1250	1100	1000	20G...F1K0	1100	1000	900			
20G...E1K2	1500	1250	1100	20G...F1K1	1250	1100	1000		11	11
20G...E1K5	1600	1500	1250	20G...F1K4	1500	1400	1100			
20G...E2K0	2100	2000	1800	20G...F1K8	2000	1800	1500			
20G...E2K4	2600	2500	2100	20G...F2K3	2500	2300	2000		12	12
20G...E2K9	3300	3100	2500	20G...F2K7	3080	2750	2200			
20G...E3K9	4400	4100	3300	20G...F3K6	4088	3650	2920			
20G...E4K9	5500	5100	4100	20G...F4K5	5096	4550	3640			

400/480V AC 755TM Bus Supplies

Catalog Number	Light Duty kW Output	Normal Duty kW Output	Heavy Duty kW Output	Catalog Number	Light Duty kW Output	Normal Duty kW Output	Heavy Duty kW Output	Enclosure Code/Frame Size		
400 Volt				480 Volt				N (IP00, UL Open Type)	3 (IP21, UL Type 1)	4 (IP54, UL Type 12)
20J...C140	106	87	65	20J...D125	111	90	69	6	—	—
20J...C176	128	106	87	20J...D156	133	111	90			
20J...C205	162	128	106	20J...D186	177	133	111			
20J...C260	188	162	128	20J...D248	216	177	133			
20J...C302	228	188	162	20J...D302	258	216	177	—	7	7
20J...C367	286	228	188	20J...D361	307	258	216			
20J...C460	336	286	228	20J...D430	347	307	258			
20J...C540	364	336	286	20J...D505	390	361	307			
20J...C585	384	373	311	20J...D617	438	426	355			
20J...C302	228	188	162	20J...D302	258	216	177		8	8
20J...C367	286	228	188	20J...D361	307	258	216			
20J...C460	336	286	228	20J...D430	347	307	258			
20J...C540	364	336	286	20J...D505	390	361	307			
20J...C585	387	364	286	20J...D545	422	390	307			
20J...C650	467	405	336	20J...D617	508	442	347			
20J...C750	479	467	364	20J...D710	529	508	390		9	9
20J...C770	518	479	405	20J...D740	573	529	442			
20J...C920	647	572	479	20J...D800	687	573	529			
20J...C1K0	678	647	572	20J...D960	748	687	573			
20J...C1K1	735	692	647	20J...D1K0	802	748	687			
20J...C1K2	911	731	678	20J...D1K1	977	812	748			
20J...C1K4	983	910	731	20J...D1K3	1087	977	812			
20J...C1K6	1067	984	911	20J...D1K4	1184	1016	977		10	10
20J...C1K7	1337	1067	921	20J...D1K6	1481	1184	1016			
20J...C2K1	1449	1342	1067	20J...D2K0	1603	1483	1184			
20J...C2K8	1915	1772	1449	20J...D2K6	2118	1959	1603	11	11	11
20J...C3K5	2393	2204	1886	20J...D3K4	2632	2436	2132			
20J...C4K2	2847	2634	2226	20J...D4K0	3149	2912	2430			
20J...C5K6	3779	3496	2954	20J...D5K4	4180	3865	3225			
20J...C7K0	4711	4358	3684	20J...D6K7	5210	4818	4020			

600/690V AC 755TM Bus Supplies

Catalog Number	Light Duty kW Output	Normal Duty kW Output	Heavy Duty kW Output	Catalog Number	Light Duty kW Output	Normal Duty kW Output	Heavy Duty kW Output	Enclosure Code/Frame Size		
600 Volt				690 Volt				N (IP00, UL Open Type)	3 (IP21, UL Type 1)	4 (IP54, UL Type 12)
20J...E077	89	69	56	20J...F082	101	84	63	6	—	—
20J...E099	112	89	69	20J...F098	122	101	84			
20J...E125	129	112	89	20J...F119	146	122	101			
20J...E144	171	129	112	20J...F142	176	146	122			
20J...E192	216	171	129	20J...F171	221	176	146	—	7	7
20J...E242	263	217	171	20J...F215	272	221	176			
20J...E295	317	263	217	20J...F265	339	272	221			
20J...E355	353	317	263	20J...F330	380	339	272			
20J...E395	389	353	317	20J...F370	426	380	339		8	8
20J...E242	263	217	171	20J...F215	272	221	176			
20J...E295	317	263	217	20J...F265	339	272	221			
20J...E355	353	317	263	20J...F330	380	339	272			
20J...E395	389	353	317	20J...F370	426	380	339			
20J...E435	456	389	353	20J...F415	472	426	380		9	9
20J...E545	518	487	403	20J...F505	580	518	426			
20J...E595	617	518	487	20J...F565	580	580	518			
20J...E690	680	617	532	20J...F650	754	667	580			
20J...E760	737	680	617	20J...F735	842	754	667		10	10
20J...E825	877	737	680	20J...F820	944	842	754			
20J...E980	985	877	737	20J...F920	1102	944	842			
20J...E1K1	1091	935	877	20J...F1K0	1180	1057	944			
20J...E1K2	1279	1091	935	20J...F1K1	1380	1180	1057	11	11	11
20J...E1K5	1452	1279	1091	20J...F1K4	1624	1456	1193			
20J...E2K0	1919	1740	1520	20J...F1K8	2146	1914	1576			
20J...E2K4	2386	2164	1851	20J...F2K3	2668	2379	2073			
20J...E2K9	2851	2678	2215	20J...F2K7	3190	2849	2343			
20J...E3K9	3784	3555	2939	20J...F3K6	4234	3781	3110			
20J...E4K9	4717	4432	3664	20J...F4K5	5278	4714	3877			

400/480V AC 755TM Common Bus Inverters

Catalog Number	Light Duty kW Output	Normal Duty kW Output	Heavy Duty kW Output	Catalog Number	Light Duty Hp Output	Normal Duty Hp Output	Heavy Duty Hp Output	Enclosure Code/Frame Size	
								3 (IP21, UL Type 1)	4 (IP54, UL Type 12)
400 Volt				480 Volt					
20G...C302	200	160	132	20G...D302	300	250	200	8	8
20G...C367	250	200	160	20G...D361	350	300	250		
20G...C460	315	250	200	20G...D430	400	350	300		
20G...C540	315	315	250	20G...D505	450	400	350		
20G...C585	355	315	250	20G...D545	500	450	350		
20G...C650	400	355	315	20G...D617	600	500	400		
20G...C750	450	400	315	20G...D710	650	600	450		
20G...C770	450	400	355	20G...D740	700	650	500		
20G...C920	560	500	400	20G...D800	800	700	600	9	9
20G...C1K0	630	560	500	20G...D960	900	800	700		
20G...C1K1	710	630	500	20G...D1K0	1000	900	750		
20G...C1K2	800	710	560	20G...D1K1	1100	1000	800		
20G...C1K4	850	800	630	20G...D1K3	1250	1100	900		
20G...C1K6	1000	850	710	20G...D1K4	1500	1250	1000	10	10
20G...C1K7	1250	1000	800	20G...D1K6	1800	1500	1100		
20G...C2K1	1400	1250	1000	20G...D2K0	2000	1800	1500		
20G...C2K8	1800	1650	1400	20G...D2K6	2600	2400	2000	11	11
20G...C3K5	2200	2000	1650	20G...D3K4	3300	3000	2400	12	12
20G...C4K2	2475	2200	1953	20G...D4K0	3900	3600	2800	13	13
20G...C5K6	3285	2920	2592	20G...D5K4	5200	4800	3700	14	14
20G...C7K0	4095	3640	3231	20G...D6K7	6400	6000	4600	15	15

600/690V AC 755TM Common Bus Inverters

Catalog Number	Light Duty Hp Output	Normal Duty Hp Output	Heavy Duty Hp Output	Catalog Number	Light Duty kW Output	Normal Duty kW Output	Heavy Duty kW Output	Enclosure Code/Frame Size	
								3 (IP21, UL Type 1)	4 (IP54, UL Type 12)
600 Volt				690 Volt				8	8
20G...E242	300	250	200	20G...F215	250	200	160		
20G...E295	350	300	250	20G...F265	315	250	200		
20G...E355	400	350	300	20G...F330	355	315	250		
20G...E395	450	400	350	20G...F370	400	355	315		
20G...E435	500	450	400	20G...F415	450	400	355		
20G...E545	600	550	450	20G...F505	560	500	400	9	9
20G...E595	700	600	550	20G...F565	630	560	500		
20G...E690	800	700	600	20G...F650	710	630	560		
20G...E760	900	800	700	20G...F735	800	710	630		
20G...E825	1000	900	800	20G...F820	900	800	710		
20G...E980	1100	1000	900	20G...F920	1000	900	800		
20G...E1K1	1250	1100	1000	20G...F1K0	1100	1000	900	10	10
20G...E1K2	1500	1250	1100	20G...F1K1	1250	1100	1000		
20G...E1K5	1600	1500	1250	20G...F1K4	1500	1400	1100		
20G...E2K0	2100	2000	1800	20G...F1K8	2000	1800	1500	11	11
20G...E2K4	2600	2500	2100	20G...F2K3	2500	2300	2000	12	12
20G...E2K9	3300	3100	2500	20G...F2K7	3080	2750	2200	13	13
20G...E3K9	4400	4100	3300	20G...F3K6	4088	3650	2920	14	14
20G...E4K9	5500	5100	4100	20G...F4K5	5096	4550	3640	15	15

Enclosure Options

IMPORTANT IP21, UL Type 1 PowerFlex 750-Series drives must be installed in a clean, dry location. Contaminants such as oils, corrosive vapors and abrasive debris must be kept out of the enclosure. These enclosures are intended for indoor use primarily to provide a degree of protection against contact with enclosed equipment. These enclosures offer no protection against airborne contaminants. Refer to the following tables for an explanation of enclosure options and the environmental specifications found on [page 38](#). See Industry Installation Guidelines for Pulse Width Modulated (PWM) AC Drives, publication [DRIVES-AT003](#) for additional information.

Pollution Degree Ratings According to EN 61800-5-1

Pollution Degree	Description
1	No pollution or only dry, non-conductive pollution occurs. The pollution has no influence.
2	Normally, only non-conductive pollution occurs. Occasionally, however, a temporary conductivity caused by condensation is to be expected, when the drive is out of operation.
3	Conductive pollution or dry non-conductive pollution occurs, which becomes conductive due to condensation, which is to be expected.
4	The pollution generates persistent conductivity caused, for example by conductive dust or rain or snow.

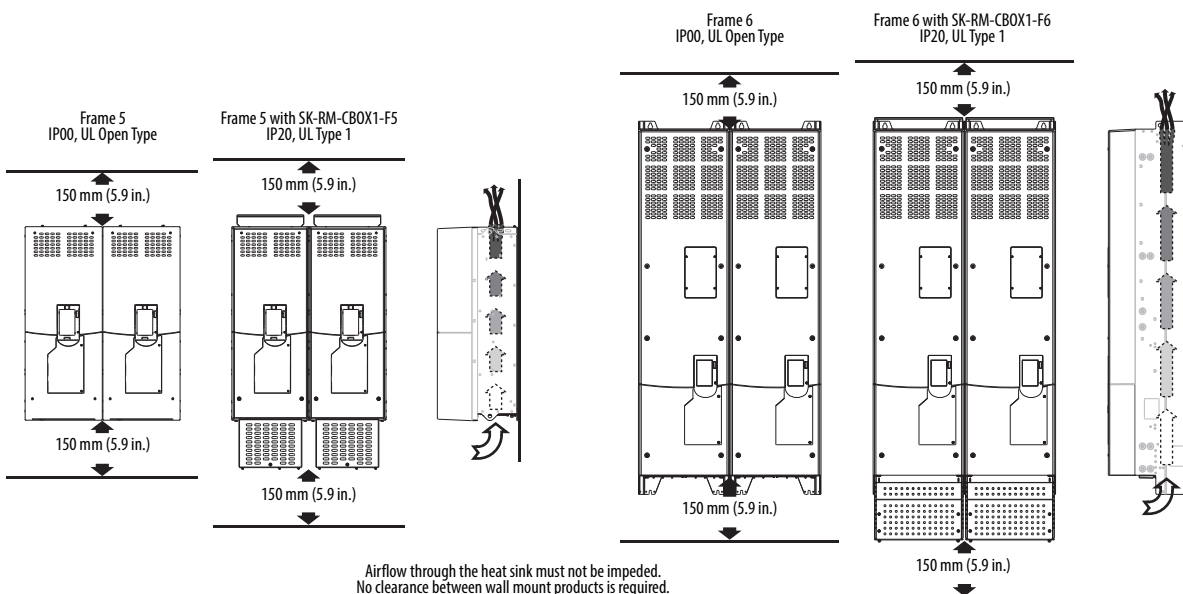
Product Enclosure Ratings

Frames	Enclosure Type (Cat. No. Position 6)	Enclosure Type	Pollution Degree
5 and 6	N	IP00, UL Open Type	1, 2
7...15	3	IP21, UL Type 1	1, 2
	4	IP54, UL Type 12	1, 2, 3, 4

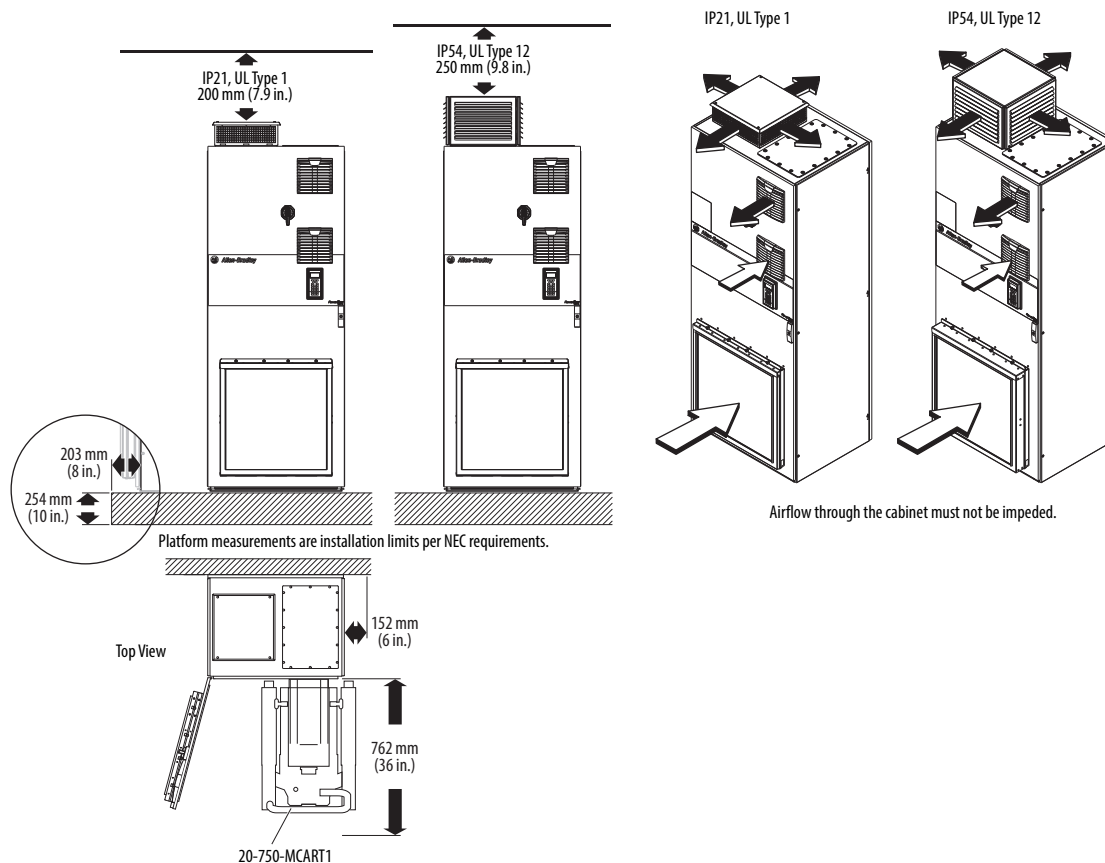
Minimum Mounting Clearances

Specified vertical clearance requirements are intended to be from the PowerFlex 755T product to the closest object that can restrict airflow through the cabinet. The product must be mounted in a vertical orientation as shown and must make full contact with the mounting surface. In addition, inlet air temperature must not exceed the product specification.

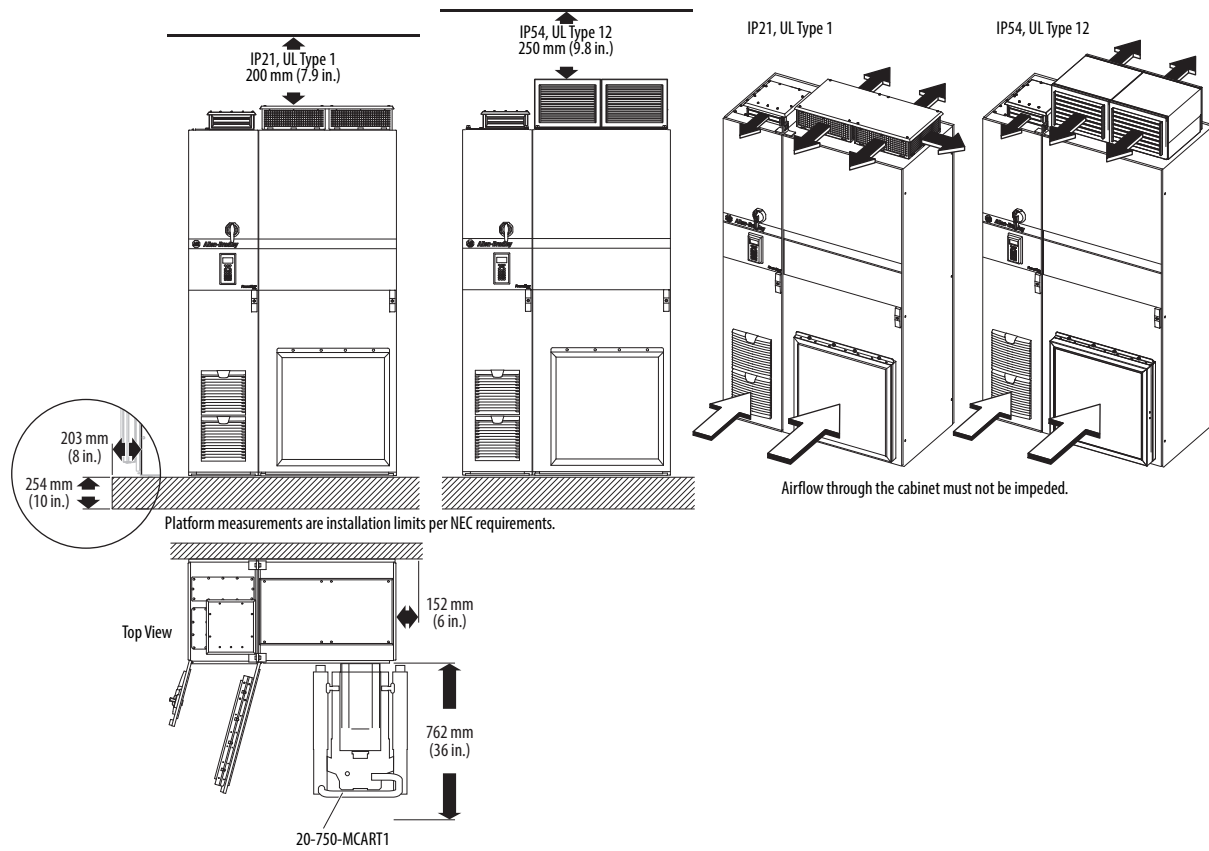
Wall Mount Frames 5...6



Floor Mount Frame 7



Floor Mount Frames 8...15

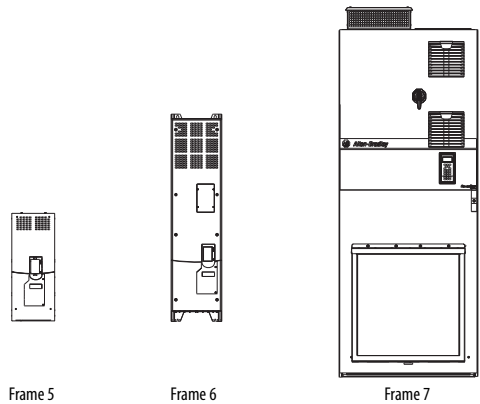


Approximate Weights

Some products are divided for shipment. The weight of each section and the total weight are listed in the tables in this section.

Frame 5...7 Drives and Bus Supplies

Frame 5...7 drives and bus supplies ship as complete units.

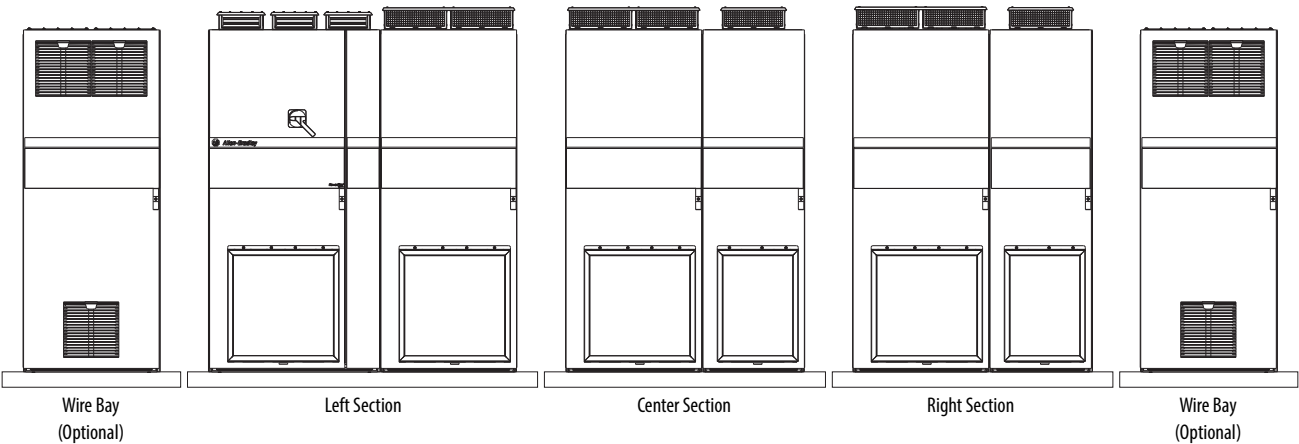


Approximate Maximum Weights - Frames 5...7 Drives and Bus Supplies

Device	Frame Size	Approximate Maximum Weight, kg (lb)	Approximate Maximum Weight with Packaging, kg (lb)
755TL drives	5	73 (160)	85 (187)
	6	145 (320)	158 (349)
	7	567 (1250)	596 (1315)
755TR drives	5	73 (160)	85 (187)
	6	145 (320)	158 (349)
	7	567 (1250)	596 (1315)
755TM bus supplies	6	145 (320)	158 (349)
	7	454 (1000)	533 (1175)

Shipment Sections

This diagram illustrates how products are divided for shipment.



