

GE  
Industrial Solutions



# Standard Drives

Buyers Guide  
Featuring the AF-6 Series Drives

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For more information please visit:  
[www.geindustrial.com/drives](http://www.geindustrial.com/drives)

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# General Information

## Codes and Standards

### Circuit Protection Guidelines

For some products, incoming line fuses are required to meet the basic UL listing requirements. Consult AF-6 Series individual drive Design Guides for fuse recommendations.

The NEC defines several types of control circuits and the overcurrent protection required for each type.

**Type Enclosures:** IP00, IP20, IP21, IP54, IP55 and IP66

**NEMA 1:** Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment and to provide a degree of protection against falling dirt.

**NEMA 4:** Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, snow, wind-blown dust, splashing water, hose-directed water, and corrosion; and that will be undamaged by external formation of ice on the enclosure.

**NEMA 12:** Enclosures constructed (without knockouts) for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt; against circulating dust, lint, fibers, and flyings; and against dripping and light splashing of liquids.

### IEC 60529 - Ingress Protection (IP) Codes

First Digit	Protection Against Foreign Objects	Second Digit	Protection Against Moisture
0	Not protected	0	Not protected
1	Protected against objects greater than 50 mm	1	Protected against dripping water
2	Protected against objects greater than 12 mm	2	Protected against dripping water when tilted up to 15°
3	Protected against objects greater than 2.5 mm	3	Protected against spraying water
4	Protected against objects greater than 1.0 mm	4	Protected against splashing water
5	Dust protected	5	Protected against water jets
6	Dust tight	6	Protected against heavy seas
—		7	Protection against the effects of immersion
—		8	Protection against submersion



# General Information

## Quick Application Specifiers Data Form

Industry (automotive, food and beverage, etc.): \_\_\_\_\_

Equipment Application (fan, conveyor, etc.): \_\_\_\_\_

### General

#### Load Conditions

Torque Characteristics: \_\_\_\_\_ Constant Torque \_\_\_\_\_ Variable Torque \_\_\_\_\_ Constant Horsepower

Starting Torque: \_\_\_\_\_ lb/ft Maximum Torque: \_\_\_\_\_ lb/ft Inertia: \_\_\_\_\_ Wk<sup>2</sup>

Other: \_\_\_\_\_

#### Speed Conditions

\_\_\_\_\_ Speed Range \_\_\_\_\_ Speed Accuracy

#### Environment

Ambient Temperature: \_\_\_\_\_ to \_\_\_\_\_ °C Humidity: \_\_\_\_\_ % Altitude: \_\_\_\_\_ ft

Special Conditions (dust, oil, vibration, etc.): \_\_\_\_\_

#### Motor Specifications

Existing: \_\_\_\_\_ Est. Year of Mfg.: \_\_\_\_\_ New: \_\_\_\_\_

Type (NEMA, A, B, C, D, Sync): \_\_\_\_\_

Rating: \_\_\_\_\_ hp \_\_\_\_\_ rpm \_\_\_\_\_ Phase \_\_\_\_\_ Connection \_\_\_\_\_ Hz \_\_\_\_\_ Volts \_\_\_\_\_ Amps

Insulation Class: \_\_\_\_\_ S.F.: \_\_\_\_\_ Max. Freq.: \_\_\_\_\_ Hz Speed Range (rpm): \_\_\_\_\_ to \_\_\_\_\_

Time Rating: \_\_\_\_\_ %ED (Cont.) No. of Motors Per Drive: \_\_\_\_\_ Tachometer (Y/N): \_\_\_\_\_ Type: \_\_\_\_\_

Cable run distance from drive: \_\_\_\_\_

Operation speed range: \_\_\_\_\_

#### Drive Specifications

Input: \_\_\_\_\_ Volts \_\_\_\_\_ Hz \_\_\_\_\_ Phase \_\_\_\_\_ kVa or Isc (ex. source transformer size)

Output: \_\_\_\_\_ hp \_\_\_\_\_ Full Load Current

Starting Torque: \_\_\_\_\_ (% of rated torque) Acceleration Time: \_\_\_\_\_ Deceleration Time: \_\_\_\_\_

Motor Control Conditions: Reversing: \_\_\_\_\_ Non-Reversing: \_\_\_\_\_ Jogging (Frequency: \_\_\_\_\_ Hz)

Drive Enclosure: NEMA 1: \_\_\_\_\_ Bypass: \_\_\_\_\_ (Y/N) AC Line Reactor (input): \_\_\_\_\_ (Y/N) Dynamic Braking: \_\_\_\_\_ (Y/N)

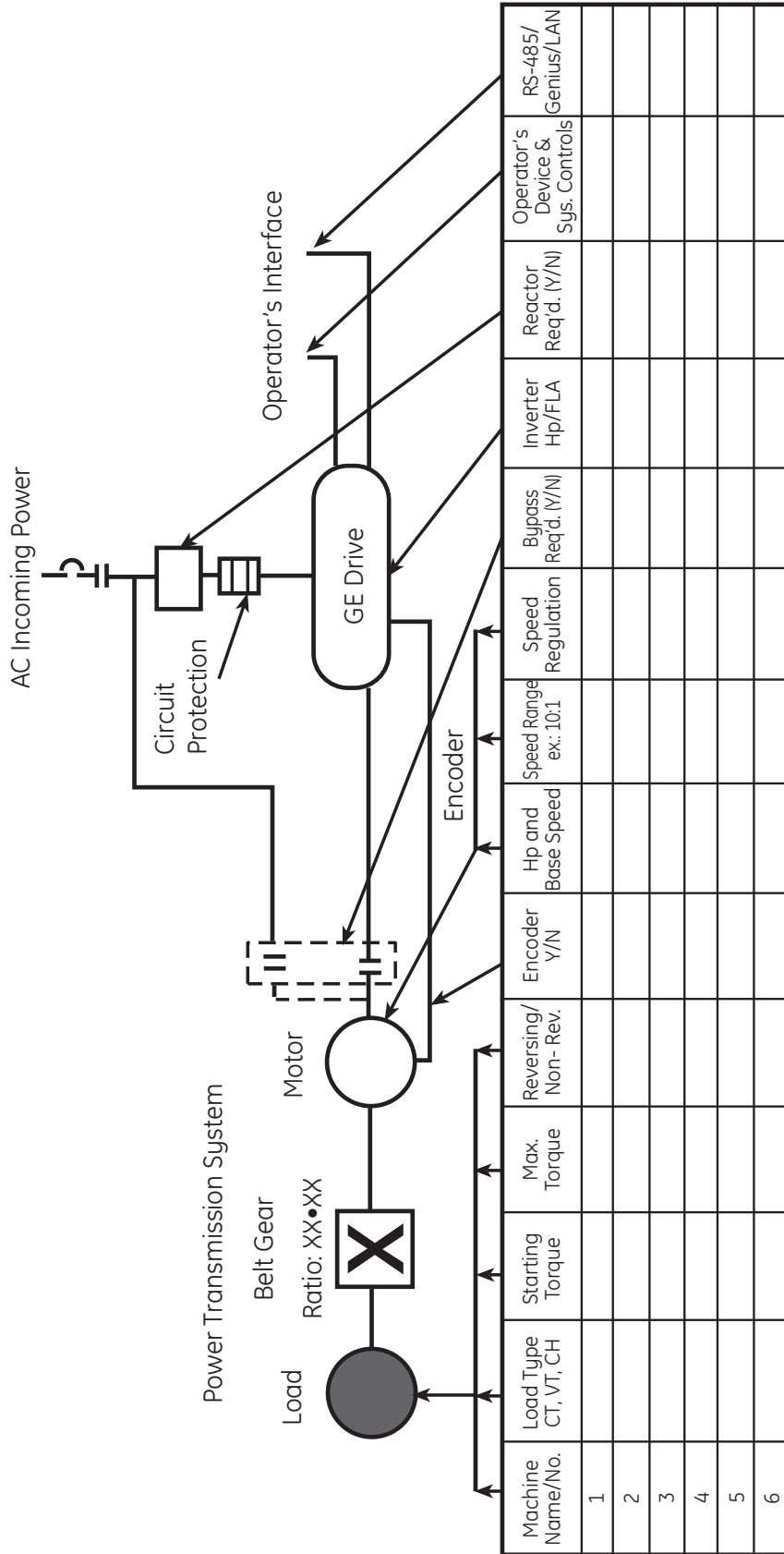
Total Operating Time: \_\_\_\_\_ s on \_\_\_\_\_ s off Type (dynamic resistors or ac line generation): \_\_\_\_\_

Note: Deceleration time and load inertia are critical in the selection of the braking components.



# General Information AC Drive Specification Form

## AC Drive



# AF-60 LP Micro Drive

## Product Description

The AF-60 LP Micro Drive is a compact but powerful and easy to use AC Variable Frequency Drive. The drive is available in its standard configuration that includes built-in Brake Chopper for 2HP and above, Single-Turn Potentiometer for speed reference, and LCD Keypad Display that can be remotely mounted. Models are available at 230V single-phase from 1/4 to 3HP, 230V three-phase from 1/3 to 5HP, and 460V three-phase from 1/2 to 10HP.

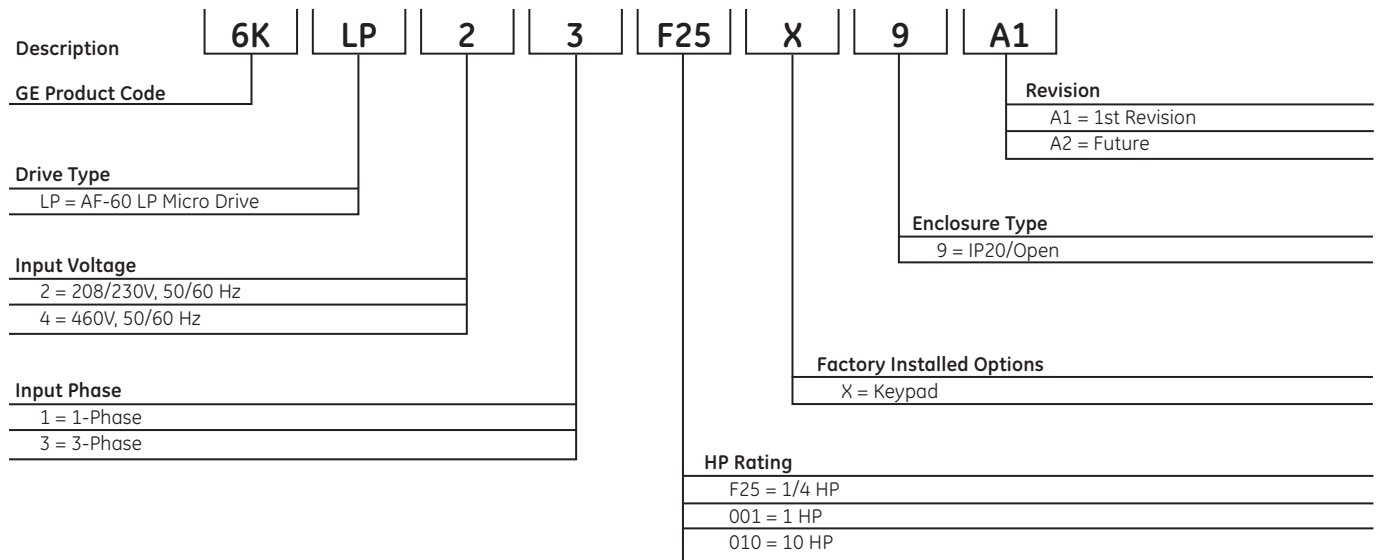
With standard features like Auto-Tuning, built-in RFI Filter, Process PI Controller, and Logic Controller make the AF-60LP Micro Drive ideal for OEM Machinery, Fan, Mixer, and Pump applications. It's Quick Menu, Side-By-Side Mounting, and optional DIN Rail Mounting also make it a time and space saver for any Drive user. It also has Modbus RTU Serial Communications as well as NEMA 1 Kits that allow it to be integrated into your Automation Systems or stand-alone installations.



AF-60 LP Micro Drive

## Product Numbering System Diagram

(Product number for illustrative purposes only)



Visit <http://www.geindustrial.com/drives> for additional product information including programming guides, drawings, programming software, an energy savings calculator, and much more.



# AF-60 LP Micro Drive

## Pricing, Dimensions and Weights - Stock Units

### IP 20 - Protected Chassis - 230 Vac, 1-Phase, 50/60 Hz Input

HP	kW	Amps	Product No.	List Price GO-5LP	Unit Size	H x W x D (in)	Weight (lbs)	NEMA 1 Kit	Din Rail Mounting Kit
1/4	0.18	1.2	6KLP21F25X9A1	\$275.00	M1	6.13 x 2.76 x 6.06	2.43	NEMA1LP1	RMACLP1
1/2	0.37	2.2	6KLP21F50X9A1	\$280.00	M1	6.13 x 2.76 x 6.06	2.43	NEMA1LP1	RMACLP1
1	0.75	4.2	6KLP21001X9A1	\$305.00	M1	6.13 x 2.76 x 6.06	2.43	NEMA1LP1	RMACLP1
2	1.5	6.8	6KLP21002X9A1	\$360.00	M2	7.09 x 2.95 x 6.85	3.53	NEMA1LP2	RMACLP1
3	2.2	9.6	6KLP21003X9A1	\$490.00	M3	9.69 x 3.54 x 8.07	9.7	NEMA1LP3	N/A

### IP 20 - Protected Chassis - 230 Vac, 3-Phase, 50/60 Hz Input

HP	kW	Amps	Product No.	List Price GO-5LP	Unit Size	H x W x D (in)	Weight (lbs)	NEMA 1 Kit	Din Rail Mounting Kit
1/3	0.25	1.5	6KLP23F33X9A1	\$260.00	M1	6.13 x 2.76 x 6.06	2.43	NEMA1LP1	RMACLP1
1/2	0.37	2.2	6KLP23F50X9A1	\$280.00	M1	6.13 x 2.76 x 6.06	2.43	NEMA1LP1	RMACLP1
1	0.75	4.2	6KLP23001X9A1	\$320.00	M1	6.13 x 2.76 x 6.06	2.43	NEMA1LP1	RMACLP1
2	1.5	6.8	6KLP23002X9A1	\$375.00	M2	7.09 x 2.95 x 6.85	3.53	NEMA1LP2	RMACLP1
3	2.2	9.6	6KLP23003X9A1	\$475.00	M3	9.69 x 3.54 x 8.07	9.7	NEMA1LP3	N/A
5	3.7	15.2	6KLP23005X9A1	\$600.00	M3	9.69 x 3.54 x 8.07	9.7	NEMA1LP3	N/A

### IP 20 - Protected Chassis - 460 Vac, 3-Phase, 50/60 Hz Input

HP	kW	Amps	Product No.	List Price GO-5LP	Unit Size	H x W x D (in)	Weight (lbs)	NEMA 1 Kit	Din Rail Mounting Kit
1/2	0.37	1.2	6KLP43F50X9A1	\$430.00	M1	6.13 x 2.76 x 6.06	2.43	NEMA1LP1	RMACLP1
1	0.75	2.2	6KLP43001X9A1	\$450.00	M1	6.13 x 2.76 x 6.06	2.43	NEMA1LP1	RMACLP1
2	1.5	3.7	6KLP43002X9A1	\$515.00	M2	7.09 x 2.95 x 6.85	3.53	NEMA1LP2	RMACLP1
3	2.2	5.3	6KLP43003X9A1	\$565.00	M2	7.09 x 2.95 x 6.85	3.53	NEMA1LP2	RMACLP1
5	3.7	9	6KLP43005X9A1	\$750.00	M3	9.69 x 3.54 x 8.07	9.7	NEMA1LP3	N/A
7.5	5.5	12	6KLP43007X9A1	\$975.00	M3	9.69 x 3.54 x 8.07	9.7	NEMA1LP3	N/A
10	7.5	15.5	6KLP43010X9A1	\$1200.00	M3	9.69 x 3.54 x 8.07	9.7	NEMA1LP3	N/A
15	11	23	6KLP43015X9A1	\$1740.00	M4	11.5 x 4.92 x 9.49	13.2	NEMA1LP4	N/A
20	15	31	6KLP43020X9A1	\$2025.00	M4	11.5 x 4.92 x 9.49	13.2	NEMA1LP4	N/A
25	18.5	37	6KLP43025X9A1	\$2475.00	M5	13.19 x 6.5 x 9.76	20.9	NEMA1LP5	N/A
30	22	43	6KLP43030X9A1	\$2890.00	M5	13.19 x 6.5 x 9.76	20.9	NEMA1LP5	N/A

Brake Chopper is included with 2HP drives and above

### Drive Efficiency and Watt Loss - 230 Vac, 1-Phase, 50/60 Hz Input

HP	kW	Amps	Product No.	Efficiency <sup>1</sup>	Watt Loss <sup>1</sup>
1/4	0.18	1.2	6KLP21F25X9A1	94.5	15.5
1/2	0.37	2.2	6KLP21F50X9A1	95.6	25.0
1	0.75	4.2	6KLP21001X9A1	96.0	44.0
2	1.5	6.8	6KLP21002X9A1	96.7	67.0
3	2.2	9.6	6KLP21003X9A1	97.1	85.1

### Drive Efficiency and Watt Loss - 230 Vac, 3-Phase, 50/60 Hz Input

HP	kW	Amps	Product No.	Efficiency <sup>1</sup>	Watt Loss <sup>1</sup>
1/3	0.25	1.5	6KLP23F25X9A1	94.9	20.0
1/2	0.37	2.2	6KLP23F50X9A1	95.8	24.0
1	0.75	4.2	6KLP23001X9A1	96.3	39.5
2	1.5	6.8	6KLP23002X9A1	97.2	57.0
3	2.2	9.6	6KLP23003X9A1	97.4	77.1
5	3.7	15.2	6KLP23005X9A1	97.4	122.8

### Drive Efficiency and Watt Loss - 460 Vac, 3-Phase, 50/60 Hz Input

HP	kW	Amps	Product No.	Efficiency <sup>1</sup>	Watt Loss <sup>1</sup>
1/2	0.37	1.2	6KLP43F50X9A1	95.5	25.5
1	0.75	2.2	6KLP43001X9A1	96.0	43.5
2	1.5	3.7	6KLP43002X9A1	97.2	56.5
3	2.2	5.3	6KLP43003X9A1	97.1	81.5
5	3.7	9	6KLP43005X9A1	98.0	133.5
7.5	5.5	12	6KLP43007X9A1	98.0	166.8
10	7.5	15.5	6KLP43010X9A1	98.0	217.5
15	11	23	6KLP43015X9A1	97.4	342
20	15	31	6KLP43020X9A1	97.4	454
25	18.5	37	6KLP43025X9A1	98.0	428
30	22	43	6KLP43030X9A1	97.9	520

<sup>1</sup>At rated load conditions



# AF-60 LP Micro Drive Options, Accessories and Replacement Parts

## Remote Mounting Kit for Keypad

Remote Mounting kit for mounting keypad on enclosure doors. Kit includes gasket, mounting brackets, and cable. Keypad is rated IP21.

Description	Product No.	List Price GO-5LP
Remote Mounting Kit for Keypad	RMKYPDACLP1	\$25.00



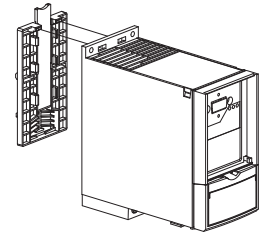
Remote Mounting Kit for Keypad

## DIN Rail Mounting Kit for 1HP and below drives

This adapter can be used to mount AF-60 LP Micro Drives at 1HP and below to 35mm DIN Rail.

Description	Product No.	List Price GO-5LP
DIN Rail Mounting Kit for Unit Size M1 or M2 <sup>1</sup>	RMACLP1	\$20.00

<sup>1</sup>M2 drives manufactured after July 2009.



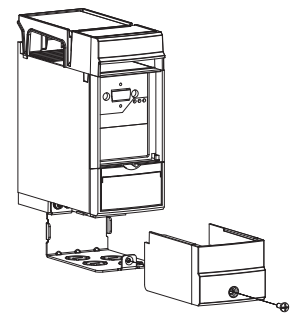
DIN Rail Mounting Kit for 1HP and below drives

## NEMA 1 Kit

This kit can be mounted to the IP 20 protected AF-60 LP Micro Drives to provide NEMA Type 1 protection.

Description	Product No.	List Price GO-5LP
NEMA 1 Kit for 1HP and below drives	NEMA1ACL1	\$30.00
NEMA 1 Kit for 2HP at 230V/3HP at 460V and below drives	NEMA1ACL2	\$35.00
NEMA 1 Kit for 3HP at 230V/5HP at 460V and above drives	NEMA1ACL3	\$40.00
NEMA 1 Kit for 15HP and 20HP at 460V drives	NEMA1ACL4 <sup>2</sup>	\$45.00
NEMA 1 Kit for 25HP and 30HP at 460V drives	NEMA1ACL5 <sup>2</sup>	\$50.00

<sup>2</sup>Please note that these NEMA 1 Kits only include bottom cover.

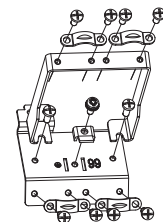


NEMA 1 Kit

## De-Coupling Plate Kit

For EMC applications and strain relief for drive wiring.

Description	Product No.	List Price GO-5LP
De-Coupling Plate Kit for 2HP at 230V/3HP at 460V and below drives	DEPLTACL1	\$15.00
De-Coupling Plate Kit for 3HP at 230V/5HP at 460V and above drives	DEPLTACL2	\$15.00
De-Coupling Plate Kit for 15HP at 460V and above drives	DEPLTACL3	\$20.00



De-Coupling Plate Kit

## Replacement AF-60 LP Keypad with Potentiometer

LCD Keypad with potentiometer for the AF-60 LP Micro Drive. Keypad is removable under power and includes copycat feature to program multiple drives. Includes hand-off-auto keys for local control of drive and large parameter and operational data display. Menu key selects between drive status, quick menu, and main menu. LED indicators for Alarms, Warnings, and Power are also included on each keypad. Keypad dimensions are: 3.35 H x 2.56 W x 1.1 D w/pot in inches.

Description	Product No.	List Price GO-5LP
Replacement AF-60 LP Keypad with Potentiometer:	KYPDACLP1	\$60.00



Replacement AF-60 LP Keypad with Potentiometer





# AF-60 LP Micro Drive Dynamic Braking Resistors

Dynamic Braking allows for faster deceleration rates than could be achieved via a coast to stop. Dynamic braking consists of the internal drive brake chopper and separate add-on dynamic braking resistors.

Important application notes:

- The AF-60 LP Micro Drive dynamic braking can be used for stopping a load with an inertia equal to or less than the applied motor's rotor inertia.
- High inertia or overhauling loads may cause extended deceleration times which could cause overheating and tripping of the drive.
- The dynamic braking is not a holding brake. It does not prevent a motor at rest from rotating.

Note: Refer to the drives' Operating Instruction for installation and connection details.

## 230 Vac

Nominal Applied Motor HP	Max. Braking Torque (%)	Brake Chopper	Recommended Dynamic Braking Resistor				Qty. Required	Total Ohms	Total kW	
			10% Duty Cycle		40% Duty Cycle				10% Duty Cycle	40% Duty Cycle
			Product Number	List Price GO-5AC	Product Number	List Price GO-5AC				
1/4	—	N/A	—	—	—	—	—	—	—	
1/2	—	N/A	—	—	—	—	—	—	—	
1	—	N/A	—	—	—	—	—	—	—	
2	150	Built-in	DB2104TBNC	\$400.00	DB2404TBNC	\$600.00	1	65	0.25	0.8
3	150	Built-in	DB2105TBNC	\$400.00	DB2405TBNC	\$600.00	1	50	0.285	1
5	150	Built-in	DB2106TBNC	\$450.00	DB2406TBNC	\$675.00	1	25	0.8	3

## 460 Vac

Nominal Applied Motor HP	Max. Braking Torque (%)	Brake Chopper	Recommended Dynamic Braking Resistor				Qty. Required	Total Ohms	Total kW	
			10% Duty Cycle		40% Duty Cycle				10% Duty Cycle	40% Duty Cycle
			Product Number	List Price GO-5AC	Product Number	List Price GO-5AC				
1/2	—	N/A	—	—	—	—	—	—	—	
1	—	N/A	—	—	—	—	—	—	—	
2	150	Built-in	DB4103TBNC	\$525.00	DB4403TBNC	\$788.00	1	310	0.25	0.8
3	150	Built-in	DB4104TBNC	\$525.00	DB4404TBNC	\$788.00	1	210	0.285	1.35
5	150	Built-in	DB4105TBNC	\$600.00	DB4405TBNC	\$900.00	1	110	0.6	2.4
7.5	150	Built-in	DB4106TBNC	\$850.00	DB4406TBNC	\$1275.00	1	80	0.85	3
10	150	Built-in	DB4107TBNC	\$950.00	DB4407TBNC	\$1425.00	1	65	1	4.5



# AF-60 LP Micro Drive Standard Specifications

## Environmental Conditions

Enclosure	IP20 (NEMA 1 with optional NEMA 1 kit)
Installation Location	Do not install in locations where product could be exposed to dust, corrosive gas, inflammable gas, oil mist, vapor, water drops or direct sunlight. There must be no salt in the atmosphere. Condensation must not be caused by sudden changes in temperature. For use at altitudes of 3280 ft. (1000M) or less without derating.
Ambient Temperature	-10° to +50°C
Ambient Humidity	5 to 95% RH (non-condensing)
Vibration	1.0g
Storage Temperature	-25° to 65°C

## Standards

Approvals	CE, UL, cUL, and C-Tick Suitable for use on a circuit capable of delivering not more than 100,000 rms symmetrical amperes for 230V and 460V. WEEE and RoHS Compliant
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## Input Power Supply

Rated Input AC Voltage	200-240 Vac, 1-phase, 50-60 Hz, +/- 10% V 200-240 Vac, 3-phase, 50-60 Hz, +/- 10% V 380-480 Vac, 3-phase, 50-60 Hz, +/- 10% V
Maximum Voltage Imbalance	3% of rated supply voltage
True Power Factor	> 0.4 nominal at rated load
Displacement Power Factor	> 0.98
Switching on input power supply	Maximum twice/minute
Environment according to EN60664-1	Overvoltage category III/pollution degree 2

## Output

Rated Output Voltage	0-100% of supply voltage
Output Frequency	0-200 Hz (Adv. Vector Control Plus Mode), 0-400 Hz (Volts/Hertz Mode)
Switching on output	Unlimited
Accel/Decel Times	0.05-3600 seconds
Overload Current Rating	150% of drive rated current for 1 minute

## Control

Control Method	Sinusoidal PWM Control (V/Hz with torque vector control)
Switching Frequency Select	2, 4, 8, 12, 16 kHz
Operation Method	Keypad operation: Hand, Off, Auto Digital Input: Programmable for Start/Stop, Forward/Reverse, Jog Timer operation: Stop after predetermined time frame Link operation: RS-485 Modbus RTU
Frequency Reference Setting	Up or Down buttons on keypad or external reference
Analog Input	Built in Potentiometer 0-10 Vdc analog input 4-20ma analog input
Preset Speeds	8 presets via digital inputs
Link Operation	Drive RS-485 or Modbus RTU
Second Reference Setting	Switch from speed reference 1 to reference 2 via digital input
Trim Reference Setting	Available for speed reference offset via potentiometer, voltage input, or current input
Acceleration/Deceleration Time	0.05-3600 seconds (two acceleration and deceleration rates are selectable via digital inputs. Acceleration and deceleration patterns can be selected from linear or S-curve
DC Injection Braking	Starting frequency: 0.0-400 Hz Braking time: 0.0-60.0 seconds Braking level: 0-150% of rated current
Frequency Limit	0-400 Hz
Jump Frequency Control	Two jump (or skip) frequencies via parameter set to avoid mechanical vibration
Jogging Operation	Operation via On key or digital input (Fwd or Rev)
Auto-Restart After Power Failure	Restarts the drive without stopping after instantaneous power failure
Slip Compensation	Maintains motor at constant speed with load fluctuations
Energy Savings	Controls output voltage to minimize motor loss during constant speed operation
Start Mode Function	This functionality smoothly catches a spinning motor

## Logic Controller (LC)

Logic Controller Events	Over 23 types of Programmable Events
Comparators	Array of 4 Comparators
Timers	Array of 3 Timers, adjustable from 0.0 to 3600 sec
Logic Rules	Array of 4 Boolean Logic Rules
Logic Controller States	Array of 20 Logic Controller Action States

## Process Controller (PI)

Process CL Feedback Select	No function, analog input 1, analog input 2, pulse input, local bus reference
Process PI Control	Normal or Inverse
Process PI Anti Windup	Disabled or enabled
Process PI Start Speed	0.0-200 Hz
Process PI Proportional Gain	0.00-10.00
Process PI Integral Gain	0.10-9999 seconds
Process PI Feed Forward Factor	0-400%
On Reference Bandwidth	0-200%

## Indication

LEDs	Green - drive is on Yellow - indicates a warning Red - indicates an alarm
Monitor Units Available	Frequency, current, voltage, power, horsepower, % load, speed, or time

## Trip Codes

2	Live Zero Error
4	Line Phase Loss
7	DC Overvoltage
8	DC Undervoltage
9	Drive Overload
10	Motor Overtemperature
11	Motor Thermistor Overtemperature
12	Torque Limit
13	Overcurrent
14	Ground Fault
16	Short Circuit
17	Control Word Timeout
25	Brake Resistor Short-Circuited
27	Brake Chopper Short-Circuited
28	Brake Check
29	Power Board Overtemperature
30	Missing U Phase
31	Missing V Phase
32	Missing W Phase
38	Internal Fault
47	Control Voltage Fault
51	Auto Tune Check - Wrong Motor Parameters
52	Auto Tune Low Inom - Motor current is too low
59	Current Limit
63	Mechanical Brake Low
80	Drive restored to factory settings

## Monitoring Parameters Available

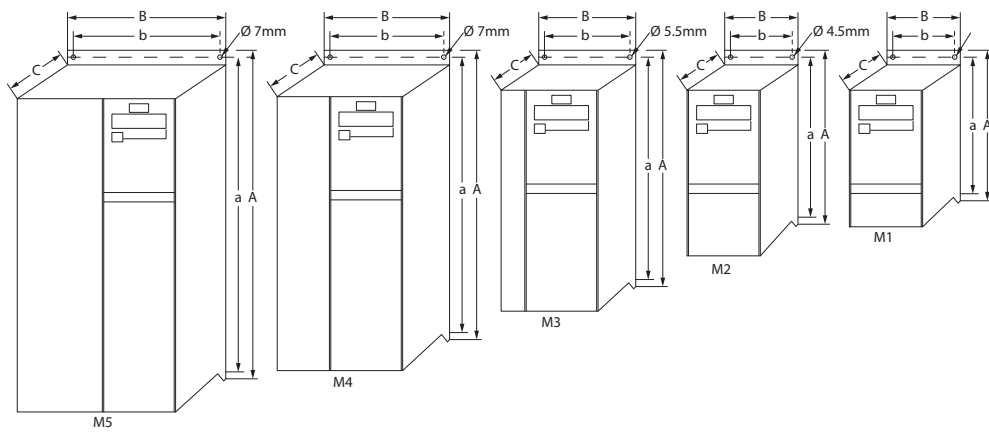
Power	kW
Power	HP
Motor Voltage	V
Frequency	Hz
Motor Current	A
Frequency	%
Motor Thermal	%
DC Link Voltage	V
Drive Current	A
Drive Max Current	A
Logic Controller State	On/Off



# AF-60 LP Micro Drive Dimensional Drawings

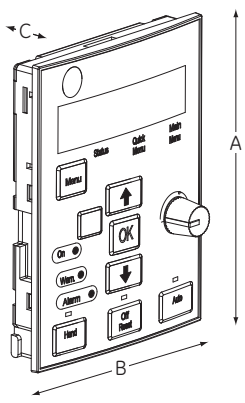
## AF-60 LP Micro Drive Dimensions

Unit Size	Ratings (HP)			Height (in./mm)			Width (in./mm)		Depth (in./mm)	Weight
	230 V, 1Ph	230V, 3Ph	460V, 3Ph	A (including decoupling plate)			B	b	C	Lbs / Kg
				A	a					
M1	0.25-1	0.33-1	0.5-1	5.9/150	8.1/205	5.5/140.4	2.8/70	2.16/55	5.8/148	2.43/1.1
M2	2	2	2-3	6.9/176	9.1/230	6.6/166.4	2.9/75	2.32/59	6.6/168	3.53/1.6
M3	3	3-5	3-10	9.41/239	11.6/294	8.9/226	3.54/90	2.72/69	7.6/194	6.6/3.0
M4	-	-	15-20	11.5/292	13.7/347.5	10.7/272.4	4.9/125	3.8/97	9.8/249	13.2/6.0
M5	-	-	25-30	13.2/335	15.3/387.5	12.4/315	6.5/165	5.5/140	10/256	20.9/9.5

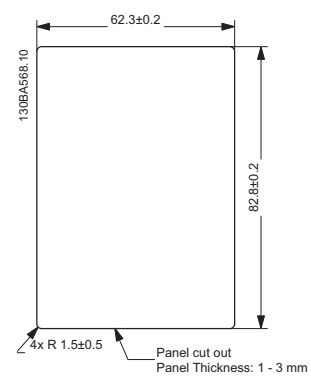


## AF-60 LP Micro Drive Keypad Dimensions

Height (in./mm)	Width (in./mm)	Depth (in./mm)	Weight (Lbs / Kg)
A	B	C	
3.35 / 85	2.56 / 65	1.1 / 28	0.18 / 0.08



AF-60 LP Micro Drive Keypad



AF-60 LP Micro Drive Keypad Cut Out

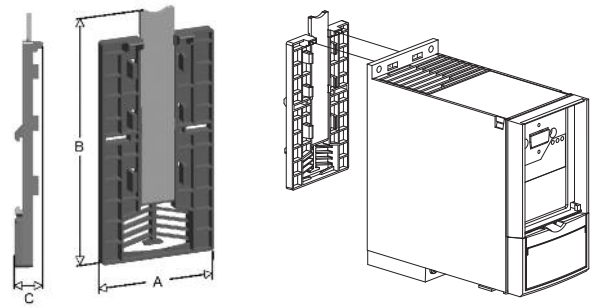
Note: Please allow 2" between drives with field installed IP21/NEMA 1 Kits. Also, please consult the relevant AF-6 Series drives Operating Instructions for recommended clearance above and below each drive rating.



# AF-60 LP Micro Drive Dimensional Drawings

## DIN Rail Mounting Kit for 1HP and below drives

Product Number	A (in/mm)	B (in/mm)	C (in/mm)
RMACLP1	2.36/60	5.08/129	0.53/13.5



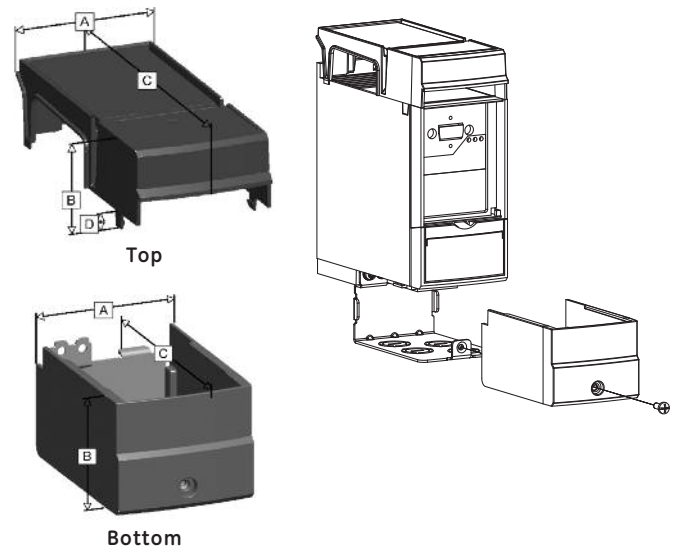
DIN Rail Mounting Kit for 1HP and below drives

## NEMA 1 Field Installed Kit – Top

Product Number	A (in/mm)	B (in/mm)	C (in/mm)	D (in/mm)
NEMA1ACLP1	2.84/72	1.69/43	5.94/151	0.31/8
NEMA1ACLP2	3.03/77	1.69/43	6.77/172	0.31/8
NEMA1ACLP3	3.62/92	1.69/43	7.84/199	0.31/8

## NEMA 1 Field Installed Kit – Bottom

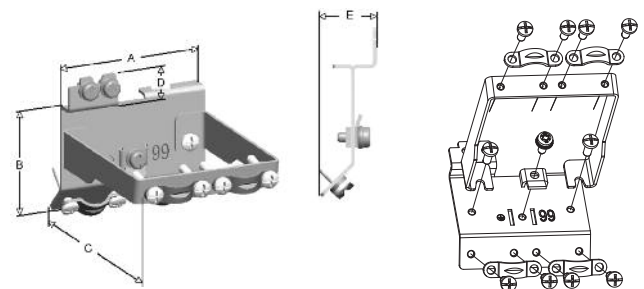
Product Number	A (in/mm)	B (in/mm)	C (in/mm)
NEMA1ACLP1	2.76/70	2.17/55	4.21/107
NEMA1ACLP2	2.95/75	2.17/55	4.49/114
NEMA1ACLP3	3.54/90	2.17/55	4.76/121



NEMA 1 Kit

## De-Coupling Plate Kit

Product Number	A (in/mm)	B (in/mm)	C (in/mm)	D (in/mm)	E (in/mm)
DEPLTACL1	2.76/70	2.05/52	3.94/100	0.55/14	0.89/22.6
DEPLTACL2	2.76/70	2.05/52	N/A	0.55/14	0.89/22.6

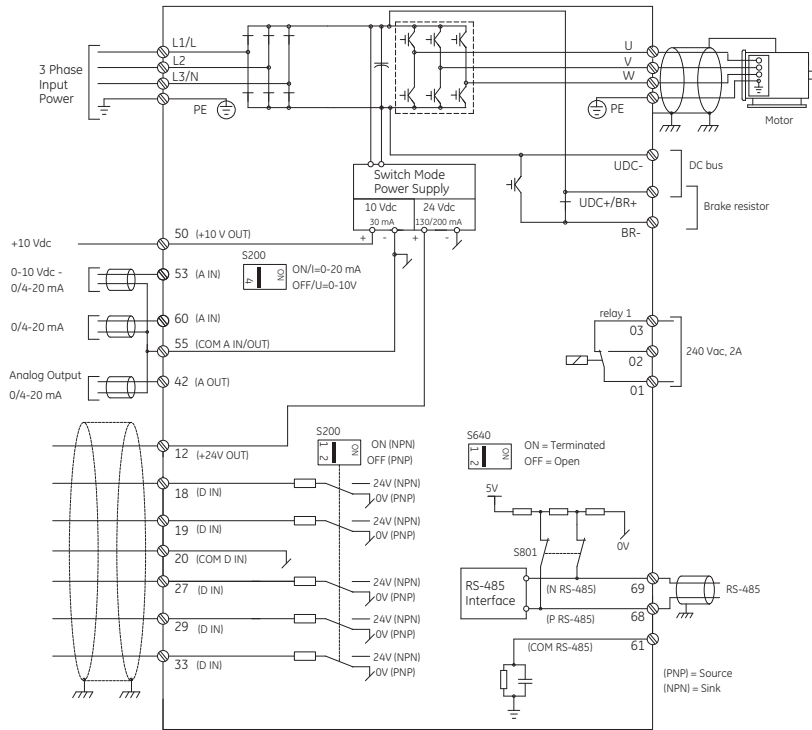


De-Coupling Plate Kit

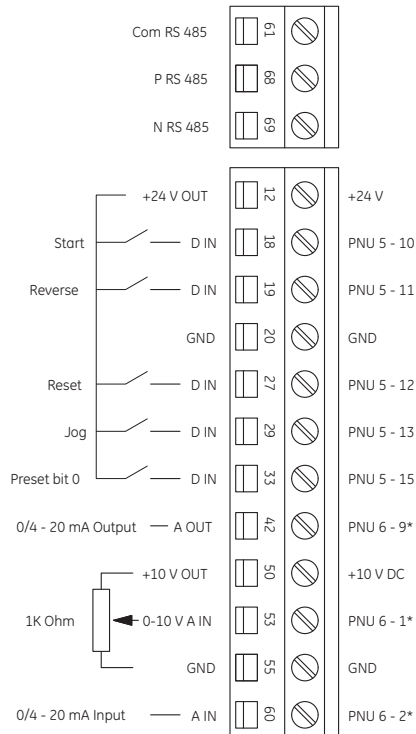


# AF-60 LP Micro Drive Basic Wiring Diagrams

## Basic Connection Diagram



## Basic Control Terminal (PNP Configuration and Drive Factory Default Settings)



# AF-650 GP General Purpose Drive

## Product Description

The AF-650 GP General Purpose Drive is a powerful, flexible, and easy to use drive with many standard features. It is ideally suited for both Heavy Duty and Light Duty applications. Available ratings include: 208/230V from 1/2 to 50HP, 460V from 1/2 to 1200HP, 575V from 1/2 to 100HP and 575/690V from 15 to 1350HP.

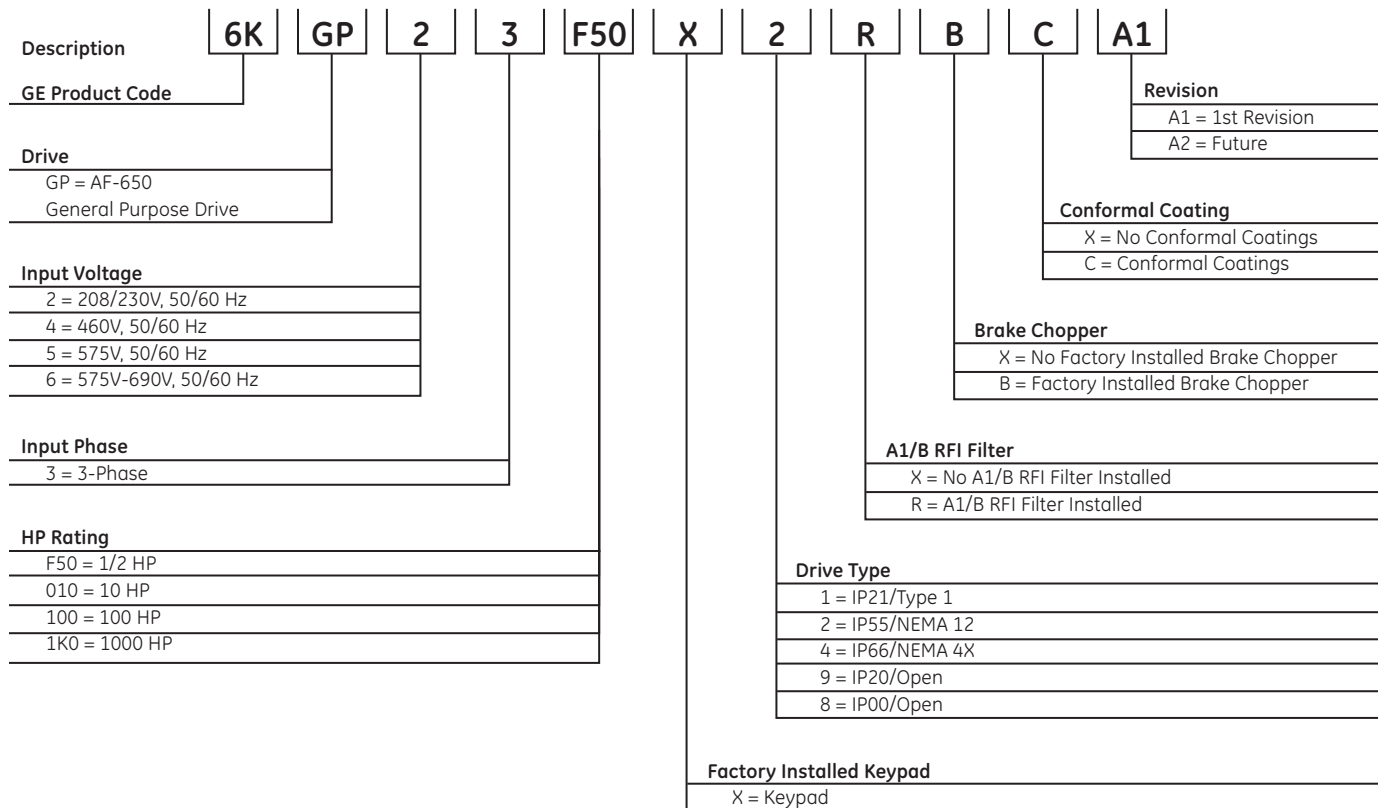
The drive is available in its standard configuration that includes an IP20 or IP00 Chassis, LCD Keypad that can be remote mounted, built-in DC Link Reactors, built-in Modbus RTU communications network, and RFI A2 filter. Standard features like Auto Tuning, process PID controller, energy savings mode and Logic Controller make the AF-650 GP drive ideal for all your conveyor, extruder, machine tool or light duty variable torque applications. Its Quick Menu, Info Key (online manual), and full description keypad make it a time saver during start-up and commissioning.

Optional accessories include network communications modules for DeviceNet, Profibus DP, EtherNet IP, and soon to be available Modbus TCP/IP and Profinet RT. Drives are also available in IP54/55/NEMA 12, and IP66/NEMA 4X drive types. Optional IP21/NEMA 1 kits are available for all IP20 (100HP and below) Chassis units. Additionally, add on I/O modules, brake chopper, dynamic brake resistors, and conformal coated boards allow the drive to meet all your application needs.



## Product Numbering System Diagram

(Product number for illustrative purposes only)



Visit <http://www.geindustrial.com/drives> for additional product information including programming guides, drawings, programming software, an energy savings calculator, and much more.



# AF-650 GP General Purpose Drive Pricing

## 230V, 3-Phase, 50/60Hz Input

Heavy Duty Rating									Light Duty Rating				Standard Unit <sup>1</sup> Includes:	Standard Unit Product No.	List Price GO-5GP	List Price Adders, GO-5GP					
HP Rating	kW Rating	Rated Output	Overload	Hp Rating	kW Rating	Rated Output	Overload	Drive Type (Digit 11)	Factory Installed Options (Digit 12) (Digit 13) (Digit 14)												
		Amps (1 Min)	Amps (1 Min)			Amps (1 Min)	Amps (1 Min)		(9) IP20 Chassis	(2) IP55 NEMA 12	(4) IP66 NEMA 4X	(R) RFI filter A1/B				(B) Brake Chopper	(C) Conformal Coating				
0.33	0.25	1.8	2.88	0.33	0.25	1.8	2.88														
0.5	0.37	2.4	3.84	0.5	0.37	2.4	3.84														
1	0.75	4.6	7.36	1	0.75	4.6	7.36														
2	1.5	7.5	12	2	1.5	7.5	12														
3	2.2	10.6	16.96	3	2.2	10.6	16.96														
5	3.7	16.7	26.72	5	3.7	16.7	26.72														
7.5	5.5	24.2	38.72	7.5/10	5.5/7.5	30.8	33.88														
10	7.5	30.8	49.28	15	11	46.2	50.82														
15	11	46.2	73.92	20	15	59.4	65.34														
20	15	59.4	89.1	25	18.5	74.8	82.28														
25	18.5	74.8	112.2	30	22	88	96.8														
30	22	88	132	40	30	115	126.5														
40	30	115	172.5	50	37	143	157.3														
50	37	143	214.5	60	45	170	187														

<sup>1</sup>IP21/NEMA 1 Kits are available as Field Installed Options for all 230V drives from 0.33 HP to 50 HP. See Page 16.

## 460V, 3-Phase, 50/60Hz Input

Heavy Duty Rating									Light Duty Rating				Standard Unit <sup>2</sup> Includes:	Standard Unit Product No.	List Price GO-5GP	List Price Adders, GO-5GP					
HP Rating	kW Rating	Rated Output	Overload	Hp Rating	kW Rating	Rated Output	Overload	Drive Type (Digit 11)	Factory Installed Options (Digit 12) (Digit 13) (Digit 14)												
		Amps (1 Min)	Amps (1 Min)			Amps (1 Min)	Amps (1 Min)		(9) IP20 Chassis	(2) IP55 NEMA 12	(4) IP66 NEMA 4X	(R) RFI filter A1/B				(B) Brake Chopper	(C) Conformal Coating				
0.5	0.37	1.2	1.92	0.5	0.37	1.2	1.92														
1	0.75	2.1	3.36	1	0.75	2.1	3.36														
2	1.5	3.4	5.44	2	1.5	3.4	5.44														
3	2.2	4.8	7.68	3	2.2	4.8	7.68														
5	4	8.2	13.12	5	4	8.2	13.12														
7.5	5.5	11	17.6	7.5	5.5	11	17.6														
10	7.5	14.5	23.2	10	7.5	14.5	23.2														
15	11	21	33.6	15/20	11/15	27	29.7														
20	15	27	43.2	25	18.5	34	37.4														
25	18.5	34	54.4	30	22	40	44														
30	22	40	64	40	30	52	57.2														
40	30	52	91.5	50	37	65	71.5														
50	37	65	109.5	60	45	80	88														
60	45	80	135	75	55	105	115.5														
75	55	105	159	100	75	130	143														
100	75	130	220.5	125	90	160	176														

<sup>2</sup>IP21/NEMA 1 Kits are available as Field Installed Options for all 460V drives from 0.5 HP to 100 HP. See Page 16.

## 460V, 3-Phase, 50/60Hz Input

Heavy Duty Rating									Light Duty Rating				Standard Unit Includes:	Standard Unit Product No.	List Price GO-5GP	List Price Adders, GO-5GP					
HP Rating	kW Rating	Rated Output	Overload	Hp Rating	kW Rating	Rated Output	Overload	Drive Type (Digit 11)	Factory Installed Options (Digit 12) (Digit 13) (Digit 14)												
		Amps (1 Min)	Amps (1 Min)			Amps (1 Min)	Amps (1 Min)		(8) IP00 Chassis	(1) IP21 NEMA 1	(2) IP54 NEMA 12	(R) RFI filter A1/B				(B) Brake Chopper	(C) Conformal Coating				
125	90	160	240	150	110	190	209														
150	110	190	285	200	132	240	264														
200	132	240	360	250	160	302	332.2														
250	160	302	453	300	200	361	397.1														
300	200	361	541.5	350	250	443	487.3														
350	250	443	664.5	450	315	540	594														
450	315	540	810	500	355	590	649														
500	355	590	885	550	400	678	745.8														
550	400	678	1017	600	450	730	803														
600	450	730	1095	650	500	780	858														
650	500	780	1170	750	560	890	979														
750	560	890	1335	900	630	1050	1155														
900	630	1050	1575	1000	710	1160	1276														
1000	710	1160	1740	1200	800	1380	1518														
1200	800	1380	2070	1350	1000	1530	1683														



AF-650 GP General Purpose Drive





# AF-650 GP General Purpose Drive

## Field Installed IP21/NEMA 1 Add-On Option Kits

### IP21/NEMA 1 Add-On Option Kits

Voltage	HP Rating	kW Rating	IP21/NEMA 1 Kit Product No.	List Price GO-5AC	Fits AF-650 GP IP20 Drive Product No.	
230	0.33	0.25	NEMA1ACA2	<b>\$110.00</b>	6KGP23F25X9XXXXA1	
	0.5	0.37	NEMA1ACA2	<b>\$110.00</b>	6KGP23F50X9XXXXA1	
	1	0.75	NEMA1ACA2	<b>\$110.00</b>	6KGP23001X9XXXXA1	
	2	1.5	NEMA1ACA2	<b>\$110.00</b>	6KGP23002X9XXXXA1	
	3	2.2	NEMA1ACA2	<b>\$110.00</b>	6KGP23003X9XXXXA1	
	5	3.7	NEMA1ACA3	<b>\$115.00</b>	6KGP23005X9XXXXA1	
	7.5	5.5	NEMA1ACB3	<b>\$140.00</b>	6KGP23007X9XXXXA1	
	10	7.5	NEMA1ACB3	<b>\$140.00</b>	6KGP23010X9XXXXA1	
	15	11	NEMA1ACB4	<b>\$150.00</b>	6KGP23015X9XXXXA1	
	20	15	NEMA1ACB4	<b>\$150.00</b>	6KGP23020X9XXXXA1	
	25	18.5	NEMA1ACC3	<b>\$160.00</b>	6KGP23025X9XXXXA1	
	30	22	NEMA1ACC3	<b>\$160.00</b>	6KGP23030X9XXXXA1	
	40	30	NEMA1ACC4	<b>\$175.00</b>	6KGP23040X9XXXXA1	
	50	37	NEMA1ACC4	<b>\$175.00</b>	6KGP23050X9XXXXA1	
	460	0.5	0.37	NEMA1ACA2	<b>\$110.00</b>	6KGP43F50X9XXXXA1
		1	0.75	NEMA1ACA2	<b>\$110.00</b>	6KGP43001X9XXXXA1
		2	1.5	NEMA1ACA2	<b>\$110.00</b>	6KGP43002X9XXXXA1
3		2.2	NEMA1ACA2	<b>\$110.00</b>	6KGP43003X9XXXXA1	
5		3.7	NEMA1ACA2	<b>\$110.00</b>	6KGP43005X9XXXXA1	
7.5		5.5	NEMA1ACA3	<b>\$115.00</b>	6KGP43007X9XXXXA1	
10		7.5	NEMA1ACA3	<b>\$115.00</b>	6KGP43010X9XXXXA1	
15		11	NEMA1ACB3	<b>\$140.00</b>	6KGP43015X9XXXXA1	
20		15	NEMA1ACB3	<b>\$140.00</b>	6KGP43020X9XXXXA1	
25		18.5	NEMA1ACB4	<b>\$150.00</b>	6KGP43025X9XXXXA1	
30		22	NEMA1ACB4	<b>\$150.00</b>	6KGP43030X9XXXXA1	
40		30	NEMA1ACB4	<b>\$150.00</b>	6KGP43040X9XXXXA1	
50		37	NEMA1ACC3	<b>\$160.00</b>	6KGP43050X9XXXXA1	
60		45	NEMA1ACC3	<b>\$160.00</b>	6KGP43060X9XXXXA1	
75		55	NEMA1ACC4	<b>\$175.00</b>	6KGP43075X9XXXXA1	
100		75	NEMA1ACC4	<b>\$175.00</b>	6KGP43100X9XXXXA1	
575		1	0.75	NEMA1ACA3	<b>\$115.00</b>	6KGP53001X9XXXXA1
	2	1.5	NEMA1ACA3	<b>\$115.00</b>	6KGP53002X9XXXXA1	
	3	2.2	NEMA1ACA3	<b>\$115.00</b>	6KGP53003X9XXXXA1	
	5	3.7	NEMA1ACA3	<b>\$115.00</b>	6KGP53005X9XXXXA1	
	7.5	5.5	NEMA1ACA3	<b>\$115.00</b>	6KGP53007X9XXXXA1	
	10	7.5	NEMA1ACA3	<b>\$115.00</b>	6KGP53010X9XXXXA1	
	15	11	NEMA1ACB3	<b>\$140.00</b>	6KGP53015X9XXXXA1	
	20	15	NEMA1ACB3	<b>\$140.00</b>	6KGP53020X9XXXXA1	
	25	18.5	NEMA1ACB4	<b>\$150.00</b>	6KGP53025X9XXXXA1	
	30	22	NEMA1ACB4	<b>\$150.00</b>	6KGP53030X9XXXXA1	
	40	30	NEMA1ACB4	<b>\$150.00</b>	6KGP53040X9XXXXA1	
	50	37	NEMA1ACC3	<b>\$160.00</b>	6KGP53050X9XXXXA1	
	60	45	NEMA1ACC3	<b>\$160.00</b>	6KGP53060X9XXXXA1	
	75	55	NEMA1ACC4	<b>\$175.00</b>	6KGP53075X9XXXXA1	
	100	75	NEMA1ACC4	<b>\$175.00</b>	6KGP53100X9XXXXA1	
	125	90	NEMA1ACC4	<b>\$175.00</b>	6KGP53125X9XXXXA1	



AF-650 GP General Purpose Drive



# AF-650 GP General Purpose Drive Options and Accessories

## Remote Mounting Kit for graphical LCD Keypad

Remote Mounting Kit for mounting graphical LCD Keypad on enclosure door. Kit includes gasket, mounting brackets, and cable. Keypad is rated IP65.

Description	Product Number	List Price GO-5AC
Remote Mounting Kit for graphical LCD Keypad	RMKYPDAC	\$95.00
Remote Mounting Kit without cable	OPCRMKNC	\$85.00



Remote Mounting Kit

## Profibus DP Communications Module

Profibus DP internal drive mounted module for use on AF-650 GP and AF-600 FP drives. Supports Profibus DP V1 communications networks.

Description	Product Number	List Price GO-5AC
Profibus DP Communications Module	OPCPDP	\$725.00



Profibus DP Communications Module

## DeviceNet Communications Module

DeviceNet internal drive mounted module for use on AF-650 GP and AF-600 FP drives. ODVA certified device.

Description	Product Number	List Price GO-5AC
DeviceNet Communications Module	OPCDEV	\$600.00



DeviceNet Communications Module

## Ethernet IP Communications Module<sup>1</sup>

Ethernet IP internal drive mounted module for use on AF-650 GP and AF-600 FP drives. ODVA certified device. Features 2-Port built-in switch. Also includes webserver and email notification.

Description	Product Number	List Price GO-5AC
Ethernet/IP Communications Module	OPCEIP	\$700.00

<sup>1</sup>Requires I/O and network slots and cannot be used with any other network or I/O modules.

## Modbus TCP Communications Module

Modbus TCP internal drive mounted module for use on AF-650 GP and AF-600 FP drives.

Description	Product Number	List Price GO-5AC
Modbus TCP Communications Module	OPCMBTCP	\$700.00

## ProfiNet RT Communications Module

ProfiNet RT internal drive mounted module for use on AF-650 GP and AF-600 FP drives.

Description	Product Number	List Price GO-5AC
ProfiNet RT Communications Module	OPCPRT	\$700.00

## General Purpose I/O Module

General Purpose I/O internal drive mounted module for use on AF-650 GP and AF-600 FP drives. Module includes:

- 3) 24V Digital Inputs
- 2) PNP/NPN Digital Outputs
- 2) 0-10V Analog Inputs
- 1) 0/4-20mA Analog Output

Description	Product Number	List Price GO-5AC
General Purpose I/O Module	OPCGPIO	\$475.00



General Purpose I/O Module



# AF-650 GP General Purpose Drive Options and Accessories

AF-650 GP General Purpose Drive

## Encoder Module

Encoder internal drive mounted module for use on the AF-650 GP drive. Module supports all 5V incremental encoders. Also supports Hyperface SinCos encoders.

Description	Product Number	List Price GO-5AC
Encoder Input Module	OPCENC	\$400.00



Encoder Module

## Resolver Module

Resolver internal drive mounted module for use on the AF-650 GP drive. Module supports 4-8Vrms, 2.5kHz - 15kHz, 50mA resolvers. Resolution is 10bit at 4Vrms.

Description	Product Number	List Price GO-5AC
Resolver Input Module	OPCRES	\$400.00



Resolver Module

## Relay Output Module

Relay Output internal drive mounted module for use on the AF-650 GP and AF-600 drives. Module adds (3) Form C relay outputs to the drive. Relays are rated at 2A at 240V resistive load.

Description	Product Number	List Price GO-5AC
Relay Output Module	OPCRLY	\$475.00



Relay Output Module

## 24V DC External Supply Module

24V DC External Supply internal drive mounted module for use on the AF-650 GP and AF-600 FP drives. This module accepts an external 24V DC supply which is used to keep the control board of the drive and other option modules powered in the event of a Line side power outage. Can be used with Communications and I/O Modules.

Description	Product Number	List Price GO-5AC
24V DC External Supply Module	OPC24VPS	\$240.00



24V DC External Supply Module

## Safe PLC I/O Module

Safe PLC I/O internal drive mounted module for use on the AF-650 GP drive. This module provides a safety input based on a single pole 24V DC input.

Description	Product Number	List Price GO-5AC
Safe PLC I/O Module	OPCSAFE	\$450.00



Safe PLC I/O Module

## Screw Terminal Accessory

Screw Terminal Accessory is available for field installation on AF-650 GP™ and AF-600 FP™ drives. These screw terminals can replace the cage clamp terminals which ship with each drive. This set of three terminals are for the digital inputs, analog I/O, and RS485 connection.

Description	Product Number	List Price GO-5AC
Screw Terminal Accessory	OPCTERM	\$25.00



# AF-650 GP General Purpose Drive

## Options and Accessories

### Pedestal Kit

Pedestal Kit allows Unit Size 41 and 42 drives (NEMA 1 and 12, 150HP to 350/400HP at 460V/575V AF-600 FP and 125HP to 300/400HP at 460/690V AF-650 GP) to be floor mounted.

Description	Product Number	List Price GO-5AC
Pedestal Kit	OPC4XPED	\$875.00

### USB Kit

This kit allows for the USB programming terminal to be brought out to the front cover of the drive. Works with all drive types.

