

AF-300E\$™ Adjustable Frequency Drive

The AF-300E\$™ drive incorporates a PWM scalar approach for such applications as centrifugal pumps and fans where multiple motors operated from a common drive may be the optimal solution. Elements of scalar control such as torque boost and slip compensation are standard features included in the design. The AF-300E\$ drive's twin 16-bit micro-processors operate at a speed which allows the drive to maximize frequency regulation with acceleration rate and impact loading, making adjustments quickly to avoid nuisance trips. In fan and pump applications, significant overload capability is not normally required, so the AF-300E\$ drive has a variable torque current rating. For constant torque applications where extra output current capability is required, the AF-300E\$ drive boasts some of the industry's highest current ratings per Hp rating.

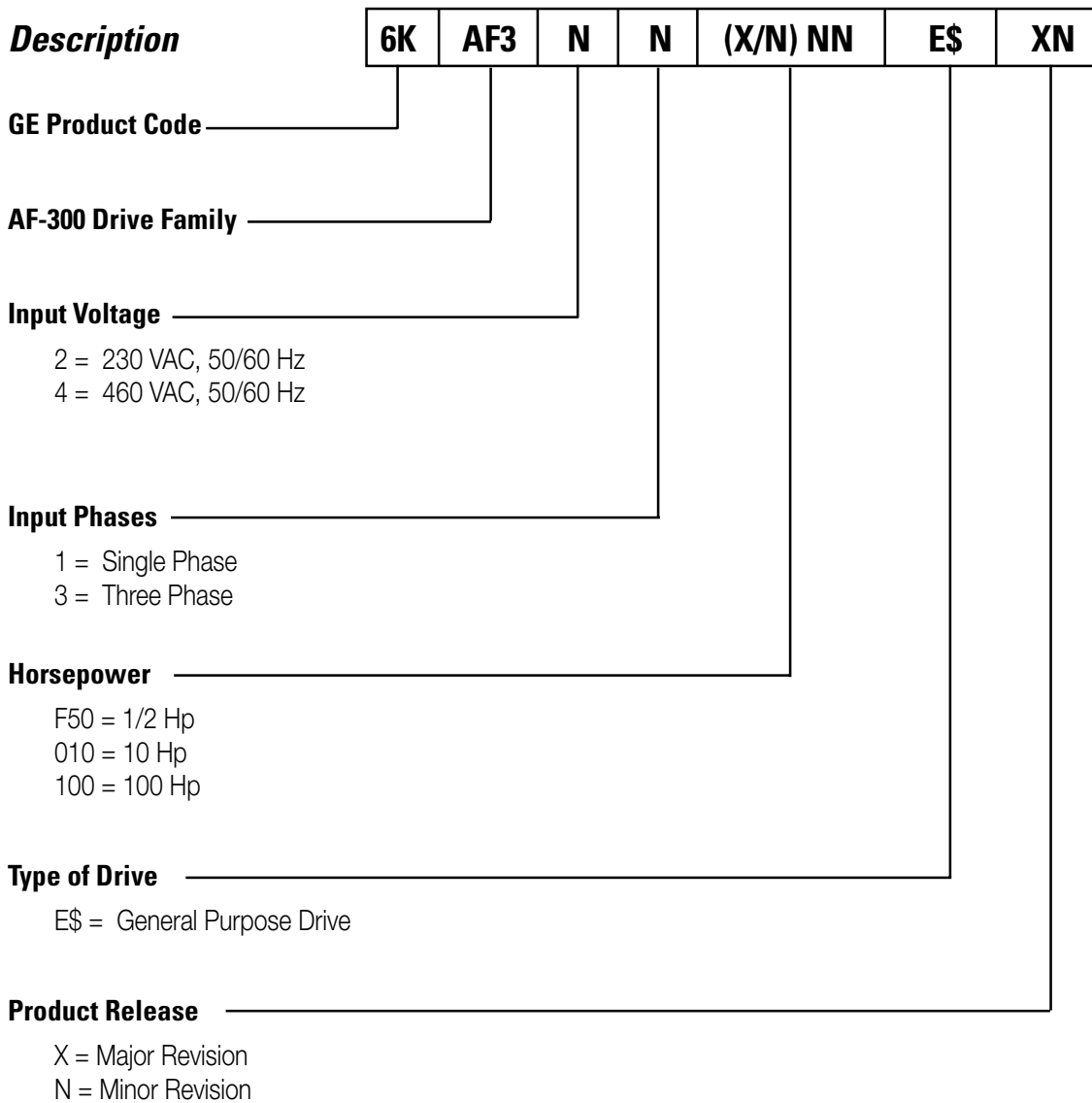
AF-300E\$ Drives incorporate multiple control algorithms, application specific ratings, and most importantly, they're easy to use. And thanks to Torque Vector Control, they provide performance rivaling most DC systems.



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AF-300E\$ Model Numbering System Diagram



Pricing, Dimensions & Weights NEMA 1

Constant Torque Hp Rating 150% 1 min.*	Constant Torque Rated Output Amps	Variable Torque Hp Rating 115% 1 min.*	Variable Torque Rated Output Amps	AF-300ES Model No.	Catalog No.	List Price GO-5ES	H x W x D inches	Weight (lbs.)
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230 VAC, 3 phase, 50/60 Hz Input, NEMA 1 Enclosure

0.5	3.0	N/A	N/A	6KE\$223F50X1A1	D5501	810.	10.24 x 4.33 x 4.53	5.3
1	5.0	N/A	N/A	6KE\$223001X1A1	D5502	860.	10.24 x 4.33 x 5.12	5.3
2	8.0	N/A	N/A	6KE\$223002X1A1	D5503	920.	10.24 x 5.91 x 5.71	8.4
3	11.0	N/A	N/A	6KE\$223003X1A1	D5504	990.	10.24 x 5.91 x 5.71	8.4
5	17.0	N/A	N/A	6KE\$223005X1A1	D5505	1,220.	10.24 x 5.91 x 5.71	8.4
7.5	25.0	10	29.0	6KE\$223007X1A1	D5506	1,520.	10.24 x 8.66 x 7.68	13
10	33.0	15	42.0	6KE\$223010X1A1	D5507	1,850.	10.24 x 8.66 x 7.68	13
15	46.0	20	55.0	6KE\$223015X1A1	D5508	2,475.	15.75 x 9.84 x 7.68	25
20	59.0	25	68.0	6KE\$223020X1A1	D5509	3,120.	15.75 x 9.84 x 7.68	25
25	74.0	30	80.0	6KE\$223025X1A1	D5510	3,705.	15.75 x 9.84 x 7.68	27
30	87.0	N/A	N/A	6KE\$223030X1A1	D5511	4,300.	15.75 x 9.84 x 7.68	27

460 VAC, 3 phase, 50/60 Hz Input, NEMA 1 Enclosure

1	2.5	N/A	N/A	6KE\$243001X1A1	D5512	1,100.	10.24 x 5.91 x 5.71	8.4
2	3.7	N/A	N/A	6KE\$243002X1A1	D5513	1,180.	10.24 x 5.91 x 5.71	8.4
3	5.5	N/A	N/A	6KE\$243003X1A1	D5514	1,270.	10.24 x 5.91 x 5.71	8.4
5	9.0	N/A	N/A	6KE\$243005X1A1	D5515	1,560.	10.24 x 5.91 x 5.71	8.4
7.5	13.0	10	16.5	6KE\$243007X1A1	D5516	1,950.	10.24 x 8.66 x 7.68	14
10	18.0	15	23.0	6KE\$243010X1A1	D5517	2,375.	10.24 x 8.66 x 7.68	14
15	24.0	20	30.0	6KE\$243015X1A1	D5518	3,175.	15.75 x 9.84 x 7.68	25
20	30.0	25	37.0	6KE\$243020X1A1	D5519	4,000.	15.75 x 9.84 x 7.68	25
25	39.0	30	44.0	6KE\$243025X1A1	D5520	4,750.	15.75 x 9.84 x 7.68	27
30	45.0	N/A	N/A	6KE\$243030X1A1	D5521	5,510.	15.75 x 9.84 x 7.68	27
30	45.0	40	52.0	6KE\$243035X1A1	D5522	6,350.	33.5 x 13.4 x 9.65	89
40	60.0	50	66.0	6KE\$243040X1A1	D5523	7,050.	33.5 x 13.4 x 9.65	89
50	75.0	60	77.0	6KE\$243050X1A1	D5524	8,560.	33.5 x 14.8 x 9.65	100
60	91.0	75	96.0	6KE\$243060X1A1	D5525	9,955.	39.4 x 14.8 x 9.65	111
75	112.0	100	124.0	6KE\$243075X1A1	D5526	11,965.	39.4 x 14.8 x 9.65	122
100**	150.0	125	156.0	6KE\$243100X1A1	D5527	14,915.	43.3 x 14.8 x 10.63	144
125**	176.0	150	180.0	6KE\$243125X1A1	D5528	17,540.	47.3 x 20.9 x 12.4	221
150**	210.0	200	253.0	6KE\$243150X1A1	D5529	19,830.	57.1 x 20.9 x 14.2	287
200**	304.0	250	304.0	6KE\$243200X1A1	D5531	24,070.	57.1 x 20.9 x 14.2	298
250**	377.0	300	377.0	6KE\$243250X1A1	D5532	28,135.	57.1 x 26.8 x 14.2	430
300**	415.0	350	415.0	6KE\$243300X1A1	D5533	30,425.	57.1 x 26.8 x 14.2	430

* Verify the full load rated current of the motor to which the drive will be applied.

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** A DC Link Inductor is shipped as a separate item (Ratings equal to and greater than 100 Hp) and is to be connected to Drive Power Terminals P1 and P+. The DC Link Inductor is open core design. If single unit construction is required refer to the Panel Section of the manual.

NOTE: When using variable torque applications, Function Code 86 (motor Hp capability) has to be changed to set drive Hp vs. Load Hp.

Pricing, Dimensions & Weights NEMA 4 and NEMA 12

Constant Torque Hp Rating 150% 1 min.*	Constant Torque Rated Output Amps	Variable Torque Hp Rating 115% 1 min.*	Variable Torque Rated Output Amps	Model No.	Catalog No.	List Price GO-5E\$	H x W x D inches	Weight (lbs.)
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230 VAC, 3 phase, NEMA 4 Enclosure

0.5	3.0	N/A	N/A	6KE\$123F50X4A1	D5601	960.	11.7 x 5.91 x 5.04	8.5
1	5.0	N/A	N/A	6KE\$123001X4A1	D5602	1,010.	11.7 x 5.91 x 5.04	8.5
2	8.0	N/A	N/A	6KE\$123002X4A1	D5603	1,115.	11.7 x 7.48 x 5.63	12
3	11.0	N/A	N/A	6KE\$123003X4A1	D5604	1,185.	11.7 x 7.48 x 5.63	12
5	17.0	N/A	N/A	6KE\$123005X4A1	D5605	1,415.	11.7 x 7.48 x 5.63	12
7.5	25.0	10	29.0	6KE\$123007X4A1	D5606	1,785.	11.6 x 10.2 x 7.6	19.5
10	33.0	15	42.0	6KE\$123010X4A1	D5607	2,115.	11.6 x 10.2 x 7.6	19.5

230 VAC, 3 phase, NEMA 12 Enclosure

15	46.0	20	55.0	6KE\$123015X2A1	D5608	2,850.	15.75 x 9.84 x 7.68	25
20	59.0	25	68.0	6KE\$123020X2A1	D5609	3,495.	15.75 x 9.84 x 7.68	25
25	74.0	30	80.0	6KE\$123025X2A1	D5610	4,080.	15.75 x 9.84 x 7.68	27
30	87.0	N/A	N/A	6KE\$123030X2A1	D5611	4,675.	15.75 x 9.84 x 7.68	27

460 VAC, 3 phase, NEMA 4 Enclosure,

1	2.5	N/A	N/A	6KE\$143001X4A1	D5612	1,295.	11.7 x 7.48 x 5.63	12
2	3.7	N/A	N/A	6KE\$143002X4A1	D5613	1,375.	11.7 x 7.48 x 5.63	12
3	5.5	N/A	N/A	6KE\$143003X4A1	D5614	1,465.	11.7 x 7.48 x 5.63	12
5	9.0	N/A	N/A	6KE\$143005X4A1	D5615	1,755.	11.7 x 7.48 x 5.63	12
7.5	13.0	10	16.5	6KE\$143007X4A1	D5616	2,215.	11.6 x 10.2 x 7.6	20.5
10	18.0	15	23.0	6KE\$143010X4A1	D5617	2,640.	11.6 x 10.2 x 7.6	20.5

460 VAC, 3 phase, NEMA 12 Enclosure

15	24.0	20	30.0	6KE\$143015X2A1	D5618	3,550.	15.75 x 9.84 x 7.68	25
20	30.0	25	37.0	6KE\$143020X2A1	D5619	4,375.	15.75 x 9.84 x 7.68	25
25	39.0	30	44.0	6KE\$143025X2A1	D5620	5,125.	15.75 x 9.84 x 7.68	27
30	45.0	N/A	N/A	6KE\$143030X2A1	D5621	5,885.	15.75 x 9.84 x 7.68	27

* Verify the full load rated current of the motor to which the drive will be applied.

4-001B

NOTE: A DC Link Inductor is shipped as a separate item (Ratings equal to and greater than 100 Hp) and is to be connected to Drive Power Terminals P1 and P+. The DC Link Inductor is open core design. If single unit construction is required refer to the Panel Section of the manual.

CE Labeled AF-300ES and Fuji Electric G9 Products

NEW PRODUCTS	Constant Torque	Variable Torque	Model No.	Catalog No.	List Price	Weight (lbs.)
	Hp Rating	Hp Rating				

AF-300ES 415 VAC Three Phase

NEMA 1 CE Labeled UL/CSA	1	1	6KE\$243001X1B1	D5625	1,135.	8.4
	2	2	6KE\$243002X1B1	D5626	1,205.	8.4
	3	3	6KE\$243003X1B1	D5627	1,295.	8.4
	5	5	6KE\$243005X1B1	D5628	1,585.	8.4
	7.5	10	6KE\$243007X1B1	D5629	1,975.	14
	10	15	6KE\$243010X1B1	D5630	2,400.	14
	15	20	6KE\$243015X1B1	D5631	3,200.	25
	20	25	6KE\$243020X1B1	D5632	4,025.	25
	25	30	6KE\$243025X1B1	D5633	4,775.	27
	30	6KE\$243030X1B1	D5634	5,535.	27	

AF-300ES 415 VAC Three Phase

NEMA 4 CE Labeled UL/CSA	1	1	6KE\$243001X4B1	D5635	1,320.	12
	2	2	6KE\$243002X4B1	D5636	1,400.	12
	3	3	6KE\$243003X4B1	D5637	1,490.	12
	5	5	6KE\$243005X4B1	D5638	1,780.	12
	7.5	10	6KE\$243007X4B1	D5639	2,240.	20.5
	10	15	6KE\$243010X4B1	D5640	2,665.	20.5
NEMA 12 CE Labeled UL/CSA	15	20	6KE\$243015X2B1	D5641	3,575.	25
	20	25	6KE\$243020X2B1	D5642	4,400.	25
	25	30	6KE\$243025X2B1	D5643	5,150.	27
	30		6KE\$243030X2B1	D5644	5,910.	277

Fuji Electric G9 415 VAC Open Chassis (IP00)

CE Labeled	40		FRN30G9S-4EN	D5645	7,050.	79
	50		FRN37G9S-4EN	D5646	8,560.	82
	60		FRN45G9S-4EN	D5647	9,955.	97
	75		FRN55G9S-4EN	D5648	12,750.	112
	100		FRN75G9S-4EN	D5649	15,245.	134
	125		FRN90G9S-4EN	D5650	18,580.	194
	150		FRN110G9S-4EN	D5651	21,890.	194
	200		FRN160G9S-4EN	D5652	26,425.	2775
	250		FRN200G9S-4EN	D5653	31,080.	390
	300		FRN220G9S-4EN	D5654	36,400.	390

Compatible RFI Filters

	Model No.		Cat. No.	List Price	Weight
CE Compliant	EFL015G94	CE Filter 1 - 2 Hp	A3281	295.	4.4
	EFL040G94	CE Filter 3 - 5 Hp	A3282	750.	4.4
	EFL075G94	CE Filter 7.5 - 10 Hp	A3283	1,215.	5.9
	EFL150G94	CE Filter 15 - 20 Hp	A3284	1,990.	12
	EFL220G94	CE Filter 25 - 30 Hp	A3285	2,735.	12
	RS3120DF	CE Filter 40 - 50 Hp	A3286	3,440.	30
	RS3180DF	CE Filter 60 - 100 Hp	A3287	4,465.	49
	RS3280DF	CE Filter 125 - 200 Hp	A3288	5,815.	85
	RS3380DF	CE Filter 250 - 300 Hp	A3289	7,720.	93

GE Fuji has expanded its product offering again, with a new line of CE labeled AF-300ES drives. The drives are available in 415 VAC (380 VAC to 460 VAC UL, CSA only) ratings. Drives from 1 - 30 Hp also carry the UL and CSA approvals in addition to the CE Mark. Drives rated at 40 Hp and above carry the CE label exclusively. The units have the same variable torque and constant torque ratings as the existing line of AF-300ES drives. In addition to the new CE labeled drives, GE Fuji offers a complete compatible line of RFI filters.