Approximate Maximum Drive and Bus Supply Weights – Frames 8...12

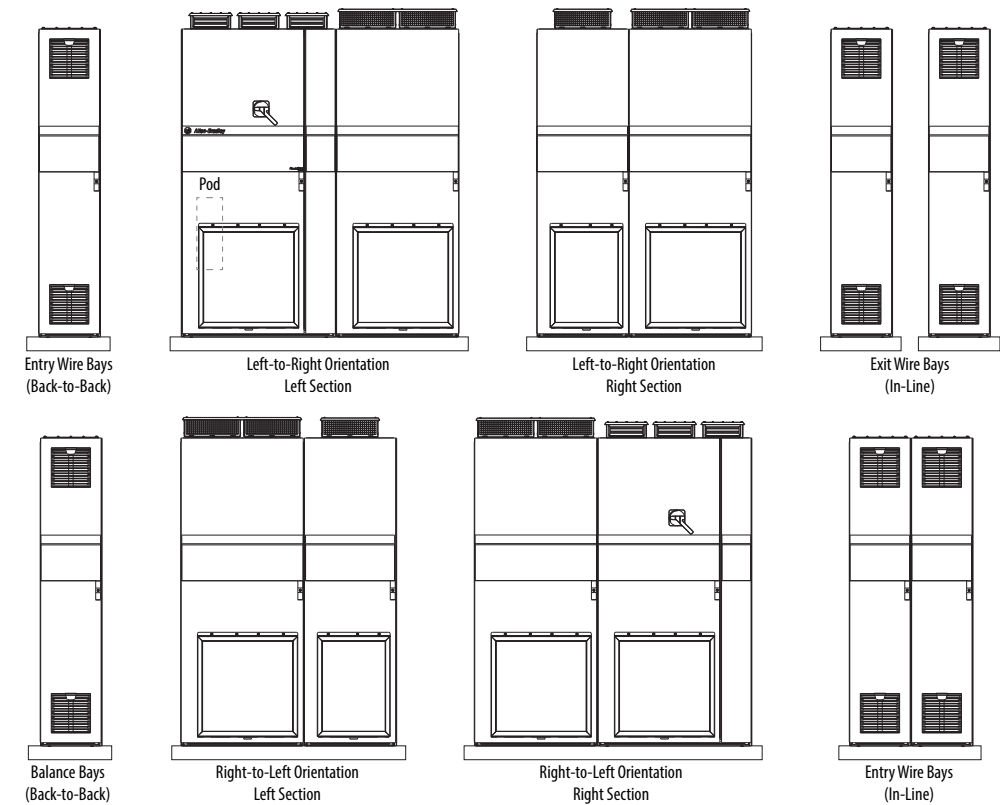
Device	Frame Size	Approximate Maximum Unit Weight, kg (lb)				Approximate Maximum Weight with Packaging, kg (lb)			
		Input and Power Bay		with Entry Wire Bay		with Entry and Exit Wire Bay		Input and Power Bay	
7551L Drives	8	Total: 900 (1984)		Total: 987 (2176)		Total: 987 (2176)		Total: 993 (2189)	
	9	Total: 1683 (3710)		Total: 1770 (3902)		Total: 1770 (3902)		Total: 1817 (4006)	
	10	Left section: 1553 (3423) Right section: 1370 (3021) Total: 2923 (6444)	Left section: 1630 (3593) Right section: 1370 (3021) Total: 3000 (6614)	Left section: 1553 (3423) Right section: 1457 (3213) Total: 3010 (6636)	Left section: 1640 (3616) Right section: 1457 (3213) Total: 3097 (6829)	Left section: 1683 (3710) Right section: 1467 (3234) Total: 3150 (6944)	Left section: 1782 (3929) Right section: 1467 (3234) Total: 3249 (7163)	Left section: 1697 (3741) Right section: 1601 (3530) Total: 3298 (7271)	Left section: 1753 (3865) Right section: 1601 (3530) Total: 3354 (7395)
7551R Drives	8	Total: 900 (1984)		Total: 987 (2176)		Total: 987 (2176)		Total: 993 (2189)	
	9	Total: 1683 (3710)		Total: 1770 (3902)		Total: 1770 (3902)		Total: 1817 (4006)	
	10	Left section: 1553 (3423) Right section: 1370 (3021) Total: 2923 (6444)	Left section: 1630 (3593) Right section: 1370 (3021) Total: 3000 (6614)	Left section: 1553 (3423) Right section: 1457 (3213) Total: 3010 (6636)	Left section: 1640 (3616) Right section: 1457 (3213) Total: 3097 (6829)	Left section: 1683 (3710) Right section: 1467 (3234) Total: 3150 (6944)	Left section: 1782 (3929) Right section: 1467 (3234) Total: 3249 (7163)	Left section: 1697 (3741) Right section: 1601 (3530) Total: 3298 (7271)	Left section: 1753 (3865) Right section: 1601 (3530) Total: 3354 (7395)
	11	Left section: 1642 (3620) Right section: 2018 (4449) Total: 3660 (8069)	Left section: 242 (533) Right section: 1642 (3620) Total: 3902 (8622)	Left section: 1642 (3620) Right section: 2018 (4449) Exit wire bay: 242 (533) Total: 3902 (8622)	Left section: 1642 (3620) Right section: 2018 (4449) Exit wire bay: 242 (533) Total: 4144 (9175)	Left section: 1786 (3937) Right section: 2166 (4775) Total: 3952 (8712)	Left section: 1786 (3937) Right section: 2166 (4775) Total: 4261 (9393)	Left section: 1786 (3937) Right section: 2166 (4775) Exit wire bay: 309 (681) Total: 4261 (9393)	Left section: 1786 (3937) Right section: 2166 (4775) Exit wire bay: 309 (681) Total: 4570 (10074)
	12	Left section: 1642 (3621) Center section: 1419 (3128) Right section: 1363 (3004) Total: 4424 (9753)	Left section: 242 (533) Center section: 1642 (3621) Right section: 889 (1959) Total: 4666 (10286)	Left section: 1642 (3621) Center section: 1419 (3128) Right section: 1363 (3004) Exit wire bay: 242 (533) Total: 4666 (10286)	Left section: 242 (533) Center section: 1642 (3621) Right section: 1419 (3128) Exit wire bay: 242 (533) Total: 4908 (10819)	Left section: 1786 (3937) Center section: 1541 (3397) Right section: 1485 (3274) Total: 4812 (10608)	Left section: 1786 (3937) Center section: 1541 (3397) Right section: 1485 (3274) Total: 5121 (11289)	Left section: 1786 (3937) Center section: 1541 (3397) Right section: 1485 (3274) Exit wire bay: 309 (681) Total: 5121 (11289)	Left section: 1786 (3937) Center section: 1541 (3397) Right section: 1485 (3274) Exit wire bay: 309 (681) Total: 5430 (11970)
7551M Bus Supplies	8	Total: 709 (1563)		Total: 709 (1563)		Total: 709 (1563)		Total: 709 (1563)	
	9	Total: 1180 (2601)		Total: 1180 (2601)		Total: 1180 (2601)		Total: 1180 (2601)	
	10	Total: 2106 (4643)		Total: 2106 (4643)		Total: 2106 (4643)		Total: 2106 (4643)	
	11	Left section: 1642 (3621) Right section: 889 (1959) Total: 2531 (5580)	Left section: 242 (533) Right section: 1642 (3621) Total: 2531 (5580)	Left section: 1642 (3621) Right section: 889 (1959) Total: 2531 (5580)	Left section: 242 (533) Right section: 1642 (3621) Total: 2531 (5580)	Left section: 1772 (3907) Right section: 956 (2108) Total: 2531 (5580)	Left section: 1772 (3907) Right section: 956 (2108) Total: 3037 (6696)	Left section: 1772 (3907) Right section: 956 (2108) Total: 3037 (6696)	Left section: 1772 (3907) Right section: 956 (2108) Total: 3037 (6696)
	12	Left section: 1642 (3621) Right section: 1443 (3182) Total: 3085 (6803)	Left section: 242 (533) Right section: 1642 (3621) Total: 3085 (6803)	Left section: 1642 (3621) Right section: 1443 (3182) Total: 3085 (6803)	Left section: 242 (533) Right section: 1642 (3621) Total: 3085 (6803)	Left section: 1772 (3907) Right section: 1540 (3395) Total: 3312 (7302)	Left section: 1772 (3907) Right section: 1540 (3395) Total: 3621 (7983)	Left section: 1772 (3907) Right section: 1540 (3395) Total: 3621 (7983)	Left section: 1772 (3907) Right section: 1540 (3395) Total: 3621 (7983)

Approximate Maximum Common Bus Inverter Weights

Device	Frame Size	Approximate Maximum Unit Weight, kg (lb)				Approximate Maximum Weight with Packaging, kg (lb)			
		Power Bay		with Exit Wire Bay		with Control and Exit Wire Bay		Power Bay	
7551M Common Bus Inverter	8	374 (825)		477 (1052)		588 (1231)		433 (955)	
	9	611 (1348)		714 (1575)		796 (1754)		674 (1486)	
	10	873 (1924)		954 (2103)		1057 (2331)		940 (2072)	
	11	1284 (2830)		1503 (3313)		1584 (3492)		1377 (3036)	
	12	1580 (3483)		1799 (3966)		1880 (4145)		1677 (3697)	

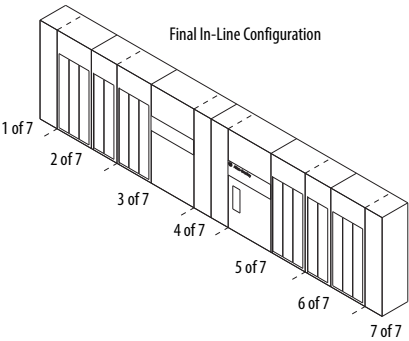
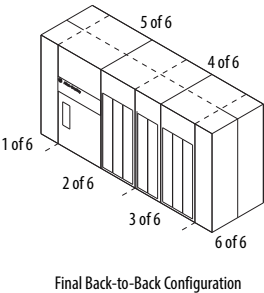
Shipment Sections Frame 13 Drives

This diagram illustrates how products are divided for shipment.



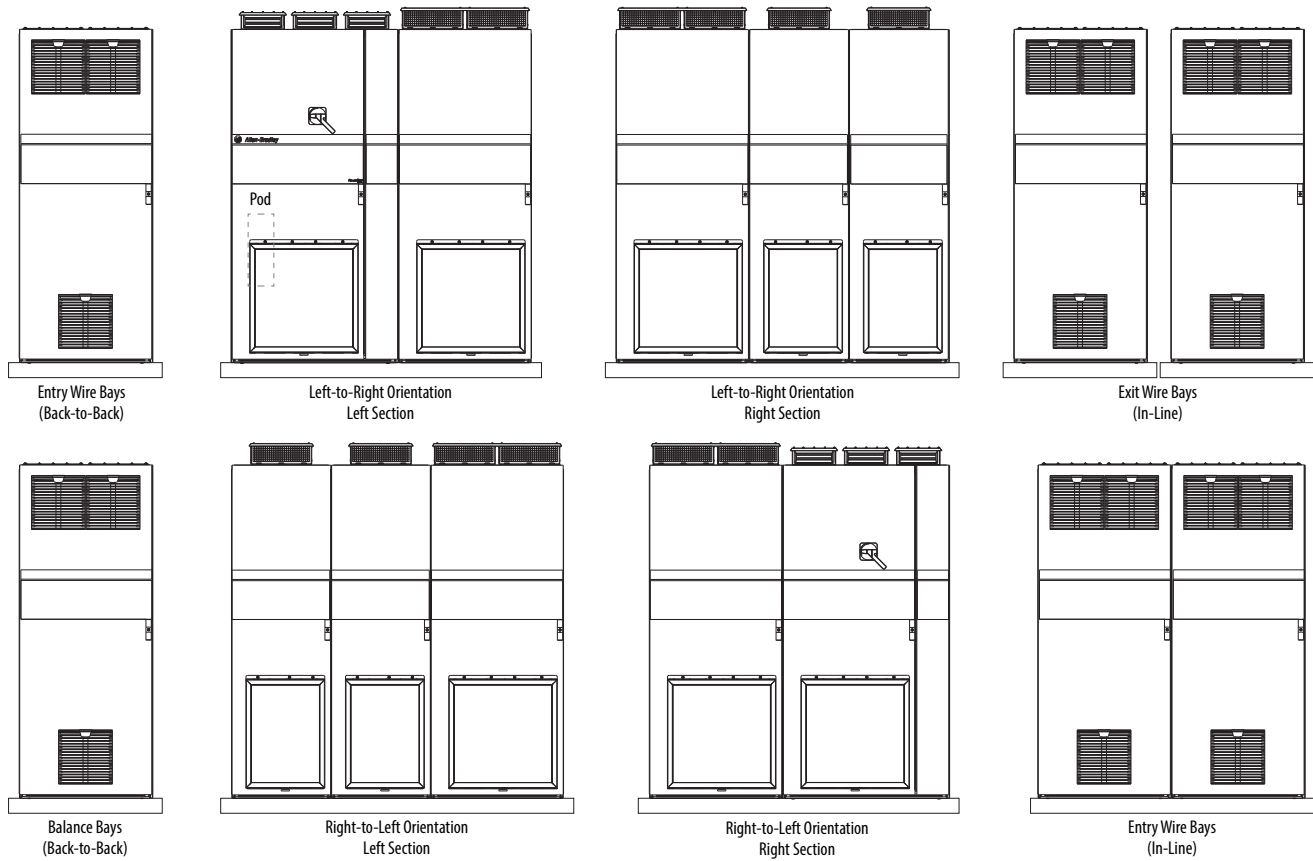
Approximate Maximum Weights - Frame 13 Drives

Device	Frame Size	Approximate Maximum Weight, kg (lb)							
		Back-to-Back Configuration				In-Line Configuration			
		Description	Weight	with Packaging	Section No.	Description	Weight	with Packaging	Section No.
755TR drives	13	Left-to-right orientation				Left-to-right orientation			
		Left section:	1553 (3423)	1683 (3710)	2 of 6	Left section:	1553 (3423)	1683 (3710)	5 of 7
		Right section:	1370 (3021)	1467 (3234)	3 of 6	Right section:	1370 (3021)	1467 (3234)	6 of 7
		Right-to-left orientation				Right-to-left orientation			
		Left section:	1370 (3021)	1467 (3234)	4 of 6	Left section:	1370 (3021)	1467 (3234)	2 of 7
		Right section:	1553(3423)	1683 (3710)	5 of 6	Right section:	1553 (3423)	1683 (3710)	3 of 7
		Wire bays				Wire bays			
		Fiber routing and entry wire bays:	291 (642)	365 (805)	1 of 6	Entry wire bays:	252 (556)	314 (692)	4 of 7
		DC voltage balance and exit wire bays:	291 (642)	365 (805)	6 of 6	Left exit wire bay:	126 (278)	185 (408)	1 of 7
		Total:	6428 (14,172)	7030 (15,498)		Right exit wire bay:	126 (278)	185 (408)	7 of 7
						Total:	6350 (14,000)	6984 (15,397)	

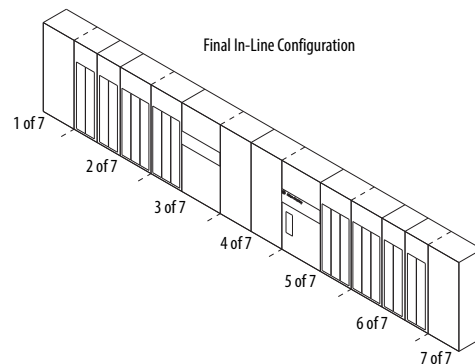
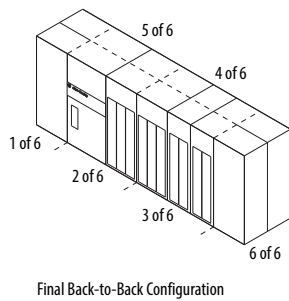


Shipment Sections Frame 14 Drives

This diagram illustrates how products are divided for shipment.

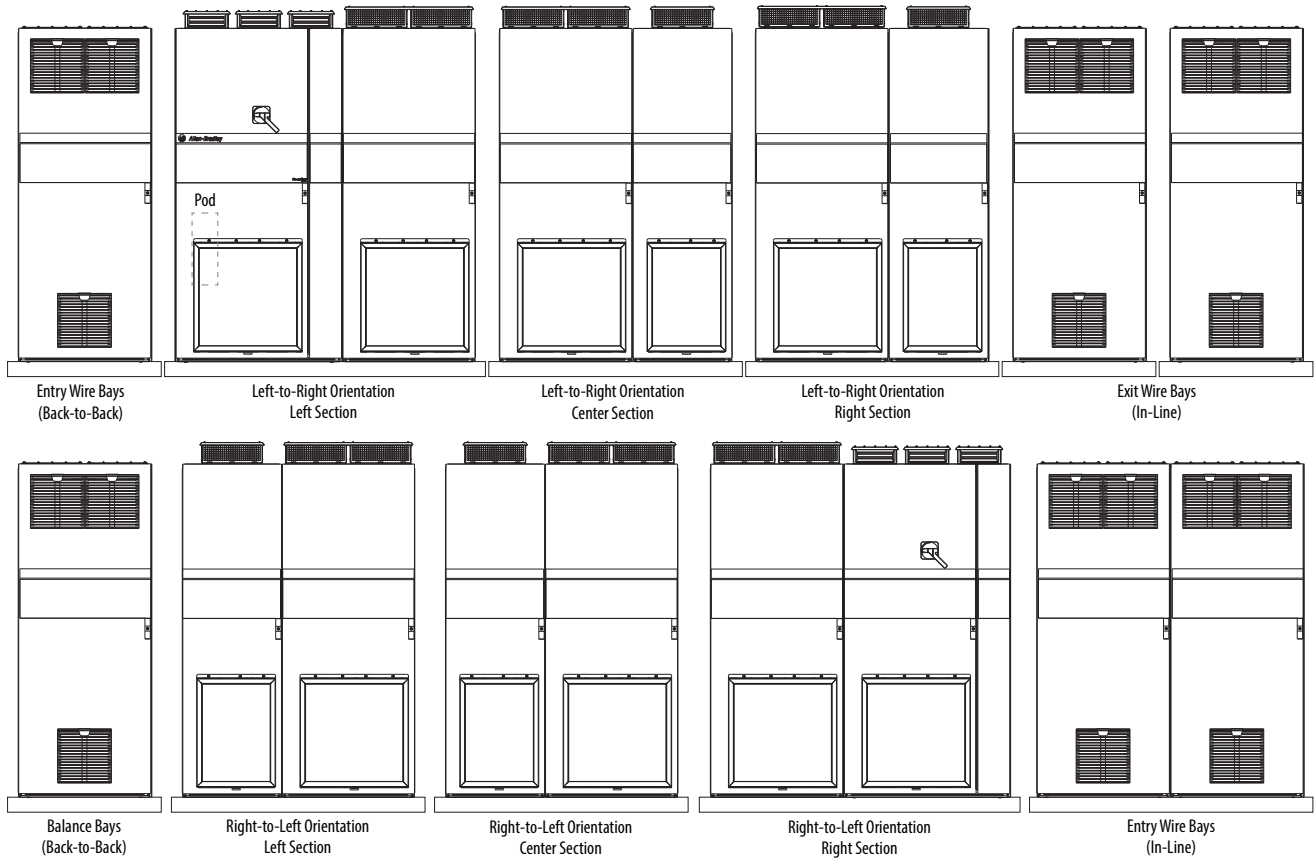
**Approximate Maximum Weights - Frame 14 Drives**

Device	Frame Size	Approximate Maximum Weight, kg (lb)							
		Back-to-Back Configuration				In-Line Configuration			
		Description	Weight	with Packaging	Section No.	Description	Weight	with Packaging	Section No.
755TR drives	14	Left-to-right orientation				Left-to-right orientation			
		Left section:	1642 (3621)	1786 (3937)	2 of 6	Left section:	1642 (3621)	1786 (3937)	5 of 7
		Right section:	2018 (4449)	2166 (4775)	3 of 6	Right section:	2018 (4449)	2166 (4775)	6 of 7
		Right-to-left orientation				Right-to-left orientation			
		Left section:	2018 (4449)	2166 (4775)	4 of 6	Left section:	2018 (4449)	2166 (4775)	2 of 7
		Right section:	1642(3621)	1786 (3937)	5 of 6	Right section:	1642 (3621)	1786 (3937)	3 of 7
		Wire bays				Wire bays			
		Fiber routing and entry wire bays:	523 (1154)	597 (1316)	1 of 6	Entry wire bays:	484 (1066)	600 (1323)	4 of 7
		DC voltage balance and exit wire bays:	523 (1154)	597 (1316)	6 of 6	Left exit wire bay:	242 (533)	309 (681)	1 of 7
		Total:	8366 (18,448)	9098 (20,058)		Right exit wire bay:	242 (533)	309 (681)	7 of 7
				Total:	8288 (18,272)	9122 (20,111)			



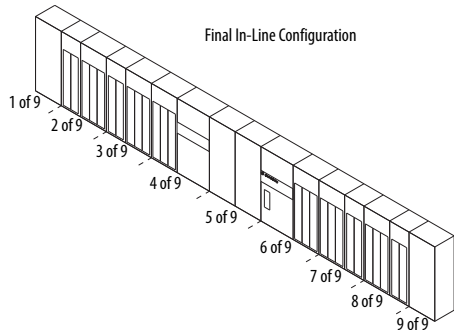
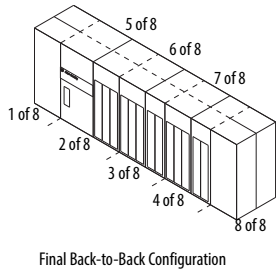
Shipment Sections Frame 15 Drives

This diagram illustrates how products are divided for shipment.



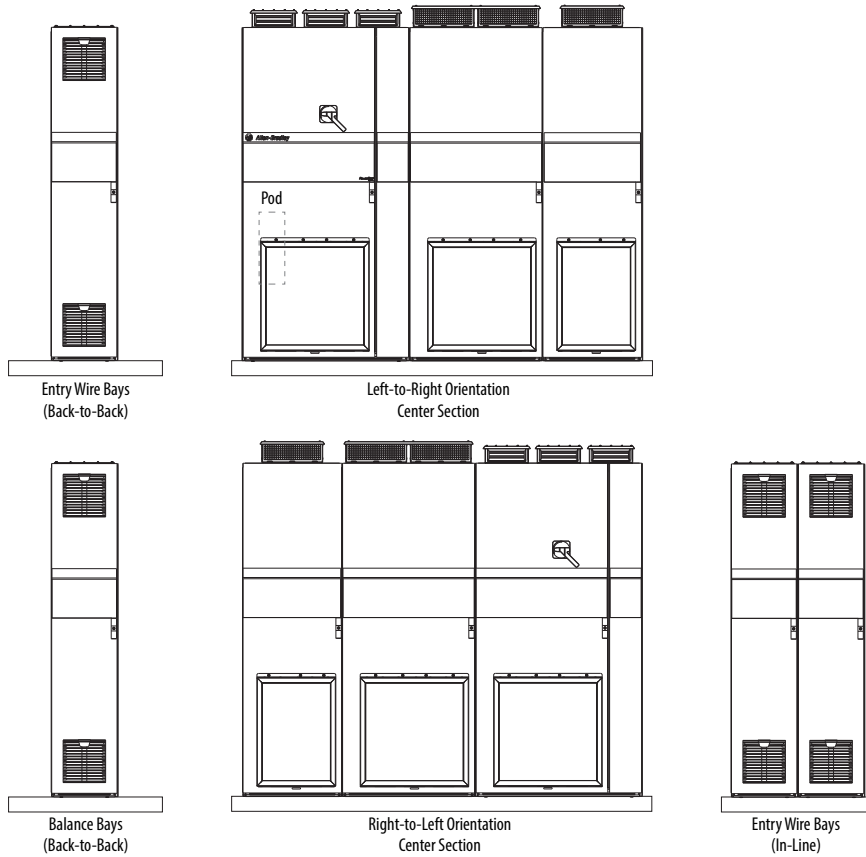
Approximate Maximum Weights - Frame 15 Drives

Device	Frame Size	Approximate Maximum Weight, kg (lb)							
		Back-to-Back Configuration				In-Line Configuration			
		Description	Weight	with Packaging	Section No.	Description	Weight	with Packaging	Section No.
755TR drives	15	Left-to-right orientation				Left-to-right orientation			
		Left section:	1642 (3621)	1786 (3937)	2 of 8	Left section:	1642 (3621)	1786 (3937)	6 of 9
		Center section:	1419 (3128)	1541 (3397)	3 of 8	Center section:	1419 (3128)	1541 (3397)	7 of 9
		Right section:	1363 (3004)	1485 (3274)	4 of 8	Right section:	1363 (3004)	1485 (3274)	8 of 9
		Right-to-left orientation				Right-to-left orientation			
		Left section:	1363 (3004)	1485 (3274)	5 of 8	Left section:	1363 (3004)	1485 (3274)	2 of 9
		Center section:	1419 (3128)	1541 (3397)	6 of 8	Center section:	1419 (3128)	1541 (3397)	3 of 9
		Right section:	1642 (3621)	1786 (3937)	7 of 8	Right section:	1642 (3621)	1786 (3937)	4 of 9
		Wire bays				Wire bays			
		Fiber routing and entry wire bays:	523 (1154)	597 (1316)	1 of 8	Entry wire bays:	484 (1066)	600 (1323)	5 of 9
DC voltage balance and exit wire bays:	523 (1154)	597 (1316)	8 of 8	Left exit wire bay:	242 (533)	309 (681)	1 of 9		
	Total:	9894 (21,814)	10,818 (23,850)		Right exit wire bay:	242 (533)	309 (681)	9 of 9	
					Total:	9816 (21,638)	10,842 (23,902)		

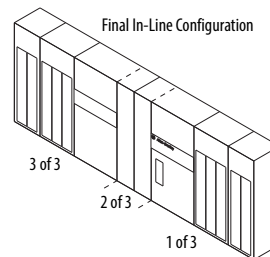
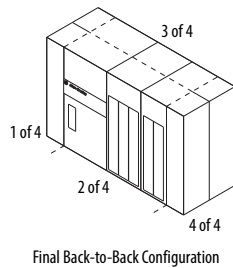


Shipment Sections Frame 13 Bus Supplies

This diagram illustrates how products are divided for shipment.

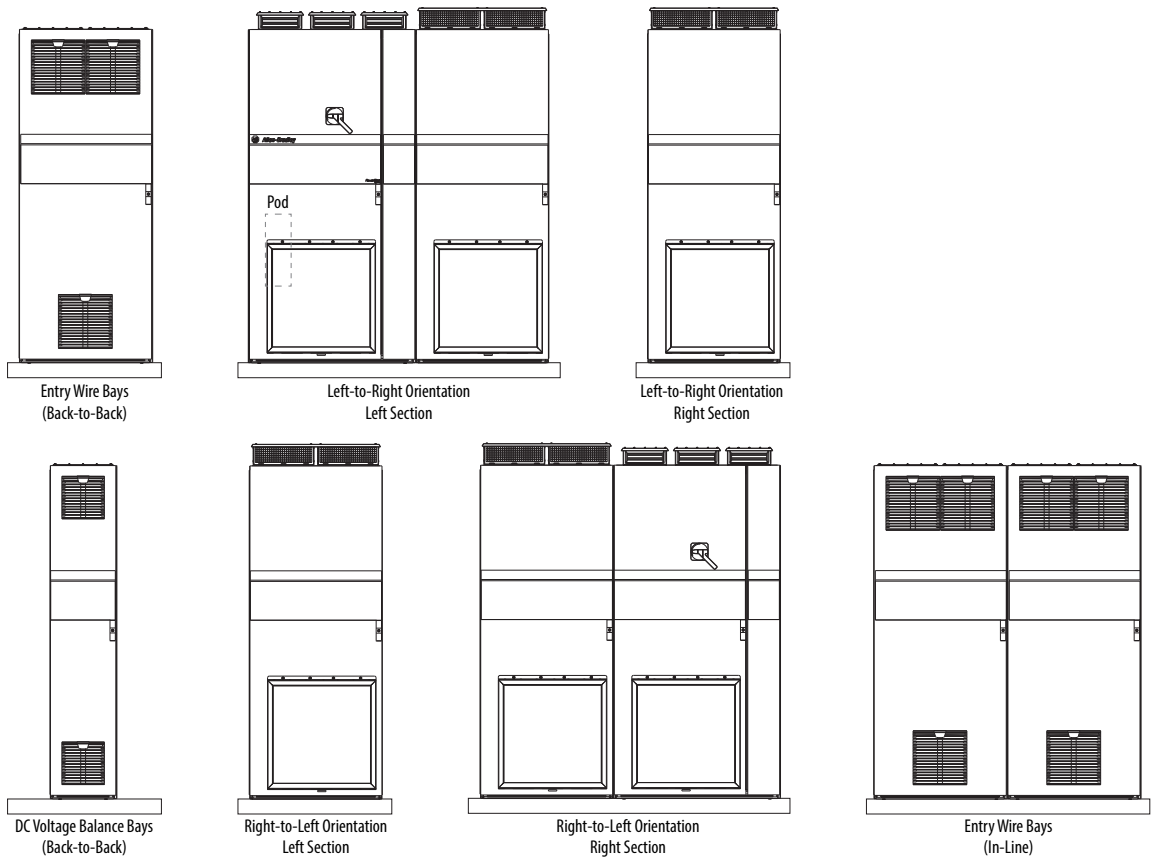
**Approximate Maximum Weights - Frame 13 Bus Supplies**

Device	Frame Size	Approximate Maximum Weight, kg (lb)							
		Back-to-Back Configuration				In-Line Configuration			
		Description	Weight	with Packaging	Section No.	Description	Weight	with Packaging	Section No.
755TM bus supplies	13	Left-to-right orientation				Left-to-right orientation			
		Center section:	2106 (4643)	2264 (4991)	2 of 4	Center section:	2106 (4643)	2264 (4991)	1 of 3
		Right-to-left orientation				Right-to-left orientation			
		Center section:	2106 (4643)	2264 (4991)	3 of 4	Center section:	2106 (4643)	2264 (4991)	3 of 3
		Wire bays				Wire bays			
		Fiber routing and entry wire bays:	252 (556)	365 (805)	1 of 4	Entry wire bays:	252 (556)	370 (816)	2 of 3
		DC voltage balance bays:	252 (556)	365 (805)	4 of 4	Total:	4464 (9842)	4898 (10,798)	
		Total:	4716 (10,398)	5258 (11,592)					



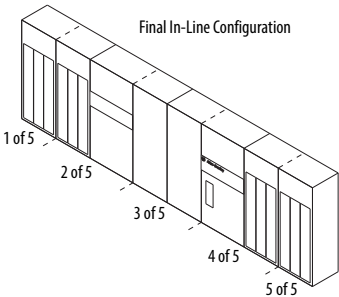
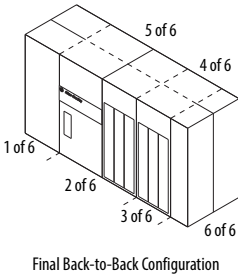
Shipment Sections Frame 14 Bus Supplies

This diagram illustrates how products are divided for shipment.