Description	Product Number	List Price GO-5AC
For all drives up to Unit Size 5X	OPCUSB	\$75.00
For all Unit Size 6X drives	OPCUSB6X	\$225.00

### Power Shields

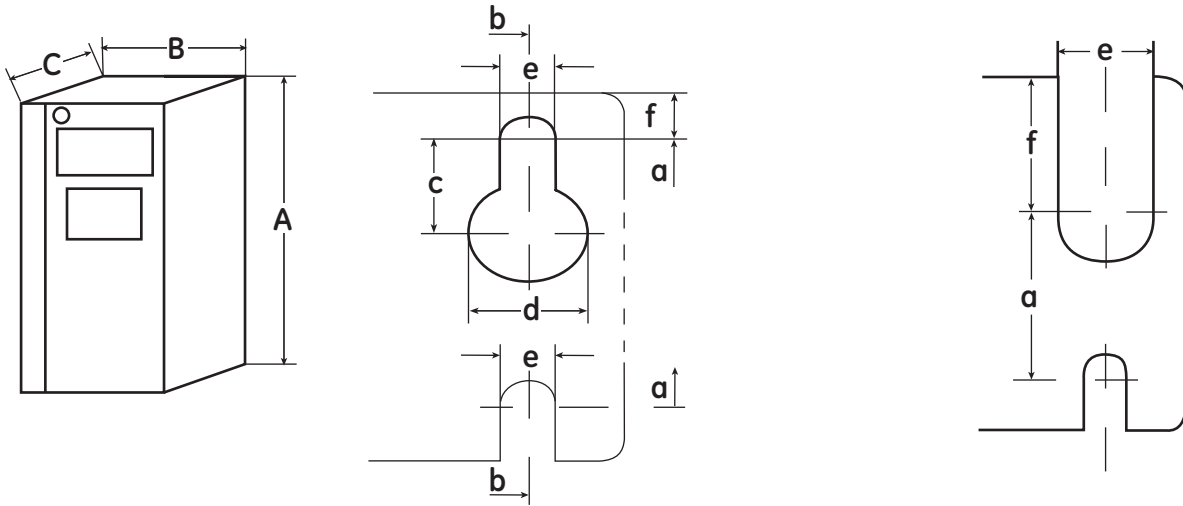
These shields are used to cover the drive power terminals on NEMA 1 and NEMA 12 drive types.

Description	Product Number	List Price GO-5AC
For Unit Size 41 and 42 drives	OPCCOVER4142	\$520.00
For Unit Size 51 drives	OPCCOVER51	\$1305.00



# AF-650 GP General Purpose Drive

## Dimensional Drawings



### Mechanical Dimensions, 1X Unit Sizes

Unit Size	Dimensions	12	13	15
<b>Drive Type</b>		IP20 Open Chassis	IP20 Open Chassis	NEMA 12/NEMA 4
<b>Voltage</b>				
240V		0.33 to 3HP	5HP	0.33 to 5HP
460V		0.5 to 5HP	7.5 to 10HP	0.5 to 10HP
575V			1 to 10HP	1 to 10HP
<b>Height</b>				
Height of backplate	A	10.55 in	10.55 in	16.54 in
Height with de-coupling plate	A	14.72 in	14.72 in	—
Distance between mounting holes	a	10.12 in	10.12 in	15.83 in
<b>Width</b>				
Width of backplate	B	3.54 in	5.12 in	9.53 in
Distance between mounting holes	b	2.76 in	4.33 in	8.46 in
<b>Depth</b>				
Depth without I/O and/or Network Option	C	8.07 in	8.07 in	7.68 in
Depth with I/O and/or Network Option	C	8.67 in	8.67 in	7.68 in
<b>Screw Holes</b>				
	c	0.315 in	0.315 in	0.325 in
	d	0.433 in	0.433 in	0.472 in
	e	0.216 in	0.216 in	0.256 in
	f	0.354 in	0.354 in	0.354 in
<b>Weight</b>		10.8 lbs	14.5 lbs	29.7/31.2 lbs

### Mechanical Dimensions, 2X Unit Sizes

Unit Size	Dimensions	21	22	23	24
<b>Drive Type</b>		NEMA 12/NEMA 4	NEMA 12/NEMA 4	IP20 Open Chassis	IP20 Open Chassis
<b>Voltage</b>					
240V		7.5 to 10HP	15HP	7.5 to 10HP	15 to 20HP
460V		15 to 20HP	25 to 30HP	15 to 20HP	25 to 40HP
575V		15 to 20HP	25 to 30HP	15 to 20HP	25 to 40HP
<b>Height</b>					
Height of backplate	A	18.9 in	25.6 in	15.7 in	20.5 in
Height with de-coupling plate	A	—	—	16.54 in	23.43 in
Distance between mounting holes	a	17.9 in	24.6 in	14.96 in	19.5 in
<b>Width</b>					
Width of backplate	B	9.53 in	9.53 in	6.5 in	9.06 in
Distance between mounting holes	b	8.27 in	8.27 in	5.5 in	7.87 in
<b>Depth</b>					
Depth without I/O and/or Network Option	C	10.24 in	10.24 in	9.81 in	9.53 in
Depth with I/O and/or Network Option	C	10.24 in	10.24 in	10.31 in	9.53 in
<b>Screw Holes</b>					
	c	0.472 in	0.472 in	0.315 in	—
	d	0.748 in	0.748 in	0.472 in	—
	e	0.354 in	0.354 in	0.268 in	0.335 in
	f	0.354 in	0.354 in	0.31 in	0.59 in
<b>Weight</b>		50.6 lbs	59.5 lbs	26.4 lbs	51.7 lbs



# AF-650 GP General Purpose Drive Dimensional Drawings

## Mechanical Dimensions, 3X Unit Sizes

Unit Size	Dimensions	31	32	33	34
<b>Drive Type</b>		NEMA 12/NEMA 4	NEMA 12/NEMA 4	IP20 Open Chassis	IP20 Open Chassis
<b>Voltage</b>					
240V		20 to 30HP	40 to 50HP	25 to 30HP	40 to 50HP
460V		40 to 60HP	75 to 100HP	50 to 60HP	75 to 100HP
575V		40 to 60HP	75 to 100HP	50 to 60HP	75 to 100HP
<b>Height</b>					
Height of backplate	A	26.78 in	30.31 in	21.65 in	25.98 in
Height with de-coupling plate	A	—	—	24.8 in	31.5 in
Distance between mounting holes	a	25.51 in	29.1 in	20.51 in	24.84 in
<b>Width</b>					
Width of backplate	B	12.13 in	14.57 in	12.13 in	14.57 in
Distance between mounting holes	b	10.71 in	13.15 in	10.63 in	12.99 in
<b>Depth</b>					
Depth without I/O and/or Network Option	C	12.2 in	13.19 in	13.12 in	13.12 in
Depth with I/O and/or Network Option	C	12.2 in	13.19 in	13.12 in	13.12 in
<b>Screw Holes</b>					
	c	0.492 in	0.492 in	—	—
	d	0.748 in	0.748 in	—	—
	e	0.354 in	0.354 in	0.335 in	0.335 in
	f	0.386 in	0.386 in	0.67 in	0.67 in
<b>Weight</b>		99 lbs	143 lbs	77 lbs	110 lbs

## Mechanical Dimensions IP20 Open Chassis Drives with Field Installed IP21/NEMA 1 Kits<sup>1</sup>

Unit Size	12	13	23	24	33	34
<b>Drive Type</b>	IP20 Open Chassis with IP21/NEMA 1 Kit	IP20 Open Chassis with IP21/NEMA 1 Kit	IP20 Open Chassis with IP21/NEMA 1 Kit	IP20 Open Chassis with IP21/NEMA 1 Kit	IP20 Open Chassis with IP21/NEMA 1 Kit	IP20 Open Chassis with IP21/NEMA 1 Kit
<b>Voltage</b>						
240V	0.33 to 3HP	5HP	7.5 to 10HP	15 to 20HP	25 to 30HP	40 to 50HP
460V	0.5 to 5HP	7.5 to 10HP	15 to 20HP	25 to 40HP	50 to 60HP	75 to 100HP
575V		1 to 10HP	15 to 20HP	25 to 40HP	50 to 60HP	75 to 100HP
<b>Height</b>						
Height with Kit	14.76 in	14.76 in	18.7 in	26.4 in	29.7 in	37.4 in
<b>Width</b>						
Width of backplate	3.71 in	5.12 in	6.5 in	9.1 in	12.1 in	14.6 in
Distance between mounting holes	2.76 in	4.33 in	5.5 in	7.9 in	10.6 in	13.0 in
<b>Depth</b>						
Depth without I/O and/or Network Option	8.07 in	8.07 in	9.81 in	9.53 in	13.3 in	13.3 in
Depth with I/O and/or Network Option	8.67 in	8.67 in	10.31 in	9.53 in	13.3 in	13.3 in

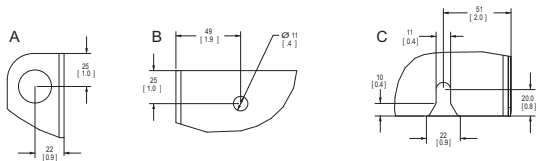
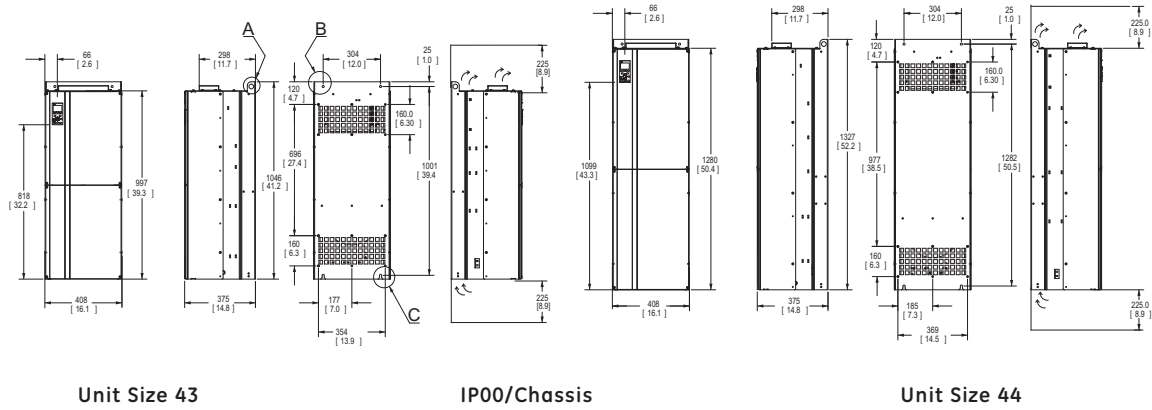
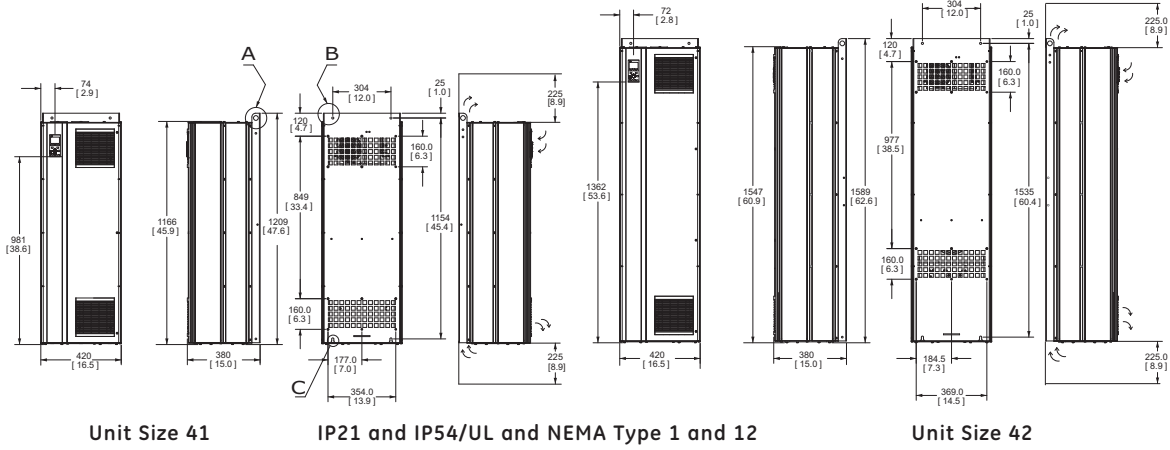
<sup>1</sup>Please consult IP21/NEMA 1 Kit Instructions for further mounting details and dimensions.

Note: Please allow 2" between drives with field installed IP21/NEMA 1 Kits. Also, please consult the relevant AF-6 Series drives Operating Instructions for recommended clearance above and below each drive rating.



# AF-650 GP General Purpose Drive Dimensional Drawings

AF-650 GP General Purpose Drive



**IP00/IP21/IP54—All Sizes**

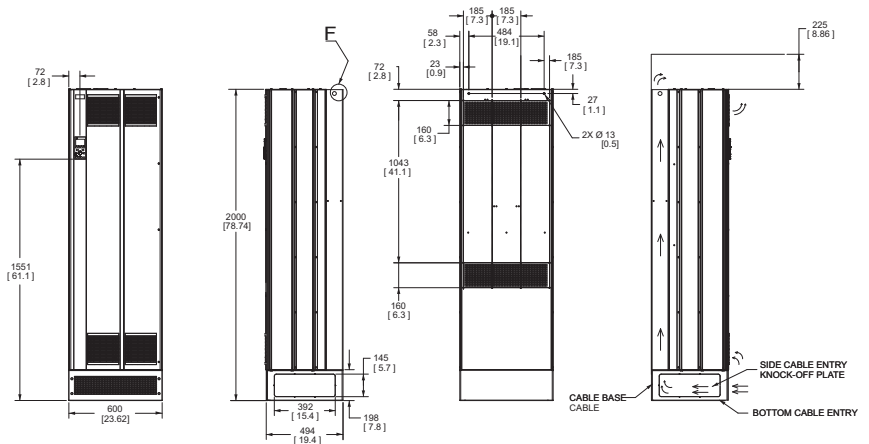
Unit Size	41	42	43	44
<b>Drive Type</b>	NEMA 1/NEMA 12	NEMA 1/NEMA 12	IP00 Open Chassis	IP00 Open Chassis
<b>Voltage</b>				
460V	125 to 150HP	200 to 300HP	125 to 150HP	200 to 300HP
690V	125 to 200HP	250 to 400HP	125 to 200HP	250 to 400HP
<b>Shipping Dimensions</b>				
Height	25.6 in	25.6 in	25.6 in	25.6 in
Width	68.11 in	68.11 in	48.03 in	58.66 in
Depth	22.44 in	22.44 in	22.44 in	22.44 in
<b>Drive Dimensions</b>				
Height	47.6 in	62.56 in	41.18 in	52.24 in
Width	16.54 in	16.54 in	16.06 in	16.06 in
Depth	14.96 in	14.96 in	14.76 in	14.76 in
<b>Weight</b>	228.8 lbs	332.2 lbs	200.2 lbs	303.6 lbs



# AF-650 GP General Purpose Drive Dimensional Drawings

## Unit Size 51 Dimensions

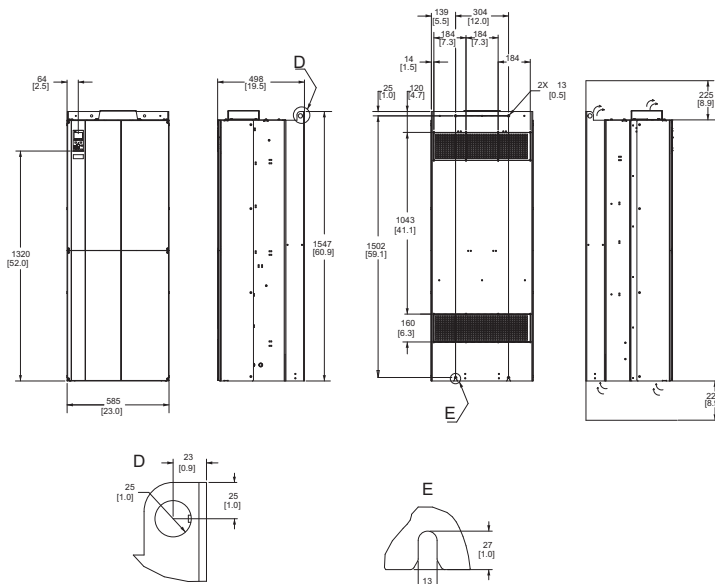
<b>Drive Type</b>	NEMA 1/NEMA 12
<b>Voltage</b>	
460V	350 to 550HP
690V	500 to 750HP
<b>Shipping Dimensions</b>	
Height	33.1 in
Width	86.5 in
Depth	28.9 in
<b>Drive Dimensions</b>	
Height	78.7 in
Width	23.6 in
Depth	19.4 in
<b>Weight</b>	690 lbs



Unit Size 51, IP21 and IP54/UL and NEMA Type 1 and 12

## Unit Size 52 Dimensions

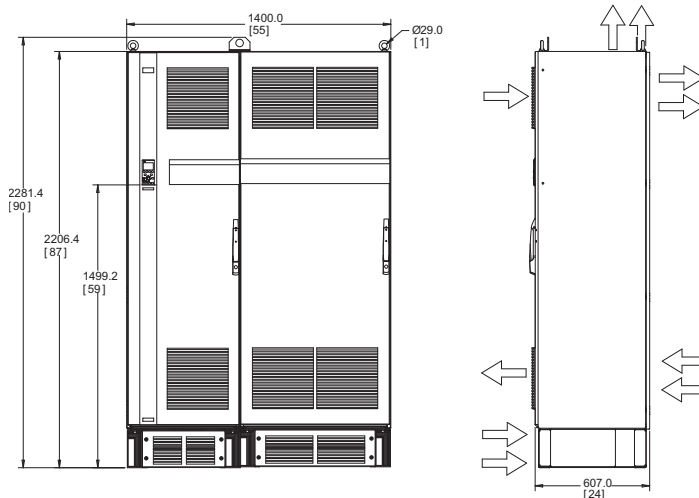
<b>Drive Type</b>	IP00 Open Chassis
<b>Voltage</b>	
460V	350 to 550HP
690V	500 to 750HP
<b>Shipping Dimensions</b>	
Height	32.7 in
Width	67.1 in
Depth	28.9 in
<b>Drive Dimensions</b>	
Height	60.9 in
Width	23.1 in
Depth	19.6 in
<b>Weight</b>	610 lbs



Unit Size 52, IP00/Chassis

## Unit Size 61 Dimensions

<b>Drive Type</b>	NEMA 1/NEMA 12
<b>Voltage</b>	
460V	600 to 900HP
690V	900 to 1150HP
<b>Shipping Dimensions</b>	
Height	91.5 in
Width	61.8 in
Depth	36.5 in
<b>Drive Dimensions</b>	
Height	90 in
Width	55 in
Depth	24 in
<b>Weight</b>	2213 lbs



Unit Size 61

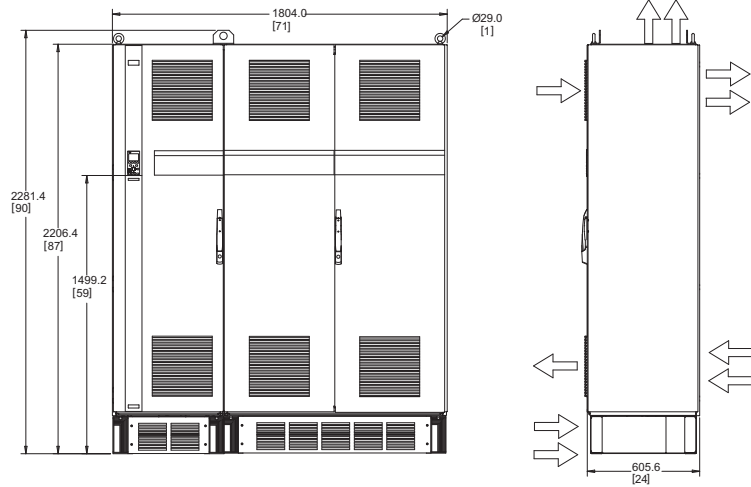




# AF-650 GP General Purpose Drive Dimensional Drawings

## Unit Size 62 Dimensions

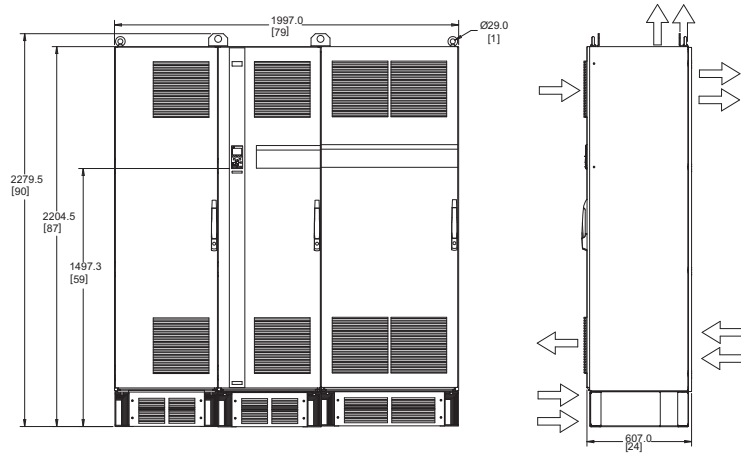
<b>Drive Type</b>	NEMA 1/NEMA 12
<b>Voltage</b>	
460V	1000 to 1200HP
690V	1250 to 1350HP
<b>Shipping Dimensions</b>	
Height	91.5 in
Width	77.2 in
Depth	36.5 in
<b>Drive Dimensions</b>	
Height	90 in
Width	71 in
Depth	24 in
<b>Weight</b>	2782 lbs



Unit Size 62

## Unit Size 63 Dimensions

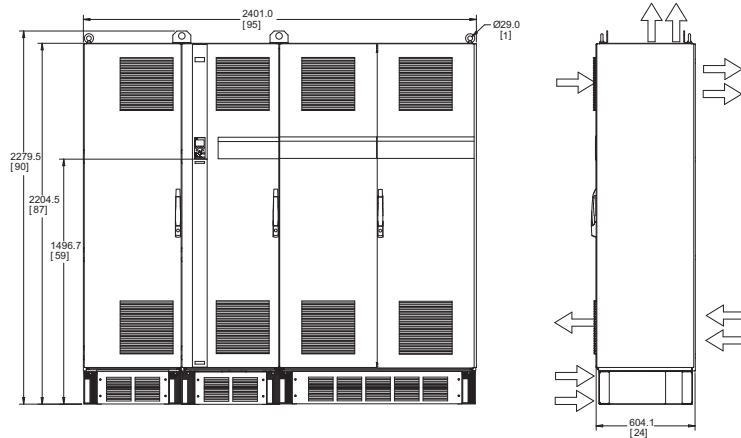
<b>Drive Type</b>	NEMA 1/NEMA 12
<b>Voltage</b>	
460V	600 to 900HP
690V	900 to 1150HP
<b>Shipping Dimensions</b>	
Height	91.5 in
Width	85 in
Depth	36.5 in
<b>Drive Dimensions</b>	
Height	90 in
Width	79 in
Depth	24 in
<b>Weight</b>	2864 lbs



Unit Size 63

## Unit Size 64 Dimensions

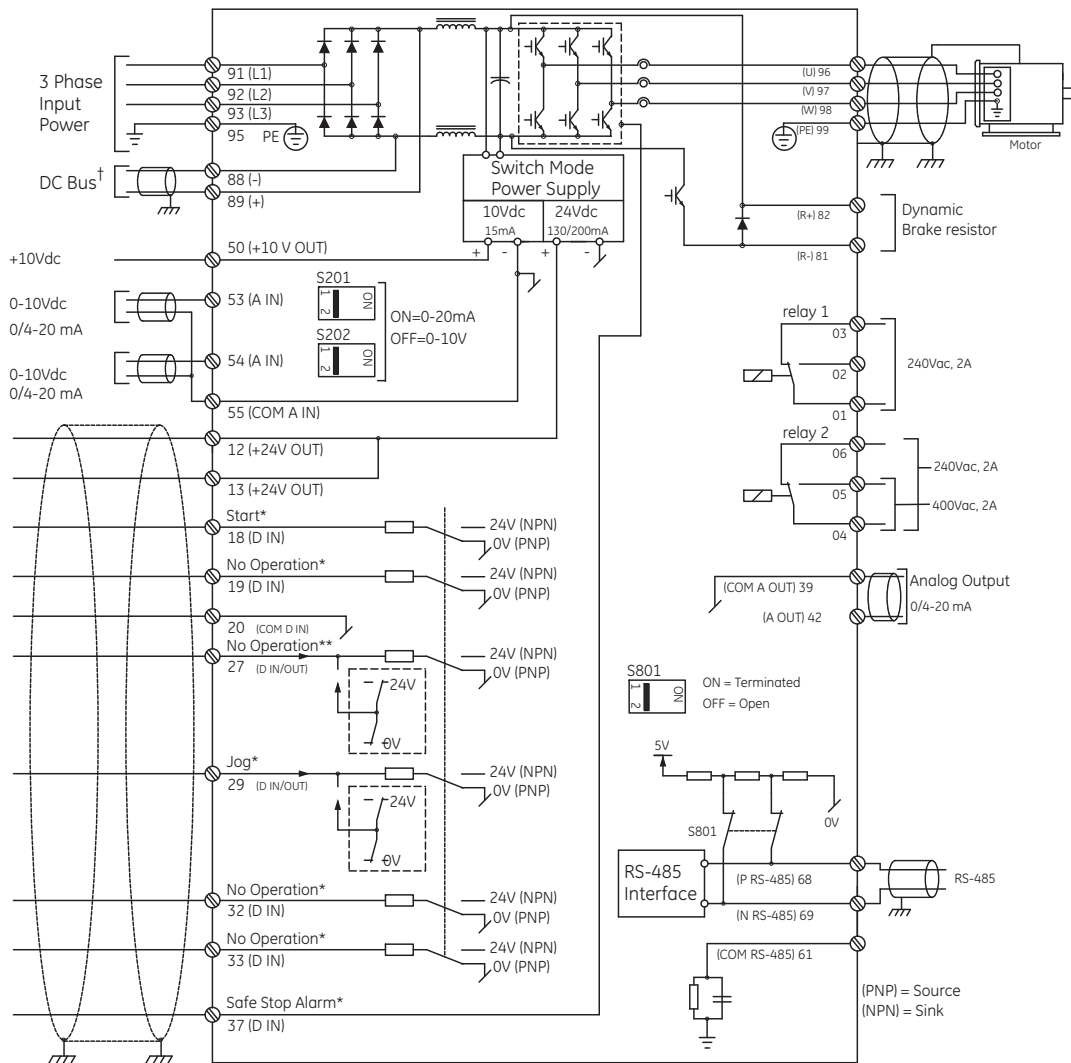
<b>Drive Type</b>	NEMA 1/NEMA 12
<b>Voltage</b>	
460V	1000 to 1200HP
690V	1250 to 1350HP
<b>Shipping Dimensions</b>	
Height	91.5 in
Width	100.1 in
Depth	36.5 in
<b>Drive Dimensions</b>	
Height	90 in
Width	94.5 in
Depth	24 in
<b>Weight</b>	3397 lbs



Unit Size 64



# AF-650 GP General Purpose Drive Basic Wiring Diagrams



\* Indicates default setting; see Parameter Group E-## to re-program.

\*\* Indicates default setting for version 1.10 drives or higher. Prior versions are set to Coast Inverse, indicating that terminal #27 must be Logic "High" to enable the drive to run. See Parameter E-03 Terminal 27 Digital Input to re-program.

† These terminals are only available with optional factory installed brake chopper.



# AF-650 GP General Purpose Drive

## Heavy Duty Efficiency, Watt Loss, Unit Size, Dimensions and Weights

AF-650 GP General Purpose Drive

### 230 Vac

HP Rating	Output Current	Efficiency			Watt Loss (W)	GE Unit Size	Drive Type	Height (in)	Width (in)	Depth (in)	Weight (lbs)
		at 5 kHz (%)	at 4 kHz (%)	at 3 kHz (%)							
0.33	1.8	94			21	12	IP20 Chassis	14.7	3.5	8.7	10.8
0.5	2.4	94			29	12	IP20 Chassis	14.7	3.5	8.7	10.8
1	4.6	95			54	12	IP20 Chassis	14.7	3.5	8.7	10.8
2	7.5	96			82	12	IP20 Chassis	14.7	3.5	8.7	10.8
3	10.6	96			115	12	IP20 Chassis	14.7	3.5	8.7	10.8
5	16.7	96			185	13	IP20 Chassis	14.7	5.1	8.7	14.55
7.5	24.2		96.4		239	23	IP20 Chassis	16.5	6.5	10.31	26.5
10	30.8		95.9		371	23	IP20 Chassis	16.5	6.5	10.31	26.5
15	46.2		96.4		463	24	IP20 Chassis	23.43	9.06	9.53	51.8
20	59.4		96		621	24	IP20 Chassis	23.43	9.06	9.53	51.8
25	74.8			97	740	33	IP20 Chassis	24.8	12.13	13.15	77.2
30	88			97	874	33	IP20 Chassis	24.8	12.13	13.15	77.2
40	115			97	1143	34	IP20 Chassis	31.5	14.57	13.15	110.2
50	143			97	1400	34	IP20 Chassis	31.5	14.57	13.15	110.2

### 460 Vac

HP Rating	Output Current	Efficiency				Watt Loss (W)	GE Unit Size	Drive Type	Height (in)	Width (in)	Depth (in)	Weight (lbs)
		at 5 kHz (%)	at 4 kHz (%)	at 3 kHz (%)	at 2 kHz (%)							
0.5	1.2	93				35	12	IP20 Chassis	14.7	3.5	8.7	10.8
1	2.1	96				46	12	IP20 Chassis	14.7	3.5	8.7	10.8
2	3.4	97				62	12	IP20 Chassis	14.7	3.5	8.7	10.8
3	4.8	97				88	12	IP20 Chassis	14.7	3.5	8.7	10.8
5	8.2	97				124	12	IP20 Chassis	14.7	3.5	8.7	10.8
7.5	11	97				187	13	IP20 Chassis	14.7	5.1	8.7	14.55
10	14.5	97				255	13	IP20 Chassis	14.7	5.1	8.7	14.55
15	21		98			291	23	IP20 Chassis	16.5	6.5	10.31	26.5
20	27		98			379	23	IP20 Chassis	16.5	6.5	10.31	26.5
25	34		98			444	24	IP20 Chassis	23.43	9.06	9.53	51.8
30	40		98			547	24	IP20 Chassis	23.43	9.06	9.53	51.8
40	52			98		570	24	IP20 Chassis	23.43	9.06	9.53	51.8
50	65			98		697	33	IP20 Chassis	24.8	12.13	13.15	77.2
60	80			98		891	33	IP20 Chassis	24.8	12.13	13.15	77.2
75	105			98		1022	34	IP20 Chassis	31.5	14.57	13.15	110.2
100	130			99		1232	34	IP20 Chassis	31.5	14.57	13.15	110.2
125	160			98		2641	43	IP00 Chassis	39.3	16.1	14.7	200.6
150	190			98		2995	43	IP00 Chassis	39.3	16.1	14.7	200.6
200	240			98		3425	44	IP00 Chassis	50.3	16.1	14.7	304.2
250	302			98		3910	44	IP00 Chassis	50.3	16.1	14.7	304.2
300	361			98		4625	44	IP00 Chassis	50.3	16.1	14.7	304.2
350	443				98	5165	52	IP00 Chassis	59	23	19.5	611
450	540			98		6960	52	IP00 Chassis	59	23	19.5	611
500	590			98		7691	52	IP00 Chassis	59	23	19.5	611
550	678			98		8636	52	IP00 Chassis	59	23	19.5	611
600	730			98		9492	61	IP21/NEMA 1	86.8	55.1	23.9	2214
650	780			98		10631	61	IP21/NEMA 1	86.8	55.1	23.9	2214
750	890			98		11263	61	IP21/NEMA 1	86.8	55.1	23.9	2214
900	1050			98		13172	61	IP21/NEMA 1	86.8	55.1	23.9	2214
1000	1160			98		14967	62	IP21/NEMA1	86.8	71	23.9	2748
1200	1380			98		16392	62	IP21/NEMA1	86.8	71	23.9	2748



# AF-650 GP General Purpose Drive

## Heavy Duty Efficiency, Watt Loss, Unit Size, Dimensions and Weights

### 575 Vac

HP Rating	Output Current	Efficiency			Watt Loss (W)	GE Unit Size	Drive Type	Height (in)	Width (in)	Depth (in)	Weight (lbs)
		at 5 kHz (%)	at 3 kHz (%)	at 2 kHz (%)							
1	1.7	97			35	13	IP20 Chassis	14.7	5.1	8.7	14.55
2	2.7	97			65	13	IP20 Chassis	14.7	5.1	8.7	14.55
3	3.9	97			92	13	IP20 Chassis	14.7	5.1	8.7	14.55
5	6.1	97			145	13	IP20 Chassis	14.7	5.1	8.7	14.55
7.5	9	97			195	13	IP20 Chassis	14.7	5.1	8.7	14.55
10	11	97			261	13	IP20 Chassis	14.7	5.1	8.7	14.55
15	18		98		225	23	IP20 Chassis	16.5	6.5	10.31	26.5
20	22		98		285	23	IP20 Chassis	16.5	6.5	10.31	26.5
25	27		98		329	24	IP20 Chassis	23.43	9.06	9.53	51.8
30	34		98		700	24	IP20 Chassis	23.43	9.06	9.53	51.8
40	41		98		700	24	IP20 Chassis	23.43	9.06	9.53	51.8
50	52			98	850	33	IP20 Chassis	24.8	12.13	13.15	77.2
60	62			98	1100	33	IP20 Chassis	24.8	12.13	13.15	77.2
75	83			98	1400	34	IP20 Chassis	31.5	14.57	13.15	110.2
100	100			98	1500	34	IP20 Chassis	31.5	14.57	13.15	110.2

### 575-690 Vac

HP Rating	Output Current	Efficiency			Watt Loss (W)	GE Unit Size	Drive Type	Height (in)	Width (in)	Depth (in)	Weight (lbs)
		at 3 kHz (%)	at 2 kHz (%)	at 1.5 kHz (%)							
15	13	98			228	22	IP21/NEMA 1	25.6	9.5	10.3	59.5
20	18	98			285	22	IP21/NEMA 1	25.6	9.5	10.3	59.5
25	22	98			335	22	IP21/NEMA 1	25.6	9.5	10.3	59.5
30	27	98			375	22	IP21/NEMA 1	25.6	9.5	10.3	59.5
40	34	98			480	32	IP21/NEMA 1	30.3	14.6	13.2	143.3
50	41	98			592	32	IP21/NEMA 1	30.3	14.6	13.2	143.3
60	51	98			720	32	IP21/NEMA 1	30.3	14.6	13.2	143.3
75	62	98			880	32	IP21/NEMA 1	30.3	14.6	13.2	143.3
100	83	98			1800	32	IP21/NEMA 1	30.3	14.6	13.2	143.3
125	108		98		2264	43	IP00 Chassis	39.3	16.1	14.7	180.8
150	131		98		2664	43	IP00 Chassis	39.3	16.1	14.7	180.8
200	155		98		2953	43	IP00 Chassis	39.3	16.1	14.7	200.6
250	192		98		3451	44	IP00 Chassis	50.3	16.1	14.7	246.9
300	242		98		4275	44	IP00 Chassis	50.3	16.1	14.7	271.2
350	290		98		4875	44	IP00 Chassis	50.3	16.1	14.7	304.2
400	344			98	5185	44	IP00 Chassis	50.3	16.1	14.7	332.9
500	380			98	5385	52	IP00 Chassis	59	23	19.5	487.2
600	410			98	5818	52	IP00 Chassis	59	23	19.5	487.2
650	500			98	7671	52	IP00 Chassis	59	23	19.5	520.3
750	570			98	8715	52	IP00 Chassis	59	23	19.5	610.7
900	630	98			9674	61	IP21/NEMA 1	86.8	55.1	23.9	2213.4
1000	730	98			10965	61	IP21/NEMA 1	86.8	55.1	23.9	2213.4
1150	850	98			12890	61	IP21/NEMA 1	86.8	55.1	23.9	2213.4
1250	945	98			14457	62	IP21/NEMA 1	86.8	71	23.9	2746.9
1350	1060	98			15899	62	IP21/NEMA 1	86.8	71	23.9	2746.9





# AF-650 GP General Purpose Drive Dynamic Braking Resistors

## 575 Vac

Nominal Applied Motor HP	Nominal Applied Motor kW	Max. Braking Torque (%)	Repetitive Braking Torque Duty - 10%						Repetitive Braking Torque Duty - 40%					
			Cont. Max Braking						Cont. Max Braking					
			Qty.	(kW)	Ohms	Time(s)	Product Number	List Price GO-5AC	Qty.	(kW)	Ohms	Time(s)	Product Number	List Price GO-5AC
1	0.75	160	1	0.065	620	12	DB5101TBNC	\$450.00	1	0.26	620	120	DB5401TBNC	\$675.00
2	1.5	160	1	0.10	425	12	DB5102TBNC	\$450.00	1	1.00	425	120	DB5402TBNC	\$675.00
3	2.2	160	1	0.25	310	12	DB5103TBNC	\$525.00	1	1.60	310	120	DB5403TBNC	\$788.00
5	4	160	1	0.43	150	12	DB5104TBNC	\$525.00	1	4	150	120	DB5404TBNC	\$788.00
7.5	5.5	160	1	0.60	110	12	DB5105TBNC	\$600.00	1	5	110	120	DB5405TBNC	\$900.00
10	7.5	160	1	1	80	12	DB5106TBNC	\$850.00	1	6	80	120	DB5406TBNC	\$1275.00
15	11	160	1	2	40	12	DB5107TBNC	\$950.00	1	11	40	120	DB5407TBNC	\$1425.00
20	15	160	1	2	40	12	DB5108TBNC	\$1050.00	1	11	40	120	DB5408TBNC	\$1575.00
25	18.5	160	1	3	30	12	DB5109TBNC	\$1100.00	1	18	30	120	DB5409TBNC	\$1650.00
30	22	160	1	4	25	12	DB5110TBNC	\$1200.00	1	23	25	120	DB5410TBNC	\$1800.00
40	30	150	1	4	20	12	DB5111TBNC	\$1300.00	1	25	20	120	DB5411TBNC	\$1950.00
50	37	150	1	5	15	12	DB5112TBNC	\$1750.00	1	32	15	120	DB5412TBNC	\$2625.00
60	45	150	1	6	12	12	DB5113TBNC	\$1900.00	1	40	12	120	DB5413TBNC	\$2850.00
75	55	150	1	15	9.8	12	DB5114TBNC	\$2150.00	1	62	9.8	120	DB5414TBNC	\$3225.00
100	75	150	1	13	7.3	12	DB5115TBNC	\$2355.00	1	72	7.3	120	DB5415TBNC	\$3533.00

## 690 Vac

Nominal Applied Motor HP	Nominal Applied Motor kW	Max. Braking Torque (%)	Repetitive Braking Torque Duty - 10%						Repetitive Braking Torque Duty - 40%					
			Cont. Max Braking						Cont. Max Braking					
			Qty.	(kW)	Ohms	Time(s)	Product Number	List Price GO-5AC	Qty.	(kW)	Ohms	Time(s)	Product Number	List Price GO-5AC
125	90	160	1	126	9.8	60	DB6101TBNC	\$6010.00	1	77	9.8	120	DB6401TBNC	\$6010.00
150	110	160	1	153	7.3	60	DB6102TBNC	\$6800.00	1	93	7.3	120	DB6402TBNC	\$6800.00
200	132	160	1	185	4.7	60	DB6103TBNC	\$7910.00	1	113	4.7	120	DB6403TBNC	\$7910.00
250	160	160	1	224	4.7	60	DB6104TBNC	\$9925.00	1	137	4.7	120	DB6404TBNC	\$9925.00
300	200	160	2	147	3.8	60	DB6105TBNC	\$11425.00	2	90	3.8	120	DB6405TBNC	\$11425.00
350	250	160	2	173	2.6	60	DB6106TBNC	\$12925.00	2	106	2.6	120	DB6406TBNC	\$12925.00
400	315	160	2	212	2.6	60	DB6107TBNC	\$14425.00	2	130	2.6	120	DB6407TBNC	\$14425.00
500	355	160	-	-	-	-	-	-	-	-	-	-	-	-
550	355	160	-	-	-	-	-	-	-	-	-	-	-	-
650	500	160	-	-	-	-	-	-	-	-	-	-	-	-
750	560	150	-	-	-	-	-	-	-	-	-	-	-	-
900	630	150	-	-	-	-	-	-	-	-	-	-	-	-
1000	710	150	-	-	-	-	-	-	-	-	-	-	-	-
1150	800	150	-	-	-	-	-	-	-	-	-	-	-	-
1250	900	150	-	-	-	-	-	-	-	-	-	-	-	-
1350	1000	150	-	-	-	-	-	-	-	-	-	-	-	-

AF-650 GP General Purpose Drive



# AF-650 GP General Purpose Drive Standard Specifications

AF-650 GP General Purpose Drive

## Environmental Conditions

Enclosures	IP20 Chassis, IP00 Chassis, IP21/NEMA 1, IP55/NEMA 12, IP54/NEMA 12, IP66/NEMA 4
Installation Location	Do not install in locations where product could be exposed to dust, corrosive gas, inflammable gas, oil mist, vapor, water drops or direct sunlight. There must be no salt in the atmosphere. Condensation must not be caused by sudden changes in temperature. For use at altitudes of 3280 ft. (1000M) or less without derating.
Storage Temperature	-25° to 65°C
Ambient Temperature	-10° to +50°C (24 hour average max of 45°C)
Ambient Humidity	5 to 95% RH (non-condensing)
Vibration	1.0g
Cooling Method	Fan Cooled all ratings. Fan Control Auto, 50% level, 75% level, 100% level adjustable

## Standards

Approvals	CE, UL, cUL, and C-Tick Suitable for use on a circuit capable of delivering not more than 100,000 rms symmetrical amperes for 230V and 460V.
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## Input Power Supply

Rated Input AC Voltage	200-240 Vac, 3-phase, 50-60 Hz, +/- 10% V 380-500 Vac, 3-phase, 50-60 Hz, +/- 10% V 525-600 Vac, 3-phase, 50-60Hz, +/- 10% V 525-690 Vac, 3-phase, 50-60 Hz, +/- 10% V
Maximum Voltage Imbalance	3% of rated supply voltage
True Power Factor	> 0.9 nominal at rated load
Displacement Power Factor	> 0.98
Switching on input power supply	Maximum twice/minute up to 10HP, Maximum once/minute above 10HP
Environment according to EN60664-1	Overvoltage category III/pollution degree 2

## Output

Rated Output Voltage	0-100% of supply voltage
Output Frequency	0-1000 Hz; 0-800Hz for 460V above 100HP and 525/600/690 V above 100HP
Switching on output	Unlimited
Accel/Decel Times	0.01-3600 seconds
Control Method	Sinusoidal PWM Control (V/Hz, Avd. Vector Control, Sensorless Vector, and Flux Vector with motor feedback)

## Control

Starting Torque	160% starting torque for 1 minute (constant torque), 110% starting torque for 1 minute (variable torque)
Carrier Frequency (Motor Noise)	Selectable - 1, 1.5, 2, 2.5, 3, 3.5, 4, 5, 6, 7, 8, 10, 12, 14, 16 kHz
Torque Boost	Selectable by up to 5 individual V/Hz settings in V/Hz Mode or by 0 - 300% setting of Torque Boost parameter in Adv. Vector Mode
Acceleration/Deceleration Time	0.01-3600 seconds (4 acceleration and deceleration times are selectable via digital inputs. Acceleration and deceleration patterns can be selected from linear or S-curve)
Data Protection	Password Protection for Quick Menu or Main Menu, 0-9999.
Pattern Operation	Settings via Built-In Logic Controller Sequencer
Jump Frequency Control	4 jump (or skip) frequencies via parameter set to avoid mechanical vibration
Slip Compensation	Maintains motor at constant speed with load fluctuations
Torque Limit Control	Output torque can be controlled within a range of 0.0 to 160% (0.1 and steps)
8 Preset Speeds	8 programmable preset speeds selectable by 3 digital inputs
Trim Reference Setting	Available for speed reference offset via potentiometer, voltage input, or current input
DC Injection Braking	Starting frequency: 0.0-1000 Hz, 0-800Hz for 460V above 100HP and 525-690 V above 50HP Braking time: 0.0-60.0 seconds Braking level: 0-100% of rated current
Jogging Operation	Operation via On key or digital input (Fwd or Rev)
Auto-Restart After Power Failure	Restarts the drive without stopping after instantaneous power failure
Energy Savings	Controls output voltage to minimize motor loss during constant speed operation
Start Mode Function	This functionality smoothly catches a spinning motor

## Logic Controller (LC) Sequencer

Logic Controller Events	Up to 37 types of Programmable Events
Comparators	Array of 6 Comparators
Timers	Array of 8 Timers, adjustable from 0.0 to 3600 sec
Logic Rules	Array of 6 Boolean Logic Rules
Logic Controller States	Array of 20 Logic Controller Action States

## Process Controller (PID)

Process CL Feedback Select	Up to 2 references. Selectable - No function, Motor Feedback, Separate Encoder, Encoder Option Module, or Resolver Option Module
Process PID Control	Normal or Inverse
Process PID Anti Windup	Disabled or enabled
Process PID Start Speed	0.0-200 Hz
Process PID Proportional Gain	0.00-10.00
Process PID Integral Time	0.1 - 10000.0 ms
Process PID Differential Time	0.0 - 10 s
Process PID Differential Gain	1.0-50.00
Process PID Feed Forward Factor	0-500%
On Reference Bandwidth	0-200%

## Operation

Operation Method	Keypad operation: Hand, Off, Auto Digital Input: Programmable for Start/Stop, Forward/Reverse, Jog Timer operation: Stop after predetermined time frame Built-in RS-485 Modbus RTU USB Port for programming drive with optional PC Software
Frequency Reference Signal	Left or Right Arrow buttons on keypad in Manual Mode Speed Potentiometer: 0 to +10 Vdc, 10 to 0 Vdc 0-10Vdc analog input 0/4-20ma analog input
References	Up to 3 Input References can be selected from Analog Input #1 or #2, Frequency Input #1 or #2, Network, or Potentiometer
Input Signals	6 - Digital Inputs, 24 Vdc PNP or NPN 1 - Safe Stop Digital Input suitable for category 3 installations to meet EN-954-1 2 - Pulse Inputs rated to 110kHz or 1 - Pulse Input and 1 - Encoder Input 24 Vdc rated to 4096 PPR 2 - Analog Inputs -10 to +10V scalable or 0/4 to 20 mA scalable Digital Input Settings: No Operation Reset after drive trip or alarm Drive at stop with no holding current Quick Stop according to Quick Stop Decel Time 1 Stop on input going low Start Maintained Start after signal applied for Minimum of 2ms Reversing Start Reverse Enable Start Forward only Enable Start Reverse only Jog Multi-Step Frequency selection (1 to 8 Steps) Hold Drive Frequency Hold Reference Speed Up; activated by Hold Drive Frequency or Hold Reference Slow Down; activated by Hold Drive Frequency or Hold Reference Drive Parameter Setup Select 1-4 Precise Start or Stop; Activated when drive parameter precise start or stop function is selected Catch Up or Slow Down; Activated by signal to add to or subtract from input reference to control speed Pulse Input selectable from 100 - 110000Hz Accel / Decel Time select. Set input to Accel / Decel Times 1 to 4 Digital Potentiometer Input Increase or Decrease Mechanical Brake Feedback



# AF-650 GP General Purpose Drive Standard Specifications

## Operation (continued)

<b>Output Signals</b>	2 - Digital Outputs 24 Vdc (Digital Outputs are used in place of 2 of the Digital Inputs) 2 - Form C Relays rated to 2A at 240 Vac 1 - Analog Output 0/4 to 20mA Relay Output Settings: No Operation Control Ready Drive Ready Drive Ready in Remote Standby No Drive Warnings Drive Running Drive Running No Drive Warnings Drive Running on Remote Alarm Alarm or Warning At Torque Limit Out of Current Range Below Current Above Current Out of Speed Range Below Speed Above Speed Out of Feedback Range Below Feedback Above Feedback Thermal Overload Warning Reverse Bus OK Torque Limit and Stopped Brake and no Warning Brake Ready and No Faults Brake Chopper Fault External Interlock Out of External Reference Range Below External Reference Above External Reference Fieldbus Controlling Drive No Alarm Running in Reverse Local Mode Active Remote Mode Active Start Command Active Hand Mode Active Auto Mode Active
<b>Protective Functions</b>	Line Phase Loss DC Overvoltage DC Undervoltage Drive Overload Motor Overtemperature Motor Thermistor Overtemperature Torque Limit Overcurrent Ground Fault Short Circuit Control Word Timeout Brake Resistor Short-Circuited Brake Chopper Short-Circuited Brake Check DC Link Voltage High DC Link Voltage Low Internal Fan Fault External Fan Fault Power Board Overtemperature Missing U Phase Missing V Phase Missing W Phase Internal Fault Control Voltage Fault Auto Tune Check - Wrong Motor Parameters Auto Tune Low Inom - Motor current is too low Current Limit Mechanical Brake Low Drive Initialized to Default Value Keypad Error No Motor Soft Charge Fault Auto Tuning Fault Serial Comms Bus Fault Hardware Mismatch Speed Limit

## Keypad

<b>Keypad Features</b>	LCD Display with 6 Alpha-numeric lines. Multi-Language Support Hot Pluggable, Remote Mount Option, and CopyCat Feature, IP65 rating when remote mounted on enclosure LED's - Green - drive is on, Yellow - indicates a warning, Red - indicates an alarm, Amber - Indicates active Menu keys and H-O-A keys
<b>Keypad Keys</b>	Status - shows status of drive Quick Menu - Enters Quick Start, Parameter Data Check, or Trending Modes Main Menu - Used for programming all drive parameters Alarm Log - Used to display Alarm list Back - Reverts to previous step or layer in parameter structure Cancel - Used to cancel last change or command Info - Displays information about a command, parameter, or function in any display. Hand/Off/Auto - Used to control drive locally or put drive in remote mode Reset - Used to reset Warnings or Alarms
<b>Password</b>	2 Level Password Protection
<b>Alternate Motor Parameters</b>	Up to 4 Separate complete parameter set-ups are available
<b>Graphical Trending</b>	Trend Speed, Power, Frequency or any value programmed in status display

## RS485 Modbus RTU Serial Communications

<b>Physical Level:</b>	EIA/RS485
<b>Transmission Distance:</b>	1640 ft (500m)
<b>Node Address:</b>	32
<b>Transmission Speed:</b>	2400, 4800, 9600, 19200, 38400, or 115200 (bits/s)
<b>Transmission Mode:</b>	Half Duplex
<b>Transmission Protocol</b>	Modbus RTU
<b>Character Code:</b>	Binary
<b>Character Length:</b>	8 Bits
<b>Error Check:</b>	CRC

## Mounting Clearance

All AF-650 GP drives can be mounted Side-by-Side without spacing. For all drives rated 100HP or below allow 3.4 inches (100mm) free space above and below. For all drives rated 125HP and above allow 8.9 inches (225mm) free space above and below.
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# AF-650 GP General Purpose Drive Replacement Parts

IP 20 - 230 Vac, 3-Phase, 50/60Hz Input

IP 55/66 - 230 Vac, 3-Phase, 50/60Hz Input

Product Number	List Price GO-SRP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive													
					1/3	1/2	1	2	3	5	7.5	10	15	20	25	30	40	50
<b>Main Control Card</b>																		
6KAF61109	\$950.00	Control Card	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>Keypad</b>																		
KYPDACGP1	\$500.00	Replacement Graphical Keypad	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61007	\$45.00	Frame w/o option A or B	12/13/23	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61008	\$60.00	Frame w option A or B	12/13/23	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF60284	\$75.00	Frame	24/33/34	-									1	1	1	1	1	1
6KAF63414	\$40.00	Frame	15/21/22/31/32	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61011	\$40.00	Terminal cover w/o option A or B	12/13	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61012	\$40.00	Terminal cover w option A or B	12/13	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61411	\$65.00	Terminal cover	23	-								1	1					
6KAF61410	\$95.00	Terminal cover	23	-								1	1					
<b>Power Card</b>																		
6KAF61802	\$3830.00	Power Card	21	-							1							
6KAF61803	\$4285.00	Power Card	21	-								1						
6KAF61805	\$4835.00	Power Card	22	-									1					
6KAF61807	\$1550.00	Power Card	31	-										1				
6KAF61808	\$1550.00	Power Card	31	-											1			
6KAF61809	\$1550.00	Power Card	31	-												1		
6KAF61810	\$1735.00	Power Card	32	-													1	
6KAF61811	\$1735.00	Power Card	32	-														1
6KAF61902	\$3830.00	Power Card	23	-							1							
6KAF61903	\$4285.00	Power Card	23	-								1						
6KAF61906	\$4835.00	Power Card	24	-									1					
6KAF61907	\$5020.00	Power Card	24	-										1				
6KAF61916	\$1825.00	Power Card	33	-											1			
6KAF61917	\$1825.00	Power Card	33	-												1		
6KAF61918	\$1920.00	Power Card	34	-													1	
6KAF61919	\$1920.00	Power Card	34	-														1
6KAF61806	\$2010.00	Switch Mode Power Supply	22	-										1				
<b>Inverter IGBTs</b>																		
6KAF61884	\$1510.00	Dual IGBT Module	31/33	150A										3	3			
6KAF61885	\$1895.00	Dual IGBT Module	31/33	200A												3		
6KAF61886	\$2600.00	Dual IGBT Module	32/34	300A													3	3
<b>Brake IGBT</b>																		
6KAF61884	\$1510.00	Dual IGBT Module	31/33	150A										1	1	1		
6KAF61400	\$2105.00	Dual IGBT Module	32/34	200A													1	
6KAF61886	\$2595.00	Dual IGBT Module	32/34	300A														1
<b>Rectifiers</b>																		
6KAF61887	\$820.00	Thyristor Module	31/33	180A										3	3	3		
6KAF61888	\$1130.00	Thyristor Module	32/34	240A													3	3
<b>RFI Filters</b>																		
6KAF63378	\$680.00	RFI Filter (class A2)	21	-							1	1						
6KAF63381	\$685.00	RFI Filter (class A2)	22	-									1					
6KAF63427	\$40.00	RFI Filter (class A2)	31	-										1	1	1		
6KAF63377	\$1235.00	RFI Filter (class A1/B)	21	-							1	1						
6KAF63380	\$1495.00	RFI Filter (class A1/B)	22	-									1					
6KAF63425	\$4265.00	RFI Filter (class A1/B)	31	-										1	1	1		
6KAF63422	\$4750.00	RFI Filter (class A1/B)	32	-													1	1
6KAF61412	\$1325.00	RFI Filter (class A1/B)	23	-							1	1						
6KAF61416	\$1535.00	RFI Filter (class A1/B)	24	-									1	1				
6KAF61419	\$2565.00	RFI Filter (class A1/B)	33	-											1	1		
6KAF61420	\$3185.00	RFI Filter (class A1/B)	34	-													1	1
<b>Current Transducers</b>																		
6KAF61896	\$1580.00	Current Transducer Card	31/33	-										1	1	1		
6KAF61895	\$1590.00	Current Transducer Card	32/34	-													1	1
<b>DC Link</b>																		
6KAF65160	\$910.00	DC Capacitors	31	3700uF											2			
6KAF65159	\$1050.00	DC Capacitors	31	4500uF												2		
6KAF65158	\$1275.00	DC Capacitors	31	5300uF													2	
6KAF65157	\$825.00	DC Capacitors	32	3700uF														2
6KAF65156	\$1030.00	DC Capacitors	32	4500uF														2
6KAF61423	\$1440.00	DC Capacitors	33/34	4500uF											2	2	2	2
6KAF61060	\$1200.00	DC Link Reactors	21	780mH							1							
6KAF61062	\$1260.00	DC Link Reactors	22	490mH								1						
6KAF61063	\$1385.00	DC Link Reactors	22	410mH									1					
6KAF61035	\$2205.00	DC Link Reactors	31	300mH										1				
6KAF61036	\$2630.00	DC Link Reactors	31	260mH											1			
6KAF61037	\$2960.00	DC Link Reactors	31	200mH												1		
6KAF61038	\$3535.00	DC Link Reactors	32	170mH													1	
6KAF61039	\$4090.00	DC Link Reactors	32	100mH														1
6KAF61950	\$1355.00	DC Link Assembly	24	-										1				
6KAF61951	\$1600.00	DC Link Assembly	24	-											1			

AF-650 GP General Purpose Drive



# AF-650 GP General Purpose Drive Replacement Parts

IP 20 - 230 Vac, 3-Phase, 50/60Hz Input (continued)

IP 55/66 - 230 Vac, 3-Phase, 50/60Hz Input (continued)

Product Number	List Price GO-SRP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive												
					1/3	1/2	1	2	3	5	7.5	10	15	20	25	30	40
<b>Fans</b>																	
6KAF61009	\$160.00	Fan Assembly	12	-	1	1	1	1	1								
6KAF61010	\$160.00	Fan Assembly	13	-						1							
6KAF61017	\$295.00	Fan Assembly	15	-	1	1	1	1	1	1							
6KAF63563	\$270.00	External Fan (IP20)	23	12W							1	1					
6KAF63699	\$250.00	External Fan (IP20)	24	12W									1				
6KAF64292	\$250.00	External Fan (IP20)	33	12W										2	2	2	
6KAF64294	\$355.00	External Fan (IP20)	34	18W												2	2
6KAF63407	\$455.00	External Fan (IP55)	21	22W						1	1						
6KAF63406	\$640.00	External Fan (IP55)	22	22W								1					
6KAF63865	\$645.00	External Fan (IP55)	31	26W									1	1	1		
6KAF63867	\$1235.00	External Fan (IP55)	32	22W												1	1
6KAF63440	\$100.00	Internal Fan	21/23	5.8W						1	1						
6KAF63441	\$100.00	Internal Fan	22/24	5.8W								1	1				
6KAF63923	\$110.00	Internal Fan	31/32/33/34	5.8W									1	1	1	1	1
<b>Accessory Bags</b>																	
6KAF61022	\$275.00	Connectors Accessory Bag	12/13	-	1	1	1	1	1	1							
6KAF61023	\$240.00	Connectors Accessory Bag	15	-	1	1	1	1	1	1							
6KAF62060	\$120.00	Connectors Accessory Bag	21	-							1	1					
6KAF62061	\$125.00	Connectors Accessory Bag	22	-									1				
6KAF60980	\$140.00	Connectors Accessory Bag	23	-							1	1					
6KAF61300	\$270.00	Connectors Accessory Bag	24	-								1	1				
6KAF60046	\$200.00	Connectors Accessory Bag	31	-									1	1	1		
6KAF60047	\$210.00	Connectors Accessory Bag	32	-												1	1
6KAF60981	\$225.00	Connectors Accessory Bag	33	-										1	1		
6KAF60982	\$270.00	Connectors Accessory Bag	34	-												1	
6KAF60983	\$270.00	Connectors Accessory Bag	34	-													1
6KAF60633	\$55.00	Brake and Load Sharing Connectors Bag	12/13/15	-	1	1	1	1	1	1							

IP 20 - 460 Vac, 3-Phase, 50/60Hz Input

IP 55/66 - 460 Vac, 3-Phase, 50/60Hz Input

Product Number	List Price GO-SRP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive													
					1/2	1	2	3	5	7.5	10	15	20	25	30	40	50	60
<b>Main Control Card</b>																		
6KAF61109	\$950.00	Control Card	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>Keypad</b>																		
KYPDACGP1	\$500.00	Replacement Graphical Keypad	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61007	\$45.00	Frame w/o option A or B	12/13/23	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61008	\$60.00	Frame w option A or B	12/13/23	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF60284	\$75.00	Frame	24/33/34	-									1	1	1	1	1	1
6KAF63414	\$40.00	Frame	15/21/22/31/32	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61011	\$40.00	Terminal cover w/o option A or B	12/13	-	1	1	1	1	1	1	1							
6KAF61012	\$40.00	Terminal cover w option A or B	12/13	-	1	1	1	1	1	1	1							
6KAF61411	\$65.00	Terminal cover	23	-								1	1					
6KAF61410	\$95.00	Terminal cover	23	-								1	1					
<b>Power Card</b>																		
6KAF61841	\$3830.00	Power Card	21	-								1						
6KAF61842	\$4285.00	Power Card	21	-									1					
6KAF61823	\$4380.00	Power Card	22	-										1				
6KAF61825	\$4835.00	Power Card	22	-											1			
6KAF61845	\$1550.00	Power Card	31	-												1		
6KAF61846	\$1550.00	Power Card	31	-													1	
6KAF61847	\$1550.00	Power Card	31	-													1	
6KAF61848	\$1735.00	Power Card	32	-													1	
6KAF61849	\$1735.00	Power Card	32	-													1	
6KAF61941	\$3830.00	Power Card	23	-							1							
6KAF61942	\$4285.00	Power Card	23	-								1						
6KAF61943	\$4380.00	Power Card	24	-									1					
6KAF61944	\$4835.00	Power Card	24	-										1				
6KAF61945	\$5020.00	Power Card	24	-											1			
6KAF61946	\$1825.00	Power Card	33	-												1		
6KAF61947	\$1825.00	Power Card	33	-													1	
6KAF61948	\$1920.00	Power Card	34	-													1	
6KAF61949	\$1920.00	Power Card	34	-													1	
6KAF61843	\$2010.00	Switch Mode Power Supply	22	-										1				
6KAF61844	\$2010.00	Switch Mode Power Supply	22	-											1			
<b>Inverter IGBTs</b>																		
6KAF61884	\$1510.00	Dual IGBT Module	31/33	150A											3	3		
6KAF61885	\$1895.00	Dual IGBT Module	31/33	200A												3		
6KAF61886	\$2595.00	Dual IGBT Module	32/34	300A												3	3	



# AF-650 GP General Purpose Drive Replacement Parts

IP 20 - 460 Vac, 3-Phase, 50/60Hz Input (continued)

IP 55/66 - 460 Vac, 3-Phase, 50/60Hz Input (continued)