Ratings Efficiency & Watts Loss (230, 460 VAC)

Catalog No.	Hp		Output Current		Output Power		Constant Torque				Variable Torque	Internal DB
	Const Trq	Var Trq	Const Trq	Var Trq	KVA	KW	Efficiency %		Watts Loss		Watts Loss	
							2K Hz	15K Hz	2K Hz	15K Hz	15K Hz	
230 VAC - Three Phase												
6KAF323F50E\$A1	0.5	0.5	3	3	1.2	0.4	90.0	87.5	40	50		44
6KAF323001E\$A1	1	1	5	5	2	0.75	93.3	90.7	50	70		68
6KAF323002E\$A1	2	2	8	8	3.1	1.5	94.7	92.7	80	110		75
6KAF323003E\$A1	3	3	11	11	4.3	2.2	94.8	93.2	115	150		77
6KAF323005E\$A1	5	5	17	17	6.7	3.7	95.4	93.8	170	230		93
6KAF323007E\$A1	7.5	10*	25	29	9.9	5.5	96.0	94.4	220	310	415	138
6KAF323010E\$A1	10	15*	33	42	13	7.5	96.0	94.5	300	415	685	188
6KAF323015E\$A1	15	20*	46	55	18	11	95.4	93.8	510	685	720	
6KAF323020E\$A1	20	25*	59	68	23	15	96.5	95.2	530	720	890	
6KAF323025E\$A1	25	30*	74	80	29	18.5	96.3	95.2	690	890	1160	
6KAF323030E\$A1	30		87		34	22	96.5	94.7	780	1160		
460 VAC - Three Phase												
6KAF343001E\$A1	1	1	2.5	2.5	2	0.75	93.3	88.0	50	90		68
6KAF343002E\$A1	2	2	3.7	3.7	2.9	1.5	95.7	92.7	65	110		75
6KAF343003E\$A1	3	3	5.5	5.5	4.4	2.2	96.1	93.2	85	150		77
6KAF343005E\$A1	5	5	9	9	7.2	3.7	97.0	93.8	110	230		93
6KAF343007E\$A1	7.5	10*	13	16.5	10	5.5	97.5	94.5	140	300	400	138
6KAF343010E\$A1	10	15*	18	23	14	7.5	97.3	94.7	200	400	525	188
6KAF343015E\$A1	15	20*	24	30	19	11	97.1	95.2	315	525	610	
6KAF343020E\$A1	20	25*	30	37	23	15	97.7	95.9	340	610	780	
6KAF343025E\$A1	25	30*	39	44	31	18.5	97.6	95.8	450	780	970	
6KAF343030E\$A1	30		45	45	35	22	97.7	95.6	510	970		
6KAF343035E\$A1		40*	45	52	35	22	97.1	96.2	650	850		
6KAF343040E\$A1	40	50*	60	66	47	30	97.2	96.3	850	1100	1050	
6KAF343050E\$A1	50	60*	75	77	59	37	97.6	96.8	900	1200	1150	
6KAF343060E\$A1	60	75*	91	96	72	45	97.8	97.1	1000	1300	1250	
6KAF343075E\$A1	75	100*	112	124	89	55	98.0	97.2	1150	1550	1500	
6KAF343100E\$A1	100	125*	150	156	119	75	98.0	97.9	1500	1600	1850	
6KAF343125E\$A1	125	150*	176	180	140	90	98.1	97.9	1750	2000	2000	
6KAF343150E\$A1	150	200*	210	253	202	132	98.2	97.9	2050	2350	2300	
6KAF343200E\$A1	200	250*	304	304	242	160	98.1	97.8	2850	3250	3150	
6KAF343250E\$A1	250	300*	377	377	300	200	98.1	97.9	3500	4000	3800	
6KAF343300E\$A1	300	350*	415	415	330	220	98.3	98.0	3850	4450	4300	

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* In variable torque applications, Function Code 86 (Motor Hp Capability) needs to be changed to Set Drive Hp vs. Load Hp.

AF-300 E\$ Options & Accessories

Description	Model No.	Catalog No.	List Price GO-5E\$
DC Link Reactor 100 Hp	DCR475	A3000	1,965.
DC Link Reactor 125 Hp	DCR490	A3001	2,520.
DC Link Reactor 150 Hp	DCR4110	A3002	2,100.
DC Link Reactor 175 Hp	DCR4132	A3003	2,895.
DC Link Reactor 200 Hp	DCR4160	A3004	3,460.
DC Link Reactor 250 Hp	DCR4200	A3005	4,335.
DC Link Reactor 300 Hp	DCR4220	A3006	4,535.
Genius Communications	HE300GEN100	A3159	1,130.
Modbus RTU Communications	HE300RSL100	A3160	400.
Modbus + Communications	OPC-G9S-MBP	*	*
Profibus DP Communications	OPC-G9S-PF	A3161	750.
DeviceNet Communications	HE300DNT100	**	**
Interbus S Communications	HE300IBS100	**	**
FLN (P1) Communications	HE300RSL130	**	**
N2 System Communications	HE300RSL120	A3162	485.
230 VAC 0.5-1 Hp Resistor	6KE\$32DBR001	A3201	300.
230 VAC 2-3 Hp Resistor	6KE\$32DBR003	A3202	400.
230 VAC 5 Hp Resistor	6KE\$32DBR005	A3203	450.
230 VAC 7.5 Hp Resistor	6KE\$32DBR007	A3204	530.
230 VAC 10 Hp Resistor	6KE\$32DBR010	A3205	650.
230 VAC 15 Hp Resistor	6KE\$32DBR015	A3206	1,200.
230 VAC 20 Hp Resistor	6KE\$32DBR020	A3207	1,310.
230 VAC 25 Hp Resistor	6KE\$32DBR025	A3208	1,485.
230 VAC 30 Hp Resistor	6KE\$32DBR030	A3209	1,635.
460 VAC 1 Hp Resistor	6KE\$34DBR001	A3210	450.
460 VAC 2-3 Hp Resistor	6KE\$34DBR003	A3211	525.
460 VAC 5 Hp Resistor	6KE\$34DBR005	A3212	600.
460 VAC 7.5 Hp Resistor	6KE\$34DBR007	A3213	850.
460 VAC 10 Hp Resistor	6KE\$34DBR010	A3214	950.
460 VAC 15 Hp Resistor	6KE\$34DBR015	A3215	1,050.
460 VAC 20 Hp Resistor	6KE\$34DBR020	A3216	1,100.
460 VAC 25 Hp Resistor	6KE\$34DBR025	A3217	1,200.
460 VAC 30 Hp Resistor	6KE\$34DBR030	A3218	1,300.
460 VAC 35-40 Hp Resistor	6KE\$34DBR040	A3219	1,750.
460 VAC 50 Hp Resistor	6KE\$34DBR050	A3220	1,900.
460 VAC 60 Hp Resistor	6KE\$34DBR060	A3221	2,150.
460 VAC 75 Hp Resistor	6KE\$34DBR075	A3222	2,355.
230 VAC 15-25 Hp Brake Module	6KE\$32DBU025	A3230	620.
230 VAC 30 Hp Brake Module	6KE\$32DBU030	A3231	675.
460 VAC 15-30 Hp Brake Module	6KE\$34DBU030	A3232	720.
460 VAC 35-50 Hp Brake Module	6KE\$34DBU050	A3233	1,500.
460 VAC 60-75 Hp Brake Module	6KE\$34DBU075	A3234	1,875.
460 VAC 100-125 Hp Brake Module	6KE\$34DBU150	A3235	3,400.
460 VAC 150 Hp Brake Module	6KE\$34DBU175	A3236	5,100.

* Consult factory for availability and ordering information

** These cards are available from Horner Electric. Please call 317-916-4274 for price and availability.

AF-300 E\$ Options & Accessories (continued)

Description	Model No.	Catalog No.	List Price GO-5E\$
Keypad Extension Cable - 2m Straight	6KE\$ECB02	A3240	95.
Keypad Extension Cable - 5m Coiled	6KE\$ECB05	A3241	205.
Keypad Extension Cable - 10m Coiled	6KE\$ECB10	A3242	245.
Drive Mount Relay Card (5 C-Form)	6KE\$3RLY	A3270	475.
Analog I/O Card	6KE\$3APS	A3271	500.
PID Card	6KE\$3PID	A3273	500.
Digital Tach Feedback Card	6KE\$3PTF	A3274	675.
115 VAC I/O Card	6KE\$3TBD	A3276	690.
Copy Unit	6KE\$3PCU	A3277	1,650.
Panel Mount Relay Option (4 C-Form)	6VKB3RY	A3032	600.
Panel Mount Relay Option (5 C-Form)	6VKC3RY	A3046	600.

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Genius™ Interface Card

The Genius Option card, by Horner Electric, is a printed circuit board option which may be installed on any AF-300E\$ Drive by inserting the card into the AF-300E\$'s option plug. The option utilizes GE Fanuc's GENA interface circuitry that supports datagrams and global data transfer. The option allows keypad, PC program & Hp configuration, as well as full access via the GENIUS network of the function codes, drive operating commands, feedbacks, status and diagnostics for up to 30 Drives per each Genius Bus networks with 90-30 or 90-70 PLCs and PCIM bus controllers.

Modbus RTU Interface Card

The Modbus Option card by Horner Electric is a printed circuit board option which may be installed on any AF-300E\$ drive by inserting the card into the AF-300E\$'s option plug. The option utilizes interface circuitry that supports both ASCII and RTU binary protocols as a slave device with both RS-232 or RS-485 being available where RS-485 is required for multi-drop. Access to all AF-300E\$ Drive function codes, operating commands, feedbacks, status and diagnostics for up to 31 AF-300E\$ Drives on a single serial link is available.

Modbus Plus Communications

The OPC-G9S-MBP is equipped with a HMS AnyBus® data transfer module which has an internal micro-processor that allows the drive to communicate on a Modbus Plus network.

Profibus DP Communications

Provides Profibus DP compatibility to the AF-300E\$. The card has a baud rate capability of 12 Mbit/sec allowing for communication to a Profibus Master device. The card is certified by the Profibus Trade Organization.

DeviceNet Communications Card

The card allows remote control of the drive through the DeviceNet network. This allows access to the drive's configuration control and status parameters.

Interbus S Communications Card

The card provides access to all drive parameters including continual and occasional parameters like start/stop and upper frequency limit, drive feedback parameters like output frequency and torque are available to be monitored over the network. Parameters can be uploaded or downloaded over the network as well.

FLN (P1) Communications

Consult factory for information regarding the functionality of this card.

N2 System Communications

The HE300RSL120 allows for remote operation and control of the AF-300E\$ drive through the N2 network. The card allows access to the drive's configuration, status and control parameters. The card provides for Local or Network access to parameters by providing contact on the option card which allow for manual switching from keypad to network control and vice versa.

AF-300 E\$ Options & Accessories (continued)

Keypad Extension Cable

The Keypad extension cable allows remote mounting of the AF-300E\$, AF-300V\$ and AF-300 Micro-Saver II drive's operator's keypad on enclosure doors or operator's station. This allows for the convenient location of the Operation Keypad separate from the unit, or on a panel's door, and still retain full keypad functionality.

Drive Mount Relay Unit

The Relay option card is a printed circuit board that may be installed on any AF-300E\$ by inserting the card into the AF-300E\$'s Option plug. The option consists of 5 Form-C relay output contacts rated .3A, 250 VAC that are operated individually from the five open-collector outputs. These relay outputs can then be connected into customer's 115 VAC control circuits, thus allowing system integration of the Drive.

PID Card

The PID regulator option unit is a printed circuit option board that may be installed on any AF-300E\$ by inserting the card into the AF-300E\$ Drive's Option plug. The option provides the AF-300E\$ Drive with an outer loop control of process variables by using the system's process sensor's analog feedback signal. The setpoint reference is commanded by a 0 to 10 VDC signal. The feedback signal of 0 to 10 VDC or 4-20 mA is user selectable. Input and feedback polarities and the PID gains are all programmable. The option is essential for a variety of applications where self-contained process control is desirable without using an external regulator unit.

Digital Tachometer Feedback

The AF-300E\$ Digital Tachometer Feedback option unit is a printed circuit option board that may be installed on any AF-300E\$ by inserting the card into the AF-300E\$'s Option plug. This option provides improved system speed regulation by implementing a digital tachometer feedback signal ($\pm 0.2\%$ from 6-120 Hz). The option converts an open-loop system to a closed-loop speed regulator. It also allows for setting system stability and gain required to fully tune the AF-300E\$ drive/motor/load. (Note: Digital tachometer/encoder for separate motor/equipment mounting is not included and is to be furnished by the customer/end user.) Maximum input frequency is 30,000 pulses/seconds (ie: tach PPR x max. RPM / 60 = 30,000)

Analog Input/Output Unit

The Analog Interface option card is a printed circuit option board that can be installed on any AF-300E\$ by inserting the card into the AF-300E\$'s Option plug. The option provides an additional 0 to 10 Vdc analog output signal that can be configured to indicate operating levels of: output frequency, current, torque, power or load. The option also provides an additional two analog input references to the Drive of any two of the following settings: Motoring torque limit, regenerative torque limit, or Regenerative/Motoring torque limit or output frequency.

115 VAC I/O Card

The Control Power Option card may be installed on any AF-300E\$ Drive by inserting the card into the AF-300E\$'s option plug. The option allows the AF-300E\$ to be controlled from external control circuit contact inputs: FWD, REV, HLD and X1 - X5 when integrated with external control logic. The control circuit inputs allow for control voltage levels of 24 V to 250 VDC and 120 V to 250 VAC for the logic inputs to the Drive. The contact input control circuit can accommodate up to 3 contacts.

Copy Unit

The AF-300E\$ drive copy unit option is a Drive setup tool that transfers drive function code settings from an existing unit to the Copy Unit. It retains the information in a micro-processor based memory allowing the information to be either transferred to another unit without the need for additional setup, or used at some future time for additional drive installations. It copies data, verifies that the data is correct between the Drive and copy unit, and allows for the protection of the information in one of the 12 Copy Unit's memory location. It is powered from either the AF-300E\$ Drive via the extension cable or AC power cable with a power on switch.

Panel Mount Relay Options

An externally mounted option available with 4 or 5 C form relays. The relays are rated .3A, 250 VAC that are operated individually from the five open-collector outputs. These relay outputs can be connected to 115 VAC control circuits allowing for system integration of the drive.

Standard Specifications

Environmental Condition

Enclosures	NEMA 1 Standard (NEMA 4, NEMA 12 optional)
Installation Location:	
NEMA 1	Intended for indoor use only, less than 1000 meters (3300 feet) elevation, not in contact with corrosive gas, oil mist, dust or direct sunlight.
NEMA 4	Intended for use indoors or outdoors to protect the enclosed equipment against splashing water, seepage of water, falling or hose directed water and severe external condensation. Installation should be less than 1000 meters (3300 feet) elevation, not in contact with corrosive gas, oil mist or direct sunlight.
NEMA 12	Intended for indoor use only, less than 1000 meters (3300 feet) elevation, not in contact with corrosive gas, oil mist, dust or direct sunlight.
Stored Temperature	-20° to + 65°C (-4° to + 149°F)
Ambient Temperature	-10° to 50°C (+14 to +122°F) (remove ventilation covers if temperature is over +40°C [+104°F] up to 30 Hp; 40 Hp and above not required.)
Humidity	20% to 90% relative humidity (non-condensing).
Vibration	0.6G or less.
Cooling Method	1/2 to 1 Hp – Convection 2 Hp and greater – Forced air

Output

Rated Output Voltage	3-Phase, 3-Wire Type, 80-240 VAC or 320-480 VAC (Can not exceed power supply voltage).
Frequency Range	0 - 400 Hz (0.2 to 60 Hz start frequency; 0.2 to 400 Hz base frequency). Above 120 Hz, contact the motor manufacturer for approval of application.
Overload Current Rating	30 Hp and lower 150% for 1 minute duration (inverse time characteristic) 200% for 0.5 seconds 40 Hp and greater 150% for 1 minute duration (inverse time characteristic) 180% for 0.5 seconds

Power Supply

Rated Input AC Voltage	200 to 230 VAC 50/60 Hz, 3 phase (1/2 to 30 Hp) 380 to 400 VAC 50 Hz, 3 phase (1 to 300 Hp) 380 to 480 VAC 60 Hz, 3 phase (1 to 300 Hp) Voltage: +10%, -15%; Voltage Unbalance - Within 3% Frequency: +/-5% (Units are dual rated Constant Torque/Variable Torque. Drive looks for similar Volts/Hz ratio.)
Control System	Sinusoidal PWM Control (or with torque-vector control.)
Momentary Voltage Dip	When the input voltage dips below 165 VAC (230V System), or 310 VAC (460V System), the Drive can operate for 15 ms with 85% full load applied.