Approximate Maximum Weights - Frame 14 Bus Supplies

Device	Frame Size	Approximate Maximum Weight, kg (lb)							
		Back-to-Back Configuration				In-Line Configuration			
		Description	Weight	with Packaging	Section No.	Description	Weight	with Packaging	Qty.
755TM bus supplies	14	Left-to-right orientation				Left-to-right orientation			
		Left section:	1642 (3621)	1772 (3907)	2 of 6	Left section:	1642 (3621)	1772 (3907)	4 of 5
		Right section:	889 (1959)	956 (2108)	3 of 6	Right section:	889 (1959)	956 (2108)	5 of 5
		Right-to-left orientation				Right-to-left orientation			
		Left section:	889 (1959)	956 (2108)	4 of 6	Left section:	889 (1959)	956 (2108)	1 of 5
		Right section:	1642 (3621)	1772 (3907)	5 of 6	Right section:	1642 (3621)	1772 (3907)	2 of 5
		Wire bays				Wire bays			
		Fiber routing and entry wire bays:	484 (1066)	597 (1316)	1 of 6	Entry wire bays:	484 (1066)	600 (1323)	3 of 5
		DC voltage balance bays:	252 (556)	365 (805)	6 of 6	Total:	5546 (12,226)	6056 (13,353)	
		Total:	5798 (12,782)	6418 (14,149)					

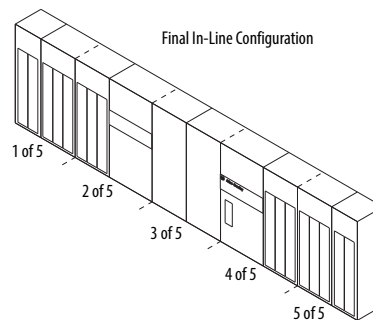
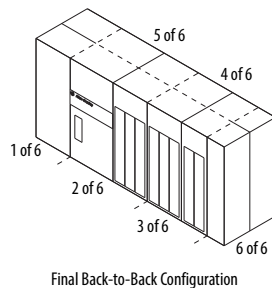


Shipment Sections Frame 15 Bus Supplies

This diagram illustrates how products are divided for shipment.

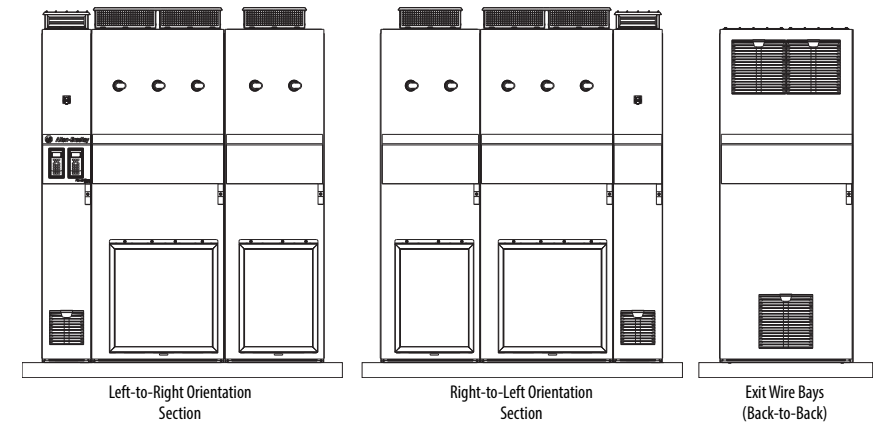
**Approximate Maximum Weights - Frame 15 Bus Supplies**

Device	Frame Size	Approximate Maximum Weight, kg (lb)							
		Back-to-Back Configuration				In-Line Configuration			
		Description	Weight	with Packaging	Section No.	Description	Weight	with Packaging	Section No.
755TM bus supplies	15	Left-to-right orientation				Left-to-right orientation			
		Left section:	1642 (3621)	1772 (3907)	2 of 6	Left section:	1642 (3621)	1772 (3907)	4 of 5
		Right section:	1443 (3182)	1540 (3395)	3 of 6	Right section:	1443 (3182)	1540 (3395)	5 of 5
		Right-to-left orientation				Right-to-left orientation			
		Left section:	1443 (3182)	1540 (3395)	4 of 6	Left section:	1443 (3182)	1540 (3395)	1 of 5
		Right section:	1642 (3621)	1772 (3907)	5 of 6	Right section:	1642 (3621)	1772 (3907)	2 of 5
		Wire bays				Wire bays			
		Fiber routing and entry wire bays:	484 (1066)	597 (1316)	1 of 6	Entry wire bays:	484 (1066)	600 (1323)	3 of 5
		DC voltage balance bays:	252 (556)	365 (805)	6 of 6	Total:	6654 (14,672)	7224 (15,927)	
		Total:	6906 (15,228)	7586 (16,724)					



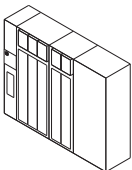
Shipment Sections Frame 8...15 Common Bus Inverters

This diagram illustrates how products are divided for shipment. Frame 15 is shown. Frame 8...12 common bus inverters ship as one in-line section.



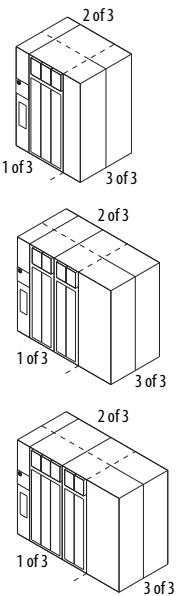
Approximate Maximum Unit Weights - Frame 8...12 Common Bus Inverters

Device	Frame Size	Approximate Maximum Weight <i>kg (lb)</i>				Approximate Maximum Weight with Packaging <i>kg (lb)</i>			
		<i>Power Bay</i>	<i>with Control Bay</i>	<i>with Exit Wire Bay</i>	<i>with Control and Exit Wire Bay</i>	<i>Power Bay</i>	<i>with Control Bay</i>	<i>with Exit Wire Bay</i>	<i>with Control and Exit Wire Bay</i>
755TM common bus inverters	8	374 (825)	455 (1004)	477 (1052)	588 (1231)	433 (955)	520 (1146)	544 (1199)	679 (1497)
	9	611 (1348)	692 (1527)	714 (1575)	796 (1754)	674 (1486)	761 (1678)	803 (1770)	891 (1964)
	10	873 (1924)	954 (2103)	954 (2103)	1057 (2331)	940 (2072)	1045 (2304)	1047 (2308)	1156 (2549)
	11	1284 (2830)	1365 (3009)	1503 (3313)	1584 (3492)	1377 (3036)	1464 (3228)	1637 (3609)	1738 (3832)
	12	1580 (3483)	1661 (3662)	1799 (3966)	1880 (4145)	1677 (3697)	1789 (3944)	1951 (4301)	2040 (4497)



Approximate Maximum Weights - Frame 13...15 Common Bus Inverters

Device	Frame Size	Approximate Maximum Weight, <i>kg (lb)</i>			
		Back-to-Back Configuration			
		<i>Description</i>	<i>Max Weight</i>	<i>with Packaging</i>	<i>Section No.</i>
755TM common bus inverters	13	Left-to-right orientation	Section: 954 (2103)	1045 (2304)	1 of 3
		Right-to-left orientation			2 of 3
		Wire bays	291 (642)	365 (805)	3 of 3
		Fiber routing, DC voltage balance, and exit wire bays: Total: 2199 (4848)			
	14	Left-to-right orientation	Section: 1365 (3009)	1464 (3228)	1 of 3
		Right-to-left orientation			2 of 3
		Wire bays	523 (1154)	597 (1316)	3 of 3
		Fiber routing, DC voltage balance, and exit wire bays: Total: 3253 (7172)			
	15	Left-to-right orientation	Section: 1542 (3400)	1789 (3944)	1 of 3
		Right-to-left orientation			2 of 3
		Wire bays	523 (1154)	597 (1316)	3 of 3
		Fiber routing, DC voltage balance, and exit wire bays: Total: 3607 (7954)			



Approximate Maximum Entry and Exit Wiring Bay Weights

Bay Width <i>mm (in.)</i>	Maximum Weight <i>kg (lb)</i>	Maximum Weight with Packaging <i>kg (lb)</i>
400 (15.7)	102 (225)	129 (285)
800 (31.5)	242 (535)	309 (682)

Approximate Maximum Module Weights

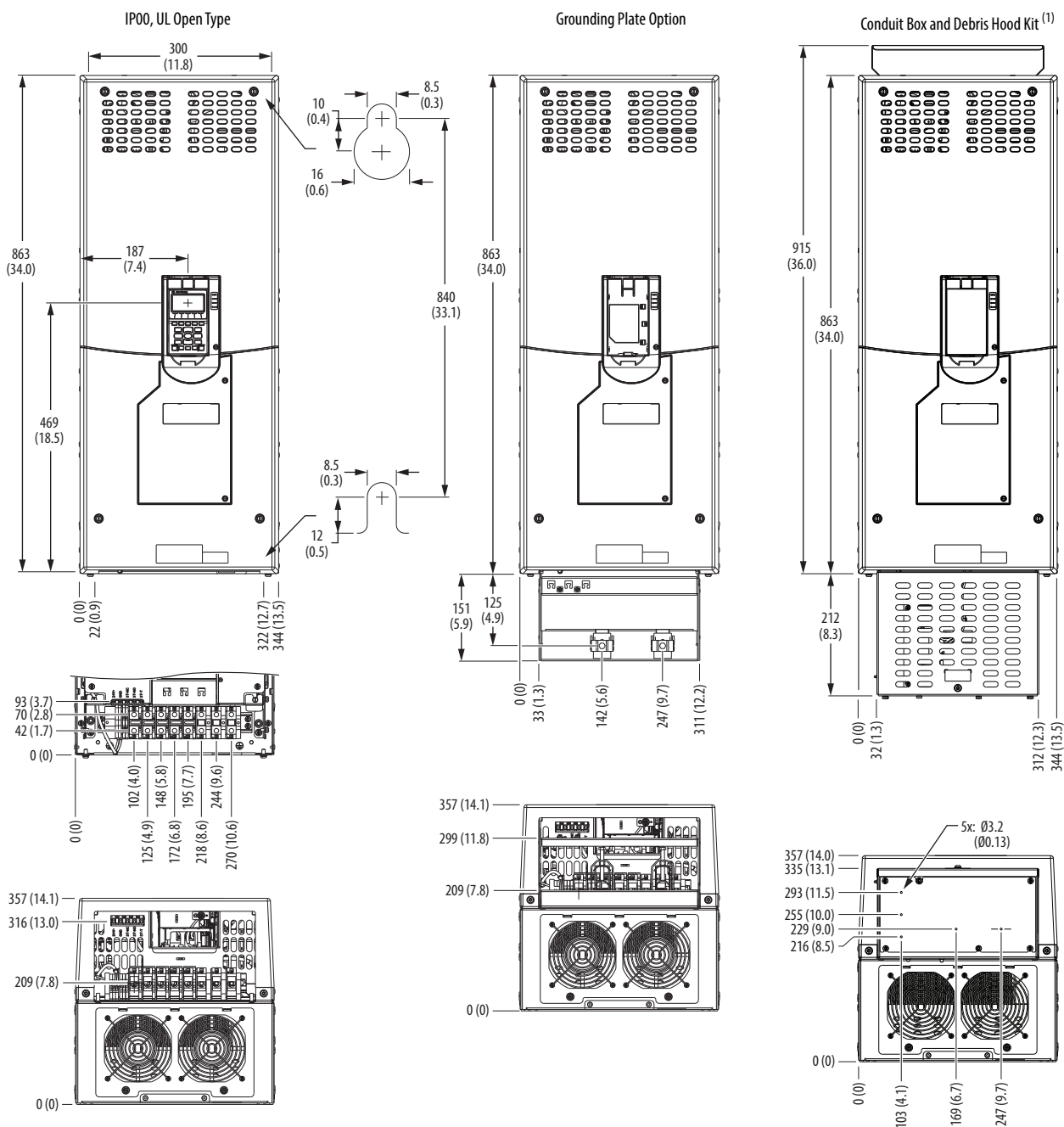
Module	Maximum Weight <i>kg (lb)</i>	Maximum Weight with Packaging <i>kg (lb)</i>
AC Precharge/Circuit Breaker (Frame 8)	41 (90)	71 (157)
AC Precharge/Circuit Breaker (Frame 9)	132 (291)	173 (381)
DC Precharge/Disconnect	41 (90)	44 (97)
Inverter/Converter Power Module (Frame 7)	113 (250)	164 (362)
Inverter/Converter Power Module (Frames 8 . . . 15)	142 (312)	192 (424)
LCL Filter Module (Frame 7)	175 (385)	226 (497)
1xLCL Filter Module	213 (470)	264 (582)
2xLCL Filter Module	322 (710)	373 (822)

Approximate Maximum IP54, UL Type 12 Roof Fan Assembly Weights

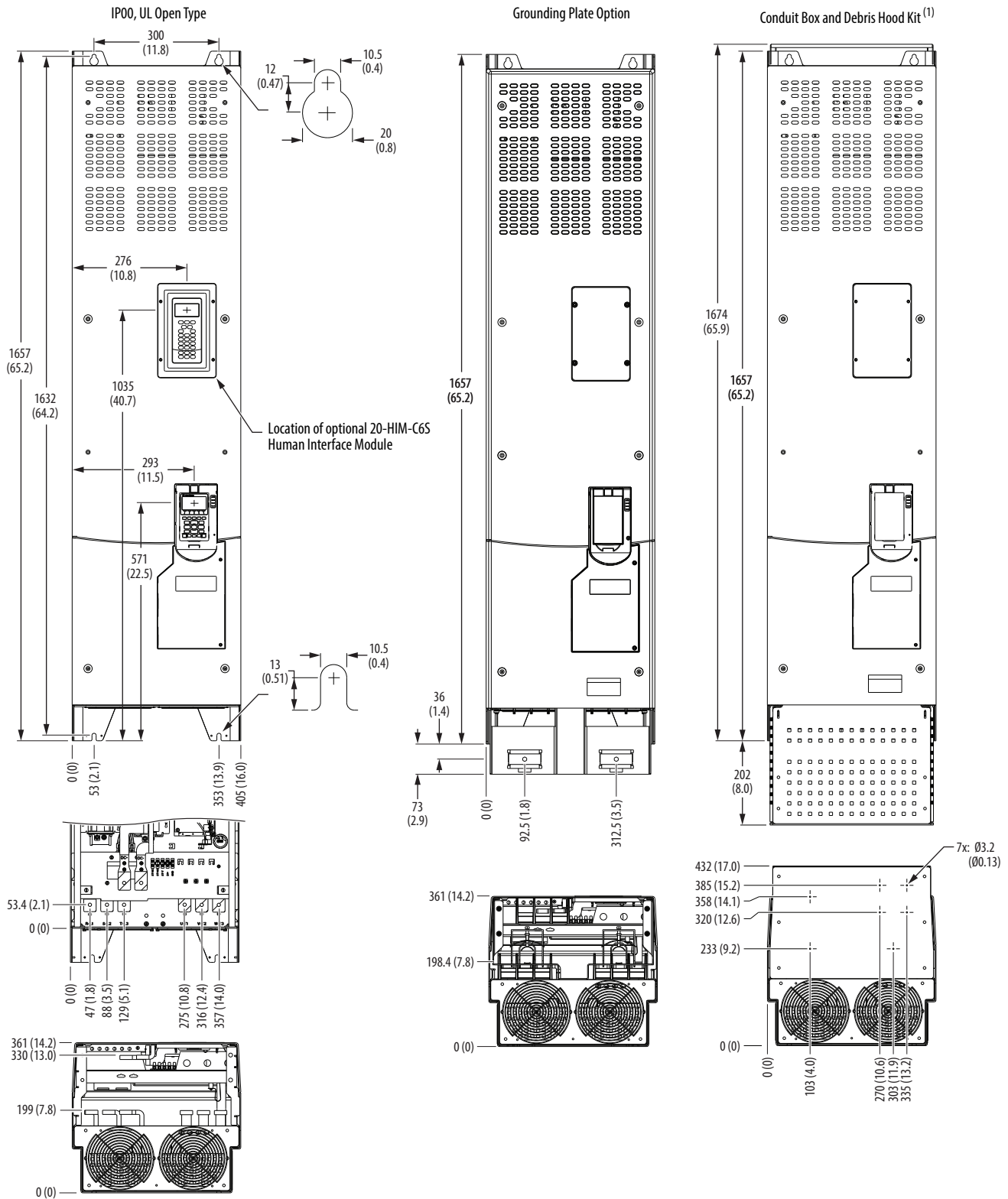
Bay Width <i>mm (in.)</i>	Maximum Weight <i>kg (lb)</i>	Maximum Weight with Packaging <i>kg (lb)</i>
400 (15.7)	25 (55)	30 (66)
600 (23.6)	25 (55)	32 (71)
800 (31.5)	50 (110)	57 (126)

PowerFlex 755TL and 755TR Drives Approximate Dimensions

Frame 5 Drives Front and Bottom Views - Dimensions are mm (in.)

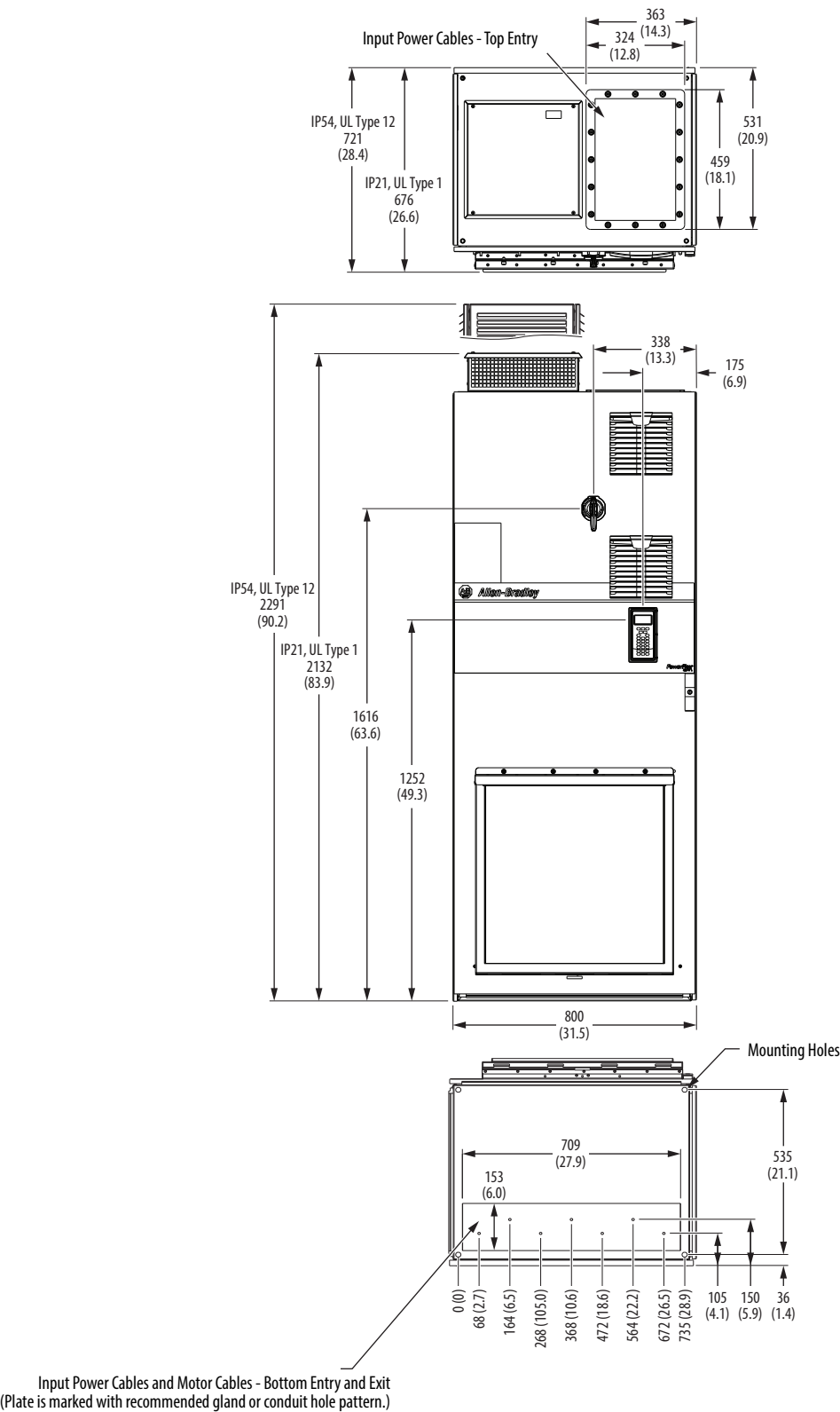


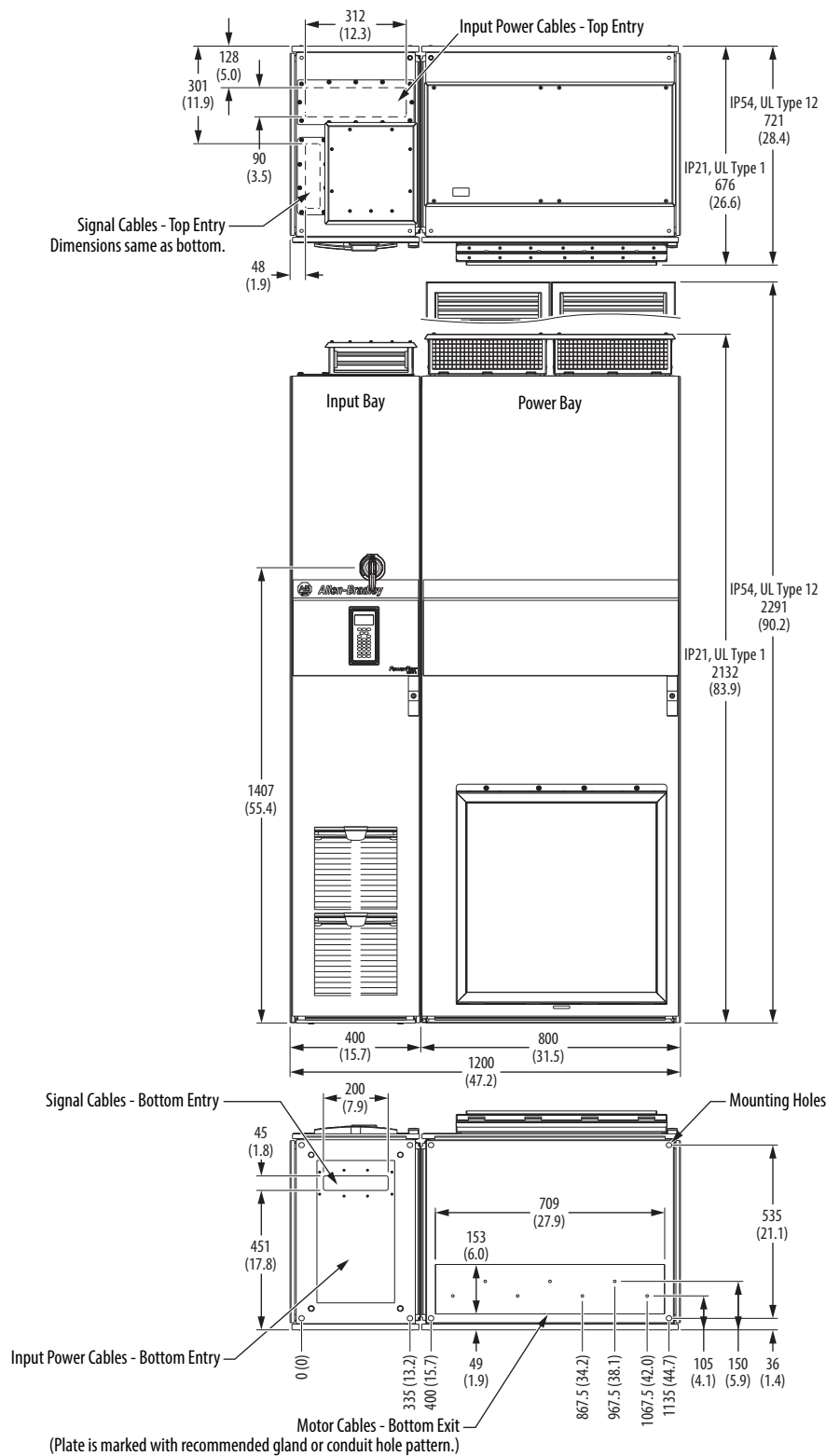
(1) The SK-RM-CBOX1-F2 kit contains a conduit box and debris hood. Install the conduit box to meet the IP20 enclosure rating. Install the conduit box and debris hood to meet the UL Type 1 enclosure rating.

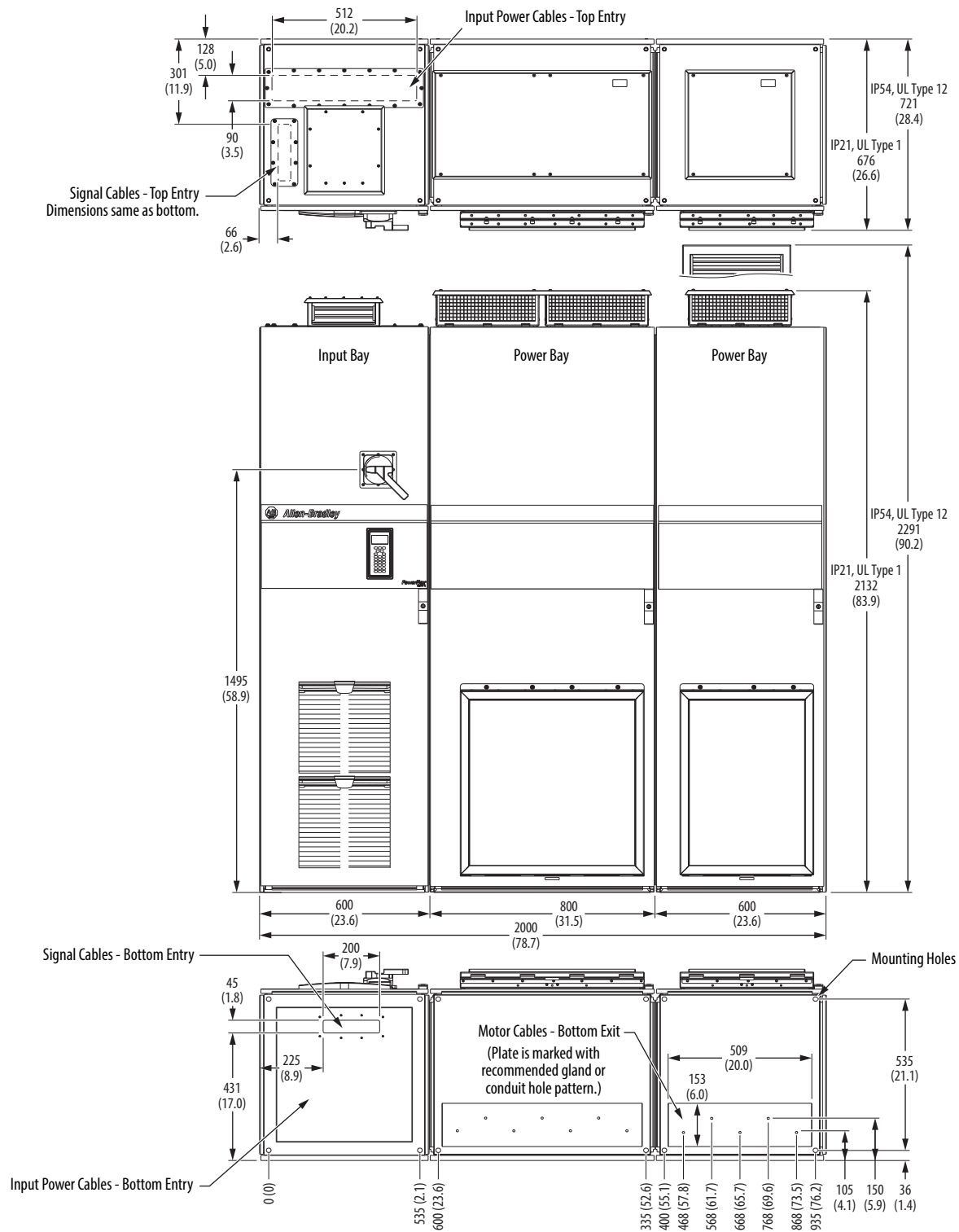
Frame 6 Drives Top, Front, and Bottom Views - Dimensions are mm (in.)