Product Number	List Price GO-SRP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive														
					1/2	1	2	3	5	7.5	10	15	20	25	30	40	50	60	75
<b>Brake IGBT</b>																			
6KAF61884	\$1510.00	Dual IGBT Module	31/33	150A											1	1	1		
6KAF61400	\$2105.00	Dual IGBT Module	32/34	200A														1	
6KAF61886	\$2595.00	Dual IGBT Module	32/34	300A															1
<b>Rectifiers</b>																			
6KAF61887	\$820.00	Thyristor Module	31/33	180A											3	3	3		
6KAF61888	\$1130.00	Thyristor Module	32/34	240A														3	3
<b>RFI Filters</b>																			
6KAF63378	\$680.00	RFI Filter (class A2)	21	-						1	1								
6KAF63381	\$685.00	RFI Filter (class A2)	22	-								1	1						
6KAF63427	\$40.00	RFI Filter (class A2)	31	-										1	1	1			
6KAF63377	\$1235.00	RFI Filter (class A1/B)	21	-						1	1								
6KAF63380	\$1495.00	RFI Filter (class A1/B)	22	-								1	1						
6KAF63425	\$4265.00	RFI Filter (class A1/B)	31	-										1	1	1			
6KAF63422	\$4750.00	RFI Filter (class A1/B)	32	-														1	1
6KAF61412	\$1325.00	RFI Filter (class A1/B)	23	-						1	1								
6KAF61416	\$1535.00	RFI Filter (class A1/B)	24	-								1	1	1					
6KAF61419	\$2565.00	RFI Filter (class A1/B)	33	-												1	1		
6KAF61420	\$3185.00	RFI Filter (class A1/B)	34	-														1	1
<b>Current Transducers</b>																			
6KAF61894	\$1310.00	Current Transducer Card	31/33	-											1	1	1		
6KAF61897	\$1620.00	Current Transducer Card	32/34	-														1	1
<b>DC Link</b>																			
6KAF65160	\$910.00	DC Capacitors	31	3700uF											2				
6KAF65159	\$1050.00	DC Capacitors	31	4500uF												2			
6KAF65158	\$1275.00	DC Capacitors	31	5300uF													2		
6KAF65157	\$825.00	DC Capacitors	32	3700uF														2	
6KAF65156	\$1030.00	DC Capacitors	32	4500uF															2
6KAF61421	\$1625.00	DC Capacitors	33	5300uF													2		
6KAF61422	\$675.00	DC Capacitors	34	3700uF															2
6KAF61423	\$1440.00	DC Capacitors	33/34	4500uF												2			2
6KAF61060	\$1200.00	DC Link Reactors	21	780uH						1									
6KAF61061	\$1260.00	DC Link Reactors	21	580uH							1								
6KAF61062	\$1260.00	DC Link Reactors	22	490uH								1							
6KAF61063	\$1385.00	DC Link Reactors	22	410uH									1						
6KAF61035	\$2205.00	DC Link Reactors	31	300uH										1					
6KAF61036	\$2630.00	DC Link Reactors	31	260uH											1				
6KAF61037	\$2960.00	DC Link Reactors	31	200uH												1			
6KAF61038	\$3535.00	DC Link Reactors	32	170uH														1	
6KAF61039	\$4090.00	DC Link Reactors	32	100uH															1
6KAF61954	\$2015.00	DC Link Assembly	24	-									1						
6KAF61955	\$2500.00	DC Link Assembly	24	-										1	1				
<b>Fans</b>																			
6KAF61009	\$160.00	Fan Assembly	12	-		1	1	1	1	1									
6KAF61010	\$160.00	Fan Assembly	13	-							1	1							
6KAF61017	\$295.00	Fan Assembly	15	-		1	1	1	1	1	1	1							
6KAF63563	\$270.00	External Fan (IP20)	23	12W									1	1					
6KAF63699	\$250.00	External Fan (IP20)	24	12W										1	1	1			
6KAF64292	\$250.00	External Fan (IP20)	33	12W												2	2		
6KAF64294	\$355.00	External Fan (IP20)	34	18W														2	2
6KAF63407	\$455.00	External Fan (IP55)	21	22W							1	1							
6KAF63406	\$640.00	External Fan (IP55)	22	22W									1	1					
6KAF63865	\$645.00	External Fan (IP55)	31	26W										1	1	1			
6KAF63867	\$1235.00	External Fan (IP55)	32	22W														1	1
6KAF63440	\$100.00	Internal Fan	21/23	5.8W							1	1							
6KAF63441	\$100.00	Internal Fan	22/24	5.8W									1	1	1				
6KAF63923	\$110.00	Internal Fan	31/32/33/34	5.8W										1	1	1	1	1	1
<b>Accessory Bags</b>																			
6KAF61022	\$275.00	Connectors Accessory Bag	12/13	-		1	1	1	1	1	1	1							
6KAF61023	\$240.00	Connectors Accessory Bag	15	-		1	1	1	1	1	1	1							
6KAF62060	\$120.00	Connectors Accessory Bag	21	-									1	1					
6KAF62061	\$125.00	Connectors Accessory Bag	22	-										1	1				
6KAF60980	\$140.00	Connectors Accessory Bag	23	-									1	1					
6KAF61300	\$270.00	Connectors Accessory Bag	24	-										1	1	1			
6KAF60046	\$200.00	Connectors Accessory Bag	31	-											1	1	1		
6KAF60047	\$210.00	Connectors Accessory Bag	32	-														1	1
6KAF60981	\$225.00	Connectors Accessory Bag	33	-													1	1	
6KAF60982	\$270.00	Connectors Accessory Bag	34	-														1	
6KAF60983	\$270.00	Connectors Accessory Bag	34	-															1
6KAF60633	\$55.00	Brake and Load Sharing Connectors Bag	12/13/15	-		1	1	1	1	1	1	1							



# AF-650 GP General Purpose Drive Replacement Parts

IP 00 - 575 Vac, 3-Phase, 50/60Hz Input

IP 55/66 - 575 Vac, 3-Phase, 50/60Hz Input

Product Number	List Price GO-5RP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive														
					1	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100
<b>Main Control Card</b>																			
6KAF61109	\$950.00	Control Card	-	-	1	1	1	1	1	1	1	1	1	1	1	1			
<b>Keypad</b>																			
KYPDACGP1	\$500.00	Replacement Graphical Keypad	-	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61007	\$45.00	Frame w/o option A or B	12/13/23	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61008	\$60.00	Frame w option A or B	12/13/23	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF60284	\$75.00	Frame	24/33/34	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF63414	\$40.00	Frame	15/21/22/31/32	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61011	\$40.00	Terminal cover w/o option A or B	12/13	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61012	\$40.00	Terminal cover w option A or B	12/13	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61411	\$65.00	Terminal cover	23	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61410	\$95.00	Terminal cover	23	-	1	1	1	1	1	1	1	1	1	1	1	1			
<b>Power Card</b>																			
6KAF61858	\$5020.00	Power Card	21	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61859	\$5020.00	Power Card	21	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61935	\$5200.00	Power Card	22	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61940	\$5200.00	Power Card	22	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61928	\$1735.00	Power Card	31	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61929	\$1735.00	Power Card	31	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61930	\$1735.00	Power Card	31	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61931	\$1920.00	Power Card	32	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61932	\$1920.00	Power Card	32	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61961	\$4925.00	Power Card	23	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61962	\$5110.00	Power Card	23	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61963	\$5200.00	Power Card	24	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61964	\$5300.00	Power Card	24	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61965	\$5390.00	Power Card	24	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61966	\$1825.00	Power Card	33	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61967	\$1825.00	Power Card	33	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61968	\$1920.00	Power Card	34	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61969	\$1920.00	Power Card	34	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61875	\$2085.00	Switch Mode Power Supply	22	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61876	\$2085.00	Switch Mode Power Supply	22	-	1	1	1	1	1	1	1	1	1	1	1	1			
<b>Inverter IGBTs</b>																			
6KAF61403	\$1475.00	Dual IGBT Module	31/33	100A	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61409	\$1745.00	Dual IGBT Module	31/33	150A	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61404	\$2400.00	Dual IGBT Module	32/34	200A	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61432	\$3950.00	Dual IGBT Module	32/34	300A	1	1	1	1	1	1	1	1	1	1	1	1			
<b>Brake IGBT</b>																			
6KAF61403	\$1475.00	Dual IGBT Module	31/33	100A	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61404	\$2400.00	Dual IGBT Module	31/33	200A	1	1	1	1	1	1	1	1	1	1	1	1			
<b>Rectifiers</b>																			
6KAF61429	\$1165.00	Thyristor Module	33	115A	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61430	\$1920.00	Thyristor Module	34	220A	1	1	1	1	1	1	1	1	1	1	1	1			
<b>RFI Filters</b>																			
6KAF63378	\$680.00	RFI Filter (class A2)	21	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF63381	\$685.00	RFI Filter (class A2)	22	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF63377	\$1235.00	RFI Filter (class A1/B)	21	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF63380	\$1495.00	RFI Filter (class A1/B)	22	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF63425	\$4265.00	RFI Filter (class A1/B)	31	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF63422	\$4745.00	RFI Filter (class A1/B)	32	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61412	\$1325.00	RFI Filter (class A1/B)	23	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61416	\$1535.00	RFI Filter (class A1/B)	24	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61419	\$2565.00	RFI Filter (class A1/B)	33	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61420	\$3190.00	RFI Filter (class A1/B)	34	-	1	1	1	1	1	1	1	1	1	1	1	1			
<b>Current Transducers</b>																			
6KAF61898	\$1625.00	Current Transducer Card	31/33	-	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61899	\$1640.00	Current Transducer Card	32/34	-	1	1	1	1	1	1	1	1	1	1	1	1			
<b>DC Link</b>																			
6KAF61424	\$860.00	DC Capacitors	31/33	4500uF	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61425	\$1360.00	DC Capacitors	32/34	2700uF	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61060	\$1200.00	DC Link Reactors	21	780uH	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61061	\$1260.00	DC Link Reactors	21	580uH	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61062	\$1260.00	DC Link Reactors	22	490uH	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61063	\$1385.00	DC Link Reactors	22	410uH	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61035	\$2210.00	DC Link Reactors	31	300uH	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61036	\$2630.00	DC Link Reactors	31	260uH	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61037	\$2600.00	DC Link Reactors	31	200uH	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61038	\$3535.00	DC Link Reactors	32	170uH	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61039	\$4100.00	DC Link Reactors	32	100uH	1	1	1	1	1	1	1	1	1	1	1	1			
6KAF61959	\$2325.00	DC Link Assembly	24	-	1	1	1	1	1	1	1	1	1	1	1	1			



# AF-650 GP General Purpose Drive Replacement Parts

IP 00 - 575 Vac, 3-Phase, 50/60Hz Input (continued)

IP 55/66 - 575 Vac, 3-Phase, 50/60Hz Input (continued)

Product Number	List Price GO-SRP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive														
					1	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100
<b>Fans</b>																			
6KAF61009	\$160.00	Fan Assembly	12	-	1	1	1	1											
6KAF61010	\$160.00	Fan Assembly	13	-				1	1										
6KAF61017	\$295.00	Fan Assembly	15	-	1	1	1	1	1	1									
6KAF63563	\$270.00	External Fan (IP20)	23	12W						1	1								
6KAF63699	\$250.00	External Fan (IP20)	24	12W								1	1	1					
6KAF64292	\$250.00	External Fan (IP20)	33	12W											2	2			
6KAF64294	\$355.00	External Fan (IP20)	34	18W													2	2	
6KAF63407	\$455.00	External Fan (IP55)	21	22W						1	1								
6KAF63406	\$640.00	External Fan (IP55)	22	22W								1	1						
6KAF63865	\$645.00	External Fan (IP55)	31	26W										1	1	1			
6KAF63867	\$1235.00	External Fan (IP55)	32	22W													1	1	
6KAF63440	\$100.00	Internal Fan	21/23	5.8W						1	1								
6KAF63441	\$100.00	Internal Fan	22/24	5.8W								1	1	1					
6KAF63923	\$110.00	Internal Fan	31/32/33/34	5.8W										1	1	1	1	1	
<b>Accessory Bags</b>																			
6KAF61022	\$275.00	Connectors Accessory Bag	12/13	-	1	1	1	1	1	1									
6KAF61023	\$240.00	Connectors Accessory Bag	15	-	1	1	1	1	1	1									
6KAF62060	\$120.00	Connectors Accessory Bag	21	-							1	1							
6KAF62061	\$125.00	Connectors Accessory Bag	22	-									1	1					
6KAF60980	\$140.00	Connectors Accessory Bag	23	-						1	1								
6KAF61300	\$270.00	Connectors Accessory Bag	24	-								1	1	1					
6KAF60046	\$200.00	Connectors Accessory Bag	31	-									1	1	1				
6KAF60047	\$210.00	Connectors Accessory Bag	32	-													1	1	
6KAF60981	\$225.00	Connectors Accessory Bag	33	-											1	1			
6KAF60982	\$270.00	Connectors Accessory Bag	34	-													1		
6KAF60983	\$270.00	Connectors Accessory Bag	34	-														1	
6KAF60633	\$55.00	Brake and Load Sharing Connectors Bag	12/13/15	-	1	1	1	1	1	1									

## High Power

IP 00 - 460 Vac, 3-Phase, 50/60Hz Input

IP 21/54 - 460 Vac, 3-Phase, 50/60Hz Input

Product Number	List Price GO-SRP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive														
					125	150	200	250	300	350	450	500	550	600	650	750	900	1000	1200
<b>Main Control Card</b>																			
6KAF61109	\$950.00	Control Card	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>Keypad</b>																			
KYPDACGP1	\$500.00	Replacement Graphical Keypad	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF63414	\$40.00	Frame	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>Power Card</b>																			
6KAF6H8643	\$2100.00	PCA3 - Power Card	-	-	1														
6KAF6H8644	\$2100.00	PCA3 - Power Card	-	-		1													
6KAF6H8645	\$2100.00	PCA3 - Power Card	-	-			1												
6KAF6H8646	\$2100.00	PCA3 - Power Card	-	-				1											
6KAF6H8647	\$2100.00	PCA3 - Power Card	-	-					1										
6KAF6H8648	\$2100.00	PCA3 - Power Card	-	-						1									
6KAF6H8649	\$2100.00	PCA3 - Power Card	-	-							1								
6KAF6H8650	\$2100.00	PCA3 - Power Card	-	-								1							
6KAF6H8651	\$2100.00	PCA3 - Power Card	-	-									1						
6KAF6H8780	\$2625.00	PCA3 - Power Card	-	-										3					
6KAF6H8781	\$2625.00	PCA3 - Power Card	-	-											3				
6KAF6H8782	\$2625.00	PCA3 - Power Card	-	-												3			
6KAF6H8783	\$2625.00	PCA3 - Power Card	-	-													3		
6KAF6H8784	\$2625.00	PCA3 - Power Card	-	-														4	
6KAF6H8785	\$2625.00	PCA3 - Power Card	-	-															4
6KAF6H8308	\$95.00	PCA4 - Current Scaling PCA, 4.54 Ohm	-	-	1														
6KAF6H8309	\$95.00	PCA4 - Current Scaling PCA, 3.79 Ohm	-	-		1													
6KAF6H8310	\$100.00	PCA4 - Current Scaling PCA, 3.10 Ohm	-	-			1												
6KAF6H8311	\$95.00	PCA4 - Current Scaling PCA, 2.56 Ohm	-	-				1			1	1				2			3
6KAF6H8312	\$100.00	PCA4 - Current Scaling PCA, 5.10 Ohm	-	-					1										
6KAF6H8554	\$100.00	PCA4 - Current Scaling PCA, 4.21 Ohm	-	-						1				2	2				3
6KAF6H8627	\$135.00	PCA4 - Current Scaling PCA, 2.32 Ohm	-	-									1				2		
6KAF6H8773	\$1840.00	MDCIC board, CC	-	-										1	1	1	1	1	1
6KAF6H8626	\$1650.00	PCA5 - Gate Drive PCA,CC	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF6H8307	\$215.00	PCA8 - HF PCA	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF6H8306	\$1535.00	PCA11 - Softcharge PCA,CC	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF6H8555	\$1550.00	PCA11 - Softcharge PCA,CC	-	-						1	1	1	1	1	1	1	1	1	1
6KAF6H8510	\$240.00	PCA9 - Balance PCA	-	-	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2



# AF-650 GP General Purpose Drive Replacement Parts

IP 00 - 460 Vac, 3-Phase, 50/60Hz Input (continued)

IP 21/54 - 460 Vac, 3-Phase, 50/60Hz Input (continued)

Product Number	List Price GO-SRP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive											
					125	150	200	250	300	350	450	500	550	600	650	750
<b>Inverter IGBTs</b>																
6KAF6H8628	\$5700.00	IGBT 1, 2 - IGBT kit, 300A	-		1		2	2								
6KAF6H8629	\$7630.00	IGBT 1, 2 - IGBT kit, 450A	-			1			2							
6KAF6H8630	\$5740.00	IGBT 1, 2, 3 - IGBT kit, 300A	-							3						
6KAF6H8631	\$7790.00	IGBT 1, 2, 3 - IGBT kit, 450A	-								3	3	3			
6KAF6H8323	\$105.00	C 2,3,4,5,6,7,8,9,10 - CAP IGBT Snubber, 1000V, 1.5uF	-		3	3	6	6	6	9	9	9	9			
6KAF6H8749	\$107800.00	Inverter Module	-										2			
6KAF6H8750	\$127300.00	Inverter Module	-											2		
6KAF6H8751	\$144000.00	Inverter Module	-												2	
6KAF6H8752	\$171250.00	Inverter Module	-													2
6KAF6H8753	\$127300.00	Inverter Module	-													3
6KAF6H8754	\$144000.00	Inverter Module	-													3
<b>Brake IGBT</b>																
6KAF6H8316	\$3370.00	IGB T4,5 - Brake IGBT kit	-		1	1	2	2	2	2	2	2	2			
<b>Rectifiers</b>																
6KAF6H8317	\$1400.00	SCR 1, 2, 3 - SCR/Diode kit, 160A	-		3	3										
6KAF6H8318	\$1435.00	SCR 1, 2, 3 - SCR/Diode kit, 175A	-				3									
6KAF6H8319	\$2275.00	SCR 1, 2, 3 - SCR/Diode kit, 250A	-					3								
6KAF6H8320	\$2460.00	SCR 1, 2, 3 - SCR/Diode kit, 330A	-						3							
6KAF6H8558	\$2620.00	SCR 1, 2, 3 - SCR kit, 500A	-							3	3	3	3			
6KAF6H8559	\$2340.00	D 1, 2, 3 - Diode kit, 600A	-							3	3	3	3			
6KAF6H8718	\$101810.00	Rectifier Module	-										1			
6KAF6H8719	\$101810.00	Rectifier Module	-											1		
6KAF6H8720	\$137000.00	Rectifier Module	-												1	
6KAF6H8721	\$137000.00	Rectifier Module	-													1
6KAF6H8722	\$185000.00	Rectifier Module	-													1
6KAF6H8723	\$185000.00	Rectifier Module	-													1
<b>Current Transducers</b>																
6KAF6H8342	\$525.00	L2, 3, 4 - Current Sensor, 300A	-		3	3	3	3								
6KAF6H8343	\$755.00	L2, 3, 4 - Current Sensor, 500A	-						3	3						
6KAF6H8563	\$1925.00	L2, 3, 4 - Current Sensor, 1000A	-								3	3	3			
<b>DC Link</b>																
6KAF6H8324	\$4570.00	CBANK 1, 2 - CAP Bank, 4 Cap	-		1			2	1							
6KAF6H8325	\$6115.00	CBANK 1, 2 - CAP Bank, 6 Cap	-			1	1		1							
6KAF6H8636	\$8410.00	CBANK 1, 2 - CAP Bank, 6 Cap	-							2	1					
6KAF6H8637	\$9570.00	CBANK 1, 2 - CAP Bank, 8 Cap	-								1	2	2			
6KAF6H8337	\$3185.00	L1 - Bus Inductor, 200uH	-		1											
6KAF6H8338	\$3380.00	L1 - Bus Inductor, 157uH	-			1										
6KAF6H8339	\$3720.00	L1 - Bus Inductor, 136uH	-				1									
6KAF6H8340	\$3950.00	L1 - Bus Inductor, 109uH	-					1								
6KAF6H8341	\$4175.00	L1 - Bus Inductor, 87uH	-						1							
6KAF6H8564	\$6600.00	L1 - Bus Inductor, 62uH	-							1						
6KAF6H8565	\$7140.00	L1 - Bus Inductor, 51uH	-								1	1	1			
6KAF6H8322	\$515.00	R1 - Softcharge Resistor, 27 Ohm, 110W	-		1	1	1	1	1							
6KAF6H8560	\$575.00	R1 - Softcharge Resistor, 27 Ohm, 155W	-							1	1	1	1			
<b>Fuses</b>																
6KAF6H8334	\$300.00	FU 1, 2, 3 - Fuse Main, 350A	-		3	3										
6KAF6H8335	\$345.00	FU 1, 2, 3 - Fuse Main, 630A	-				3	3	3							
6KAF6H8591	\$560.00	FU 1, 2, 3 - Fuse Main, 700A	-							3						
6KAF6H8592	\$840.00	FU 1,2,3 - Fuse Main, 900A	-								3	3	3			
6KAF6H8769	\$3460.00	Fuse Mains, 2000A	-											3	3	3
6KAF6H8770	\$3860.00	Fuse Mains, 2500A	-													3
6KAF6H8767	\$1555.00	Fuse DC, 1100A	-											4	4	6
6KAF6H8768	\$1370.00	Fuse, DC, 1400 A	-												4	4
6KAF6H8336	\$130.00	Fuse Softcharge, 20A, PKG3	-		1	1	1	1	1	1	1	1	1			
6KAF6H8440	\$78.00	FU 5 - Fuse, 4A, PKG3, Power PCA, Fan	-		1	1	1	1	1	1	1	1	1			
6KAF6H8440	\$78.00	FU 4 - Fuse, 4A, PKG3, Power PCA, Fan	-		1	1	1	1	1	1	1	1	1			
6KAF6H8609	\$225.00	FU 4 - Fuse, 15A, PKG3, Fan	-							1	1	1				
<b>Fans</b>																
6KAF6H8329	\$2185.00	F1+C1 - Heatsink Fan Assy	-		1	1	1	1	1							
6KAF6H8578	\$4270.00	F1+C1 - Heatsink Fan Assy	-							1						
6KAF6H8579	\$9975.00	F1+C1 - Heatsink Fan Assy	-								1	1	1			
6KAF6H8771	\$2990.00	Heatsink Fan	-											3	3	3
6KAF6H8330	\$1580.00	F 2,3 - Door Fan Kit	41/42/51		1	1	1	1	1	1	1	1	1			
6KAF6H8331	\$170.00	Door Vent Kit	41/42/51		1	1	1	1	1	1	1	1	1			
6KAF6H8332	\$155.00	Door Fan Filter, PKG10 (IP54/Nema 12 Drive)	41/42/51		1	1	1	1	1	1	1	1	1			
6KAF6H8639	\$225.00	F 4 - DC Top Fan, IP00/Open Chassis Drive	43/44		1	1	1	1	1							
6KAF6H8333	\$1150.00	F 2 - Door/Top AC Fan	52							1	1	1	1			
6KAF6H8333	\$1150.00	F 2,3 - Door/Top AC Fan	41/42/51		1	1	1	1	1	1	1	1	1			
6KAF6H8772	\$4250.00	Fan Door	-											3	3	3
6KAF6H8612	\$770.00	FU 5 - Fuse Fan, Input Plate	-							1	1	1	1			
6KAF6H8344	\$500.00	TR 1 - Fan Transformer Assy, 500V	-		1	1	1	1	1							
6KAF6H8566	\$580.00	TR 1 - Fan Transformer Assy	-							1						
6KAF6H8567	\$1990.00	TR 1 - Fan Transformer Assy, 1500VA	-								1	1	1			
6KAF6H8577	\$1410.00	L5 - Heatsink Fan Inductor	-								1	1	1			

AF-650 GP General Purpose Drive



# AF-650 GP General Purpose Drive Replacement Parts

IP 00 - 690 Vac, 3-Phase, 50/60Hz Input

IP 21/54 - 690 Vac, 3-Phase, 50/60Hz Input

Product Number	List Price GO-SRP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive															
					125	150	200	250	300	350	400	500	600	650	750	900	1000	1150	1250	1350
<b>Main Control Card</b>																				
6KAF61109	\$950.00	Control Card	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
<b>Keypad</b>																				
KYPDACGP1	\$500.00	Replacement Graphical Keypad	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
6KAF61007	\$45.00	Frame	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
<b>Power Card</b>																				
6KAF6H8696	\$2100.00	Power Card	-	-	1															
6KAF6H8680	\$2100.00	Power Card	-	-		1														
6KAF6H8681	\$2100.00	Power Card	-	-			1													
6KAF6H8682	\$2100.00	Power Card	-	-				1												
6KAF6H8683	\$2100.00	Power Card	-	-					1											
6KAF6H8684	\$2100.00	Power Card	-	-						1										
6KAF6H8685	\$2100.00	Power Card	-	-							1									
6KAF6H8686	\$2100.00	Power Card	-	-								1								
6KAF6H8687	\$2100.00	Power Card	-	-									1							
6KAF6H8688	\$2100.00	Power Card	-	-										1						
6KAF6H8689	\$2100.00	Power Card	-	-											1					
6KAF6H8792	\$2625.00	Power Card	-	-												3				
6KAF6H8793	\$2625.00	Power Card	-	-													3			
6KAF6H8794	\$2625.00	Power Card	-	-														3		
6KAF6H8795	\$2625.00	Power Card	-	-															4	
6KAF6H8796	\$2625.00	Power Card	-	-																4
6KAF6H8308	\$95.00	PCA4 - Current Scaling PCA, 4.54 Ohm	-	-				1					1	1			2		3	
6KAF6H8309	\$95.00	PCA4 - Current Scaling PCA, 3.79 Ohm	-	-												1			2	
6KAF6H8310	\$95.00	PCA4 - Current Scaling PCA, 3.10 Ohm	-	-					1	1										
6KAF6H8311	\$95.00	PCA4 - Current Scaling PCA, 2.56 Ohm	-	-							1								2	
6KAF6H8312	\$95.00	PCA4 - Current Scaling PCA, 5.10 Ohm	-	-								1								
6KAF6H8525	\$95.00	PCA4 - Current Scaling PCA, 5.85 Ohm	-	-		1	1													
6KAF6H8773	\$1840.00	MDCIC Board, CC	-	-													1	1	1	1
6KAF6H8626	\$1640.00	PCA5 - Gate Drive PCA,CC	-	-		1	1	1	1	1	1	1	1	1	1	1	1	1	1	
6KAF6H8523	\$215.00	PCAB - HF PCA	-	-		1	1	1	1	1	1	1	1	1	1	1	1	1	1	
6KAF6H8522	\$1535.00	PCA11 - Softcharge PCA, CC	-	-		1	1	1	1	1	1	1	1	1	1	1	1	1	1	
6KAF6H8466	\$1535.00	PCA11 - Softcharge PCA, CC	-	-												1	1	1	1	
6KAF6H8526	\$250.00	PCA9 - Balance, PCA	-	-		1	1	1	2	2	2	2	2	2	2	2	2	2	2	
<b>Inverter IGBTs</b>																				
6KAF6H8632	\$8300.00	IGBT 1, 2 - IGBT kit, 300A	-	-		1	1		2	2										
6KAF6H8633	\$10815.00	IGBT 1, 2 - IGBT kit, 50A	-	-				1			2	2								
6KAF6H8634	\$8440.00	IGBT 1,2,3 - IGBT kit, 300A	-	-								2	2							
6KAF6H8635	\$10975.00	IGBT 1,2,3 - IGBT kit, 450A	-	-												3	3			
6KAF6H8534	\$160.00	C2,3,4,5,6,7,8,9,10 - CAP IGBT Snubber, 1250V, 1uF	-	-		3	3	3	6	6	6	6	9	9	9	9	9	9	9	
6KAF6H8760	\$196925.00	Inverter Module	-	-															2	
6KAF6H8761	\$291985.00	Inverter Module	-	-															2	
6KAF6H8762	\$322260.00	Inverter Module	-	-															2	
6KAF6H8763	\$196925.00	Inverter Module	-	-															3	
6KAF6H8764	\$291985.00	Inverter Module	-	-															3	
<b>Brake IGBT</b>																				
6KAF6H8316	\$3370.00	IGBT 4, 5 - Brake IGBT kit	-	-		1	1	1	2	2	2	2	2	2	2	2	2	2	2	
<b>Rectifiers</b>																				
6KAF6H8529	\$1415.00	SCR 1, 2, 3 - SCR/Diode kit, 160A	-	-		3	3	3	3											
6KAF6H8530	\$2830.00	SCR 1, 2, 3 - SCR/Diode kit, 280A	-	-						3	3	3								
6KAF6H8434	\$3360.00	SCR 1, 2, 3 - SCR kit, 430A	-	-									3	3	3	3				
6KAF6H8435	\$4290.00	D 1, 2, 3 - Diode kit, 540A	-	-										3	3	3	3			
6KAF6H8729	\$265810.00	Rectifier Module	-	-															1	
6KAF6H8730	\$265810.00	Rectifier Module	-	-															1	
6KAF6H8731	\$265810.00	Rectifier Module	-	-															1	
6KAF6H8732	\$357675.00	Rectifier Module	-	-															1	
6KAF6H8733	\$357675.00	Rectifier Module	-	-															1	
<b>Current Transducers</b>																				
6KAF6H8342	\$525.00	L2, 3, 4 - Current Sensor, 300A	-	-		3	3	3	3	3	3									
6KAF6H8343	\$750.00	L2, 3, 4 - Current Sensor, 500A	-	-										3	3	3	3			
6KAF6H8563	\$1925.00	L2, 3, 4 - Current Sensor, 1000A	-	-															3	
<b>DC Link</b>																				
6KAF6H8532	\$5420.00	CBANK 1, 2 - CAP Bank, 4 Cap	-	-		1	1		2	2	1									
6KAF6H8533	\$7360.00	CBANK 1, 2 - CAP Bank, 6 Cap	-	-				1			1	2								
6KAF6H8638	\$12310.00	CBANK 1, 2 - CAP Bank, 8 Cap	-	-										2	2	2	2			
6KAF6H8536	\$3435.00	L1 - Bus Inductor, 350uH	-	-		1	1													
6KAF6H8537	\$3550.00	L1 - Bus Inductor, 250uH	-	-				1												
6KAF6H8538	\$3975.00	L1 - Bus Inductor, 195uH	-	-					1	1										
6KAF6H8339	\$3720.00	L1 - Bus Inductor, 136uH	-	-							1									
6KAF6H8340	\$3950.00	L1 - Bus Inductor, 109uH	-	-								1								
6KAF6H8469	\$8730.00	L1 - Bus Inductor, 73uH	-	-									1	1	1	1				
6KAF6H8531	\$565.00	R1 - Softcharge Resistor, 68 Ohm, 110W	-	-		1	1	1	1	1	1	1								
6KAF6H8467	\$550.00	R1 - Softcharge Resistor, 68 Ohm, 155W	-	-										1	1	1	1			

AF-650 GP General Purpose Drive



# AF-650 GP General Purpose Drive Replacement Parts

IP 00 - 690 Vac, 3-Phase, 50/60Hz Input (continued)

IP 21/54 - 690 Vac, 3-Phase, 50/60Hz Input (continued)

Product Number	List Price GO-SRP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive														
					125	150	200	250	300	350	400	500	600	650	750	900	1000	1150	1250
<b>Fuses</b>																			
6KAF6H8334	\$300.00	FU 1, 2, 3 - Fuse Main, 350A	-			3	3	3											
6KAF6H8591	\$560.00	FU 1, 2, 3 - Fuse Main, 700A	-									3	3	3					
6KAF6H8592	\$850.00	FU 1, 2, 3 - Fuse Main, 900A	-												3				
6KAF6H8540	\$570.00	FU 1, 2, 3 - Fuse Main, 550A	-				3	3	3	3									
6KAF6H8769	\$3560.00	Fuse Mains, 2000A	-												3	3	3	3	
6KAF6H8767	\$1555.00	Fuse DC, 1100A	-												4	4	4	6	
6KAF6H8336	\$130.00	Fuse Softcharge, 20A, PKG3	-		1	1	1	1	1	1	1	1	1	1	1	1	1	1	
6KAF6H8440	\$80.00	FU 5 - Fuse, 4A, PKG3, Power PCA, Fan	-		1	1	1	1	1	1	1	1	1	1	1	1	1	1	
6KAF6H8440	\$80.00	FU 4 - Fuse, 4A, PKG3, Power PCA, Fan	-		1	1	1	1	1	1	1	1	1	1					
6KAF6H8609	\$225.00	FU 4 - Fuse, 15A, PKG3, Fan	-												1	1			
<b>Fans</b>																			
6KAF6H8329	\$2185.00	F1+C1 - Heatsink Fan Assy	-		1	1	1	1	1	1	1								
6KAF6H8578	\$4275.00	F1+C1 - Heatsink Fan Assy	-									1	1						
6KAF6H8579	\$9975.00	F1+C1 - Heatsink Fan Assy	-											1	1				
6KAF6H8771	\$2990.00	Heatsink Fan	-													3	3	3	4
6KAF6H8330	\$1580.00	F 2,3 - Door Fan Kit	41/42/51		1	1	1	1	1	1	1	1	1	1	1	1	1	1	
6KAF6H8331	\$170.00	Door Vent kit	41/42/51		1	1	1	1	1	1	1	1	1	1	1	1	1	1	
6KAF6H8332	\$150.00	Door Fan Filter, PKG10 (IP54/Nema 12 Drive)	41/42/51		1	1	1	1	1	1	1	1	1	1	1	1	1	1	
6KAF6H8639	\$225.00	F 4 - DC Top Fan, IP00/Open Chassis	43/44		1	1	1	1	1	1	1								
6KAF6H8333	\$1150.00	F 2 - Door/Top AC Fan	52									1	1	1	1				
6KAF6H8333	\$1150.00	F 2, 3 - Door/Top AC Fan	41/42/51		1	1	1	1	1	1	1	1	1	1	1	1	1	1	
6KAF6H8772	\$4250.00	Door Fan	-													3	3	3	3
6KAF6H8535	\$800.00	TR1 - Fan Transformer Assy, 690V, 400VA	-		1	1	1	1	1	1	1	1	1	1					
6KAF6H8471	\$570.00	TR 1 - Fan Transformer Assy	-												1	1			
6KAF6H8577	\$1410.00	L5 - Heatsink Fan Inductor	-												1	1			

## High Power Cables

IP 00 - 460 Vac, 3-Phase, 50/60Hz Input

IP 21/54 - 460 Vac, 3-Phase, 50/60Hz Input

Product Number	List Price GO-SRP	Description	Unit Size	Drive Hp and Quantity Per Drive															
				125	150	200	250	300	350	450	500	550							
<b>Cables</b>																			
6KAF6H8640	\$70.00	CBL1 - Keypad Cable for IP54/Nema 12 Drive Type	41/42	1	1	1	1	1											
6KAF6H8586	\$75.00	CBL1 - Keypad Cable	5X									1	1	1	1	1	1	1	
6KAF6H8641	\$80.00	CBL2 - Control Cable PCA, 44pin	4X & 5X	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
6KAF6H8541	\$185.00	CBL5 - Current Sensor Cable	4X	1	1														
6KAF6H8349	\$365.00	CBL5 - Currnet Sensor Cable	42			1	1	1											
6KAF6H8568	\$235.00	CBL5 - Current Sensor Cable	5X									1							
6KAF6H8569	\$245.00	CBL5 - Current Sensor Cable	5X											1	1	1	1	1	
6KAF6H8542	\$75.00	CBL8 - HS Fan Cable	41	1	1														
6KAF6H8359	\$100.00	CBL8 - HS Fan Cable	42			1	1	1											
6KAF6H8571	\$80.00	CBL8 - Fan Cable for IP00/Open Chassis Drive Type	51									1							
6KAF6H8572	\$120.00	CBL8 - Fan Cable for IP54/Nema 12 Drive Type	52									1							
6KAF6H8573	\$85.00	CBL8 - Fan Cable for IP00/Open Chassis Drive Type	51											1	1	1	1	1	
6KAF6H8574	\$125.00	CBL8 - Fan Cable for IP54/Nema 12 Drive Type	52									1	1	1	1	1	1	1	
6KAF6H8354	\$60.00	CBL9 - Softcharge Cable RST prime	4X	1	1	1	1	1	1										
6KAF6H8570	\$55.00	CBL9 - Softcharge Cable RST prime	5X									1	1	1	1	1	1	1	
6KAF6H8358	\$55.00	CBL12 - Door Fan Cable	41/42	1	1	1	1	1											
6KAF6H8544	\$110.00	CBL13 - SCR Cable	41	1	1														
6KAF6H8357	\$110.00	CBL13 - SCR Cable	42			1	1	1											
6KAF6H8575	\$205.00	CBL13 - SCR Cable	5X									1	1	1	1	1	1	1	
6KAF6H8356	\$45.00	CBL14 - DC to Power PCA Cable	4X	1	1	1	1	1	1										
6KAF6H8576	\$50.00	CBL14 - DC to Power PCA Cable	5X									1	1	1	1	1	1	1	
6KAF6H8830	\$20.00	CBL15 - RFI Switch Cable	4X	1	1	1	1	1	1										
6KAF6H8580	\$65.00	CBL15 - RFI Switch Cable	5X									1	1	1	1	1	1	1	
6KAF6H8363	\$30.00	CBL16 - Gate Driver Cable, 16pin	41	1	1														
6KAF6H8350	\$41.00	CBL16 - Gate Driver Cable, 16pin	42					1	1	1									
6KAF6H8581	\$45.00	CBL16 - Gate Driver Cable, 16pin	5X									1	1	1	1	1	1	1	
6KAF6H8364	\$60.00	CBL17,18,19 IGBT Gate Cable	41	3	3														
6KAF6H8351	\$95.00	CBL17,18,19 - IGBT Gate Cable	42					3	3	3									
6KAF6H8582	\$40.00	CBL17,18,19 - IGBT Gate Cable	51									3	3	3	3	3	3	3	
6KAF6H8352	\$65.00	CBL20 - IGBT Temperature Cable	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
6KAF6H8365	\$40.00	CBL21 - Brake IGBT Cable	41	1	1														
6KAF6H8368	\$65.00	CBL21 - Brake IGBT Cable	42					1	1	1									
6KAF6H8583	\$85.00	CBL21 - Brake IGBT Cable	5X									1	1	1	1	1	1	1	
6KAF6H8366	\$320.00	CBL22 - Brake Power Plus Cable	41	1	1														
6KAF6H8369	\$595.00	CBL22 - Brake Power Plus Cable	42					1	1	1									
6KAF6H8367	\$320.00	CBL23 - Brake Power Minus Cable	41	1	1														
6KAF6H8370	\$550.00	CBL23 - Brake Power Minus Cable	42					1	1	1									
6KAF6H8543	\$55.00	CBL24 - Softcharge RST Cable	41	1	1														





# AF-650 GP General Purpose Drive Replacement Parts

IP 00 - 460 Vac, 3-Phase, 50/60Hz Input (continued)

IP 21/54 - 460 Vac, 3-Phase, 50/60Hz Input (continued)

Product Number	List Price GO-SRP	Description	Unit Size	Drive Hp and Quantity Per Drive										
				125	150	200	250	300	350	450	500	550		
<b>Cables (continued)</b>														
6KAF6H8353	\$75.00	CBL24 - Softcharge RST Cable	42			1	1	1						
6KAF6H8584	\$45.00	CBL24 - Softcharge RST Cable	5X						1	1	1	1	1	
6KAF6H8355	\$45.00	CBL25 - Softcharge to DC Bus Cable	4X	1	1	1	1	1						
6KAF6H8585	\$40.00	CBL25 - Softcharge to DC Bus Cable	5X						1	1	1	1	1	
6KAF6H8613	\$65.00	CBL26 - Fuse Fan Cable	5X						1	1	1	1	1	
<b>Terminals, Labels, Insulators</b>														
6KAF6H8374	\$215.00	TB1 - Bus Bars, Terminals Line/Load	4X	3	3									
6KAF6H8375	\$260.00	TB1 - Bus Bars, Terminals Line/Load	4X			3	3	3						
6KAF6H8587	\$690.00	TB1 - Bus Bars, Terminal Block	5X						3	3	3	3	3	
6KAF6H8374	\$215.00	TB2 - Bus Bars, Terminals Line/Load	4X	3	3									
6KAF6H8375	\$255.00	TB2 - Bus Bars, Terminals Line/Load	4X			3	3	3						
6KAF6H8587	\$690.00	TB2 - Bus Bars, Terminal Block	5X						3	3	3	3	3	
6KAF6H8395	\$260.00	TB3 - Bus Bars, Terminal, Load Share & Brake	4X	2	2	2	2	2						
6KAF6H8399	\$410.00	TB3 - Bus Bars, Terminal, Load Share, Left	4X						1	1	1	1	1	
6KAF6H8404	\$415.00	TB3 - Bus Bars, Terminal, Load Share, Right	4X						1	1	1	1	1	
6KAF6H8395	\$260.00	TB4 - Bus Bars, Terminal, Load Share & Brake	4X	2	2									
6KAF6H8399	\$410.00	TB4 - Bus Bars, Terminal, Load Share, Left	4X			1	1	1						
6KAF6H8404	\$415.00	TB4 - Bus Bars, Terminal, Load Share, Right	4X			1	1	1						
6KAF6H8587	\$690.00	TB4 - Bus Bars, Terminal Block	5X						2	2	2	2	2	
6KAF6H8371	\$135.00	TB1 - Terminal Insulator Line/Load	4X	1	1	1	1	1						
6KAF6H8588	\$155.00	TB1 - Insulator Terminal Block	5X						3	3	3	3	3	
6KAF6H8371	\$135.00	TB2 - Terminal Insulator Line/Load	4X	1	1	1	1	1						
6KAF6H8588	\$155.00	TB2 - Insulator Terminal Block	5X						3	3	3	3	3	
6KAF6H8372	\$80.00	TB3 - Terminal Insulator, Brake & Load Share	4X	1	1	1	1	1	1	1	1	1	1	
6KAF6H8372	\$80.00	TB4 - Terminal Insulator, Brake & Load Share	4X	1	1	1	1	1						
6KAF6H8588	\$155.00	TB4 - Insulator Terminal Block	5X						2	2	2	2	2	
6KAF6H8373	\$515.00	Terminal Block Label Set	4X	1	1	1	1	1						
6KAF6H8589	\$1460.00	Terminal Block Label Set	5X						1	1	1	1	1	
6KAF6H8545	\$60.00	Insulator Mylar for IGBT Bus	41	1	1									
6KAF6H8421	\$65.00	Insulator Mylar for IGBT Bus	42			1	1	1						
6KAF6H8590	\$150.00	Insulator for IGBT- Chassis	5X						1	1	1	1	1	
6KAF6H8547	\$30.00	Insulator for IGBT Snubber Capacitor Support	-	1	1	2	2	2						
6KAF6H8410	\$285.00	Bus Bar Stand Off, PKG10	-	12	12	17	17	17	11	11	11	11	11	
6KAF6H8610	\$230.00	IGBT Output Standoff, PKG9	5X						9	9	9	9	9	
<b>Bus Bars</b>														
6KAF6H8380	\$145.00	Bus Bars, SCR, R S T	4X	3	3									
6KAF6H8548	\$95.00	Bracket, SCR Bus Bars Support	4X	1	1									
6KAF6H8394	\$210.00	Bus Bars, SCR Input	4X			3								
6KAF6H8387	\$180.00	Bus Bars, SCR Plus, 1	4X				3	3						
6KAF6H8595	\$1270.00	Bus Bars, SCR/DI Input	5X						3	3	3	3	3	
6KAF6H8379	\$620.00	Bus Bars Assy, SCR	4X	1	1									
6KAF6H8381	\$150.00	Bus Bars, SCR Minus	4X	2	2									
6KAF6H8393	\$325.00	Bus Bars, SCR DC	-			2								
6KAF6H8385	\$290.00	Bus Bars, SCR Minus, 1	4X				2	2						
6KAF6H8386	\$380.00	Bus Bars, SCR Minus, 2	4X			1	1	1						
6KAF6H8388	\$380.00	Bus Bars, SCR Plus, 2	4X			1	1	1						
6KAF6H8596	\$1535.00	Bus Bars, SCR/DI Output	5X						2	2	2	2	2	
6KAF6H8597	\$2500.00	Bus Bars, DC Bus Plus, Before DC Reactor	5X						1	1	1	1	1	
6KAF6H8598	\$2500.00	Bus Bars, DC Bus Minus, Before DC Reactor	5X						1	1	1	1	1	
6KAF6H8549	\$150.00	Bus Bars, DC Link, Plus	4X	1	1									
6KAF6H8391	\$190.00	Bus Bars, DC Link, Plus	4X	1	1									
6KAF6H8382	\$265.00	Bus Bars, DC Link Minus	4X			2	2	2						
6KAF6H8599	\$715.00	Bus Bars, DC Bus, After DC Reactor	5X						2	2	2	2	2	
6KAF6H8376	\$670.00	Bus Bars Assy, IGBT	4X	1	1									
6KAF6H8377	\$675.00	Bus Bars Assy, IGBT-Inductor	4X			1	1	1						
6KAF6H8378	\$690.00	Bus Bars Assy, IGBT-Capacitor	4X			1	1	1						
6KAF6H8600	\$3675.00	Bus Bars Assy, IGBT-Inductor	5X						1	1	1	1	1	
6KAF6H8601	\$865.00	Bus Bars Assy, IGBT-Capacitor	5X						3	3	3	3	3	
6KAF6H8390	\$100.00	Bus Bars, IGBT, U V W	4X	3	3									
6KAF6H8392	\$230.00	Bus Bars, Motor, 2	4X	3	3									
6KAF6H8383	\$260.00	Bus Bars, Motor, U W	4X			2	2	2						
6KAF6H8384	\$215.00	Bus Bars, Motor V	4X			1	1	1						
6KAF6H8389	\$220.00	Bus Bars, I-Sensor	4X			3	3	3						
6KAF6H8602	\$1175.00	Bus Bars, IGBT Output	5X						3	3	3	3	3	
6KAF6H8603	\$1180.00	Bus Bars, Over Fan Box	5X						3	3	3	3	3	
6KAF6H8604	\$530.00	Bus Bars, Current Sensor 5352	5X						3					
6KAF6H8605	\$550.00	Bus Bars, Current Sensor 5452-5502	4X							3	3	3	3	
6KAF6H8397	\$190.00	Bus Bars, Brake Plus	4X	1	1									
6KAF6H8398	\$210.00	Bus Bars, Brake Minus	4X	1	1									
6KAF6H8396	\$320.00	Bus Bars, Brake	4X			1	1	1						

AF-650 GP General Purpose Drive



# AF-650 GP General Purpose Drive Replacement Parts

## IP 00 - 460 Vac, 3-Phase, 50/60Hz Input (continued)

### IP 21/54 - 460 Vac, 3-Phase, 50/60Hz Input (continued)

Product Number	List Price GO-SRP	Description	Unit Size	Drive Hp and Quantity Per Drive								
				125	150	200	250	300	350	450	500	550
<b>Bus Bars (continued)</b>												
6KAF6H8606	\$8620.00	Bus Bars, Brake Assy	5X						1	1	1	1
6KAF6H8401	\$475.00	Bus Bars, Load Share Plus	4X	1	1							
6KAF6H8400	\$460.00	Bus Bars, Load Share Minus	4X	1	1							
6KAF6H8403	\$855.00	Bus Bars, Load Share Plus	4X			1	1	1				
6KAF6H8402	\$655.00	Bus Bars, Load Share Minus	4X			1	1	1				
6KAF6H8607	\$2055.00	Bus Bars, Load Share Plus	5X						1	1	1	1
6KAF6H8608	\$2070.00	Bus Bars, Load Share Minus	5X						1	1	1	1
6KAF6H8405	\$1370.00	Bus Bars, SCR Input 2	4X	3	3							
6KAF6H8406	\$835.00	Bus Bars, SCR, T, 1	4X			3	3	3				

## IP 00 - 690 Vac, 3-Phase, 50/60Hz Input

### IP 21/54 - 690 Vac, 3-Phase, 50/60Hz Input

Product Number	List Price GO-SRP	Description	Unit Size	Drive Hp and Quantity Per Drive									
				125	150	200	250	300	350	450	500	550	600
<b>Cables</b>													
6KAF6H8640	\$70.00	CBL1 - Keypad Cable for IP54/Nema 12 Drive Type	41/42			1	1	1	1	1	1		
6KAF6H8586	\$75.00	CBL1 - Keypad Cable	5X								1	1	
6KAF6H8641	\$80.00	CBL2 - Control Cable PCA, 44pin	4X & 5X		1	1	1	1	1	1	1	1	
6KAF6H8541	\$185.00	CBL5 - Current Sensor Cable	4X		1	1	1						
6KAF6H8349	\$365.00	CBL5 - Current Sensor Cable	42				1	1	1	1			
6KAF6H8568	\$235.00	CBL5 - Current Sensor Cable	5X							1	1	1	
6KAF6H8569	\$245.00	CBL5 - Current Sensor Cable	5X									1	
6KAF6H8542	\$75.00	CBL8 - HS Fan Cable	41		1	1	1						
6KAF6H8359	\$100.00	CBL8 - HS Fan Cable	42				1	1	1	1			
6KAF6H8571	\$80.00	CBL8 - Fan Cable for IP00/Open Chassis Drive Type	51							1	1		
6KAF6H8572	\$120.00	CBL8 - Fan Cable for IP54/Nema 12 Drive Type	52							1	1		
6KAF6H8573	\$85.00	CBL8 - Fan Cable for IP00/Open Chassis Drive Type	51								1	1	
6KAF6H8574	\$125.00	CBL8 - Fan Cable for IP54/Nema 12 Drive Type	52								1	1	
6KAF6H8354	\$60.00	CBL9 - Softcharge Cable RST prime	4X		1	1	1	1	1	1			
6KAF6H8570	\$55.00	CBL9 - Softcharge Cable RST prime	5X							1	1	1	
6KAF6H8358	\$55.00	CBL12 - Door Fan Cable	41/42		1	1	1	1	1	1			
6KAF6H8544	\$110.00	CBL13 - SCR Cable	41		1	1	1						
6KAF6H8357	\$110.00	CBL13 - SCR Cable	42				1	1	1	1			
6KAF6H8575	\$205.00	CBL13 - SCR Cable	5X							1	1	1	
6KAF6H8356	\$45.00	CBL14 - DC to Power PCA Cable	4X		1	1	1	1	1	1			
6KAF6H8576	\$50.00	CBL14 - DC to Power PCA Cable	5X							1	1	1	
6KAF6H8363	\$30.00	CBL16 - Gate Driver Cable, 16pin	41		1	1	1						
6KAF6H8350	\$41.00	CBL16 - Gate Driver Cable, 16pin	42				1	1	1	1			
6KAF6H8581	\$45.00	CBL16 - Gate Driver Cable, 16pin	5X							1	1	1	
6KAF6H8364	\$60.00	CBL17,18,19 IGBT Gate Cable	41		3	3	3						
6KAF6H8351	\$95.00	CBL17,18,19 - IGBT Gate Cable	42				3	3	3	3			
6KAF6H8582	\$40.00	CBL17,18,19 - IGBT Gate Cable	51							3	3	3	
6KAF6H8352	\$65.00	CBL20 - IGBT Temperature Cable	-		1	1	1	1	1	1	1	1	
6KAF6H8365	\$40.00	CBL21 - Brake IGBT Cable	41		1	1	1						
6KAF6H8368	\$65.00	CBL21 - Brake IGBT Cable	42				1	1	1	1			
6KAF6H8583	\$85.00	CBL21 - Brake IGBT Cable	5X							1	1	1	
6KAF6H8366	\$320.00	CBL22 - Brake Power Plus Cable	41		1	1	1						
6KAF6H8369	\$595.00	CBL22 - Brake Power Plus Cable	42				1	1	1	1			
6KAF6H8367	\$320.00	CBL23 - Brake Power Minus Cable	41		1	1	1						
6KAF6H8370	\$550.00	CBL23 - Brake Power Minus Cable	42				1	1	1	1			
6KAF6H8543	\$55.00	CBL24 - Softcharge RST Cable	41		1	1	1						
6KAF6H8353	\$75.00	CBL24 - Softcharge RST Cable	42				1	1	1	1			
6KAF6H8584	\$45.00	CBL24 - Softcharge RST Cable	5X							1	1	1	
6KAF6H8355	\$45.00	CBL25 - Softcharge to DC Bus Cable	4X		1	1	1	1	1	1			
6KAF6H8585	\$40.00	CBL25 - Softcharge to DC Bus Cable	5X							1	1	1	
6KAF6H8613	\$65.00	CBL26 - Fuse Fan Cable	5X							1	1	1	
<b>Terminals, Labels, Insulators</b>													
6KAF6H8374	\$215.00	TB1 - Bus Bars, Terminals Line/Load	4X		3	3	3						
6KAF6H8375	\$260.00	TB1 - Bus Bars, Terminals Line/Load	4X				3	3	3	3			
6KAF6H8587	\$690.00	TB1 - Bus Bars, Terminal Block	5X							3	3	3	
6KAF6H8374	\$215.00	TB2 - Bus Bars, Terminals Line/Load	4X		3	3	3						
6KAF6H8375	\$255.00	TB2 - Bus Bars, Terminals Line/Load	4X				3	3	3	3			
6KAF6H8587	\$690.00	TB2 - Bus Bars, Terminal Block	5X							3	3	3	
6KAF6H8395	\$260.00	TB3 - Bus Bars, Terminal, Load Share & Brake	4X		2	2	2	2	2	2			
6KAF6H8399	\$410.00	TB3 - Bus Bars, Terminal, Load Share, Left	4X							1	1	1	
6KAF6H8404	\$415.00	TB3 - Bus Bars, Terminal, Load Share, Right	4X							1	1	1	
6KAF6H8395	\$260.00	TB4 - Bus Bars, Terminal, Load Share & Brake	4X		2	2	2						



# AF-650 GP General Purpose Drive Replacement Parts

IP 00 - 690 Vac, 3-Phase, 50/60Hz Input (continued)

IP 21/54 - 690 Vac, 3-Phase, 50/60Hz Input (continued)

Product Number	List Price GO-SRP	Description	Unit Size	Drive Hp and Quantity Per Drive																			
				125	150	200	250	300	350	450	500	550	600	650									
<b>Terminals, Labels, Insulators (continued)</b>																							
6KAF6H8399	\$410.00	TB4 - Bus Bars, Terminal, Load Share, Left	4X				1	1	1	1													
6KAF6H8404	\$415.00	TB4 - Bus Bars, Terminal, Load Share, Right	4X				1	1	1	1													
6KAF6H8587	\$690.00	TB4 - Bus Bars, Terminal Block	5X										2	2	2	2							
6KAF6H8371	\$135.00	TB1 - Terminal Insulator Line/Load	4X	1	1	1	1	1	1	1	1												
6KAF6H8588	\$155.00	TB1 - Insulator Terminal Block	5X										3	3	3	3							
6KAF6H8371	\$135.00	TB2 - Terminal Insulator Line/Load	4X	1	1	1	1	1	1	1	1												
6KAF6H8588	\$155.00	TB2 - Insulator Terminal Block	5X										3	3	3	3							
6KAF6H8372	\$80.00	TB3 - Terminal Insulator, Brake & Load Share	4X	1	1	1	1	1	1	1	1	1	1	1	1	1							
6KAF6H8372	\$80.00	TB4 - Terminal Insulator, Brake & Load Share	4X	1	1	1	1	1	1	1	1												
6KAF6H8588	\$155.00	TB4 - Insulator Terminal Block	5X										2	2	2	2							
6KAF6H8373	\$515.00	Terminal Block Label Set	4X	1	1	1	1	1	1	1	1												
6KAF6H8589	\$1460.00	Terminal Block Label Set	5X										1	1	1	1							
6KAF6H8545	\$60.00	Insulator Mylar for IGBT Bus	41	1	1	1																	
6KAF6H8421	\$65.00	Insulator Mylar for IGBT Bus	42				1	1	1	1													
6KAF6H8590	\$150.00	Insulator for IGBT- Chassis	5X										1	1	1	1							
6KAF6H8547	\$30.00	Insulator for IGBT Snubber Capacitor Support	-	1	1	1	2	2	2	2	2												
6KAF6H8546	\$160.00	Line Fuse Insulator	-				1	1	1	1													
6KAF6H8410	\$285.00	Bus Bar Stand Off, PKG10	-	12	12	12	17	17	17	17	17	11	11	11	11	11	11	11	11	11	11		
6KAF6H8610	\$230.00	IGBT Output Standoff, PKG9	5X										9	9	9	9							
<b>Bus Bars</b>																							
6KAF6H8380	\$145.00	Bus Bars, SCR, R S T	4X	3	3	3																	
6KAF6H8548	\$95.00	Bracket, SCR Bus Bars Support	4X	1	1	1																	
6KAF6H8394	\$210.00	Bus Bars, SCR Input	4X				3																
6KAF6H8387	\$180.00	Bus Bars, SCR Plus, 1	4X					3	3	3													
6KAF6H8700	\$1615.00	Bus Bars, SCR/DI Input	5X										3	3	3	3							
6KAF6H8379	\$620.00	Bus Bars Assy, SCR	4X	1	1	1																	
6KAF6H8381	\$150.00	Bus Bars, SCR Minus	4X	2	2	2																	
6KAF6H8393	\$325.00	Bus Bars, SCR DC	-				2																
6KAF6H8385	\$290.00	Bus Bars, SCR Minus, 1	4X					2	2	2													
6KAF6H8386	\$380.00	Bus Bars, SCR Minus, 2	4X				1	1	1	1													
6KAF6H8388	\$380.00	Bus Bars, SCR Plus, 2	4X				1	1	1	1													
6KAF6H8701	\$1780.00	Bus Bars, SCR/DI Output	5X										2	2	2	2							
6KAF6H8597	\$2500.00	Bus Bars, DC Bus Plus, Before DC Reactor	5X										1	1	1	1							
6KAF6H8598	\$2500.00	Bus Bars, DC Bus Minus, Before DC Reactor	5X										1	1	1	1							
6KAF6H8549	\$150.00	Bus Bars, DC Link, Plus	4X	1	1	1																	
6KAF6H8391	\$190.00	Bus Bars, DC Link, Plus	4X	1	1	1																	
6KAF6H8382	\$265.00	Bus Bars, DC Link Minus	4X				2	2	2	2													
6KAF6H8599	\$715.00	Bus Bars, DC Bus, After DC Reactor	5X										2	2	2	2							
6KAF6H8376	\$670.00	Bus Bars Assy, IGBT	4X	1	1	1																	
6KAF6H8377	\$675.00	Bus Bars Assy, IGBT-Inductor	4X				1	1	1	1													
6KAF6H8378	\$690.00	Bus Bars Assy, IGBT-Capacitor	4X				1	1	1	1													
6KAF6H8600	\$3675.00	Bus Bars Assy, IGBT-Inductor	5X										1	1	1	1							
6KAF6H8601	\$865.00	Bus Bars Assy, IGBT-Capacitor	5X										3	3	3	3							
6KAF6H8390	\$100.00	Bus Bars, IGBT, U V W	4X	3	3	3																	
6KAF6H8392	\$230.00	Bus Bars, Motor, 2	4X	3	3	3																	
6KAF6H8383	\$260.00	Bus Bars, Motor, U W	4X				2	2	2	2													
6KAF6H8384	\$215.00	Bus Bars, Motor V	4X				1	1	1	1													
6KAF6H8389	\$220.00	Bus Bars, I-Sensor	4X				3	3	3	3													
6KAF6H8602	\$1175.00	Bus Bars, IGBT Output	5X										3	3	3	3							
6KAF6H8603	\$1180.00	Bus Bars, Over Fan Box	5X										3	3	3	3							
6KAF6H8604	\$530.00	Bus Bars, Current Sensor 5352	5X										3	3	3								
6KAF6H8605	\$550.00	Bus Bars, Current Sensor 5452-5502	4X																		3		
6KAF6H8397	\$190.00	Bus Bars, Brake Plus	4X	1	1	1																	
6KAF6H8398	\$210.00	Bus Bars, Brake Minus	4X	1	1	1																	
6KAF6H8396	\$320.00	Bus Bars, Brake	4X				1	1	1	1													
6KAF6H8606	\$8620.00	Bus Bars, Brake Assy	5X										1	1	1	1							
6KAF6H8401	\$475.00	Bus Bars, Load Share Plus	4X	1	1	1																	
6KAF6H8400	\$460.00	Bus Bars, Load Share Minus	4X	1	1	1																	
6KAF6H8403	\$855.00	Bus Bars, Load Share Plus	4X				1	1	1	1													
6KAF6H8402	\$655.00	Bus Bars, Load Share Minus	4X				1	1	1	1													
6KAF6H8607	\$2055.00	Bus Bars, Load Share Plus	5X										1	1	1	1							
6KAF6H8702	\$2520.00	Bus Bars, Load Share Minus	5X										1	1	1	1							
6KAF6H8405	\$1370.00	Bus Bars, SCR Input 2	4X	3	3	3																	
6KAF6H8406	\$835.00	Bus Bars, SCR, T, 1	4X				3	3	3	3													

AF-650 GP General Purpose Drive



# AF-600 FP Fan and Pump Drive

## Product Description

The AF-600 FP Fan and Pump Drive is a powerful, flexible, and easy to use AC variable torque drive ideally suited for HVAC, compressor, and pump applications. The drive is available in a standard configuration that includes IP20 or IP00 Chassis, LCD Keypad Display that can be remote mounted, DC Link Reactors, built-in Modbus RTU, Metasys N2, Apogee FLN P1, and RFI Class A2 Filter. Models are available at 208/230V from 1 to 60HP, 460V from 1 to 1350HP, and 575V from 1 to 1350HP.