Control

Starting Torque	150% (when torque vector control is active.)
Carrier Frequency	2 to 15 K Hz (1/2 to 30 Hp) 230, 480 VAC 2 to 10 K Hz (40 to 75 Hp) 2 to 6 K Hz (100 Hp and greater)

AF-300ES ADJUSTABLE FREQUENCY DRIVE

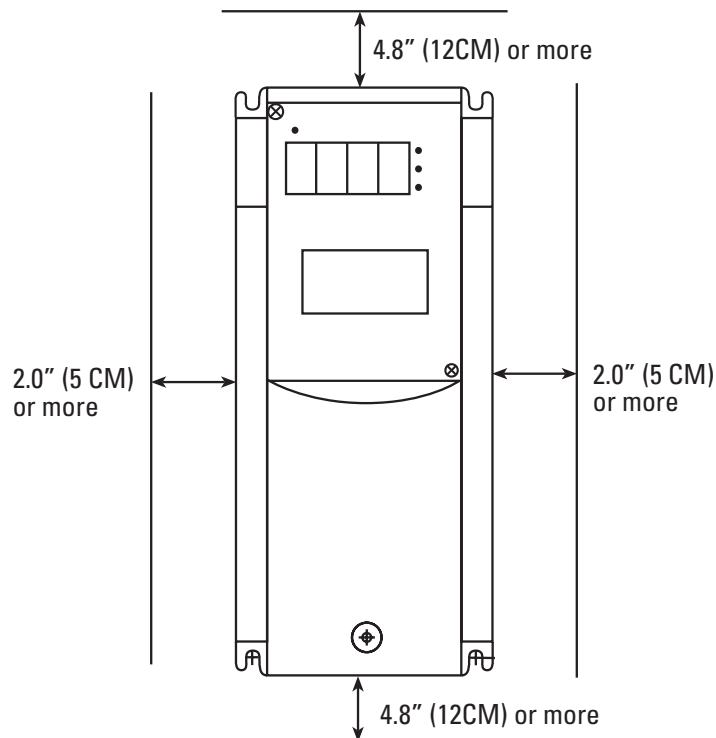
Frequency Setting Resolution	Analog: 1/3000 of max. frequency (0.02 Hz/60 Hz; 0.04 Hz/120 Hz) Digital: 0.01 Hz (max. frequency up to 99.99 Hz); 0.1 Hz (max. frequency of 100 Hz or more)
Accuracy (Stability)	Analog setting: $\pm 0.2\%$ of max. frequency (@ $25 \pm 10^\circ\text{C}$) Digital setting: $\pm 0.01\%$ of max. frequency (@ -10 to $+50^\circ\text{C}$)
Voltage/Frequency Characteristics (V/F)	Voltage - 80-240 VAC, 320-480 VAC Frequency - 0.2 to 400 Hz
Torque Boost	Auto: Automatic torque boost control by torque calculated value. Manual: 0.0 to 20.0 code setting (includes the energy savings pattern, Function Code for variable torque load.)
Acceleration/Deceleration Characteristics	0.2 to 3600 seconds (independent acceleration/deceleration) 4 selectable linear and non-linear "S" curve characteristic.
Internal Functions: Operating Sound Selection	The drive carrier frequency can be changed to reduce audible noise.
Frequency Meter Adjustment	Scale calibration of externally connected analog meter (6.5-10.5 VDC) or pulse frequency 6 to 100 times output frequency.
Data Protection	Data lock is possible to ensure that the data codes are not changed.
Pattern Operation	Seven independent stages (frequency up to 400 Hz, duration up to 6,000 seconds each). Configuration: Single cycle Repeating cycling Single cycle with continuous 7th speed
Momentary Power Loss Ride Thru	Five selections available. (Refer to Power Supply Specification.)
High/Low Limiter	Output frequency upper and lower range limit 0 to 400 Hz; 1 Hz step settings.
Bias	Magnitude of the zero offset can be set from 0 to 100% maximum frequency (1 Hz steps.)
Gain	Output frequency gain corresponding to the reference signal can be set from 0 to 200% (0.1% steps.)
Programmable Jump Frequency	Three selectable frequencies can be set to avoid a mechanical resonant point. Width is adjustable from 0 to 30 Hz (1 Hz steps.)
Slip Compensation Control	Maintains motor at constant speed with load fluctuations. Adjustable from -9.9 Hz to +5.0 Hz.
Torque Limit Control	Output torque can be controlled within a range of 20% to 180% (1% steps.)
7 Step Preset Speed	7 programmable preset speeds selectable by 3 contact closures.
Momentary or Maintained Operation	Selection between the maintained contact operation/stop command (2-Contact wired operation) or the momentary contact (3-wire operation).
Terminal Function Change	Multi-Use terminals changed via Function Code settings. X1 to X5 inputs; Y1 to Y5 outputs.

Standard Specifications (Continued)

Line to Drive Transition Logic	Provides the logic for transferring a motor from AC line to drive operation in a bypass system.
Sensorless Vector Control	Improves torque characteristics throughout speed range. Improves speed regulation.
Operation	
Frequency Reference Signal	Speed potentiometer: 0 to +10 VDC 4 to 20 mA 0 to ± 10 VDC (Standard on 40 Hp and greater) (Available 1/2 to 30 Hp with optional analog I/O unit)
Input Signal (contact type)	Forward, reverse, self-holding selection (when operation is 3-wire), multi-step speed setting (7-step), multiple accel/decel time settings (4 settings), coast-to-stop, external alarm, and reset.
External Output Signals	One Dry, Form C "fault" output contact rated 250 VAC, 0.3 amp. One auxiliary run contact rated 250 VAC, 0.3 amp (available only on 40 Hp and above ratings.) Five Open collector outputs each rated 24 VDC, 50 mA from external power. Each open collector output can be configured to provide one of the following functions: <ul style="list-style-type: none"> - Drive Run - Frequency equivalence signal - Overload early warning - Auto restart mode - Cycle completion pattern mode - Time-up signal during pattern mode - Undervoltage detection - Keypad operation - Torque limiting mode - Auto reset mode
Protective Functions	<ul style="list-style-type: none"> - Stall prevention - Momentary power failure - Drive overheating - External faults - CPU malfunction - Motor overload (electronic thermal) - Undervoltage - Overcurrent - Overvoltage - Link error - Communication error - Ground error
Frequency Meter Output Signal	Pulse frequency (6 to 100) times output frequency. Analog -0 to +10 VDC (adjustment range of 6.5 to 10.3 VDC)
Keypad Features	Digital Display - 4 digit LED Graphic Display - LCD, with brightness control
Keypad Display in Run Mode	Output frequency, output current, output voltage, motor speed, line speed (m/min), machine speed (r/min), torque limit (driving), torque limit (braking), and motor torque. Set frequency is displayed when not in Run or Program Mode.
Keypad Display in Program Mode	Function Code and setting data displayed.

Drive Fault	<ul style="list-style-type: none"> - OC1 - Acceleration overcurrent - OC2 - Deceleration overcurrent - OC3 - Constant speed overcurrent - EF - Ground Fault - LU (LV) - undervoltage - OU1 - Overvoltage at accel - OU2 - Overvoltage at decel - OU3 - Overvoltage at current speed - FUS - DC Bus fuse failed - OH1 - Drive overheat (Fins) - OH2 - External alarm - OH3 - Drive internal temperature - Er1 - EE Prom malfunction - Er2 - Communication error - Er3 - CPU malfunction - Er4 - Link error - Er5 - Option malfunction - Er6 - Drive error at start-up - Er7 - Missing motor connection
Drive Control Terminal Input/Output	<ul style="list-style-type: none"> - Forward - Reverse - HLD - BX (Coast stop) - X1 thru X5 - Y1 thru Y5 - Incoming reference voltages can be shown on LCD graphic display.
Charge Lamp (LED)	Lights when DC Link capacitor voltage is present.

Mounting Clearance



AF-300E\$ Replacement Parts

Catalog No.	Rating	Drive horsepower & quantity per drive											L" x W" x H"	Weight		List Price
		0.5	1	2	3	5	7.5	10	15	20	25	30		lbs.	Kg.	
AF-300E\$ 230 VAC, 30 Hp and Below																
Main Control Card																
G9CPCBG204		1											4 x 5.75 x 1.25	0.5	0.23	735.
G9CPCBG2075			1										4 x 5.75 x 1.25	0.5	0.23	735.
G9CPCBG215				1									4 x 5.75 x 1.25	0.5	0.23	735.
G9CPCBG222					1								4 x 5.75 x 1.25	0.5	0.23	735.
G9CPCBG237						1							4 x 5.75 x 1.25	0.5	0.23	735.
G9CPCBG255							1						4 x 5.75 x 1.25	0.5	0.23	735.
G9CPCBG275								1					4 x 5.75 x 1.25	0.5	0.23	735.
G9CPCBG211									1				4 x 5.75 x 1.25	0.5	0.23	735.
G9CPCBG2150										1			4 x 5.75 x 1.25	0.5	0.23	735.
G9CPCBG2185											1		4 x 5.75 x 1.25	0.5	0.23	735.
G9CPCBG2220												1	4 x 5.75 x 1.25	0.5	0.23	735.
Base Driver & PS Card																
G9PPCB04		1											9 x 4 x 2	1	0.455	1,620.
G9PPCB075			1										9 x 6 x 2	1	0.455	1,660.
G9PPCB15				1									9 x 6 x 2	1	0.455	2,065.
G9PPCB22					1								9 x 6 x 2	1	0.455	2,070.
G9PPCB37						1							9.5 x 6 x 1	1	0.455	2,150.
G9PPCB55							1						9 x 8 x 1	1	0.455	1,010.
G9PPCB75								1					9 x 8 x 1	1	0.455	1,010.
G9PPCB11									1				9 x 8 x 1	1	0.455	1,355.
G9PPCB150										1			9 x 8 x 1	1	0.455	1,355.
G9PPCB185											1		9.5 x 8 x 1	1	0.455	1,355.
G9PPCB220												1	9.5 x 8 x 1	1	0.455	1,355.
Capacitor Unit																
G9CU075	330µF		1										4 x 2 x 2	0.44	0.2	85.
G9CU15	330µF			1									7.5 x 1.5 x 2	0.44	0.2	120.
G9CU22	30µF				1								7.5 x 1.5 x 2	0.44	0.2	145.
G9CU37	330µF					1							7.5 x 1.5 x 2	1	0.455	200.
G9CU55	2700µF						1						3 x 3 x 3	1	0.455	200.
G9CU75	3900µF							1					3 x 4 x 4	2	0.91	280.
G9CU11	3300µF								1				3 x 4 x 4	2	0.91	210.
G9CU150	4700µF									1			3 x 4 x 4	2	0.91	225.
G9CU185	4700µF										1		4 x 4 x 4	2	0.91	290.
G9CU220	5400µF											1	4 x 4 x 4	2	0.91	330.
Fan																
G9FAN37				1	1	1							3 x 3 x 3	1	0.455	50.
G9FAN75							1	1					5.5 x 3 x 1	1	0.455	100.
G9FAN220									1	1	1	1	8 x 4.25 x 1	1	0.455	125.
IGBT Gate Card																
G9GPCB									1	1	1	1	5.5 x 1.25 x 1	0.044	0.02	60.
Power Module																
6MB1100J060B	100A 600V	*	*	*	*	*	1	1					4 x 3.5 x 1.5	1	0.455	1,020.
CM150DY12H	150A 600V								3	3			4 x 2 x 1	1	0.455	545.
CM200DY12H	200A 600V										3	3	4 x 2 x 1	1	0.455	650.
Diode Module																
CVM75CD80	75A 800V	*	*	*	*	*	1	1					3 x 3 x 1	1	0.455	405.
CVM100BB80	100A 800V								1	1			4.5 x 2.5 x 1	1	0.455	355.
CVM180BB80	180A 800V										1	1	4.5 x 2.5 x 1	1	0.455	600.
Keypad																
TPG9SUX		1	1	1	1	1	1	1	1	1	1	1	3 x 5 x 1	0.2046	0.093	485.

* Located on the Base Driver and PS Card.



AF-300ES Replacement Parts

Catalog No.	Rating	Drive horsepower & quantity per drive											L" x W" x H"	Weight		List Price	
		0.5	1	2	3	5	7.5	10	15	20	25	30		lbs.	Kg.		
AF-300ES 230 VAC, 30 Hp and Below (continued)																	
Fuse																	
Cr6L150/UL	150A								1	1			1.5 x 4 x 1.5	0.3	0.14	70.	
Cr6L260/UL	260A										1	1	1.5 x 4 x 1.5	0.3	0.14	75.	
Charge Resistor																	
RBS40N5ROKI	5.0 Ohm 40W	*	*	*	*	*	*	*	*	2	2	2	2	4 x 1 x 1	0.2	0.091	10.
AF-300ES 460 VAC, 30 Hp and Below																	
Main Control Card																	
G9CPCBG4075			1										4 x 5.75 x 1.25	0.5	0.23	735.	
G9CPCBG415				1									4 x 5.75 x 1.25	0.5	0.23	735.	
G9CPCBG422					1								4 x 5.75 x 1.25	0.5	0.23	735.	
G9CPCBG437						1							4 x 5.75 x 1.25	0.5	0.23	735.	
G9CPCBG455							1						4 x 5.75 x 1.25	0.5	0.23	735.	
G9CPCBG475								1					4 x 5.75 x 1.25	0.5	0.23	735.	
G9CPCBG411									1				4 x 5.75 x 1.25	0.5	0.23	735.	
G9CPCBG4150										1			4 x 5.75 x 1.25	0.5	0.23	735.	
G9CPCBG4185											1		4 x 5.75 x 1.25	0.5	0.23	735.	
G9CPCBG4220												1	4 x 5.75 x 1.25	0.5	0.23	735.	
Base Driver & PS Card																	
G9PPCB4075			1										9 x 6 x 3	1	0.455	1,940.	
G9PPCB415				1									9 x 6 x 2	1	0.455	2,250.	
G9PPCB422					1								9 x 6 x 2.5	1	0.455	2,250.	
G9PPCB437						1							9 x 6 x 2	1	0.455	2,270.	
G9PPCB455							1						8.5 x 7.5 x 1	1	0.455	1,010.	
G9PPCB475								1					10 x 8 x 1	1	0.455	1,010.	
G9PPCB411									1				10 x 8 x 1	1	0.455	1,355.	
G9PPCB4150										1			10 x 8 x 1	1	0.455	1,355.	
G9PPCB4185											1		10 x 8 x 1	1	0.455	1,355.	
G9PPCB4220												1	10 x 8 x 1	1	0.455	1,355.	
Capacitor Unit																	
G9CU415	270µF		*	1									7.5 x 1.5 x 2	0.44	0.2	190.	
G9CU422	330µF				1								7.5 x 1.5 x 2	0.44	0.2	200.	
G9CU437	330µF					1							2.25 x 3 x 3	1	0.455	270.	
G9CU455	1500µF						1						2.25 x 3 x 3	1	0.455	145.	
G9CU475	2200µF							1					3 x 3 x 3	1	0.455	170.	
G9CU411	3300µF								1				3 x 4 x 4	2	0.91	230.	
G9CU4150	3900µF									1			4 x 3.5 x 3.5	2	0.91	2,770.	
G9CU4185	4700µF										1		4 x 4 x 4	2	0.91	315.	
G9CU4220	5400µF											1	4 x 4 x 4	2	0.91	360.	
Fan																	
G9FAN37				1	1	1							3 x 3 x 1	1	0.455	50.	
G9FAN75							1	1					5.5 x 3 x 1	1	0.455	100.	
G9FAN220									1	1	1	1	8 x 4.25 x 1	1	0.455	125.	
IGBT Gate Card																	
G9GPCB									1	1	1	1	5.5 x 1.25 x 1	0.044	0.02	60.	
Power Module																	
6MB150J120A	50A 1200V		*	*	*	*	1	1					4 x 1.5 x 1	0.8	0.364	1,090.	
CM75DY24H	75A 1200V								3	3			4 x 1.5 x 1	0.8	0.364	750.	
CM100DY24H	100A 1200V										3	3	4 x 2 x 1	1	0.455	870.	

* Located on Base Driver and PS Card.

AF-300E\$ ADJUSTABLE FREQUENCY DRIVE

Catalog No.	Rating	Drive horsepower & quantity per drive											L" x W" x H"	Weight		List Price	
		0.5	1	2	3	5	7.5	10	15	20	25	30		lbs.	Kg.		
AF-300E\$ 460 VAC, 30 Hp and Below (continued)																	
Diode Module																	
CVM40CD160	40A 1600V		*	*	*	*	1	1						4 x 2 x 1	1	0.455	430.
CVM50BB160	50A 1600V										1			4 x 2 x 1	1	0.455	270.
CVM75BB160	75A 1600V										1			4 x 2 x 1	1	0.455	340.
CVM100BB160	100A 1600V											1	1	4 x 2 x 1	1	0.455	430.
DC Fuse																	
CR6L100	100A									1	1	1	1	3.75 x 1 x 1.5	0.44	0.2	90.
Charge Resistor																	
RBS40N200K0	20 Ohm 40W		*	*	*	*	*	*	2	2	2	2		3.75 x 1.5 x 0.75	0.3	0.14	10.
Keypad																	
TPG9SUX		1	1	1	1	1	1	1	1	1	1	1	1	3 x 5 x 1	0.2046	0.093	485.

Catalog No.	Rating	Drive horsepower & quantity per drive											L" x W" x H"	Weight		List Price	
		35	40	50	60	75	100	125	150	200	250	300		lbs.	Kg.		
AF-300E\$ 460 VAC, 40 Hp and Above																	
IGBT																	
2MDi200L120B	1200V 200A	3	3											4.25 X 2.5 X 0.75	0.81	0.37	1,190.
CM200DY24H	1200V 200A			3			6							4.25 X 2.5 X 0.75	0.9	0.41	1,575.
CM300DY24H	1200V 300A				3	3		6	9	9	12	12		4.5 X 3 X 0.75	1.11	0.51	2,220.
Diode Module																	
DD60HB160	1600V 60A	3	3											3.75 X 1 X 1	0.31	0.14	160.
DD100HB160	1600V 100A			3	3	6	6	6	9	12	15	15		3.75 X 1 X 1	0.31	0.14	205.
IGBT Snub Module																	
NSKE1213C	1200V 1.1µF	3	3	3	3	3	6							2.75 X 3 X 1	0.34	0.16	85.
SCK78P122D205K5	1200V 2µF							6	9	9	12	12		3 X 3 X 1.5	0.54	0.25	115.
DM Snub Module																	
WMTBP1200105K	1200V 1µF	1	1	1	1	1	1	1	3	3	3	3		6.5 x 1.5 x 0.75	0.07	0.03	65.
Surge Module																	
VCR2521	AC506V 50/60Hz	1	1	1	1	1	1	1	1	1	1	1		2.25 x 1 x 1.5	0.28	0.13	105.
Spark Killer																	
S2A0	250VAC 0.2µF 5000hm	1	1	1	1	1								3 x 1 x 0.75	0.05	0.02	25.
Capacitor Unit																	
HCGF5AL2G472	4700UF 400VDC	4	4											3 x 3 x 4.5	1.62	0.75	300.
HCGF5AX2G682	6800UF 400VDC			4				6	8					3 x 3 x 6	2.3	1.04	450.
HCGF5AX2G822	8200UF 400VDC				4		4			8	12	12		3 x 3 x 6.75	2.74	1.24	540.
HCGF5AX2G562	5600UF 400VDC					6								2.5 x 2.5 x 6.75	1.91	0.87	370.
Balancing Resistor																	
TCR20W333J	20W 33,000 Ohm	4	4	4	4		4	6	8	8	12	12		2.5 x 0.5 x 1	0.06	0.03	25.
TCR20N333JS	20W 33,000 Ohm					6								2.5 x 0.5 x 1	0.06	0.03	30.
Surge Absorber																	
ENC911D20A		1	1	1	1	1	1	1	1	1	1	1		N/A	NA/	N/A	5.
Magnetic Control																	
SC2N2A2B	200-220V 50 Hz	1	1											3 x 3.5 x 4	1.43	0.65	265.
SC3N2A2B	200-220V 60 Hz			1	1	1								3.5 x 4.5 x 4.5	2.82	1.28	370.
SC4N/UL2A2B	200-250V 50/60 Hz						1	1	1					3.5 x 5 x 5.5	3.4	1.55	610.
SC7N/UL2A2B										1				5 x 6 x 6.5	7.74	3.52	1,310.
SC8N/UL2A2B												1	1	5.5 x 8 x 7.5	11.55	5.25	1,540.
Charging Resistor																	
HF5A6141	80W 30 Ohm	1	1	1	1	1	1	2	2	2	3	3		5.5 x 1.5 x 0.75	0.36	0.16	25.