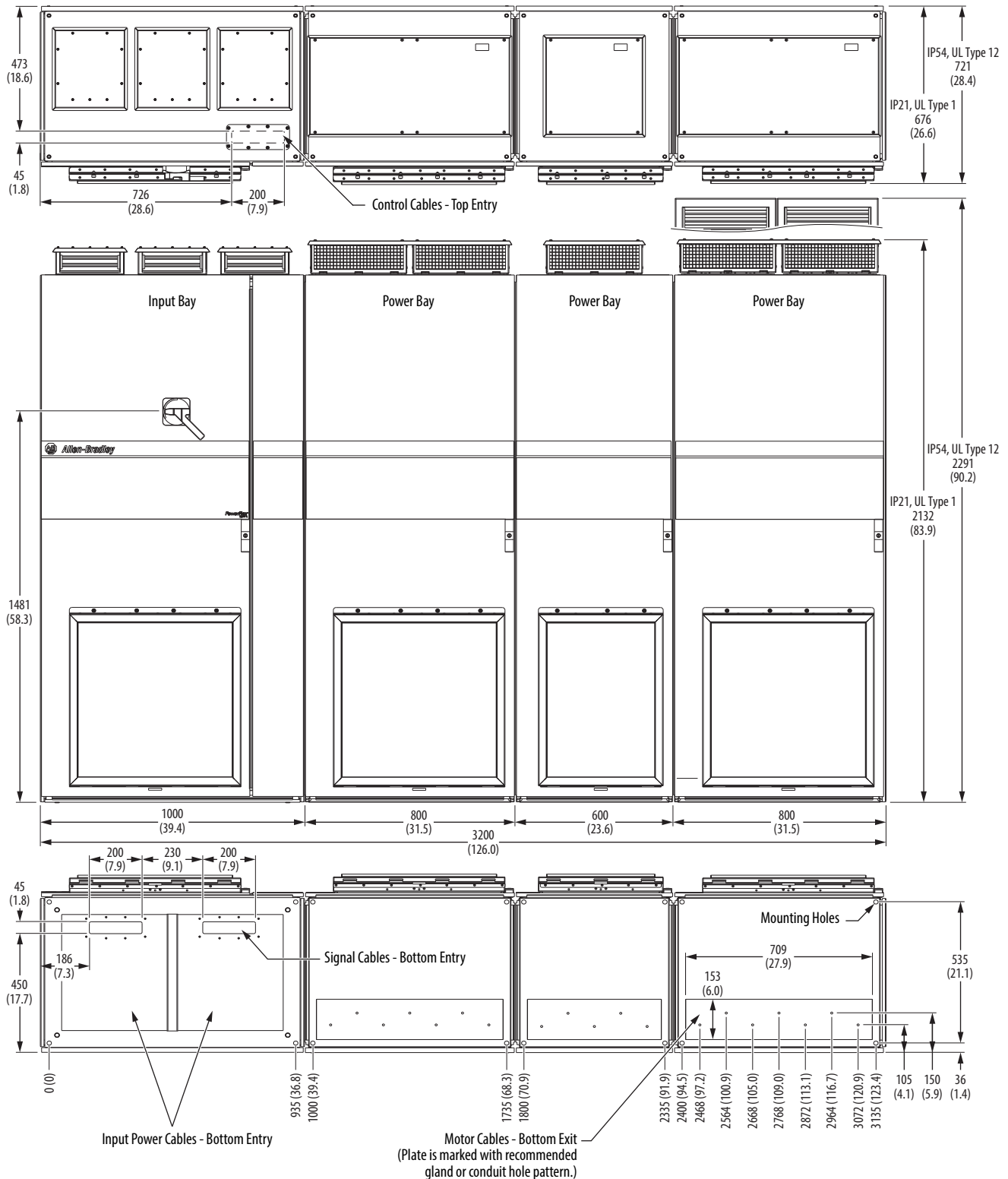
(1) The SK-RM-CBOX1-F6 kit contains a conduit box and debris hood. Install the conduit box to meet the IP20 enclosure rating. Install the conduit box and debris hood to meet the UL Type 1 enclosure rating.

Frame 7 Drives Top, Front, and Bottom Views - Dimensions are mm (in.)



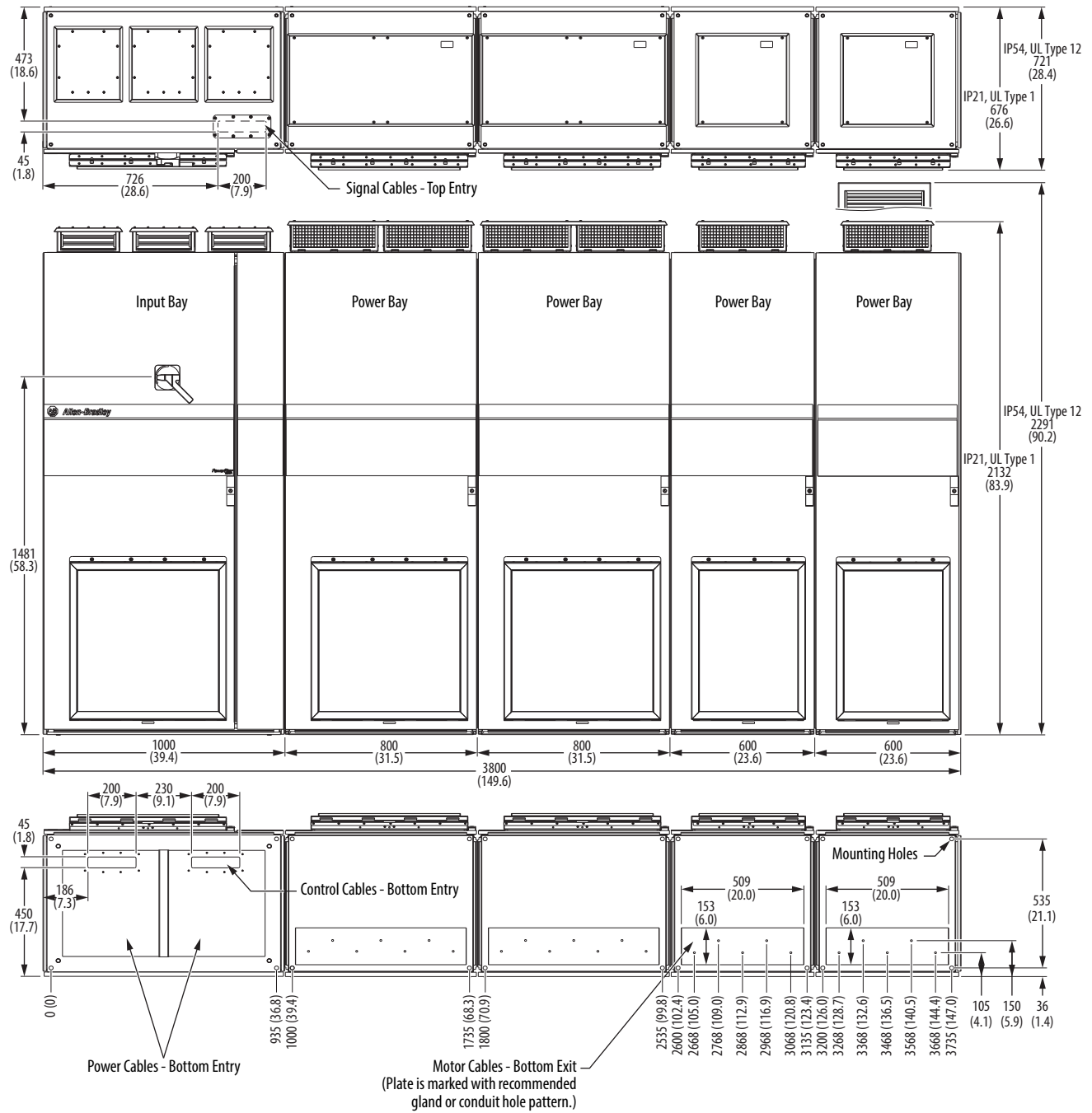
Frame 8 Drives Top, Front, and Bottom Views - Dimensions are mm (in.)See [page 240](#) for optional exit wire bay dimensions.

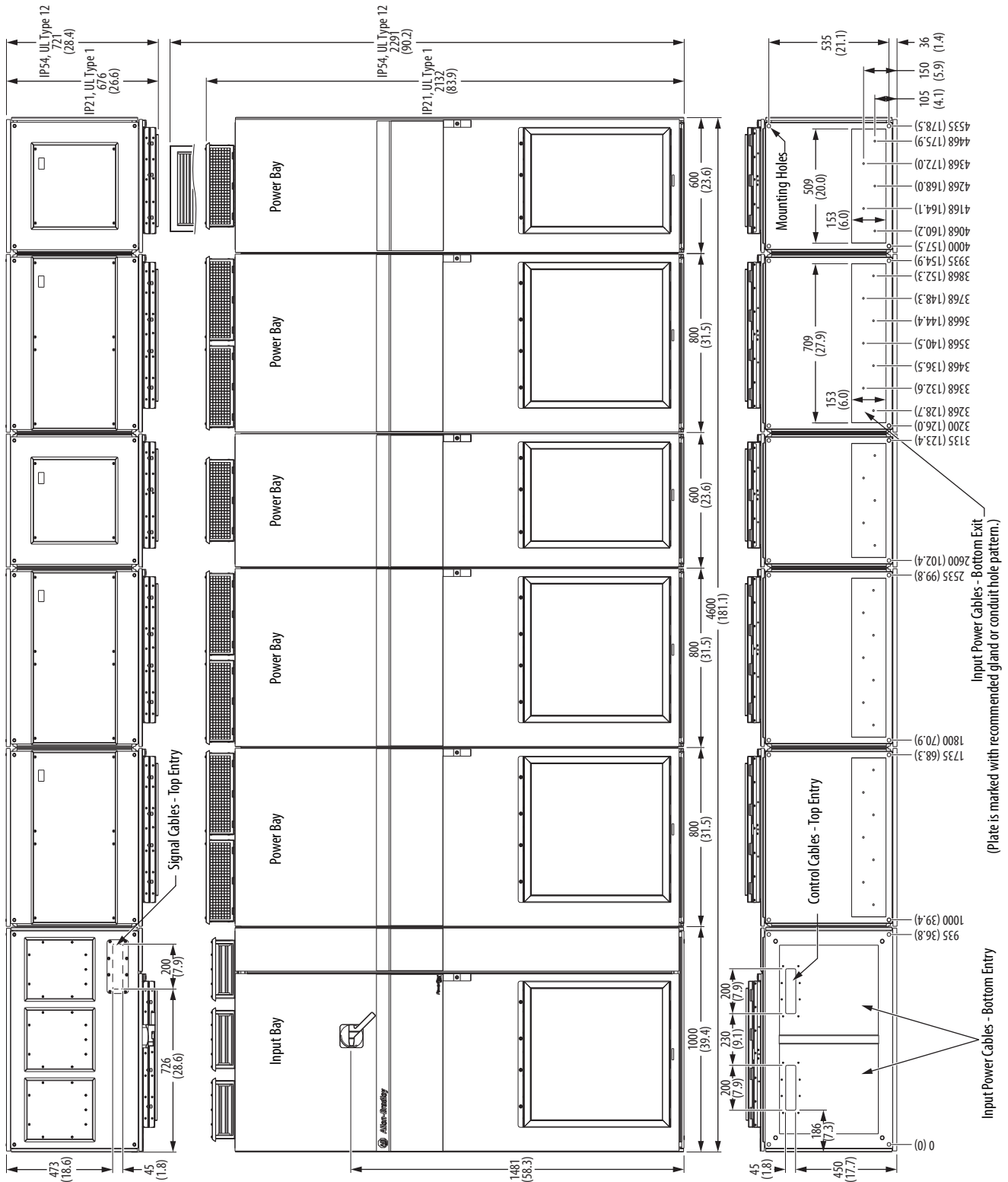
Frame 9 Drives Top, Front, and Bottom Views - Dimensions are mm (in.)See [page 240](#) for optional exit wire bay dimensions.

Frame 10 Drives Top, Front, and Bottom Views - Dimensions are mm (in.)See [page 240](#) for optional entry and exit wire bay dimensions.

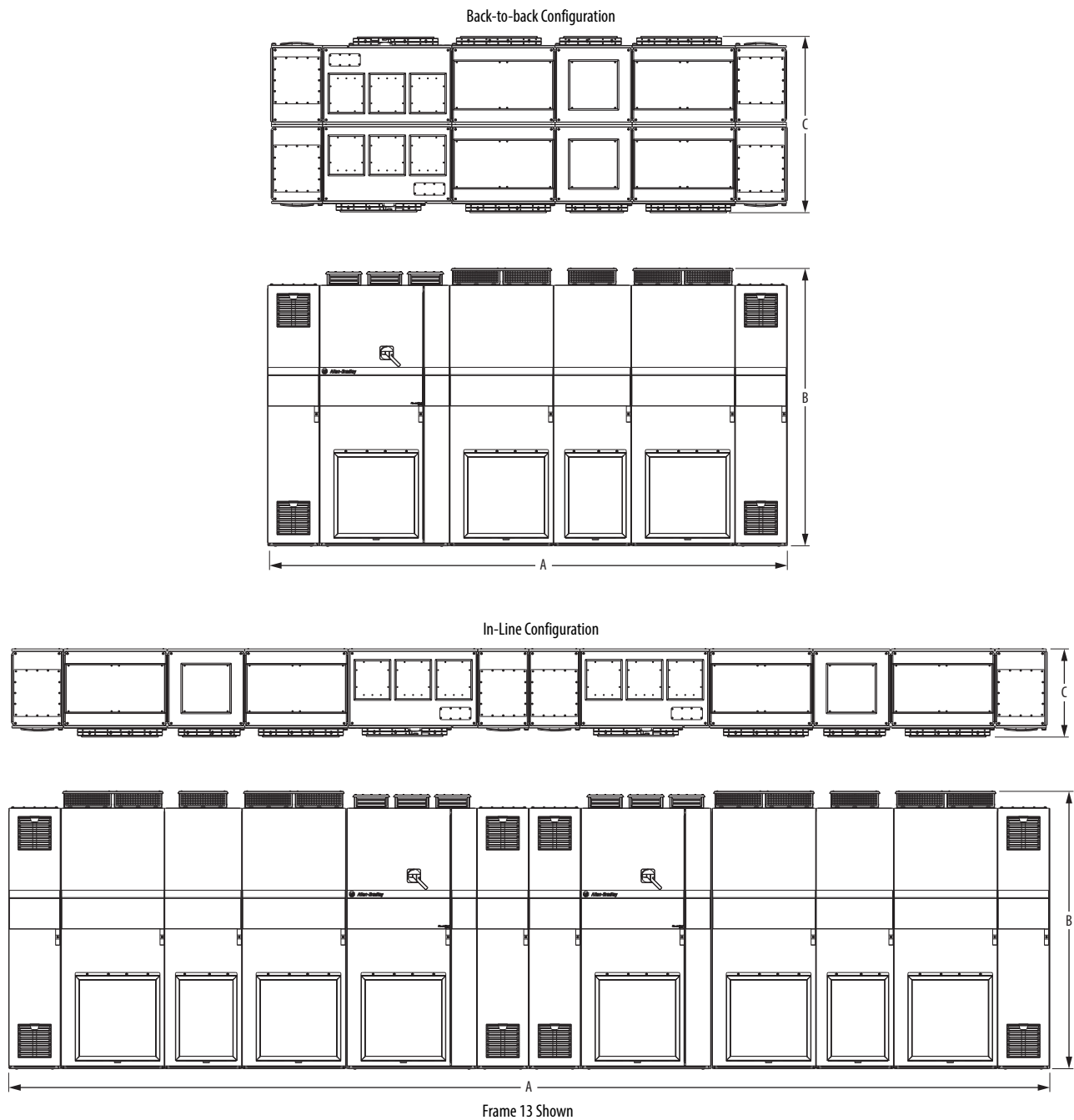
Frame 11 Drives Top, Front, and Bottom Views - Dimensions are mm (in.)

See [page 240](#) for optional exit wire bay dimensions.

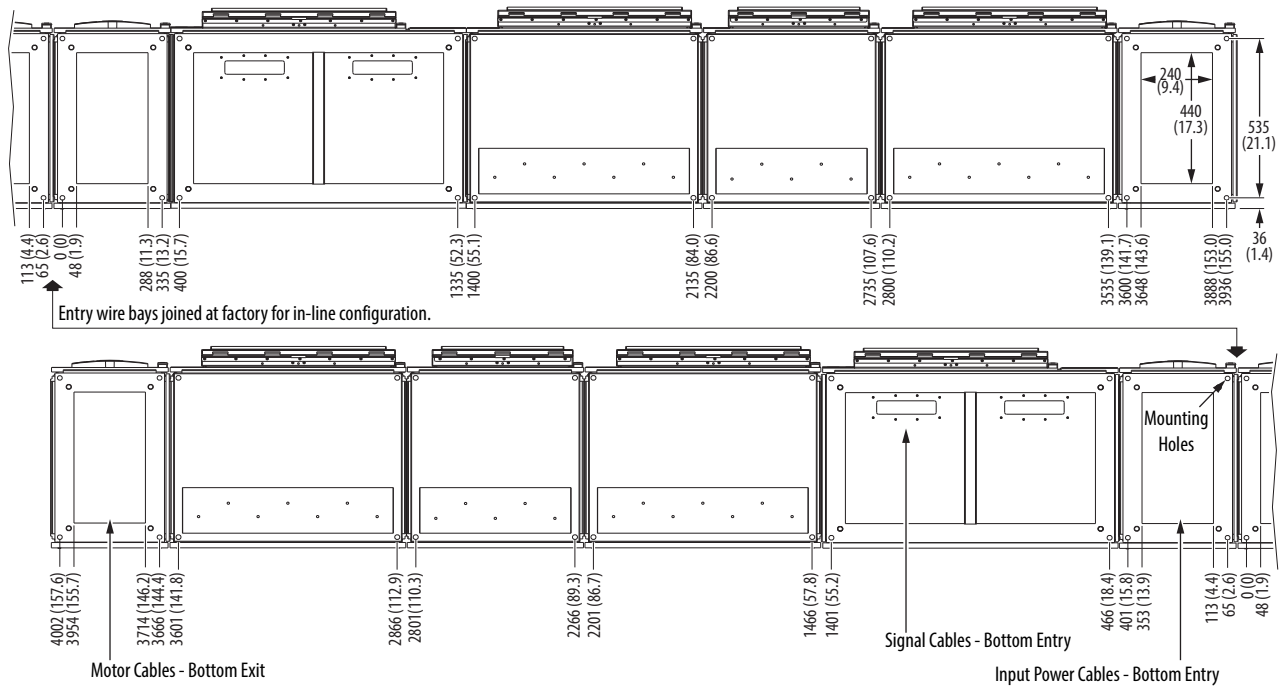
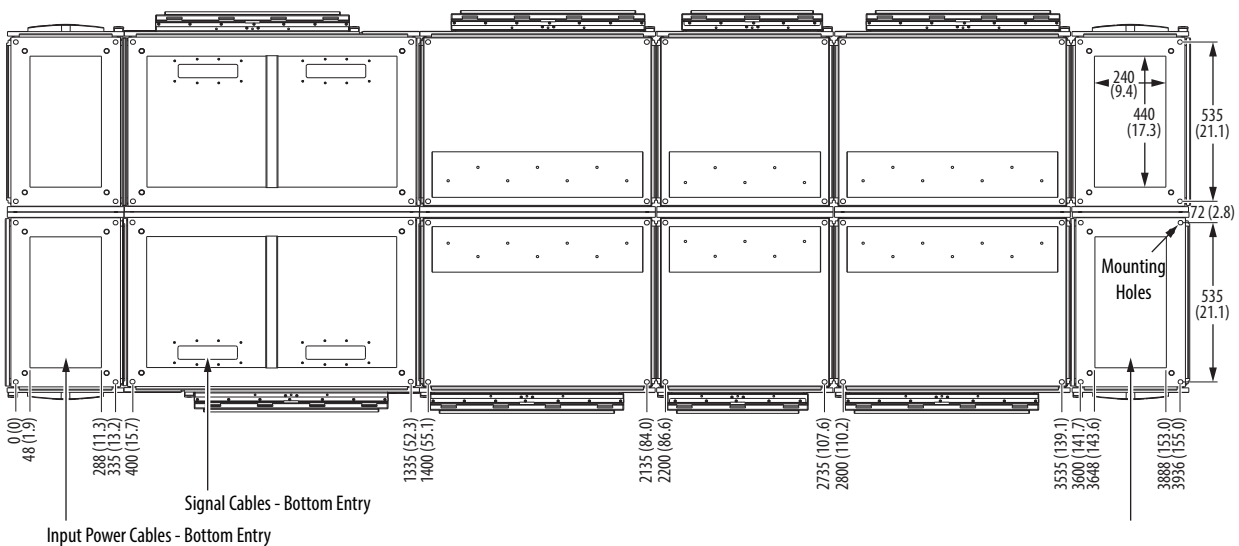


Frame 12 Drives Top, Front, and Bottom Views - Dimensions are mm (in.)See [page 240](#) for optional entry and exit wire bay dimensions.

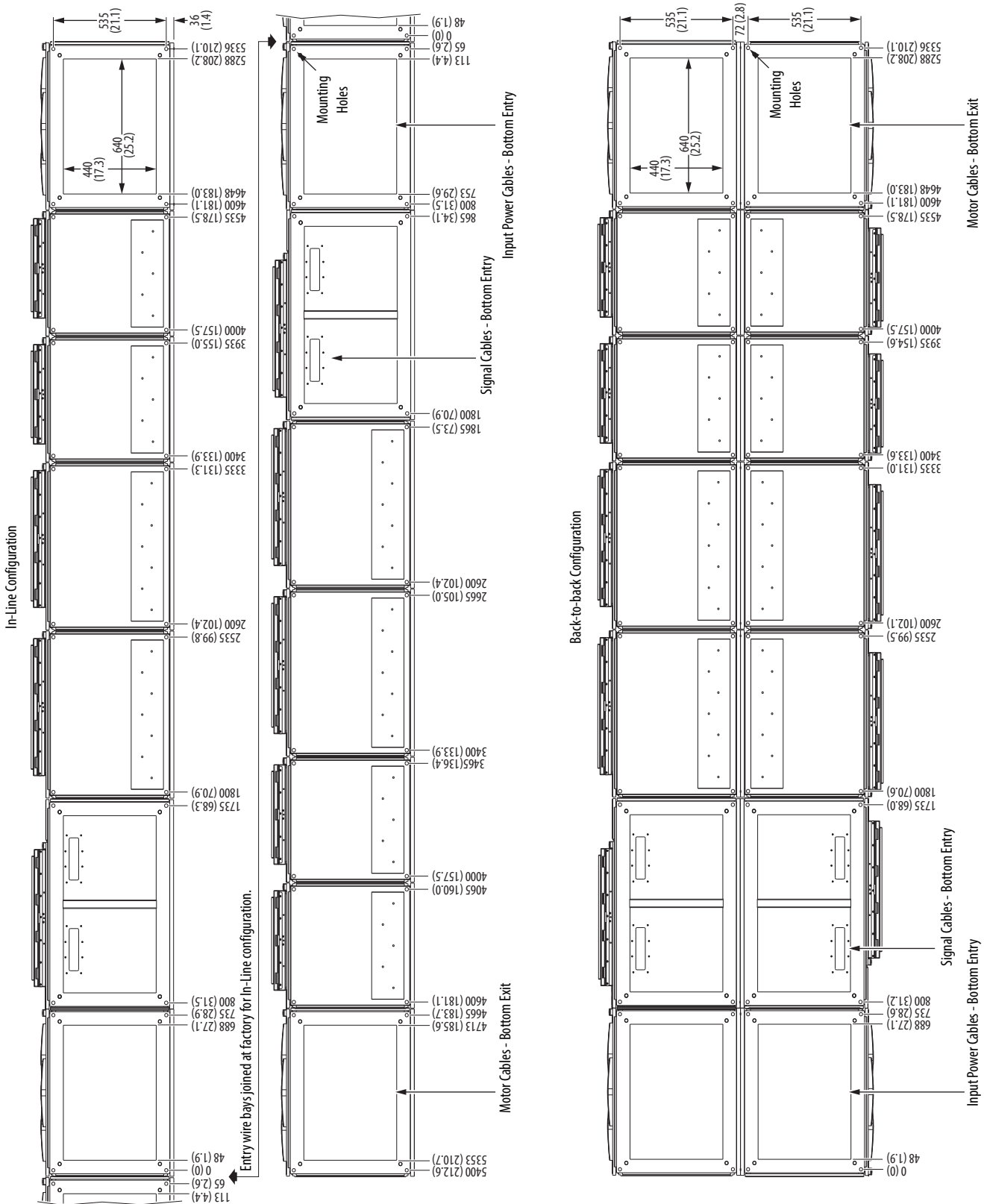
Frame 13...15 Drives Top and Front Views - Dimensions are mm (in.)