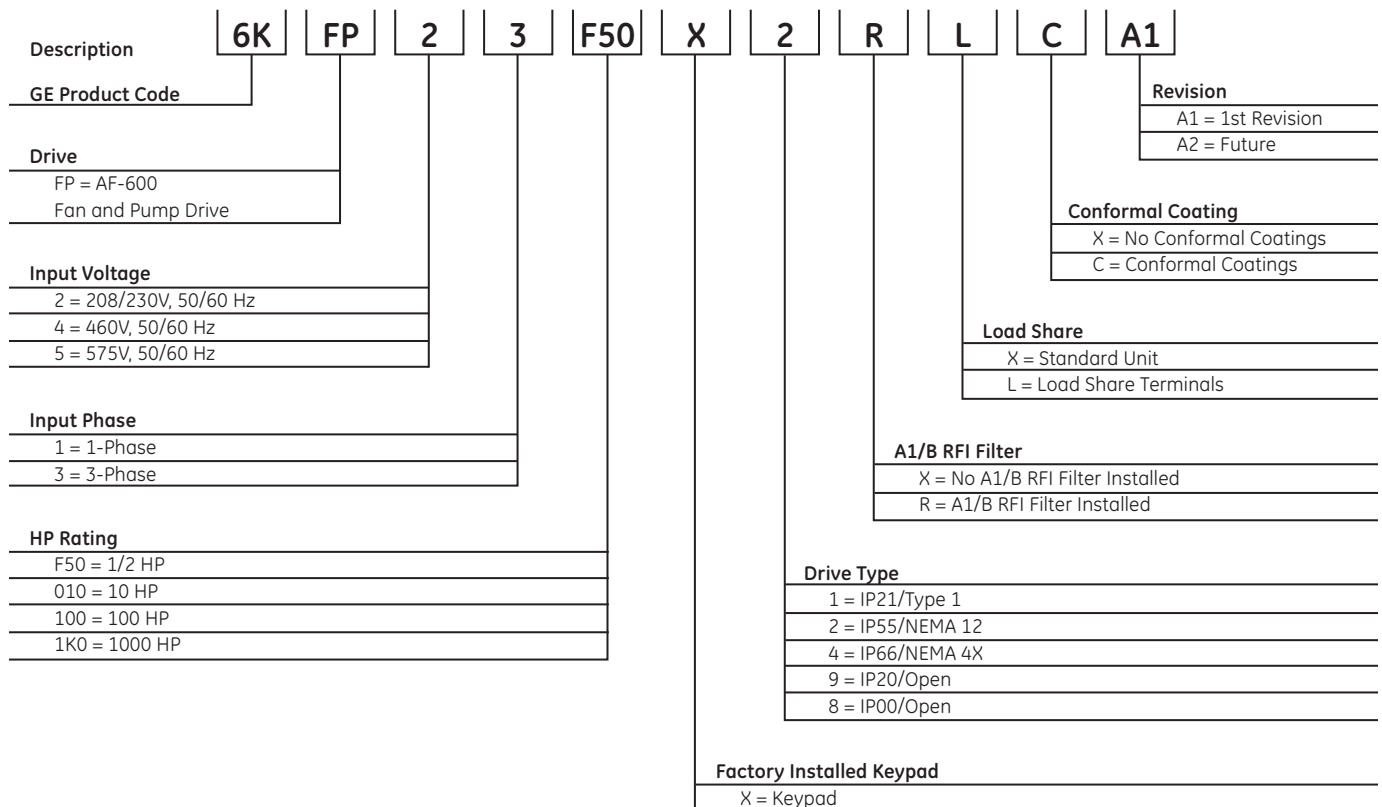
Standard features like motor auto tuning, four auto-tuning PID controls, energy savings mode, and energy monitoring make the AF-600 FP ideal for all your fan, pump, compressor, and blower applications. Its Quick Menu, Application Macros, and intuitive Keypad make it a time saver for start-up and commissioning. Optional LonWorks and BACnet communications modules along with IP55/54 NEMA 12 and IP66/NEMA 4X rated units allows it to be integrated into your building automation systems and stand-alone installations. Optional I/O modules and conformal coatings allow it to be used in complex or very harsh environments if needed. The AF-600 FP is Plenum rated for mounting inside air handling ducts.



AF-600 FP Fan and Pump Drive

## Product Numbering System Diagram

(Product number for illustrative purposes only)



# AF-600 FP Fan and Pump Drive Pricing

## 230V, 1-Phase, 50/60Hz Input

HP Rating	kW Rating	Rated Output Amps	Overload Amps (110% 1 Min)	Standard Unit Includes:	Standard Unit Product No.	List Price GO-5FP	List Price Adders, GO-5FP					
							Drive Type (Digit 11)		Factory Installed Options (Digit 14) (Digit 15) (Digit 16)			
							(1) IP21 NEMA 1	(2) IP55 NEMA 12	(R) RFI filter A1/B	(X) Future Use	(C) Conformal Coating	
2	1.5	7.5	8.3	IP21/NEMA 1 <sup>1</sup> RFI: A2 Keypad	6KFP21002X1XXXXA1	\$2015.00	std	\$250.00		\$150.00	N/A	\$210.00
3	2.2	10.6	11.7		6KFP21003X1XXXXA1	\$2020.00	std	\$250.00		\$150.00	N/A	\$210.00
5	3.7	16.7	18.4		6KFP21005X1XXXXA1	\$2290.00	std	\$275.00		\$230.00	N/A	\$210.00
7.5	5.5	24.2	26.6		6KFP21007X1XXXXA1	\$2400.00	std	\$555.00		\$455.00	N/A	\$210.00
10	7.5	30.8	33.9		6KFP21010X1XXXXA1	\$2665.00	std	\$555.00		\$455.00	N/A	\$210.00
20	15	59.4	65.3		6KFP21020X1XXXXA1 <sup>2</sup>	\$5440.00	std	\$960.00		N/A	N/A	\$210.00
30	22	88	96.8		6KFP21030X1XXXXA1 <sup>2</sup>	\$8270.00	std	\$1370.00		N/A	N/A	\$210.00

<sup>1</sup>Drives are rated NEMA 1 without the need for a separate kit.

<sup>2</sup>A1/B Factory installed RFI Filters are not available and the units **do not** have as standard the A2 RFI Filter and furthermore **do not** meet EN55011 Class A2.

## 230V, 3-Phase, 50/60Hz Input

HP Rating	kW Rating	Rated Output Amps	Overload Amps (110% 1 Min)	Standard Unit <sup>3</sup> Includes:	Standard Unit Product No.	List Price GO-5FP	List Price Adders, GO-5FP					
							Drive Type (Digit 11)			Factory Installed Options (Digit 14) (Digit 15) (Digit 16)		
							(9) IP20 Chassis	(2) IP55 NEMA 12	(4) IP66 NEMA 4X	(R) RFI filter A1/B	(L) Load Share	(C) Conformal Coating
1	0.75	4.6	7.3	IP20 (9) Chassis RFI: A2 Keypad	6KFP23001X9XXXXA1	\$785.00	std	\$250.00	\$550.00	\$150.00	N/A	\$210.00
2	1.5	7.5	8.3		6KFP23002X9XXXXA1	\$850.00	std	\$250.00	\$550.00	\$150.00	N/A	\$210.00
3	2.2	10.6	11.7		6KFP23003X9XXXXA1	\$925.00	std	\$250.00	\$550.00	\$150.00	N/A	\$210.00
5	3.7	16.7	18.4		6KFP23005X9XXXXA1	\$1200.00	std	\$275.00	\$550.00	\$230.00	N/A	\$210.00
7.5	5.5	24.2	26.6		6KFP23007X9XXXXA1	\$1375.00	std	\$555.00	\$575.00	\$455.00	\$200.00*	\$210.00
10	7.5	30.8	33.9		6KFP23010X9XXXXA1	\$1650.00	std	\$555.00	\$920.00	\$455.00	\$234.00*	\$210.00
15	11	46.2	50.8		6KFP23015X9XXXXA1	\$2005.00	std	\$555.00	\$920.00	\$455.00	\$245.00*	\$210.00
20	15	59.4	65.3		6KFP23020X9XXXXA1	\$2405.00	std	\$960.00	\$1600.00	\$690.00	\$290.00	\$210.00
25	18.5	74.8	82.3		6KFP23025X9XXXXA1	\$2975.00	std	\$960.00	\$1950.00	\$690.00	\$350.00	\$210.00
30	22	88	96.8		6KFP23030X9XXXXA1	\$3700.00	std	\$1370.00	\$2390.00	\$1115.00	\$365.00	\$210.00
40	30	115	127		6KFP23040X9XXXXA1	\$5275.00	std	\$1370.00	\$2870.00	\$1115.00	\$430.00	\$210.00
50	37	143	157		6KFP23050X9XXXXA1	\$6295.00	std	\$1825.00	\$3270.00	\$1550.00	\$485.00	\$210.00
60	45	170	187		6KFP23060X9XXXXA1	\$7425.00	std	\$1825.00	\$3750.00	\$1550.00	\$560.00	\$210.00

<sup>3</sup>IP21/NEMA 1 Kits are available as Field Installed Options for all 230V drives from 1 HP to 60 HP. See Page 46.

\*Only for IP55/NEMA 12 and IP66/NEMA 4X

## 460V, 1-Phase, 50/60Hz Input

HP Rating	kW Rating	Rated Output Amps	Overload Amps (150% 1 Min)	Standard Unit Includes:	Standard Unit Product No.	List Price GO-5FP	List Price Adders, GO-5FP					
							Drive Type (Digit 11)		Factory Installed Options (Digit 14) (Digit 15) (Digit 16)			
							(1) IP21 NEMA 1	(2) IP55 NEMA 12	(R) RFI filter A1/B	(X) Future Use	(C) Conformal Coating	
10	7.5	14.5	21.8	IP21/NEMA 1 <sup>1</sup> RFI: A2 Keypad	6KFP41010X1XXXXA1	\$2885.00	std	\$275.00		\$275.00	N/A	\$210.00
15	11	21	31.5		6KFP41015X1XXXXA1 <sup>2</sup>	\$4040.00	std	\$555.00		N/A	N/A	\$210.00
25	18.5	34	51.0		6KFP41025X1XXXXA1 <sup>2</sup>	\$6975.00	std	\$555.00		N/A	N/A	\$210.00
50	37	65	97.5		6KFP41050X1XXXXA1 <sup>2</sup>	\$10255.00	std	\$960.00		N/A	N/A	\$210.00

<sup>1</sup>Drives are rated NEMA 1 without the need for a separate kit.

<sup>2</sup>A1/B Factory installed RFI Filters are not available and the units **do not** have as standard the A2 RFI Filter and furthermore **do not** meet EN55011 Class A2.

## 460V, 3-Phase, 50/60Hz Input

HP Rating	kW Rating	Rated Output Amps	Overload Amps (110% 1 Min)	Standard Unit <sup>4</sup> Includes:	Standard Unit Product No.	List Price GO-5FP	List Price Adders, GO-5FP					
							Drive Type (Digit 11)			Factory Installed Options (Digit 14) (Digit 15) (Digit 16)		
							(9) IP20 Chassis	(2) IP55 NEMA 12	(4) IP66 NEMA 4X	(R) RFI filter A1/B	(L) Load Share	(C) Conformal Coating
1	0.75	2.4	2.6	IP20 (9) Chassis RFI: A2 Keypad	6KFP43001X9XXXXA1	\$920.00	std	\$250.00	\$550.00	\$150.00	N/A	\$210.00
2	1.5	4.1	4.5		6KFP43002X9XXXXA1	\$980.00	std	\$250.00	\$550.00	\$150.00	N/A	\$210.00
3	2.2	5.6	6.2		6KFP43003X9XXXXA1	\$1120.00	std	\$250.00	\$550.00	\$150.00	N/A	\$210.00
5	4	10	11		6KFP43005X9XXXXA1	\$1260.00	std	\$275.00	\$550.00	\$275.00	N/A	\$210.00
7.5	5.5	13	14.3		6KFP43007X9XXXXA1	\$1410.00	std	\$275.00	\$550.00	\$275.00	N/A	\$210.00
10	7.5	16	17.6		6KFP43010X9XXXXA1	\$1720.00	std	\$275.00	\$575.00	\$275.00	N/A	\$210.00
15	11	24	26.4		6KFP43015X9XXXXA1	\$2030.00	std	\$555.00	\$575.00	\$455.00	\$200.00*	\$210.00
20	15	32	35.2		6KFP43020X9XXXXA1	\$2656.00	std	\$555.00	\$920.00	\$455.00	\$234.00*	\$210.00
25	18.5	37.5	41.3		6KFP43025X9XXXXA1	\$3370.00	std	\$555.00	\$920.00	\$455.00	\$245.00*	\$210.00
30	22	44	48.4		6KFP43030X9XXXXA1	\$3840.00	std	\$960.00	\$1600.00	\$690.00	\$290.00	\$210.00
40	30	61	67.1		6KFP43040X9XXXXA1	\$4855.00	std	\$960.00	\$1600.00	\$690.00	\$310.00	\$210.00
50	37	73	80.3		6KFP43050X9XXXXA1	\$5490.00	std	\$960.00	\$1600.00	\$690.00	\$350.00	\$210.00
60	45	90	99		6KFP43060X9XXXXA1	\$6500.00	std	\$1370.00	\$1950.00	\$1115.00	\$365.00	\$210.00
75	55	106	116.6		6KFP43075X9XXXXA1	\$8150.00	std	\$1370.00	\$1950.00	\$1115.00	\$430.00	\$210.00
100	75	147	161.7		6KFP43100X9XXXXA1	\$10350.00	std	\$1825.00	\$3270.00	\$1550.00	\$485.00	\$210.00
125	90	177	194.7		6KFP43125X9XXXXA1	\$12390.00	std	\$1825.00	\$3750.00	\$1550.00	\$560.00	\$210.00

<sup>4</sup>IP21/NEMA 1 Kits are available as Field Installed Options for all 460V drives from 1 HP to 125 HP. See Page 46.

\*Only for IP55/NEMA 12 and IP66/NEMA 4X



# AF-600 FP Fan and Pump Drive Pricing

## 460V, 3-Phase, 50/60Hz Input

HP Rating	kW Rating	Rated Output Amps	Overload Amps (110% 1 Min)	Standard Unit Includes:	Standard Unit Product No.	List Price GO-5FP	List Price Adders, GO-5FP					
							Drive Type (Digit 11)			Factory Installed Options (Digit 14) (Digit 15) (Digit 16)		
							(8) IP00 Chassis	(1) IP21 NEMA 1	(2) IP54 NEMA 12	(R) RFI filter A1/B	(L) Load Share	(C) Conformal Coating
150	110	190	209	IP00 (8) Chassis RFI: A2 Keypad	6KFP43150X8XXXXA1	\$14200.00	std	\$1035.00	\$3370.00	\$2120.00	\$625.00	\$705.00
200	132	240	264		6KFP43200X8XXXXA1	\$17110.00	std	\$1035.00	\$3370.00	\$2565.00	\$755.00	\$705.00
250	160	302	332		6KFP43250X8XXXXA1	\$20315.00	std	\$1140.00	\$3700.00	\$3140.00	\$920.00	\$705.00
300	200	361	397		6KFP43300X8XXXXA1	\$22500.00	std	\$1140.00	\$3700.00	\$3750.00	\$1100.00	\$705.00
350	250	443	487		6KFP43350X8XXXXA1	\$25900.00	std	\$1140.00	\$3700.00	\$4475.00	\$1315.00	\$705.00
450	315	540	594	IP00 (8) Chassis RFI: A2 Keypad Conformal Coated	6KFP43450X8XXCA1	\$32500.00	std	\$3065.00	\$6075.00	\$5420.00	\$1585.00	std
500	355	590	649		6KFP43500X8XXCA1	\$42550.00	std	\$3065.00	\$6075.00	\$6390.00	\$1770.00	std
550	400	678	746		6KFP43550X8XXCA1	\$54000.00	std	\$3065.00	\$6075.00	\$7350.00	\$2110.00	std
600	450	730	803		6KFP43600X8XXCA1	\$61150.00	std	\$3065.00	\$6075.00	\$8325.00	\$2510.00	std
650	500	780	858		6KFP43650X1XXCA1	\$69000.00	N/A	std	\$11170.00	\$11655.00	N/A	std
750	560	890	979	IP21/NEMA 1 (1) RFI: A2 Keypad Conformal Coated	6KFP43750X1XXCA1	\$82000.00	N/A	std	\$11170.00	\$13085.00	N/A	std
900	630	1050	1155		6KFP43900X1XXCA1	\$93000.00	N/A	std	\$11170.00	\$14890.00	N/A	std
1000	710	1160	1276		6KFP431K0X1XXCA1	\$109000.00	N/A	std	\$11170.00	\$17295.00	N/A	std
1200	800	1380	1518		6KFP431K2X1XXCA1	\$125000.00	N/A	std	\$11170.00	\$19735.00	N/A	std
1350	1000	1530	1683		6KFP431K3X1XXCA1	\$145800.00	N/A	std	\$11170.00	\$22930.00	N/A	std

## 575V, 3-Phase, 50/60Hz Input

HP Rating	kW Rating	Rated Output Amps	Overload Amps (110% 1 Min)	Standard Unit <sup>1</sup> Includes:	Standard Unit Product No.	List Price GO-5FP	List Price Adders, GO-5FP					
							Drive Type (Digit 11)			Factory Installed Options (Digit 14) (Digit 15) (Digit 16)		
							(9) IP20 Chassis	(2) IP55 NEMA 12	(4) IP66 NEMA 4X	(R) RFI filter A1/B	(L) Load Share	(C) Conformal Coating
1	0.75	1.8	1.98	IP20 (9) Chassis Keypad	6KFP53001X9XXXXA1	\$1050.00	std	\$250.00	\$550.00	N/A	N/A	\$210.00
2	1.5	2.7	2.97		6KFP53002X9XXXXA1	\$1120.00	std	\$250.00	\$550.00	N/A	N/A	\$210.00
3	2.2	3.9	4.29		6KFP53003X9XXXXA1	\$1275.00	std	\$250.00	\$550.00	N/A	N/A	\$210.00
5	4	6.1	6.71		6KFP53005X9XXXXA1	\$1440.00	std	\$250.00	\$550.00	N/A	N/A	\$210.00
7.5	5.5	9	9.9		6KFP53007X9XXXXA1	\$1610.00	std	\$275.00	\$550.00	N/A	N/A	\$210.00
10	7.5	11	12.1		6KFP53010X9XXXXA1	\$1965.00	std	\$275.00	\$550.00	N/A	N/A	\$210.00
15	11	18	19.8		6KFP53015X9XXXXA1	\$2320.00	std	\$555.00	\$845.00	N/A	\$200.00	\$210.00
20	15	22	24.2		6KFP53020X9XXXXA1	\$3030.00	std	\$555.00	\$920.00	N/A	\$234.00	\$210.00
25	18.5	27	29.7		6KFP53025X9XXXXA1	\$3845.00	std	\$555.00	\$920.00	N/A	\$245.00	\$210.00
30	22	34	37.4		6KFP53030X9XXXXA1	\$4380.00	std	\$960.00	\$1600.00	N/A	\$290.00	\$210.00
40	30	41	45.1		6KFP53040X9XXXXA1	\$5535.00	std	\$960.00	\$1600.00	N/A	\$310.00	\$210.00
50	37	52	57.2		6KFP53050X9XXXXA1	\$6260.00	std	\$960.00	\$1600.00	N/A	\$350.00	\$210.00
60	45	62	68.2		6KFP53060X9XXXXA1	\$7410.00	std	\$1370.00	\$1950.00	N/A	\$365.00	\$210.00
75	55	83	91.3		6KFP53075X9XXXXA1	\$9295.00	std	\$1370.00	\$1950.00	N/A	\$430.00	\$210.00
100	75	100	110		6KFP53100X9XXXXA1	\$11800.00	std	\$1825.00	\$3270.00	N/A	\$485.00	\$210.00
125	90	131	144.1		6KFP53125X9XXXXA1	\$14125.00	std	\$1825.00	\$3750.00	N/A	\$560.00	\$210.00

<sup>1</sup>IP21/NEMA 1 Kits are available as Field Installed Options for all 575V drives from 1 HP to 125 HP. See Page 46.

## 575V, 3-Phase, 50/60Hz Input

HP Rating	kW Rating	Rated Output Amps	Overload Amps (110% 1 Min)	Standard Unit Includes:	Standard Unit Product No.	List Price GO-5FP	List Price Adders, GO-5FP						
							Drive Type (Digit 11)			Factory Installed Options (Digit 12) (Digit 13) (Digit 14)			
							(8) IP00 Chassis	(1) IP21 NEMA 1	(2) IP54 NEMA 12	(R) RFI filter A1/B	(X) Future Use	(C) Conformal Coating	
150	110	155	170.5	IP00 (8) Chassis RFI: A2 Keypad Conformal Coated	6KFP53150X8XXCA1	\$17100.00	std	\$1190.00	\$3990.00	N/A	N/A	std	
200	132	192	211.2		6KFP53200X8XXCA1	\$21150.00	std	\$1190.00	\$3990.00	N/A	N/A	std	
250	160	242	266.2		6KFP53250X8XXCA1	\$24850.00	std	\$1190.00	\$3990.00	N/A	N/A	std	
300	200	290	319		6KFP53300X8XXCA1	\$28495.00	std	\$1190.00	\$3990.00	N/A	N/A	std	
350	250	344	378.4		6KFP53350X8XXCA1	\$30860.00	std	\$3525.00	\$6990.00	N/A	N/A	std	
400	315	400	440		6KFP53400X8XXCA1	\$41880.00	std	\$3525.00	\$6990.00	N/A	N/A	std	
450	355	450	495		6KFP53450X8XXCA1	\$51060.00	std	\$3525.00	\$6990.00	N/A	N/A	std	
500	400	500	550		6KFP53500X8XXCA1	\$65180.00	std	\$7500.00	\$11170.00	N/A	N/A	std	
600	450	570	627		6KFP53600X8XXCA1	\$83000.00	std	\$7500.00	\$11170.00	N/A	N/A	std	
650	500	630	693		6KFP53650X8XXCA1	\$95150.00	std	\$7500.00	\$11170.00	N/A	N/A	std	
750	560	730	803		IP21/NEMA 1 (1) RFI: A2 Keypad Conformal Coated	6KFP53750X8XXCA1	\$120550.00	N/A	std	\$11170.00	N/A	N/A	std
950	710	850	935			6KFP53950X1XXCA1	\$137550.00	N/A	std	\$11170.00	N/A	N/A	std
1050	800	945	1039.5			6KFP531K0X1XXCA1	\$159900.00	N/A	std	\$11170.00	N/A	N/A	std
1150	900	1060	1166			6KFP531K1X1XXCA1	\$181050.00	N/A	std	\$11170.00	N/A	N/A	std
1350	1000	1260	1386			6KFP531K3X1XXCA1	\$200100.00	N/A	std	\$11170.00	N/A	N/A	std



# AF-600 FP Fan and Pump Drive Field Installed IP21/NEMA 1 Add-On Option Kits

## IP21/NEMA 1 Add-On Option Kits

Voltage	HP Rating	kW Rating	IP21/NEMA 1 Kit Product No.	List Price GO-SAC	Fits AF-600 FP IP20 Drive Product No.
230	1	1.1	NEMA1ACA2	\$110.00	6KFP23001X9XXXXA1
	2	1.5	NEMA1ACA2	\$110.00	6KFP23002X9XXXXA1
	3	2.2	NEMA1ACA2	\$110.00	6KFP23003X9XXXXA1
	5	3.7	NEMA1ACA3	\$110.00	6KFP23005X9XXXXA1
	7.5	5.5	NEMA1ACB3	\$140.00	6KFP23007X9XXXXA1
	10	7.5	NEMA1ACB3	\$140.00	6KFP23010X9XXXXA1
	15	11	NEMA1ACB3	\$140.00	6KFP23015X9XXXXA1
	20	15	NEMA1ACB4	\$150.00	6KFP23020X9XXXXA1
	25	18.5	NEMA1ACB4	\$150.00	6KFP23025X9XXXXA1
	30	22	NEMA1ACC3	\$160.00	6KFP23030X9XXXXA1
	40	30	NEMA1ACC3	\$160.00	6KFP23040X9XXXXA1
	50	37	NEMA1ACC4	\$175.00	6KFP23050X9XXXXA1
	60	45	NEMA1ACC4	\$175.00	6KFP23060X9XXXXA1
	460	1	1.1	NEMA1ACA2	\$110.00
2		1.5	NEMA1ACA2	\$110.00	6KFP43002X9XXXXA1
3		2.2	NEMA1ACA2	\$110.00	6KFP43003X9XXXXA1
5		3.7	NEMA1ACA2	\$110.00	6KFP43005X9XXXXA1
7.5		5.5	NEMA1ACA3	\$115.00	6KFP43007X9XXXXA1
10		7.5	NEMA1ACA3	\$115.00	6KFP43010X9XXXXA1
15		11	NEMA1ACB3	\$140.00	6KFP43015X9XXXXA1
20		15	NEMA1ACB3	\$140.00	6KFP43020X9XXXXA1
25		18.5	NEMA1ACB3	\$140.00	6KFP43025X9XXXXA1
30		22	NEMA1ACB4	\$150.00	6KFP43030X9XXXXA1
40		30	NEMA1ACB4	\$150.00	6KFP43040X9XXXXA1
50		37	NEMA1ACB4	\$150.00	6KFP43050X9XXXXA1
60		45	NEMA1ACC3	\$160.00	6KFP43060X9XXXXA1
75		55	NEMA1ACC3	\$160.00	6KFP43075X9XXXXA1
100	75	NEMA1ACC4	\$175.00	6KFP43100X9XXXXA1	
125	90	NEMA1ACC4	\$175.00	6KFP43125X9XXXXA1	
575	1	1.1	NEMA1ACA3	\$115.00	6KFP53001X9XXXXA1
	2	1.5	NEMA1ACA3	\$115.00	6KFP53002X9XXXXA1
	3	2.2	NEMA1ACA3	\$115.00	6KFP53003X9XXXXA1
	5	3.7	NEMA1ACA3	\$115.00	6KFP53005X9XXXXA1
	7.5	5.5	NEMA1ACA3	\$115.00	6KFP53007X9XXXXA1
	10	7.5	NEMA1ACA3	\$115.00	6KFP53010X9XXXXA1
	15	11	NEMA1ACB3	\$140.00	6KFP53015X9XXXXA1
	20	15	NEMA1ACB3	\$140.00	6KFP53020X9XXXXA1
	25	18.5	NEMA1ACB3	\$140.00	6KFP53025X9XXXXA1
	30	22	NEMA1ACB4	\$150.00	6KFP53030X9XXXXA1
	40	30	NEMA1ACB4	\$150.00	6KFP53040X9XXXXA1
	50	37	NEMA1ACB4	\$150.00	6KFP53050X9XXXXA1
	60	45	NEMA1ACC3	\$160.00	6KFP53060X9XXXXA1
	75	55	NEMA1ACC3	\$160.00	6KFP53075X9XXXXA1
100	75	NEMA1ACC4	\$175.00	6KFP53100X9XXXXA1	
125	90	NEMA1ACC4	\$175.00	6KFP53125X9XXXXA1	



AF-600 FP Fan and Pump Drive



# AF-600 FP Fan and Pump Drive Options and Accessories

## Remote Mounting Kit for graphical LCD Keypad

Remote Mounting Kit for mounting graphical LCD Keypad on enclosure door. Kit includes gasket, mounting brackets, and cable. Keypad is rated IP65.

Description	Product Number	List Price GO-5AC
Remote Mounting Kit for graphical LCD Keypad	RMKYPDAC	\$95.00
Remote Mounting Kit without cable	OPCRMKNC	\$85.00



Remote Mounting Kit

## Profibus DP Communications Module

Profibus DP internal drive mounted module for use on AF-650 GP and AF-600 FP drives. Supports Profibus DP V1 communications networks.

Description	Product Number	List Price GO-5AC
Profibus DP Communications Module	OPCPDP	\$725.00



Profibus DP Communications Module

## DeviceNet Communications Module

DeviceNet internal drive mounted module for use on AF-650 GP and AF-600 FP drives. ODVA certified device.

Description	Product Number	List Price GO-5AC
DeviceNet Communications Module	OPCDEV	\$600.00



DeviceNet Communications Module

## Ethernet IP Communications Module<sup>1</sup>

Ethernet IP internal drive mounted module for use on AF-650 GP and AF-600 FP drives. ODVA certified device. Features 2-Port built-in switch. Also includes webserver and email notification.

Description	Product Number	List Price GO-5AC
Ethernet/IP Communications Module	OPCEIP	\$700.00

<sup>1</sup>Requires I/O and network slots and cannot be used with any other network or I/O modules.

## Modbus TCP Communications Module

Modbus TCP internal drive mounted module for use on AF-650 GP and AF-600 FP drives.

Description	Product Number	List Price GO-5AC
Modbus TCP Communications Module	OPCMBTCP	\$700.00

## ProfiNet RT Communications Module

ProfiNet RT internal drive mounted module for use on AF-650 GP and AF-600 FP drives.

Description	Product Number	List Price GO-5AC
ProfiNet RT Communications Module	OPCPRT	\$700.00

## LonWorks Communications Module

LonWorks internal drive mounted module for use on AF-600 FP drives only. Supports LonWorks building automation communications networks.

Description	Product Number	List Price GO-5AC
LonWorks Communications Module	OPCLON	\$600.00

## BacNet Communications Module

BacNet internal drive mounted module for use on AF-60 FP drives only. Supports BacNet MSTP building automation communications networks.

Description	Product Number	List Price GO-5AC
BacNet Communications Module	OPCBAC	\$600.00





# AF-600 FP Fan and Pump Drive Options and Accessories

## Relay Output Module

Relay Output internal drive mounted module for use on the AF-650 GP and AF-600 drives. Module adds (3) Form C relay outputs to the drive. Relays are rated at 2A at 240V resistive load.

Description	Product Number	List Price GO-5AC
Relay Output Module	OPCRLY	\$475.00



Relay Output Module

## Analog I/O Module

Analog I/O internal drive mounted module for use on the AF-600 FP drive only. Module includes:

- 3) Analog Inputs 0-10V, 0/4-20mA
- 3) Analog Outputs 0-10V
- Battery Back-Up power for AF-600 FP's internal Real Time Clock

Description	Product Number	List Price GO-5AC
Analog I/O Module	OPCAIO	\$500.00



Analog I/O Module

## 24V DC External Supply Module

24V DC External Supply internal drive mounted module for use on the AF-650 GP and AF-600 FP drives. This module accepts an external 24V DC supply which is used to keep the control board of the drive and other option modules powered in the event of a Line side power outage. Can be used with Communications and I/O Modules.

Description	Product Number	List Price GO-5AC
24V DC External Supply Module	OPC24VPS	\$240.00



24V DC External Supply Module

## General Purpose I/O Module

General Purpose I/O internal drive mounted module for use on AF-650 GP and AF-600 FP drives. Module includes:

- 3) 24V Digital Inputs
- 2) PNP/NPN Digital Outputs
- 2) 0-10V Analog Inputs
- 1) 0/4-20mA Analog Output

Description	Product Number	List Price GO-5AC
General Purpose I/O Module	OPCGPIO	\$475.00



General Purpose I/O Module

## Screw Terminal Accessory

Screw Terminal Accessory is available for field installation on AF-650 GP™ and AF-600 FP™ drives. These screw terminals can replace the cage clamp terminals which ship with each drive. This set of three terminals are for the digital inputs, analog I/O, and RS485 connection.

Description	Product Number	List Price GO-5AC
Screw Terminal Accessory	OPCTERM	\$25.00

## Pedestal Kit

Pedestal Kit allows Unit Size 41 and 42 drives (NEMA 1 and 12, 150HP to 350/400HP at 460V/575V AF-600 FP and 125HP to 300/400HP at 460/690V AF-650 GP) to be floor mounted.

Description	Product Number	List Price GO-5AC
Pedestal Kit	OPC4XPED	\$875.00



# AF-600 FP Fan and Pump Drive Options and Accessories

## USB Kit

This kit allows for the USB programming terminal to be brought out to the front cover of the drive. Works with all drive types.

Description	Product Number	List Price GO-5AC
For all drives up to Unit Size 5X	OPCUSB	\$75.00
For all Unit Size 6X drives	OPCUSB6X	\$225.00

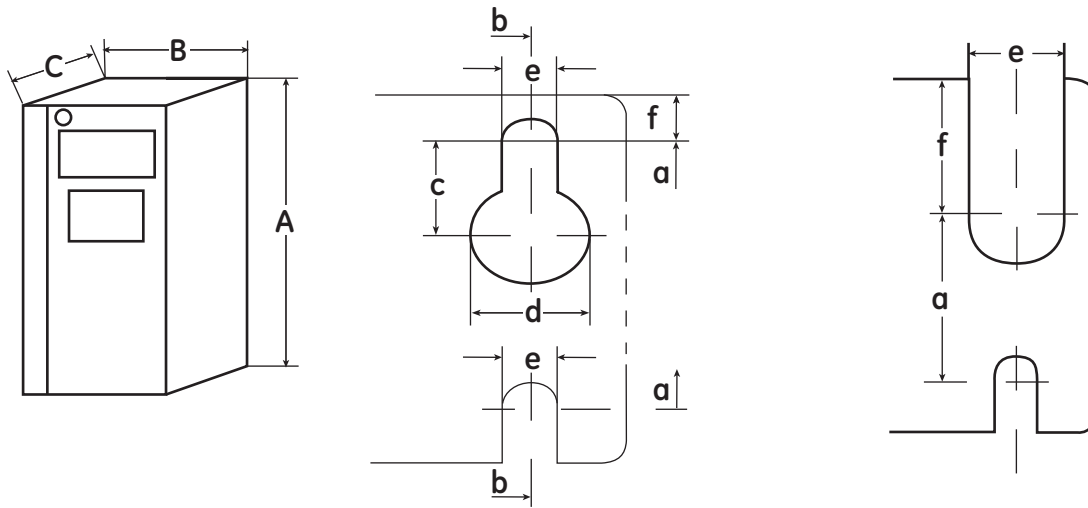
## Power Shields

These shields are used to cover the drive power terminals on NEMA 1 and NEMA 12 drive types.

Description	Product Number	List Price GO-5AC
For Unit Size 41 and 42 drives	OPCCOVER4142	\$520.00
For Unit Size 51 drives	OPCCOVER51	\$1305.00



# AF-600 FP Fan and Pump Drive Dimensional Drawings



## Mechanical Dimensions, 1X Unit Sizes

Unit Size	Dimensions	12	13	15
<b>Drive Type</b>		IP20 Open Chassis	IP20 Open Chassis	NEMA 12
<b>Voltage</b>				
240V		1 to 3HP	5HP	1 to 5HP
460V		1 to 5HP	7.5 to 10HP	1 to 10HP
575V			1 to 10HP	1 to 10HP
<b>Height</b>				
Height of backplate	A	10.55 in	10.55 in	16.54 in
Height with de-coupling plate	A	14.72 in	14.72 in	—
Distance between mounting holes	a	10.12 in	10.12 in	15.83 in
<b>Width</b>				
Width of backplate	B	3.54 in	5.12 in	9.53 in
Distance between mounting holes	b	2.76 in	4.33 in	8.46 in
<b>Depth</b>				
Depth without I/O and/or Network Option	C	8.07 in	8.07 in	7.68 in
Depth with I/O and/or Network Option	C	8.67 in	8.67 in	7.68 in
<b>Screw Holes</b>				
	c	0.315 in	0.315 in	0.325 in
	d	0.433 in	0.433 in	0.472 in
	e	0.216 in	0.216 in	0.256 in
	f	0.354 in	0.354 in	0.354 in
<b>Weight</b>		10.8 lbs	14.5 lbs	29.7/31.2 lbs

## Mechanical Dimensions 2X Unit Sizes

Unit Size	Dimensions	21	22	23	24
<b>Drive Type</b>		NEMA 12	NEMA 12	IP20 Open Chassis	IP20 Open Chassis
<b>Voltage</b>					
240V 1-Phase		2 to 7.5HP	10HP	---	---
240V		7.5 to 15HP	20HP	7.5 to 15HP	20 to 25HP
460V 1-Phase		10HP	15HP	---	---
460V		15 to 25HP	30 to 40HP	15 to 25HP	30 to 50HP
575V		15 to 25HP	30 to 40HP	15 to 25HP	30 to 50HP
<b>Height</b>					
Height of backplate	A	18.9 in	25.6 in	15.7 in	20.5 in
Height with de-coupling plate	A	---	---	16.54 in	23.43 in
Distance between mounting holes	a	17.9 in	24.6 in	14.96 in	19.5 in
<b>Width</b>					
Width of backplate	B	9.53 in	9.53 in	6.5 in	9.06 in
Distance between mounting holes	b	8.27 in	8.27 in	5.5 in	7.87 in
<b>Depth</b>					
Depth without I/O and/or Network Option	C	10.24 in	10.24 in	9.81 in	9.53 in
Depth with I/O and/or Network Option	C	10.24 in	10.24 in	10.31 in	9.53 in
<b>Screw Holes</b>					
	c	0.472 in	0.472 in	0.315 in	---
	d	0.748 in	0.748 in	0.472 in	---
	e	0.354 in	0.354 in	0.268 in	0.335 in
	f	0.354 in	0.354 in	0.31 in	0.59 in
<b>Weight</b>		50.6 lbs	59.5 lbs	26.4 lbs	51.7 lbs



# AF-600 FP Fan and Pump Drive Dimensional Drawings

## Mechanical Dimensions, 3X Unit Sizes

Unit Size	Dimensions	31	32	33	34
<b>Drive Type</b>		NEMA 12	NEMA 12	IP20 Open Chassis	IP20 Open Chassis
<b>Voltage</b>					
240V 1-Phase		20HP	30HP	---	---
240V		25 to 40HP	50 to 60HP	30 to 40HP	50 to 60HP
460V 1-Phase		25HP	50HP	---	---
460V		50 to 75HP	100 to 125HP	60 to 75HP	100 to 125HP
575V		50 to 75HP	100 to 125HP	60 to 75HP	100 to 125HP
<b>Height</b>					
Height of backplate	A	26.78 in	30.31 in	21.65 in	25.98 in
Height with de-coupling plate	A	---	---	24.8 in	31.5 in
Distance between mounting holes	a	25.51 in	29.1 in	20.51 in	24.84 in
<b>Width</b>					
Width of backplate	B	12.13 in	14.57 in	12.13 in	14.57 in
Distance between mounting holes	b	10.71 in	13.15 in	10.63 in	12.99 in
<b>Depth</b>					
Depth without I/O and/or Network Option	C	12.2 in	13.19 in	13.12 in	13.12 in
Depth with I/O and/or Network Option	C	12.2 in	13.19 in	13.12 in	13.12 in
<b>Screw Holes</b>					
	c	0.492 in	0.492 in	---	---
	d	0.748 in	0.748 in	---	---
	e	0.354 in	0.354 in	0.335 in	0.335 in
	f	0.386 in	0.386 in	0.67 in	0.67 in
<b>Weight</b>		99 lbs	143 lbs	77 lbs	110 lbs

## Mechanical Dimensions IP20 Open Chassis Drives with Field Installed IP21/NEMA 1 Kits<sup>1</sup>

Unit Size	12	13	23	24	33	34
<b>Drive Type</b>	IP20 Open Chassis with IP21/NEMA 1 Kit	IP20 Open Chassis with IP21/NEMA 1 Kit	IP20 Open Chassis with IP21/NEMA 1 Kit	IP20 Open Chassis with IP21/NEMA 1 Kit	IP20 Open Chassis with IP21/NEMA 1 Kit	IP20 Open Chassis with IP21/NEMA 1 Kit
<b>Voltage</b>						
240V	1 to 3HP	5HP	7.5 to 15HP	20 to 25HP	30 to 40HP	50 to 60HP
460V	1 to 5HP	7.5 to 10HP	15 to 25HP	30 to 50HP	60 to 75HP	100 to 125HP
575V		1 to 10HP	15 to 25HP	30 to 50HP	60 to 75HP	100 to 125HP
<b>Height</b>						
Height with Kit	14.76 in	14.76 in	18.7 in	26.4 in	29.7 in	37.4 in
<b>Width</b>						
Width of backplate	3.71 in	5.12 in	6.5 in	9.1 in	12.1 in	14.6 in
Distance between mounting holes	2.76 in	4.33 in	5.5 in	7.9 in	10.6 in	13.0 in
<b>Depth</b>						
Depth without I/O and/or Network Option	8.07 in	8.07 in	9.81 in	9.53 in	13.3 in	13.3 in
Depth with I/O and/or Network Option	8.67 in	8.67 in	10.31 in	9.53 in	13.3 in	13.3 in

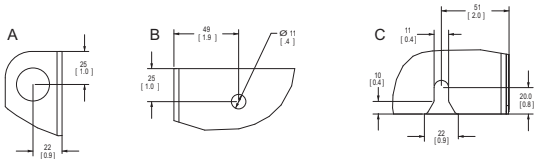
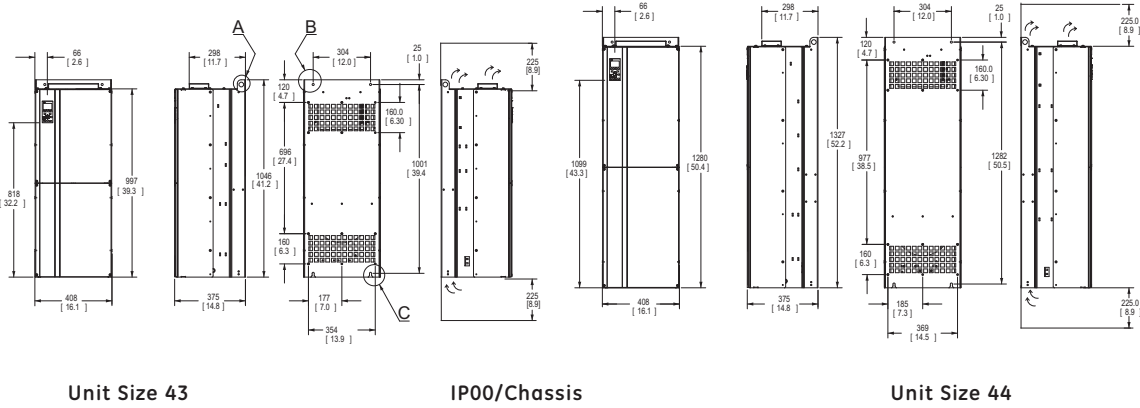
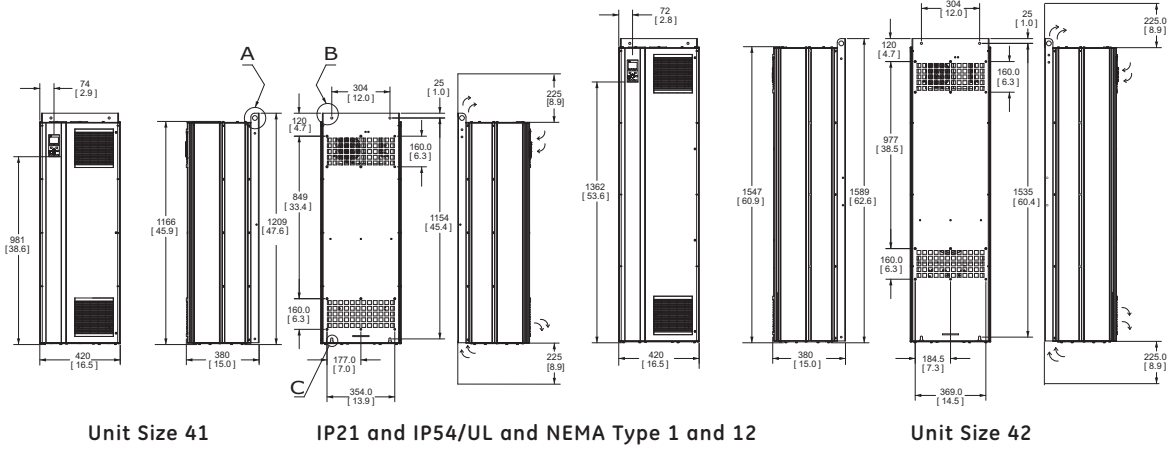
<sup>1</sup>Please consult IP21/NEMA 1 Kit Instructions for further mounting details and dimensions.

Note: Please allow 2" between drives with field installed IP21/NEMA 1 Kits. Also, please consult the relevant AF-6 Series drives Operating Instructions for recommended clearance above and below each drive rating.



# AF-600 FP Fan and Pump Drive Dimensional Drawings

AF-600 FP Fan and Pump Drive



**IP00/IP21/IP54—All Sizes**

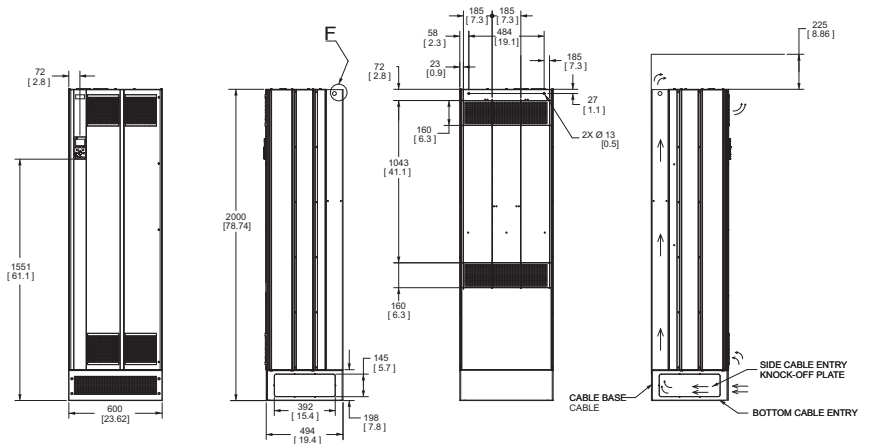
Unit Size	41	42	43	44
<b>Drive Type</b>	NEMA 1/NEMA 12	NEMA 1/NEMA 12	IP00 Open Chassis	IP00 Open Chassis
<b>Voltage</b>				
460V	150 to 200HP	250 to 350HP	150 to 200HP	250 to 350HP
575V	150 to 200HP	250 to 400HP	150 to 200HP	250 to 400HP
<b>Shipping Dimensions</b>				
Height	25.6 in	25.6 in	25.6 in	25.6 in
Width	68.11 in	68.11 in	48.03 in	58.66 in
Depth	22.44 in	22.44 in	22.44 in	22.44 in
<b>Drive Dimensions</b>				
Height	47.6 in	62.56 in	41.18 in	52.24 in
Width	16.54 in	16.54 in	16.06 in	16.06 in
Depth	14.96 in	14.96 in	14.76 in	14.76 in
<b>Weight</b>	228.8 lbs	332.2 lbs	200.2 lbs	303.6 lbs



# AF-600 FP Fan and Pump Drive Dimensional Drawings

## Unit Size 51 Dimensions

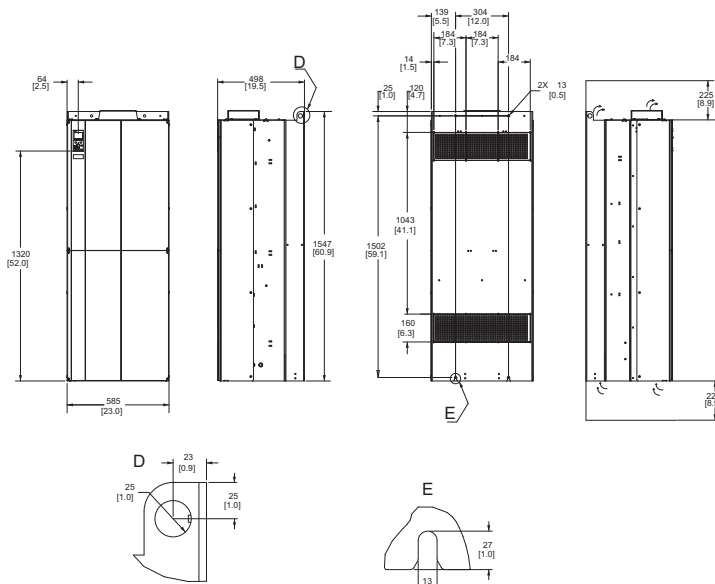
<b>Drive Type</b>	NEMA 1/NEMA 12
<b>Voltage</b>	460V 450 to 600HP 575V 450 to 650HP
<b>Shipping Dimensions</b>	
Height	33.1 in
Width	86.5 in
Depth	28.9 in
<b>Drive Dimensions</b>	
Height	78.7 in
Width	23.6 in
Depth	19.4 in
<b>Weight</b>	690 lbs



Unit Size 51, IP21 and IP54/UL and NEMA Type 1 and 12

## Unit Size 52 Dimensions

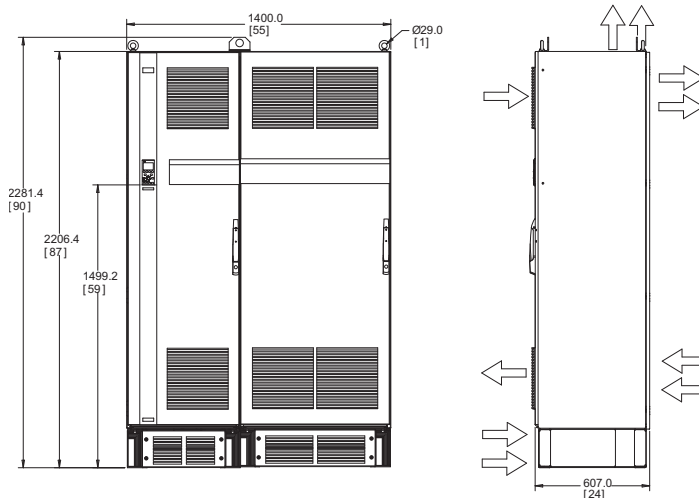
<b>Drive Type</b>	IP00 Open Chassis
<b>Voltage</b>	460V 450 to 600HP 575V 450 to 650HP
<b>Shipping Dimensions</b>	
Height	32.7 in
Width	67.1 in
Depth	28.9 in
<b>Drive Dimensions</b>	
Height	60.9 in
Width	23.1 in
Depth	19.6 in
<b>Weight</b>	610 lbs



Unit Size 52, IP00/Chassis

## Unit Size 61 Dimensions

<b>Drive Type</b>	NEMA 1/NEMA 12
<b>Voltage</b>	460V 650 to 1000HP 575V 750 to 1050HP
<b>Shipping Dimensions</b>	
Height	91.5 in
Width	61.8 in
Depth	36.5 in
<b>Drive Dimensions</b>	
Height	90 in
Width	55 in
Depth	24 in
<b>Weight</b>	2213 lbs



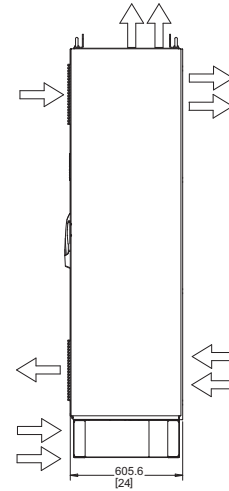
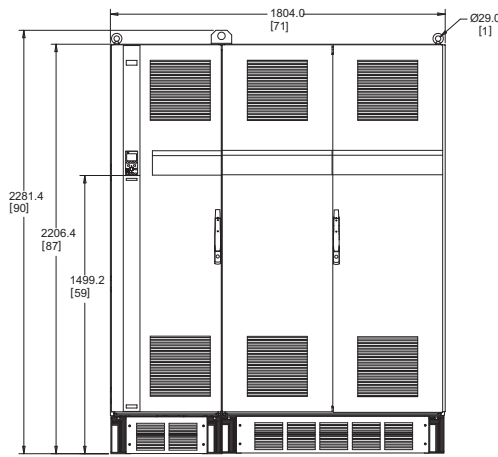
Unit Size 61



# AF-600 FP Fan and Pump Drive Dimensional Drawings

## Unit Size 62 Dimensions

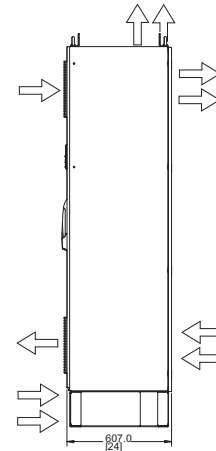
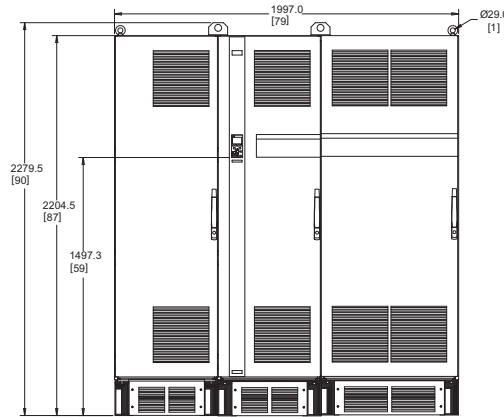
<b>Drive Type</b>	NEMA 1/NEMA 12
<b>Voltage</b>	
460V	1200 to 1350HP
575V	1150 to 1350HP
<b>Shipping Dimensions</b>	
Height	91.5 in
Width	77.2 in
Depth	36.5 in
<b>Drive Dimensions</b>	
Height	90 in
Width	71 in
Depth	24 in
<b>Weight</b>	2782 lbs



Unit Size 62

## Unit Size 63 Dimensions

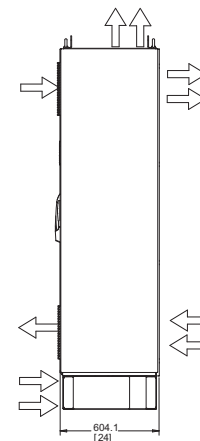
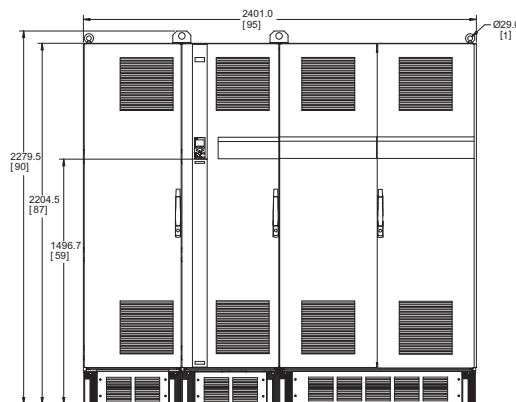
<b>Drive Type</b>	NEMA 1/NEMA 12
<b>Voltage</b>	
460V	650 to 1000HP
575V	750 to 1050HP
<b>Shipping Dimensions</b>	
Height	91.5 in
Width	85 in
Depth	36.5 in
<b>Drive Dimensions</b>	
Height	90 in
Width	79 in
Depth	24 in
<b>Weight</b>	2864 lbs



Unit Size 63

## Unit Size 64 Dimensions

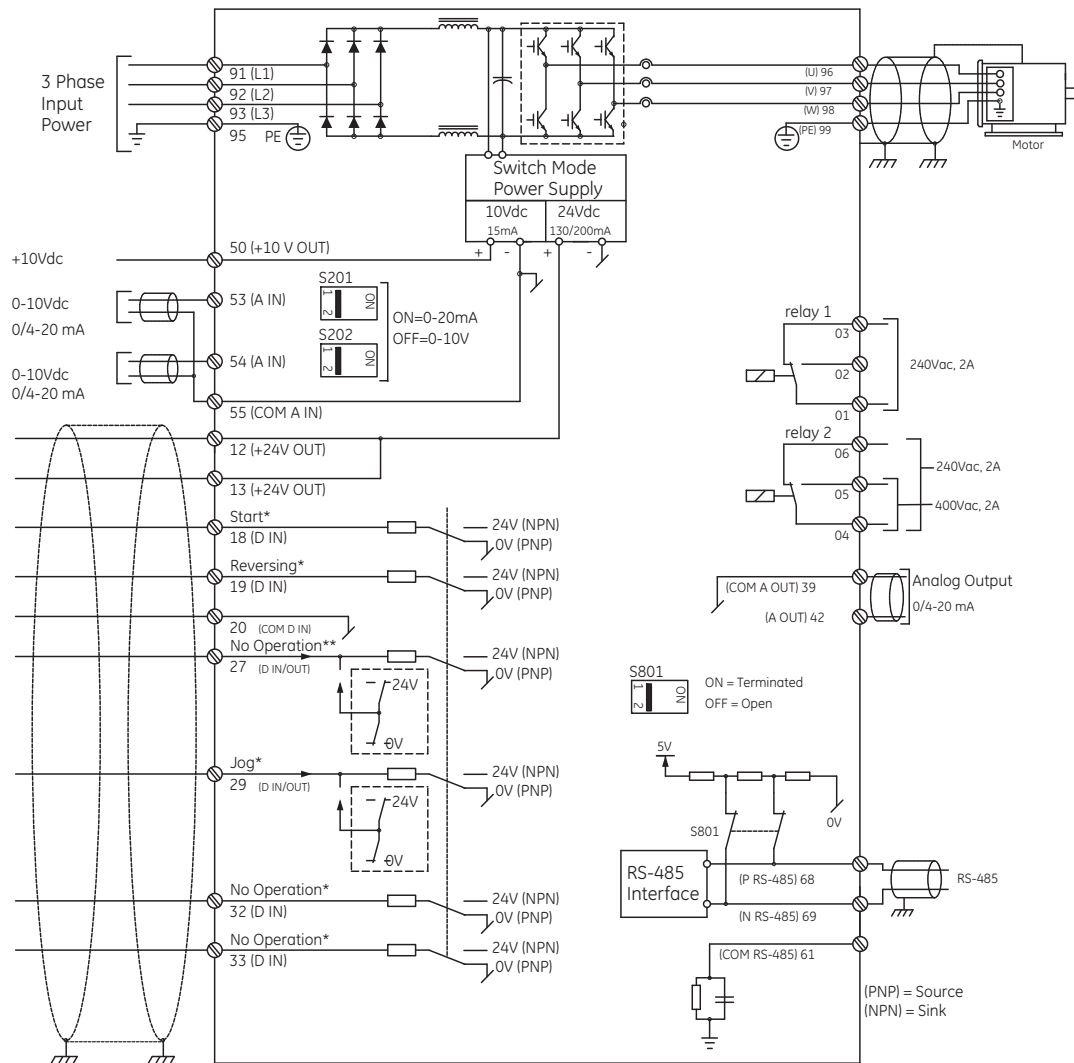
<b>Drive Type</b>	NEMA 1/NEMA 12
<b>Voltage</b>	
460V	1200 to 1350HP
575V	1150 to 1350HP
<b>Shipping Dimensions</b>	
Height	91.5 in
Width	100.1 in
Depth	36.5 in
<b>Drive Dimensions</b>	
Height	90 in
Width	94.5 in
Depth	24 in
<b>Weight</b>	3397 lbs



Unit Size 64



# AF-600 FP Fan and Pump Drive Basic Wiring Diagram



\* Indicates default setting; see Parameter Group E-## to re-program.

\*\* Indicates default setting for version 1.10 drives or higher. Prior versions are set to Coast Inverse, indicating that terminal #27 must be Logic "High" to enable the drive to run. See Parameter E-03 Terminal 27 Digital Input to re-program.