12

AF-300ES Replacement Parts

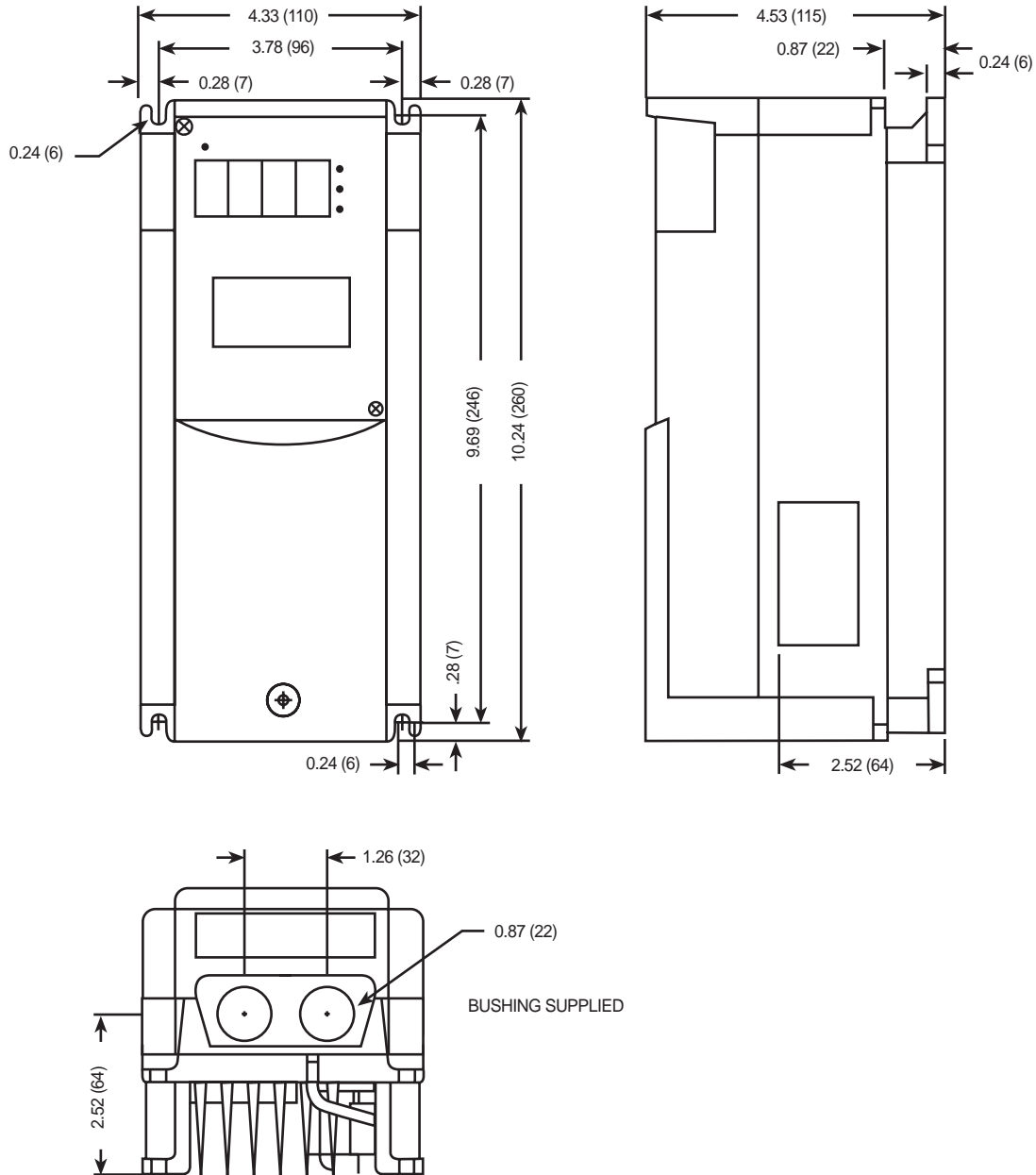
Catalog No.	Rating	Drive horsepower & quantity per drive										L" x W" x H"	Weight		List Price		
		35	40	50	60	75	100	125	150	200	250		300	lbs.		Kg.	
AF-300ES 460 VAC, 40 Hp and Above (continued)																	
Hall Effect Current Transformer																	
NC10GET	40MV/60AT	3	3										2 x 1.25 x 1.25	0.10	0.05	95.	
NC10GAT	40MV/90AT			3	3								2 x 1.25 x 1.25	0.10	0.05	95.	
NC10GCT	40MV/110AT					3	3						2 x 1.25 x 1.25	0.10	0.05	95.	
NC10GDT	40MV/130AT							3					2 x 1.25 x 1.25	0.10	0.05	95.	
NC200GT	40MV/250AT								3	3	3	3	2 x 1.25 x 1.25	0.10	0.05	340.	
DC Line Fuse																	
CR6L150/UL	150A AC600V	1	1	1									1 x 3.75 x 1.25	0.32	0.15	75.	
CR6L200/UL	200A AC600V				1								4.25 x 1.25 x 1.5	0.54	0.25	155.	
CR6L300/UL	300A AC600V					1	1						4.25 x 1.25 x 1.5	0.54	0.25	190.	
A70Q4004	400A AC600V							1					5 x 1.5 x 2	0.95	0.43	230.	
A70Q5004	500A AC600V								1				7 x 2 x 1.75	2.35	1.07	445.	
A70Q6004	600A AC600V									1			7 x 2 x 2.5	2.35	1.07	445.	
A70QS8004	800A AC600V										1	1	7 x 2 x 2.5	2.35	1.07	535.	
Transformer																	
HF5A5806	80VA + 16VA	1	1	1									2.5 x 3 x 2.5	3.51	1.59	85.	
HF5A3542A	150VA + 30VA				1	1	1						2.5 x 3 x 2.5	4.38	1.99	90.	
HF5A6196	300VA + 16VA							1	1	1	1	1	4.5 x 3.75 x 3.75	9.88	4.49	155.	
Cooling Fan																	
4715PS22TB30	220V	3	3	3	1	1	2	1					4.75 x 4.75 x 1.5	1.14	0.52	70.	
2750MPT15	220V				2	2			2	2			5.5 x 5.5 x 2	2.35	1.07	230.	
6250MG1	220V						2	3	3	3	6	6	6.25 x 6.25 x 2.25	2.92	1.33	350.	
Fuse																	
ATM1		1	1	1									0.5 x 0.5 x 1.5	0.02	0.01	20.	
ATM2					1	1	1	1	1	1	1	1	0.5 x 0.5 x 1.5	0.02	0.01	20.	
A60Q5-2		1	1	1	1	1	1	1	1	1	1	1	0.5 x 0.5 x 1.5	0.02	0.01	25.	
Fuse Holder																	
30321		2	2	2	2	2	2	2	2	2	2	2	3 x 0.75 x 1.5	0.09	0.04	25.	
Thermal Switch																	
OHD360B		1	1	1			1						1 x 0.5 x 0.5	0.00	0.00	20.	
OHD365B					1	1	1						1 x 0.5 x 0.5	0.00	0.00	20.	
OHD385B		1	1										1 x 0.5 x 0.5	0.00	0.00	20.	
OHD390B				1	1		1		1	1	2	2	1 x 0.5 x 0.5	0.00	0.00	20.	
OHD375B								1					1 x 0.5 x 0.5	0.00	0.00	20.	
OHD395B						1		1					1 x 0.5 x 0.5	0.00	0.00	20.	
OHD3100B											2	2	1 x 0.5 x 0.5	0.00	0.00	20.	
OHD3110B									2	2			1 x 0.5 x 0.5	0.00	0.00	20.	
Resistor																	
RMP1607Y001001	23.5K Ohm 12W								2	2	2	2					
Thermal Block																	
AYBN0281	600V 25A	1	1	1	1	1	1	1	1	1	1	1	4.5 x 1.5 x 1	0.19	0.09	15.	
TBM8	600V 200A	1	1	1	1	1							12.25 x 4 x 6	1.96	0.89	100.	
TBM10	600V 300A						1	1	1				12.5 x 4.5 x 3.5	22.1	0.96	115.	
AYBN0131	600V 15A				1	1		1					1.75 x 1.5 x 1	0.04	0.02	15.	
AYBN0141	600V 15A						1						2 x 1.5 x 1	0.06	0.03	15.	
Insulator																	
RECL662U											9	9	9	2.25 x 1 x 2	0.37	0.17	45.
Diode																	
ERA3202	200V 1A								3	3	3	3	2.5 x 0.125 x 0.125	0.00	0.00	5.	
Zener Diode																	
RD39FB	1W 3.9V								6	6	6	6	2.5 x 0.125 x 0.125	0.00	0.00	5.	

AF-300E\$ ADJUSTABLE FREQUENCY DRIVE

Catalog No.	Rating	Drive horsepower & quantity per drive											L" x W" x H"	Weight		List Price	
		35	40	50	60	75	100	125	150	200	250	300		lbs.	Kg.		
AF-300E\$ 460 VAC, 40 Hp and Above (continued)																	
Keypad Assembly																	
HF5A2685B		1	1	1	1	1	1	1	1	1	1	1	1	9.5 x 4.75 x 3.5	0.45	0.21	25.
Keypad																	
TPG9SUX		1	1	1	1	1	1	1	1	1	1	1	3 x 5 x 1	0.2046	0.093	485.	
Control Card																	
EP3496G422		1											8 x 5.25 x 2	0.59	0.27	3,204.	
EP3496G430			1										8 x 5.25 x 2	0.59	0.27	3,204.	
EP3496G437				1									8 x 5.25 x 2	0.59	0.27	3,204.	
EP3496G445					1								8 x 5.25 x 2	0.59	0.27	3,204.	
EP3496G455						1							8 x 5.25 x 2	0.59	0.27	3,204.	
EP3496G475							1						8 x 5.25 x 2	0.59	0.27	3,204.	
EP3496G490								1					8 x 5.25 x 2	0.59	0.27	3,204.	
EP3496G4120									1				8 x 5.25 x 2	0.59	0.27	3,204.	
EP3496G4160										1			8 x 5.25 x 2	0.59	0.27	3,204.	
EP3496G4200											1		8 x 5.25 x 2	0.59	0.27	3,204.	
EP3496G4220												1	8 x 5.25 x 2	0.59	0.27	3,204.	
Base Driver & PS Card																	
EP3515G1		1	1										8 x 5 x 1.5	1.17	0.53	4,145.	
EP3515G2				1									8 x 5 x 1.5	1.17	0.53	4,145.	
EP3531C1					1	1							8.25 x 5.5 x 1.5	1.21	0.55	3,500.	
EP3531C2							1						8.25 x 6.25 x 2.75	1.45	0.66	3,500.	
EP3603C1								1					8.25 x 6.25 x 2.75	1.45	0.66	3,790.	
EP3603C2									1	1			8.25 x 6.25 x 2.75	1.45	0.66	3,790.	
EP3603C3											1	1	8.25 x 6.25 x 2.75	1.45	0.66	3,910.	

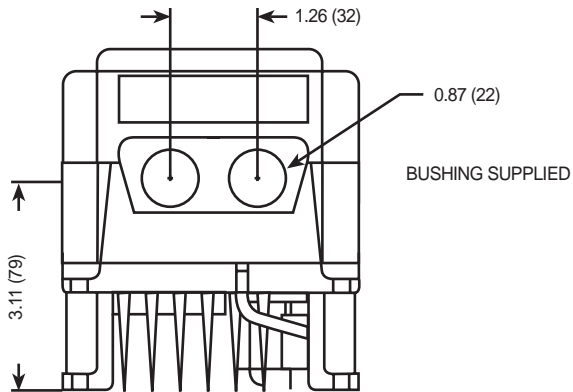
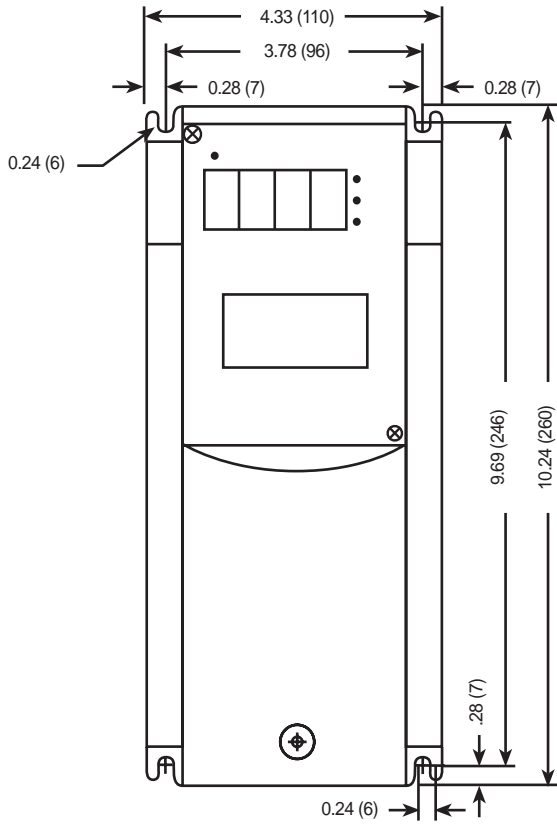
Dimensions 0.5 Hp 230 VAC

Dimensions in inches (mm)



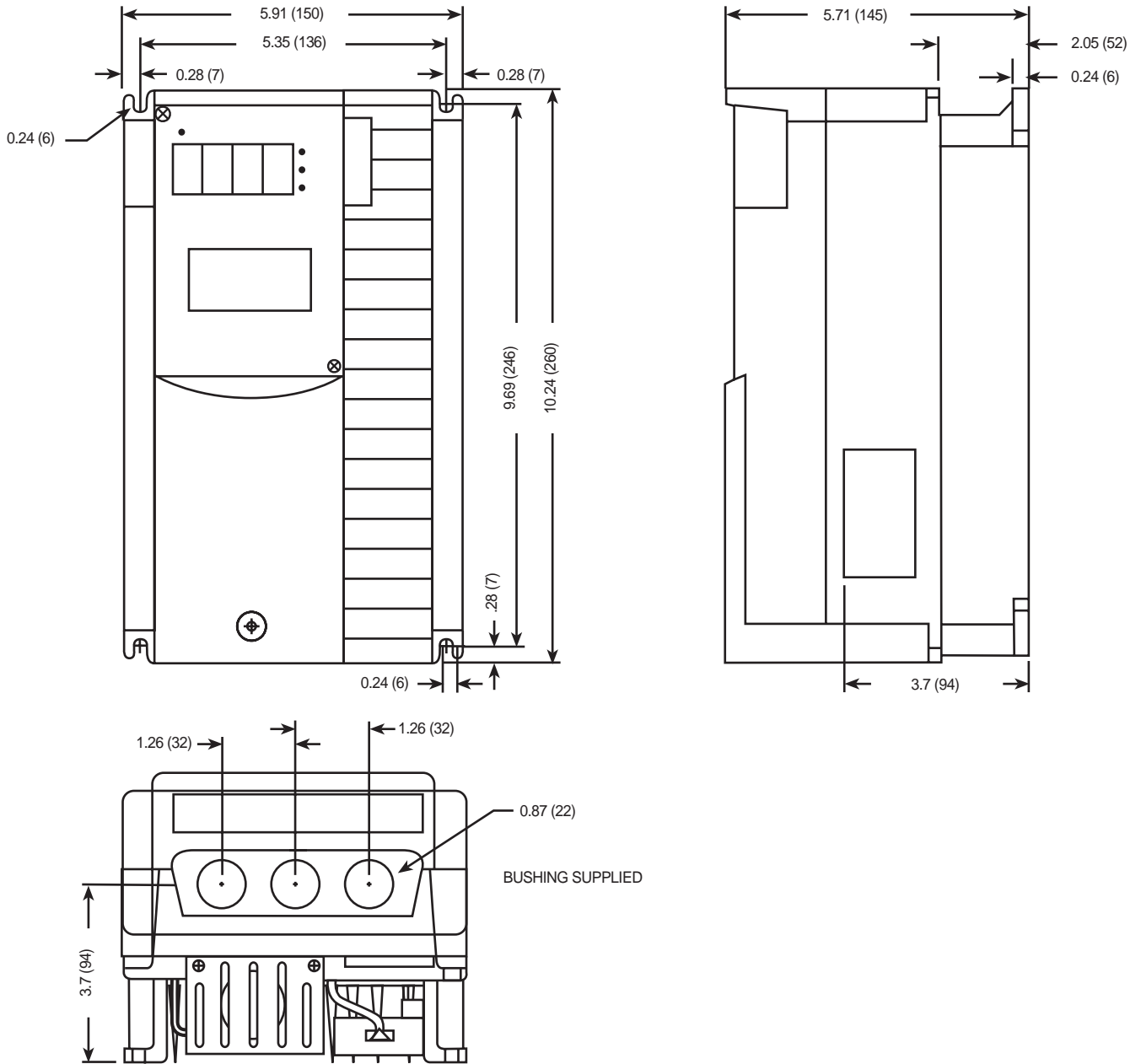
Dimensions 1 Hp 230 VAC

Dimensions in inches (mm)