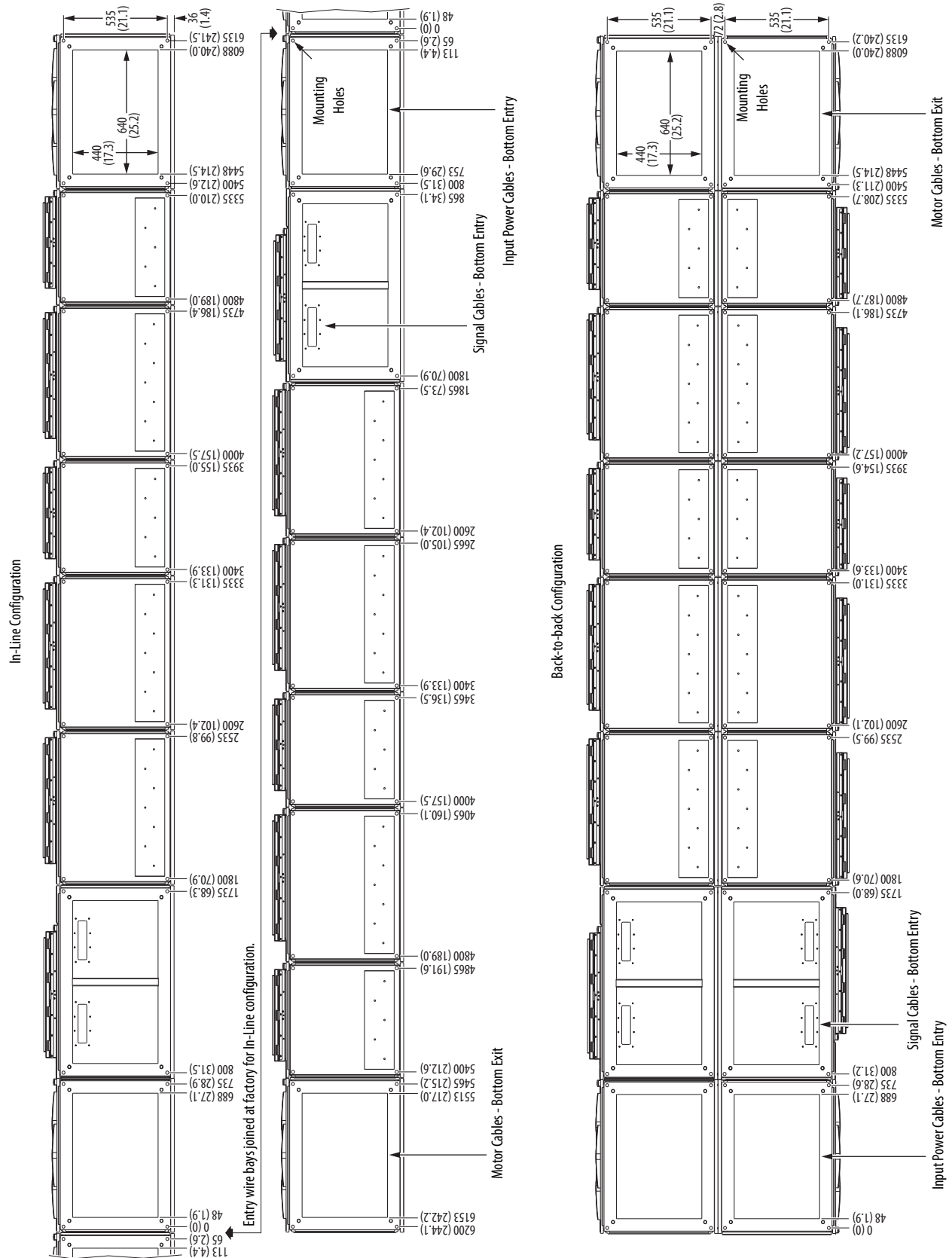


Frame	Back-to-Back Configuration						In-Line Configuration					
	IP21, UL Type 1			IP54, UL Type 12			IP21, UL Type 1			IP54, UL Type 12		
	A	B	C	A	B	C	A	B	C	A	B	C
13	4000 (157.4)	2132 (83.9)	1352 (53.2)	4000 (157.4)	2291 (90.2)	1442 (56.8)	8000 (314.8)	2132 (83.9)	676 (26.6)	8000 (314.8)	2291 (90.2)	721 (28.4)
14	5400 (212.6)	2132 (83.9)	1352 (53.2)	5400 (212.6)	2291 (90.2)	1442 (56.8)	10,800 (425.2)	2132 (83.9)	676 (26.6)	10,800 (425.2)	2291 (90.2)	721 (28.4)
15	6200 (244.1)	2132 (83.9)	1352 (53.2)	6200 (244.1)	2291 (90.2)	1442 (56.8)	12,400 (488.2)	2132 (83.9)	676 (26.6)	12,400 (488.2)	2291 (90.2)	721 (28.4)

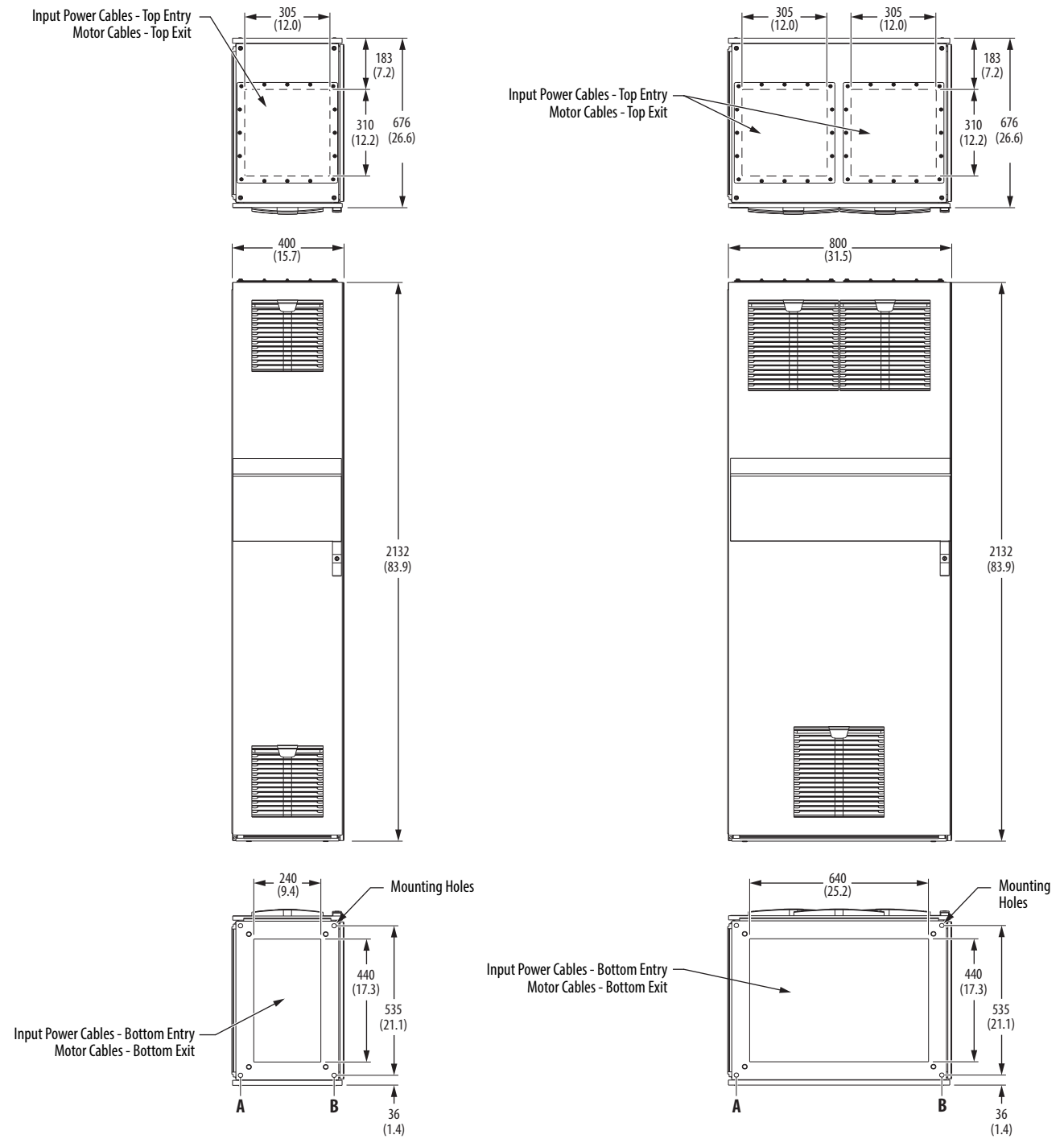
Frame 13 Drives Bottom Views - Dimensions are mm (in.)**In-Line Configuration****Back-to-back Configuration**

Frame 14 Drives Bottom Views - Dimensions are mm (in.)



Frame 15 Drives Bottom Views - Dimensions are mm (in.)


Drives Optional Entry and Exit Wire Bays Top, Front, and Bottom Views - Dimensions are mm (in.)

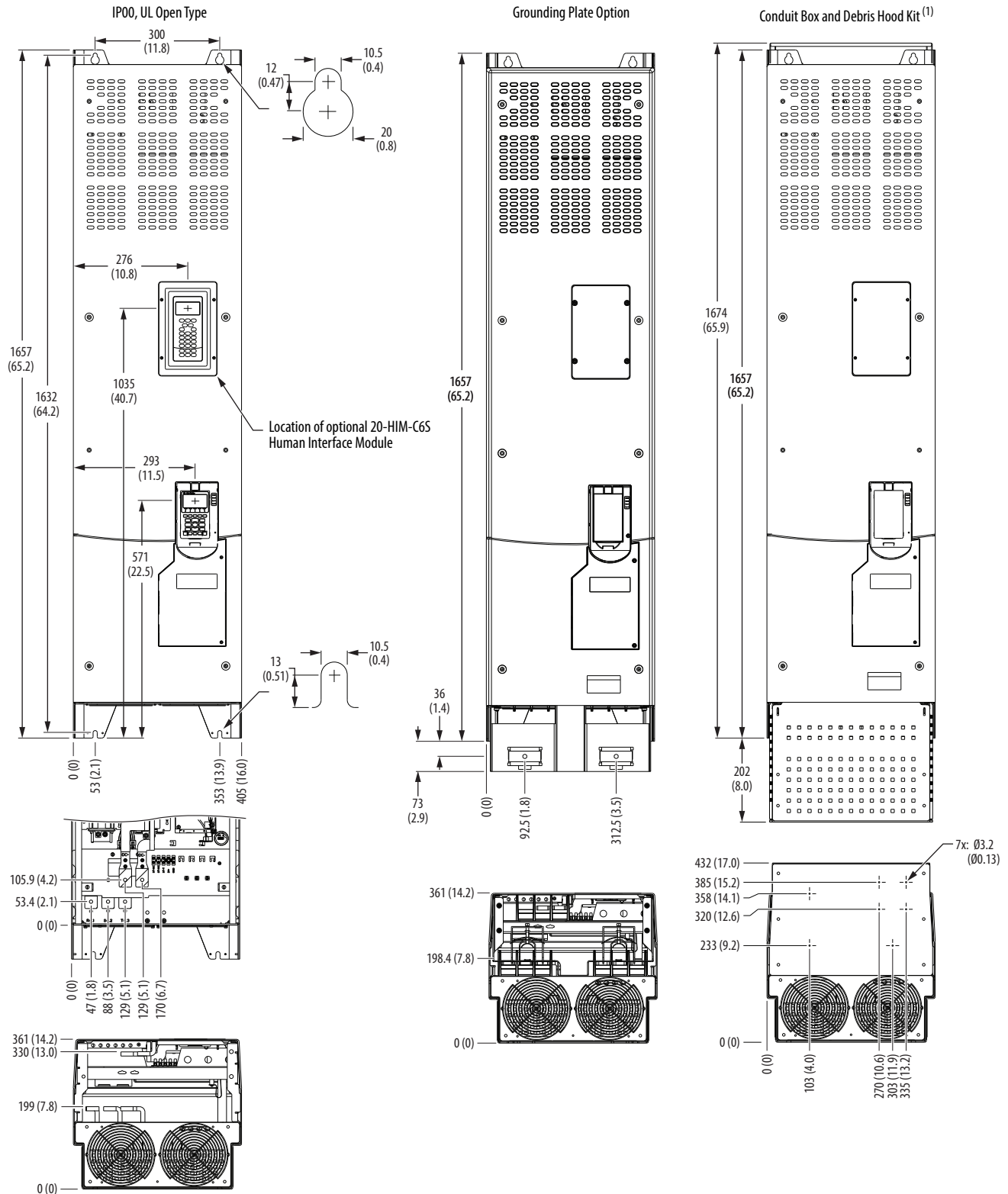


Frame	Entry Bay – 400 (15.7) Wide		Exit Bay – 400 (15.7) Wide		Entry Bay – 800 (31.5) Wide		Exit Bay – 800 (31.5) Wide	
	A	B	A	B	A	B	A	B
8	–	–	1200 (47.2)	1535 (60.4)	–	–	–	–
9	–	–	2000 (78.7)	2335 (91.9)	–	–	–	–
10	400 (15.7)	65 (2.6)	3200 (126.0)	3535 (139.2)	–	–	–	–
11	–	–	–	–	465 (18.3)	65 (2.6)	3800 (149.6)	4535 (178.5)
12	–	–	–	–	465 (18.3)	65 (2.6)	4600 (181.1)	5335 (210.0)

PowerFlex 755™ Bus Supplies Approximate Dimensions

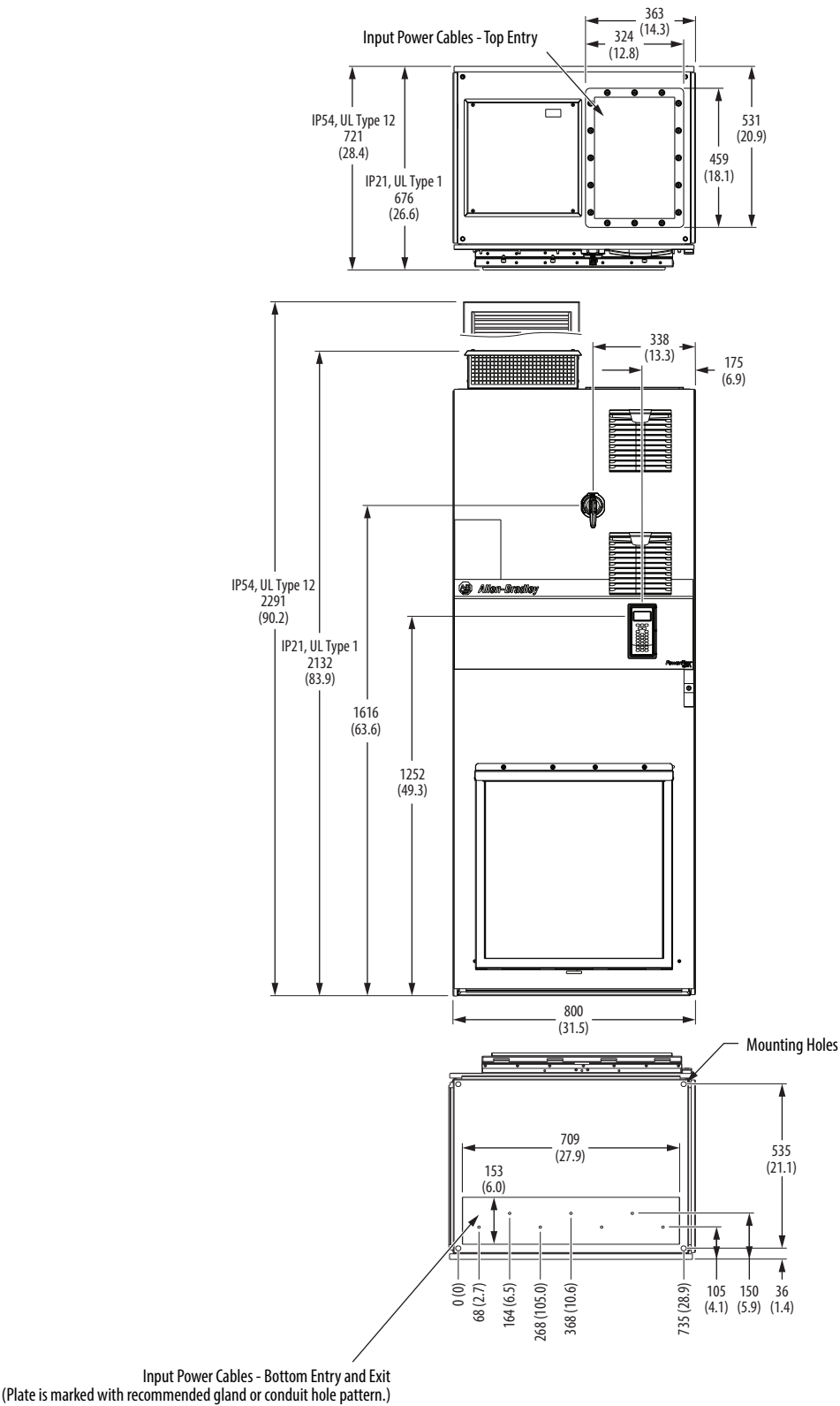
Frame 6 Bus Supplies Top, Front, Bottom, and Side Views - Dimensions are mm (in.)

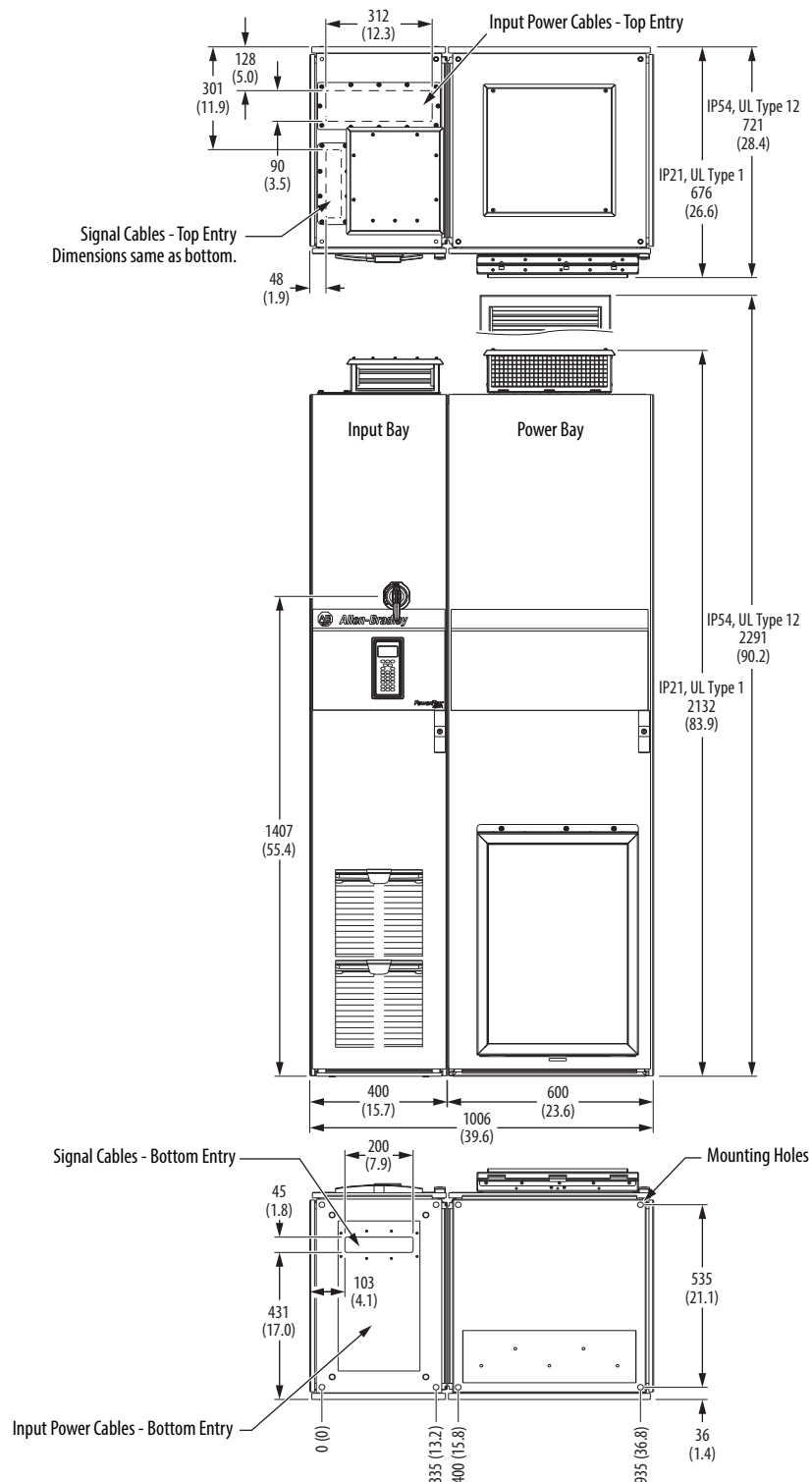
See [page 249](#) for optional entry wire bay dimensions.

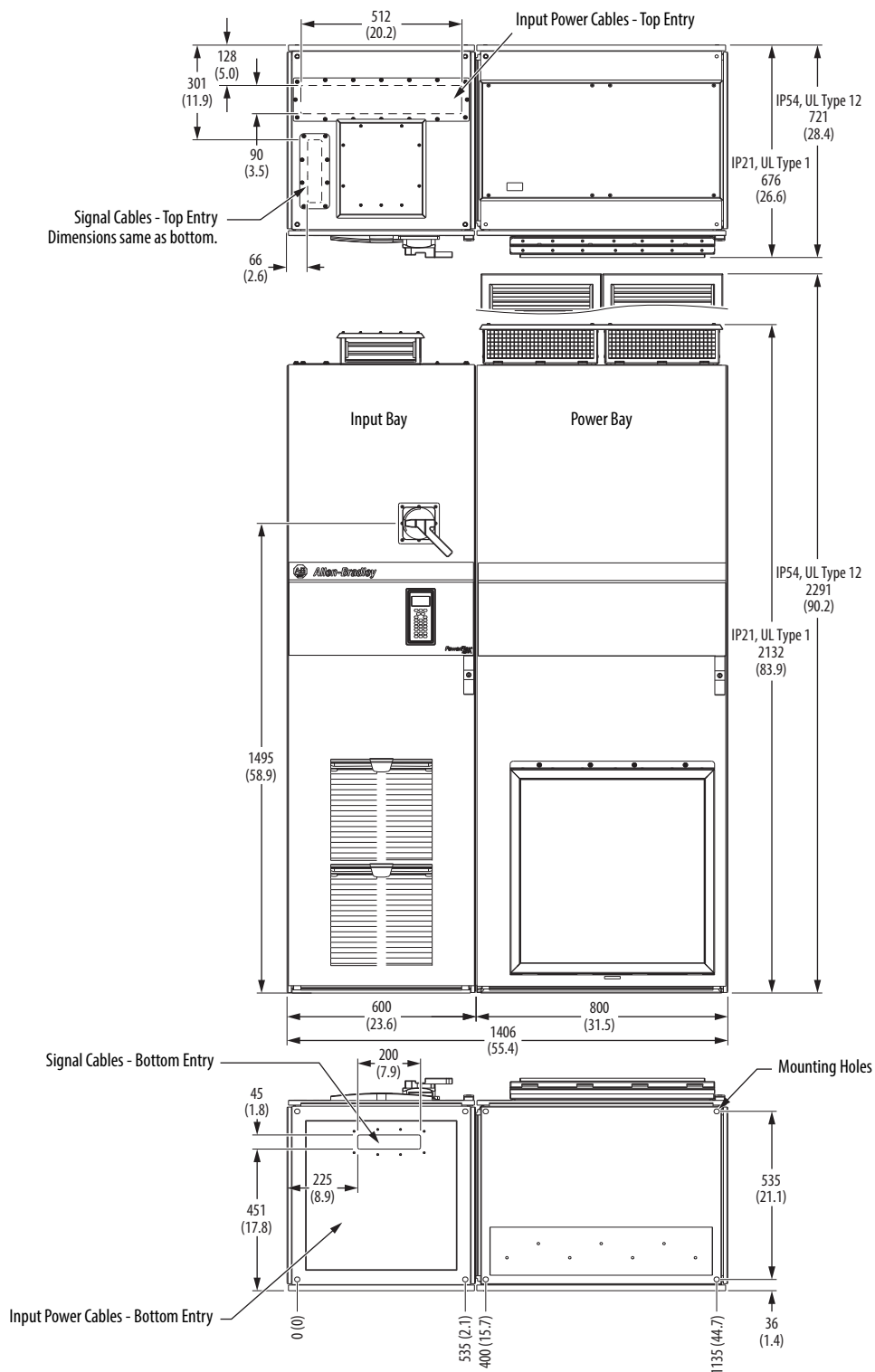


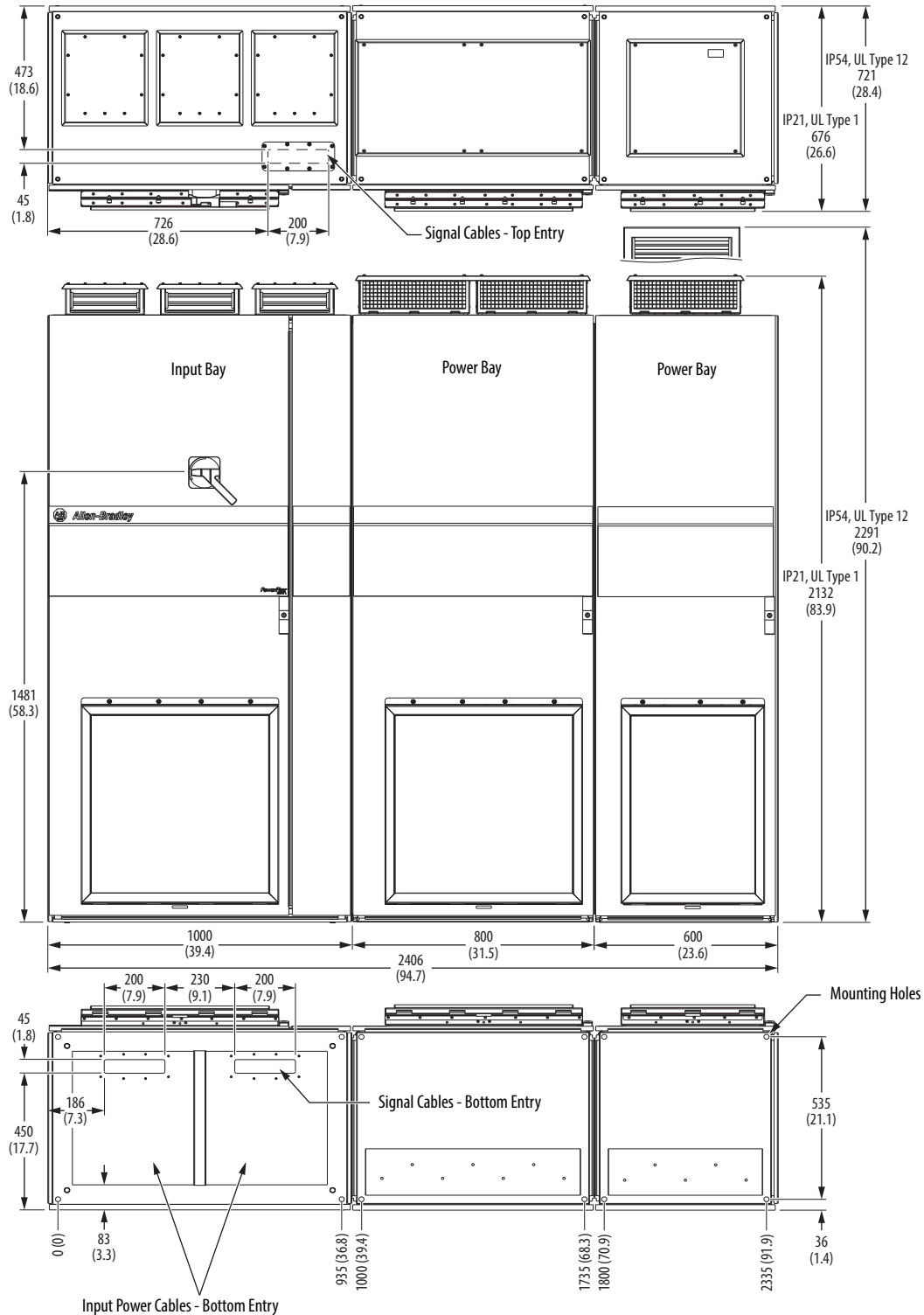
Frame 7 Bus Supplies Top, Front, Bottom, and Side Views - Dimensions are mm (in.)