# AF-600 FP Fan and Pump Drive

## Efficiency, Watt Loss, Unit Size, Dimensions and Weights

### 230 Vac, 1-Phase, 50/60Hz

HP Rating	Output Current	Efficiency			Watt Loss (W)	GE Unit Size	Drive Type	Height (in)	Width (in)	Depth (in)	Weight (lbs)
		at 5 kHz (%)	at 4 kHz (%)	at 3 kHz (%)							
2	7.5	98			30	21	IP21/NEMA 1	18.9	9.53	10.24	50.6
3	10.6	98			44	21	IP21/NEMA 1	18.9	9.53	10.24	50.6
5	16.7	98			60	21	IP21/NEMA 1	18.9	9.53	10.24	50.6
7.5	24.2		98		80	21	IP21/NEMA 1	18.9	9.53	10.24	50.6
10	30.8		98		100	22	IP21/NEMA 1	25.6	9.53	10.24	59.5
20	59.4		98		150	31	IP21/NEMA 1	26.78	12.13	12.2	99
30	88			98	200	32	IP21/NEMA 1	30.31	14.57	13.19	143

### 230 Vac

HP Rating	Output Current	Efficiency			Watt Loss (W)	GE Unit Size	Drive Type	Height (in)	Width (in)	Depth (in)	Weight (lbs)
		at 5 kHz (%)	at 4 kHz (%)	at 3 kHz (%)							
1	6.6	96			63	12	IP20 Chassis	14.7	3.5	8.7	10.8
2	7.5	96			82	12	IP20 Chassis	14.7	3.5	8.7	10.8
3	10.6	96			116	12	IP20 Chassis	14.7	3.5	8.7	10.8
5	16.7	96			185	13	IP20 Chassis	14.7	5.1	8.7	14.55
7.5	24.2		96		269	23	IP20 Chassis	15.71	6.5	9.13	26.5
10	30.8		96		310	23	IP20 Chassis	15.71	6.5	9.13	26.5
15	46.2		96		447	23	IP20 Chassis	15.71	6.5	9.13	26.5
20	59.4		96		602	24	IP20 Chassis	20.47	9.06	9.41	51.8
25	74.8		96		737	24	IP20 Chassis	20.47	9.06	9.41	51.8
30	88			97	845	33	IP20 Chassis	24.8	12.13	13.15	77.2
40	115			97	1140	33	IP20 Chassis	24.8	12.13	13.15	77.2
50	143			97	1353	34	IP20 Chassis	31.5	14.57	13.15	110.2
60	170			97	1636	34	IP20 Chassis	31.5	14.57	13.15	110.2

### 460 Vac, 1-Phase, 50/60Hz

HP Rating	Output Current	Efficiency			Watt Loss (W)	GE Unit Size	Drive Type	Height (in)	Width (in)	Depth (in)	Weight (lbs)
		at 5 kHz (%)	at 4 kHz (%)	at 3 kHz (%)							
10	14.5	96			300	21	IP21/NEMA 1	18.9	9.53	10.24	50.6
15	21		96		440	22	IP21/NEMA 1	25.6	9.53	10.24	59.5
25	34		96		740	31	IP21/NEMA 1	26.78	12.13	12.2	99
50	65			96	1480	32	IP21/NEMA 1	30.31	14.57	13.19	143

### 460 Vac

HP Rating	Output Current	Efficiency				Watt Loss (W)	GE Unit Size	Drive Type	Height (in)	Width (in)	Depth (in)	Weight (lbs)
		at 5 kHz (%)	at 4 kHz (%)	at 3 kHz (%)	at 2 kHz (%)							
1	2.1	96				58	12	IP20 Chassis	14.7	3.5	8.7	10.8
2	3.4	97				62	12	IP20 Chassis	14.7	3.5	8.7	10.8
3	4.8	97				88	12	IP20 Chassis	14.7	3.5	8.7	10.8
5	8.2	97				124	12	IP20 Chassis	14.7	3.5	8.7	10.8
7.5	11	97				187	13	IP20 Chassis	14.7	5.1	8.7	14.55
10	14.5	97				255	13	IP20 Chassis	14.7	5.1	8.7	14.55
15	21		98			278	23	IP20 Chassis	15.71	6.5	9.13	26.5
20	27		98			392	23	IP20 Chassis	15.71	6.5	9.13	26.5
25	34		98			465	23	IP20 Chassis	15.71	6.5	9.13	26.5
30	40		98			525	24	IP20 Chassis	20.47	9.06	9.41	51.8
40	52		98			698	24	IP20 Chassis	20.47	9.06	9.41	51.8
50	65		98			739	24	IP20 Chassis	20.47	9.06	9.41	51.8
60	80			98		843	33	IP20 Chassis	24.8	12.13	13.15	77.2
75	105			98		1083	33	IP20 Chassis	24.8	12.13	13.15	77.2
100	130			98		1384	34	IP20 Chassis	31.5	14.57	13.15	110.2
125	160			99		1474	34	IP20 Chassis	31.5	14.57	13.15	110.2
150	190			98		3234	43	IP00 Chassis	39.3	16.1	14.7	200.6
200	240			98		3782	43	IP00 Chassis	39.3	16.1	14.7	200.6
250	302			98		4213	44	IP00 Chassis	50.3	16.1	14.7	304.2
300	361			98		5119	44	IP00 Chassis	50.3	16.1	14.7	304.2
350	443			98		5893	44	IP00 Chassis	50.3	16.1	14.7	304.2
450	540				98	7630	52	IP00 Chassis	59	23	19.5	611
500	590				98	7701	52	IP00 Chassis	59	23	19.5	611
550	678				98	8879	52	IP00 Chassis	59	23	19.5	611
600	730				98	9428	52	IP00 Chassis	59	23	19.5	611
650	780				98	10647	61	IP21/NEMA 1	86.8	55.1	23.9	2214
750	890				98	12338	61	IP21/NEMA 1	86.8	55.1	23.9	2214
900	1050				98	13201	61	IP21/NEMA 1	86.8	55.1	23.9	2214
1000	1160				98	15436	61	IP21/NEMA 1	86.8	55.1	23.9	2214
1200	1380				98	18084	62	IP21/NEMA 1	86.8	71	23.9	2748
1350	1530				98	20358	62	IP21/NEMA 1	86.8	71	23.9	2748



# AF-600 FP Fan and Pump Drive

## Efficiency, Watt Loss, Unit Size, Dimensions and Weights

### 525 – 600 Vac

HP Rating	Output Current	Efficiency				Watt Loss (W)	GE Unit Size	Drive Type	Height (in)	Width (in)	Depth (in)	Weight (lbs)
		at 5 kHz (%)	at 3 kHz (%)	at 2 kHz (%)	at 1.5 kHz (%)							
1	2.4	97				50	13	IP20 Chassis	14.7	5.1	8.7	14.55
2	2.7	97				65	13	IP20 Chassis	14.7	5.1	8.7	14.55
3	3.9	97				92	13	IP20 Chassis	14.7	5.1	8.7	14.55
5	6.1	97				145	13	IP20 Chassis	14.7	5.1	8.7	14.55
7.5	9	97				195	13	IP20 Chassis	14.7	5.1	8.7	14.55
10	11	97				261	13	IP20 Chassis	14.7	5.1	8.7	14.55
15	18		98			300	23	IP20 Chassis	15.71	6.5	9.13	26.5
20	22		98			400	23	IP20 Chassis	15.71	6.5	9.13	26.5
25	27		98			475	23	IP20 Chassis	15.71	6.5	9.13	26.5
30	34		98			525	24	IP20 Chassis	20.47	9.06	9.41	51.8
40	41		98			700	24	IP20 Chassis	20.47	9.06	9.41	51.8
50	52		98			750	24	IP20 Chassis	20.47	9.06	9.41	51.8
60	62			98		850	33	IP20 Chassis	24.8	12.13	13.15	77.2
75	83			98		1100	33	IP20 Chassis	24.8	12.13	13.15	77.2
100	100			98		1400	34	IP20 Chassis	31.5	14.57	13.15	110.2
125	131			98		1500	34	IP20 Chassis	31.5	14.57	13.15	110.2
150	155			98		3114	43	IP00 Chassis	39.3	16.1	14.7	180.8
200	192			98		3612	43	IP00 Chassis	39.3	16.1	14.7	180.8
250	242			98		4293	44	IP00 Chassis	50.3	16.1	14.7	246.9
300	290			98		5156	44	IP00 Chassis	50.3	16.1	14.7	246.9
350	344			98		5821	44	IP00 Chassis	50.3	16.1	14.7	246.9
400	400				98	6149	44	IP00 Chassis	50.3	16.1	14.7	246.9
450	450				98	6449	52	IP00 Chassis	59	23	19.5	487.2
500	500				98	7249	52	IP00 Chassis	59	23	19.5	487.2
600	570				98	8727	52	IP00 Chassis	59	23	19.5	487.2
650	630				98	9673	52	IP00 Chassis	59	23	19.5	487.2
750	730				98	11315	61	IP21/NEMA 1	86.8	55.1	23.9	2213.4
950	850				98	12903	61	IP21/NEMA 1	86.8	55.1	23.9	2213.4
1050	945				98	14533	61	IP21/NEMA 1	86.8	55.1	23.9	2213.4
1150	1060				98	16375	62	IP21/NEMA 1	86.8	71	23.9	2746.9
1350	1260				98	19207	62	IP21/NEMA 1	86.8	71	23.9	2746.9

AF-600 FP Fan and Pump Drive



# AF-600 FP Fan and Pump Drive Standard Specifications

## Environmental Conditions

Enclosures	IP20 Chassis, IP00 Chassis, IP21/NEMA 1, IP55/NEMA 12, IP54/NEMA 12
Plenum Ratings	Drives and options are UL rated for installation inside air handling ducts and plenums
Installation Location	Do not install in locations where product could be exposed to dust, corrosive gas, inflammable gas, oil mist, vapor, water drops or direct sunlight. There must be no salt in the atmosphere. Condensation must not be caused by sudden changes in temperature. For use at altitudes of 3280 ft. (1000M) or less without derating.
Storage Temperature	-25° to 65°C
Ambient Temperature	-10° to +50°C (24 hour average max of 45°C)
Ambient Humidity	5 to 95% RH (non-condensing)
Vibration	1.0g
Cooling Method	Fan Cooled all ratings. Fan Control Auto, 50% level, 75% level, 100% level adjustable

## Standard

Approvals	CE, UL, cUL, and C-Tick Suitable for use on a circuit capable of delivering not more than 100,000 rms symmetrical amperes for 208/230V and 460V.
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## Input Power Supply

Rated Input AC Voltage	200-240 Vac, 3-phase, 50-60 Hz, +/- 10% V 380-480 Vac, 3-phase, 50-60 Hz, +/- 10% V 525-600 Vac, 3-phase, 50-60 Hz, +/- 10% V
Maximum Voltage Imbalance	3% of rated supply voltage
True Power Factor	> 0.9 nominal at rated load
Displacement Power Factor	> 0.98
Switching on input power supply	Maximum twice/minute up to 10HP, Maximum once/minute above 10HP
Environment according to EN60664-1	Overvoltage category III/pollution degree 2
DC Link Reactors	Built-In DC Link Reactors on all ratings
RFI Filters	Built-In RFI Filters to reduce noise generated by the drive. Meets industrial standards.

## Output

Rated Output Voltage	0-100% of supply voltage
Output Frequency	0-1000 Hz; 0-800Hz for 460V above 125HP and 525-690 V above 125HP
Switching on output	Unlimited
Accel/Decel Times	1-3600 seconds
Control Method	Sinusoidal PWM Control (V/Hz, Avd. Vector Control)

## Control

Starting Torque	110% starting torque for 1 minute (variable torque)
Carrier Frequency (Motor Noise)	Selectable - 1, 1.5, 2, 2.5, 3, 3.5, 4, 5, 6, 7, 8, 10, 12, 14, 16 kHz
Torque Boost	0 - 300% setting to compensate voltage in relation to the load at low speed
Acceleration/Deceleration Time	0.01-3600 seconds (4 acceleration and deceleration times are selectable via digital inputs. Acceleration and deceleration patterns can be selected from linear or S-curve)
Data Protection	Password Protection for Quick Menu or Main Menu, 0-9999.
Pattern Operation	Settings via Built-In Logic Controller Sequencer
Jump Frequency Control	4 jump (or skip) frequencies via parameter set to avoid mechanical vibration
Slip Compensation	Maintains motor at constant speed with load fluctuations
Torque Limit Control	Output torque can be controlled within a range of 0.0 to 110% (0.1 and steps)
8 Preset Speeds	8 programmable preset speeds selectable by 3 digital inputs
Preset Speeds	8 presets via digital inputs
Built-In Communications	Drive RS-485, Modbus RTU, Metasys N2, or Apogee FLN P1
Trim Reference Setting	Available for speed reference offset via potentiometer, voltage input, or current input
DC Injection Braking	Starting frequency: 0.0-1000 Hz, 0-800Hz for 460V above 125HP and 525-690 V above 125HP Braking time: 0.0-60.0 seconds Braking level: 0-100% of rated current

Jogging Operation	Operation via On key or digital input (Fwd or Rev)
Auto-Restart After Power Failure	Restarts the drive without stopping after instantaneous power failure
Energy Savings	Controls output voltage to minimize motor loss during constant speed operation
Start Mode Function	This functionality smoothly catches a spinning motor
Fire Override Mode	Overrides drive's protective features and keeps motor running
Pump Cascade Controller	Distributes running hours evenly over up to 4 pumps
Sleep Mode	Drive detects low or no flow conditions and adjusts output
Dry Pump Detection	Detects pump operation and can set off alarm, shuts off, or other programmed actions
Belt Monitoring	Drive can detect relationship between current and speed to recognize a broken belt
Real Time Clock	With programmable timed actions

## Logic Controller (LC) Sequencer

Logic Controller Events	Upto 38 Programmable Events
Comparators	Array of 6 Comparators
Timers	Array of 8 Timers, adjustable from 0.0 to 3600 sec
Logic Rules	Array of 6 Boolean Logic Rules
Logic Controller States	Array of 20 Logic Controller Action States

## Process Controller (PID)

Process PID Controller	4 Auto Tune PID Controllers Built-In
Process CL Feedback Select	Up to 2 references. Selectable - No function, Motor Feedback, Separate Encoder, Encoder Option Module, or Resolver Option Module
Process PID Control	Normal or Inverse
Process PID Anti Windup	Disabled or enabled
Process PID Start Speed	0.0-200 Hz
Process PID Proportional Gain	0.00-10.00
Process PID Integral Time	0.1 - 10000.0 ms
Process PID Differential Time	0.0 - 10 s
Process PID Differential Gain	1.0-50.00
Process PID Feed Forward Factor	0-500%
On Reference Bandwidth	0-200%



# AF-600 FP Fan and Pump Drive Standard Specifications

## Operation

<b>Operation Method</b>	Keypad operation: Hand, Off, Auto Digital Input: Programmable for Start/Stop, Forward/Reverse, Jog Timer operation: Stop after predetermined time frame Communications: RS-485 Modbus RTU, Metasys N2, and Apogee FLN P1 USB Port for programming drive with optional PC Software
<b>Frequency Reference Signal</b>	Left or Right Arrow buttons on keypad in Manual Mode Speed Potentiometer: 0 to +10 Vdc, 10 to 0 Vdc 0-10Vdc analog input 0/4-20ma analog input
<b>References</b>	Up to 3 Input References can be selected from Analog Input #1 or #2, Frequency Input #1 or #2, Network, or Potentiometer
<b>Digital Input Signal</b>	No Operation Reset after drive trip or alarm Drive at stop with no holding current Quick Stop according to Quick Stop Decel Time 1 Stop on input going low Start Maintained Start after signal applied for Minimum of 2ms Reversing Start Reverse Enable Start Forward only Enable Start Reverse only Jog Multi-Step Frequency selection (1 to 8 Steps) Hold Drive Frequency Hold Reference Speed Up; activated by Hold Drive Frequency or Hold Reference Slow Down; activated by Hold Drive Frequency or Hold Reference Drive Parameter Setup Select 1-4 Precise Start or Stop; Activated when drive parameter precise start or stop function is selected Catch Up or Slow Down; Activated by signal to add to or subtract from input reference to control speed Pulse Input selectable from 100 - 110000Hz Accel / Decel Time select. Set Input to Accel / Decel Times 1 to 4 Digital Potentiometer Input Increase or Decrease Mechanical Brake Feedback

## Keypad

<b>Keypad Features</b>	LCD Display with 6 Alpha-numeric lines. Multi-Language Support Hot Pluggable, Remote Mount Option, and CopyCat Feature, IP65 rating when remote mounted on enclosure LED's - Green - drive is on, Yellow - indicates a warning, Red - indicates an alarm, Amber - Indicates active Menukeys and H-O-A keys
<b>Keypad Keys</b>	Status - shows status of drive Quick Menu - Enters Quick Start, Parameter Data Check, or Trending Modes Main Menu - Used for programming all drive parameters Alarm Log - Used to display Alarm list Back - Reverts to previous step or layer in parameter structure Cancel - Used to cancel last change or command Info - Displays information about a command, parameter, or function in any display. Hand/Off/Auto - Used to control drive locally or put drive in remote mode Reset - Used to reset Warnings or Alarms
<b>Password</b>	2 Level Password Protection
<b>Alternate Motor Parameters</b>	Up to 4 Separate complete parameter set-ups are available
<b>Graphical Trending</b>	Trend - Speed, Power, or Frequency

## RS485 Modbus RTU Serial Communications

<b>Physical Level:</b>	EIA/RS485
<b>Transmission distance:</b>	1640 ft (500m)
<b>Node Address:</b>	32
<b>Transmission Speed:</b>	2400, 4800, 9600, 19200, 38400, or 115200 (bits/s)
<b>Transmission Mode:</b>	Half Duplex
<b>Transmission Protocol:</b>	Modbus RTU
<b>Character Code:</b>	Binary
<b>Character Length:</b>	8 Bits
<b>Error Check:</b>	CRC

## Mounting Clearance

	All AF-650 GP drives can be mounted Side-by-Side without spacing. For all drives rated 125HP or below allow 3.4 inches (100mm) free space above and below. For all drives rated 150HP and above allow 8.9 inches (225mm) free space above and below.
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# AF-600 FP Fan and Pump Drive Replacement Parts

IP 20 - 230 Vac, 3-Phase, 50/60Hz Input

IP 55/66 - 230 Vac, 3-Phase, 50/60Hz Input

Product Number	List Price GO-5RP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive												
					1	2	3	5	7.5	10	15	20	25	30	40	50	60
<b>Main Control Card</b>																	
6KAF61151	\$950.00	Control Card	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>Keypad</b>																	
KYPDACGP1	\$500.00	Replacement Graphical Keypad	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61007	\$45.00	Frame w/o option A or B	12/13/23	-	1	1	1	1	1	1	1						
6KAF61008	\$60.00	Frame w option A or B	12/13/23	-	1	1	1	1	1	1	1						
6KAF60284	\$75.00	Frame	24/33/34	-								1	1	1	1	1	1
6KAF63414	\$40.00	Frame	15/21/22/31/32	-	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61011	\$40.00	Terminal cover w/o option A or B	12/13	-	1	1	1	1									
6KAF61012	\$40.00	Terminal cover w option A or B	12/13	-	1	1	1	1									
6KAF61411	\$65.00	Terminal cover w/o option A or B	23	-					1	1	1						
6KAF61410	\$95.00	Terminal cover w option A or B	23	-					1	1	1						
<b>Power Card</b>																	
6KAF61801	\$3830.00	Power Card	21	-				1									
6KAF61802	\$3830.00	Power Card	21	-					1								
6KAF61803	\$4285.00	Power Card	21	-							1						
6KAF61805	\$4835.00	Power Card	22	-								1					
6KAF61807	\$1550.00	Power Card	31	-									1				
6KAF61808	\$1550.00	Power Card	31	-										1			
6KAF61809	\$1550.00	Power Card	31	-											1		
6KAF61810	\$1735.00	Power Card	32	-												1	
6KAF61811	\$1735.00	Power Card	32	-													1
6KAF61901	\$3830.00	Power Card	23	-				1									
6KAF61902	\$3830.00	Power Card	23	-					1								
6KAF61903	\$4285.00	Power Card	23	-							1						
6KAF61906	\$4835.00	Power Card	24	-								1					
6KAF61907	\$5020.00	Power Card	24	-									1				
6KAF61916	\$1825.00	Power Card	33	-										1			
6KAF61917	\$1825.00	Power Card	33	-											1		
6KAF61918	\$1920.00	Power Card	34	-												1	
6KAF61919	\$1920.00	Power Card	34	-													1
6KAF61806	\$2010.00	Switch Mode Power Supply	22	-									1				
<b>Inverter IGBTs</b>																	
6KAF61884	\$1510.00	Dual IGBT Module	31/33	150A									3	3			
6KAF61885	\$1895.00	Dual IGBT Module	31/33	200A											3		
6KAF61886	\$2600.00	Dual IGBT Module	32/34	300A												3	3
<b>Brake IGBT</b>																	
6KAF61884	\$1510.00	Dual IGBT Module	31/33	150A									1	1	1		
6KAF61400	\$2105.00	Dual IGBT Module	32/34	200A												1	
6KAF61886	\$2595.00	Dual IGBT Module	32/34	300A													1
<b>Rectifiers</b>																	
6KAF61887	\$820.00	Thyristor Module	31/33	180A									3	3	3		
6KAF61888	\$1130.00	Thyristor Module	32/34	240A												3	3
<b>RFI Filters</b>																	
6KAF63378	\$680.00	RFI Filter (class A2)	21	-				1	1	1							
6KAF63381	\$685.00	RFI Filter (class A2)	22	-								1					
6KAF63427	\$40.00	RFI Filter (class A2)	31	-									1	1	1		
6KAF63377	\$1235.00	RFI Filter (class A1/B)	21	-				1	1	1							
6KAF63380	\$1495.00	RFI Filter (class A1/B)	22	-								1					
6KAF63425	\$4265.00	RFI Filter (class A1/B)	31	-									1	1	1		
6KAF63422	\$4750.00	RFI Filter (class A1/B)	32	-												1	1
6KAF61412	\$1325.00	RFI Filter (class A1/B)	23	-				1	1	1							
6KAF61416	\$1535.00	RFI Filter (class A1/B)	24	-								1	1				
6KAF61419	\$2565.00	RFI Filter (class A1/B)	33	-										1	1		
6KAF61420	\$3185.00	RFI Filter (class A1/B)	34	-												1	1
<b>Current Transducers</b>																	
6KAF61896	\$1580.00	Current Transducer Card	31/33	-									1	1	1		
6KAF61895	\$1580.00	Current Transducer Card	32/34	-												1	1
<b>DC Link</b>																	
6KAF65160	\$910.00	DC Capacitors	31	3700uF										2			
6KAF65159	\$1050.00	DC Capacitors	31	4500uF											2		
6KAF65158	\$1275.00	DC Capacitors	31	5300uF												2	
6KAF65157	\$825.00	DC Capacitors	32	3700uF													2
6KAF65156	\$1030.00	DC Capacitors	32	4500uF													2
6KAF61423	\$1440.00	DC Capacitors	33/34	4500uF											2	2	2
6KAF61060	\$1200.00	DC Link Reactors	21	780uH				1	1								
6KAF61062	\$1260.00	DC Link Reactors	22	490uH						1							
6KAF61063	\$1385.00	DC Link Reactors	22	410uH							1						
6KAF61035	\$2205.00	DC Link Reactors	31	300uH								1					
6KAF61036	\$2630.00	DC Link Reactors	31	260uH									1				
6KAF61037	\$2960.00	DC Link Reactors	31	200uH											1		
6KAF61038	\$3535.00	DC Link Reactors	32	170uH												1	
6KAF61039	\$4090.00	DC Link Reactors	32	100uH													1
6KAF61950	\$1355.00	DC Link Assembly	24	-								1					
6KAF61951	\$1600.00	DC Link Assembly	24	-									1				

AF-600 FP Fan and Pump Drive



# AF-600 FP Fan and Pump Drive Replacement Parts

IP 20 - 230 Vac, 3-Phase, 50/60Hz Input (continued)

IP 55/66 - 230 Vac, 3-Phase, 50/60Hz Input (continued)

Product Number	List Price GO-5RP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive													
					1	2	3	5	7.5	10	15	20	25	30	40	50	60	
<b>Fans</b>																		
6KAF61009	\$160.00	Fan Assembly	12	-	1	1	1											
6KAF61010	\$160.00	Fan Assembly	13	-				1										
6KAF61017	\$295.00	Fan Assembly	15	-	1	1	1	1										
6KAF63563	\$270.00	External Fan (IP20)	23	12W				1	1	1								
6KAF63699	\$250.00	External Fan (IP20)	24	12W							1							
6KAF64292	\$250.00	External Fan (IP20)	33	12W								2	2	2				
6KAF64294	\$355.00	External Fan (IP20)	34	18W												2	2	
6KAF63407	\$455.00	External Fan (IP55)	21	22W				1	1	1								
6KAF63406	\$640.00	External Fan (IP55)	22	22W							1							
6KAF63865	\$645.00	External Fan (IP55)	31	26W								1	1	1				
6KAF63867	\$1235.00	External Fan (IP55)	32	22W													1	1
6KAF63440	\$100.00	Internal Fan	21/23	5.8W				1	1	1								
6KAF63441	\$100.00	Internal Fan	22/24	5.8W								1	1					
6KAF63923	\$110.00	Internal Fan	31/32/33/34	5.8W									1	1	1	1	1	1
<b>Accessory Bags</b>																		
6KAF61022	\$275.00	Connectors Accessory Bag	12/13	-	1	1	1	1										
6KAF61023	\$240.00	Connectors Accessory Bag	15	-	1	1	1	1										
6KAF62060	\$120.00	Connectors Accessory Bag	21	-					1	1	1							
6KAF62061	\$125.00	Connectors Accessory Bag	22	-								1						
6KAF60980	\$140.00	Connectors Accessory Bag	23	-					1	1	1							
6KAF61300	\$270.00	Connectors Accessory Bag	24	-								1	1					
6KAF60046	\$200.00	Connectors Accessory Bag	31	-									1	1	1			
6KAF60047	\$210.00	Connectors Accessory Bag	32	-												1	1	
6KAF60981	\$225.00	Connectors Accessory Bag	33	-										1	1			
6KAF60982	\$270.00	Connectors Accessory Bag	34	-													1	
6KAF60983	\$270.00	Connectors Accessory Bag	34	-														1
6KAF60633	\$55.00	Brake and Load Sharing Connectors Bag	12/13/15	-	1	1	1	1										

IP 20 - 460 Vac, 3-Phase, 50/60Hz Input

IP 55/66 - 460 Vac, 3-Phase, 50/60Hz Input

Product Number	List Price GO-5RP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive														
					1	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100
<b>Main Control Card</b>																			
6KAF61151	\$950.00	Control Card	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>Keypad</b>																			
KYPDACGP1	\$500.00	Replacement Graphical Keypad	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61007	\$45.00	Frame w/o option A or B	12/13/23	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61008	\$60.00	Frame w option A or B	12/13/23	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF60284	\$75.00	Frame	24/33/34	-										1	1	1	1	1	1
6KAF63414	\$40.00	Frame	15/21/22/31/32	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61011	\$40.00	Terminal cover w/o option A or B	12/13	-	1	1	1	1	1	1									
6KAF61012	\$40.00	Terminal cover w option A or B	12/13	-	1	1	1	1	1	1									
6KAF61411	\$65.00	Terminal cover	23	-						1	1	1							
6KAF61410	\$95.00	Terminal cover	23	-						1	1	1							
<b>Power Card</b>																			
6KAF61820	\$3830.00	Power Card	21	-						1									
6KAF61821	\$3830.00	Power Card	21	-							1								
6KAF61822	\$4285.00	Power Card	21	-								1							
6KAF61823	\$4380.00	Power Card	22	-									1						
6KAF61825	\$4835.00	Power Card	22	-										1					
6KAF61827	\$1550.00	Power Card	31	-											1				
6KAF61828	\$1550.00	Power Card	31	-												1			
6KAF61829	\$1550.00	Power Card	31	-													1		
6KAF61830	\$1735.00	Power Card	32	-														1	
6KAF61831	\$1735.00	Power Card	32	-															1
6KAF61920	\$3830.00	Power Card	23	-						1									
6KAF61921	\$3830.00	Power Card	23	-							1								
6KAF61922	\$4285.00	Power Card	23	-								1							
6KAF61924	\$4380.00	Power Card	24	-									1						
6KAF61926	\$4835.00	Power Card	24	-										1					
6KAF61927	\$5020.00	Power Card	24	-											1				
6KAF61936	\$1825.00	Power Card	33	-												1			
6KAF61937	\$1825.00	Power Card	33	-													1		
6KAF61938	\$1920.00	Power Card	34	-														1	
6KAF61939	\$1920.00	Power Card	34	-															1
6KAF61824	\$2010.00	Switch Mode Power Supply	22	-									1						
6KAF61826	\$2010.00	Switch Mode Power Supply	22	-										1					



# AF-600 FP Fan and Pump Drive Replacement Parts

IP 20 - 460 Vac, 3-Phase, 50/60Hz Input (continued)

IP 55/66 - 460 Vac, 3-Phase, 50/60Hz Input (continued)

Product Number	List Price GO-5RP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive													
					1	2	3	5	7.5	10	15	20	25	30	40	50	60	75
<b>Inverter IGBTs</b>																		
6KAF61884	\$1510.00	Dual IGBT Module	31/33	150A												3	3	
6KAF61885	\$1895.00	Dual IGBT Module	31/33	200A													3	
6KAF61886	\$2600.00	Dual IGBT Module	32/34	300A														3 3
<b>Brake IGBT</b>																		
6KAF61884	\$1510.00	Dual IGBT Module	31/33	150A												1	1	1
6KAF61400	\$2105.00	Dual IGBT Module	32/34	200A														1
6KAF61886	\$2595.00	Dual IGBT Module	32/34	300A														1
<b>Rectifiers</b>																		
6KAF61887	\$820.00	Thyristor Module	31/33	180A												3	3	3
6KAF61888	\$1130.00	Thyristor Module	32/34	240A														3 3
<b>RFI Filters</b>																		
6KAF63378	\$680.00	RFI Filter (class A2)	21	-						1	1	1						
6KAF63381	\$685.00	RFI Filter (class A2)	22	-									1	1				
6KAF63427	\$40.00	RFI Filter (class A2)	31	-											1	1	1	
6KAF63377	\$1235.00	RFI Filter (class A1/B)	21	-						1	1	1						
6KAF63380	\$1495.00	RFI Filter (class A1/B)	22	-									1	1				
6KAF63425	\$4265.00	RFI Filter (class A1/B)	31	-										1	1	1		
6KAF63422	\$4750.00	RFI Filter (class A1/B)	32	-													1	1
6KAF61412	\$1325.00	RFI Filter (class A1/B)	23	-						1	1	1						
6KAF61416	\$1535.00	RFI Filter (class A1/B)	24	-									1	1	1			
6KAF61419	\$2565.00	RFI Filter (class A1/B)	33	-												1	1	
6KAF61420	\$3185.00	RFI Filter (class A1/B)	34	-													1	1
<b>Current Transducers</b>																		
6KAF61894	\$1310.00	Current Transducer Card	31/33	-												1	1	1
6KAF61897	\$1620.00	Current Transducer Card	32/34	-														1 1
<b>DC Link</b>																		
6KAF65160	\$910.00	DC Capacitors	31/32	3700uF												2		
6KAF65159	\$1050.00	DC Capacitors	31/32	4500uF													2	
6KAF65158	\$1275.00	DC Capacitors	31/32	5300uF														2
6KAF65157	\$825.00	DC Capacitors	31/32	3700uF														2
6KAF65156	\$1030.00	DC Capacitors	31/32	4500uF														2
6KAF61421	\$1625.00	DC Capacitors	33/34	5300uF														2
6KAF61422	\$675.00	DC Capacitors	33/34	3700uF														2
6KAF61423	\$1440.00	DC Capacitors	33/34	4500uF														2
6KAF61060	\$1200.00	DC Link Reactors	21	780uH						1	1							
6KAF61061	\$1260.00	DC Link Reactors	21	580uH									1					
6KAF61062	\$1260.00	DC Link Reactors	22	490uH									1					
6KAF61063	\$1385.00	DC Link Reactors	22	410uH										1				
6KAF61035	\$2205.00	DC Link Reactors	31	300uH											1			
6KAF61036	\$2630.00	DC Link Reactors	31	260uH												1		
6KAF61037	\$2960.00	DC Link Reactors	31	200uH													1	
6KAF61038	\$3535.00	DC Link Reactors	32	170uH														1
6KAF61039	\$4090.00	DC Link Reactors	32	100uH														1
6KAF61954	\$2015.00	DC Link Assembly	24	-									1					
6KAF61955	\$2500.00	DC Link Assembly	24	-										1	1			
<b>Fans</b>																		
6KAF61009	\$160.00	Fan Assembly	12	-							1	1	1	1				
6KAF61010	\$160.00	Fan Assembly	13	-										1	1			
6KAF61017	\$295.00	Fan Assembly	15	-												1	1	
6KAF63563	\$270.00	External Fan (IP20)	23	12W									1	1	1			
6KAF63699	\$250.00	External Fan (IP20)	24	12W											1	1	1	
6KAF64292	\$250.00	External Fan (IP20)	33	12W													2	2
6KAF64294	\$355.00	External Fan (IP20)	34	18W														2 2
6KAF63407	\$455.00	External Fan (IP55)	21	22W														2 2
6KAF63406	\$640.00	External Fan (IP55)	22	22W														2 2
6KAF63865	\$645.00	External Fan (IP55)	31	26W												1	1	1
6KAF63867	\$1235.00	External Fan (IP55)	32	22W														1 1
6KAF63440	\$100.00	Internal Fan	21/23	5.8W							1	1	1					
6KAF63441	\$100.00	Internal Fan	22/24	5.8W										1	1	1		
6KAF63923	\$110.00	Internal Fan	31/32/33/34	5.8W												1	1	1 1
<b>Accessory Bags</b>																		
6KAF61022	\$275.00	Connectors Accessory Bag	12/13	-							1	1	1	1	1	1		
6KAF61023	\$240.00	Connectors Accessory Bag	15	-							1	1	1	1	1	1		
6KAF62060	\$120.00	Connectors Accessory Bag	21	-									1	1	1			
6KAF62061	\$125.00	Connectors Accessory Bag	22	-											1	1		
6KAF60980	\$140.00	Connectors Accessory Bag	23	-									1	1	1			
6KAF61300	\$270.00	Connectors Accessory Bag	24	-										1	1	1		
6KAF60046	\$200.00	Connectors Accessory Bag	31	-												1	1	1
6KAF60047	\$210.00	Connectors Accessory Bag	32	-														1 1
6KAF60981	\$225.00	Connectors Accessory Bag	33	-														1 1
6KAF60982	\$270.00	Connectors Accessory Bag	34	-														1
6KAF60983	\$270.00	Connectors Accessory Bag	34	-														1
6KAF60633	\$55.00	Brake and Load Sharing Connectors Bag	12/13/15	-							1	1	1	1	1	1		

AF-600 FP Fan and Pump Drive



# AF-600 FP Fan and Pump Drive Replacement Parts

IP 20 - 575 Vac, 3-Phase, 50/60Hz Input

IP 55/66 - 575 Vac, 3-Phase, 50/60Hz Input

Product Number	List Price GO-5RP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive													
					1	2	3	5	7.5	10	15	20	25	30	40	50	60	75
<b>Main Control Card</b>																		
6KAF61151	\$950.00	Control Card	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>Keypad</b>																		
KYPDACGP1	\$500.00	Replacement Graphical Keypad	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61007	\$45.00	Frame w/o option A or B	12/13/23	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61008	\$60.00	Frame w option A or B	12/13/23	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF60284	\$75.00	Frame	24/33/34	-									1	1	1	1	1	1
6KAF63414	\$40.00	Frame	15/21/22/31/32	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61011	\$40.00	Terminal cover w/o option A or B	12/13	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61012	\$40.00	Terminal cover w option A or B	12/13	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61411	\$65.00	Terminal cover	23	-						1	1	1						
6KAF61410	\$95.00	Terminal cover	23	-						1	1	1						
<b>Power Card</b>																		
6KAF61857	\$5020.00	Power Card	21	-						1								
6KAF61858	\$5020.00	Power Card	21	-							1							
6KAF61859	\$5020.00	Power Card	21	-								1						
6KAF61935	\$5200.00	Power Card	22	-									1					
6KAF61940	\$5200.00	Power Card	22	-										1				
6KAF61928	\$1735.00	Power Card	31	-											1			
6KAF61929	\$1735.00	Power Card	31	-												1		
6KAF61930	\$1735.00	Power Card	31	-													1	
6KAF61931	\$1920.00	Power Card	32	-														1
6KAF61932	\$1920.00	Power Card	32	-														
6KAF61960	\$4925.00	Power Card	23	-						1								
6KAF61961	\$2925.00	Power Card	23	-							1							
6KAF61962	\$5110.00	Power Card	23	-								1						
6KAF61963	\$5200.00	Power Card	24	-									1					
6KAF61964	\$5300.00	Power Card	24	-										1				
6KAF61965	\$5390.00	Power Card	24	-											1			
6KAF61966	\$1825.00	Power Card	33	-												1		
6KAF61967	\$1825.00	Power Card	33	-													1	
6KAF61968	\$1920.00	Power Card	34	-														1
6KAF61969	\$1920.00	Power Card	34	-														
6KAF61875	\$2085.00	Switch Mode Power Supply	22	-										1				
6KAF61876	\$2085.00	Switch Mode Power Supply	22	-											1			
<b>Inverter IGBTs</b>																		
6KAF61403	\$1475.00	Dual IGBT Module	31/33	100A											3	3		
6KAF61409	\$1745.00	Dual IGBT Module	31/33	150A													3	
6KAF61404	\$2400.00	Dual IGBT Module	32/34	200A														3
6KAF61432	\$3950.00	Dual IGBT Module	32/34	300A														
<b>Brake IGBT</b>																		
6KAF61403	\$1475.00	Dual IGBT Module	31/33	100A												1	1	
6KAF61404	\$2400.00	Dual IGBT Module	31/33	200A														1
<b>Rectifiers</b>																		
6KAF61429	\$1165.00	Thyristor Module	31/33	115A											3	3	3	
6KAF61430	\$1920.00	Thyristor Module	32/34	220A														3
<b>RFI Filters</b>																		
6KAF63378	\$680.00	RFI Filter (class A2)	21	-						1	1	1						
6KAF63381	\$685.00	RFI Filter (class A2)	22	-									1	1				
6KAF63427	\$40.00	RFI Filter (class A2)	31	-											1	1	1	
6KAF63377	\$1235.00	RFI Filter (class A1/B)	21	-						1	1	1						
6KAF63380	\$1495.00	RFI Filter (class A1/B)	22	-									1	1				
6KAF63425	\$4265.00	RFI Filter (class A1/B)	31	-											1	1	1	
6KAF63422	\$4750.00	RFI Filter (class A1/B)	32	-														1
6KAF61412	\$1325.00	RFI Filter (class A1/B)	23	-						1	1	1						
6KAF61416	\$1535.00	RFI Filter (class A1/B)	24	-									1	1	1			
6KAF61419	\$2575.00	RFI Filter (class A1/B)	33	-												1	1	
6KAF61420	\$3185.00	RFI Filter (class A1/B)	34	-														1
<b>Current Transducers</b>																		
6KAF61898	\$1625.00	Current Transducer Card	31/33	-											1	1	1	
6KAF61899	\$1640.00	Current Transducer Card	32/34	-														1
<b>DC Link</b>																		
6KAF61424	\$860.00	DC Capacitors	31/33	4500uF												2	2	
6KAF61425	\$1360.00	DC Capacitors	32/34	2700uF														2
6KAF61060	\$1200.00	DC Link Reactors	21	780mH						1								2
6KAF61061	\$1260.00	DC Link Reactors	21	580mH							1							
6KAF61062	\$1260.00	DC Link Reactors	22	490mH								1						
6KAF61063	\$1385.00	DC Link Reactors	22	410mH									1					
6KAF61035	\$2210.00	DC Link Reactors	31	300mH												1		
6KAF61036	\$2630.00	DC Link Reactors	31	260mH													1	
6KAF61037	\$2600.00	DC Link Reactors	31	200mH														1
6KAF61038	\$3535.00	DC Link Reactors	32	170mH														1
6KAF61039	\$4100.00	DC Link Reactors	32	100mH														1
6KAF61959	\$2325.00	DC Link Assembly	24	-									1	1	1			





# AF-600 FP Fan and Pump Drive Replacement Parts

IP 20 - 575 Vac, 3-Phase, 50/60Hz Input (continued)

IP 55/66 - 575 Vac, 3-Phase, 50/60Hz Input (continued)

Product Number	List Price GO-SRP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive													
					1	2	3	5	7.5	10	15	20	25	30	40	50	60	75
<b>Fans</b>																		
6KAF61010	\$160.00	Fan Assembly	13	-	1	1	1	1	1	1								
6KAF61017	\$295.00	Fan Assembly	15	-	1	1	1	1	1	1								
6KAF63563	\$270.00	External Fan (IP20)	23	12W							1	1	1					
6KAF63699	\$250.00	External Fan (IP20)	24	12W									1	1	1			
6KAF64292	\$250.00	External Fan (IP20)	33	12W											2	2		
6KAF64294	\$355.00	External Fan (IP20)	34	18W													2	2
6KAF63407	\$455.00	External Fan (IP55)	21	22W						1	1	1						
6KAF63406	\$640.00	External Fan (IP55)	22	22W									1	1				
6KAF63865	\$645.00	External Fan (IP55)	31	26W										1	1	1		
6KAF63867	\$1235.00	External Fan (IP55)	32	22W													1	1
6KAF63440	\$105.00	Internal Fan	21/23	5.8W						1	1	1						
6KAF63441	\$105.00	Internal Fan	22/24	5.8W									1	1	1			
6KAF63923	\$110.00	Internal Fan	31/32/33/34	5.8W											1	1	1	1
<b>Accessory Bags</b>																		
6KAF61022	\$275.00	Connectors Accessory Bag	12/13	-	1	1	1	1	1	1								
6KAF61023	\$240.00	Connectors Accessory Bag	15	-	1	1	1	1	1	1								
6KAF62060	\$120.00	Connectors Accessory Bag	21	-							1	1	1					
6KAF62061	\$125.00	Connectors Accessory Bag	22	-									1	1				
6KAF60980	\$140.00	Connectors Accessory Bag	23	-							1	1	1					
6KAF61300	\$270.00	Connectors Accessory Bag	24	-									1	1	1			
6KAF60046	\$200.00	Connectors Accessory Bag	31	-										1	1	1		
6KAF60047	\$210.00	Connectors Accessory Bag	32	-													1	1
6KAF60981	\$225.00	Connectors Accessory Bag	33	-											1	1		
6KAF60982	\$270.00	Connectors Accessory Bag	34	-													1	
6KAF60983	\$270.00	Connectors Accessory Bag	34	-														1
6KAF60633	\$55.00	Brake and Load Sharing Connectors Bag	12/13/15	-	1	1	1	1	1	1								

## High Power

IP 00 - 460 Vac, 3-Phase, 50/60Hz Input

IP 21/54 - 460 Vac, 3-Phase, 50/60Hz Input

Product Number	List Price GO-SRP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive													
					150	200	250	300	350	450	500	550	600	650	750	900	1000	1200
<b>Main Control Card</b>																		
6KAF61151	\$950.00	Control Card	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>Keypad</b>																		
KYPDACGP1	\$500.00	Replacement Graphical Keypad	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF63414	\$40.00	Frame	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>Power Card</b>																		
6KAF6H8652	\$2100.00	PCA3 - Power card	-	-	1													
6KAF6H8653	\$2100.00	PCA3 - Power Card	-	-		1												
6KAF6H8654	\$2100.00	PCA3 - Power Card	-	-			1											
6KAF6H8655	\$2100.00	PCA3 - Power Card	-	-				1										
6KAF6H8656	\$2100.00	PCA3 - Power Card	-	-					1									
6KAF6H8657	\$2100.00	PCA3 - Power Card	-	-						1								
6KAF6H8658	\$2100.00	PCA3 - Power Card	-	-							1							
6KAF6H8659	\$2100.00	PCA3 - Power Card	-	-								1						
6KAF6H8660	\$2100.00	PCA3 - Power Card	-	-									1					
6KAF6H8774	\$2625.00	Power Card	-	-										3				
6KAF6H8775	\$2625.00	Power Card	-	-											3			
6KAF6H8776	\$2625.00	Power Card	-	-												3		
6KAF6H8777	\$2625.00	Power Card	-	-													3	
6KAF6H8778	\$2625.00	Power Card	-	-														4
6KAF6H8779	\$2625.00	Power Card	-	-														4
6KAF6H8308	\$95.00	PCA4 - Current Scaling PCA, 4.54 Ohm	-	-		1												
6KAF6H8309	\$95.00	PCA4 - Current Scaling PCA, 3.79 Ohm	-	-			1											
6KAF6H8310	\$100.00	PCA4 - Current Scaling PCA, 3.10 Ohm	-	-				1										
6KAF6H8311	\$95.00	PCA4 - Current Scaling PCA, 2.56 Ohm	-	-					1		1				2			3
6KAF6H8312	\$100.00	PCA4 - Current Scaling PCA, 5.10 Ohm	-	-						1								
6KAF6H8554	\$100.00	PCA4 - Current Scaling PCA, 4.21 Ohm	-	-							1			2	2			3
6KAF6H8627	\$135.00	PCA4 - Current Scaling PCA, 2.32 Ohm	-	-											1			2
6KAF6H8773	\$1840.00	MDCIC board, CC	-	-											1	1	1	1
6KAF6H8626	\$1640.00	PCA5 - Gate Drive PCA, CC	-	-		1	1	1	1	1	1	1	1	1				
6KAF6H8307	\$215.00	PCA8 - HF PCA	-	-		1	1	1	1	1	1	1	1	1				
6KAF6H8306	\$1535.00	PCA11 - Softcharge PCA, CC	-	-		1	1	1	1	1								
6KAF6H8555	\$1540.00	PCA11 - Softcharge PCA, CC	-	-						1	1	1	1					
6KAF6H8510	\$240.00	PCA9 - Balance PCA	-	-		1	1	1	2	2	2	2	2	2				



# AF-600 FP Fan and Pump Drive Replacement Parts

IP 00 - 460 Vac, 3-Phase, 50/60Hz Input (continued)

IP 21/54 - 460 Vac, 3-Phase, 50/60Hz Input (continued)

Product Number	List Price GO-SRP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive												
					150	200	250	300	350	450	500	550	600	650	750	900	1000
<b>Inverter IGBTs</b>																	
6KAF6H8628	\$5700.00	IGBT 1, 2 - IGBT kit, 300A	-		1		2	2									
6KAF6H8629	\$7630.00	IGBT 1, 2 - IGBT kit, 450A	-			1		2									
6KAF6H8630	\$5740.00	IGBT 1, 2, 3 - IGBT kit, 300A	-						2								
6KAF6H8631	\$7790.00	IGBT 1, 2, 3 - IGBT kit, 450A	-							3							
6KAF6H8323	\$105.00	C 2,3,4,5,6,7,8,9,10 - CAP IGBT Snubber, 1000V, 1.5uF	-		3	3	6	6	6	9	9	9	9				
6KAF6H8743	\$107800.00	Inverter Module	-										2				
6KAF6H8744	\$127300.00	Inverter Module	-											2			
6KAF6H8745	\$144000.00	Inverter Module	-												2		
6KAF6H8746	\$171250.00	Inverter Module	-													2	
6KAF6H8747	\$127300.00	Inverter Module	-														3
6KAF6H8748	\$144000.00	Inverter Module	-														3
<b>Brake IGBT</b>																	
6KAF6H8316	\$3370.00	IGBT 4,5 - Brake IGBT kit	-		1	1	2	2	2	2	2	2	2				
<b>Rectifiers</b>																	
6KAF6H8317	\$1400.00	SCR 1, 2, 3 - SCR/Diode kit, 160A	-		3	3											
6KAF6H8318	\$1435.00	SCR 1, 2, 3 - SCR/Diode kit, 175A	-				3										
6KAF6H8319	\$2275.00	SCR 1, 2, 3 - SCR/Diode kit, 250A	-					3									
6KAF6H8320	\$2460.00	SCR 1, 2, 3 - SCR/Diode kit, 330A	-						3								
6KAF6H8558	\$2620.00	SCR 1, 2, 3 - SCR kit, 500A	-							3	3	3	3				
6KAF6H8559	\$2340.00	D 1, 2, 3 - Diode kit, 600A	-							3	3	3	3				
6KAF6H8712	\$101810.00	Rectifier Module	-											1			
6KAF6H8713	\$101810.00	Rectifier Module	-												1		
6KAF6H8714	\$137000.00	Rectifier Module	-													1	
6KAF6H8715	\$137000.00	Rectifier Module	-														1
6KAF6H8716	\$185000.00	Rectifier Module	-														1
6KAF6H8717	\$185000.00	Rectifier Module	-														1
<b>Current Transducers</b>																	
6KAF6H8342	\$525.00	L 2,3,4 - Current Sensor, 300A	-		3	3	3	3									
6KAF6H8343	\$755.00	L 2,3,4 - Current Sensor, 500A	-						3	3							
6KAF6H8563	\$1925.00	L 2,3,4 - Current Sensor, 1000A	-								3	3	3				
<b>DC Link</b>																	
6KAF6H8324	\$4570.00	CBANK 1, 2 - CAP Bank, 4 Cap	-		1			2	1								
6KAF6H8325	\$6115.00	CBANK 1, 2 - CAP Bank, 6 Cap	-			1	1			1							
6KAF6H8636	\$8410.00	CBANK 1, 2 - CAP Bank, 6 Cap	-							2	1						
6KAF6H8637	\$9570.00	CBANK 1, 2 - CAP Bank, 8 Cap	-								1	2	2				
6KAF6H8337	\$3185.00	L1 - Bus Inductor, 200uH	-		1												
6KAF6H8338	\$3380.00	L1 - Bus Inductor, 157uH	-			1											
6KAF6H8339	\$3720.00	L1 - Bus Inductor, 136uH	-				1										
6KAF6H8340	\$3950.00	L1 - Bus Inductor, 109uH	-					1									
6KAF6H8341	\$4175.00	L1 - Bus Inductor, 87uH	-						1								
6KAF6H8564	\$6600.00	L1 - Bus Inductor, 62uH	-							1							
6KAF6H8565	\$7140.00	L1 - Bus Inductor, 51uH	-								1	1	1				
6KAF6H8322	\$515.00	R1 - Softcharge Resistor, 27 Ohm, 110W	-		1	1	1	1	1								
6KAF6H8560	\$575.00	R1 - Softcharge Resistor, 27 Ohm, 155W	-							1	1	1	1				
<b>Fuses</b>																	
6KAF6H8334	\$300.00	FU 1,2,3 - Fuse,Main, 350A	-		3	3											
6KAF6H8335	\$345.00	FU 1,2,3 - Fuse,Main, 630A	-				3	3	3								
6KAF6H8591	\$560.00	FU 1,2,3 - Fuse,Main, 700A	-							3							
6KAF6H8592	\$840.00	FU 1,2,3 - Fuse Main, 900A	-								3	3	3				
6KAF6H8769	\$3460.00	Fuse Mains, 2000A	-											3	3	3	3
6KAF6H8770	\$3860.00	Fuse Mains, 2500A	-														3
6KAF6H8767	\$1555.00	Fuse DC, 1100A	-											4	4		6
6KAF6H8768	\$1370.00	Fuse DC, 1400 A	-														6
6KAF6H8336	\$130.00	Fuse Softcharge, 20A, PKG3	-		1	1	1	1	1	1	1	1	1				
6KAF6H8440	\$80.00	FU 5 - Fuse, 4A, PKG3, Power PCA, Fan	-		1	1	1	1	1	1	1	1	1				
6KAF6H8440	\$80.00	FU 4 - Fuse, 4A, PKG3 Power PCA Fan	-		1	1	1	1	1	1							
6KAF6H8609	\$225.00	FU 4 - Fuse, 15A, PKG3, Fan	-								1	1	1				
<b>Fans</b>																	
6KAF6H8329	\$2185.00	F1+C1 - Heatsink Fan Assy	-		1	1	1	1	1								
6KAF6H8578	\$4270.00	F1+C1 - Heatsink Fan Assy	-							1							
6KAF6H8579	\$9975.00	F1+C1 - Heatsink Fan Assy	-								1	1	1				
6KAF6H8771	\$2990.00	Fan Heatsink	-											3	3	3	3
6KAF6H8330	\$1580.00	F 2, 3 - Door Fan Kit	41/42/51		1	1	1	1	1	1	1	1	1				
6KAF6H8331	\$170.00	Door Vent Kit	41/42/51		1	1	1	1	1	1	1	1	1				
6KAF6H8332	\$155.00	Door Fan Filter, PKG10 (IP54/Nema 12 Drive)	41/42/51		1	1	1	1	1	1	1	1	1				
6KAF6H8639	\$225.00	F4 - DC Top Fan, IP00/Chassis Unit Drive	43/44		1	1	1	1	1								
6KAF6H8333	\$1150.00	F 2, 3 - Door/Top AC Fan	41/42/51		1	1	1	1	1	1	1	1	1				
6KAF6H8772	\$4250.00	Door Fan	-											3	3	3	3

AF-600 FP Fan and Pump Drive



# AF-600 FP Fan and Pump Drive Replacement Parts

## IP 00 - 460 Vac, 3-Phase, 50/60Hz Input (continued)

### IP 21/54 - 460 Vac, 3-Phase, 50/60Hz Input (continued)

Product Number	List Price GO-5RP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive												
					150	200	250	300	350	450	500	550	600	650	750	900	1000
<b>Fans (continued)</b>																	
6KAF6H8612	\$770.00	F5 - Fuse Fan, Input Plate	-	-						1	1	1	1				
6KAF6H8344	\$500.00	TR1 - Fan Transformer Assy, 500V	-	-	1	1	1	1	1								
6KAF6H8566	\$580.00	TR1 - Fan Transformer Assy	-	-						1							
6KAF6H8567	\$1990.00	TR1 - Fan Transformer Assy, 1500VA	-	-							1	1	1				
6KAF6H8577	\$1410.00	L5 - Heatsink Fan Inductor	-	-							1	1	1				

## IP 00 - 575 Vac, 3-Phase, 50/60Hz Input

### IP 21/54 - 575 Vac, 3-Phase, 50/60Hz Input

Product Number	List Price GO-5RP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive													
					150	200	250	300	350	400	450	500	600	650	750	950	1050	1150
<b>Main Control Card</b>																		
6KAF61151	\$950.00	Control Card	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>Keypad</b>																		
6KAF61107	\$500.00	Replacement Graphical Keypad	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF61007	\$40.00	Frame	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>Power Card</b>																		
6KAF6H8661	\$2100.00	Power Card	-	-	1													
6KAF6H8662	\$2100.00	Power Card	-	-		1												
6KAF6H8663	\$2100.00	Power Card	-	-			1											
6KAF6H8664	\$2100.00	Power Card	-	-				1										
6KAF6H8665	\$2100.00	Power Card	-	-					1									
6KAF6H8666	\$2100.00	Power Card	-	-						1								
6KAF6H8667	\$2100.00	Power Card	-	-							1							
6KAF6H8668	\$2100.00	Power Card	-	-								1						
6KAF6H8669	\$2100.00	Power Card	-	-									1					
6KAF6H8670	\$2100.00	Power Card	-	-										1				
6KAF6H8786	\$2625.00	Power Card	-	-											3			
6KAF6H8787	\$2625.00	Power Card	-	-												3		
6KAF6H8788	\$2625.00	Power Card	-	-													3	
6KAF6H8789	\$2625.00	Power Card	-	-														4
6KAF6H8791	\$2625.00	Power Card	-	-														4
6KAF6H8308	\$95.00	PCA4 - Current Scaling PCA, 4.54 Ohm	-	-		1					1	1			2		3	
6KAF6H8309	\$95.00	PCA4 - Current Scaling PCA, 3.79 Ohm	-	-										1		2		3
6KAF6H8310	\$95.00	PCA4 - Current Scaling PCA, 3.10 Ohm	-	-			1	1										
6KAF6H8311	\$95.00	PCA4 - Current Scaling PCA, 2.56 Ohm	-	-					1						1		2	
6KAF6H8312	\$95.00	PCA4 - Current Scaling PCA, 5.10 Ohm	-	-						1								
6KAF6H8525	\$95.00	PCA4 - Current Scaling PCA, 5.85 Ohm	-	-		1												
6KAF6H8773	\$1840.00	MDCIC Board, CC	-	-											1	1	1	1
6KAF6H8626	\$1640.00	PCA5 - Gate Drive PCA, CC	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF6H8523	\$215.00	PCA8 - HF PCA	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF6H8522	\$1535.00	PCA11 - Softcharge PCA, CC	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF6H8466	\$1535.00	PCA11 - Softcharge PCA, CC	-	-							1	1	1	1	1	1	1	1
6KAF6H8526	\$25.00	PCA9 - Balance, PCA	-	-	1	1	2	2	2	2	2	2	2	2	2	2	2	2
<b>Inverter IGBTs</b>																		
6KAF6H8632	\$8300.00	IGBT1, 2 - IGBT kit, 300A	-	-		1	2	2										
6KAF6H8633	\$10815.00	IGBT1, 2 - IGBT kit, 450A	-	-			1		2	2								
6KAF6H8634	\$8440.00	IGBT1, 2, 3 - IGBT kit, 300A	-	-							3	3						
6KAF6H8635	\$10975.00	IGBT1, 2, 3 - IGBT kit, 450A	-	-									3	3				
6KAF6H8534	\$160.00	C2,3,4,5,6,7,8,9,10 - CAP IGBT Snubber, 1250V, 1uF	-	-	3	3	6	6	6	6	9	9	9	9				
6KAF6H8755	\$196925.00	Inverter Module	-	-											2			
6KAF6H8756	\$291985.00	Inverter Module	-	-												2		
6KAF6H8757	\$322260.00	Inverter Module	-	-													2	
6KAF6H8758	\$196925.00	Inverter Module	-	-														3
6KAF6H8759	\$291985.00	Inverter Module	-	-														3
<b>Brake IGBT</b>																		
6KAF6H8316	\$3370.00	IGBT4, 5 - Brake IGBT kit	-	-	1	1	2	2	2	2	2	2	2	2	2	2	2	2
<b>Rectifiers</b>																		
6KAF6H8529	\$1415.00	SCR1, 2, 3 - SCR/Diode kit, 160A	-	-	3	3	3											
6KAF6H8530	\$2830.00	SCR1, 2, 3 - SCR/Diode kit, 280A	-	-				3	3	3								
6KAF6H8434	\$3360.00	SCR1, 2, 3 - SCR kit, 430A	-	-							3	3	3	3				
6KAF6H8435	\$4290.00	D1, 2, 3 - Diode kit, 540A	-	-							3	3	3	3				
6KAF6H8724	\$265810.00	Rectifier Module	-	-											1			
6KAF6H8725	\$265810.00	Rectifier Module	-	-												1		
6KAF6H8726	\$265810.00	Rectifier Module	-	-													1	
6KAF6H8727	\$357675.00	Rectifier Module	-	-														1
6KAF6H8728	\$357675.00	Rectifier Module	-	-														1



# AF-600 FP Fan and Pump Drive Replacement Parts

IP 00 - 575 Vac, 3-Phase, 50/60Hz Input (continued)

IP 21/54 - 575 Vac, 3-Phase, 50/60Hz Input (continued)

Product Number	List Price GO-SRP	Description	Unit Size	Rating	Drive Hp and Quantity Per Drive												
					150	200	250	300	350	400	450	500	600	650	750	950	1050
<b>Current Transducers</b>																	
6KAF6H8342	\$525.00	L2, 3, 4 - Current Sensor, 300A	-		3	3	3	3	3								
6KAF6H8343	\$750.00	L2, 3, 4 - Current Sensor, 500A	-							3	3	3	3				
6KAF6H8563	\$1925.00	L2, 3, 4 - Current Sensor, 1000A	-											3			
<b>DC Link</b>																	
6KAF6H8532	\$5420.00	CBANK1, 2 - CAP Bank, 4 Cap	-		1		2	2	1								
6KAF6H8533	\$7360.00	CBANK1, 2 - CAP Bank, 6 Cap	-			1			1	2							
6KAF6H8638	\$12310.00	CBANK1, 2 - CAP Bank, 8 Cap	-								2	2	2	2			
6KAF6H8536	\$3435.00	L1 - Bus Inductor, 350uH	-		1												
6KAF6H8537	\$3550.00	L1 - Bus Inductor, 250uH	-			1											
6KAF6H8538	\$3975.00	L1 - Bus Inductor, 195uH	-				1	1									
6KAF6H8339	\$3720.00	L1 - Bus Inductor, 136uH	-					1									
6KAF6H8340	\$3950.00	L1 - Bus Inductor, 109uH	-						1								
6KAF6H8469	\$8730.00	L1 - Bus Inductor, 73uH	-							1	1	1	1				
6KAF6H8531	\$565.00	R1 - Softcharge Resistor, 68 Ohm, 110W	-		1	1	1	1	1	1							
6KAF6H8467	\$550.00	R1 - Softcharge Resistor, 68 Ohm, 155W	-								1	1	1	1			
<b>Fuses</b>																	
6KAF6H8334	\$300.00	FU1, 2, 3 - Fuse Main, 350A	-		3	3											
6KAF6H8591	\$560.00	FU1, 2, 3 - Fuse Main, 700A	-							3	3	3					
6KAF6H8592	\$850.00	FU1, 2, 3 - Fuse Main, 900A	-											3			
6KAF6H8540	\$570.00	FU1, 2, 3 - Fuse Main, 550A	-			3	3	3	3								
6KAF6H8769	\$3560.00	Fuse Mains, 2000A	-											3	3	3	3
6KAF6H8767	\$1555.00	Fuse DC, 1100A	-											4	4	4	6
6KAF6H8336	\$130.00	Fuse Softcharge, 20A, PKG3	-		1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF6H8440	\$80.00	FU5 - Fuse 4A PKG3 Power PCA Fan	-		1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF6H8440	\$80.00	FU4 - Fuse 4A PKG3 Power PCA Fan	-		1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF6H8609	\$225.00	FU4 - Fuse 15A PKG3 Fan	-											1	1		
<b>Fans</b>																	
6KAF6H8329	\$2185.00	F1+C1 - Heatsink Fan Assy	-		1	1	1	1	1	1							
6KAF6H8578	\$4275.00	F1+C1 - Heatsink Fan Assy	-								1	1					
6KAF6H8579	\$9975.00	F1+C1 - Heatsink Fan Assy	-										1	1			
6KAF6H8771	\$2990.00	Fan Heatsink	-													3	3
6KAF6H8330	\$1580.00	F2,3 - Door Fan Kit	41/42/51		1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF6H8331	\$170.00	Door Vent Kit	41/42/51		1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF6H8332	\$150.00	Door Fan Filter, PKG10 (IP54/Nema 12 Drive)	41/42/51		1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF6H8639	\$225.00	F4 - DC Top Fan, IP00/Open Chassis Drive	43/44		1	1	1	1	1	1							
6KAF6H8333	\$1150.00	F2 - Door/Top AC Fan	52								1	1	1	1			
6KAF6H8333	\$1150.00	F2, 3 - Door/Top AC Fan	41/42/51		1	1	1	1	1	1	1	1	1	1	1	1	1
6KAF6H8772	\$4250.00	Fan Door	-											3	3	3	3
6KAF6H8535	\$800.00	TR1 - Fan Transformer Assy, 690V, 400VA	-		1	1	1	1	1	1	1	1	1				
6KAF6H8471	\$570.00	TR1 - Fan Transformer Assy	-											1	1		
6KAF6H8577	\$1410.00	L5 - Heatsink Fan Inductor	-											1	1		