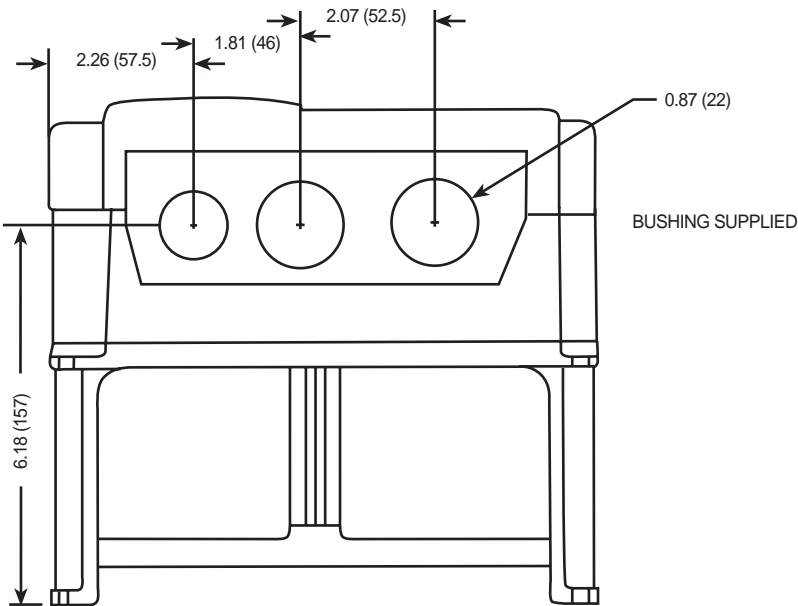
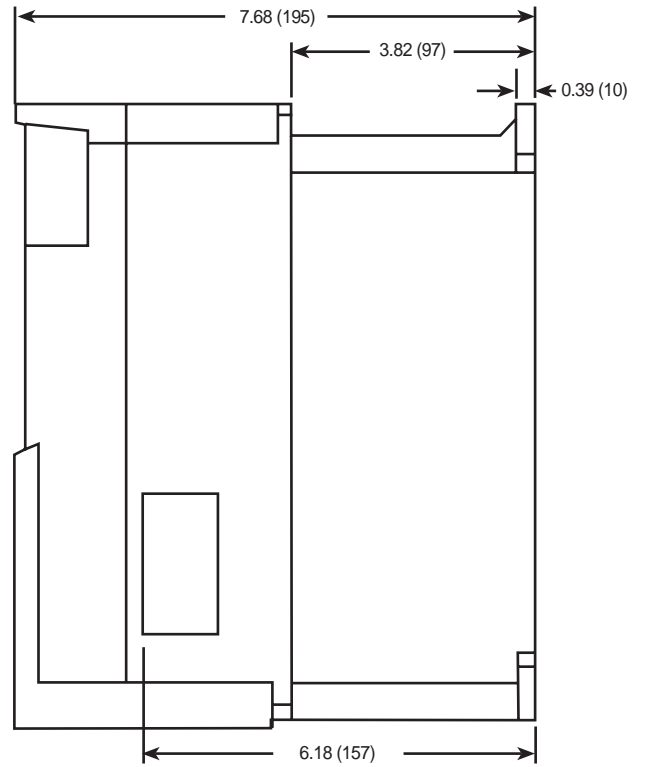
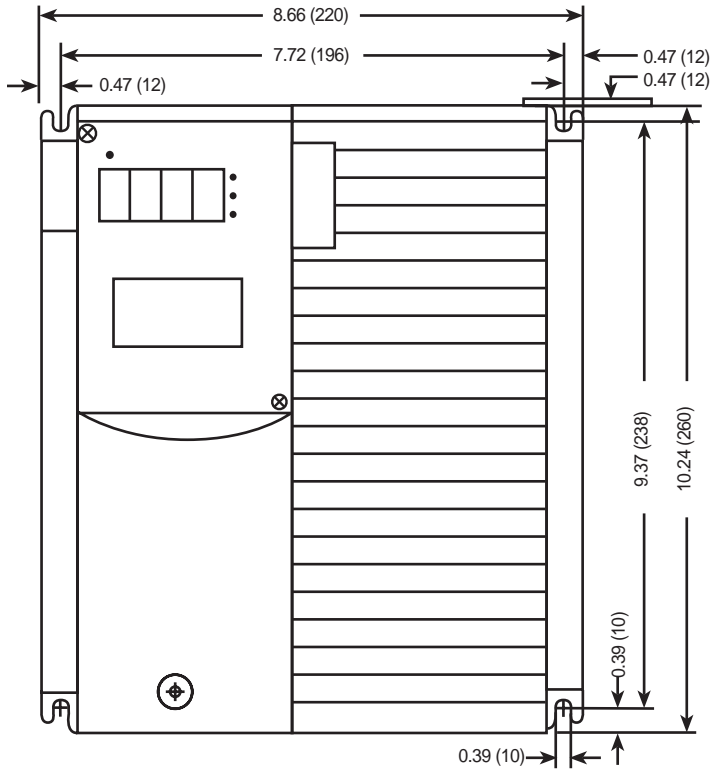
Dimensions 2, 3, 5 Hp 230 VAC and 1, 2, 3, 5 Hp 460 VAC

Dimensions in inches (mm)



Dimensions 7.5, 10 Hp 230 and 460 VAC

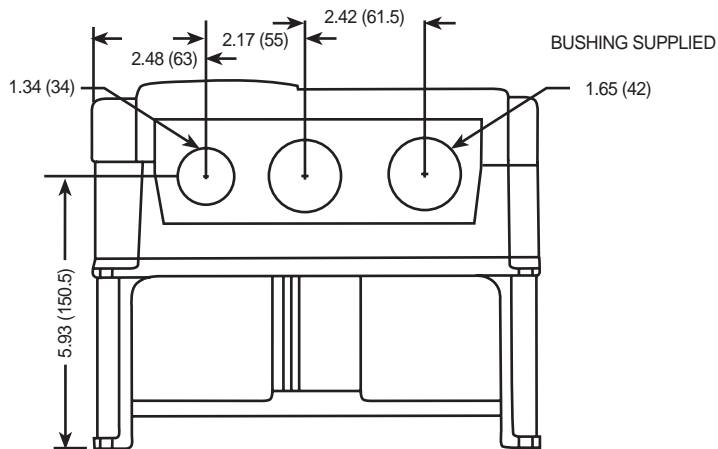
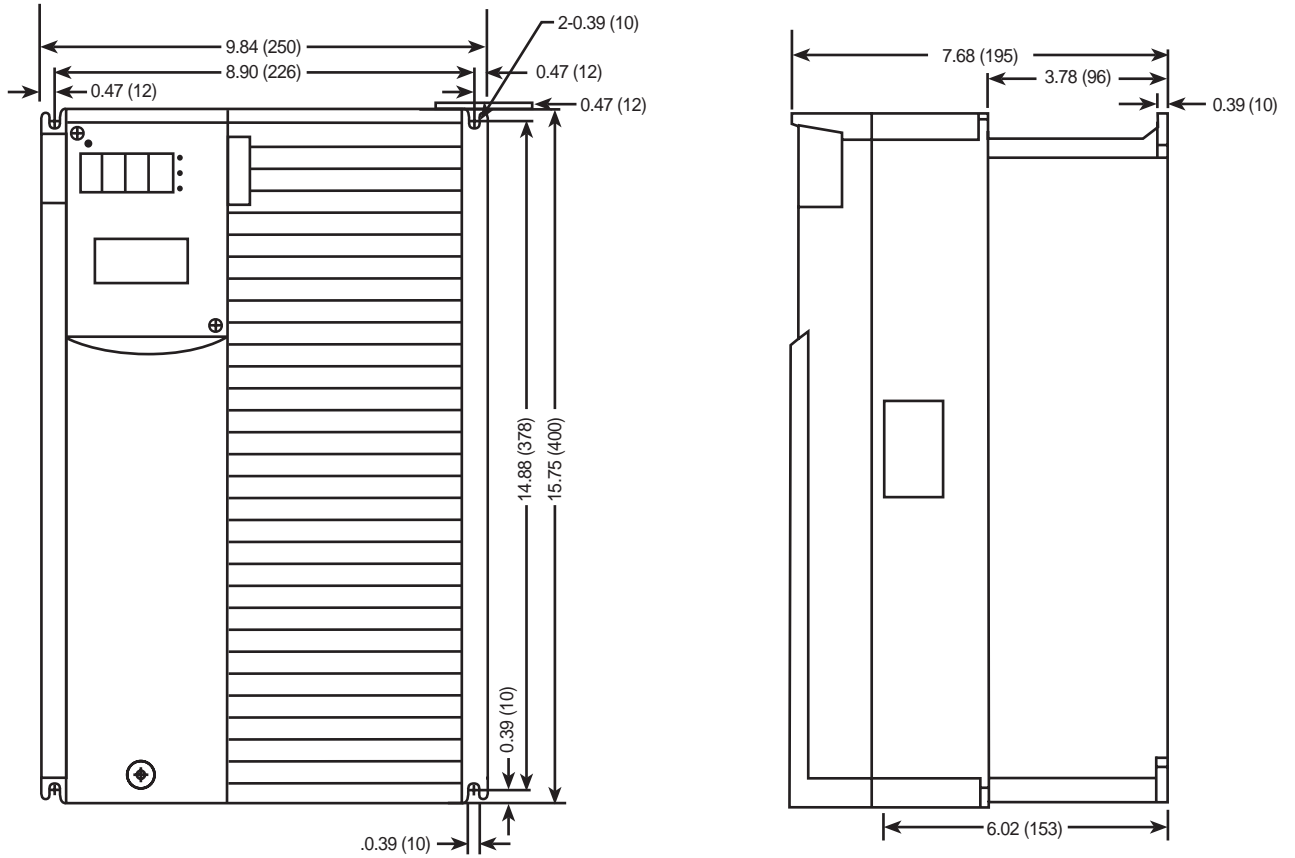
Dimensions in inches (mm)



12

Dimensions 15, 20, 25, 30 Hp 230 and 460 VAC

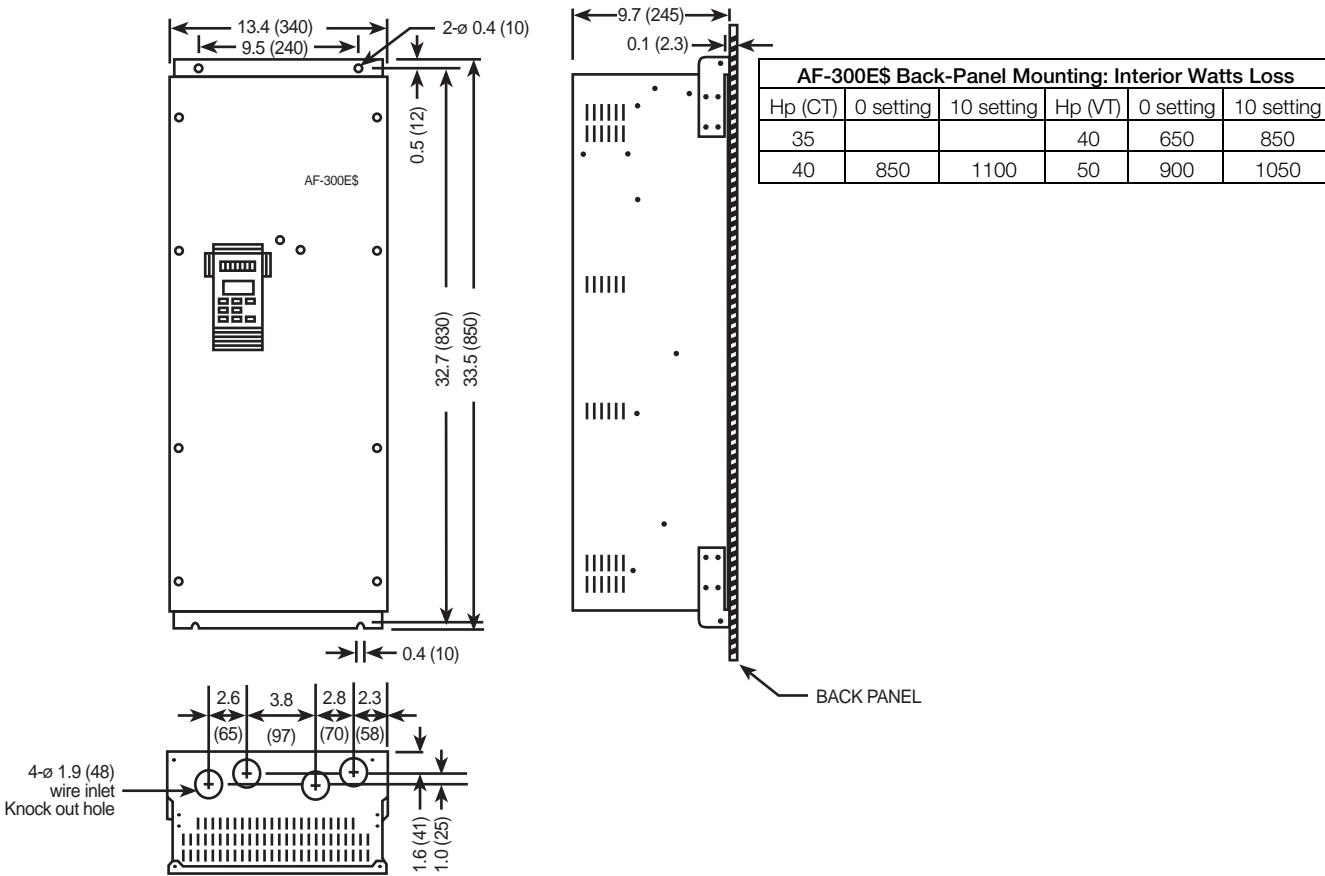
Dimensions in inches (mm)



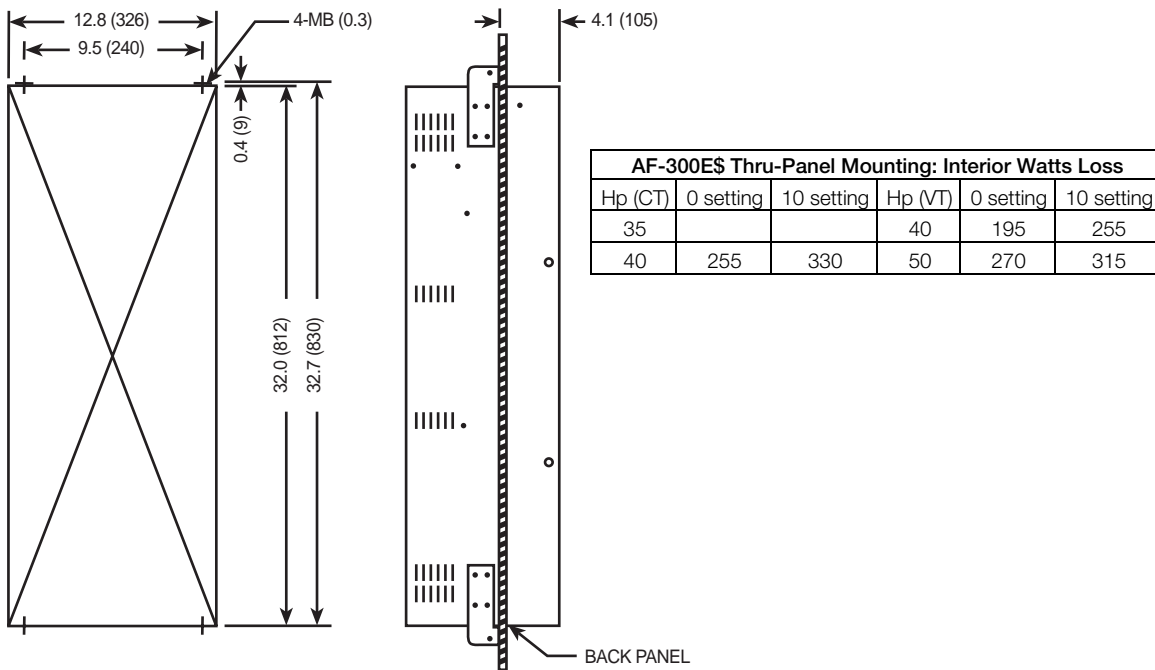
Dimensions 35, 40 Hp 460 VAC

Dimensions in inches (mm)