See [page 249](#) for optional entry wire bay dimensions.



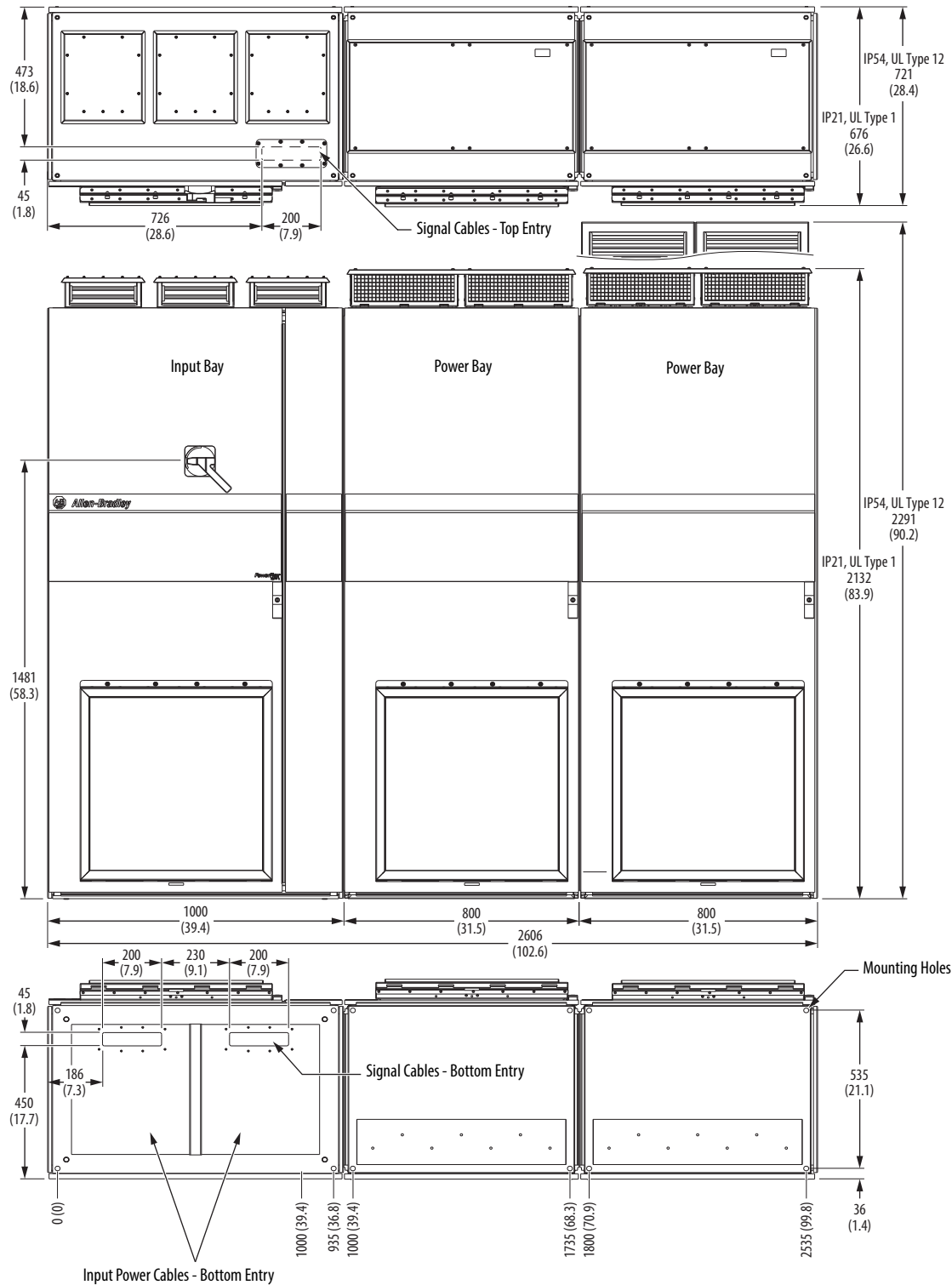
Frame 8 Bus Supplies Top, Front, Bottom, and Side Views - Dimensions are mm (in.)See [page 249](#) for optional entry wire bay dimensions.

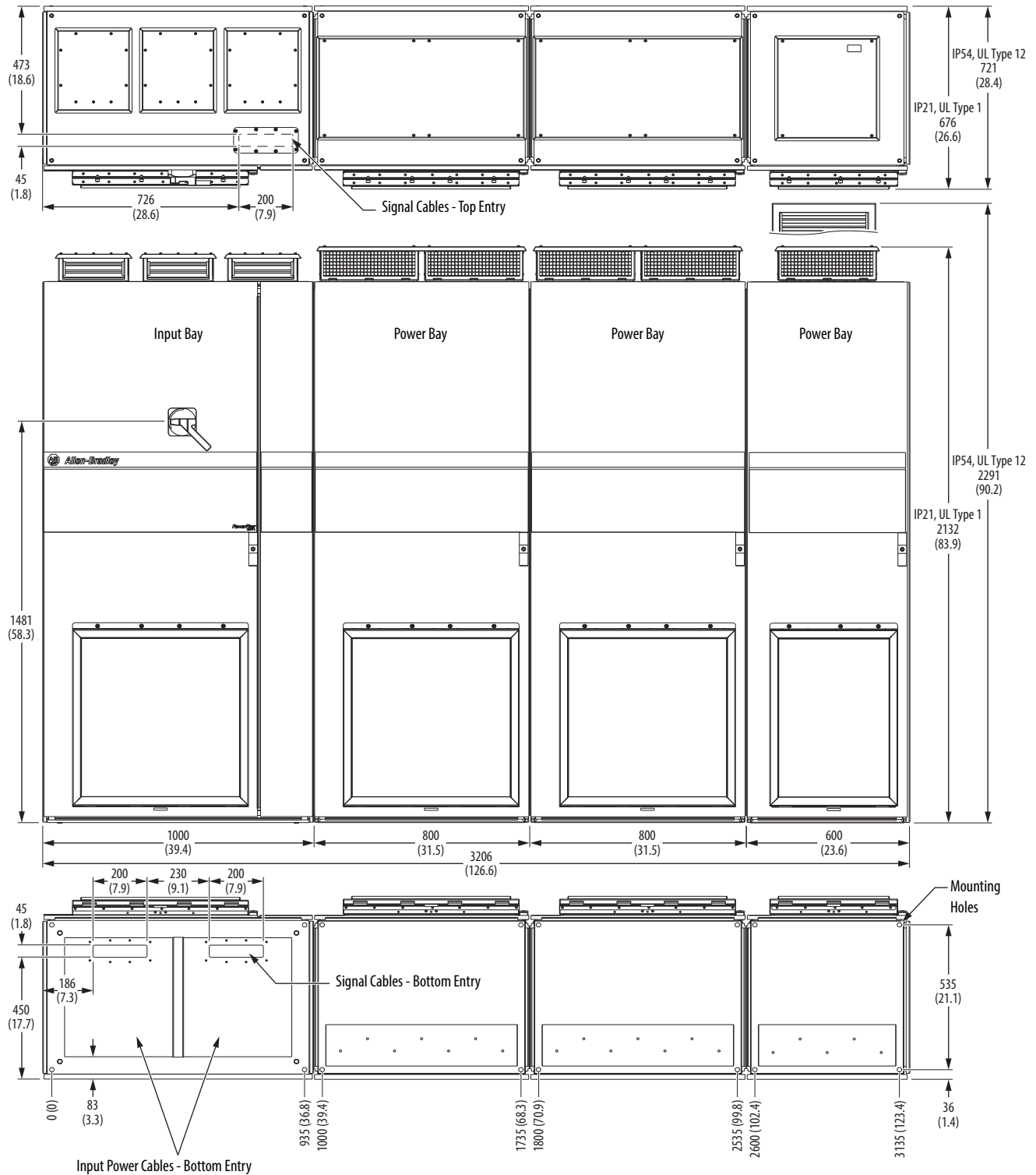
Frame 9 Bus Supplies Top, Front, Bottom, and Side Views - Dimensions are mm (in.)See [page 249](#) for optional entry wire bay dimensions.

Frame 10 Bus Supplies Top, Front, and Bottom Views - Dimensions are mm (in.)See [page 249](#) for optional entry wire bay dimensions.

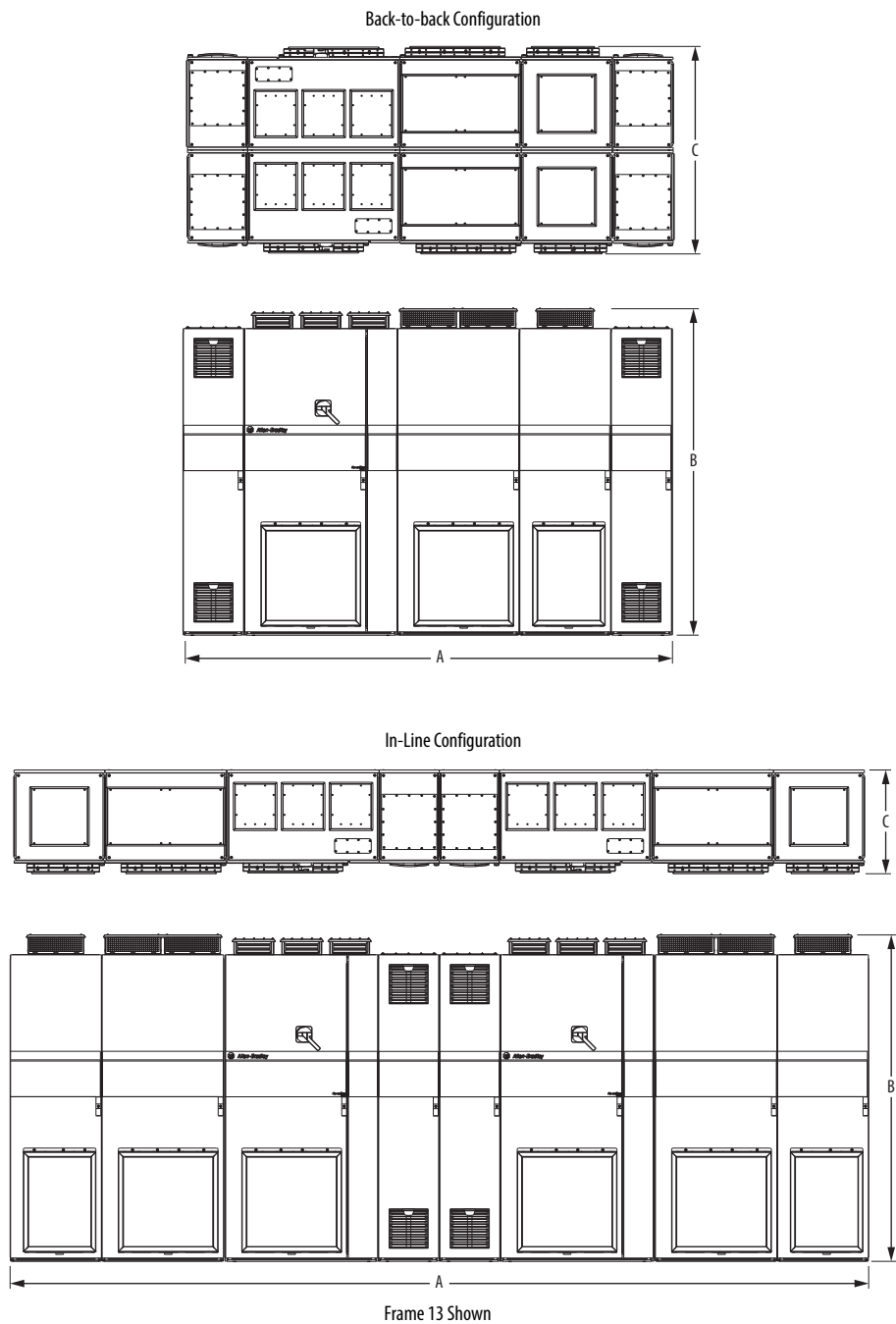
Frame 11 Bus Supplies Top, Front, and Bottom Views - Dimensions are mm (in.)

See [page 249](#) for optional entry wire bay dimensions.

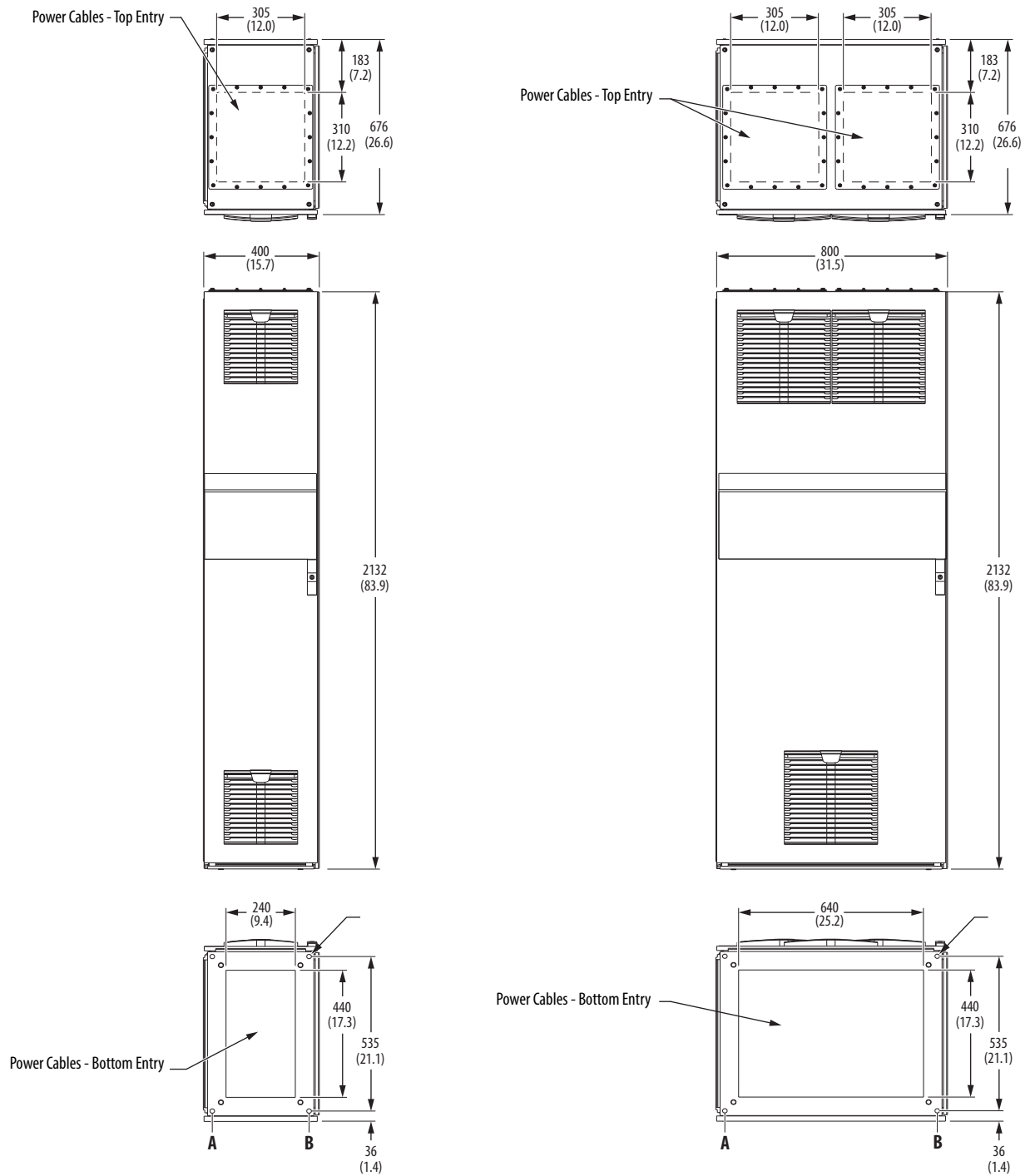


Frame 12 Bus Supplies Top, Front, and Bottom Views - Dimensions are mm (in.)See [page 249](#) for optional entry wire bay dimensions.

Frame 13...15 Bus Supplies Top and Front Views - Dimensions are mm (in.)



Frame	Back-to-Back Configuration						In-Line Configuration					
	IP21, UL Type 1			IP54, UL Type 12			IP21, UL Type 1			IP54, UL Type 12		
	A	B	C	A	B	C	A	B	C	A	B	C
13	3200 (125.9)	2132 (83.9)	1352 (53.2)	3200 (125.9)	2291 (90.2)	1442 (56.8)	5600 (220.4)	2132 (83.9)	676 (26.6)	5600 (220.4)	2291 (90.2)	721 (28.4)
14	3800 (149.6)	2132 (83.9)	1352 (53.2)	3800 (149.6)	2291 (90.2)	1442 (56.8)	6,800 (267.8)	2132 (83.9)	676 (26.6)	6,800 (267.8)	2291 (90.2)	721 (28.4)
15	4400 (173.2)	2132 (83.9)	1352 (53.2)	4400 (173.2)	2291 (90.2)	1442 (56.8)	8000 (315.0)	2132 (83.9)	676 (26.6)	8000 (315.0)	2291 (90.2)	721 (28.4)

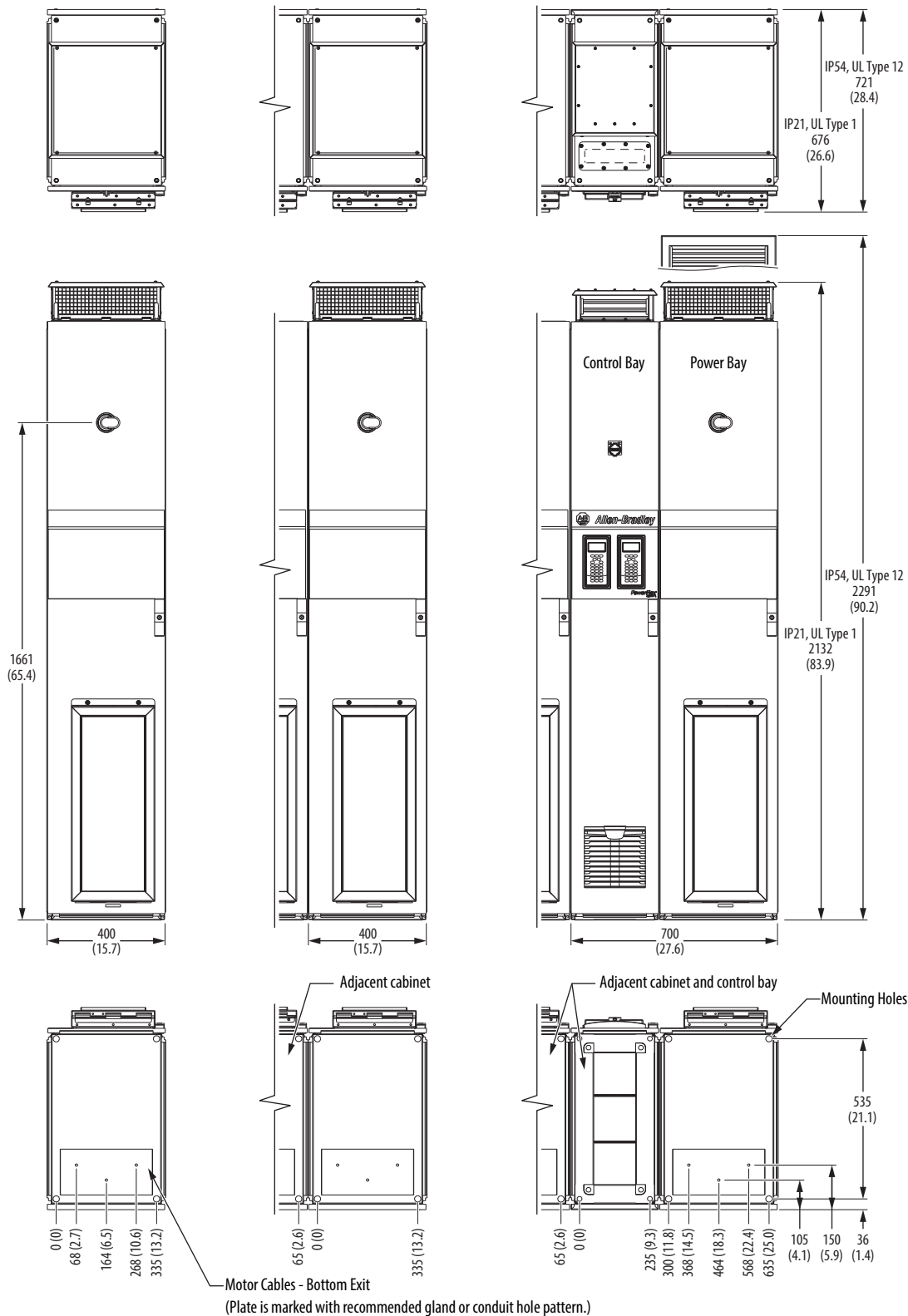
Bus Supplies Optional Entry Wire Bays Top, Front, and Bottom Views - Dimensions are mm (in.)

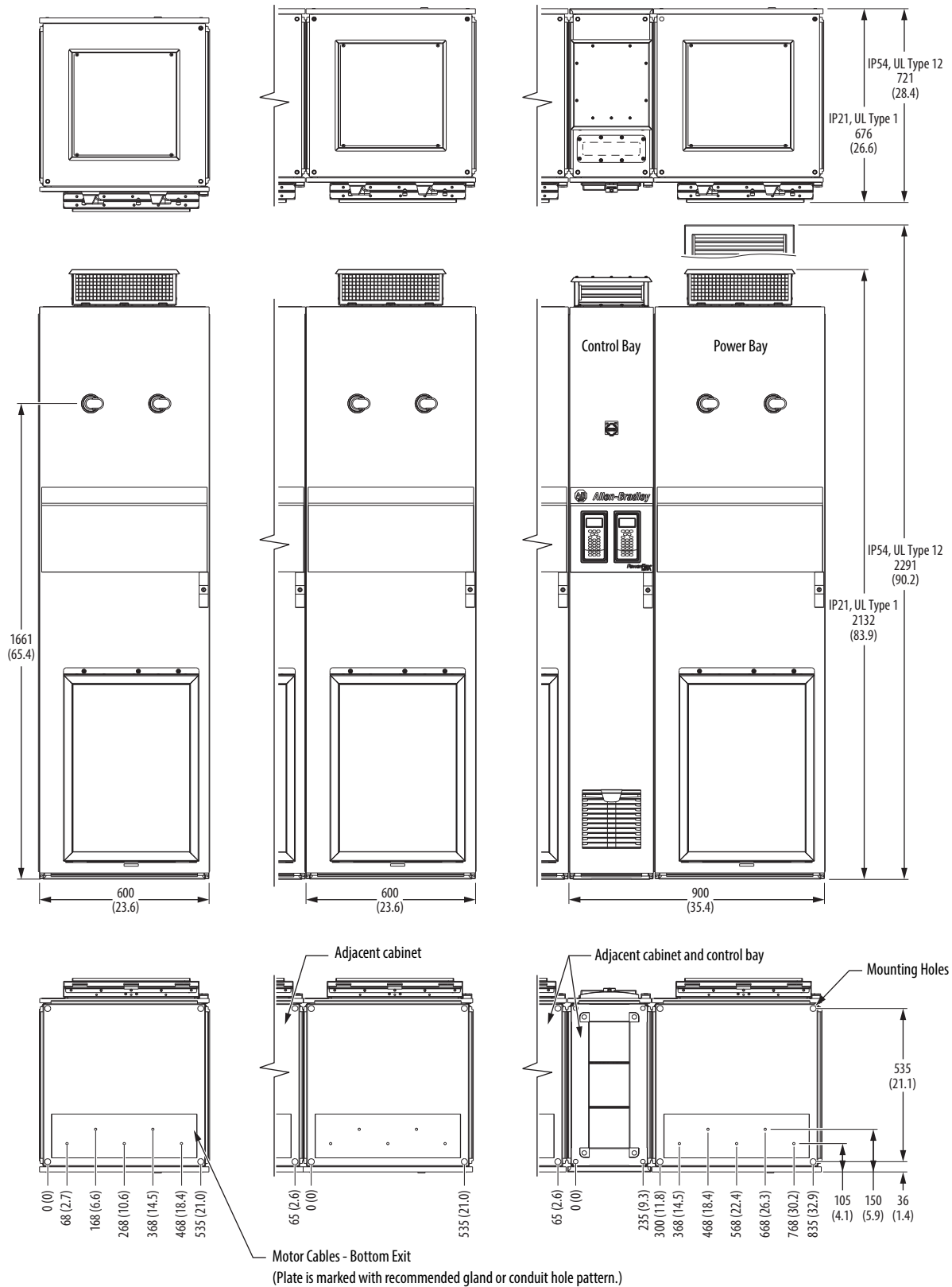
Frame	Entry Bay – 400 (15.7) Wide		Entry Bay – 800 (31) Wide	
	A	B	A	B
8	—	—	—	—
9	—	—	—	—
10	400 (15.7)	65 (2.6)	—	—
11	—	—	465 (18.3)	65 (2.6)
12	—	—	465 (18.3)	65 (2.6)

PowerFlex 755™ Common Bus Inverters Approximate Dimensions

Frame 8 Common Bus Inverters Top, Front, and Bottom Views - Dimensions are mm (in.)