## High Power Cables

IP 00 - 460 Vac, 3-Phase, 50/60Hz Input

IP 21/54 - 460 Vac, 3-Phase, 50/60Hz Input

Product Number	List Price GO-SRP	Description	Unit Size	Drive Hp and Quantity Per Drive										
				150	200	250	300	350	450	500	550	600		
<b>Cables</b>														
6KAF6H8640	\$70.00	CBL1 - Keypad Cable for IP54/Nema 12 Drive Type	41/42		1	1	1	1	1					
6KAF6H8586	\$75.00	CBL1 - Keypad Cable	5X							1	1	1	1	1
6KAF6H8641	\$80.00	CBL2 - Control Cable PCA, 44pin	4X & 5X		1	1	1	1	1	1	1	1	1	1
6KAF6H8541	\$185.00	CBL5 - Current Sensor Cable	4X		1	1								
6KAF6H8349	\$365.00	CBL5 - Current Sensor Cable	42			1	1	1						
6KAF6H8568	\$235.00	CBL5 - Current Sensor Cable	5X							1				
6KAF6H8569	\$245.00	CBL5 - Current Sensor Cable	5X								1	1	1	1
6KAF6H8542	\$75.00	CBL8 - HS Fan Cable	41		1	1								
6KAF6H8359	\$100.00	CBL8 - HS Fan Cable	42				1	1	1					
6KAF6H8571	\$80.00	CBL8 - Fan Cable for IP00/Open Chassis Drive Type	51								1			
6KAF6H8572	\$120.00	CBL8 - Fan Cable for IP54/Nema 12 Drive Type	52								1			
6KAF6H8573	\$85.00	CBL8 - Fan Cable for IP00/Open Chassis Drive Type	51									1	1	1
6KAF6H8574	\$125.00	CBL8 - Fan Cable for IP54/Nema 12 Drive Type	52									1	1	1
6KAF6H8354	\$60.00	CBL9 - Softcharge Cable RST prime	4X		1	1	1	1	1					
6KAF6H8570	\$55.00	CBL9 - Softcharge Cable RST prime	5X							1	1	1	1	1
6KAF6H8358	\$55.00	CBL12 - Door Fan Cable	41/42		1	1	1	1	1					
6KAF6H8544	\$110.00	CBL13 - SCR Cable	41		1	1								
6KAF6H8357	\$110.00	CBL13 - SCR Cable	42				1	1	1					
6KAF6H8575	\$205.00	CBL13 - SCR Cable	5X								1	1	1	1



# AF-600 FP Fan and Pump Drive Replacement Parts

IP 00 - 460 Vac, 3-Phase, 50/60Hz Input (continued)

IP 21/54 - 460 Vac, 3-Phase, 50/60Hz Input (continued)

Product Number	List Price GO-SRP	Description	Unit Size	Drive Hp and Quantity Per Drive								
				150	200	250	300	350	450	500	550	600
<b>Cables (continued)</b>												
6KAF6H8356	\$45.00	CBL14 - DC to Power PCA Cable	4X	1	1	1	1	1				
6KAF6H8576	\$50.00	CBL14 - DC to Power PCA Cable	5X						1	1	1	1
6KAF6H8830	\$20.00	CBL15 - RFI Switch Cable	4X	1	1	1	1	1				
6KAF6H8580	\$65.00	CBL15 - RFI Switch Cable	5X						1	1	1	1
6KAF6H8363	\$30.00	CBL16 - Gate Driver Cable, 16pin	41	1	1							
6KAF6H8350	\$41.00	CBL16 - Gate Driver Cable, 16pin	42			1	1	1				
6KAF6H8581	\$45.00	CBL16 - Gate Driver Cable, 16pin	5X						1	1	1	1
6KAF6H8364	\$60.00	CBL17,18,19 IGBT Gate Cable	41	3	3							
6KAF6H8351	\$95.00	CBL17,18,19 - IGBT Gate Cable	42			3	3	3				
6KAF6H8582	\$40.00	CBL17,18,19 - IGBT Gate Cable	51						3	3	3	3
6KAF6H8352	\$65.00	CBL20 - IGBT Temperature Cable	-	1	1	1	1	1	1	1	1	1
6KAF6H8365	\$40.00	CBL21 - Brake IGBT Cable	41	1	1							
6KAF6H8368	\$65.00	CBL21 - Brake IGBT Cable	42			1	1	1				
6KAF6H8583	\$85.00	CBL21 - Brake IGBT Cable	5X						1	1	1	1
6KAF6H8366	\$320.00	CBL22 - Brake Power Plus Cable	41	1	1							
6KAF6H8369	\$95.00	CBL22 - Brake Power Plus Cable	42			1	1	1				
6KAF6H8367	\$320.00	CBL23 - Brake Power Minus Cable	41	1	1							
6KAF6H8370	\$550.00	CBL23 - Brake Power Minus Cable	42			1	1	1				
6KAF6H8543	\$55.00	CBL24 - Softcharge RST Cable	41	1	1							
6KAF6H8353	\$75.00	CBL24 - Softcharge RST Cable	42			1	1	1				
6KAF6H8584	\$45.00	CBL24 - Softcharge RST Cable	5X						1	1	1	1
6KAF6H8355	\$45.00	CBL25 - Softcharge to DC Bus Cable	4X	1	1	1	1	1				
6KAF6H8585	\$40.00	CBL25 - Softcharge to DC Bus Cable	5X						1	1	1	1
6KAF6H8613	\$65.00	CBL26 - Fuse Fan Cable	5X						1	1	1	1
<b>Terminals, Labels, Insulators</b>												
6KAF6H8374	\$215.00	TB1 - Bus Bars, Terminals Line/Load	4X	3	3							
6KAF6H8375	\$260.00	TB1 - Bus Bars, Terminals Line/Load	4X			3	3	3				
6KAF6H8587	\$690.00	TB1 - Bus Bars, Terminal Block	5X						3	3	3	3
6KAF6H8374	\$215.00	TB2 - Bus Bars, Terminals Line/Load	4X	3	3							
6KAF6H8375	\$255.00	TB2 - Bus Bars, Terminals Line/Load	4X			3	3	3				
6KAF6H8587	\$690.00	TB2 - Bus Bars, Terminal Block	5X						3	3	3	3
6KAF6H8395	\$260.00	TB3 - Bus Bars, Terminal, Load Share & Brake	4X	2	2	2	2	2				
6KAF6H8399	\$410.00	TB3 - Bus Bars, Terminal, Load Share, Left	4X						1	1	1	1
6KAF6H8404	\$415.00	TB3 - Bus Bars, Terminal, Load Share, Right	4X						1	1	1	1
6KAF6H8395	\$260.00	TB4 - Bus Bars, Terminal, Load Share & Brake	4X	2	2							
6KAF6H8399	\$410.00	TB4 - Bus Bars, Terminal, Load Share, Left	4X			1	1	1				
6KAF6H8404	\$415.00	TB4 - Bus Bars, Terminal, Load Share, Right	4X			1	1	1				
6KAF6H8587	\$690.00	TB4 - Bus Bars, Terminal Block	5X						2	2	2	2
6KAF6H8371	\$135.00	TB1 - Terminal Insulator Line/Load	4X	1	1	1	1	1				
6KAF6H8588	\$155.00	TB1 - Insulator Terminal Block	5X						3	3	3	3
6KAF6H8371	\$135.00	TB2 - Terminal Insulator Line/Load	4X	1	1	1	1	1				
6KAF6H8588	\$155.00	TB2 - Insulator Terminal Block	5X						3	3	3	3
6KAF6H8372	\$80.00	TB3 - Terminal Insulator, Brake & Load Share	4X	1	1	1	1	1	1	1	1	1
6KAF6H8372	\$80.00	TB4 - Terminal Insulator, Brake & Load Share	4X	1	1	1	1	1				
6KAF6H8588	\$155.00	TB4 - Insulator Terminal Block	5X						2	2	2	2
6KAF6H8373	\$515.00	Terminal Block Label Set	4X	1	1	1	1	1				
6KAF6H8589	\$1460.00	Terminal Block Label Set	5X						1	1	1	1
6KAF6H8545	\$60.00	Insulator Mylar for IGBT Bus	41	1	1							
6KAF6H8421	\$65.00	Insulator Mylar for IGBT Bus	42			1	1	1				
6KAF6H8590	\$150.00	Insulator for IGBT- Chassis	5X						1	1	1	1
6KAF6H8547	\$30.00	Insulator for IGBT Snubber Capacitor Support	-	1	1	2	2	2				
6KAF6H8410	\$285.00	Bus Bar Stand Off, PKG10	-	12	12	17	17	17	11	11	11	11
6KAF6H8610	\$230.00	IGBT Output Standoff, PKG9	5X						9	9	9	9
<b>Bus Bars</b>												
6KAF6H8380	\$145.00	Bus Bars, SCR, R S T	4X	3	3							
6KAF6H8548	\$95.00	Bracket, SCR Bus Bars Support	4X	1	1							
6KAF6H8394	\$210.00	Bus Bars, SCR Input	4X			3						
6KAF6H8387	\$180.00	Bus Bars, SCR Plus, 1	4X				3	3				
6KAF6H8595	\$1270.00	Bus Bars, SCR/DI Input	5X						3	3	3	3
6KAF6H8379	\$620.00	Bus Bars Assy, SCR	4X	1	1							
6KAF6H8381	\$150.00	Bus Bars, SCR Minus	4X	2	2							
6KAF6H8393	\$325.00	Bus Bars, SCR DC	-			2						
6KAF6H8385	\$290.00	Bus Bars, SCR Minus, 1	4X				2	2				
6KAF6H8386	\$380.00	Bus Bars, SCR Minus, 2	4X			1	1	1				
6KAF6H8388	\$380.00	Bus Bars, SCR Plus, 2	4X			1	1	1				
6KAF6H8596	\$1535.00	Bus Bars, SCR/DI Output	5X						2	2	2	2
6KAF6H8597	\$2500.00	Bus Bars, DC Bus Plus, Before DC Reactor	5X						1	1	1	1
6KAF6H8598	\$2500.00	Bus Bars, DC Bus Minus, Before DC Reactor	5X						1	1	1	1
6KAF6H8549	\$150.00	Bus Bars, DC Link, Plus	4X	1	1							
6KAF6H8391	\$190.00	Bus Bars, DC Link, Plus	4X	1	1							
6KAF6H8382	\$265.00	Bus Bars, DC Link Minus	4X			2	2	2				
6KAF6H8599	\$715.00	Bus Bars, DC Bus, After DC Reactor	5X						2	2	2	2
6KAF6H8376	\$670.00	Bus Bars Assy, IGBT	4X	1	1							

AF-600 FP Fan and Pump Drive



# AF-600 FP Fan and Pump Drive Replacement Parts

IP 00 - 460 Vac, 3-Phase, 50/60Hz Input (continued)

IP 21/54 - 460 Vac, 3-Phase, 50/60Hz Input (continued)

Product Number	List Price GO-5RP	Description	Unit Size	Drive Hp and Quantity Per Drive										
				150	200	250	300	350	450	500	550	600		
<b>Bus Bars (continued)</b>														
6KAF6H8377	\$675.00	Bus Bars Assy, IGBT-Inductor	4X			1	1	1						
6KAF6H8378	\$690.00	Bus Bars Assy, IGBT-Capacitor	4X			1	1	1						
6KAF6H8600	\$3675.00	Bus Bars Assy, IGBT-Inductor	5X						1	1	1	1	1	1
6KAF6H8601	\$865.00	Bus Bars Assy, IGBT-Capacitor	5X						3	3	3	3	3	3
6KAF6H8390	\$100.00	Bus Bars, IGBT, U V W	4X		3	3								
6KAF6H8392	\$230.00	Bus Bars, Motor, 2	4X		3	3								
6KAF6H8383	\$260.00	Bus Bars, Motor, U W	4X			2	2	2						
6KAF6H8384	\$215.00	Bus Bars, Motor V	4X			1	1	1						
6KAF6H8389	\$220.00	Bus Bars, I-Sensor	4X			3	3	3						
6KAF6H8602	\$1175.00	Bus Bars, IGBT Output	5X						3	3	3	3	3	3
6KAF6H8603	\$1180.00	Bus Bars, Over Fan Box	5X						3	3	3	3	3	3
6KAF6H8604	\$530.00	Bus Bars, Current Sensor 5352	5X						3					
6KAF6H8605	\$550.00	Bus Bars, Current Sensor 5452-5502	4X							3	3	3	3	3
6KAF6H8397	\$190.00	Bus Bars, Brake Plus	4X		1	1								
6KAF6H8398	\$210.00	Bus Bars, Brake Minus	4X		1	1								
6KAF6H8396	\$320.00	Bus Bars, Brake	4X			1	1	1						
6KAF6H8606	\$8620.00	Bus Bars, Brake Assy	5X						1	1	1	1	1	1
6KAF6H8401	\$475.00	Bus Bars, Load Share Plus	4X		1	1								
6KAF6H8400	\$460.00	Bus Bars, Load Share Minus	4X		1	1								
6KAF6H8403	\$855.00	Bus Bars, Load Share Plus	4X			1	1	1						
6KAF6H8402	\$655.00	Bus Bars, Load Share Minus	4X			1	1	1						
6KAF6H8607	\$2055.00	Bus Bars, Load Share Plus	5X						1	1	1	1	1	1
6KAF6H8608	\$2070.00	Bus Bars, Load Share Minus	5X						1	1	1	1	1	1
6KAF6H8405	\$1370.00	Bus Bars, SCR Input 2	4X		3	3								
6KAF6H8406	\$835.00	Bus Bars, SCR, T, 1	4X			3	3	3						

IP 00 - 575 Vac, 3-Phase, 50/60Hz Input

IP 21/54 - 575 Vac, 3-Phase, 50/60Hz Input

Product Number	List Price GO-5RP	Description	Unit Size	Drive Hp and Quantity Per Drive										
				150	200	250	300	350	400	450	500	600	650	
<b>Cables</b>														
6KAF6H8640	\$70.00	CBL1 - Keypad Cable for IP54/Nema 12 Drive Type	41/42	1	1	1	1	1	1					
6KAF6H8586	\$75.00	CBL1 - Keypad Cable	5X							1	1	1	1	1
6KAF6H8641	\$80.00	CBL2 - Control Cable PCA, 44pin	4X & 5X	1	1	1	1	1	1	1	1	1	1	1
6KAF6H8541	\$185.00	CBL5 - Current Sensor Cable	4X	1	1									
6KAF6H8349	\$365.00	CBL5 - Current Sensor Cable	42			1	1	1	1					
6KAF6H8568	\$235.00	CBL5 - Current Sensor Cable	5X							1	1	1		
6KAF6H8569	\$245.00	CBL5 - Current Sensor Cable	5X											1
6KAF6H8542	\$75.00	CBL8 - HS Fan Cable	41	1	1									
6KAF6H8359	\$100.00	CBL8 - HS Fan Cable	42			1	1	1	1					
6KAF6H8571	\$80.00	CBL8 - Fan Cable for IP00/Open Chassis Drive Type	51							1	1			
6KAF6H8572	\$120.00	CBL8 - Fan Cable for IP54/Nema 12 Drive Type	52							1	1			
6KAF6H8573	\$85.00	CBL8 - Fan Cable for IP00/Open Chassis Drive Type	51										1	1
6KAF6H8574	\$125.00	CBL8 - Fan Cable for IP54/Nema 12 Drive Type	52										1	1
6KAF6H8354	\$60.00	CBL9 - Softcharge Cable RST prime	4X	1	1	1	1	1	1					
6KAF6H8570	\$55.00	CBL9 - Softcharge Cable RST prime	5X							1	1	1	1	1
6KAF6H8358	\$55.00	CBL12 - Door Fan Cable	41/42	1	1	1	1	1	1					
6KAF6H8544	\$110.00	CBL13 - SCR Cable	41	1	1									
6KAF6H8357	\$110.00	CBL13 - SCR Cable	42			1	1	1	1					
6KAF6H8575	\$205.00	CBL13 - SCR Cable	5X							1	1	1	1	1
6KAF6H8356	\$45.00	CBL14 - DC to Power PCA Cable	4X	1	1	1	1	1	1					
6KAF6H8576	\$50.00	CBL14 - DC to Power PCA Cable	5X							1	1	1	1	1
6KAF6H8363	\$30.00	CBL16 - Gate Driver Cable, 16pin	41	1	1									
6KAF6H8350	\$41.00	CBL16 - Gate Driver Cable, 16pin	42			1	1	1	1					
6KAF6H8581	\$45.00	CBL16 - Gate Driver Cable, 16pin	5X							1	1	1	1	1
6KAF6H8364	\$60.00	CBL17,18,19 IGBT Gate Cable	41	3	3									
6KAF6H8351	\$95.00	CBL17,18,19 - IGBT Gate Cable	42			3	3	3	3					
6KAF6H8582	\$40.00	CBL17,18,19 - IGBT Gate Cable	51							3	3	3	3	3
6KAF6H8352	\$65.00	CBL20 - IGBT Temperature Cable	-	1	1	1	1	1	1	1	1	1	1	1
6KAF6H8365	\$40.00	CBL21 - Brake IGBT Cable	41	1	1									
6KAF6H8368	\$65.00	CBL21 - Brake IGBT Cable	42			1	1	1	1					
6KAF6H8583	\$85.00	CBL21 - Brake IGBT Cable	5X							1	1	1	1	1
6KAF6H8366	\$320.00	CBL22 - Brake Power Plus Cable	41	1	1									
6KAF6H8369	\$595.00	CBL22 - Brake Power Plus Cable	42			1	1	1	1					
6KAF6H8367	\$320.00	CBL23 - Brake Power Minus Cable	41	1	1									
6KAF6H8370	\$550.00	CBL23 - Brake Power Minus Cable	42			1	1	1	1					
6KAF6H8543	\$55.00	CBL24 - Softcharge RST Cable	41	1	1									
6KAF6H8353	\$75.00	CBL24 - Softcharge RST Cable	42			1	1	1	1					
6KAF6H8584	\$45.00	CBL24 - Softcharge RST Cable	5X							1	1	1	1	1
6KAF6H8355	\$45.00	CBL25 - Softcharge to DC Bus Cable	4X	1	1	1	1	1	1					
6KAF6H8585	\$40.00	CBL25 - Softcharge to DC Bus Cable	5X							1	1	1	1	1
6KAF6H8613	\$65.00	CBL26 - Fuse Fan Cable	5X							1	1	1	1	1



# AF-600 FP Fan and Pump Drive Replacement Parts

IP 00 - 575 Vac, 3-Phase, 50/60Hz Input (continued)

IP 21/54 - 575 Vac, 3-Phase, 50/60Hz Input (continued)

Product Number	List Price GO-5RP	Description	Unit Size	Drive Hp and Quantity Per Drive										
				150	200	250	300	350	400	450	500	600	650	
<b>Terminals, Labels, Insulators</b>														
6KAF6H8374	\$215.00	TB1 - Bus Bars, Terminals Line/Load	4X	3	3									
6KAF6H8375	\$260.00	TB1 - Bus Bars, Terminals Line/Load	4X			3	3	3	3					
6KAF6H8587	\$690.00	TB1 - Bus Bars, Terminal Block	5X							3	3	3	3	
6KAF6H8374	\$215.00	TB2 - Bus Bars, Terminals Line/Load	4X	3	3									
6KAF6H8375	\$255.00	TB2 - Bus Bars, Terminals Line/Load	4X			3	3	3	3					
6KAF6H8587	\$690.00	TB2 - Bus Bars, Terminal Block	5X							3	3	3	3	
6KAF6H8395	\$260.00	TB3 - Bus Bars, Terminal, Load Share & Brake	4X	2	2	2	2	2	2					
6KAF6H8399	\$410.00	TB3 - Bus Bars, Terminal, Load Share, Left	4X							1	1	1	1	
6KAF6H8404	\$415.00	TB3 - Bus Bars, Terminal, Load Share, Right	4X							1	1	1	1	
6KAF6H8395	\$260.00	TB4 - Bus Bars, Terminal, Load Share & Brake	4X	2	2									
6KAF6H8399	\$410.00	TB4 - Bus Bars, Terminal, Load Share, Left	4X			1	1	1	1					
6KAF6H8404	\$415.00	TB4 - Bus Bars, Terminal, Load Share, Right	4X			1	1	1	1					
6KAF6H8587	\$690.00	TB4 - Bus Bars, Terminal Block	5X							2	2	2	2	
6KAF6H8371	\$135.00	TB1 - Terminal Insulator Line/Load	4X	1	1	1	1	1	1					
6KAF6H8588	\$155.00	TB1 - Insulator Terminal Block	5X							3	3	3	3	
6KAF6H8371	\$135.00	TB2 - Terminal Insulator Line/Load	4X	1	1	1	1	1	1					
6KAF6H8588	\$155.00	TB2 - Insulator Terminal Block	5X							3	3	3	3	
6KAF6H8372	\$80.00	TB3 - Terminal Insulator, Brake & Load Share	4X	1	1	1	1	1	1	1	1	1	1	
6KAF6H8372	\$80.00	TB4 - Terminal Insulator, Brake & Load Share	4X	1	1	1	1	1	1					
6KAF6H8588	\$155.00	TB4 - Insulator Terminal Block	5X							2	2	2	2	
6KAF6H8373	\$515.00	Terminal Block Label Set	4X	1	1	1	1	1	1					
6KAF6H8589	\$1460.00	Terminal Block Label Set	5X							1	1	1	1	
6KAF6H8545	\$60.00	Insulator Mylar for IGBT Bus	41	1	1									
6KAF6H8421	\$65.00	Insulator Mylar for IGBT Bus	42			1	1	1	1					
6KAF6H8590	\$150.00	Insulator for IGBT- Chassis	5X							1	1	1	1	
6KAF6H8547	\$30.00	Insulator for IGBT Snubber Capacitor Support	-	1	1	2	2	2	2					
6KAF6H8546	\$160.00	Line Fuse Insulator	-			1	1	1	1					
6KAF6H8410	\$285.00	Bus Bar Stand Off, PKG10	-	12	12	17	17	17	17	11	11	11	11	
6KAF6H8610	\$230.00	IGBT Output Standoff, PKG9	5X							9	9	9	9	
<b>Bus Bars</b>														
6KAF6H8380	\$145.00	Bus Bars, SCR, R S T	4X	3	3									
6KAF6H8548	\$95.00	Bracket, SCR Bus Bars Support	4X	1	1									
6KAF6H8394	\$210.00	Bus Bars, SCR Input	4X			3								
6KAF6H8387	\$180.00	Bus Bars, SCR Plus, 1	4X				3	3	3					
6KAF6H8700	\$1615.00	Bus Bars, SCR/Di Input	5X							3	3	3	3	
6KAF6H8379	\$620.00	Bus Bars Assy, SCR	4X	1	1									
6KAF6H8381	\$150.00	Bus Bars, SCR Minus	4X	2	2									
6KAF6H8393	\$325.00	Bus Bars, SCR DC	-			2								
6KAF6H8385	\$290.00	Bus Bars, SCR Minus, 1	4X				2	2	2					
6KAF6H8386	\$380.00	Bus Bars, SCR Minus, 2	4X			1	1	1	1					
6KAF6H8388	\$380.00	Bus Bars, SCR Plus, 2	4X			1	1	1	1					
6KAF6H8701	\$1780.00	Bus Bars, SCR/Di Output	5X							2	2	2	2	
6KAF6H8597	\$2500.00	Bus Bars, DC Bus Plus, Before DC Reactor	5X							1	1	1	1	
6KAF6H8598	\$2500.00	Bus Bars, DC Bus Minus, Before DC Reactor	5X							1	1	1	1	
6KAF6H8549	\$150.00	Bus Bars, DC Link, Plus	4X	1	1									
6KAF6H8391	\$190.00	Bus Bars, DC Link, Plus	4X	1	1									
6KAF6H8382	\$265.00	Bus Bars, DC Link Minus	4X			2	2	2	2					
6KAF6H8599	\$715.00	Bus Bars, DC Bus, After DC Reactor	5X							2	2	2	2	
6KAF6H8376	\$670.00	Bus Bars Assy, IGBT	4X	1	1									
6KAF6H8377	\$675.00	Bus Bars Assy, IGBT-Inductor	4X			1	1	1	1					
6KAF6H8378	\$690.00	Bus Bars Assy, IGBT-Capacitor	4X			1	1	1	1					
6KAF6H8600	\$3675.00	Bus Bars Assy, IGBT-Inductor	5X							1	1	1	1	
6KAF6H8601	\$865.00	Bus Bars Assy, IGBT-Capacitor	5X							3	3	3	3	
6KAF6H8390	\$100.00	Bus Bars, IGBT, U V W	4X	3	3									
6KAF6H8392	\$230.00	Bus Bars, Motor, 2	4X	3	3									
6KAF6H8383	\$260.00	Bus Bars, Motor, U W	4X			2	2	2	2					
6KAF6H8384	\$215.00	Bus Bars, Motor V	4X			1	1	1	1					
6KAF6H8389	\$220.00	Bus Bars, I-Sensor	4X			3	3	3	3					
6KAF6H8602	\$1175.00	Bus Bars, IGBT Output	5X							3	3	3	3	
6KAF6H8603	\$1180.00	Bus Bars, Over Fan Box	5X							3	3	3	3	
6KAF6H8604	\$530.00	Bus Bars, Current Sensor 5352	5X							3	3	3		
6KAF6H8605	\$550.00	Bus Bars, Current Sensor 5452-5502	4X											3
6KAF6H8397	\$190.00	Bus Bars, Brake Plus	4X	1	1									
6KAF6H8398	\$210.00	Bus Bars, Brake Minus	4X	1	1									
6KAF6H8396	\$320.00	Bus Bars, Brake	4X			1	1	1	1					
6KAF6H8606	\$8620.00	Bus Bars, Brake Assy	5X							1	1	1	1	
6KAF6H8401	\$475.00	Bus Bars, Load Share Plus	4X	1	1									
6KAF6H8400	\$460.00	Bus Bars, Load Share Minus	4X	1	1									
6KAF6H8403	\$855.00	Bus Bars, Load Share Plus	4X			1	1	1	1					
6KAF6H8402	\$655.00	Bus Bars, Load Share Minus	4X			1	1	1	1					
6KAF6H8607	\$2055.00	Bus Bars, Load Share Plus	5X							1	1	1	1	
6KAF6H8702	\$2520.00	Bus Bars, Load Share Minus	5X							1	1	1	1	
6KAF6H8405	\$1370.00	Bus Bars, SCR Input 2	4X	3	3									
6KAF6H8406	\$835.00	Bus Bars, SCR, T, 1	4X			3	3	3	3					

AF-600 FP Fan and Pump Drive



# AF-600 FP Enclosed Drive Panels

## Product Description

The AF-600 FP™ Enclosed Drive Panel is an enclosed version of the stand-alone AF-600 FP Fan and Pump/Variable Torque drive and incorporates contactors, switches, pilot lights and drive bypass functionality. A full range of enclosed drives—in Type 1, slimline or standard, 12 or 3R enclosures—provides contractors a one-stop-shop source for their drive needs.

The available configurations include:

- 208Vac, 460Vac and 575Vac offerings
- Up to 300HP in standard offering
- Up to 500HP available as factory quote
- Up to 650HP in Disconnect Drive
- Up to 1000HP MultiPulse panels (e.g., 12, 18 or 24 pulse) available as factory quote
  
- Slimline NEMA Type 1 enclosure (standard on lower HP units)
- Traditional NEMA Type 1 enclosure (standard on higher HP units; optional on some lower HP units)
- Traditional NEMA Type 12 enclosure
- Traditional NEMA 3R enclosure
  
- Disconnect Drive with compact size
- Non-bypass with full feature set
- Drive +2 contactor bypass with full feature set
- Drive +3 contactor bypass with full feature set
- Drive with Redundant Drive bypass to maximize run time performance

The AF-600 FP Panel slimline enclosure saves on space and can reduce installation time in tight spaces. In addition, AF-600 FP Panels can be mounted in “C” channels, further simplifying installation.

Visit <http://www.geindustrial.com/drives> for additional product information including programming guides, drawings, programming software, an energy savings calculator, and much more.





# AF-600 FP Enclosed Drive Panels

## Drive Panels Product Numbering System Diagram

(Product number for illustrative purposes only)

Description	6K	FP	X	X	NNN	N	X	X	N/X	N/X	N/X
<b>GE Product Code</b>											
<b>Drive Type</b> FP = AF-600FP											
<b>Input Voltage</b> C = 208V H = 460V N = 575V											
<b>Configuration</b> L = Disconnect Drive D = Non-Bypass 2 = 2 Contactor Bypass 3 = 3 Contactor Bypass R = Redundant Drive Bypass											
<b>HP Rating</b> 003 = 3 HP 010 = 10 HP 100 = 100 HP											
<b>Enclosure Type</b> 1 = Type 1    G = NEMA 1 with Conformal Coating 2 = Type 12    D = NEMA 12 with Conformal Coating 6 = Type 3R    R = NEMA 3R with Conformal Coating											
<b>Reactor</b> R = Standard Reactor, eqv 5% Line Impedance F = Equivalent 8% Line Impedance C = 3% Load Reactor 2 = F + C V = 6.5% Line Impedance U = 1% Load Reactor											
<b>Disconnect/Circuit Breaker</b> D = Disconnect, Fused (100k AIC) C = Circuit Breaker, Mag Break (65k AIC)											
											<b>Communication Options</b> X = Standard (Modbus RTU, Metasys N2 and Apogee FLN P1) B = Bacnet D = DeviceNet E = Ethernet IP L = LonWorks® M = ModBus TCP N = ProfiNet RT P = ProfiBus DP
											<b>Control Options</b> X = None A = Automatic Bypass G = Analog I/O Module M = Additional Input and Output R = Loss of Reference Control, Run @ Preset Speed S = Smoke Purge Y = Relay Output Module B = A + G    P = G + R + S C = A + Y    Q = Y + R D = A + G + R    T = Y + S E = A + Y + R    U = M + R + S F = A + G + S    V = Y + R + S H = A + Y + S    W = R + S J = A + G + R + S K = A + Y + R + S L = G + R N = G + S 1 = A + M    6 = A + R + S 2 = A + R    7 = A + M + R + S 3 = A + S    8 = M + R 4 = A + M + R    9 = M + S 5 = A + M + S
											<b>Operator Devices (Door Mounted)</b> X = None (includes HOA) E = ETM K = Door mounted keypad and USB port L = Drive Run & Fault Pilot Lights P = Speed Pot 1 = E + L 2 = E + P 3 = L + P 4 = E + L + P

AF-600 FP Enclosed Drive Panels



# AF-600 FP Enclosed Drive Panels Enclosed Disconnect Drive Non-Bypass Pricing

As standard, all Enclosed Disconnect Drives include a fusible disconnect switch and fuses, an A2 rated EMI filter, Modbus RTU, Metasys N2, and Apgee FLN P1 communication protocols, and the equivalent of 5% line reactor

## 208 Vac, 3-Phase, 60Hz Input Power

Variable Torque HP Rating	AF-600 FP Panel Product No.	List Price GO-5FPP	List Price Adders, GO-5FPP							Communications & Option Boards
			Conformal Coating	Circuit Breaker	8% AC Line Impedance <sup>1</sup>	6.5% AC Line Impedance <sup>1</sup>	3% Load Reactor	1.0% Load Reactor	Door Mounted Keypad	
1	6KFPCLO011RDXXX	\$1900.00	\$210.00	\$636.00	\$469.00	\$400.00	\$603.00	N/A	N/A	All communication and option boards are field installable. Please select from core product.
2	6KFPCLO021RDXXX	\$1940.00	\$210.00	\$636.00	\$469.00	\$400.00	\$603.00	N/A	N/A	
3	6KFPCLO031RDXXX	\$2065.00	\$210.00	\$636.00	\$469.00	\$400.00	\$603.00	N/A	N/A	
5	6KFPCLO051RDXXX	\$2500.00	\$210.00	\$636.00	\$593.00	\$510.00	\$610.00	N/A	N/A	
7.5	6KFPCLO071RDXXX	\$3000.00	\$210.00	\$636.00	\$684.00	\$585.00	\$813.00	N/A	N/A	
10	6KFPCLO101RDXXX	\$3440.00	\$210.00	\$636.00	\$717.00	\$610.00	\$880.00	N/A	N/A	
15	6KFPCLO151RDXXX	\$4170.00	\$210.00	\$636.00	\$905.00	\$775.00	\$917.00	N/A	N/A	
20	6KFPCLO201RDXXX	\$4935.00	\$210.00	\$755.00	\$999.00	\$850.00	\$945.00	N/A	N/A	
25	6KFPCLO251RDXXX	\$6075.00	\$210.00	\$766.00	\$1170.00	\$995.00	\$1333.00	N/A	N/A	
30	6KFPCLO301RDXXX	\$8910.00	\$210.00	\$766.00	\$1170.00	\$995.00	\$1333.00	N/A	N/A	
40	6KFPCLO401RDXXX	\$10680.00	\$210.00	\$1590.00	\$1243.00	\$1060.00	\$1567.00	N/A	N/A	
50	6KFPCLO501RDXXX	\$12170.00	\$210.00	\$1845.00	\$1418.00	\$1210.00	\$2213.00	N/A	N/A	
60	6KFPCLO601RDXXX	\$15440.00	\$210.00	\$1845.00	\$1506.00	\$1280.00	\$2399.00	N/A	N/A	

## 460 Vac, 3-Phase, 60Hz Input Power

Variable Torque HP Rating	AF-600 FP Panel Product No.	List Price GO-5FPP	List Price Adders, GO-5FPP							Communications & Option Boards
			Conformal Coating	Circuit Breaker	8% AC Line Impedance <sup>1</sup>	6.5% AC Line Impedance <sup>1</sup>	3% Load Reactor	1.0% Load Reactor	Door Mounted Keypad	
1	6KFPHL0011RDXXX	\$1990.00	\$210.00	\$636.00	\$530.00	\$455.00	\$570.00	\$485.00	N/A	All communication and option boards are field installable. Please select from core product.
2	6KFPHL0021RDXXX	\$2025.00	\$210.00	\$636.00	\$530.00	\$455.00	\$570.00	\$485.00	N/A	
3	6KFPHL0031RDXXX	\$2275.00	\$210.00	\$636.00	\$530.00	\$455.00	\$570.00	\$485.00	N/A	
5	6KFPHL0051RDXXX	\$2510.00	\$210.00	\$636.00	\$553.00	\$470.00	\$580.00	\$495.00	N/A	
7.5	6KFPHL0071RDXXX	\$2735.00	\$210.00	\$636.00	\$620.00	\$530.00	\$603.00	\$515.00	N/A	
10	6KFPHL0101RDXXX	\$3125.00	\$210.00	\$636.00	\$778.00	\$665.00	\$610.00	\$520.00	N/A	
15	6KFPHL0151RDXXX	\$3480.00	\$210.00	\$636.00	\$808.00	\$690.00	\$813.00	\$700.00	N/A	
20	6KFPHL0201RDXXX	\$4010.00	\$210.00	\$636.00	\$1069.00	\$910.00	\$880.00	\$750.00	N/A	
25	6KFPHL0251RDXXX	\$4525.00	\$210.00	\$636.00	\$1069.00	\$910.00	\$880.00	\$750.00	N/A	
30	6KFPHL0301RDXXX	\$5450.00	\$210.00	\$636.00	\$1214.00	\$1035.00	\$917.00	\$780.00	N/A	
40	6KFPHL0401RDXXX	\$7385.00	\$210.00	\$755.00	\$1214.00	\$1035.00	\$945.00	\$810.00	N/A	
50	6KFPHL0501RDXXX	\$8155.00	\$210.00	\$766.00	\$1266.00	\$1080.00	\$1333.00	\$1135.00	N/A	
60	6KFPHL0601RDXXX	\$9400.00	\$210.00	\$766.00	\$1266.00	\$1080.00	\$1333.00	\$1135.00	N/A	
75	6KFPHL0751RDXXX	\$10875.00	\$210.00	\$1590.00	\$1320.00	\$1125.00	\$1567.00	\$1335.00	N/A	
100	6KFPHL1001RDXXX	\$14325.00	\$210.00	\$1845.00	\$1530.00	\$1310.00	\$2213.00	\$1885.00	N/A	
125	6KFPHL1251RDXXX	\$17235.00	\$210.00	\$1845.00	\$1620.00	\$1380.00	\$2399.00	\$2040.00	N/A	
150	6KFPHL1501RDXXX	\$21770.00	\$705.00	\$1845.00	\$1691.00	\$1440.00	\$2511.00	\$2135.00	\$600.00	
200	6KFPHL2001RDXXX	\$25050.00	\$705.00	\$2575.00	\$1850.00	\$1575.00	\$2570.00	\$2185.00	\$600.00	
250	6KFPHL2501RDXXX	\$30210.00	\$705.00	\$2575.00	\$1954.00	\$1665.00	\$2761.00	\$2350.00	\$600.00	
300	6KFPHL3001RDXXX	\$35700.00	\$705.00	\$4191.00	\$1954.00	\$1665.00	\$3104.00	\$2640.00	\$600.00	
350	6KFPHL3501RDXXX	\$45000.00	\$705.00	\$5867.00	\$2188.00	\$1860.00	\$3280.00	\$2800.00	\$600.00	
450	6KFPHL450GRDXXX	\$60000.00	Std	\$6845.00	\$3000.00	\$2550.00	\$3565.00	\$3026.00	\$600.00	
500	6KFPHL500GRDXXX	\$70000.00	Std	\$8800.00	\$3800.00	\$3230.00	\$4510.00	\$3833.00	\$600.00	
550	6KFPHL550GRDXXX	\$80000.00	Std	\$9780.00	\$4200.00	\$3570.00	\$4985.00	\$4237.00	\$600.00	
600	6KFPHL550GRDXXX	\$89000.00	Std	\$10760.00	\$4600.00	\$3910.00	\$5460.00	\$4640.00	\$600.00	

<sup>1</sup>Drive comes standard with 5% line impedance via DC Link Reactor.



# AF-600 FP Enclosed Drive Panels

## Enclosed Disconnect Drive Non-Bypass Pricing

### 575 Vac, 3-Phase, 60Hz Input Power

Variable Torque HP Rating	AF-600 FP Panel Product No.	List Price GO-5FPP	List Price Adders, GO-5FPP							Communications & Option Boards
			Conformal Coating	Circuit Breaker	8% AC Line Impedance <sup>1</sup>	6.5% AC Line Impedance <sup>1</sup>	3% Load Reactor	1.0% Load Reactor	Door Mounted Keypad	
1	6KFPNL0011RDXXX	\$2950.00	\$210.00	\$636.00	\$530.00	\$455.00	\$570.00	\$485.00	N/A	
2	6KFPNL0021RDXXX	\$3000.00	\$210.00	\$636.00	\$530.00	\$455.00	\$570.00	\$485.00	N/A	
3	6KFPNL0031RDXXX	\$3100.00	\$210.00	\$636.00	\$530.00	\$455.00	\$570.00	\$485.00	N/A	
5	6KFPNL0051RDXXX	\$3310.00	\$210.00	\$636.00	\$553.00	\$470.00	\$580.00	\$495.00	N/A	
7.5	6KFPNL0071RDXXX	\$3600.00	\$210.00	\$636.00	\$620.00	\$530.00	\$603.00	\$515.00	N/A	
10	6KFPNL0101RDXXX	\$4110.00	\$210.00	\$636.00	\$778.00	\$665.00	\$610.00	\$520.00	N/A	
15	6KFPNL0151RDXXX	\$4635.00	\$210.00	\$636.00	\$808.00	\$690.00	\$813.00	\$700.00	N/A	
20	6KFPNL0201RDXXX	\$5270.00	\$210.00	\$636.00	\$1069.00	\$910.00	\$880.00	\$750.00	N/A	
25	6KFPNL0251RDXXX	\$5935.00	\$210.00	\$636.00	\$1069.00	\$910.00	\$880.00	\$750.00	N/A	
30	6KFPNL0301RDXXX	\$7140.00	\$210.00	\$636.00	\$1214.00	\$1035.00	\$917.00	\$780.00	N/A	
40	6KFPNL0401RDXXX	\$9660.00	\$210.00	\$755.00	\$1214.00	\$1035.00	\$945.00	\$810.00	N/A	
50	6KFPNL0501RDXXX	\$10790.00	\$210.00	\$766.00	\$1266.00	\$1080.00	\$1333.00	\$1135.00	N/A	
60	6KFPNL0601RDXXX	\$12310.00	\$210.00	\$766.00	\$1266.00	\$1080.00	\$1333.00	\$1135.00	N/A	
75	6KFPNL0751RDXXX	\$14225.00	\$210.00	\$1590.00	\$1320.00	\$1125.00	\$1567.00	\$1335.00	N/A	
100	6KFPNL1001RDXXX	\$18975.00	\$210.00	\$1845.00	\$1530.00	\$1310.00	\$2213.00	\$1885.00	N/A	
125	6KFPNL1251RDXXX	\$22555.00	\$210.00	\$1845.00	\$1620.00	\$1380.00	\$2399.00	\$2040.00	N/A	
150	6KFPNL150GRDXXX	\$34100.00	Std	\$1845.00	\$1691.00	\$1440.00	\$2511.00	\$2135.00	\$600.00	
200	6KFPNL200GRDXXX	\$34760.00	Std	\$2575.00	\$1850.00	\$1575.00	\$2570.00	\$2185.00	\$600.00	
250	6KFPNL250GRDXXX	\$41725.00	Std	\$2575.00	\$1954.00	\$1665.00	\$2761.00	\$2350.00	\$600.00	
300	6KFPNL300GRDXXX	\$49135.00	Std	\$4191.00	\$1954.00	\$1665.00	\$3104.00	\$2640.00	\$600.00	
350	6KFPNL350GRDXXX	\$60750.00	Std	\$5867.00	\$2188.00	\$1860.00	\$3280.00	\$2800.00	\$600.00	
400	6KFPNL400GRDXXX	\$81000.00	Std	\$6845.00	\$3000.00	\$2550.00	\$3565.00	\$3026.00	\$600.00	
450	6KFPNL450GRDXXX	\$94500.00	Std	\$8800.00	\$3800.00	\$3230.00	\$4510.00	\$3833.00	\$600.00	
500	6KFPNL500GRDXXX	\$108000.00	Std	\$9780.00	\$4200.00	\$3570.00	\$4985.00	\$4237.00	\$600.00	
600	6KFPNL600GRDXXX	\$120150.00	Std	\$10760.00	\$4600.00	\$3910.00	\$5460.00	\$4640.00	\$600.00	
650	6KFPNL650GRDXXX	\$130950.00	Std	\$11725.00	\$5000.00	\$4250.00	\$5935.00	\$5050.00	\$600.00	

All communication and option boards are field installable. Please select from core product.

<sup>1</sup>Drive comes standard with 5% line impedance via DC Link Reactor.



# AF-600 FP Enclosed Drive Panels Enclosed Non-Bypass Drives Pricing

As standard, all Enclosed Non-Bypass Drives include a fusible disconnect switch and fuses, a door-mounted keypad, an HOA operator, an E-Stop button (for UL508A compliance), power on and enable lights, a customer terminal board for control connection, an A2 rated EMI filter, Modbus RTU, Metasys N2, and Apgee FLN P1 communication protocols and the equivalent of 5% line reactor.

Check Speedi Configurator for product availability and premium through GE Fastrac Program.

## 208 Vac, 3-Phase, 60Hz Input Power

Variable Torque HP Rating	AF-600 FP Panel Product No.	Max. Cont. Current	List Price GO-5FPP	List Price Adders, GO-5FPP					
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	8% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker
2	6KFPCD0021RDXXX	7.5	\$2088.00	\$570.00	\$1000.00	\$210.00	\$469.00	\$603.00	\$636.00
3	6KFPCD0031RDXXX	10.6	\$2215.00	\$570.00	\$1000.00	\$210.00	\$469.00	\$603.00	\$636.00
5	6KFPCD0051RDXXX	16.7	\$2642.00	\$570.00	\$1000.00	\$210.00	\$593.00	\$610.00	\$636.00
7.5	6KFPCD0071RDXXX	24.2	\$3198.00	\$590.00	\$1500.00	\$210.00	\$684.00	\$813.00	\$636.00
10	6KFPCD0101RDXXX	30.8	\$3636.00	\$590.00	\$1500.00	\$210.00	\$717.00	\$880.00	\$636.00
15	6KFPCD0151RDXXX	46.2	\$4369.00	\$590.00	\$1750.00	\$210.00	\$905.00	\$917.00	\$636.00
20	6KFPCD0201RDXXX	59.4	\$5135.00	\$740.00	\$1750.00	\$210.00	\$999.00	\$945.00	\$755.00
25	6KFPCD0251RDXXX	74.8	\$6373.00	\$740.00	\$2000.00	\$210.00	\$1170.00	\$1333.00	\$766.00
30	6KFPCD0301RDXXX	88.0	\$9210.00	\$740.00	\$2000.00	\$210.00	\$1170.00	\$1333.00	\$766.00
40	6KFPCD0401RDXXX	115	\$11180.00	\$894.00	\$2500.00	\$210.00	\$1243.00	\$1567.00	\$1590.00
50	6KFPCD0501RDXXX	143	\$12670.00	\$1014.00	\$3500.00	\$210.00	\$1418.00	\$2213.00	\$1845.00
60	6KFPCD0601RDXXX	170	\$15938.00	\$1275.00	\$3500.00	\$210.00	\$1506.00	\$2399.00	\$1845.00

## 460 Vac, 3-Phase, 60Hz Input Power

Variable Torque HP Rating	AF-600 FP Panel Product No.	Max. Cont. Current	List Price GO-5FPP	List Price Adders, GO-5FPP					
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	8% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker
2	6KFPHD0021RDXXX	3.4	\$2175.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00
3	6KFPHD0031RDXXX	4.8	\$2422.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00
5	6KFPHD0051RDXXX	8.2	\$2657.00	\$570.00	\$1000.00	\$210.00	\$553.00	\$580.00	\$636.00
7.5	6KFPHD0071RDXXX	11.0	\$2882.00	\$570.00	\$1250.00	\$210.00	\$620.00	\$603.00	\$636.00
10	6KFPHD0101RDXXX	14.5	\$3271.00	\$570.00	\$1250.00	\$210.00	\$778.00	\$610.00	\$636.00
15	6KFPHD0151RDXXX	21.0	\$3679.00	\$570.00	\$1500.00	\$210.00	\$808.00	\$813.00	\$636.00
20	6KFPHD0201RDXXX	27.0	\$4208.00	\$590.00	\$1500.00	\$210.00	\$1069.00	\$880.00	\$636.00
25	6KFPHD0251RDXXX	34.0	\$4719.00	\$590.00	\$1750.00	\$210.00	\$1069.00	\$880.00	\$636.00
30	6KFPHD0301RDXXX	40.0	\$5644.00	\$590.00	\$1750.00	\$210.00	\$1214.00	\$917.00	\$636.00
40	6KFPHD0401RDXXX	52.0	\$7582.00	\$740.00	\$1750.00	\$210.00	\$1214.00	\$945.00	\$755.00
50	6KFPHD0501RDXXX	65.0	\$8453.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00
60	6KFPHD0601RDXXX	80.0	\$9697.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00
75	6KFPHD0751RDXXX	105.0	\$11174.00	\$890.00	\$2500.00	\$210.00	\$1320.00	\$1567.00	\$1590.00
100	6KFPHD1001RDXXX	130	\$14824.00	\$1186.00	\$3500.00	\$210.00	\$1530.00	\$2213.00	\$1845.00
125	6KFPHD1251RDXXX	160	\$17735.00	\$1419.00	\$3500.00	\$210.00	\$1620.00	\$2399.00	\$1845.00
150	6KFPHD1501RDXXX	190	\$22466.00	\$1797.00	\$4000.00	\$705.00	\$1691.00	\$2511.00	\$1845.00
200	6KFPHD2001RDXXX	240	\$25745.00	\$2060.00	N/A	\$705.00	\$1850.00	\$2570.00	\$2575.00
250	6KFPHD2501RDXXX	302	\$30906.00	\$2472.00	N/A	\$705.00	\$1954.00	\$2761.00	\$2575.00
300	6KFPHD3001RDXXX	361	\$36396.00	\$2912.00	N/A	\$705.00	\$1954.00	\$3104.00	\$4191.00

## 575 Vac, 3-Phase, 60Hz Input Power

Variable Torque HP Rating	AF-600 FP Panel Product No.	Max. Cont. Current	List Price GO-5FPP	List Price Adders, GO-5FPP					
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	8% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker
2	6KFPN0021RDXXX	2.7	\$3150.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00
3	6KFPN0031RDXXX	3.9	\$3250.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00
5	6KFPN0051RDXXX	6.1	\$3454.00	\$570.00	\$1000.00	\$210.00	\$553.00	\$580.00	\$636.00
7.5	6KFPN0071RDXXX	9.0	\$3745.00	\$570.00	\$1250.00	\$210.00	\$620.00	\$603.00	\$636.00
10	6KFPN0101RDXXX	11.0	\$4252.00	\$570.00	\$1250.00	\$210.00	\$778.00	\$610.00	\$636.00
15	6KFPN0151RDXXX	18.0	\$4783.00	\$570.00	\$1500.00	\$210.00	\$808.00	\$813.00	\$636.00
20	6KFPN0201RDXXX	22.0	\$5470.00	\$590.00	\$1500.00	\$210.00	\$1069.00	\$880.00	\$636.00
25	6KFPN0251RDXXX	27.0	\$6135.00	\$590.00	\$1750.00	\$210.00	\$1069.00	\$880.00	\$636.00
30	6KFPN0301RDXXX	34.0	\$7337.00	\$590.00	\$1750.00	\$210.00	\$1214.00	\$917.00	\$636.00
40	6KFPN0401RDXXX	41.0	\$9856.00	\$740.00	\$1750.00	\$210.00	\$1214.00	\$945.00	\$755.00
50	6KFPN0501RDXXX	52.0	\$10990.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00
60	6KFPN0601RDXXX	62.0	\$12606.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00
75	6KFPN0751RDXXX	83.0	\$14525.00	\$890.00	\$2500.00	\$210.00	\$1320.00	\$1567.00	\$1590.00
100	6KFPN1001RDXXX	100	\$19271.00	\$1542.00	\$3500.00	\$210.00	\$1530.00	\$2213.00	\$1845.00
125	6KFPN1251RDXXX	131	\$23055.00	\$1844.00	\$3500.00	\$210.00	\$1620.00	\$2399.00	\$1845.00
150	6KFPN1501RDXXX	155	\$34583.00	\$2767.00	\$4000.00	\$705.00	\$1691.00	\$2511.00	\$1845.00

<sup>1</sup>Drive comes standard with 5% line impedance via DC Link Reactor.



# AF-600 FP Enclosed Drive Panels Enclosed 2 Contactor Bypass Drives Pricing

As standard, all Enclosed 2 Contactor Bypass Drives include a fusible disconnect switch and fuses, a door-mounted keypad, an HOA operator, an E-Stop button (for UL508A compliance), a Drive/Off/Bypass switch, power on, enable, bypass and overload lights, a customer terminal board for control connection, an A2 rated EMI filter, Modbus RTU, Metasys N2, and Apgee FLN P1 communication protocols, the equivalent of 5% line reactor, a drive output contactor interlocked with an FVNR bypass contactor, and Class 20/30 overloads.

Check Speedi Configurator for product availability and premium through GE Fastrac Program.

## 208 Vac, 3-Phase, 60Hz Input Power

Variable Torque HP Rating	AF-600 FP Panel Product No.	Max. Cont. Current	List Price GO-5FPP	List Price Adders, GO-5FPP					
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	8% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker
2	6KFPC20021RDXXX	7.5	\$2150.00	\$570.00	\$1000.00	\$210.00	\$469.00	\$603.00	\$636.00
3	6KFPC20031RDXXX	10.6	\$2392.00	\$570.00	\$1000.00	\$210.00	\$469.00	\$603.00	\$636.00
5	6KFPC20051RDXXX	16.7	\$2833.00	\$570.00	\$1000.00	\$210.00	\$593.00	\$610.00	\$636.00
7.5	6KFPC20071RDXXX	24.2	\$3456.00	\$590.00	\$1500.00	\$210.00	\$684.00	\$813.00	\$636.00
10	6KFPC20101RDXXX	30.8	\$4135.00	\$590.00	\$1500.00	\$210.00	\$717.00	\$880.00	\$636.00
15	6KFPC20151RDXXX	46.2	\$4872.00	\$590.00	\$1750.00	\$210.00	\$905.00	\$917.00	\$636.00
20	6KFPC20201RDXXX	59.4	\$5823.00	\$590.00	\$1750.00	\$210.00	\$999.00	\$945.00	\$755.00
25	6KFPC20251RDXXX	74.8	\$7226.00	\$590.00	\$2000.00	\$210.00	\$1170.00	\$1333.00	\$766.00
30	6KFPC20301RDXXX	88.0	\$10857.00	\$590.00	\$2000.00	\$210.00	\$1170.00	\$1333.00	\$766.00
40	6KFPC20401RDXXX	115	\$13598.00	\$1088.00	\$2500.00	\$210.00	\$1243.00	\$1567.00	\$1590.00
50	6KFPC20501RDXXX	143	\$16048.00	\$1284.00	\$3500.00	\$210.00	\$1418.00	\$2213.00	\$1845.00
60	6KFPC20601RDXXX	170	\$19626.00	\$1570.00	\$3500.00	\$210.00	\$1506.00	\$2399.00	\$1845.00

## 460 Vac, 3-Phase, 60Hz Input Power

Variable Torque HP Rating	AF-600 FP Panel Product No.	Max. Cont. Current	List Price GO-5FPP	List Price Adders, GO-5FPP					
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	8% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker
2	6KFPH20021RDXXX	3.4	\$2230.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00
3	6KFPH20031RDXXX	4.8	\$2532.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00
5	6KFPH20051RDXXX	8.2	\$2760.00	\$570.00	\$1000.00	\$210.00	\$553.00	\$580.00	\$636.00
7.5	6KFPH20071RDXXX	11.0	\$3019.00	\$570.00	\$1250.00	\$210.00	\$620.00	\$603.00	\$636.00
10	6KFPH20101RDXXX	14.5	\$3458.00	\$570.00	\$1250.00	\$210.00	\$778.00	\$610.00	\$636.00
15	6KFPH20151RDXXX	21.0	\$3906.00	\$570.00	\$1500.00	\$210.00	\$808.00	\$813.00	\$636.00
20	6KFPH20201RDXXX	27.0	\$4404.00	\$590.00	\$1500.00	\$210.00	\$1069.00	\$880.00	\$636.00
25	6KFPH20251RDXXX	34.0	\$5093.00	\$590.00	\$1750.00	\$210.00	\$1069.00	\$880.00	\$636.00
30	6KFPH20301RDXXX	40.0	\$6129.00	\$590.00	\$1750.00	\$210.00	\$1214.00	\$917.00	\$636.00
40	6KFPH20401RDXXX	52.0	\$8042.00	\$740.00	\$1750.00	\$210.00	\$1214.00	\$945.00	\$755.00
50	6KFPH20501RDXXX	65.0	\$8913.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00
60	6KFPH20601RDXXX	80.0	\$10091.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00
75	6KFPH20751RDXXX	105.0	\$12009.00	\$890.00	\$2500.00	\$210.00	\$1320.00	\$1567.00	\$1590.00
100	6KFPH21001RDXXX	130	\$16205.00	\$1296.00	\$3500.00	\$210.00	\$1530.00	\$2213.00	\$1845.00
125	6KFPH21251RDXXX	160	\$19386.00	\$1551.00	\$3500.00	\$210.00	\$1620.00	\$2399.00	\$1845.00
150	6KFPH21501RDXXX	190	\$24028.00	\$1922.00	\$4000.00	\$705.00	\$1691.00	\$2511.00	\$1845.00
200	6KFPH22001RDXXX	240	\$28075.00	\$2246.00	N/A	\$705.00	\$1850.00	\$2570.00	\$2575.00
250	6KFPH22501RDXXX	302	\$33861.00	\$2709.00	N/A	\$705.00	\$1954.00	\$2761.00	\$2575.00
300	6KFPH23001RDXXX	361	\$41574.00	\$3326.00	N/A	\$705.00	\$1954.00	\$3104.00	\$4191.00

## 575 Vac, 3-Phase, 60Hz Input Power

Variable Torque HP Rating	AF-600 FP Panel Product No.	Max. Cont. Current	List Price GO-5FPP	List Price Adders, GO-5FPP					
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	8% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker
2	6KFPN20021RDXXX	2.7	\$3291.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00
3	6KFPN20031RDXXX	3.9	\$3450.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00
5	6KFPN20051RDXXX	6.1	\$3588.00	\$570.00	\$1000.00	\$210.00	\$553.00	\$580.00	\$636.00
7.5	6KFPN20071RDXXX	9.0	\$3925.00	\$570.00	\$1250.00	\$210.00	\$620.00	\$603.00	\$636.00
10	6KFPN20101RDXXX	11.0	\$4495.00	\$570.00	\$1250.00	\$210.00	\$778.00	\$610.00	\$636.00
15	6KFPN20151RDXXX	18.0	\$5368.00	\$570.00	\$1500.00	\$210.00	\$808.00	\$813.00	\$636.00
20	6KFPN20201RDXXX	22.0	\$5859.00	\$590.00	\$1500.00	\$210.00	\$1069.00	\$880.00	\$636.00
25	6KFPN20251RDXXX	27.0	\$6620.00	\$590.00	\$1750.00	\$210.00	\$1069.00	\$880.00	\$636.00
30	6KFPN20301RDXXX	34.0	\$7968.00	\$590.00	\$1750.00	\$210.00	\$1214.00	\$917.00	\$636.00
40	6KFPN20401RDXXX	41.0	\$10454.00	\$740.00	\$1750.00	\$210.00	\$1214.00	\$945.00	\$755.00
50	6KFPN20501RDXXX	52.0	\$11587.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00
60	6KFPN20601RDXXX	62.0	\$13118.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00
75	6KFPN20751RDXXX	83.0	\$15612.00	\$890.00	\$2500.00	\$210.00	\$1320.00	\$1567.00	\$1590.00
100	6KFPN21001RDXXX	100	\$21066.00	\$1685.00	\$3500.00	\$210.00	\$1530.00	\$2213.00	\$1845.00
125	6KFPN21251RDXXX	131	\$25201.00	\$2016.00	\$3500.00	\$210.00	\$1620.00	\$2399.00	\$1845.00
150	6KFPN21501RDXXX	155	\$37802.00	\$3024.00	\$4000.00	\$705.00	\$1691.00	\$2511.00	\$1845.00

<sup>1</sup>Drive comes standard with 5% line impedance via DC Link Reactor.



# AF-600 FP Enclosed Drive Panels Enclosed 3 Contactor Bypass Drives Pricing

As standard, all Enclosed 3 Contactor Bypass Drives include a fusible disconnect switch and fuses, a door-mounted keypad, an HOA operator, an E-Stop button (for UL508A compliance), a Drive/Off/Bypass switch, a Test/Isolate/Normal switch, power on, enable, bypass and overload lights, a customer terminal board for control connection, an A2 rated EMI filter, Modbus RTU, Metasys N2, and Apgee FLN P1 communication protocols, the equivalent of 5% line reactor, a drive output contactor interlocked with an FVNR bypass contactor, a drive line isolation contactor, and Class 20/30 overloads.

Check Speedi Configurator for product availability and premium through GE Fastrac Program.