BACK PANEL MOUNTING



THROUGH PANEL MOUNTING

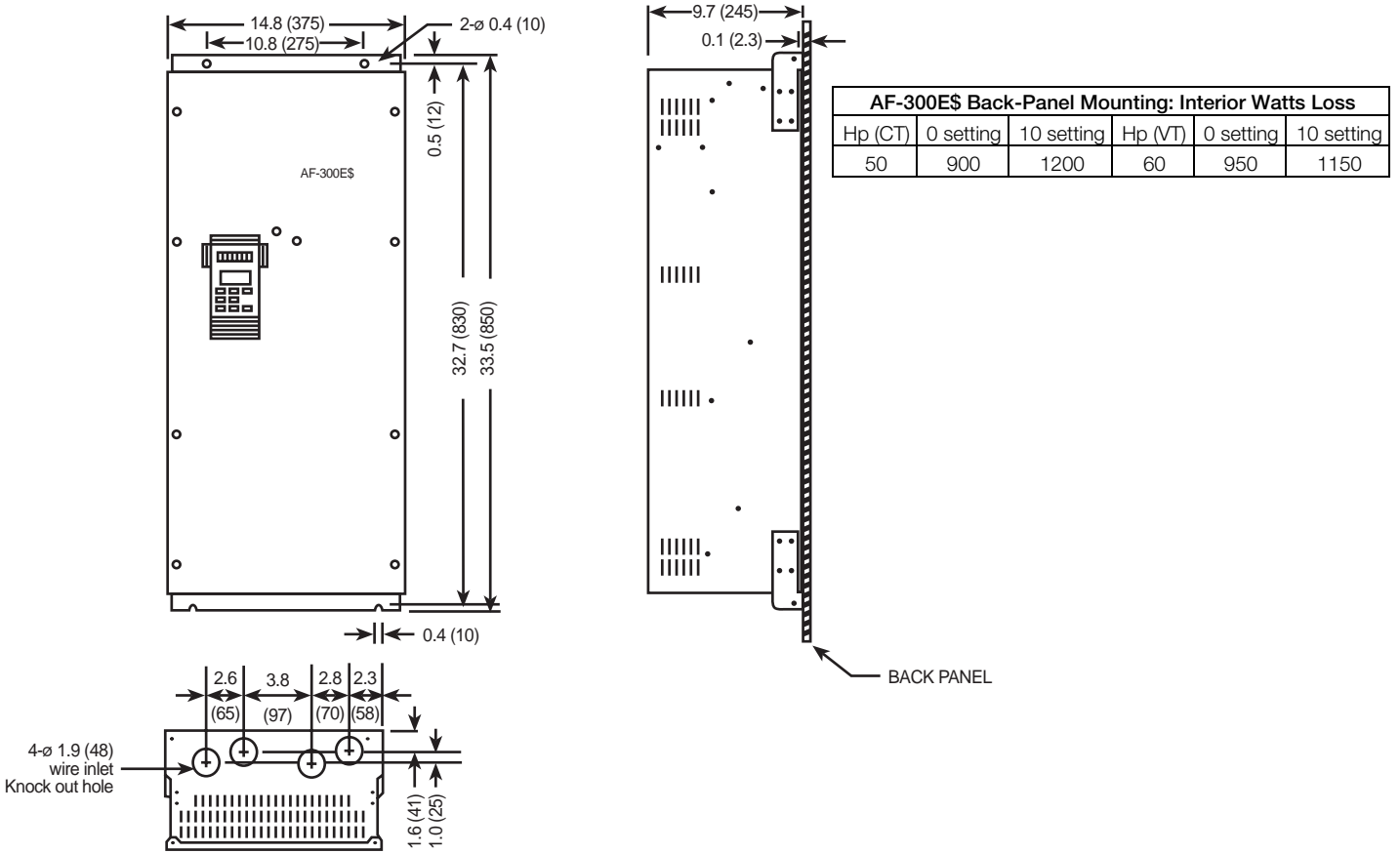


12

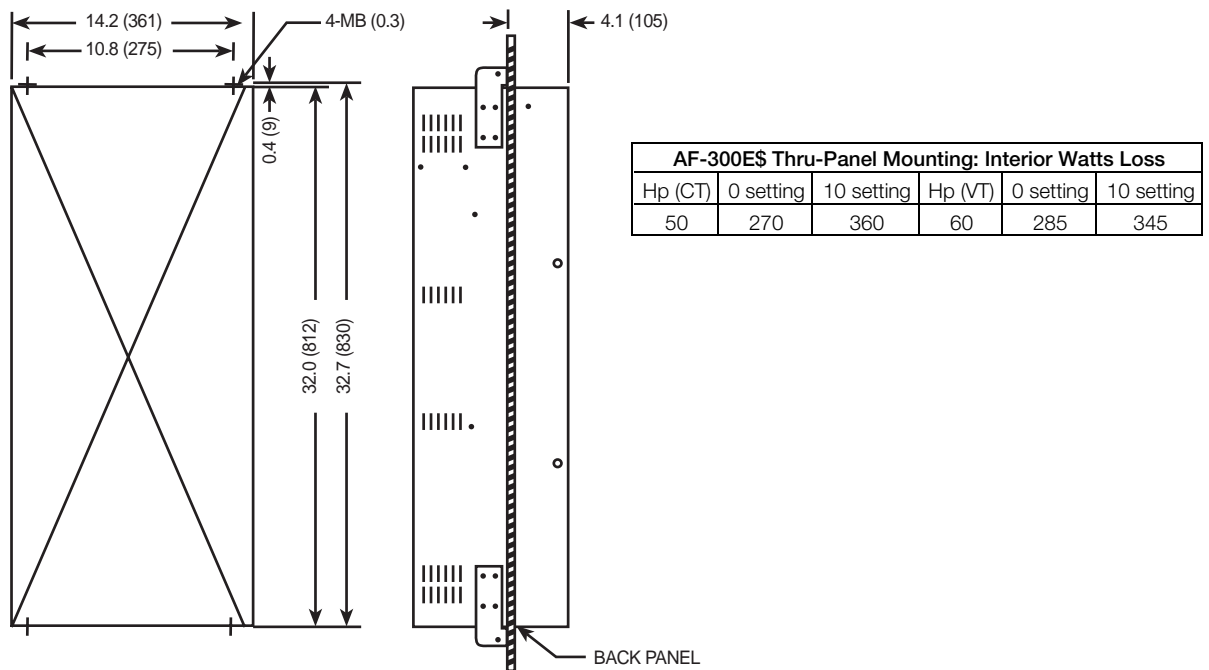
Dimensions 50 Hp 460 VAC

Dimensions in inches (mm)

BACK PANEL MOUNTING



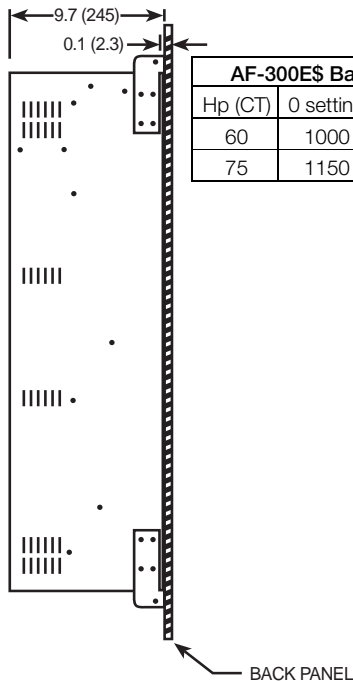
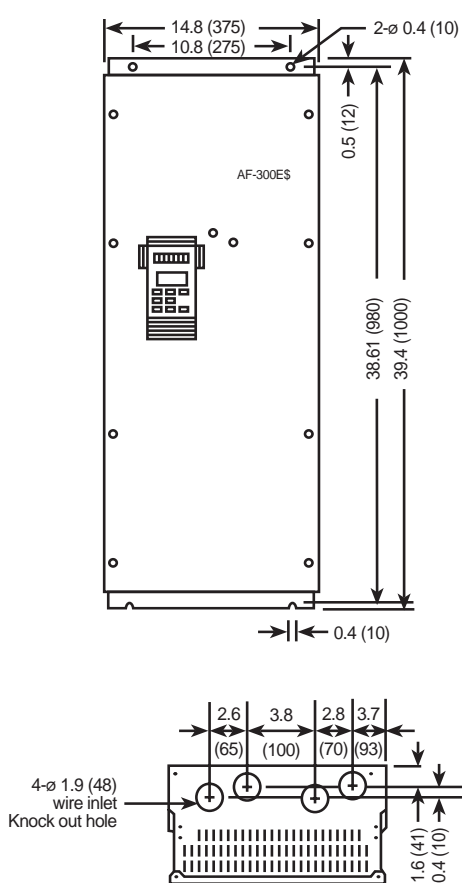
THROUGH PANEL MOUNTING



Dimensions 60, 75 Hp 460 VAC

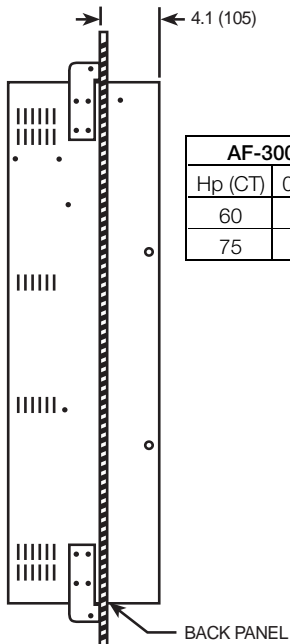
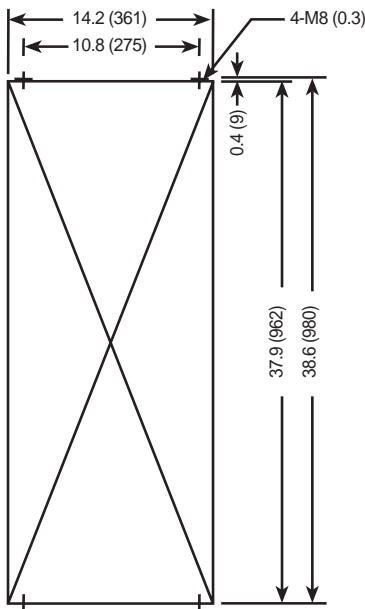
Dimensions in inches (mm)

BACK PANEL MOUNTING



Hp (CT)	0 setting	10 setting	Hp (VT)	0 setting	10 setting
60	1000	1300	75	1050	1250
75	1150	1550	100	1300	1500

THROUGH PANEL MOUNTING



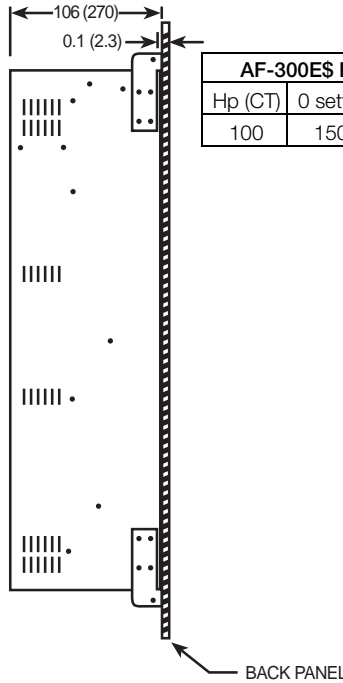
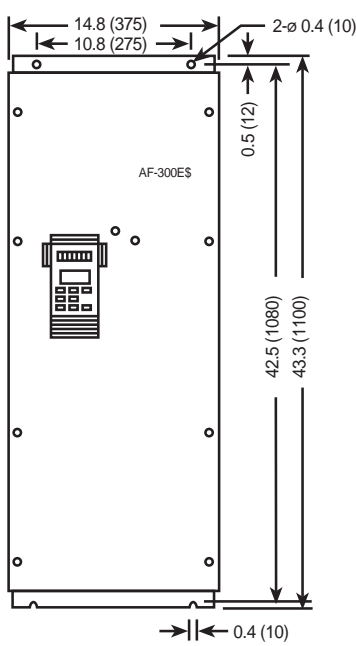
Hp (CT)	0 setting	10 setting	Hp (VT)	0 setting	10 setting
60	300	390	75	315	375
75	345	415	100	390	450

12

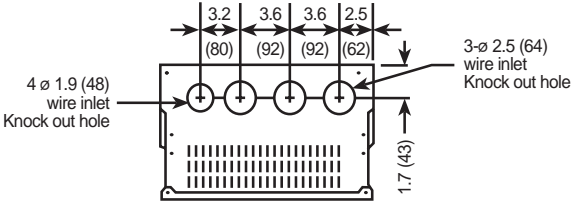
Dimensions 100 Hp 460 VAC

Dimensions in inches (mm)

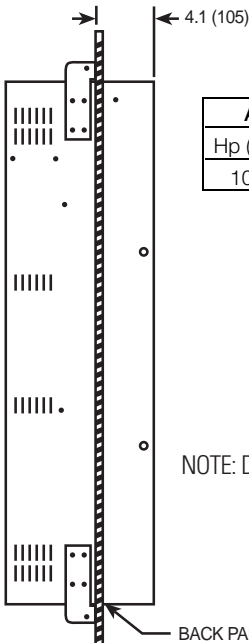
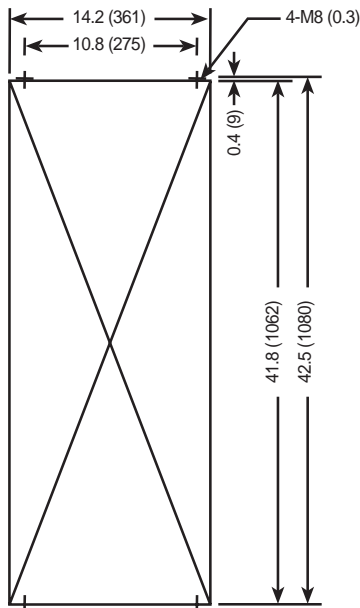
BACK PANEL MOUNTING



Hp (CT)	0 setting	10 setting	Hp (VT)	0 setting	10 setting
100	1500	1600	125	1700	1850



THROUGH PANEL MOUNTING



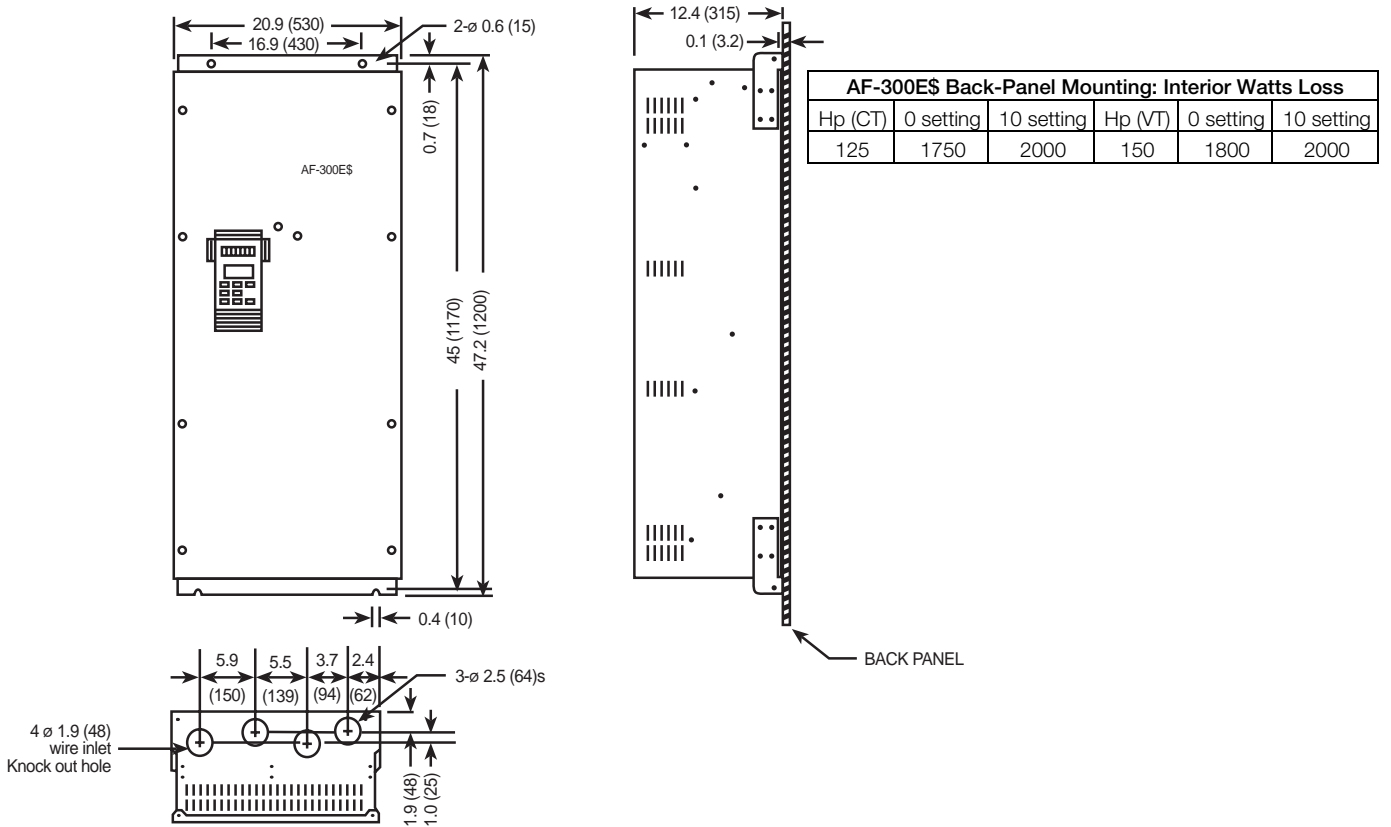
Hp (CT)	0 setting	10 setting	Hp (VT)	0 setting	10 setting
100	450	480	125	510	555

NOTE: Drive includes a separately mounted DC Link Reactor.