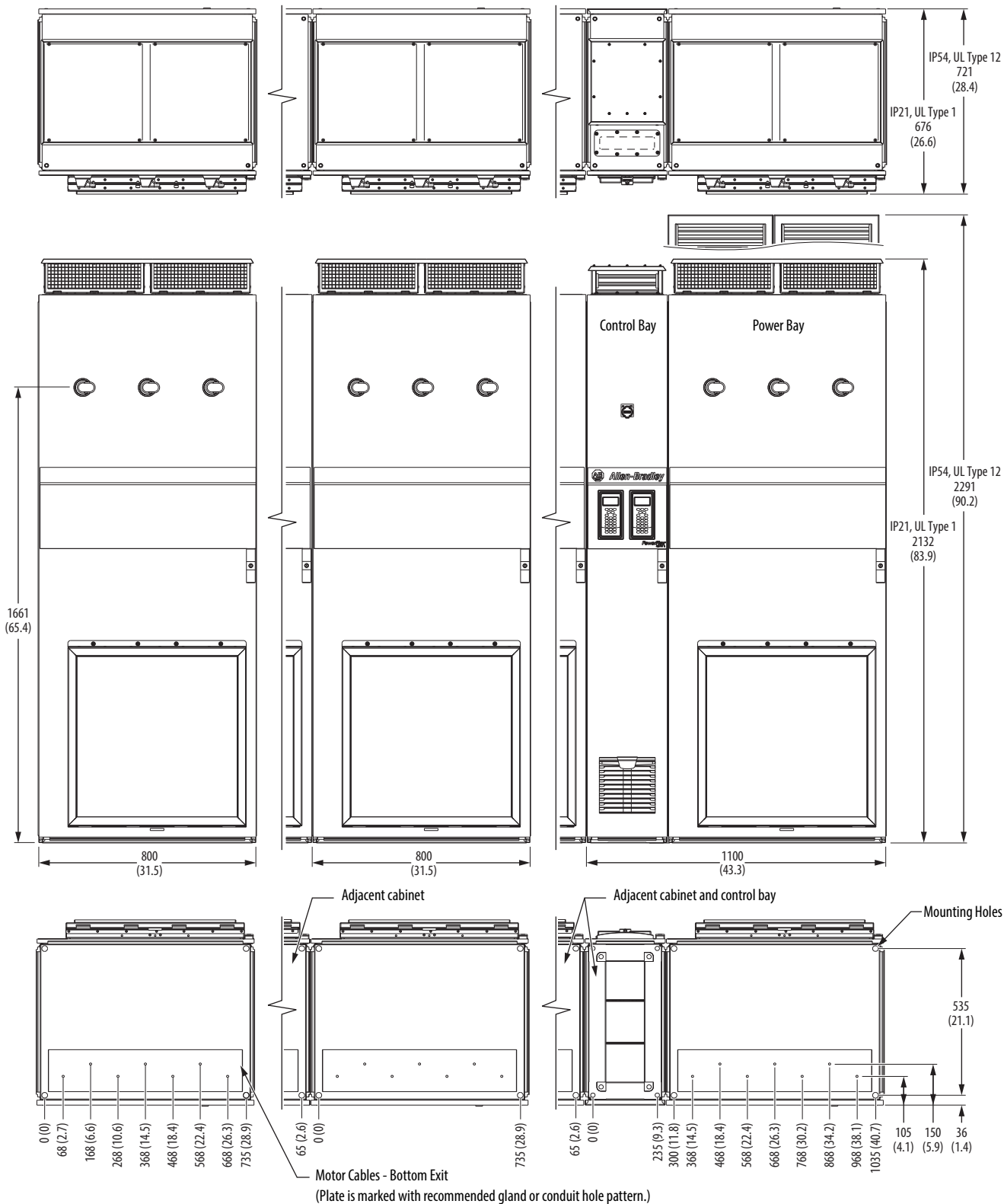
See [page 258](#) for optional exit wire bay dimensions.

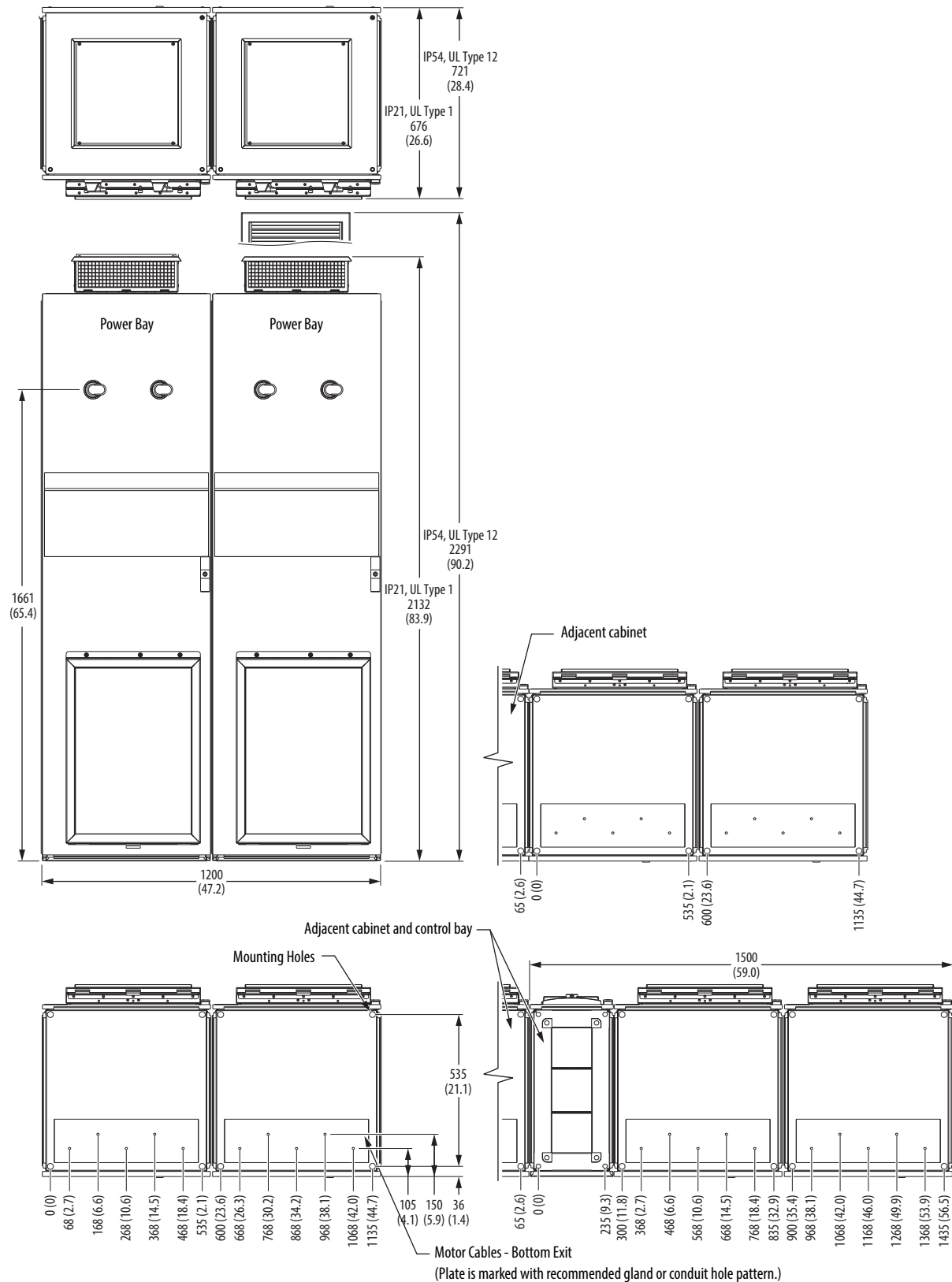


Frame 9 Common Bus Inverters Top, Front, and Bottom Views - Dimensions are mm (in.)See [page 258](#) for optional exit wire bay dimensions.

Frame 10 Common Bus Inverters Top, Front, and Bottom Views - Dimensions are mm (in.)

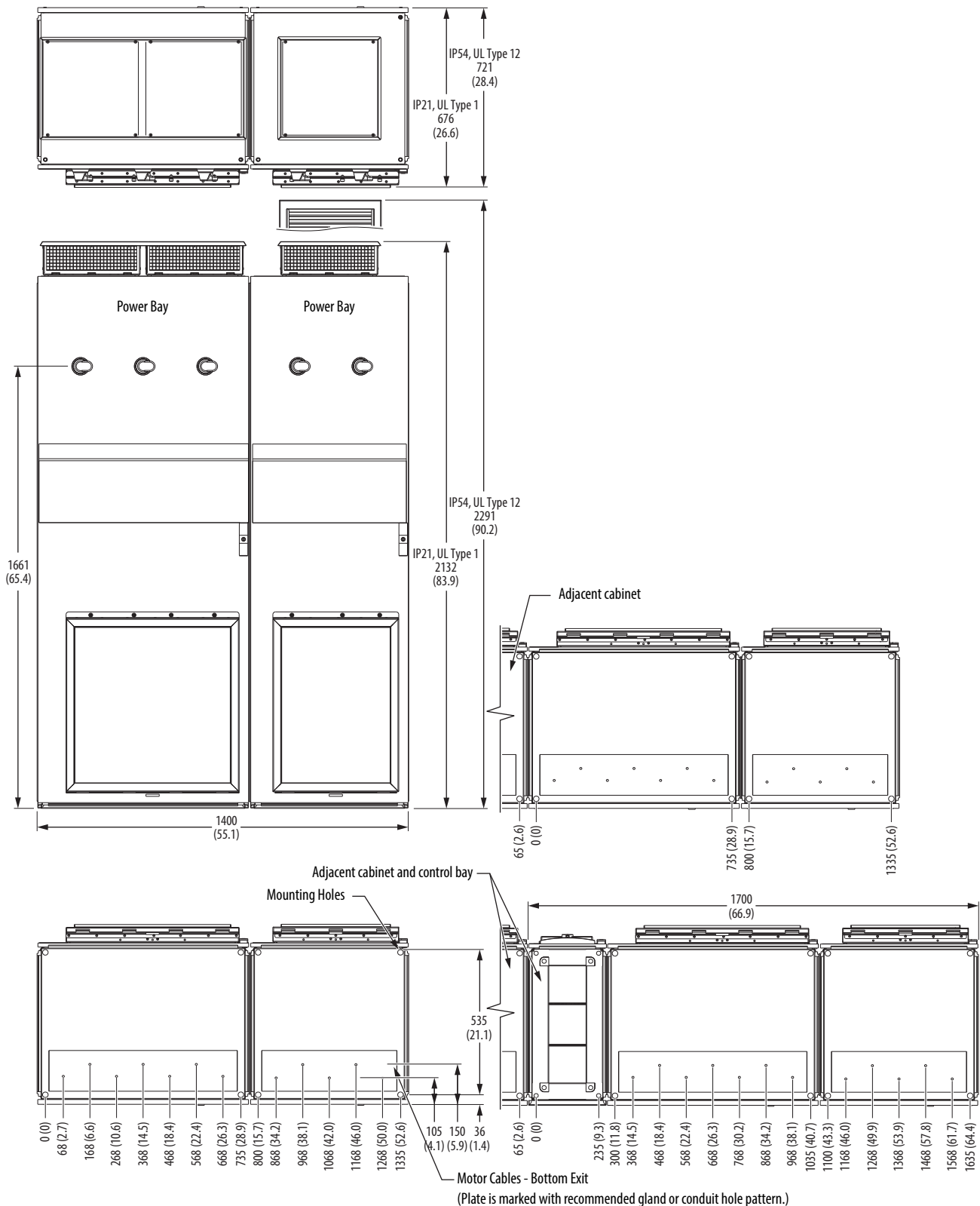
See [page 258](#) for optional exit wire bay dimensions.

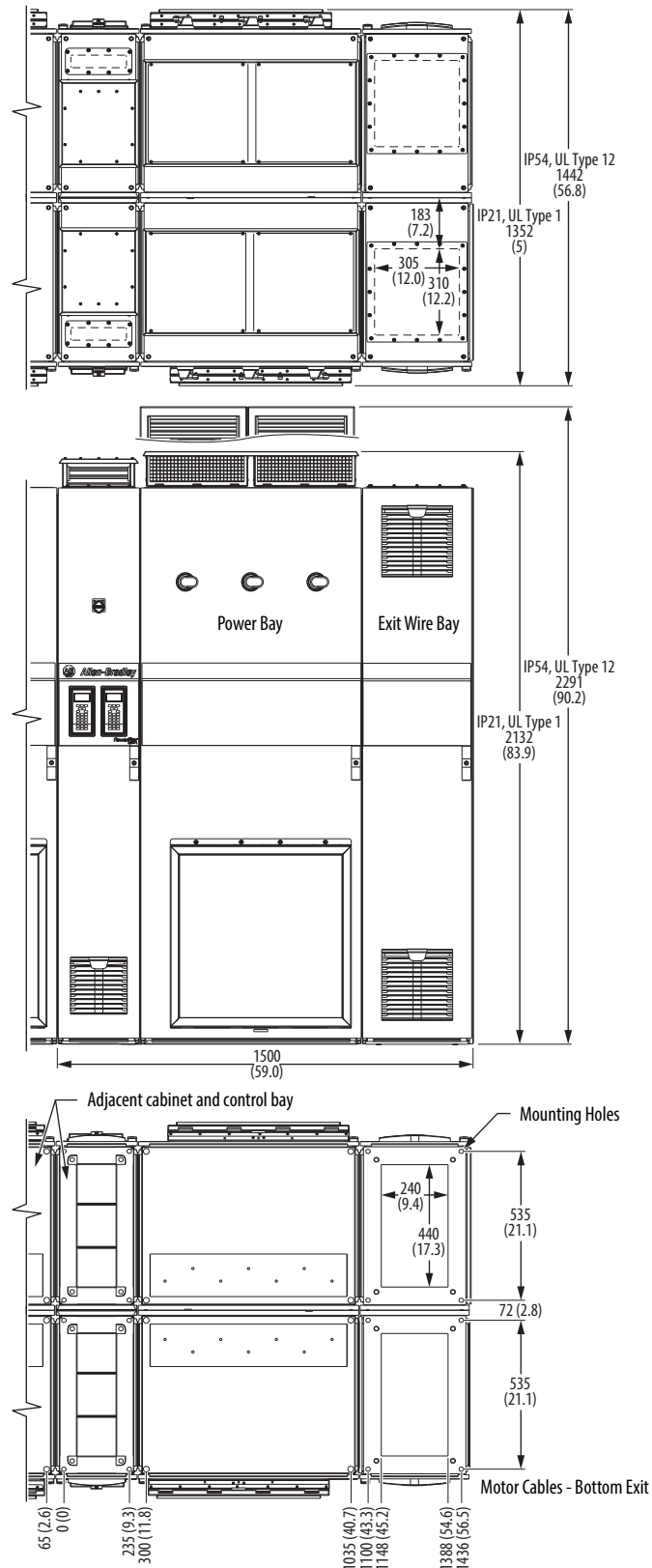


Frame 11 Common Bus Inverters Top, Front, and Bottom Views - Dimensions are mm (in.)See [page 258](#) for optional exit wire bay dimensions.

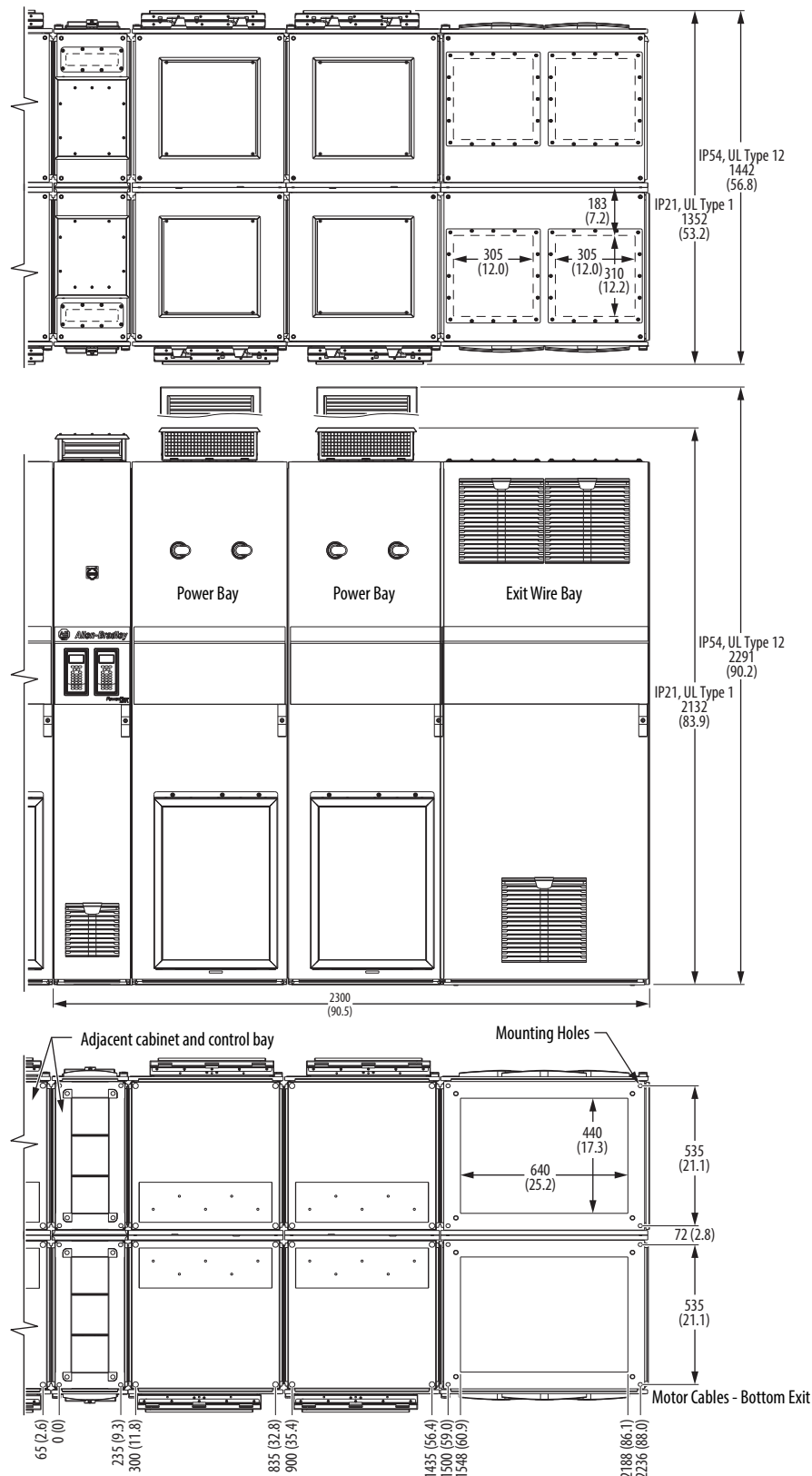
Frame 12 Common Bus Inverters Top, Front, and Bottom Views - Dimensions are mm (in.)

See [page 258](#) for optional exit wire bay dimensions.

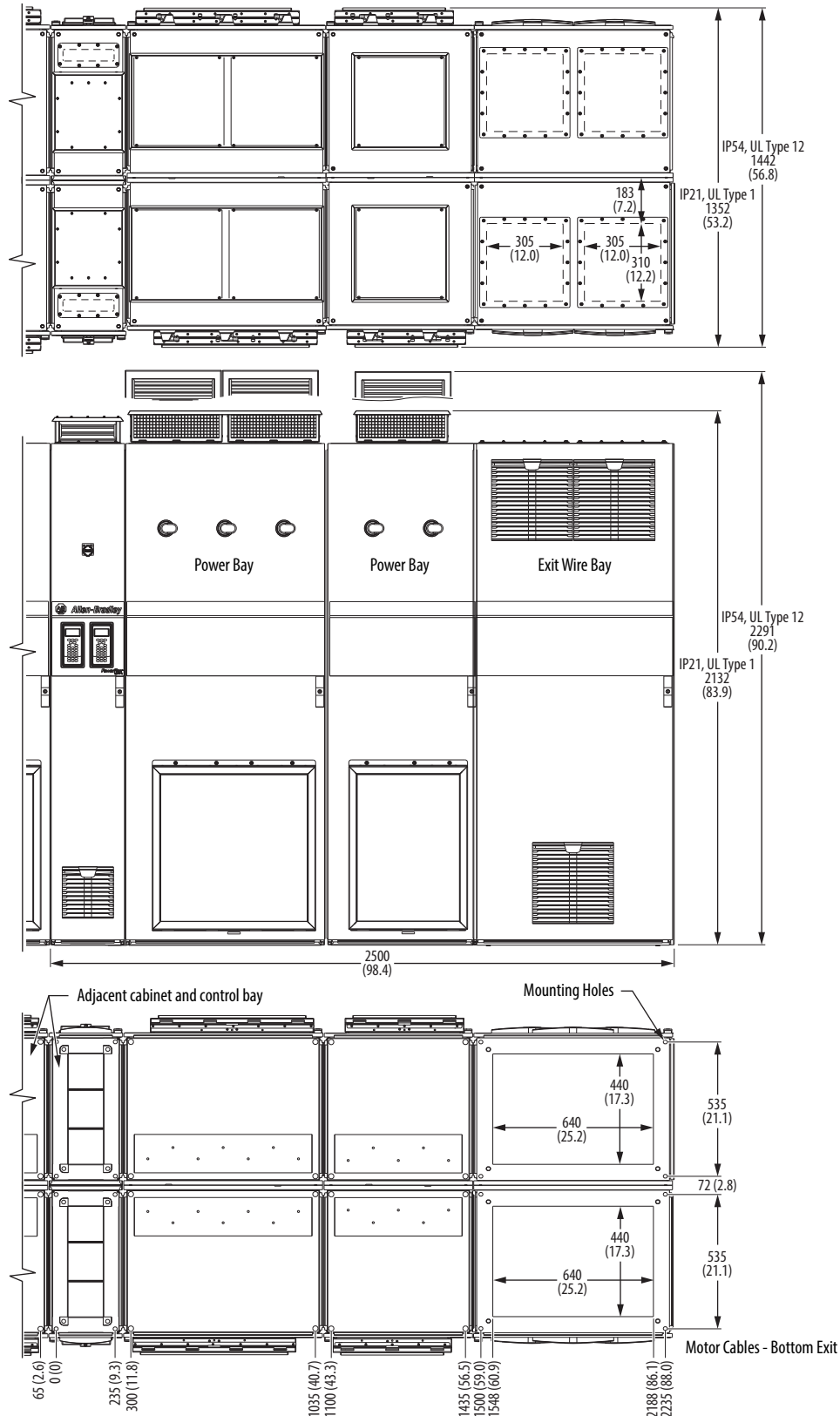


Frame 13 Common Bus Inverters Top, Front, and Bottom Views - Dimensions are mm (in.)

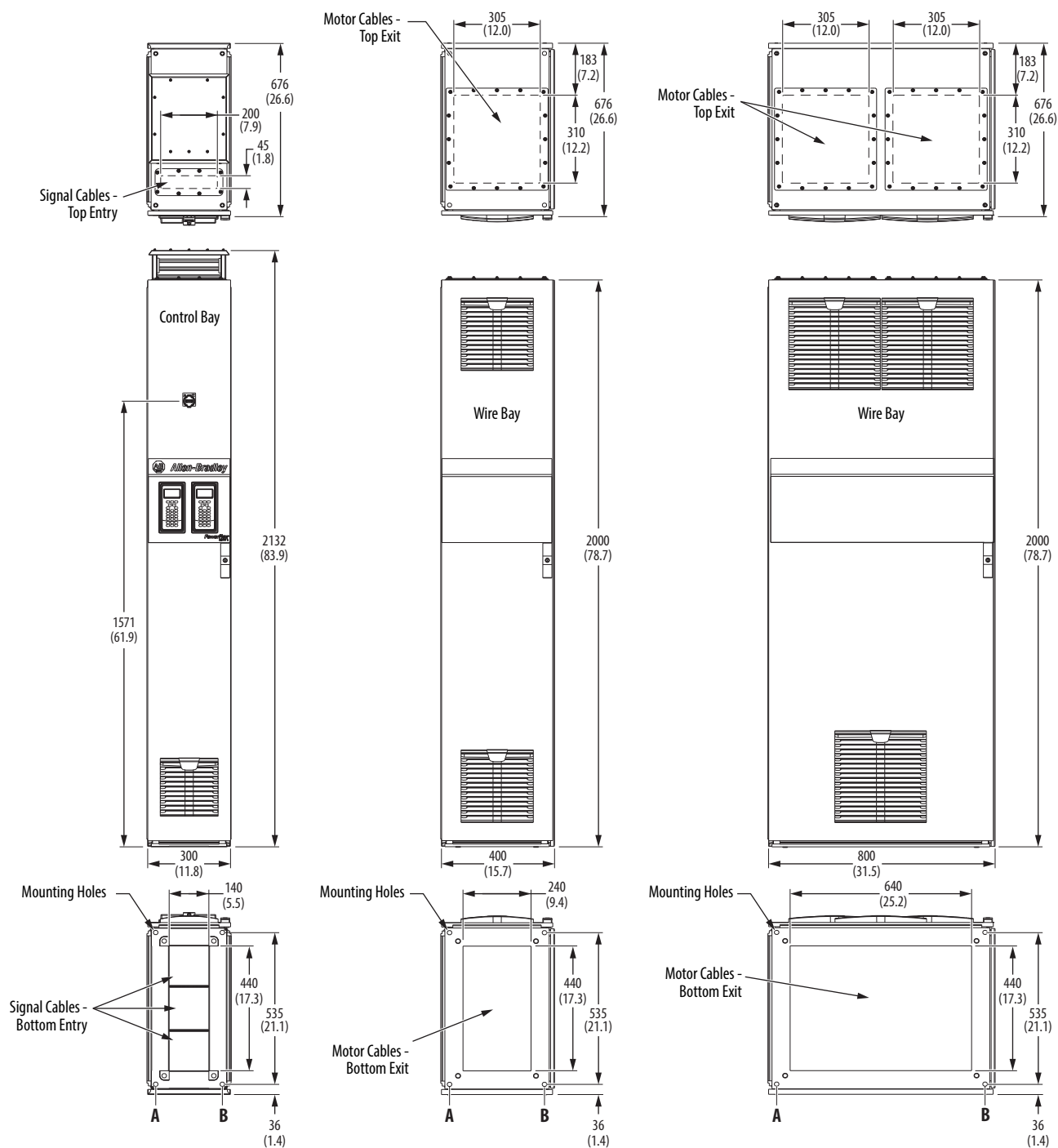
Frame 14 Common Bus Inverters Top, Front, and Bottom Views - Dimensions are mm (in.)



Frame 15 Common Bus Inverters Top, Front, and Bottom Views - Dimensions are mm (in.)



Common Bus Inverters Control Bay and Optional Exit Wire Bays Top, Front, and Bottom Views - Dimensions are mm (in.)



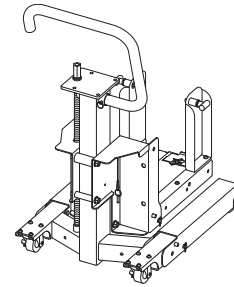
Frame	Control Bay – 300 (11.8) Wide		Exit Bay – 400 (15.7) Wide		Exit Bay – 800 (31.5) Wide	
	A	B	A	B	A	B
8	300 (11.8)	65 (2.6)	400 (15.7)	735 (28.9)	—	—
9	300 (11.8)	65 (2.6)	600 (23.6)	935 (36.8)	—	—
10	300 (11.8)	65 (2.6)	800 (31.5)	1135 (44.7)	—	—
11	300 (11.8)	65 (2.6)	—	—	1200 (47.2)	1935 (76.1)
12	300 (11.8)	65 (2.6)	—	—	1400 (55.1)	2135 (84.0)

Options

This section lists options that are recommended to handle, transport, and store major product components.