## 208 Vac, 3-Phase, 60Hz Input Power

Variable Torque HP Rating	AF-600 FP Panel Product No.	Max. Cont. Current	List Price GO-5FPP	List Price Adders, GO-5FPP					
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	8% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker
2	6KFPC30021RDXXX	7.5	\$2345.00	\$570.00	\$1000.00	\$210.00	\$469.00	\$603.00	\$636.00
3	6KFPC30031RDXXX	10.6	\$2662.00	\$570.00	\$1000.00	\$210.00	\$469.00	\$603.00	\$636.00
5	6KFPC30051RDXXX	16.7	\$3133.00	\$570.00	\$1000.00	\$210.00	\$593.00	\$610.00	\$636.00
7.5	6KFPC30071RDXXX	24.2	\$3752.00	\$590.00	\$1500.00	\$210.00	\$684.00	\$813.00	\$636.00
10	6KFPC30101RDXXX	30.8	\$4589.00	\$590.00	\$1500.00	\$210.00	\$717.00	\$880.00	\$636.00
15	6KFPC30151RDXXX	46.2	\$5347.00	\$590.00	\$1750.00	\$210.00	\$905.00	\$917.00	\$636.00
20	6KFPC30201RDXXX	59.4	\$6312.00	\$590.00	\$1750.00	\$210.00	\$999.00	\$945.00	\$755.00
25	6KFPC30251RDXXX	74.8	\$7776.00	\$590.00	\$2000.00	\$210.00	\$1170.00	\$1333.00	\$766.00
30	6KFPC30301RDXXX	88.0	\$11812.00	\$590.00	\$2000.00	\$210.00	\$1170.00	\$1333.00	\$766.00
40	6KFPC30401RDXXX	115	\$14773.00	\$1182.00	\$2500.00	\$210.00	\$1243.00	\$1567.00	\$1590.00
50	6KFPC30501RDXXX	143	\$17138.00	\$1371.00	\$3500.00	\$210.00	\$1418.00	\$2213.00	\$1845.00
60	6KFPC30601RDXXX	170	\$20811.00	\$1665.00	\$3500.00	\$210.00	\$1506.00	\$2399.00	\$1845.00

## 460 Vac, 3-Phase, 60Hz Input Power

Variable Torque HP Rating	AF-600 FP Panel Product No.	Max. Cont. Current	List Price GO-5FPP	List Price Adders, GO-5FPP					
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	8% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker
2	6KFPH30021RDXXX	3.4	\$2450.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00
3	6KFPH30031RDXXX	4.8	\$2697.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00
5	6KFPH30051RDXXX	8.2	\$2955.00	\$570.00	\$1000.00	\$210.00	\$553.00	\$580.00	\$636.00
7.5	6KFPH30071RDXXX	11.0	\$3252.00	\$570.00	\$1250.00	\$210.00	\$620.00	\$603.00	\$636.00
10	6KFPH30101RDXXX	14.5	\$3661.00	\$570.00	\$1250.00	\$210.00	\$778.00	\$610.00	\$636.00
15	6KFPH30151RDXXX	21.0	\$4129.00	\$570.00	\$1500.00	\$210.00	\$808.00	\$813.00	\$636.00
20	6KFPH30201RDXXX	27.0	\$4667.00	\$590.00	\$1500.00	\$210.00	\$1069.00	\$880.00	\$636.00
25	6KFPH30251RDXXX	34.0	\$5393.00	\$590.00	\$1750.00	\$210.00	\$1069.00	\$880.00	\$636.00
30	6KFPH30301RDXXX	40.0	\$6474.00	\$590.00	\$1750.00	\$210.00	\$1214.00	\$917.00	\$636.00
40	6KFPH30401RDXXX	52.0	\$8503.00	\$740.00	\$1750.00	\$210.00	\$1214.00	\$945.00	\$755.00
50	6KFPH30501RDXXX	65.0	\$9433.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00
60	6KFPH30601RDXXX	80.0	\$10596.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00
75	6KFPH30751RDXXX	105.0	\$12709.00	\$890.00	\$2500.00	\$210.00	\$1320.00	\$1567.00	\$1590.00
100	6KFPH31001RDXXX	130	\$17105.00	\$1368.00	\$3500.00	\$210.00	\$1530.00	\$2213.00	\$1845.00
125	6KFPH31251RDXXX	160	\$20335.00	\$1627.00	\$3500.00	\$210.00	\$1620.00	\$2399.00	\$1845.00
150	6KFPH31501RDXXX	190	\$25250.00	\$2020.00	\$4000.00	\$705.00	\$1691.00	\$2511.00	\$1845.00
200	6KFPH32001RDXXX	240	\$29639.00	\$2371.00	N/A	\$705.00	\$1850.00	\$2570.00	\$2575.00
250	6KFPH32501RDXXX	302	\$35526.00	\$2842.00	N/A	\$705.00	\$1954.00	\$2761.00	\$2575.00
300	6KFPH33001RDXXX	361	\$43786.00	\$3503.00	N/A	\$705.00	\$1954.00	\$3104.00	\$4191.00

## 575 Vac, 3-Phase, 60Hz Input Power

Variable Torque HP Rating	AF-600 FP Panel Product No.	Max. Cont. Current	List Price GO-5FPP	List Price Adders, GO-5FPP					
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	8% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker
2	6KFPN30021RDXXX	2.7	\$3485.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00
3	6KFPN30031RDXXX	3.9	\$3600.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00
5	6KFPN30051RDXXX	6.1	\$3842.00	\$570.00	\$1000.00	\$210.00	\$553.00	\$580.00	\$636.00
7.5	6KFPN30071RDXXX	9.0	\$4228.00	\$570.00	\$1250.00	\$210.00	\$620.00	\$603.00	\$636.00
10	6KFPN30101RDXXX	11.0	\$4759.00	\$570.00	\$1250.00	\$210.00	\$778.00	\$610.00	\$636.00
15	6KFPN30151RDXXX	18.0	\$5725.00	\$570.00	\$1500.00	\$210.00	\$808.00	\$813.00	\$636.00
20	6KFPN30201RDXXX	22.0	\$6067.00	\$590.00	\$1500.00	\$210.00	\$1069.00	\$880.00	\$636.00
25	6KFPN30251RDXXX	27.0	\$7011.00	\$590.00	\$1750.00	\$210.00	\$1069.00	\$880.00	\$636.00
30	6KFPN30301RDXXX	34.0	\$8416.00	\$590.00	\$1750.00	\$210.00	\$1214.00	\$917.00	\$636.00
40	6KFPN30401RDXXX	41.0	\$11054.00	\$740.00	\$1750.00	\$210.00	\$1214.00	\$945.00	\$755.00
50	6KFPN30501RDXXX	52.0	\$12263.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00
60	6KFPN30601RDXXX	62.0	\$13775.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00
75	6KFPN30751RDXXX	83.0	\$16522.00	\$890.00	\$2500.00	\$210.00	\$1320.00	\$1567.00	\$1590.00
100	6KFPN31001RDXXX	100	\$22237.00	\$1779.00	\$3500.00	\$210.00	\$1530.00	\$2213.00	\$1845.00
125	6KFPN31251RDXXX	131	\$26436.00	\$2115.00	\$3500.00	\$210.00	\$1620.00	\$2399.00	\$1845.00
150	6KFPN31501RDXXX	155	\$39654.00	\$3172.00	\$4000.00	\$705.00	\$1691.00	\$2511.00	\$1845.00

<sup>1</sup>Drive comes standard with 5% line impedance via DC Link Reactor.



# AF-600 FP Enclosed Drive Panels

## Enclosed Redundant Drive Bypass Pricing

As standard, all Enclosed Redundant Drives include two door-mounted keypads, an HOA operator, an E-Stop button (for UL508A compliance), a Drive 1 / Off / Drive 2 switch, a power on light, individual drive run and fault lights, a customer terminal board for control connections, A2 rated EMI filters, Modbus RTU, Metasys N2, and Apgee FLN P1 communication protocols, the equivalent of 5% line reactors, and two interlocked drive output contactors.

### 460 Vac, 3-Phase, 60Hz Input Power

Variable Torque HP Rating	AF-600 FP Panel Product No.	List Price GO-5FPP	List Price Adders, GO-5FPP		
			Traditional NEMA 1 Enclosure	8% AC Line Impedance <sup>1</sup>	Communications
15	6KFPHR0151RDXXX	\$6800.00	\$500.00	\$808.00	
20	6KFPHR0201RDXXX	\$7800.00	\$500.00	\$1069.00	
25	6KFPHR0251RDXXX	\$9800.00	\$500.00	\$1069.00	
30	6KFPHR0301RDXXX	\$11000.00	\$500.00	\$1214.00	
40	6KFPHR0401RDXXX	\$12000.00	\$500.00	\$1214.00	
50	6KFPHR0501RDXXX	\$14000.00	\$500.00	\$1266.00	
60	6KFPHR0601RDXXX	\$16500.00	N/A	\$1266.00	
75	6KFPHR0751RDXXX	\$20000.00	N/A	\$1320.00	
100	6KFPHR1001RDXXX	\$24500.00	N/A	\$1530.00	
125	6KFPHR1251RDXXX	\$30000.00	N/A	\$1620.00	

Use characters and adders listed under Communication Options. One card will be provided for each drive so the adder shown should be doubled (e.g., \$600 for a single drive, \$1200 for a Redundant drive).

<sup>1</sup>Each drive comes standard with 5% line impedance via DC Link Reactor.



# AF-600 FP Enclosed Drive Panels

## AF-600FP Enclosed Bypass Drives Options Pricing

### Operator Devices

Option Description	Option Code	List Adder
None (Includes HOA)	X	\$0.00
Elapsed Time Meter (ETM)	E	\$275.00
Drive Run & Fault Pilot Lights	L	\$250.00
Speed Potentiometer	P	\$115.00

### Control Options

Option Description	Option Code	List Adder
None	X	\$0.00
Automatic Bypass <sup>1</sup>	A	\$200.00
Additional Input and Output <sup>2,5</sup>	M	\$600.00
Loss of Reference Control, Run @ Preset Speed <sup>3</sup>	R	\$50.00
Smoke Purge	S	\$50.00
Analog I/O Module <sup>5</sup>	G	\$500.00
Relay Output Module <sup>5</sup>	Y	\$475.00

### Communication Options

Option Description	Option Code	List Adder
Standard (Modbus RTU, Metasys N2 and Apogee FLN P1)	X	\$0.00
Ethernet IP <sup>4</sup>	E	\$700.00
LonWorks <sup>®</sup>	L	\$600.00
Bacnet <sup>®</sup>	B	\$600.00
DeviceNet	D	\$600.00
ModBus TCP <sup>4</sup>	M	\$700.00
ProfiBus DP	P	\$725.00
ProfiNet RT	N	\$700.00

<sup>1</sup>Automatic Bypass is only available on 2 or 3 contactor units.

<sup>2</sup>General Purpose I/O – OPCGPIO (24V DIO, 0-10V input, second 4-20mA AO).

<sup>3</sup>Applies to 4-20mA Analog Speed Reference only.

<sup>4</sup>The Ethernet IP and ModBus TCP communication cards use two option slots. When either is installed, no other option card can be supplied.

<sup>5</sup>Only one Control Option Card can be installed at a time.

## Fastrac for AF-600 FP Enclosed Drive Panels

The AF-600 FP Drive Panels are available as part of GE's Fastrac program. These short-cycled manufacturing lead times, half the normal cycle times, allow you to get the same product faster and meet your construction cycle needs.

Contact your local GE Sales office for availability and premium specifics on this program and for ordering assistance.

## Model Number and Pricing Example

### Description:

460Vac, 25 HP HVAC 3 Contactor Bypass Drive with 5% AC Line Impedance, NEMA 1 Enclosure, Additional I/O, Smoke Purge, and Metasys N2<sup>®</sup> Communications

### Model Number: 6KFPH30251FDX9X

460Vac, 25 HP 3 contactor bypass drive base list price:	\$5393.00
5% AC Line Impedance list adder:	\$0.00
Additional I/O adder:	\$600.00
Smoke Purge list adder:	\$50.00
Metasys N2 <sup>®</sup> list adder:	\$0.00
<b>Total List Price</b>	<b>\$6043.00</b>

The following products and configurations are available with the Drive Panel Fastrac program:

- AF-600 FP NEMA Type 1 Panels
- Non-Bypass and 2 or 3 Contactor Bypass
- Up to 30HP @ 208 Vac and 75HP @ 460 Vac or 575 Vac
- Fusible disconnect or circuit breaker
- 5% or 8% line impedance
- HOA operator, Drive Run and Fault Pilot Lights, and/or a Speed Potentiometer
- Modbus RTU, Metasys N2 and Apogee FLN P1 communications



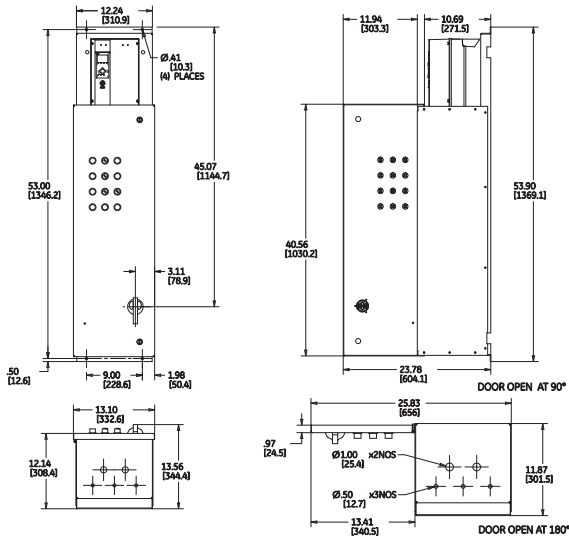


# AF-600 FP Enclosed Drive Panels Dimensional Drawings

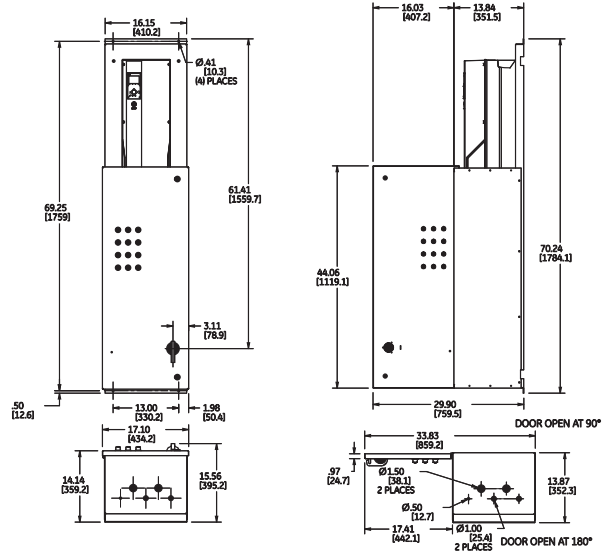
## Outline Dimensions & Weights for Type 1 Enclosures

Enclosed Drive	Enclosure Type	Weight (lbs)	Weight (kgs)	H x W x D (in)	H x W x D (mm)
2-5 HP@208V, 2-10 HP@460V & 2-10 HP@575V	Slimline	175	79	53.9 x 13.1 x 13.56	1370 x 333 x 345
7.5-20 HP@208V, 15-40 HP@460V & 15-40 HP@575V	Slimline	327	149	70.24 x 17.1 x 15.56	1784 x 435 x 396
25-30 HP@208V, 50-75 HP@460V & 50-75 HP@575V	Slimline	448	203	72.24 x 24 x 17.56	1835 x 610 x 446
40-60 HP@208V, 100-125 HP@460V & 100-125 HP@575V	Traditional	624	283	78.1 x 33.69 x 22.36	1983 x 856 x 568
150-300 HP@460V & 150 HP@575V	Traditional	1497	679	94.24 x 43.76 x 25.8	2394 x 1112 x 655

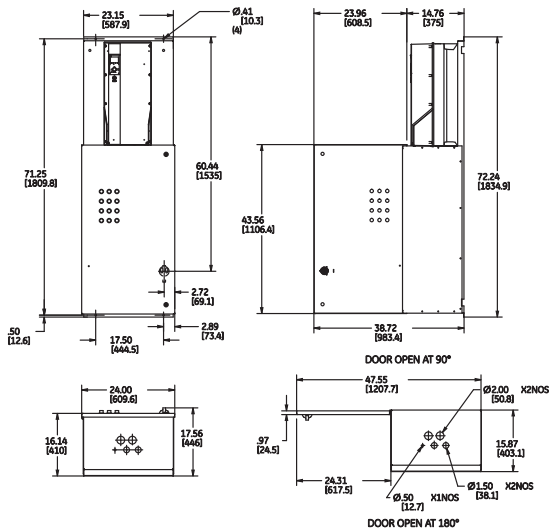
AF-600 FP Enclosed Drive Panels



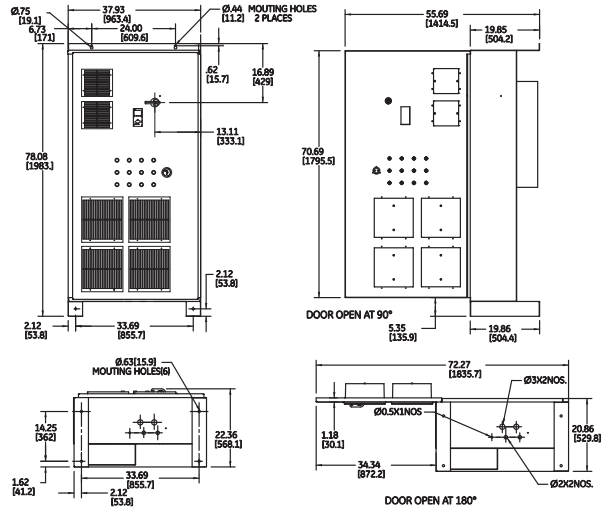
2-5 HP@208V, 2-10 HP@460V & 2-10 HP@575V



7.5-20 HP@208V, 15-40 HP@460V & 15-40 HP@575V



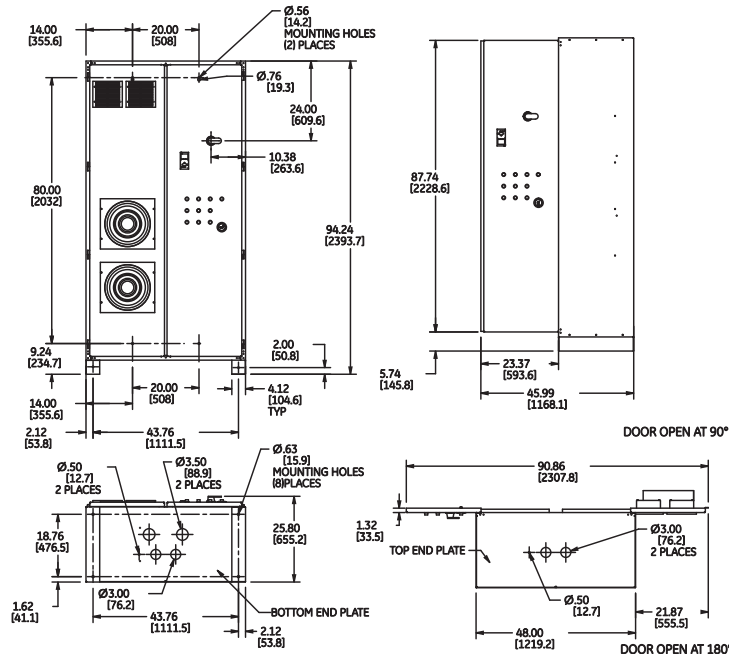
25-30 HP@208V, 50-75 HP@460V & 50-75 HP@575V



40-60 HP@208V, 100-125 HP@460V & 100-125 HP@575V



# AF-600 FP Enclosed Drive Panels Dimensional Drawings



150-300 HP@460V & 150 HP@575V

## Outline Dimensions & Weights for Type 12 Enclosures

Enclosed Drive	Enclosure Type	Weight (lbs)	Weight (kgs)	H x W x D (in)	H x W x D (mm)	Drawing #
2-5 HP@208V, 2-10 HP@460V & 2-10 HP@575V	Traditional	228	104	42.24 x 23.94 x 14.81	1073 x 608 x 376	55-217706
7.5-20 HP@208V, 15-40 HP@460V & 15-40 HP@575V	Traditional	429	195	56.18 x 30.94 x 18.25	1427 x 786 x 464	55-217707
25-30 HP@208V, 50-75 HP@460V & 50-75 HP@575V	Traditional	562	256	64.21 x 33.21 x 21.66	1631 x 844 x 5501	55-217708
40-60 HP@208V, 100-125 HP@460V & 100-125 HP@575V	Traditional	626	285	78.14 x 39.1 x 23.09	1985 x 993 x 587	55-217709
150-300 HP@460V & 150 HP@575V	Traditional	1503	683	94.48 x 49.0 x 26.09	2400 x 1245 x 663	55-217710

## Outline Dimensions & Weights for Type 3R Enclosures

Enclosed Drive	Enclosure Type	Weight (lbs)	Weight (kgs)	H x W x D (in)	H x W x D (mm)	Drawing #
2-5 HP@208V, 2-10 HP@460V & 2-10 HP@575V	Traditional	252	114	42.24 x 26.86 x 16.73	1073 x 682 x 425	55-217711
7.5-20 HP@208V, 15-40 HP@460V & 15-40 HP@575V	Traditional	453	206	56.18 x 34.86 x 21.13	1427 x 885 x 537	55-217712
25-30 HP@208V, 50-75 HP@460V & 50-75 HP@575V	Traditional	610	277	64.21 x 41.1 x 24.68	1631 x 1044 x 627	55-217713
40-60 HP@208V, 100-125 HP@460V & 100-125 HP@575V	Traditional	768	349	78.14 x 46.01 x 25.97	1985 x 1169 x 660	55-217752
150 HP@460V & 150 HP@575V	Traditional	1227	557	94.48 x 56.89 x 28.7	2400 x 1445 x 729	55-217753



# AF-600 FP Enclosed Drive Panels Dimensional Drawings

## Outline Dimensions & Weights for Redundant Drive Type 1 Enclosures

Enclosed Drive	Enclosure Type	Weight (lbs)	Weight (kgs)	H x W x D (in)	H x W x D (mm)	Drawing #
15-25HP@460V	Slimline	224	102	61.72 x 17.10 x 15.91	1567.7 x 434.2 x 404.0	55-217844
30-50HP@460V	Slimline	352	160	69.54 x 24.00 x 17.91	1766.3 x 609.6 x 454.8	55-217845
15-25HP@460V	Traditional	320	145	56.18 x 30.73 x 18.53	1427.0 x 780.6 x 470.8	55-217779
30-50HP@460V	Traditional	481	218	64.18 x 35.47 x 22.12	1630.2 x 901.0 x 561.8	55-217780
60-75HP@460V	Traditional	758	344	74.02 x 38.66 x 22.93	1880.1 x 981.9 x 582.4	55-217781
100-125HP@460V	Traditional	1211	550	94.48 x 48.00 x 25.83	2399.8 x 1219.2 x 656.0	55-217782

## Outline Dimensions & Weights for Disconnect Drive Type 1 Enclosures

Enclosed Drive	Enclosure Type	Weight (lbs)	Weight (kgs)	H x W x D (in)	H x W x D (mm)	Drawing #
1-25HP@460V	Slimline	120	54	31.14 x 15.15 x 14.99	791.0 x 384.8 x 380.8	270A8160
30-75HP@460V	Slimline	245	111	47.94 x 19.95 x 18.04	1217.7 x 506.7 x 458.1	270A8162
100-125HP@460V	Slimline	345	157	60.22 x 25.91 x 19.51	1529.6 x 658.1 x 495.6	270A8163
150-200HP@460V	Traditional	707	321	64.50 x 35.96 x 23.26	1638.3 x 913.4 x 590.8	270A8164
250-350HP@460V	Traditional	927	421	77.26 x 38.49 x 23.29	1962.4 x 977.7 x 591.4	270A8165
450-600HP@460V	Traditional	1575	715	87.55 x 54.00 x 26.88	2223.6 x 1371.6 x 682.8	270A8166

## Elementary and Connection Wiring Diagrams

Disconnect Drive	55-537954
Non-Bypass	55-537777
2 Contactor Bypass	55-537776
3 Contactor Bypass	55-537775
Redundant Drive Bypass	55-686669

Visit <http://www.geindustrial.com/drives> for additional product information including programming guides, drawings, programming software, an energy savings calculator, and much more.



# AF-650 GP Enclosed Drive Panels

## Product Description

Combining all the features of the AF-650 GP™ General Purpose/ Constant Torque core drive with line and load filters, contactor and control schemes and functionality like dynamic braking and closed loop speed control, the AF-650 GP Enclosed Drive Panel can service the tougher industrial and commercial drive needs.

With Type 1, 12 and 3R enclosures, and with power ratings up to 300HP, the AF-650 GP™ Panel has the ratings to meet most needs. Ratings include:

- A compact design to minimize cost and space, the Disconnect Drive panel is available in NEMA Type 1 enclosures with power ratings up to 50HP @ 208V, 550HP @ 460V, and 600HP @ 575V.
- 208Vac, 460Vac and 575Vac offerings
- Up to 300HP available in standard offering
- Up to 500HP available as factory quote
- Up to 600HP in Disconnect Drive
- Up to 1000HP MultiPulse panels (e.g., 12, 18 or 24 pulse) available as factory quote
- Slimline NEMA Type 1 enclosure (standard on lower HP units)
- Traditional NEMA Type 1 enclosure (standard on higher HP units)
- Traditional NEMA Type 12 enclosure
- Traditional NEMA 3R enclosure
- Disconnect Drive with compact size
- Non-bypass with full feature set
- Drive +2 contactor bypass with full feature set
- Drive +3 contactor bypass with full feature set

With slimline designs and the ability to mount in "C" channels, the AF-650 GP Panel not only provides performance, reliability, and a variety of options, but it saves on space and can reduce installation time in tight spaces.

Visit <http://www.geindustrial.com/drives> for additional product information including programming guides, drawings, programming software, an energy savings calculator, and much more.





# AF-650 GP Enclosed Drive Panels Enclosed Disconnect Drive Non-Bypass Pricing

As standard, all Enclosed Disconnect Drives include a fusible disconnect switch and fuses, an A2 rated EMI filter, Modbus RTU communication protocol, and the equivalent of 3% line reactor.

## 208 Vac, 3-Phase, 60Hz Input Power

Constant Torque HP Rating	AF-650 GP Panel Product No.	List Price GO-5GPP	List Price Adders, GO-5GPP							Communications & Option Boards
			Conformal Coating	Circuit Breaker	6% AC Line Impedance <sup>1</sup>	4.5% AC Line Impedance <sup>1</sup>	3% Load Reactor	1% Load Reactor	Door Mounted Keypad	
1	6KGPCL0011RDXXX	\$2250.00	\$210.00	\$636.00	\$469.00	\$400.00	\$603.00	N/A	N/A	All communication and option boards are field installable. Please select from core product.
2	6KGPCL0021RDXXX	\$2400.00	\$210.00	\$636.00	\$469.00	\$400.00	\$603.00	N/A	N/A	
3	6KGPCL0031RDXXX	\$2890.00	\$210.00	\$636.00	\$593.00	\$510.00	\$610.00	N/A	N/A	
5	6KGPCL0051RDXXX	\$3530.00	\$210.00	\$636.00	\$684.00	\$585.00	\$813.00	N/A	N/A	
7.5	6KGPCL0071RDXXX	\$3985.00	\$210.00	\$636.00	\$717.00	\$610.00	\$880.00	N/A	N/A	
10	6KGPCL0101RDXXX	\$4825.00	\$210.00	\$636.00	\$905.00	\$775.00	\$917.00	N/A	N/A	
15	6KGPCL0151RDXXX	\$5710.00	\$210.00	\$755.00	\$999.00	\$850.00	\$945.00	N/A	N/A	
20	6KGPCL0201RDXXX	\$7130.00	\$210.00	\$766.00	\$1170.00	\$995.00	\$1333.00	N/A	N/A	
25	6KGPCL0251RDXXX	\$10295.00	\$210.00	\$766.00	\$1170.00	\$995.00	\$1333.00	N/A	N/A	
30	6KGPCL0301RDXXX	\$12560.00	\$210.00	\$1590.00	\$1243.00	\$1060.00	\$1567.00	N/A	N/A	
40	6KGPCL0401RDXXX	\$14075.00	\$210.00	\$1845.00	\$1418.00	\$1210.00	\$2213.00	N/A	N/A	
50	6KGPCL0501RDXXX	\$17830.00	\$210.00	\$1845.00	\$1506.00	\$1280.00	\$2399.00	N/A	N/A	

## 460 Vac, 3-Phase, 60Hz Input Power

Constant Torque HP Rating	AF-650 GP Panel Product No.	List Price GO-5GPP	List Price Adders, GO-5GPP							Communications & Option Boards
			Conformal Coating	Circuit Breaker	6% AC Line Impedance <sup>1</sup>	4.5% AC Line Impedance <sup>1</sup>	3% Load Reactor	1% Load Reactor	Door Mounted Keypad	
1	6KGPPL0011RDXXX	\$2350.00	\$210.00	\$636.00	\$530.00	\$455.00	\$570.00	\$485.00	N/A	All communication and option boards are field installable. Please select from core product.
2	6KGPPL0021RDXXX	\$2635.00	\$210.00	\$636.00	\$530.00	\$455.00	\$570.00	\$485.00	N/A	
3	6KGPPL0031RDXXX	\$2910.00	\$210.00	\$636.00	\$553.00	\$470.00	\$580.00	\$495.00	N/A	
5	6KGPPL0051RDXXX	\$3165.00	\$210.00	\$636.00	\$620.00	\$530.00	\$603.00	\$515.00	N/A	
7.5	6KGPPL0071RDXXX	\$3615.00	\$210.00	\$636.00	\$778.00	\$665.00	\$610.00	\$520.00	N/A	
10	6KGPPL0101RDXXX	\$4085.00	\$210.00	\$636.00	\$808.00	\$690.00	\$813.00	\$700.00	N/A	
15	6KGPPL0151RDXXX	\$4640.00	\$210.00	\$636.00	\$1069.00	\$910.00	\$880.00	\$750.00	N/A	
20	6KGPPL0201RDXXX	\$5230.00	\$210.00	\$636.00	\$1069.00	\$910.00	\$880.00	\$750.00	N/A	
25	6KGPPL0251RDXXX	\$6290.00	\$210.00	\$636.00	\$1214.00	\$1035.00	\$917.00	\$780.00	N/A	
30	6KGPPL0301RDXXX	\$8520.00	\$210.00	\$755.00	\$1214.00	\$1035.00	\$945.00	\$810.00	N/A	
40	6KGPPL0401RDXXX	\$9520.00	\$210.00	\$766.00	\$1266.00	\$1080.00	\$1333.00	\$1135.00	N/A	
50	6KGPPL0501RDXXX	\$10850.00	\$210.00	\$766.00	\$1266.00	\$1080.00	\$1333.00	\$1135.00	N/A	
60	6KGPPL0601RDXXX	\$12550.00	\$210.00	\$1590.00	\$1320.00	\$1125.00	\$1567.00	\$1335.00	N/A	
75	6KGPPL0751RDXXX	\$16750.00	\$210.00	\$1845.00	\$1530.00	\$1310.00	\$2213.00	\$1885.00	N/A	
100	6KGPPL1001RDXXX	\$19900.00	\$210.00	\$1845.00	\$1620.00	\$1380.00	\$2399.00	\$2040.00	N/A	
125	6KGPPL1251RDXXX	\$25340.00	\$210.00	\$1845.00	\$1691.00	\$1440.00	\$2511.00	\$2135.00	N/A	
150	6KGPPL1501RDXXX	\$28910.00	\$705.00	\$2575.00	\$1850.00	\$1575.00	\$2570.00	\$2185.00	\$600.00	
200	6KGPPL2001RDXXX	\$34850.00	\$705.00	\$2575.00	\$1954.00	\$1665.00	\$2761.00	\$2350.00	\$600.00	
250	6KGPPL2501RDXXX	\$41155.00	\$705.00	\$4191.00	\$1954.00	\$1665.00	\$3104.00	\$2640.00	\$600.00	
300	6KGPPL3001RDXXX	\$45160.00	\$705.00	\$5867.00	\$2188.00	\$1860.00	\$3280.00	\$2800.00	\$600.00	
350	6KGPPL350GRDXXX	\$57000.00	Std	\$6845.00	\$3000.00	\$2550.00	\$3565.00	\$3026.00	\$600.00	
450	6KGPPL450GRDXXX	\$70000.00	Std	\$8800.00	\$3800.00	\$3230.00	\$4510.00	\$3833.00	\$600.00	
500	6KGPPL500GRDXXX	\$80000.00	Std	\$9780.00	\$4200.00	\$3570.00	\$4985.00	\$4237.00	\$600.00	
550	6KGPPL550GRDXXX	\$89000.00	Std	\$10760.00	\$4600.00	\$3910.00	\$5460.00	\$4640.00	\$600.00	

<sup>1</sup>Drive comes standard with 3% line impedance via DC Link Reactor.



# AF-650 GP Enclosed Drive Panels

## Enclosed Disconnect Drive Non-Bypass Pricing

### 575 Vac, 3-Phase, 60Hz Input Power

Constant Torque HP Rating	AF-650 GP Panel Product No.	List Price GO-5GPP	List Price Adders, GO-5GPP							Communications & Option Boards
			Conformal Coating	Circuit Breaker	6% AC Line Impedance <sup>1</sup>	4.5% AC Line Impedance <sup>1</sup>	3% Load Reactor	1% Load Reactor	Door Mounted Keypad	
1	6KGNL0011RDXXX	\$3130.00	\$210.00	\$636.00	\$530.00	\$455.00	\$570.00	\$485.00	N/A	
2	6KGNL0021RDXXX	\$3475.00	\$210.00	\$636.00	\$530.00	\$455.00	\$570.00	\$485.00	N/A	
3	6KGNL0031RDXXX	\$3825.00	\$210.00	\$636.00	\$553.00	\$470.00	\$580.00	\$495.00	N/A	
5	6KGNL0051RDXXX	\$4160.00	\$210.00	\$636.00	\$620.00	\$530.00	\$603.00	\$515.00	N/A	
7.5	6KGNL0071RDXXX	\$4740.00	\$210.00	\$636.00	\$778.00	\$665.00	\$610.00	\$520.00	N/A	
10	6KGNL0101RDXXX	\$5350.00	\$210.00	\$636.00	\$808.00	\$690.00	\$813.00	\$700.00	N/A	
15	6KGNL0151RDXXX	\$6090.00	\$210.00	\$636.00	\$1069.00	\$910.00	\$880.00	\$750.00	N/A	
20	6KGNL0201RDXXX	\$6855.00	\$210.00	\$636.00	\$1069.00	\$910.00	\$880.00	\$750.00	N/A	
25	6KGNL0251RDXXX	\$8240.00	\$210.00	\$636.00	\$1214.00	\$1035.00	\$917.00	\$780.00	N/A	
30	6KGNL0301RDXXX	\$11135.00	\$210.00	\$755.00	\$1214.00	\$1035.00	\$945.00	\$810.00	N/A	
40	6KGNL0401RDXXX	\$12440.00	\$210.00	\$766.00	\$1266.00	\$1080.00	\$1333.00	\$1135.00	N/A	
50	6KGNL0501RDXXX	\$14200.00	\$210.00	\$766.00	\$1266.00	\$1080.00	\$1333.00	\$1135.00	N/A	
60	6KGNL0601RDXXX	\$16410.00	\$210.00	\$1590.00	\$1320.00	\$1125.00	\$1567.00	\$1335.00	N/A	
75	6KGNL0751RDXXX	\$21865.00	\$210.00	\$1845.00	\$1530.00	\$1310.00	\$2213.00	\$1885.00	N/A	
100	6KGNL1001RDXXX	\$26020.00	\$210.00	\$1845.00	\$1620.00	\$1380.00	\$2399.00	\$2040.00	N/A	
125	6KGNL125GRDXXX	\$34380.00	Std	\$1845.00	\$1691.00	\$1440.00	\$2511.00	\$2135.00	N/A	
150	6KGNL150GRDXXX	\$39970.00	Std	\$2575.00	\$1850.00	\$1575.00	\$2570.00	\$2185.00	\$600.00	
200	6KGNL200GRDXXX	\$47985.00	Std	\$2575.00	\$1954.00	\$1665.00	\$2761.00	\$2350.00	\$600.00	
250	6KGNL250GRDXXX	\$56500.00	Std	\$4191.00	\$1954.00	\$1665.00	\$3104.00	\$2640.00	\$600.00	
300	6KGNL300GRDXXX	\$61910.00	Std	\$5867.00	\$2188.00	\$1860.00	\$3280.00	\$2800.00	\$600.00	
350	6KGNL350GRDXXX	\$76950.00	Std	\$6845.00	\$3000.00	\$2550.00	\$3565.00	\$3026.00	\$600.00	
400	6KGNL400GRDXXX	\$94500.00	Std	\$8800.00	\$3800.00	\$3230.00	\$4510.00	\$3833.00	\$600.00	
500	6KGNL500GRDXXX	\$120150.00	Std	\$10760.00	\$4600.00	\$3910.00	\$5460.00	\$4640.00	\$600.00	
600	6KGNL600GRDXXX	\$132000.00	Std	\$11725.00	\$5000.00	\$4250.00	\$5935.00	\$5050.00	\$600.00	

All communication and option boards are field installable. Please select from core product.

<sup>1</sup>Drive comes standard with 3% line impedance via DC Link Reactor.



# AF-650 GP Enclosed Drive Panels

## Enclosed Non-Bypass Drive Pricing

As standard, all Enclosed Non-Bypass Drives include a fusible disconnect switch and fuses, a door-mounted keypad, an HOA operator, an E-Stop button (for UL508A compliance), power on and enable lights, a customer terminal board for control connection, an A2 rated EMI filter, Modbus RTU communication protocols, and the equivalent of 3% line reactor.

### 208 Vac, 3-Phase, 60Hz Input Power

Constant Torque HP Rating	AF-650 GP Panel Product No.	Max. Cont. Current	List Price GO-5GPP	List Price Adders, GO-5GPP								
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	6% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker	Dynamic Brake <sup>2</sup>	Matrix Harmonic Filter <sup>3</sup>	Motor Space Heater & Extra VA CPT <sup>4</sup>
1	6KGPDC0011RDXXX	4.6	\$2401.00	\$570.00	\$1000.00	\$210.00	\$469.00	\$603.00	\$636.00	\$125.00	\$2100.00	\$400.00
2	6KGPDC0021RDXXX	7.5	\$2547.00	\$570.00	\$1000.00	\$210.00	\$469.00	\$603.00	\$636.00	\$140.00	\$2175.00	\$400.00
3	6KGPDC0031RDXXX	10.6	\$3038.00	\$570.00	\$1000.00	\$210.00	\$593.00	\$610.00	\$636.00	\$165.00	\$2450.00	\$400.00
5	6KGPDC0051RDXXX	16.7	\$3678.00	\$590.00	\$1500.00	\$210.00	\$684.00	\$813.00	\$636.00	\$200.00	\$2500.00	\$400.00
7.5	6KGPDC0071RDXXX	24.2	\$4181.00	\$590.00	\$1500.00	\$210.00	\$717.00	\$880.00	\$636.00	\$230.00	\$2875.00	\$400.00
10	6KGPDC0101RDXXX	30.8	\$5024.00	\$590.00	\$1750.00	\$210.00	\$905.00	\$917.00	\$636.00	\$260.00	\$3075.00	\$400.00
15	6KGPDC0151RDXXX	46.2	\$5905.00	\$740.00	\$1750.00	\$210.00	\$999.00	\$945.00	\$755.00	\$335.00	\$3875.00	\$400.00
20	6KGPDC0201RDXXX	59.4	\$7329.00	\$740.00	\$2000.00	\$210.00	\$1170.00	\$1333.00	\$766.00	\$410.00	\$4800.00	\$400.00
25	6KGPDC0251RDXXX	74.8	\$10592.00	\$740.00	\$2000.00	\$210.00	\$1170.00	\$1333.00	\$766.00	\$460.00	\$5575.00	\$400.00
30	6KGPDC0301RDXXX	88	\$12857.00	\$1180.00	\$2500.00	\$210.00	\$1243.00	\$1567.00	\$1590.00	\$580.00	\$6700.00	\$400.00
40	6KGPDC0401RDXXX	115	\$14571.00	\$1370.00	\$3500.00	\$210.00	\$1418.00	\$2213.00	\$1845.00	\$720.00	\$9043.00	\$400.00
50	6KGPDC0501RDXXX	143	\$18329.00	\$1670.00	\$3500.00	\$210.00	\$1506.00	\$2399.00	\$1845.00	\$875.00	\$9981.00	\$400.00

### 460 Vac, 3-Phase, 60Hz Input Power

Constant Torque HP Rating	AF-650 GP Panel Product No.	Max. Cont. Current	List Price GO-5GPP	List Price Adders, GO-5GPP								
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	6% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker	Dynamic Brake <sup>2</sup>	Matrix Harmonic Filter <sup>3</sup>	Motor Space Heater & Extra VA CPT <sup>4</sup>
1	6KGPHD0011RDXXX	2.1	\$2501.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00	\$125.00	\$2100.00	\$400.00
2	6KGPHD0021RDXXX	3.4	\$2785.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00	\$150.00	\$2100.00	\$400.00
3	6KGPHD0031RDXXX	4.8	\$3056.00	\$570.00	\$1000.00	\$210.00	\$553.00	\$580.00	\$636.00	\$175.00	\$2100.00	\$400.00
5	6KGPHD0051RDXXX	8.2	\$3314.00	\$570.00	\$1250.00	\$210.00	\$620.00	\$603.00	\$636.00	\$200.00	\$2175.00	\$400.00
7.5	6KGPHD0071RDXXX	11	\$3762.00	\$570.00	\$1250.00	\$210.00	\$778.00	\$610.00	\$636.00	\$230.00	\$2450.00	\$400.00
10	6KGPHD0101RDXXX	14.5	\$4231.00	\$570.00	\$1500.00	\$210.00	\$808.00	\$813.00	\$636.00	\$260.00	\$2500.00	\$400.00
15	6KGPHD0151RDXXX	21	\$4839.00	\$590.00	\$1500.00	\$210.00	\$1069.00	\$880.00	\$636.00	\$335.00	\$2875.00	\$400.00
20	6KGPHD0201RDXXX	27	\$5427.00	\$590.00	\$1750.00	\$210.00	\$1069.00	\$880.00	\$636.00	\$410.00	\$3075.00	\$400.00
25	6KGPHD0251RDXXX	34	\$6491.00	\$590.00	\$1750.00	\$210.00	\$1214.00	\$917.00	\$636.00	\$460.00	\$3600.00	\$400.00
30	6KGPHD0301RDXXX	40	\$8719.00	\$740.00	\$1750.00	\$210.00	\$1214.00	\$945.00	\$755.00	\$510.00	\$3875.00	\$400.00
40	6KGPHD0401RDXXX	52	\$9721.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00	\$630.00	\$4800.00	\$400.00
50	6KGPHD0501RDXXX	65	\$11152.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00	\$770.00	\$5575.00	\$400.00
60	6KGPHD0601RDXXX	80	\$12850.00	\$890.00	\$2500.00	\$210.00	\$1320.00	\$1567.00	\$1590.00	\$910.00	\$6300.00	\$400.00
75	6KGPHD0751RDXXX	105	\$17048.00	\$1370.00	\$3500.00	\$210.00	\$1530.00	\$2213.00	\$1845.00	\$1030.00	\$6700.00	\$400.00
100	6KGPHD1001RDXXX	130	\$20395.00	\$1630.00	\$3500.00	\$210.00	\$1620.00	\$2399.00	\$1845.00	\$1170.00	\$9043.00	\$400.00
125	6KGPHD1251RDXXX	160	\$25836.00	\$2020.00	\$3500.00	\$705.00	\$1691.00	\$2511.00	\$1845.00	\$1325.00	N/A	\$400.00
150	6KGPHD1501RDXXX	190	\$29607.00	\$2370.00	\$4000.00	\$705.00	\$1850.00	\$2570.00	\$2575.00	\$1625.00	N/A	\$400.00
200	6KGPHD2001RDXXX	240	\$35542.00	\$2840.00	N/A	\$705.00	\$1954.00	\$2761.00	\$2575.00	\$1900.00	N/A	\$400.00
250	6KGPHD2501RDXXX	302	\$41855.00	\$3500.00	N/A	\$705.00	\$1954.00	\$3104.00	\$4191.00	\$2275.00	N/A	\$400.00
300	6KGPHD3001RDXXX	361	\$45856.00	\$4125.00	N/A	\$705.00	\$2188.00	\$3082.00	\$5867.00	\$2955.00	N/A	\$400.00

### 575 Vac, 3-Phase, 60Hz Input Power

Constant Torque HP Rating	AF-650 GP Panel Product No.	Max. Cont. Current	List Price GO-5GPP	List Price Adders, GO-5GPP								
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	6% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker	Dynamic Brake <sup>2</sup>	Matrix Harmonic Filter <sup>3</sup>	Motor Space Heater & Extra VA CPT <sup>4</sup>
1	6KGPND0011RDXXX	1.7	\$3280.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00	\$125.00	N/A	\$400.00
2	6KGPND0021RDXXX	2.7	\$3623.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00	\$150.00	N/A	\$400.00
3	6KGPND0031RDXXX	3.9	\$3972.00	\$570.00	\$1000.00	\$210.00	\$553.00	\$580.00	\$636.00	\$175.00	N/A	\$400.00
5	6KGPND0051RDXXX	6.1	\$4307.00	\$570.00	\$1250.00	\$210.00	\$620.00	\$603.00	\$636.00	\$200.00	N/A	\$400.00
7.5	6KGPND0071RDXXX	9	\$4890.00	\$570.00	\$1250.00	\$210.00	\$778.00	\$610.00	\$636.00	\$230.00	N/A	\$400.00
10	6KGPND0101RDXXX	11	\$5500.00	\$570.00	\$1500.00	\$210.00	\$808.00	\$813.00	\$636.00	\$260.00	N/A	\$400.00
15	6KGPND0151RDXXX	18	\$6291.00	\$590.00	\$1500.00	\$210.00	\$1069.00	\$880.00	\$636.00	\$335.00	N/A	\$400.00
20	6KGPND0201RDXXX	22	\$7055.00	\$590.00	\$1750.00	\$210.00	\$1069.00	\$880.00	\$636.00	\$410.00	N/A	\$400.00
25	6KGPND0251RDXXX	27	\$8438.00	\$590.00	\$1750.00	\$210.00	\$1214.00	\$917.00	\$636.00	\$460.00	N/A	\$400.00
30	6KGPND0301RDXXX	34	\$11334.00	\$740.00	\$1750.00	\$210.00	\$1214.00	\$945.00	\$755.00	\$510.00	N/A	\$400.00
40	6KGPND0401RDXXX	41	\$12639.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00	\$630.00	N/A	\$400.00
50	6KGPND0501RDXXX	52	\$14497.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00	\$770.00	N/A	\$400.00
60	6KGPND0601RDXXX	62	\$16704.00	\$890.00	\$2500.00	\$210.00	\$1320.00	\$1567.00	\$1590.00	\$910.00	N/A	\$400.00
75	6KGPND0751RDXXX	83	\$22162.00	\$1780.00	\$3500.00	\$210.00	\$1530.00	\$2213.00	\$1845.00	\$1030.00	N/A	\$400.00
100	6KGPND1001RDXXX	100	\$26513.00	\$2115.00	\$3500.00	\$210.00	\$1620.00	\$2399.00	\$1845.00	\$1170.00	N/A	\$400.00

<sup>1</sup>Drive comes standard with 3% line impedance via DC Link Reactor.

<sup>2</sup>Includes DB Chopper rated for 10% duty cycle. DB resistors must be ordered separately.

<sup>3</sup>Matrix filter is only available in NEMA 1 enclosures and is not available with Line or Load reactors.

<sup>4</sup>This option provides a CPT with a minimal 150VA additional power.





# AF-650 GP Enclosed Drive Panels

## Enclosed Non-Bypass Drive with Output Contactor Pricing

As standard, all Enclosed Non-Bypass Drives with an Output Contactor include a fusible disconnect switch and fuses, a door-mounted keypad, an HOA operator, an E-Stop button (for UL508A compliance), power on and enable lights, a customer terminal board for control connection, an A2 rated EMI filter, Modbus RTU communication protocols, and the equivalent of 3% line reactor, and a drive output contactor.

### 208 Vac, 3-Phase, 60Hz Input Power

Constant Torque HP Rating	AF-650 GP Panel Product No.	Max. Cont. Current	List Price GO-5GPP	List Price Adders, GO-5GPP								
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	6% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker	Dynamic Brake <sup>2</sup>	Matrix Harmonic Filter <sup>3</sup>	Motor Space Heater & Extra VA CPT <sup>4</sup>
1	6KGPC10011RDXXX	4.6	\$2419.00	\$570.00	\$1000.00	\$210.00	\$469.00	\$603.00	\$636.00	\$125.00	\$2100.00	\$400.00
2	6KGPC10021RDXXX	7.5	\$2566.00	\$570.00	\$1000.00	\$210.00	\$469.00	\$603.00	\$636.00	\$140.00	\$2175.00	\$400.00
3	6KGPC10031RDXXX	10.6	\$3061.00	\$570.00	\$1000.00	\$210.00	\$593.00	\$610.00	\$636.00	\$165.00	\$2450.00	\$400.00
5	6KGPC10051RDXXX	16.7	\$3705.00	\$590.00	\$1500.00	\$210.00	\$684.00	\$813.00	\$636.00	\$200.00	\$2500.00	\$400.00
7.5	6KGPC10071RDXXX	24.2	\$4213.00	\$590.00	\$1500.00	\$210.00	\$717.00	\$880.00	\$636.00	\$230.00	\$2875.00	\$400.00
10	6KGPC10101RDXXX	30.8	\$5062.00	\$590.00	\$1750.00	\$210.00	\$905.00	\$917.00	\$636.00	\$260.00	\$3075.00	\$400.00
15	6KGPC10151RDXXX	46.2	\$5950.00	\$740.00	\$1750.00	\$210.00	\$999.00	\$945.00	\$755.00	\$335.00	\$3875.00	\$400.00
20	6KGPC10201RDXXX	59.4	\$7384.00	\$740.00	\$2000.00	\$210.00	\$1170.00	\$1333.00	\$766.00	\$410.00	\$4800.00	\$400.00
25	6KGPC10251RDXXX	74.8	\$10671.00	\$740.00	\$2000.00	\$210.00	\$1170.00	\$1333.00	\$766.00	\$460.00	\$5575.00	\$400.00
30	6KGPC10301RDXXX	88	\$12953.00	\$1180.00	\$2500.00	\$210.00	\$1243.00	\$1567.00	\$1590.00	\$580.00	\$6700.00	\$400.00
40	6KGPC10401RDXXX	115	\$14680.00	\$1370.00	\$3500.00	\$210.00	\$1418.00	\$2213.00	\$1845.00	\$720.00	\$9043.00	\$400.00
50	6KGPC10501RDXXX	143	\$18466.00	\$1670.00	\$3500.00	\$210.00	\$1506.00	\$2399.00	\$1845.00	\$875.00	\$9981.00	\$400.00

### 460 Vac, 3-Phase, 60Hz Input Power

Constant Torque HP Rating	AF-650 GP Panel Product No.	Max. Cont. Current	List Price GO-5GPP	List Price Adders, GO-5GPP								
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	6% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker	Dynamic Brake <sup>2</sup>	Matrix Harmonic Filter <sup>3</sup>	Motor Space Heater & Extra VA CPT <sup>4</sup>
1	6KGPH10011RDXXX	2.1	\$2520.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00	\$125.00	\$2100.00	\$400.00
2	6KGPH10021RDXXX	3.4	\$2806.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00	\$150.00	\$2100.00	\$400.00
3	6KGPH10031RDXXX	4.8	\$3078.00	\$570.00	\$1000.00	\$210.00	\$553.00	\$580.00	\$636.00	\$175.00	\$2100.00	\$400.00
5	6KGPH10051RDXXX	8.2	\$3339.00	\$570.00	\$1250.00	\$210.00	\$620.00	\$603.00	\$636.00	\$200.00	\$2175.00	\$400.00
7.5	6KGPH10071RDXXX	11	\$3790.00	\$570.00	\$1250.00	\$210.00	\$778.00	\$610.00	\$636.00	\$230.00	\$2450.00	\$400.00
10	6KGPH10101RDXXX	14.5	\$4263.00	\$570.00	\$1500.00	\$210.00	\$808.00	\$813.00	\$636.00	\$260.00	\$2500.00	\$400.00
15	6KGPH10151RDXXX	21	\$4875.00	\$590.00	\$1500.00	\$210.00	\$1069.00	\$880.00	\$636.00	\$335.00	\$2875.00	\$400.00
20	6KGPH10201RDXXX	27	\$5468.00	\$590.00	\$1750.00	\$210.00	\$1069.00	\$880.00	\$636.00	\$410.00	\$3075.00	\$400.00
25	6KGPH10251RDXXX	34	\$6539.00	\$590.00	\$1750.00	\$210.00	\$1214.00	\$917.00	\$636.00	\$460.00	\$3600.00	\$400.00
30	6KGPH10301RDXXX	40	\$8785.00	\$740.00	\$1750.00	\$210.00	\$1214.00	\$945.00	\$755.00	\$510.00	\$3875.00	\$400.00
40	6KGPH10401RDXXX	52	\$9794.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00	\$630.00	\$4800.00	\$400.00
50	6KGPH10501RDXXX	65	\$11235.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00	\$770.00	\$5575.00	\$400.00
60	6KGPH10601RDXXX	80	\$12946.00	\$890.00	\$2500.00	\$210.00	\$1320.00	\$1567.00	\$1590.00	\$910.00	\$6300.00	\$400.00
75	6KGPH10751RDXXX	105	\$17175.00	\$1370.00	\$3500.00	\$210.00	\$1530.00	\$2213.00	\$1845.00	\$1030.00	\$6700.00	\$400.00
100	6KGPH11001RDXXX	130	\$20548.00	\$1630.00	\$3500.00	\$210.00	\$1620.00	\$2399.00	\$1845.00	\$1170.00	\$9043.00	\$400.00
125	6KGPH11251RDXXX	160	\$26030.00	\$2020.00	\$3500.00	\$705.00	\$1691.00	\$2511.00	\$1845.00	\$1325.00	N/A	\$400.00
150	6KGPH11501RDXXX	190	\$29829.00	\$2370.00	\$4000.00	\$705.00	\$1850.00	\$2570.00	\$2575.00	\$1625.00	N/A	\$400.00
200	6KGPH12001RDXXX	240	\$35808.00	\$2840.00	N/A	\$705.00	\$1954.00	\$2761.00	\$2575.00	\$1900.00	N/A	\$400.00
250	6KGPH12501RDXXX	302	\$42169.00	\$3500.00	N/A	\$705.00	\$1954.00	\$3104.00	\$4191.00	\$2275.00	N/A	\$400.00
300	6KGPH13001RDXXX	361	\$46200.00	\$4125.00	N/A	\$705.00	\$2188.00	\$3082.00	\$5867.00	\$2955.00	N/A	\$400.00

### 575 Vac, 3-Phase, 60Hz Input Power

Constant Torque HP Rating	AF-650 GP Panel Product No.	Max. Cont. Current	List Price GO-5GPP	List Price Adders, GO-5GPP								
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	6% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker	Dynamic Brake <sup>2</sup>	Matrix Harmonic Filter <sup>3</sup>	Motor Space Heater & Extra VA CPT <sup>4</sup>
1	6KGPN10011RDXXX	1.7	\$3300.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00	\$125.00	N/A	\$400.00
2	6KGPN10021RDXXX	2.7	\$3650.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00	\$150.00	N/A	\$400.00
3	6KGPN10031RDXXX	3.9	\$4002.00	\$570.00	\$1000.00	\$210.00	\$553.00	\$580.00	\$636.00	\$175.00	N/A	\$400.00
5	6KGPN10051RDXXX	6.1	\$4339.00	\$570.00	\$1250.00	\$210.00	\$620.00	\$603.00	\$636.00	\$200.00	N/A	\$400.00
7.5	6KGPN10071RDXXX	9	\$4926.00	\$570.00	\$1250.00	\$210.00	\$778.00	\$610.00	\$636.00	\$230.00	N/A	\$400.00
10	6KGPN10101RDXXX	11	\$5542.00	\$570.00	\$1500.00	\$210.00	\$808.00	\$813.00	\$636.00	\$260.00	N/A	\$400.00
15	6KGPN10151RDXXX	18	\$6338.00	\$590.00	\$1500.00	\$210.00	\$1069.00	\$880.00	\$636.00	\$335.00	N/A	\$400.00
20	6KGPN10201RDXXX	22	\$7108.00	\$590.00	\$1750.00	\$210.00	\$1069.00	\$880.00	\$636.00	\$410.00	N/A	\$400.00
25	6KGPN10251RDXXX	27	\$8501.00	\$590.00	\$1750.00	\$210.00	\$1214.00	\$917.00	\$636.00	\$460.00	N/A	\$400.00
30	6KGPN10301RDXXX	34	\$11419.00	\$740.00	\$1750.00	\$210.00	\$1214.00	\$945.00	\$755.00	\$510.00	N/A	\$400.00
40	6KGPN10401RDXXX	41	\$12733.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00	\$630.00	N/A	\$400.00
50	6KGPN10501RDXXX	52	\$14606.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00	\$770.00	N/A	\$400.00
60	6KGPN10601RDXXX	62	\$16829.00	\$890.00	\$2500.00	\$210.00	\$1320.00	\$1567.00	\$1590.00	\$910.00	N/A	\$400.00
75	6KGPN10751RDXXX	83	\$22328.00	\$1780.00	\$3500.00	\$210.00	\$1530.00	\$2213.00	\$1845.00	\$1030.00	N/A	\$400.00
100	6KGPN11001RDXXX	100	\$26712.00	\$2115.00	\$3500.00	\$210.00	\$1620.00	\$2399.00	\$1845.00	\$1170.00	N/A	\$400.00

<sup>1</sup>Drive comes standard with 3% line impedance via DC Link Reactor.

<sup>2</sup>Includes DB Chopper rated for 10% duty cycle. DB resistors must be ordered separately.

<sup>3</sup>Matrix filter is only available in NEMA 1 enclosures and is not available with Line or Load reactors.

<sup>4</sup>This option provides a CPT with a minimal 150VA additional power.



# AF-650 GP Enclosed Drive Panels Enclosed 2 Contactor Bypass Drives Pricing

As standard, all Enclosed 2 Contactor Bypass Drives include a fusible disconnect switch and fuses, a door-mounted keypad, an HOA operator, an E-Stop button (for UL508A compliance), a Drive/Off/Bypass switch, power on, enable, bypass and overload lights, a customer terminal board for control connection, an A2 rated EMI filter, Modbus RTU communication protocols, the equivalent of 3% line reactor, a drive output contactor interlocked with a FVNR bypass contactor, and Class 20/30 overloads.

## 208 Vac, 3-Phase, 60Hz Input Power

Constant Torque HP Rating	AF-650 GP Panel Product No.	Max. Cont. Current	List Price GO-5GPP	List Price Adders, GO-5GPP								
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	6% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker	Dynamic Brake <sup>2</sup>	Matrix Harmonic Filter <sup>3</sup>	Motor Space Heater & Extra VA CPT <sup>4</sup>
1	6KGPC20011RDXXX	4.6	\$2473.00	\$570.00	\$1000.00	\$210.00	\$469.00	\$603.00	\$636.00	\$125.00	\$2100.00	\$400.00
2	6KGPC20021RDXXX	7.5	\$2751.00	\$570.00	\$1000.00	\$210.00	\$469.00	\$603.00	\$636.00	\$140.00	\$2175.00	\$400.00
3	6KGPC20031RDXXX	10.6	\$3258.00	\$570.00	\$1000.00	\$210.00	\$593.00	\$610.00	\$636.00	\$165.00	\$2450.00	\$400.00
5	6KGPC20051RDXXX	16.7	\$3974.00	\$590.00	\$1500.00	\$210.00	\$684.00	\$813.00	\$636.00	\$200.00	\$2500.00	\$400.00
7.5	6KGPC20071RDXXX	24.2	\$4755.00	\$590.00	\$1500.00	\$210.00	\$717.00	\$880.00	\$636.00	\$230.00	\$2875.00	\$400.00
10	6KGPC20101RDXXX	30.8	\$5603.00	\$590.00	\$1750.00	\$210.00	\$905.00	\$917.00	\$636.00	\$260.00	\$3075.00	\$400.00
15	6KGPC20151RDXXX	46.2	\$6696.00	\$740.00	\$1750.00	\$210.00	\$999.00	\$945.00	\$755.00	\$335.00	\$3875.00	\$400.00
20	6KGPC20201RDXXX	59.4	\$8310.00	\$740.00	\$2000.00	\$210.00	\$1170.00	\$1333.00	\$766.00	\$410.00	\$4800.00	\$400.00
25	6KGPC20251RDXXX	74.8	\$12486.00	\$740.00	\$2000.00	\$210.00	\$1170.00	\$1333.00	\$766.00	\$460.00	\$575.00	\$400.00
30	6KGPC20301RDXXX	88	\$15638.00	\$1180.00	\$2500.00	\$210.00	\$1243.00	\$1567.00	\$1590.00	\$580.00	\$6700.00	\$400.00
40	6KGPC20402RDXXX	115	\$18455.00	\$1370.00	\$3500.00	\$210.00	\$1418.00	\$2213.00	\$1845.00	\$720.00	\$9043.00	\$400.00
50	6KGPC20502RDXXX	143	\$22570.00	\$1670.00	\$3500.00	\$210.00	\$1506.00	\$2399.00	\$1845.00	\$875.00	\$9981.00	\$400.00

## 460 Vac, 3-Phase, 60Hz Input Power

Constant Torque HP Rating	AF-650 GP Panel Product No.	Max. Cont. Current	List Price GO-5GPP	List Price Adders, GO-5GPP								
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	6% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker	Dynamic Brake <sup>2</sup>	Matrix Harmonic Filter <sup>3</sup>	Motor Space Heater & Extra VA CPT <sup>4</sup>
1	6KGP20011RDXXX	2.1	\$2565.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00	\$125.00	\$2100.00	\$400.00
2	6KGP20021RDXXX	3.4	\$2912.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00	\$150.00	\$2100.00	\$400.00
3	6KGP20031RDXXX	4.8	\$3174.00	\$570.00	\$1000.00	\$210.00	\$553.00	\$580.00	\$636.00	\$175.00	\$2100.00	\$400.00
5	6KGP20051RDXXX	8.2	\$3472.00	\$570.00	\$1250.00	\$210.00	\$620.00	\$603.00	\$636.00	\$200.00	\$2175.00	\$400.00
7.5	6KGP20071RDXXX	11	\$3977.00	\$570.00	\$1250.00	\$210.00	\$778.00	\$610.00	\$636.00	\$230.00	\$2450.00	\$400.00
10	6KGP20101RDXXX	14.5	\$4492.00	\$570.00	\$1500.00	\$210.00	\$808.00	\$813.00	\$636.00	\$260.00	\$2500.00	\$400.00
15	6KGP20151RDXXX	21	\$5065.00	\$590.00	\$1500.00	\$210.00	\$1069.00	\$880.00	\$636.00	\$335.00	\$2875.00	\$400.00
20	6KGP20201RDXXX	27	\$5857.00	\$590.00	\$1750.00	\$210.00	\$1069.00	\$880.00	\$636.00	\$410.00	\$3075.00	\$400.00
25	6KGP20251RDXXX	34	\$7048.00	\$590.00	\$1750.00	\$210.00	\$1214.00	\$917.00	\$636.00	\$460.00	\$3600.00	\$400.00
30	6KGP20301RDXXX	40	\$9248.00	\$740.00	\$1750.00	\$210.00	\$1214.00	\$945.00	\$755.00	\$510.00	\$3875.00	\$400.00
40	6KGP20401RDXXX	52	\$10250.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00	\$630.00	\$4800.00	\$400.00
50	6KGP20501RDXXX	65	\$11605.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00	\$770.00	\$575.00	\$400.00
60	6KGP20601RDXXX	80	\$13810.00	\$890.00	\$2500.00	\$210.00	\$1320.00	\$1567.00	\$1590.00	\$910.00	\$6300.00	\$400.00
75	6KGP20751RDXXX	105	\$18636.00	\$1370.00	\$3500.00	\$210.00	\$1530.00	\$2213.00	\$1845.00	\$1030.00	\$6700.00	\$400.00
100	6KGP21002RDXXX	130	\$22294.00	\$1630.00	\$3500.00	\$210.00	\$1620.00	\$2399.00	\$1845.00	\$1170.00	\$9043.00	\$400.00
125	6KGP21252RDXXX	160	\$27632.00	\$2020.00	\$3500.00	\$705.00	\$1691.00	\$2511.00	\$1845.00	\$1325.00	N/A	\$400.00
150	6KGP21502RDXXX	190	\$32286.00	\$2370.00	\$4000.00	\$705.00	\$1850.00	\$2570.00	\$2575.00	\$1625.00	N/A	\$400.00
200	6KGP22002RDXXX	240	\$38940.00	\$2840.00	N/A	\$705.00	\$1954.00	\$2761.00	\$2575.00	\$1900.00	N/A	\$400.00
250	6KGP22502RDXXX	302	\$47810.00	\$3500.00	N/A	\$705.00	\$1954.00	\$3104.00	\$4191.00	\$2275.00	N/A	\$400.00
300	6KGP23001RDXXX	361	\$49019.00	\$4125.00	N/A	\$705.00	\$2188.00	\$3082.00	\$5867.00	\$2955.00	N/A	\$400.00

## 575 Vac, 3-Phase, 60Hz Input Power

Constant Torque HP Rating	AF-650 GP Panel Product No.	Max. Cont. Current	List Price GO-5GPP	List Price Adders, GO-5GPP								
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	6% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker	Dynamic Brake <sup>2</sup>	Matrix Harmonic Filter <sup>3</sup>	Motor Space Heater & Extra VA CPT <sup>4</sup>
1	6KGN20011RDXXX	1.7	\$3440.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00	\$125.00	N/A	\$400.00
2	6KGN20021RDXXX	2.7	\$3785.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00	\$150.00	N/A	\$400.00
3	6KGN20031RDXXX	3.9	\$4126.00	\$570.00	\$1000.00	\$210.00	\$553.00	\$580.00	\$636.00	\$175.00	N/A	\$400.00
5	6KGN20051RDXXX	6.1	\$4514.00	\$570.00	\$1250.00	\$210.00	\$620.00	\$603.00	\$636.00	\$200.00	N/A	\$400.00
7.5	6KGN20071RDXXX	9	\$5169.00	\$570.00	\$1250.00	\$210.00	\$778.00	\$610.00	\$636.00	\$230.00	N/A	\$400.00
10	6KGN20101RDXXX	11	\$6173.00	\$570.00	\$1500.00	\$210.00	\$808.00	\$813.00	\$636.00	\$260.00	N/A	\$400.00
15	6KGN20151RDXXX	18	\$6738.00	\$590.00	\$1500.00	\$210.00	\$1069.00	\$880.00	\$636.00	\$335.00	N/A	\$400.00
20	6KGN20201RDXXX	22	\$7613.00	\$590.00	\$1750.00	\$210.00	\$1069.00	\$880.00	\$636.00	\$410.00	N/A	\$400.00
25	6KGN20251RDXXX	27	\$9163.00	\$590.00	\$1750.00	\$210.00	\$1214.00	\$917.00	\$636.00	\$460.00	N/A	\$400.00
30	6KGN20301RDXXX	34	\$12022.00	\$740.00	\$1750.00	\$210.00	\$1214.00	\$945.00	\$755.00	\$510.00	N/A	\$400.00
40	6KGN20401RDXXX	41	\$13325.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00	\$630.00	N/A	\$400.00
50	6KGN20501RDXXX	52	\$15086.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00	\$770.00	N/A	\$400.00
60	6KGN20601RDXXX	62	\$17954.00	\$890.00	\$2500.00	\$210.00	\$1320.00	\$1567.00	\$1590.00	\$910.00	N/A	\$400.00
75	6KGN20751RDXXX	83	\$24226.00	\$1780.00	\$3500.00	\$210.00	\$1530.00	\$2213.00	\$1845.00	\$1030.00	N/A	\$400.00
100	6KGN21002RDXXX	100	\$28981.00	\$2115.00	\$3500.00	\$210.00	\$1620.00	\$2399.00	\$1845.00	\$1170.00	N/A	\$400.00

<sup>1</sup>Drive comes standard with 3% line impedance via DC Link Reactor.