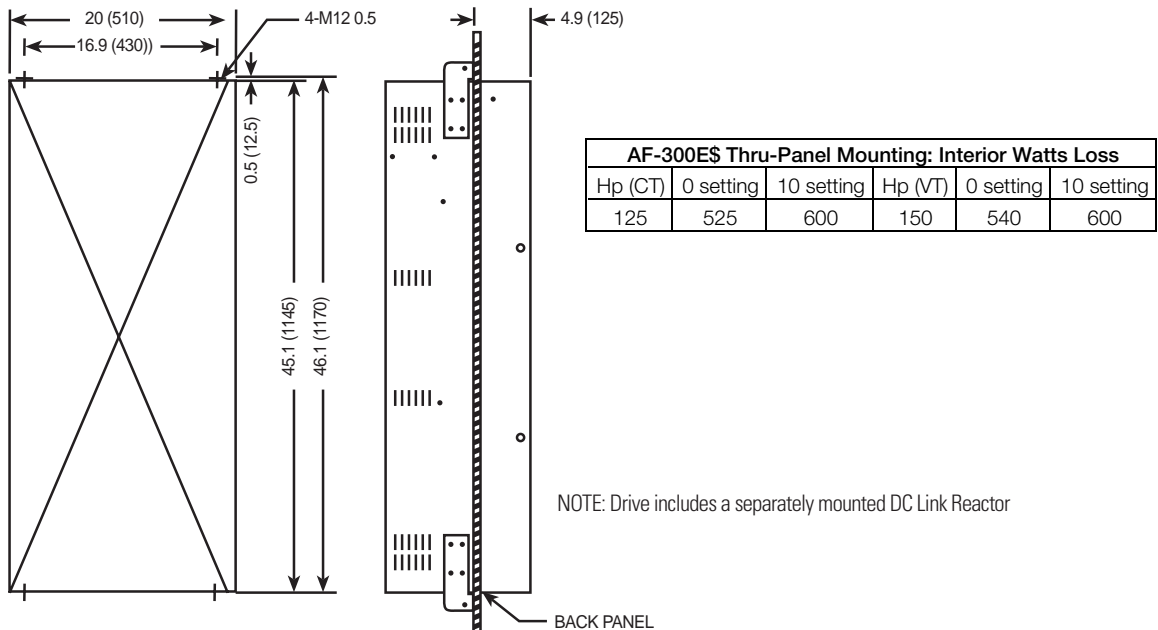
Dimensions 125 Hp 460 VAC

Dimensions in inches (mm)

BACK PANEL MOUNTING



THROUGH PANEL MOUNTING

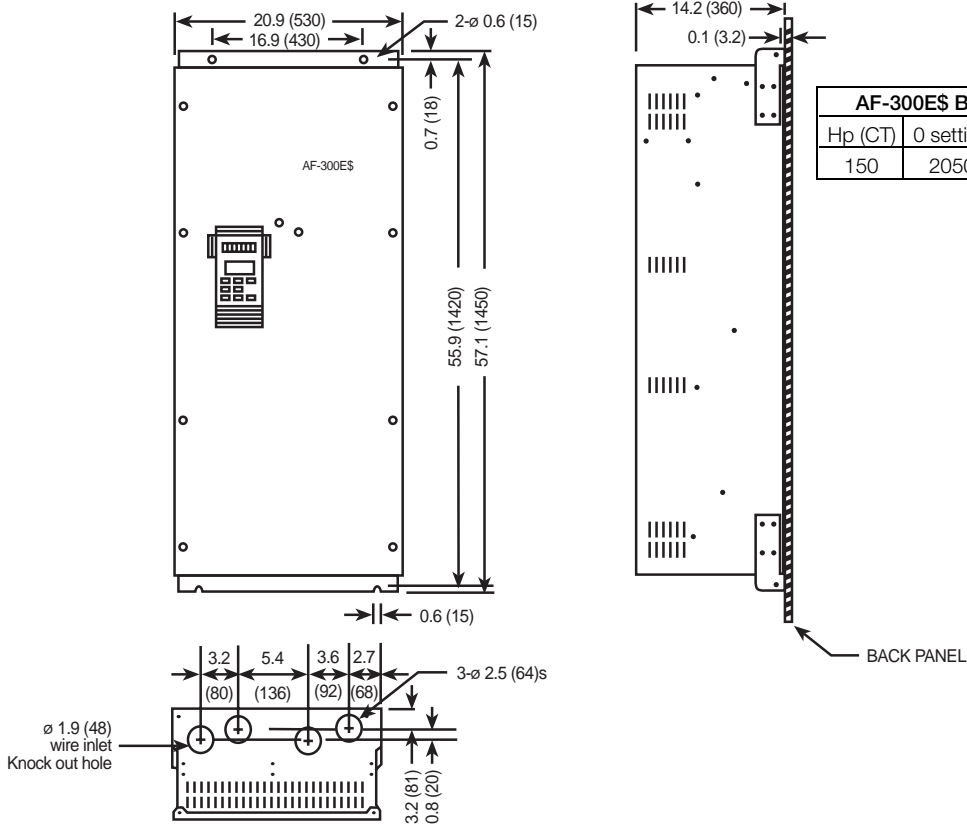


NOTE: Drive includes a separately mounted DC Link Reactor

Dimensions 150 Hp 460 VAC

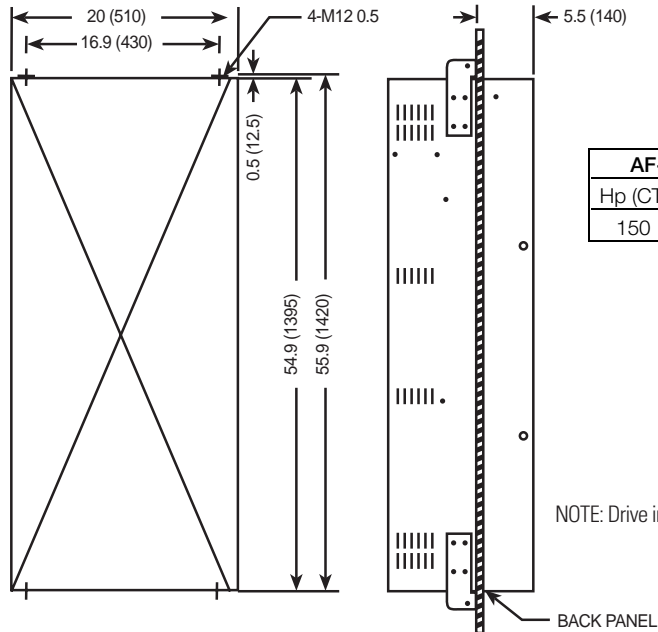
Dimensions in inches (mm)

BACK PANEL MOUNTING



Hp (CT)	0 setting	10 setting	Hp (VT)	0 setting	10 setting
150	2050	2350	200	2050	2300

THROUGH PANEL MOUNTING



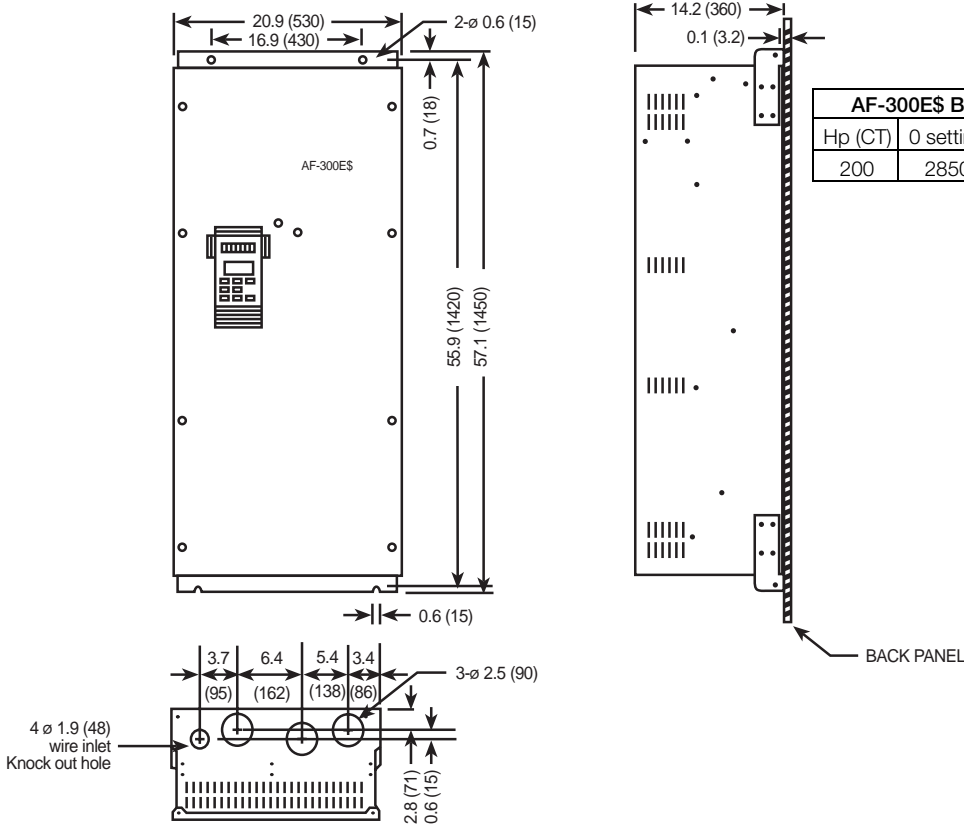
Hp (CT)	0 setting	10 setting	Hp (VT)	0 setting	10 setting
150	615	705	200	615	690

NOTE: Drive includes a separately mounted DC Link Reactor.

Dimensions 200 Hp 460 VAC

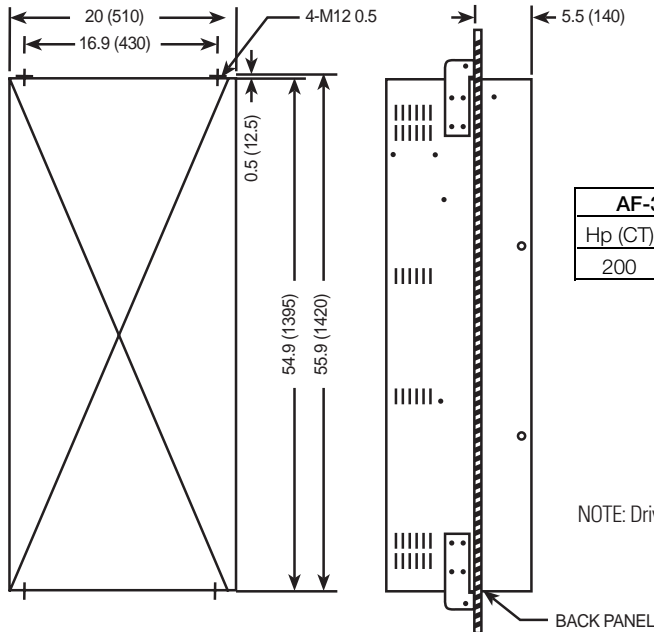
Dimensions in inches (mm)

BACK PANEL MOUNTING



Hp (CT)	0 setting	10 setting	Hp (VT)	0 setting	10 setting
200	2850	3250	250	2800	3150

THROUGH PANEL MOUNTING



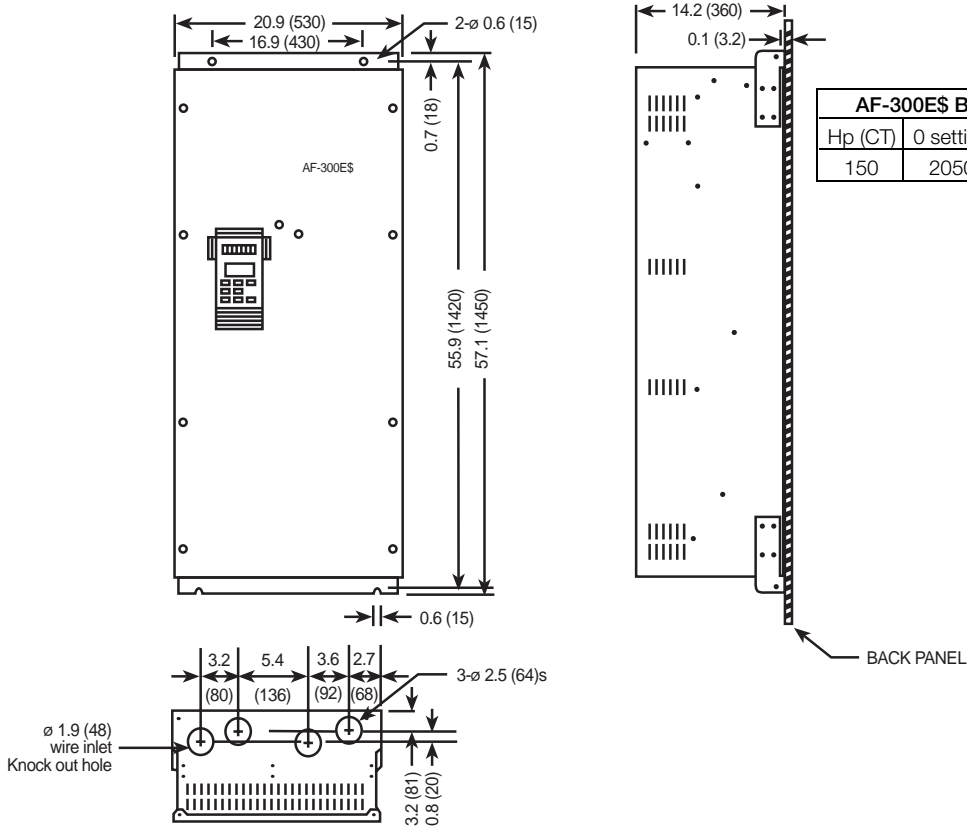
Hp (CT)	0 setting	10 setting	Hp (VT)	0 setting	10 setting
200	855	975	250	840	945

NOTE: Drive includes a separately mounted DC Link Reactor

Dimensions 150 Hp 460 VAC

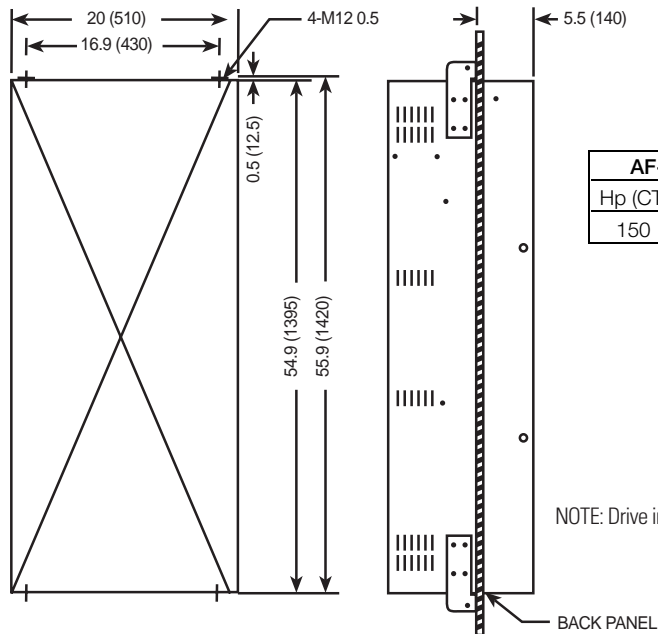
Dimensions in inches (mm)

BACK PANEL MOUNTING



Hp (CT)	0 setting	10 setting	Hp (VT)	0 setting	10 setting
150	2050	2350	200	2050	2300

THROUGH PANEL MOUNTING



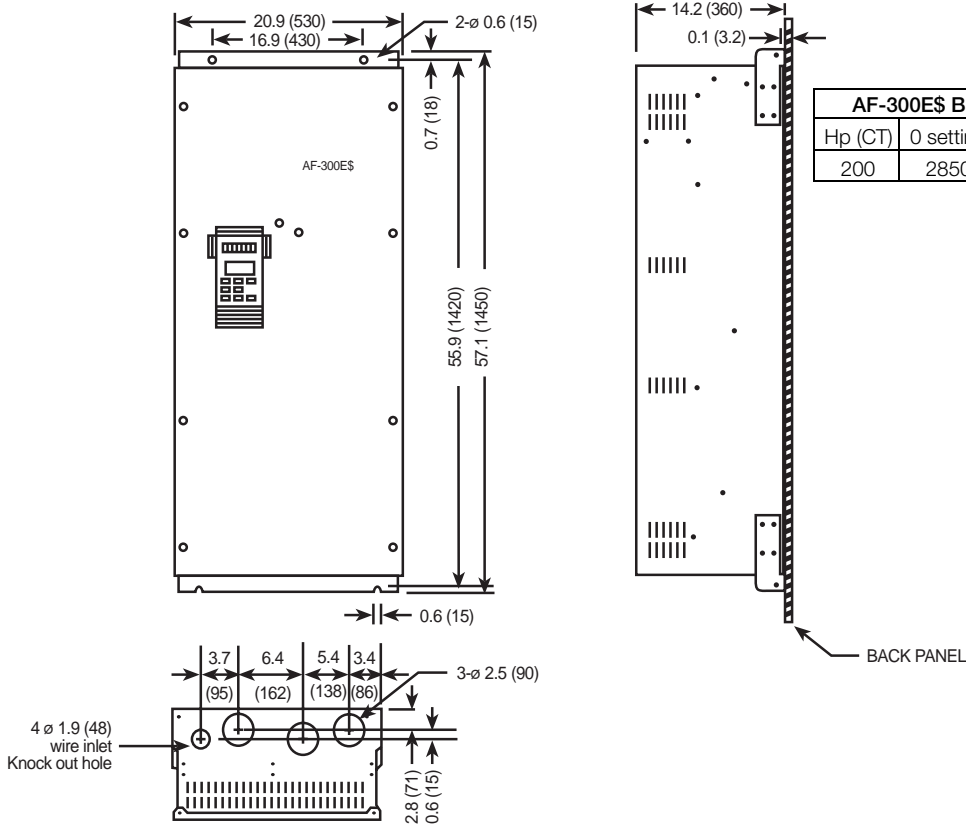
Hp (CT)	0 setting	10 setting	Hp (VT)	0 setting	10 setting
150	615	705	200	615	690

NOTE: Drive includes a separately mounted DC Link Reactor.