Module Service Cart

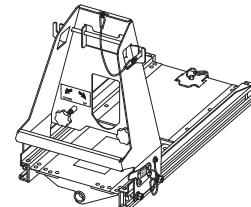
The PowerFlex 750-Series service cart is designed to handle and transport LCL filter modules and power modules. The service cart has an adjustable curb height of 0...254 mm (0...10 in.) and curb offset/reach of 0...203 mm (0...8.0 in.).



Cat. No. 20-750-MCART1

DC Precharge Module Service Lift

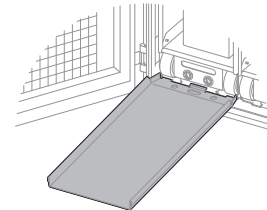
The PowerFlex 755T DC precharge module service lift allows you to remove and install DC precharge modules.



Cat. No. 20-750-MCART2

Power Module Service Ramp

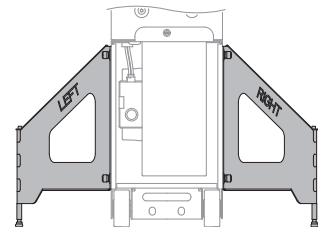
The PowerFlex 755T power module service ramp allows you to remove and install power modules, catalog numbers 20-750-MI1-*xnnxnn*, 20-750-MI2-*xnnxnn*, 20-750-MI3-*xnnxnn*, and 20-750-MI4-*xnnxnn* from the cabinet.



Cat. No. 20-750-MRAMP1

Power and Filter Module Storage Hardware

Power and LCL filter module storage hardware is designed to help stabilize modules during storage.



Cat. No. 20-750-MINV-ATIP

Accessory Kits

Cat. No.	Description		Frame Size
20-750-MLBRKT-F8M	L bus bar kit	Includes three L-brackets and mounting hardware.	8...15
20-750-RPD1-F8	Remote control pod mounting kit	Hardware, fiber-optic, and power supply cables to remotely mount the control POD up to 23 m (75 ft) from the drive.	7...15
20-750-MOSHDP-F8M	Seismic-qualified installations hardware kits	Optional top bracket sets for installations that are at risk of a seismic event. Each kit includes parts for the largest possible enclosure lineup for the specified frame size. Therefore, in some cases, not all parts in the kit will be installed.	8
20-750-MOSHDP-F9M			9
20-750-MOSHDP-F10M			10
20-750-MOSHDP-F11M			11
20-750-MOSHDP-F12M			12
20-750-EMC2-F5	EMC C2 Filter	Each kit provides a complete EMC C2 Filter solution for 755T Frame 5 and Frame 6 respectively. The solution is rated for EMC C2 radiated and conducted emissions compliance for installations up to a motor cable length of 150 m (492 ft). See 750-IN115 for physical dimensions and installation guidance.	5
20-750-EMC2-F6			6

Accessory Kits (continued)

Cat. No.	Description		Frame Size
20-750-MEMCC2-F8910	EMC C2 Filter	These kits provide EMC C2 radiated emissions compliance for frame 8...10 drive ratings. For a full EMC C2 solution, the EMC C2 Filter kit, EMC Input Bus Bar Kit, EMC Output Bus Bar Kit, and EMC Wiring Bay is required. See PowerFlex 755TM IP00 Open Type Kits Technincal Data, publication 750-TD101 and the PowerFlex 755TM Open Type Kits Installation Instructions, publication 750-IN101 for additional information.	8...10
20-750-MEMCC2-IPBB	EMC C2 Filter Input Bus Bars		8...10
20-750-MEMCC2-F8	EMC C2 Filter Output Bus Bars		8
20-750-MEMCC2-F9			9
20-750-MEMCC2-F10			10
20-750-MPBAY-800	800mm EMC Wiring Bay		8...10
20-750-CMRN-F5	Marine Discharge Kit	The frame 5 kit provides a conduit box and debris hood with a pre-installed marine discharge board. This kit enables drive installation on a high-resistance ground or ungrounded distribution system in a marine application (for example, ship or marine vessel). See the PowerFlex 755T Products - ABS Certification, publication 755T-CT002 for details.	5
20-750-CMRN-F6	Marine Discharge Kit	The frame 5 kit is a marine discharge board assembly. This kit enables drive installation on a high-resistance ground or ungrounded distribution system in a marine application (for example, ship or marine vessel). See the PowerFlex 755T Products - ABS Certification, publication 755T-CT002 for details.	6
20-750-MEMCCLP-250	EMC Wiring Clamp Kit 250 (54...64 mm)	The electro magnet compatibility (EMC) gland plate and cable clamp kits are used for applications of PowerFlex 755T product installations that require EMC compliance according to IEC 61800-3. Properly installed EMC gland plate kits provide an IP54 rating.	8...12
20-750-MEMCCLP-205	EMC Wiring Clamp Kit 205 (42...52 mm)		8...12
20-750-MEMCCLP-175	EMC Wiring Clamp Kit 175 (34...44 mm)		8...12
20-750-MEMCCLP-135	EMC Wiring Clamp Kit 135 (26...36 mm)		8...12
20-750-MEMCCLP-125	EMC Wiring Clamp Kit 125 (22...27 mm)		8...12
20-750-MEMCPLT-400WB	Gland Plate	EMC gland plate 400 mm wide wiring bay.	8...10
20-750-MEMCPLT-800WB	Gland Plate	EMC gland plate 800 mm wide wiring bay.	11, 12
20-750-MEMCPLT-PBF8	Gland Plate	Frame 8 CBI, power bay EMC gland plate .	8
20-750-MEMCPLT-PB600	Gland Plate	PowerFlex 750 Kit, power bay CBI EMC gland plate, 600 mm wide.	9, 11, 12
20-750-MEMCPLT-PB800	Gland Plate	PowerFlex 750 Kit, power bay CBI EMC gland plate, 800 mm wide.	10, 12
20-750-MEMCPLT-IBF8	Gland Plate	PowerFlex 750 Kit, Frame 8 input bay, 400 mm wide EMC gland plate.	8
20-750-MEMCPLT-IBF9	Gland Plate	PowerFlex 750 Kit, Frame 9 input bay, 600 mm wide EMC gland plate.	9
20-750-MEMCPLT-IB1000	Gland Plate	PowerFlex 750 Kit, 1000 mm wide input bay, EMC gland plate.	10...12
20-750-MGROMMT-EMC	Grommet	PowerFlex 750 Kit, EMC gland plate, spare grommet (Qty 3)	8...12
SK-RM-GNDPLT-F5	Ground plate kit	Provides a shield termination point for power cables.	5
SK-RM-GNDPLT-F6			6
SK-RM-CBOX1-F5	Conduit box and debris hood kit	Conduit box changes enclosure rating to IP20.	5
SK-RM-CBOX1-F6		Conduit box and debris hood changes enclosure rating to UL Type 1.	6

Human Interface Modules

PowerFlex 750-Series products with TotalFORCE control are compatible only with the enhanced PowerFlex 7-Class human interface modules listed here.



Blank Plate



20-HIM-A6



20-HIM-C6S

Description	Cat. No.
No HIM (Blank Plate)	20-HIM-A0
Enhanced, LCD, Full Numeric, Handheld/Local	20-HIM-A6
Enhanced, LCD, Full Numeric, IP66 NEMA Type 4X/12 (for indoor use only) ⁽¹⁾	20-HIM-C6S

(1) Includes a 1202-C30 interface cable (3 meters) for connection to drive.

Specifications - Human Interface Modules

	20-HIM-A6 ⁽¹⁾	20-HIM-C6S ⁽¹⁾
Drive		
Protocol:	Drive Peripheral Interface (DPI)	
Data Rates:	125 kbps or 500 kbps	
Consumption		
Drive (DPI):	140 mA at 12V DC supplied by the Host Drive	
Dimensions - H x W x D		
20-HIM-A6:	116 x 70 x 16 mm (4.57 x 2.75 x 0.63 in.)	
20-HIM-C6S:	180 x 93 x 25 mm (7.08 x 3.66 x 0.98 in.)	
Weight	91 g (3.2 oz.)	173 g (5.7 oz.)
Temperature		
Operating:	0...50 °C (32...122 °F)	
Storage:	-40...+85 °C (-40...+185 °F)	
Relative Humidity	5...95% non-condensing	
Atmosphere	Important: The module must not be installed in an area where the ambient atmosphere contains volatile or corrosive gas, vapors or dust. If the module is not going to be installed for a period of time, it must be stored in an area where it will not be exposed to a corrosive atmosphere.	
UV Radiation	The HIM is not UV rated.	
Vibration		
Operating:	2.5 G at 5...2000 Hz	
Non-Operating:	5 G at 5...2000 Hz	
Shock		
Operating:	30 G peak acceleration, 11 (±1) ms pulse width	
Non-Operating:	50 G peak acceleration, 11 (±1) ms pulse width	
UL	UL508C	
c-UL	CAN / CSA C22.2 No. 14	
CE	EN61800-3	
C-Tick	EN61800-3	
FCC ID	—	
IC	—	

(1) NOTE: This is a product of category C2 according to IEC 61800-3. In a domestic environment this product may cause radio interference in which case supplementary mitigation measures may be required.

Human Interface Module Kits

Description	Cat. No.
Bezel Kit for LCD HIMs, NEMA Type 1 ⁽¹⁾	20-HIM-B1
PowerFlex HIM Interface Cable, 1 m (39 in.) ⁽²⁾	20-HIM-H10
Comm Option Cable Kit (Male-Male)	
0.33 m (1.1 ft)	1202-C03
1 m (3.3 ft)	1202-C10
3 m (9.8 ft)	1202-C30
9 m (29.5 ft)	1202-C90
Cable Kit (Male-Female) ⁽³⁾	
0.33 m (1.1 ft)	1202-H03
1 m (3.3 ft)	1202-H10
3 m (9.8 ft)	1202-H30
9 m (29.5 ft)	1202-H90
DPI Cable Kit with Connectors, Tools and 100 m (328 ft) Cable	1202-CBL-KIT-100M
DPI Cable Connector Kit	1202-TB-KIT-SET
DPI/SCANport™ One to Two Port Splitter Cable	1203-S03

(1) Includes a 1202-C30 interface cable (3 m) for connection to drive.

(2) Required only when HIM is used as handheld or remote.

(3) Required in addition to 20-HIM-H10 for distances up to a total maximum of 10 m (32.8 ft).

Communication Option Kits and Accessories

Description (see page 263 for specifications)	Cat. No.
Coaxial ControlNet® Option Module	20-750-CNETC
DeviceNet® Option Module	20-750-DNET
Dual-port EtherNet/IP Option Module	20-750-ENETR
PROFIBUS DPV1 Option Module	20-750-PBUS
Single-port PROFINET I/O Option Module	20-750-PNET
Dual-port PROFINET I/O Option Module	20-750-PNET2P
Universal Serial Bus (USB) Converter includes 2 m USB, 20-HIM-H10 & 22-HIM-H10 Cables	1203-USB
ControlNet T-Tap Straight	1786-TPS

Environmental Specifications – Communication Modules

Temperature	
Operating:	-10...+50 °C (14...+122 °F)
Storage:	-40...+85 °C (-40...+185 °F)
Relative Humidity	5...95% non-condensing
Atmosphere	Important: The module must not be installed in an area where the ambient atmosphere contains volatile or corrosive gas, vapors, or dust. If the module is not going to be installed for a period of time, it must be stored in an area where it will not be exposed to a corrosive atmosphere.

Specifications - Communication Options and Accessories

	20-750-CNETC	20-750-DNET	20-750-PBUS	1203-USB
Network				
Protocol:	ControlNet	DeviceNet	PROFIBUS	Universal Serial Bus (USB)
Data Rate:	5 Mbps (fixed)	125, 250, and 500 KBps	9600 bps ... 12 Mbps (autobauds)	115.2 KBps
Drive				
Protocol:	DPI	DPI	DPI	SCANport, DPI, or DSI
Data Rates:	500 KBps	500 KBps	500 KBps	125, 125/500, 19.2 KBps
Consumption				
Drive (DPI):	250 mA at 14V DC	50 mA at 14V DC	250 mA at 14V DC	130 mA at 12V DC
Network:	None	60 mA at 24V DC	None	170 mA at +5V DC (DSI)
Dimensions				
H x L x W:	68.0 x 150.0 x 26.0 mm (2.70 x 5.90 x 1.00 in.)	68.0 x 150.0 x 26.0 mm (2.70 x 5.90 x 1.00 in.)	15.8 x 130.0 x 83.0 mm (0.62 x 5.12 x 3.27 in.)	103.5 x 73.4 x 23.6 mm (4.08 x 2.89 x 0.93 in.)
Weight	62 g (2.1 oz)	62 g (2.1 oz)	57 g (2 oz)	71 g (2.5 oz)
Compliance				
UL:	UL508C	UL508C	UL508C	UL508C
c-UL:	CAN/CSA C22.2 No. 14-05	CAN/CSA C22.2 No. 14	CAN/ CSA C22.2 No.14-M91	CAN/CSA C22.2 No. 14
CE:	EN61800-3	EN61800-3	IEC50178 and IEC61800-3	EN50178 and EN61800-3
C-Tick:	EN61800-3	EN61800-3	EN61800-3	EN61800-3

Feedback Options

Description	Cat. No.
Incremental Encoder	20-750-ENC-1 ⁽¹⁾
Dual Incremental Encoder	20-750-DENC-1 ⁽¹⁾
Universal Feedback (includes Stegmann, Heidenhain, SSI, Biss, Incremental)	20-750-UFB-1

(1) Homing and registration functions are not supported when using this device with Integrated Motion. To use these functions, the Universal Feedback Board (20-750-UFB-1) must be used.

I/O Option Kits

Description⁽¹⁾	Cat. No.
ATEX Option Module with 1 Thermosensor Input Connection (requires 11-Series I/O Module below)	20-750-ATEX
24V DC 11-Series I/O Module with 1 Analog In, 1 Analog Out, 3 Digital In and 2 Relay Outputs	20-750-1132C-2R
24V DC 11-Series I/O Module with 1 Analog In, 1 Analog Out, 3 Digital In, 1 Relay and 2 Transistor Outputs	20-750-1133C-1R2T
115V AC 11-Series I/O Module with 1 Analog In, 1 Analog Out, 3 Digital In and 2 Relay Outputs	20-750-1132D-2R
24V DC 22-Series I/O Module with 2 Analog In, 2 Analog Out, 6 Digital In and 2 Relay Outputs	20-750-2262C-2R
115V AC 22-Series I/O Module with 2 Analog In, 2 Analog Out, 6 Digital In and 2 Relay Outputs	20-750-2262D-2R
24V DC 22-Series I/O Module with 2 Analog In, 2 Analog Out, 6 Digital In, 3 Digital Out, 1 Relay and 2 Transistor Outputs	20-750-2263C-1R2T

(1) I/O option kits are not allowed in CIP motion mode.

Safety Options

Four safety options are available for PowerFlex 755T products:

- Safe Torque Off
- Safe Speed Monitor
- Integrated Safety - Safe Torque Off
- Integrated Safety Functions

Safe Torque Off is ideal for safety related applications requiring removal of rotational power to the motor without shutting down the drive. Safe Torque Off functionality offers the benefit of quick start-up after a demand on the safety system and helps reduce wear from repetitive start-up and provides safety ratings up to and including SIL CL3, PLe, and Category 3.

In applications where the speed needs to be controlled and monitored, the Safe-Speed Monitor option combines Safe Torque Off capability with integrated safety relay functionality and the Safe-Speed Control technology in one hardware option to provide safety ratings up to and including SIL CL3, PLe, and Category 4.

With the Safe Speed Monitor option you can safely monitor and control the speed of your application which allows operators to perform process or maintenance work without stopping the machine.

Note that PowerFlex 755T products can accommodate only one option.

Description	Cat. No.	Publication
Safe Torque Off ⁽¹⁾	20-750-S	PowerFlex 750-Series Safe Torque Off Option Module User Manual, publication 750-UM002
Safe Speed Monitor ⁽¹⁾⁽²⁾	20-750-S1	PowerFlex 750-Series Safe Speed Monitor Option Module Safety Reference Manual, publication 750-RM001
Integrated Safety - Safe Torque Off ⁽¹⁾	20-750-S3	PowerFlex 755 Integrated Safety - Safe Torque Off Option Module User Manual, publication 750-UM004
Integrated Safety Functions ⁽¹⁾	20-750-S4	PowerFlex 755/755T Integrated Safety Functions Option Module User Manual, publication 750-UM005

(1) Drive can accommodate only one option.

(2) Requires the dual incremental encoder or universal feedback option.

Specifications - PowerFlex 750-Series Safety Options

Attribute	Safe Torque Off, 20-750-S	Safe Speed Monitor, 20-750-S1
Standards	IEC/EN60204-1, ISO13489-1, IEC 61508, IEC 61800-5-2	IEC/EN60204-1, ISO12100, IEC 61508, IEC 61800-5-2
Safety Category	Cat. 3 and PL(e) per EN ISO 13849-1; SIL CL3 per IEC 61508 and EN 62061	Cat. 4 and PL(e) per EN ISO 13849-1; SIL CL3 per IEC 61508 and EN 62061
Power Supply (user I/O)	24V DC $\pm 10\%$, 0.8...1.1 x rated voltage ⁽³⁾ PELV or SELV	
Power Consumption	4.4 W	36 W
Safety Enable (SE+, SE-)	24V DC, 22 mA, short-circuit protected	—
Safety Power (SP+, SP-)	24V DC, 35 mA, short-circuit protected	—
SLS Outputs (68, 78)	—	24V DC, 50 mA, short-circuit protected
SS Outputs (34, 44)	—	24V DC, 50 mA, short-circuit protected
Door Control Outputs (51, 52)	—	24V DC, short-circuit protected, 0.75 A bipolar (Power to Release/Power to Lock) configuration. 20 mA, cascading (2Ch Source) configuration.
Pulse Outputs (S11, S21)	—	24V DC, 50 mA, short-circuit protected
Pulse Inputs (S12, S22, S32, S42, S52, S62, S72, S82, X32, X42)	—	5 mA per input, max
Input ON Voltage, Minimum	24V DC $\pm 10\%$, 21.6...26.4V DC	15V

Specifications - PowerFlex 750-Series Safety Options (continued)

Attribute	Safe Torque Off, 20-750-S	Safe Speed Monitor, 20-750-S1
Input OFF Voltage, Maximum	5V	5V
Input OFF Current, Maximum	2.5 mA @ 5V DC	2 mA
Input-to-Output Response Time (SS_In, SLS_In, DM_In, ESM_In, LM_In)	—	20 ms
Overspeed Response Time	—	User-configurable
Inputs (S34)	—	5 mA per input, max
Conductor Size ⁽¹⁾	0.3...0.8 mm ² (28...18 AWG)	0.25...2.5 mm ² (24...14 AWG)
Strip Length	10 mm (0.39 in.)	6 mm (0.25 in.)
Terminal Screw Torque	—	0.2...0.25 N·m (1.8...2.2 lb·in)
Certification ⁽²⁾		
c-UL-us	UL Listed, certified for US and Canada.	
CE	European Union 2004/108/EC EMC Directive, and EU 2006/42/EC Machinery Directive EN 61800-3; categories C2 and C3 EN 62061; EM Immunity EN ISO 13849-1 EN ISO 13849-2 EN 61800-5-1 EN 61800-5-2 EN 61508 Parts 1-7	
C-Tick	Australian Radiocommunications Act, compliant with: EN 61800-3; categories C2 and C3	
TÜV	TÜV Certified for Functional Safety: up to SIL CL3, according to EN 61800-5-2, EN 61508, and EN 62061; up to Performance Level PL(e) and Category 3, according to EN ISO 13849-1; when used as described.	TÜV Certified for Functional Safety: up to SIL CL3, according to EN 61800-5-2, EN 61508, and EN 62061; up to Performance Level PL(e) and Category 4, according to EN ISO 13849-1; when used as described.

(1) See the Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).

(2) When product is marked.

(3) Safety outputs need additional fuse for reverse voltage protection of the control circuit. Install a 6 A slow-blow or 10 A fast-acting fuse.

Specifications - Network Safety Options

Attribute	Network Safe Torque Off, 20-750-S3	Network Safe Speed Monitor, 20-750-S4
Standards	EN 60204-1, IEC 61508, EN 61800-3, EN 61800-5-1, EN 61800-5-2, EN 62061, EN ISO 13849	EN 60204-1, IEC 61508, EN 61800-3, EN 61800-5-1, EN 61800-5-2, EN 62061, EN ISO 13849-1
Safety category	Cat. 3 and PL _e per ISO 13849-1; SIL CL3 per IEC 61508 and EN 62061	Cat. 4 and PL _e per EN ISO 13849-1; SIL 3 per IEC 61508 and SIL CL3 per EN IEC 62061
Power supply (user I/O)	24V DC ±10%, 0.8...1.1 x rated voltage ⁽²⁾ PELV or SELV	24V DC ±10%, 0.8...1.1 x rated voltage ⁽²⁾ PELV or SELV
Input type	Current sinking	Current sinking
Voltage, on-state input	11...30V, 3.5 mA DC	11...30V DC
Voltage, off-state input, max	5V, 3.5 mA DC	-3...5V DC
Current, on-state input, min	3.3 mA	2 mA
Current, off-state, max	1.3 mA	1.5 mA
IEC 61131-2 (input type)	Type 3	Type 3
Conductor type	Multi-conductor shielded cable	Multi-conductor shielded cable
Conductor size ⁽¹⁾	0.3...0.8 mm ² (28...18 AWG)	0.3...0.8 mm ² (28...18 AWG)
Strip length	10 mm (0.39 in.)	10 mm (0.39 in.)

(1) See the Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).

(2) Safety outputs need additional fuse for reverse voltage protection of the control circuit. Install a 6 A slow-blow or 10 A fast-acting fuse.

Notes:

Additional Resources

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

Resource	Description
PowerFlex 755TM IP00 Open Type Kits Technical Data, publication 750-TD101	Provides detailed information on: • Kit selection • Kit ratings and specifications • Option specifications
PowerFlex 755TM IP00 Open Type Kits Installation Instructions, publication 750-IN101	Provides instructions to install IP00 Open Type kits in user-supplied enclosures.
PowerFlex 750-Series I/O, Feedback, and Power Option Modules Installation, publication 750-IN111	Provides instructions to install and wire 750-Series option modules.
PowerFlex 750-Series Products with TotalFORCE Control Reference Manual, publication 750-RM100	Provides detailed setup and programming instructions for common applications.
PowerFlex Drives with TotalFORCE Control Programming Manual, publication 750-PM100	Provides detailed information on: • I/O, control, and feedback options • Parameters and programming • Faults, alarms, and troubleshooting
Drives in Common Bus Configurations with PowerFlex 755TM Bus Supplies Application Techniques, publication DRIVES-AT005	Provides basic information to properly wire and ground the following products in common bus applications: • PowerFlex 755TM drive system for common bus solutions • PowerFlex 750-Series AC and DC input drives • Kinetix® 5700 servo drives
PowerFlex 755T Flux Vector Tuning, publication 750-AT006	Provides guidance on how to tune Flux Vector position and velocity loops, filters, and other features to achieve the level of performance that is required for a given application. This publication is intended for novice drives users and users with advanced skills.
PowerFlex Drives with TotalFORCE Control Built-in EtherNet/IP Adapter User Manual, publication 750COM-UM009	Provides information on how to install, configure, and troubleshoot applications for the PowerFlex drives with the built-in EtherNet/IP™ adapter.
PowerFlex 750-Series Products with TotalFORCE Control Hardware Service Manual, publication 750-TG100	Provides detailed information on: • Preventive maintenance • Component testing • Hardware replacement procedures
PowerFlex 750-Series Safe Speed Monitor Option Module Safety Reference Manual, publication 750-RM001	These publications provide detailed information on installation, set-up, and operation of the 750-Series safety option modules.
PowerFlex 750-Series Safe Torque Off Option Module User Manual, publication 750-UM002	
PowerFlex 750-Series ATEX Option Module User Manual, publication 750-UM003	
PowerFlex 755 Integrated Safety - Safe Torque Off Option Module User Manual, publication 750-UM004	
PowerFlex 20-HIM-A6 / -C6S HIM (Human Interface Module) User Manual, 20HIM-UM001	Provides detailed information on HIM components, operation, and features.
PowerFlex 755TM AC Precharge Modules Unpacking and Lifting Instructions, publication 750-IN102	These publications provide detailed information on: • Component weights • Precautions and recommendations • Hardware attachment points • Lifting the component out of the packaging
PowerFlex 755TM DC Precharge Modules Unpacking and Lifting Instructions, publication 750-IN103	
PowerFlex 755TM Power and Filter Modules Unpacking and Lifting Instructions, publication 750-IN104	
PowerFlex 750-Series Service Cart Instructions, publication 750-IN105	Provides detailed set-up and operating instructions for the module service cart and DC precharge module lift.
PowerFlex 755TM Power and Filter Module Storage Hardware Instructions, publication 750-IN106	Provides detailed installation and usage instructions for this hardware accessory.
PowerFlex 755T Module Service Ramp Instructions, publication 750-IN108	Provides detailed usage instructions for the module service ramp.
Industry Installation Guidelines for Pulse Width Modulated (PWM) AC Drives, publication DRIVES-AT003	Provides basic information on enclosure systems, considerations to help protect against environmental contaminants, and power and grounding considerations for installing Pulse Width Modulated (PWM) AC drives.
Wiring and Grounding Guidelines for Pulse Width Modulated (PWM) AC Drives, publication DRIVES-IN001	Provides basic information to properly wire and ground PWM AC drives.
EtherNet/IP Network Devices User Manual, ENET-UM006	Describes how to configure and use EtherNet/IP devices to communicate on the EtherNet/IP network.
Ethernet Reference Manual, ENET-RM002	Describes basic Ethernet concepts, infrastructure components, and infrastructure features.

Resource	Description
System Security Design Guidelines Reference Manual, SECURE-RM001	Provides guidance on how to conduct security assessments, implement Rockwell Automation products in a secure system, harden the control system, manage user access, and dispose of equipment.
Industrial Components Preventive Maintenance, Enclosures, and Contact Ratings Specifications, publication IC-TD002	Provides a quick reference tool for Allen-Bradley industrial automation controls and assemblies.
Safety Guidelines for the Application, Installation, and Maintenance of Solid-State Control, publication SGI-1.1	Designed to harmonize with NEMA Standards Publication No. ICS 1.1-1987 and provides general guidelines for the application, installation, and maintenance of solid-state control in the form of individual devices or packaged assemblies incorporating solid-state components.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, rok.auto/certifications .	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at rok.auto/literature.

Rockwell Automation Support

Use these resources to access support information.

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Knowledgebase	Access Knowledgebase articles.	rok.auto/knowledgebase
Local Technical Support Phone Numbers	Locate the telephone number for your country.	rok.auto/phonesupport
Literature Library	Find installation instructions, manuals, brochures, and technical data publications.	rok.auto/literature
Product Compatibility and Download Center (PCDC)	Get help determining how products interact, check features and capabilities, and find associated firmware.	rok.auto/pcdc

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