Dimensions 200 Hp 460 VAC

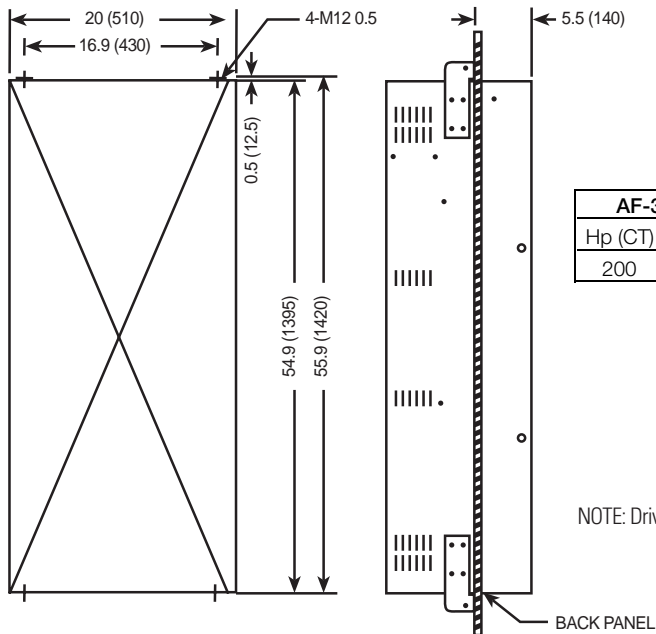
Dimensions in inches (mm)

BACK PANEL MOUNTING



Hp (CT)	0 setting	10 setting	Hp (VT)	0 setting	10 setting
200	2850	3250	250	2800	3150

THROUGH PANEL MOUNTING

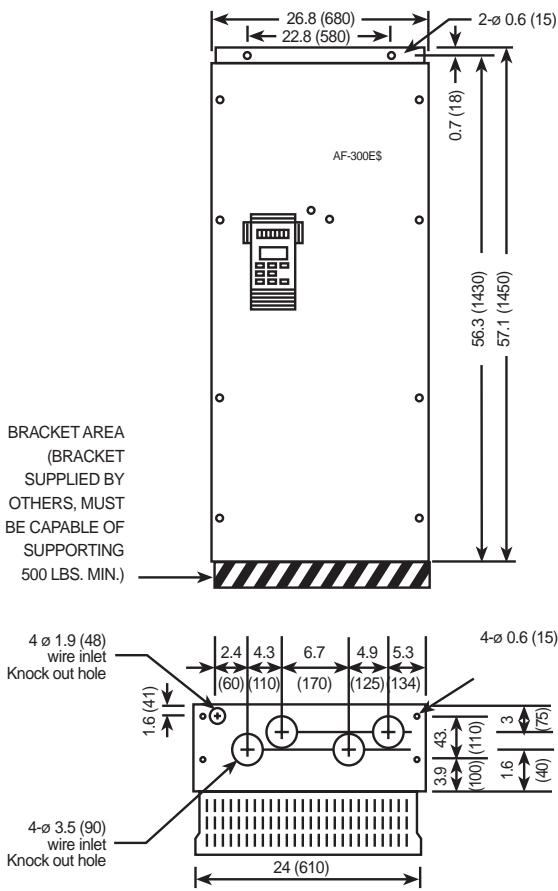


Hp (CT)	0 setting	10 setting	Hp (VT)	0 setting	10 setting
200	855	975	250	840	945

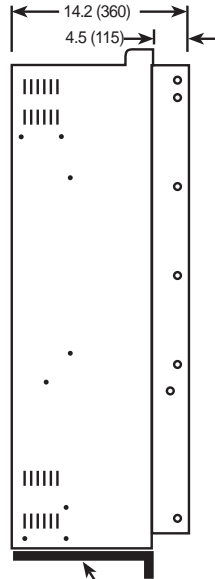
NOTE: Drive includes a separately mounted DC Link Reactor

Dimensions 250, 300 Hp 460 VAC

Dimensions in inches (mm)



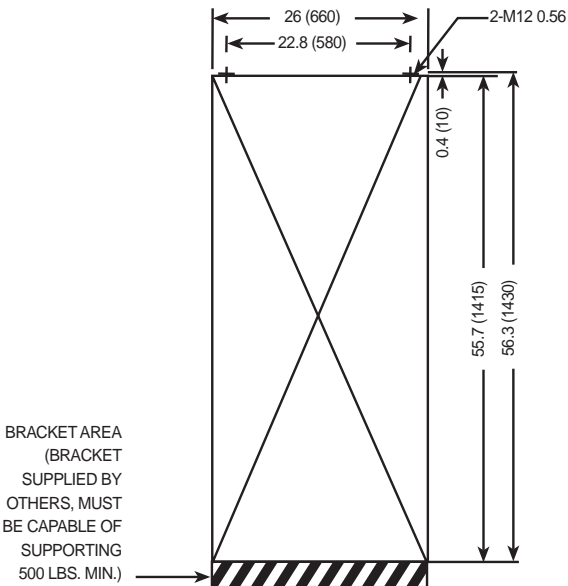
BRACKET AREA
(BRACKET
SUPPLIED BY
OTHERS, MUST
BE CAPABLE OF
SUPPORTING
500 LBS. MIN.)



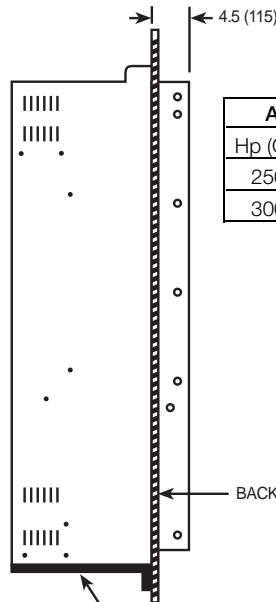
BRACKET REQUIRED FOR MOUNTING

Hp (CT)	0 setting	10 setting	Hp (VT)	0 setting	10 setting
250	3500	4000	300	3450	3800
300	3850	4450	350	3900	4300

THROUGH PANEL MOUNTING



BRACKET AREA
(BRACKET
SUPPLIED BY
OTHERS, MUST
BE CAPABLE OF
SUPPORTING
500 LBS. MIN.)



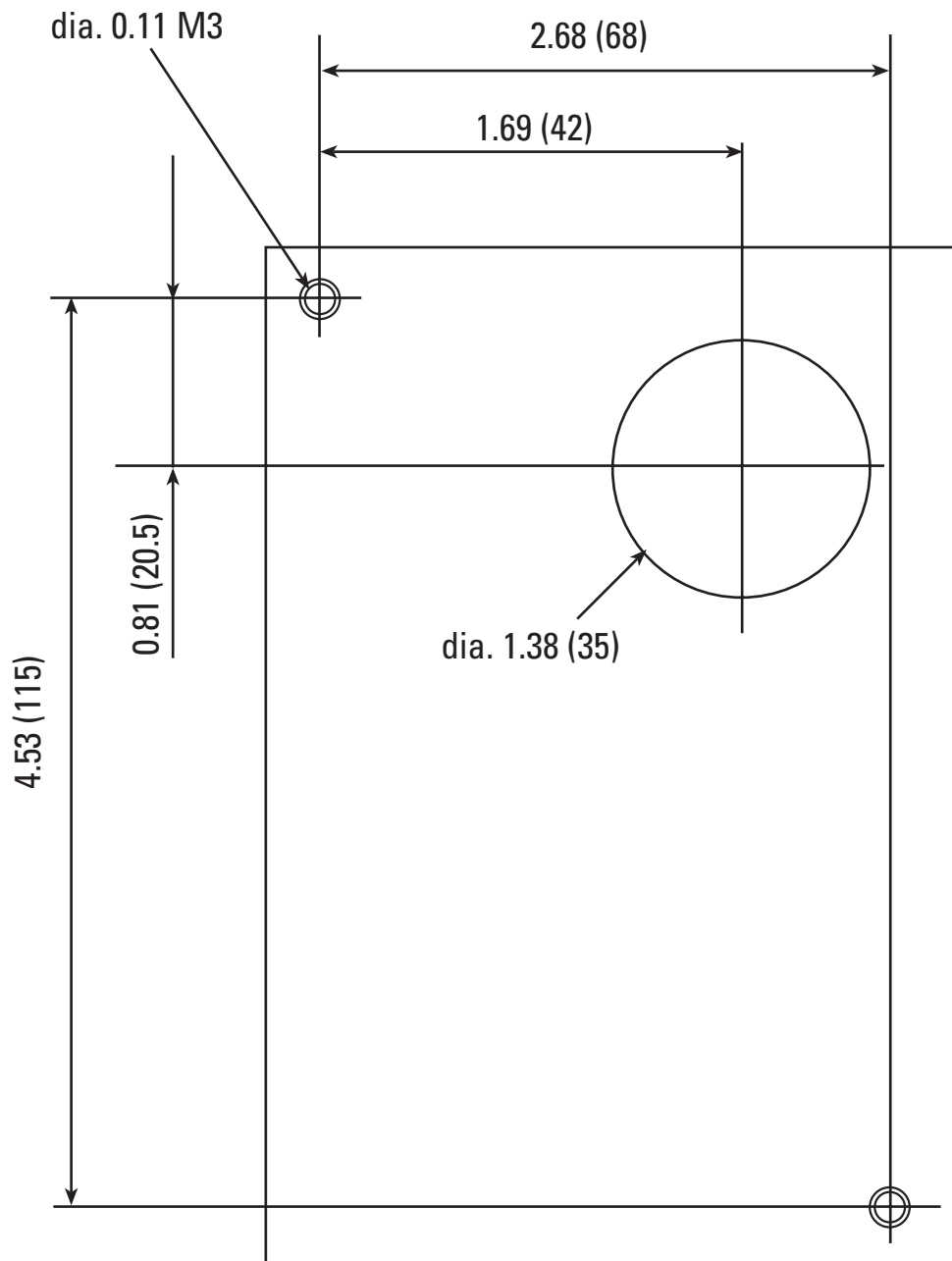
BRACKET REQUIRED FOR MOUNTING

Hp (CT)	0 setting	10 setting	Hp (VT)	0 setting	10 setting
250	1050	1200	300	1035	1140
300	1155	1335	350	1170	1290

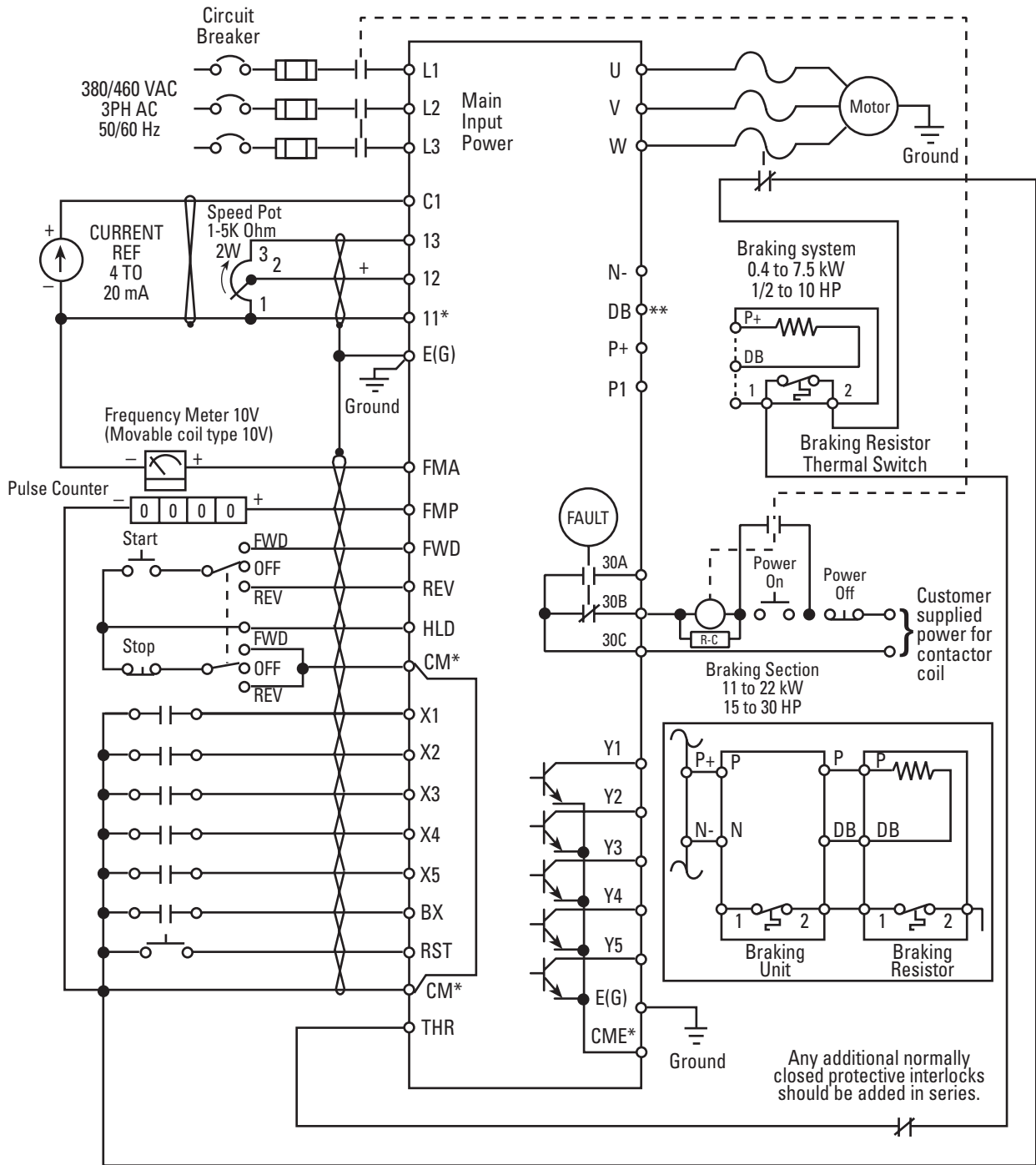
NOTE: Drive includes a separately mounted DC Link Reactor

Keypad Mounting Hole (Panel Cutting)

Dimensions in inches (mm)

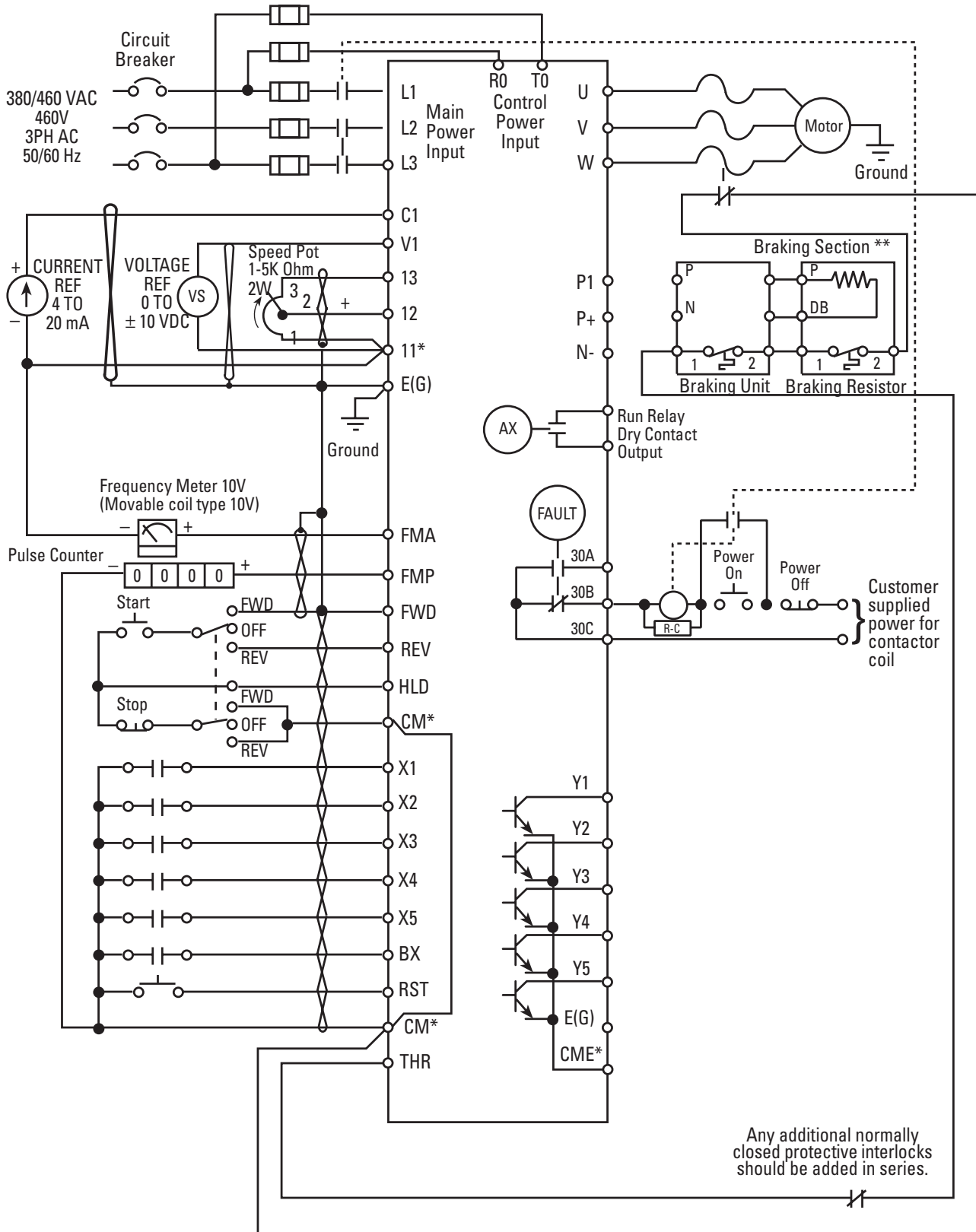


0.5 to 30 Hp Basic Wiring Diagram



*Terminal 11 should not be connected to either CM and/or CME.
 ** Refer to the Dynamic Braking portion of this section.

40 to 300 Hp Basic Wiring Diagram



*Terminal 11 should not be connected to either CM and/or CME.
 ** Refer to the Dynamic Braking portion of this section.

Any additional normally closed protective interlocks should be added in series.