<sup>2</sup>Includes DB Chopper rated for 10% duty cycle. DB resistors must be ordered separately.

<sup>3</sup>Matrix filter is only available in NEMA 1 enclosures and is not available with Line or Load reactors.

<sup>4</sup>This option provides a CPT with a minimal 150VA additional power.



# AF-650 GP Enclosed Drive Panels Enclosed 3 Contactor Bypass Drives Pricing

As standard, all Enclosed 3 Contactor Bypass Drives include a fusible disconnect switch and fuses, a door-mounted keypad, an HOA operator, an E-Stop button (for UL508A compliance), a Drive/Off/Bypass switch, a Test/Isolate/Normal switch power on, enable, bypass and overload lights, a customer terminal board for control connection, an A2 rated EMI filter, Modbus RTU communication protocols, the equivalent of 3% line reactor, a drive output contactor interlocked with a FVNR bypass contactor, a drive line isolation contactor, and Class 20/30 overloads.

## 208 Vac, 3-Phase, 60Hz Input Power

Constant Torque HP Rating	AF-650 GP Panel Product No.	Max. Cont. Current	List Price GO-5GPP	List Price Adders, GO-5GPP								
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	6% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker	Dynamic Brake <sup>2</sup>	Matrix Harmonic Filter <sup>3</sup>	Motor Space Heater & Extra VA CPT <sup>4</sup>
1	6KGPC30011RDXXX	4.6	\$2697.00	\$570.00	\$1000.00	\$210.00	\$469.00	\$603.00	\$636.00	\$125.00	\$2100.00	\$400.00
2	6KGPC30021RDXXX	7.5	\$3061.00	\$570.00	\$1000.00	\$210.00	\$469.00	\$603.00	\$636.00	\$140.00	\$2175.00	\$400.00
3	6KGPC30031RDXXX	10.6	\$3603.00	\$570.00	\$1000.00	\$210.00	\$593.00	\$610.00	\$636.00	\$165.00	\$2450.00	\$400.00
5	6KGPC30051RDXXX	16.7	\$4315.00	\$590.00	\$1500.00	\$210.00	\$684.00	\$813.00	\$636.00	\$200.00	\$2500.00	\$400.00
7.5	6KGPC30071RDXXX	24.2	\$5277.00	\$590.00	\$1500.00	\$210.00	\$717.00	\$880.00	\$636.00	\$230.00	\$2875.00	\$400.00
10	6KGPC30101RDXXX	30.8	\$6149.00	\$590.00	\$1750.00	\$210.00	\$905.00	\$917.00	\$636.00	\$260.00	\$3075.00	\$400.00
15	6KGPC30151RDXXX	46.2	\$7259.00	\$740.00	\$1750.00	\$210.00	\$999.00	\$945.00	\$755.00	\$335.00	\$3875.00	\$400.00
20	6KGPC30201RDXXX	59.4	\$8942.00	\$740.00	\$2000.00	\$210.00	\$1170.00	\$1333.00	\$766.00	\$410.00	\$4800.00	\$400.00
25	6KGPC30251RDXXX	74.8	\$13584.00	\$740.00	\$2000.00	\$210.00	\$1170.00	\$1333.00	\$766.00	\$460.00	\$5575.00	\$400.00
30	6KGPC30301RDXXX	88	\$16989.00	\$1180.00	\$2500.00	\$210.00	\$1243.00	\$1567.00	\$1590.00	\$580.00	\$6700.00	\$400.00
40	6KGPC30402RDXXX	115	\$19709.00	\$1370.00	\$3500.00	\$210.00	\$1418.00	\$2213.00	\$1845.00	\$720.00	\$9043.00	\$400.00
50	6KGPC30502RDXXX	143	\$23933.00	\$1670.00	\$3500.00	\$210.00	\$1506.00	\$2399.00	\$1845.00	\$875.00	\$9981.00	\$400.00

## 460 Vac, 3-Phase, 60Hz Input Power

Constant Torque HP Rating	AF-650 GP Panel Product No.	Max. Cont. Current	List Price GO-5GPP	List Price Adders, GO-5GPP								
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	6% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker	Dynamic Brake <sup>2</sup>	Matrix Harmonic Filter <sup>3</sup>	Motor Space Heater & Extra VA CPT <sup>4</sup>
1	6KGPH30011RDXXX	2.1	\$2818.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00	\$125.00	\$2100.00	\$400.00
2	6KGPH30021RDXXX	3.4	\$3102.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00	\$150.00	\$2100.00	\$400.00
3	6KGPH30031RDXXX	4.8	\$3398.00	\$570.00	\$1000.00	\$210.00	\$553.00	\$580.00	\$636.00	\$175.00	\$2100.00	\$400.00
5	6KGPH30051RDXXX	8.2	\$3740.00	\$570.00	\$1250.00	\$210.00	\$620.00	\$603.00	\$636.00	\$200.00	\$2175.00	\$400.00
7.5	6KGPH30071RDXXX	11	\$4210.00	\$570.00	\$1250.00	\$210.00	\$778.00	\$610.00	\$636.00	\$230.00	\$2450.00	\$400.00
10	6KGPH30101RDXXX	14.5	\$4748.00	\$570.00	\$1500.00	\$210.00	\$808.00	\$813.00	\$636.00	\$260.00	\$2500.00	\$400.00
15	6KGPH30151RDXXX	21	\$5367.00	\$590.00	\$1500.00	\$210.00	\$1069.00	\$880.00	\$636.00	\$335.00	\$2875.00	\$400.00
20	6KGPH30201RDXXX	27	\$6202.00	\$590.00	\$1750.00	\$210.00	\$1069.00	\$880.00	\$636.00	\$410.00	\$3075.00	\$400.00
25	6KGPH30251RDXXX	34	\$7445.00	\$590.00	\$1750.00	\$210.00	\$1214.00	\$917.00	\$636.00	\$460.00	\$3600.00	\$400.00
30	6KGPH30301RDXXX	40	\$9778.00	\$740.00	\$1750.00	\$210.00	\$1214.00	\$945.00	\$755.00	\$510.00	\$3875.00	\$400.00
40	6KGPH30401RDXXX	52	\$10848.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00	\$630.00	\$4800.00	\$400.00
50	6KGPH30501RDXXX	65	\$12185.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00	\$770.00	\$5575.00	\$400.00
60	6KGPH30601RDXXX	80	\$14615.00	\$890.00	\$2500.00	\$210.00	\$1320.00	\$1567.00	\$1590.00	\$910.00	\$6300.00	\$400.00
75	6KGPH30751RDXXX	105	\$19671.00	\$1370.00	\$3500.00	\$210.00	\$1530.00	\$2213.00	\$1845.00	\$1030.00	\$6700.00	\$400.00
100	6KGPH31002RDXXX	130	\$23385.00	\$1630.00	\$3500.00	\$210.00	\$1620.00	\$2399.00	\$1845.00	\$1170.00	\$9043.00	\$400.00
125	6KGPH31252RDXXX	160	\$29038.00	\$2020.00	\$3500.00	\$705.00	\$1691.00	\$2511.00	\$1845.00	\$1325.00	N/A	\$400.00
150	6KGPH31502RDXXX	190	\$34085.00	\$2370.00	\$4000.00	\$705.00	\$1850.00	\$2570.00	\$2575.00	\$1625.00	N/A	\$400.00
200	6KGPH32002RDXXX	240	\$40855.00	\$2840.00	N/A	\$705.00	\$1954.00	\$2761.00	\$2575.00	\$1900.00	N/A	\$400.00
250	6KGPH32502RDXXX	302	\$50354.00	\$3500.00	N/A	\$705.00	\$1954.00	\$3104.00	\$4191.00	\$2275.00	N/A	\$400.00
300	6KGPH33001RDXXX	361	\$50600.00	\$4125.00	N/A	\$705.00	\$2188.00	\$3082.00	\$5867.00	\$2955.00	N/A	\$400.00

## 575 Vac, 3-Phase, 60Hz Input Power

Constant Torque HP Rating	AF-650 GP Panel Product No.	Max. Cont. Current	List Price GO-5GPP	List Price Adders, GO-5GPP								
				NEMA 12 Enclosure	NEMA 3R Enclosure	Conformal Coating	6% AC Line Impedance <sup>1</sup>	3% Load Reactor	Circuit Breaker	Dynamic Brake <sup>2</sup>	Matrix Harmonic Filter <sup>3</sup>	Motor Space Heater & Extra VA CPT <sup>4</sup>
1	6KGPN30011RDXXX	1.7	\$3663.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00	\$125.00	N/A	\$400.00
2	6KGPN30021RDXXX	2.7	\$4032.00	\$570.00	\$1000.00	\$210.00	\$530.00	\$570.00	\$636.00	\$150.00	N/A	\$400.00
3	6KGPN30031RDXXX	3.9	\$4418.00	\$570.00	\$1000.00	\$210.00	\$553.00	\$580.00	\$636.00	\$175.00	N/A	\$400.00
5	6KGPN30051RDXXX	6.1	\$4862.00	\$570.00	\$1250.00	\$210.00	\$620.00	\$603.00	\$636.00	\$200.00	N/A	\$400.00
7.5	6KGPN30071RDXXX	9	\$5473.00	\$570.00	\$1250.00	\$210.00	\$778.00	\$610.00	\$636.00	\$230.00	N/A	\$400.00
10	6KGPN30101RDXXX	11	\$6584.00	\$570.00	\$1500.00	\$210.00	\$808.00	\$813.00	\$636.00	\$260.00	N/A	\$400.00
15	6KGPN30151RDXXX	18	\$6977.00	\$590.00	\$1500.00	\$210.00	\$1069.00	\$880.00	\$636.00	\$335.00	N/A	\$400.00
20	6KGPN30201RDXXX	22	\$8063.00	\$590.00	\$1750.00	\$210.00	\$1069.00	\$880.00	\$636.00	\$410.00	N/A	\$400.00
25	6KGPN30251RDXXX	27	\$9679.00	\$590.00	\$1750.00	\$210.00	\$1214.00	\$917.00	\$636.00	\$460.00	N/A	\$400.00
30	6KGPN30301RDXXX	34	\$12712.00	\$740.00	\$1750.00	\$210.00	\$1214.00	\$945.00	\$755.00	\$510.00	N/A	\$400.00
40	6KGPN30401RDXXX	41	\$14102.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00	\$630.00	N/A	\$400.00
50	6KGPN30501RDXXX	52	\$15841.00	\$740.00	\$2000.00	\$210.00	\$1266.00	\$1333.00	\$766.00	\$770.00	N/A	\$400.00
60	6KGPN30601RDXXX	62	\$19000.00	\$890.00	\$2500.00	\$210.00	\$1320.00	\$1567.00	\$1590.00	\$910.00	N/A	\$400.00
75	6KGPN30751RDXXX	83	\$25572.00	\$1780.00	\$3500.00	\$210.00	\$1530.00	\$2213.00	\$1845.00	\$1030.00	N/A	\$400.00
100	6KGPN31002RDXXX	100	\$30401.00	\$2115.00	\$3500.00	\$210.00	\$1620.00	\$2399.00	\$1845.00	\$1170.00	N/A	\$400.00

<sup>1</sup>Drive comes standard with 3% line impedance via DC Link Reactor.

<sup>2</sup>Includes DB Chopper rated for 10% duty cycle. DB resistors must be ordered separately.

<sup>3</sup>Matrix filter is only available in NEMA 1 enclosures and is not available with Line or Load reactors.

<sup>4</sup>This option provides a CPT with a minimal 150VA additional power.



# AF-650 GP Enclosed Drive Panels

## AF-650 GP Enclosed Drives Options Pricing

### Operator Devices

Option Description	Option Code	List Adder
None (includes HOA)	X	\$0.00
Elapsed Time Meter (ETM)	E	\$275.00
Forward/Reverse Selector <sup>1,2</sup>	F	\$132.00
Drive Run & Fault Pilot Lights	L	\$250.00
Speed Potentiometer	P	\$115.00
Start/Stop Operators <sup>2</sup>	S	\$240.00

### Control Options

Option Description	Option Code	List Adder
None	X	\$0.00
Encoder Module <sup>3</sup>	E	\$400.00
Additional Input and Output <sup>3,4</sup>	M	\$600.00
Loss of Reference Control, Run @ Preset Speed <sup>5</sup>	R	\$50.00
Resolver Module <sup>3</sup>	S	\$400.00
Relay Output Module <sup>3</sup>	Y	\$475.00

### Communication Options

Option Description	Option Code	List Adder
Standard (Modbus RTU)	X	\$0.00
DeviceNet	D	\$600.00
Ethernet IP <sup>6</sup>	E	\$700.00
Profibus DP	P	\$725.00
ProfiNet RT	N	\$700.00
Modbus TCP <sup>6</sup>	M	\$700.00

<sup>1</sup>Forward/Reverse option is only available on Non-Bypass units.

<sup>2</sup>Forward/Reverse and Start/Stop options are not available together.

<sup>3</sup>Only one Control Option Card can be installed at a time.

<sup>4</sup>Via General Purpose I/O - OPCGPIO (24V DIO, 0-10V Input, second 4-20mA AO).

<sup>5</sup>Applies to 4-20mA Analog Speed Reference only.

<sup>6</sup>The Ethernet IP and Modbus TCP communication cards use two option slots.

When either is installed, no other option card can be supplied.

## Model Number and Pricing Example

### Description:

460Vac, 25HP HVAC 3 Contactor Bypass Drive with 5% AC Line Reactor, NEMA 3R Enclosure, Extra VA and Space Heater, Start/Stop Operators, an Encoder module and Modbus RTU communications.

### Model Number: 6KGP30256EDS1X

460Vac, 25 HP 3 contactor bypass drive base list price:	\$7445.00
NEMA 3R Enclosure list adder	\$1750.00
5% AC line reactor list adder:	\$1214.00
Extra VA & Space heater:	\$400.00
Start/Stop Operators:	\$240.00
Encoder Module:	\$400.00
<b>Total List Price</b>	<b>\$11449.00</b>

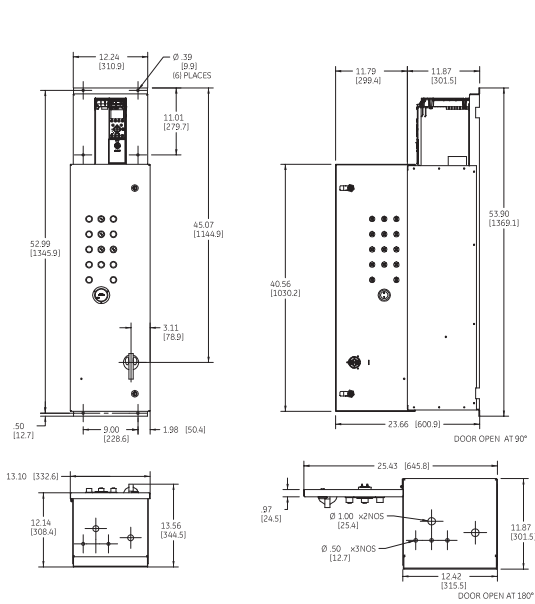


# AF-650 GP Enclosed Drive Panels

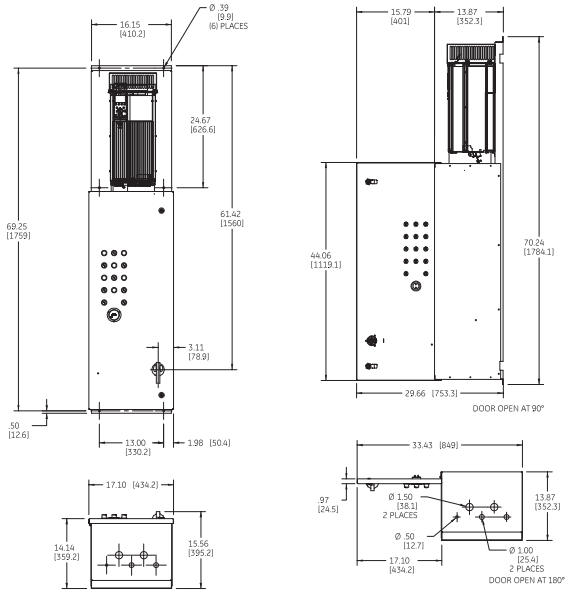
## Dimensional Drawings

### Outline Dimensions & Weights for Type 1 Enclosures

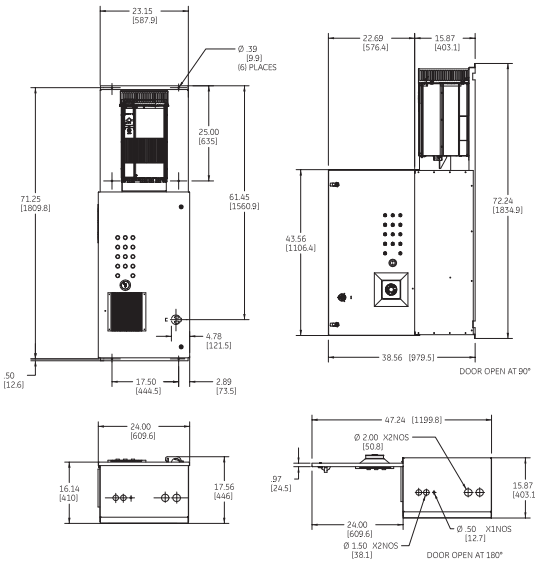
Enclosed Drive	Enclosure Type	Weight (lbs)	Weight (kgs)	H x W x D (in)	H x W x D (mm)	Drawing #
1-5 HP@208V, 1-10 HP@460V & 1-10 HP@575V	Slimline	168	76	53.90 x 13.10 x 13.56	1370 x 323 x 345	55-217761
7.5-20 HP@208V, 15-40 HP@460V & 15-40 HP@575V	Slimline	331	150	70.24 x 17.10 x 15.56	1784 x 434 x 395	55-217762
25-30 HP@208V, 50-60 HP@460V & 50-60 HP@575V	Slimline	413	187	72.24 x 24.00 x 17.56	1835 x 607 x 446	55-217763
40-50 HP@208V, 75-100 HP@460V & 75-100 HP@575V	Traditional	816	370	78.08 x 37.93 x 22.36	1983 x 963 x 567	55-217764
125-300 HP@460V	Traditional	1628	738	94.24 x 48.00 x 25.80	2394 x 1219 x 655	55-217765



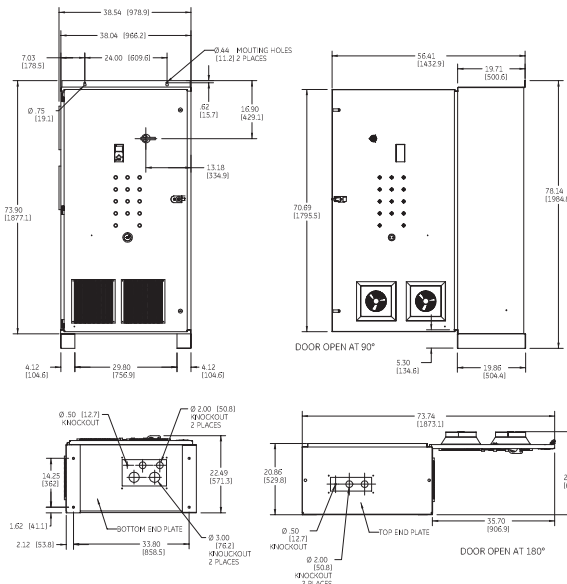
1-5 HP@208V, 1-10 HP@460V & 1-10 HP@575V



7.5-20 HP@208V, 15-40 HP@460V & 15-40 HP@575V



25-30 HP@208V, 50-60 HP@460V & 50-60 HP@575V

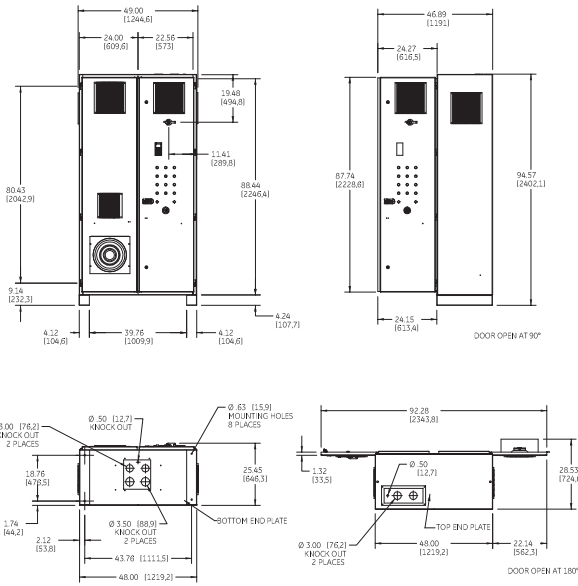


40-50 HP@208V, 75-100 HP@460V & 75-100 HP@575V

AF-650 GP Enclosed Drive Panels



# AF-650 GP Enclosed Drive Panels Dimensional Drawings



125-300 HP@460V

## Outline Dimensions & Weights for Type 12 Enclosures

Enclosed Drive	Enclosure Type	Weight (lbs)	Weight (kgs)	H x W x D (in)	H x W x D (mm)	Drawing #
1-5 HP@208V, 1-10 HP@460V & 1-10 HP@575V	Traditional	215	97	42.24 x 23.94 x 14.81	1073 x 608 x 376	55-217766
7.5-20 HP@208V, 15-40 HP@460V & 15-40 HP@575V	Traditional	434	197	56.18 x 30.94 x 18.25	1427 x 786 x 464	55-217767
25-30 HP@208V, 50-60 HP@460V & 50-60 HP@575V	Traditional	555	252	61.21 x 33.22 x 21.66	1631 x 843 x 550	55-217768
40-50 HP@208V, 75-100 HP@460V & 75-100 HP@575V	Traditional	821	372	78.14 x 39.10 x 23.09	1985 x 933 x 587	55-217769
125-300 HP@460V	Traditional	1606	729	94.48 x 49.0 x 26.09	2400 x 1245 x 663	55-217770

## Outline Dimensions & Weights for Type 3R Enclosures

Enclosed Drive	Enclosure Type	Weight (lbs)	Weight (kgs)	H x W x D (in)	H x W x D (mm)	Drawing #
1-5 HP@208V, 1-10 HP@460V & 1-10 HP@575V	Traditional	229	104	42.24 x 26.86 x 16.73	1073 x 682 x 425	55-217771
7.5-20 HP@208V, 15-40 HP@460V & 15-40 HP@575V	Traditional	452	205	56.18 x 34.86 x 21.13	1427 x 885 x 537	55-217772
25-30 HP@208V, 50-60 HP@460V & 50-60 HP@575V	Traditional	591	268	64.21 x 41.07 x 24.68	1631 x 1043 x 627	55-217773
40-50 HP@208V, 75-100 HP@460V & 75-100 HP@575V	Traditional	870	395	78.15 x 46.01 x 25.97	1985 x 1169 x 660	55-217774
125-150 HP@460V	Traditional	1271	576	94.48 x 56.89 x 28.70	2340 x 1445 x 729	55-217775

## Outline Dimensions & Weights for Disconnect Drive Type 1 Enclosures

Enclosed Drive	Enclosure Type	Weight (lbs)	Weight (kgs)	H x W x D (in)	H x W x D (mm)	Drawing #
1-20HP@460V	Slimline	120	54	31.14 x 15.15 x 14.99	791.0 x 384.8 x 380.8	270A8160
25-60HP@460V	Slimline	245	111	47.94 x 19.95 x 18.04	1217.7 x 506.7 x 458.1	270A8162
75-100HP@460V	Slimline	345	157	60.22 x 25.91 x 19.51	1529.6 x 658.1 x 495.6	270A8163
125-150HP@460V	Traditional	707	321	64.50 x 35.96 x 23.26	1638.3 x 913.4 x 590.8	270A8164
200-300HP@460V	Traditional	927	421	77.26 x 38.49 x 23.29	1962.4 x 977.7 x 591.4	270A8165
350-550HP@460V	Traditional	1575	715	87.55 x 54.00 x 26.88	2223.6 x 1371.6 x 682.8	270A8166

## Elementary and Connection Wiring Diagrams

Disconnect Drive	55-537954
Non-Bypass - with and without an Output Contactor	55-537806
2 Contactor Bypass	55-537805
3 Contactor Bypass	55-537804

Visit <http://www.geindustrial.com/drives> for additional product information including programming guides, drawings, programming software, an energy savings calculator, and much more.



# AF-6 Series Drives Demo Unit

This handy, portable demo unit is now available to show off the **built-in features and built-in simplicity** of the new AF-6 Series Drives to your customers.

It includes an AF-60 LP Micro Drive and an AF-600 FP Fan & Pump Drive. The whole unit plugs into any 120V outlet to demonstrate ease of set-up and operation.

**Order yours today and help drive up your sales of the AF-6 Series!**

## Features

- Demonstration pilot lights
- AF-60 LP Micro Drive
- AF-600 FP Fan & Pump Drive
- Protective assembly
- Power cord
- Easy transportability
- Sturdy case

## AF-6 Series Demo Unit

Dimensions	Weight	Lead Time	Product Number	List Price
17.9"H x 22.1"W x 10.4"D	46 lbs	Stock to 15 days	6KAF6DEMO	<b>\$3995.00</b>



# DV-300™ DC Drive

The DV-300 is a 3-phase, six-pulse converter which is available in either non-regenerative or fully regenerative design. The DV-300 drive controller allows for precise regulation of motor speed, current, and field (field weakening and field economy are standard). This performance and chassis packaging allows the DV-300 to be applied easily in a wide array of industries including textiles, paper converting, plastics converting, corrugating, wire drawing, rubber and plastics, metal processing, machine tools, material handling, and more.

To allow for easy start-up, the DV-300 offers two choices: an optional keypad programmer or the standard GE toolbox. The Windows®-based GE toolbox enables the user to set parameters and program converter I/O and self-tune the regulators. Archiving the drive setup allows the user to have preconfigured setups available for similar applications. These are easily maintained and save valuable time.

The DV-300 drive can handle difficult applications and complex operations with the addition of the digital general function (DGF) card. The DGF card is an optional Intel® microprocessor-based board which allows application specific regulators, provides special sequencing operations, and solves other drive control challenges.

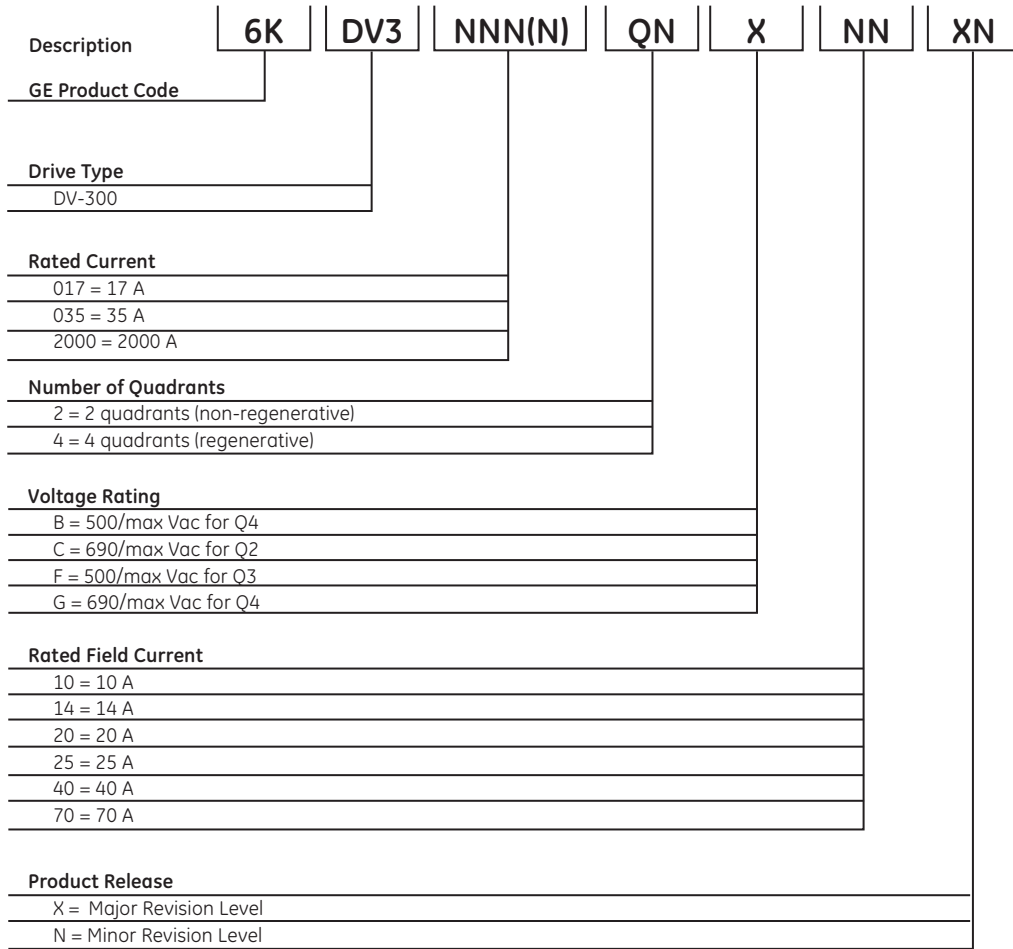
A wide range of advanced communication capabilities are available for the DV-300 drive. The drive communicates on a high-speed serial link including the following protocol options: DeviceNet™, Profibus-DP, Interbus-S, and Genius®. These communication options allow the drive, system control, and the data collection system to be easily integrated. Other options for the DV-300 include additional I/O, removable keypad programmer, and keypad door-mount kit.





# DV-300

## Product Numbering System Diagram



# DV-300

## Pricing, Dimensions and Weights

Hp		Output DC (Nominal Current)	Model No.	Catalog No.	List Price (GO-5DV)	Height (in)	Width (in)	Depth (in)	Weight (lbs)
230V	460V								
<b>DV-300 Regenerative/Reversing</b>									
5	10	17	6KDV3017Q4F10**	D6140	\$4000.00	14.2	10.4	10.8	18.5
10	20	35	6KDV3035Q4F10**	D6141	\$4200.00	14.2	10.4	10.8	18.5
15	30	56	6KDV3056Q4F10**	D6142	\$4500.00	14.2	10.4	10.8	19.4
25	50	88	6KDV3088Q4F14**	D6143	\$4900.00	14.2	10.4	10.8	27.6
30	60	112	6KDV3112Q4F14**	D6144	\$5100.00	14.2	10.4	10.8	27.6
40	75	148	6KDV3148Q4F14**	D6145	\$5600.00	14.2	10.4	10.8	27.6
60	125	224	6KDV3224Q4F20**	D6146	\$7500.00	15.3	12.2	13.3	54.0
75	150	280	6KDV3280Q4F20**	D6147	\$8200.00	15.3	12.2	13.3	65.0
100	200	336	6KDV3336Q4F20**	D6148	\$10400.00	15.3	12.2	13.3	65.0
125	250	400	6KDV3400Q4F20**	D6149	\$10900.00	15.3	12.2	13.3	65.0
135	275	450	6KDV3450Q4F20**	D6150	\$11900.00	15.3	12.2	14.5	70.5
150	300	560	6KDV3560Q4F25**	D6151	\$17900.00	20.1	20.5	15.8	134.0
250	500	850	6KDV3850Q4F25**	D6152	\$20900.00	20.1	20.5	15.8	143.3
300	800	1300	6KDV31300Q4F40**	*	\$24433.00	See Dimensions Page 105			
350	800	1350	6KDV31350Q4F40**	*	\$25577.00				
400	900	1500	6KDV31500Q4F40**	*	\$27025.00				
500	1000	1800	6KDV31800Q4F40**	*	\$31411.00				
600	1250	2000	6KDV32000Q4F40**	*	\$38780.00				

Hp		Output DC (Nominal Current)	Model No.	Catalog No.	List Price (GO-5DV)	Height (in)	Width (in)	Depth (in)	Weight (lbs)
230V	460V								
<b>DV-300 Non-Regenerative/Non-Reversing</b>									
5	10	17	6KDV3017Q2B10**	D6114	\$3700.00	14.2	10.4	10.8	18.1
10	20	35	6KDV3035Q2B10**	D6115	\$3900.00	14.2	10.4	10.8	18.1
15	30	56	6KDV3056Q2B10**	D6116	\$4000.00	14.2	10.4	10.8	19
25	50	88	6KDV3088Q2B14**	D6117	\$4150.00	14.2	10.4	10.8	25.6
30	60	112	6KDV3112Q2B14**	D6118	\$4400.00	14.2	10.4	10.8	25.6
40	75	148	6KDV3148Q2B14**	D6119	\$4800.00	14.2	10.4	10.8	25.6
60	125	224	6KDV3224Q2B20**	D6120	\$6400.00	15.3	12.2	13.3	51
75	150	280	6KDV3280Q2B20**	D6121	\$6600.00	15.3	12.2	13.3	61.7
100	200	336	6KDV3336Q2B20**	D6122	\$7100.00	15.3	12.2	13.3	61.7
125	250	400	6KDV3400Q2B20**	D6123	\$7800.00	15.3	12.2	13.3	61.7
135	275	450	6KDV3450Q2B20**	D6124	\$9000.00	15.3	12.2	14.5	61.7
150	300	560	6KDV3560Q2B25**	D6125	\$13900.00	20.1	20.5	15.8	123.5
250	500	800	6KDV3800Q2B25**	D6126	\$15400.00	20.1	20.5	15.8	143.3
300	600	1000	6KDV31000Q2B40**	*	\$16761.00	See Dimensions Page 104			
400	800	1300	6KDV31300Q2B40**	*	\$19012.00				
400	800	1400	6KDV31400Q2B40**	*	\$19606.00				
400	900	1500	6KDV31500Q2B40**	*	\$21154.00				
500	1000	1800	6KDV31800Q2B70**	*	\$23357.00				
600	1250	2000	6KDV32000Q2B70**	*	\$26148.00				
600	1250	2200	6KDV32200Q2B70**	*	\$29829.00				
700	1250	2350	6KDV32350Q2B70**	*	\$38269.00				

\* Non-Stock: Includes drive controller and external bridge. Please contact factory for more information.  
 \*\* Please contact customer service for latest revision.



# DV-300

## Options and Accessories

Description	Model No.	Catalog No.	List Price (GO-5DV)
Digital General Function Card	6KCV300DGF	A3405	\$1230.00
DeviceNet Option Card (DGF card required)	6KCV300DCN	A3404	\$240.00
DeviceNet Option Card (without DGF)	6KCV300DVN	A3410	\$745.00
Profibus-DP Bus Communication Option Card	6KCV300PDP	A3409	\$745.00
Interbus-S Bus Communication Option Card	6KCV300INS	A3408	\$805.00
RS 485/232 Converter	6KCV300CTI	A3429	\$170.00
Digital Encoder to Sinusoidal Converter (DIN rail mount)	6KDV300DES	A3402	\$220.00
I/O Expansion Option Card (discrete and analog)	6KCV300TBO	A3401	\$230.00
AV/DV-300 Keypad Programmer	6KCV300KPU	A3406	\$290.00
External Keypad Mounting Kit	6KCV300KPM	A3407	\$75.00
Win+Drive	6KCV300WPD	A3420	\$5000.00
Genius Communication Option Card	HE300GEN200	A3418	\$1450.00

### Digital General Function Card

Allows user to implement high-performance software for specific applications such as winders, position control, PID functions, etc.

### DeviceNet Option Card

Requires the use of the DGF card. Allows communication between a master DGF card and up to 63 slave DGF cards. Provides drive control and diagnostics.

### SBI DeviceNet Option Card

Allows communication between a master and up to 63 slaves. Provides drive control and diagnostics. DGF card not required.

### Profibus-DP Bus Communication Option Card

Allows connection to the Profibus fieldbus network. Provides drive control and diagnostic capabilities.

### Interbus-S Bus Communication Option Card

Allows connection to the Interbus fieldbus network. Provides drive control and diagnostic capabilities.

### RS 485/232 Converter

Converter module that allows connection between the RS 232 serial output of a computer and the RS 485 input of the AV-300™ or DV-300. This unit allows for single or multi-drop connection.

### Digital Encoder to Sinusoidal Converter

Allows the adaptation, galvanic separation, and connection of a digital encoder to the input XE1 on the drive. XE1 is supplied as a connection for a sinusoidal encoder.

### I/O Expansion Option Card

Allows the addition of four digital inputs, four digital outputs, and two analog outputs. It is possible to connect two of these per drive.

### Keypad Programmer

Allows the configuration of the drive without the need for a PC. Enable, disable, start/stop, monitor, and configure the drive using the two-line LCD display.

### External Keypad Mounting Kit

Allows for the remote mounting of the keypad. Includes a two meter cable, template, and mounting plate for door mounting.

### Win+Drive

A Windows®-based graphic programming tool used to develop custom regulator schemes, special sequencing operations, and many other drive control applications. Used in conjunction with the DGF card.

### Genius Communication Option Card

Allows connection to the Genius fieldbus network. Provides complete drive control and diagnostic capabilities



# DV-300

## Standard Specifications

### Programmable

Four Accel/Decel Ramps	Each independently adjustable from 0-65,000 s	
Ramp Types: Linear, S-Curve	S-curve shape is adjustable through special time constant parameters	
Min./Max. Speed Limits	With independent adjustments for forward and reverse speeds	
Adjustable Current Limits (Motoring and Braking)	150% for 60 s standard	
Seven Preset Speeds	Selectable through three contact closures	
Password Protection	5-digit combination, selectable by user	
Field Control	Current regulation Field weakening voltage regulation	Disable (for external field supply) Field economy
Jog Functions	Reference from internal parameter or external reference potentiometer Can be programmed with or without linear time	
Zero Speed Functionality	Includes zero speed level, zero speed threshold, and delay detection	
Tach Feedback Bypass	Drive automatically switches to armature voltage feedback if the tach signal is lost	
Catch-a-Spinning Motor (Auto Capture)	Allows restart of drive with a rotating motor	
Reset to Default Parameters	Aids in start-up and troubleshooting	

### Protective Functions

Faults Detected	Field loss	Heatsink overtemperature
	Overvoltage/undervoltage	Overcurrent
	Motor overtemperature	User's external faults
	Motor overload	Communication card failure
	Tach loss	Enable sequence error
	Option card failure	Fault data history (last ten faults)

### Standard I/O

Analog Inputs	Three differential, 12 bit Programmable and selectable for +/- 10 Vdc, 0-20 mA; 0-10 Vdc, 4-20 mA
Digital Inputs	Four fixed 24 Vdc (enable, start/stop, fast stop, external fault)
Digital Outputs	One drive OK normally open contact One programmable normally open contact
Built-in RS 485 Communication Port	Allows communication with drive for setup and troubleshooting
Sinusoidal Encoder Input (with internal 5 Vdc available from drive)	Provides the best speed regulation
Digital Tach (with internal 24 Vdc available from drive)	Utilizes standard digital tachometer for speed regulation
DC Tach Input	Utilizes analog dc tachometers for speed regulation

### Environmental Operating Conditions

Ambient Temperature	0°C to 40°C
Ambient Humidity	5-85% relative humidity (non-condensing)
Altitude	To 3300 ft (1000 m) without derating
Enclosure	IP20 - open chassis

### AC Input

Armature	230-500 Vac ± 10%, 3-phase
Control Power	115-230 Vac ± 10%, 1-phase
Field	230-460 Vac ± 10%, 1-phase

### Performance

Regenerative and Non-Regenerative	
150% Overload for 60 s	
Speed, Current, and CEMF Regulation	
16 Bit Microprocessor	
Speed Regulation	Digital encoder = 0.02% Sinusoidal enc. = 0.01% DC tach = up to .1% CEMF = 1- 2%

### Electrical Standards and Codes

Agency Approvals	CE, cUL
IEC	Low voltage directive #EN50178

### Options

2-line backlit, detachable, and removable keypad programmer	
Remote keypad mounting kit	
Communications: DeviceNet, Profibus-DP, Interbus-S, and Genius	
DGF 386 (digital general function card)	
TBO digital or analog expansion modules (maximum of two) per TBO board:	Four 24 Vdc digital inputs Four 24 Vdc digital outputs Two +10 Vdc analog outputs



# DV-300 Replacement Parts

DV-300 Non-Regenerative: 240/500 Vdc, Type 6KDV3\*\*\*Q2B..B1 ( \*\*\* = Amp Rating)

Catalog No.	Description (PC Card Name)	Rec. Parts	Size (Amp Rating)												
			017 17A	032 32A	056 56A	088 88A	112 112A	148 148A	224 224A	280 280A	336 336A	400 400A	450 450A	560 560A	800 800A
6KS550N	Main control card (R-TPD3G)	X	1	1	1	1	1	1	1	1	1	1	1	1	1
6KS5N24	Field power card (PFC1A-32)	X	1	1	1	1	1	1							
6KS5N25	Field power card (PFC2A-31)	X							1	1	1	1	1		
6KS5N03	Power supply card (SW1-31)	X	1	1	1	1	1	1							
6KS5N10	Power supply card (SW2-32)	X							1	1	1	1	1		
6KS5N97	Power supply card (SW3-32)	X												1	1
6KS595H	Power connection card (PBB-2B)		1	1	1										
6KS5N40	Power card (FIR151-2B)	X	1	1											
6KS5N41	Power card (FIR152-2B)	X			1	1	1	1							
6KS5N42	Power card (FIR251-2B)	X							1	1	1	1	1		
6KS5N23	Power card (FIR3-32-2B)	X												1	1
6KS5N14	Snubber card (SN5-31)								1	1	1	1	1	1	1
6KS5N51	Keypad (INT-KB)		1	1	1	1	1	1	1	1	1	1	1	1	1
6KS5N20	Field snubber card (SN-FC)													1	1
6KS5N15	Filter card (FL-31)													1	1
6KS5N22	Connection card (CN3)													1	1
6KS8N04	Fuse holder		2	2	2	2	2	2							
6KS8N29	Fuse holder								2	2	2	2	2	2	2
6KS824B	Field fuses - 15 A, 500 V	X	2	2	2	2	2	2							
6KS823B	Field fuses - 25 A, 600 V	X							2	2	2	2	2	2	2
6KS7H22	TA transformer	X												2	2
6KS7F72	SCR power module - 18 A	X	3												
6KS7F73	SCR power module - 25 A	X		3											
6KS7F74	SCR power module - 40 A	X			3	3									
6KS7F75	SCR power module - 55 A	X					3								
6KS7F77	SCR power module - 90 A	X						3							
6KS7F78	SCR power module - 130 A	X							3						
6KS7F79	SCR power module - 160 A	X								3					
6KS7F41	SCR power module - 210 A	X									3				
6KS7F84	SCR power module - 250 A	X										3			
6KS737F	SCR power module - 320 A	X											3		
6KS773F	SCR power module - 320 A	X												3	
6KS771F	SCR power module - 500 A	X													3
6KS7F73	Field power module - 25 A	X							1	1	1	1	1	1	1
6KS79F3	Field power module - 15 A	X	1	1											
6KS79F1	Field power module - 28 A	X			1	1	1	1							
6KS799F	Field power module - 40 A	X							1	1	1	1	1	1	1
6KF4G60	Internal fuses (G2MUF2) - 800 A, 660 V	X												3	
6KF4G61	Internal fuses (G2MUF2) - 1000 A, 660 V	X													3
6KS7G76	Fan (A-024 dc-00-0-62/72)				1										
6KS7G71	Fan (A-024-00-0 170B)					1	1	1	2	2	2	2			
6KS7G78	Fan (A-024 dc 345-B)												2		
6KS7G17	Fan (A) - 230 Vac, 50 Hz													3	3
6KS7G33	Thermal switch 85°C ±3			1	1				2	2	2	2			
6KS7G31	Thermal switch 70°C ±3					1									
6KS7G29	Thermal switch 80°C ±3							1					2		
6KS7G30	Thermal switch 90°C ±3													3	3
6KS8B28	Internal fuse - 1 A, 250 V	X	1	1	1	1	1	1							
6KS8B29	Internal fuse - 2.5 A, 250 V	X							1	1		1	1	1	1
6KS8B19	Internal fuse - 4 A, 500 V	X							3	3	3	3	3	3	3
6KS7I69	Internal fuse - 3.15 A, 250 V	X							1	1	1	1	1	1	1
6KS820B	Internal fuse - 16 A, 500 V	X							3	3	3	3	3		
6KS821B	Internal fuse - 25 A, 500 V	X												3	3

Rec. = Recommended parts

DV-300 DC Drive



# DV-300 Replacement Parts

## DV-300 Non-Regenerative: 690 Vdc, Type 6KDV3\*\*\*Q2C..C1 (\*\*\*) = Amp Rating)

Catalog No.	Description (PC Card Name)	Size (Amp Rating)						
		0900 900A	1150 1150A	1350 1350A	1500 1500A	1800 1800A	2000 2000A	2350 2350A
6KS550N	Main control card (R-TPD3G)	1	1	1	1	1	1	1
6KS5N70	Field power card (PFC-40)	1	1	1	1			
6KS5N73	Field power card (PFC-70)					1	1	1
6KS5N03	Power supply card (SW1-31)	1	1	1	1	1	1	1
6KS5N71	Power card (FIRS-61-2B)	1	1	1	1	1	1	1
6KS5C79	Driver card (PTY1-1)	6	6	6	6	6	6	6
6KS5N51	Keypad (INT-KB)	1	1	1	1	1	1	1
6KS5N72	Filter capacitor card (FS-56)	1	1	1	1	1	1	1
6KS7H22	TA transformer	2	2	2				
6KS7H23	TA transformer				2	2	2	
6KS7H30	TA transformer							2
6KS7G76	Fan (A-024 DC-00-0-62/72)		1	1	1	2	2	2
6KS7G30	Thermal switch 90°C ± 3		1	1	1	1	1	1
6KS7G53	Field fuses (FWP50)	2	2	2	2			
6KS7G54	Field fuses (FWP80)					2	2	2
6KS7F74	SCR power module - 40 A	1	1	1	1			
6KS779F	Field power module - 99 A	1	1	1	1			
6KS7F75	SCR power module - 55 A					1	1	1
6KS785F	Field power module - 120 A					1	1	1
6KS7772	SCR power module - 700 A	6						
6KS7781	SCR power module - 1000 A		6	6				
6KS7782	SCR power module - 1100 A				6			
6KS7785	SCR power module - 1600 A					6		
6KS7786	SCR power module - 1700 A						6	
6KS7789	SCR power module - 2400 A							6
6KS7791	Internal fuses - 700 A, 660 V	6						
6KS7798	Internal fuses - 900 A, 660 V		6					
6KS7801	Internal fuses - 1100 A, 660 V			6				
6KS7802	Internal fuses - 1250 A, 660 V				6			12
6KS7796	Internal fuses - 700 A, 660 V					12		
6KS7797	Internal fuses - 800 A, 660 V						12	



# DV-300 Replacement Parts

DV-300 Regenerative: 240/500 Vdc, Type 6KDV3\*\*\*Q4F..B1 (\*\*\*) = Amp Rating)

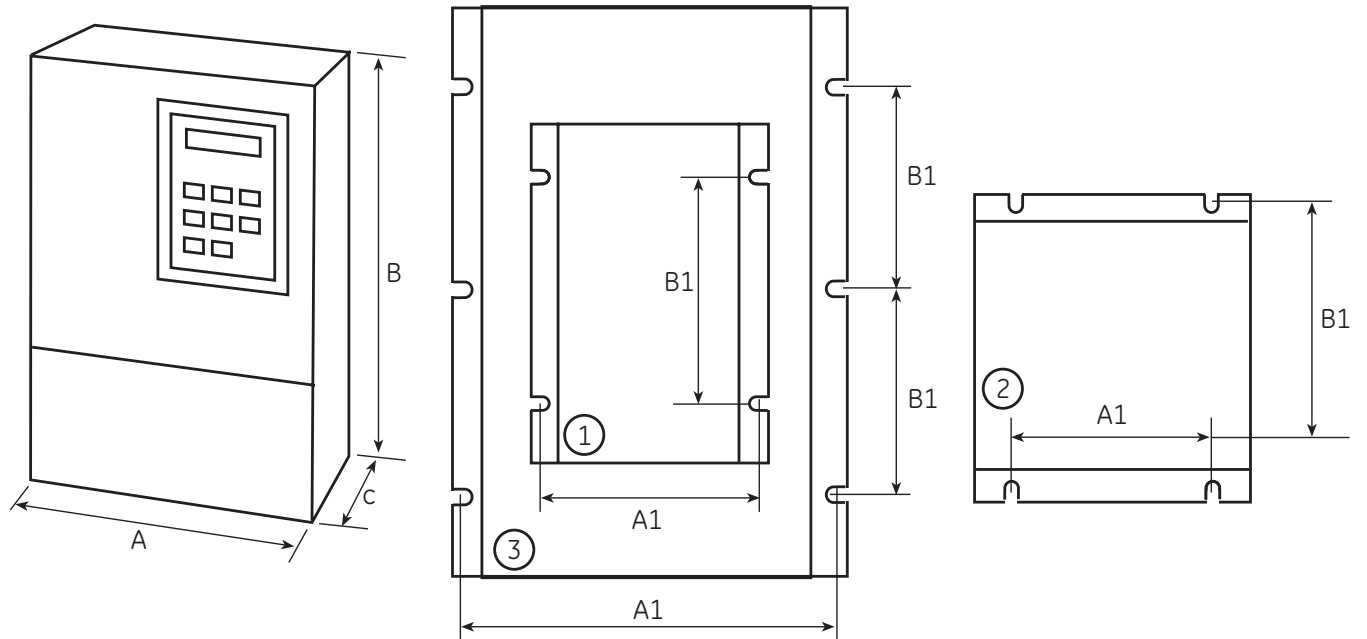
Catalog No.	Description (PC Card Name)	Rec. Part	Size (Amp Rating)												
			017 17A	032 32A	056 56A	088 88A	112 112A	148 148A	224 224A	280 280A	336 336A	400 400A	450 450A	560 560A	850 850A
6KS550N	Main control card (R-TPD3G)	X	1	1	1	1	1	1	1	1	1	1	1	1	1
6KS5N24	Field power card (PFC1A-32)	X	1	1	1	1	1	1							
6KS5N25	Field power card (PFC2A-31)	X							1	1	1	1	1		
6KS5N03	Power supply card (SW1-31)	X	1	1	1	1	1	1							
6KS5N10	Power supply card (SW2-32)	X							1	1	1	1	1		
6KS5N97	Power supply card (SW3-32)	X												1	1
6KS5H95	Power connection card (PBB)		1	1	1										
6KS5N12	Power card (FIR151)	X	1	1											
6KS5N17	Power card (FIR152)	X			1	1	1	1							
6KS5N18	Power card (FIR251)	X							1	1	1	1	1		
6KS5N21	Power card (FIR3-32)	X												1	1
6KS5N14	Snubber card (SN5-31)								1	1	1	1	1	1	1
6KS5N51	Keypad (INT-KB)		1	1	1	1	1	1	1	1	1	1	1	1	1
6KS5N20	Field snubber card (SN-FC)													1	1
6KS5N15	Filter card (FL-31)													1	1
6KS5N22	Connection card (CN3)													1	1
6KS7H22	TA transformer	X												2	2
6KS8N04	Fuse holder		2	2	2	2	2	2							
6KS8N29	Fuse holder								2	2	2	2	2	2	2
6KS824B	Field fuses - 15 A, 500 V	X	2	2	2	2	2	2							
6KS823B	Field fuses - 25 A, 600 V	X							2	2	2	2	2	2	2
6KS7F72	SCR power module - 18 A	X	6												
6KS7F73	SCR power module - 25 A	X		6											
6KS7F74	SCR power module - 40 A	X			6	6									
6KS7F75	SCR power module - 55 A	X					6								
6KS7F77	SCR power module - 90 A	X						6							
6KS7F78	SCR power module - 130 A	X							6						
6KS7F79	SCR power module - 160 A	X								6					
6KS7F41	SCR power module - 210 A	X									6				
6KS7F84	SCR power module - 250 A	X										6			
6KS737F	SCR power module - 320 A	X											6		
6KS773F	SCR power module - 320 A	X												6	
6KS771F	SCR power module - 500 A	X													6
6KS7F73	Field power module - 25 A	X							1	1	1	1	1	1	1
6KS79F3	Field power module - 15 A	X	1	1											
6KS79F1	Field power module - 28 A	X			1	1	1	1							
6KS799F	Field power module - 40 A	X							1	1	1	1	1	1	1
6KF4G59	Internal fuses (G2MUF1/) - 630 A/660 V	X												3	
6KF4G60	Internal fuses (G2MUF02/) - 800 A/660 V	X													3
6KS7G76	Fan (A-024 DC-00-0-62/72)				1										
6KS7G71	Fan (A-024-00-0 170B)					1	1	1	2	2	2	2			
6KS7G78	Fan (A-024 DC 345-B)												2		
6KS7G17	Fan (A) - 230 Vac, 50 Hz													3	3
6KS7G33	Thermal switch 85°C ±3				1	1			2	2	2	2			
6KS7G31	Thermal switch 70°C ±3						1								
6KS7G29	Thermal switch 80°C ±3							1					2		
6KS7G30	Thermal switch 90°C ±3													3	3
6KS8B28	Internal fuse - 1 A, 250 V	X	1	1	1	1	1	1							
6KS8B29	Internal fuse - 2.5 A, 250 V	X							1	1	1	1	1	1	1
6KS8B19	Internal fuse - 4 A, 500 V	X							3	3	3	3	3	3	3
6KS7169	Internal fuse - 3.15 A, 250 V	X							1	1	1	1	1	1	1
6KS820B	Internal fuse - 16 A, 500 V	X							3	3	3	3	3		
6KS821B	Internal fuse - 25 A, 500 V	X												3	3

Rec. = Recommended parts

DV-300 DC Drive



# DV-300 Dimensions



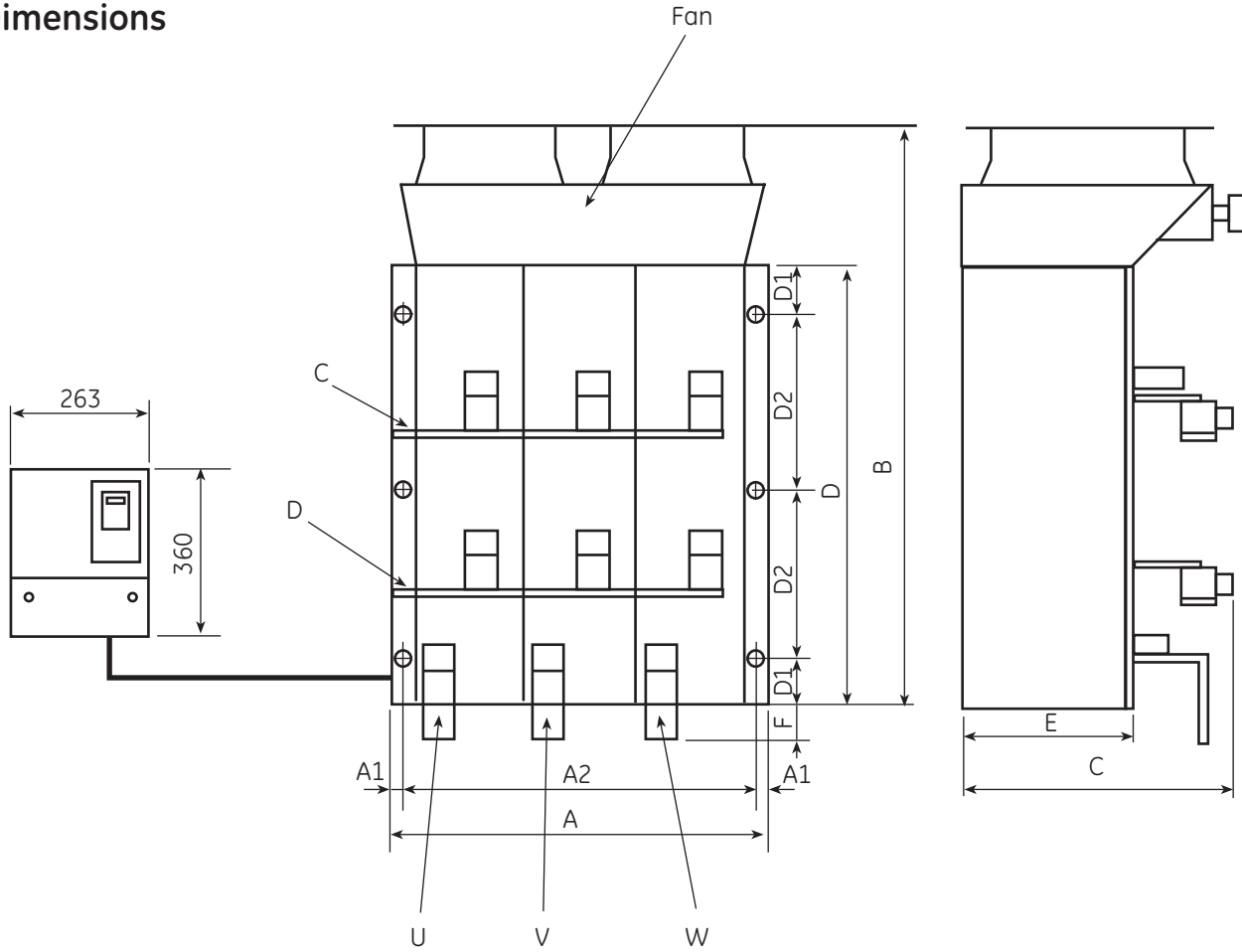
## Mechanical Dimensions of 17...850 A Q2 and Q4 Sizes

Model No.	Form	A	B	C	A1	B1	lbs
6KDV3017...	1	10.4	14.2	10.8	9.8	10.8	18.1
6KDV3035...	1	10.4	14.2	10.8	9.8	10.8	18.1
6KDV3056...	1	10.4	14.2	10.8	9.8	10.8	19
6KDV3088...	1	10.4	14.2	10.8	9.8	10.8	25.6
6KDV3112...	1	10.4	14.2	10.8	9.8	10.8	25.6
6KDV3148...	1	10.4	14.2	10.8	9.8	10.8	25.6
6KDV3224...	2	12.2	15.3	13.3	10.8	14.8	51.0
6KDV3280...	2	12.2	15.3	13.3	10.8	14.8	61.7
6KDV3336...	2	12.2	15.3	13.3	10.8	14.8	61.7
6KDV3400...	2	12.2	15.3	13.3	10.8	14.8	61.7
6KDV3450...	2	12.2	15.3	13.3	10.8	14.8	61.7
6KDV3560...	3	20.5	20.1	15.8	19.7	7.9	123.5
6KDV3800...	3	20.5	20.1	15.8	19.7	7.9	143.3
6KDV3850...	3	20.5	20.1	15.8	19.7	7.9	143.3





# DV-300 Dimensions



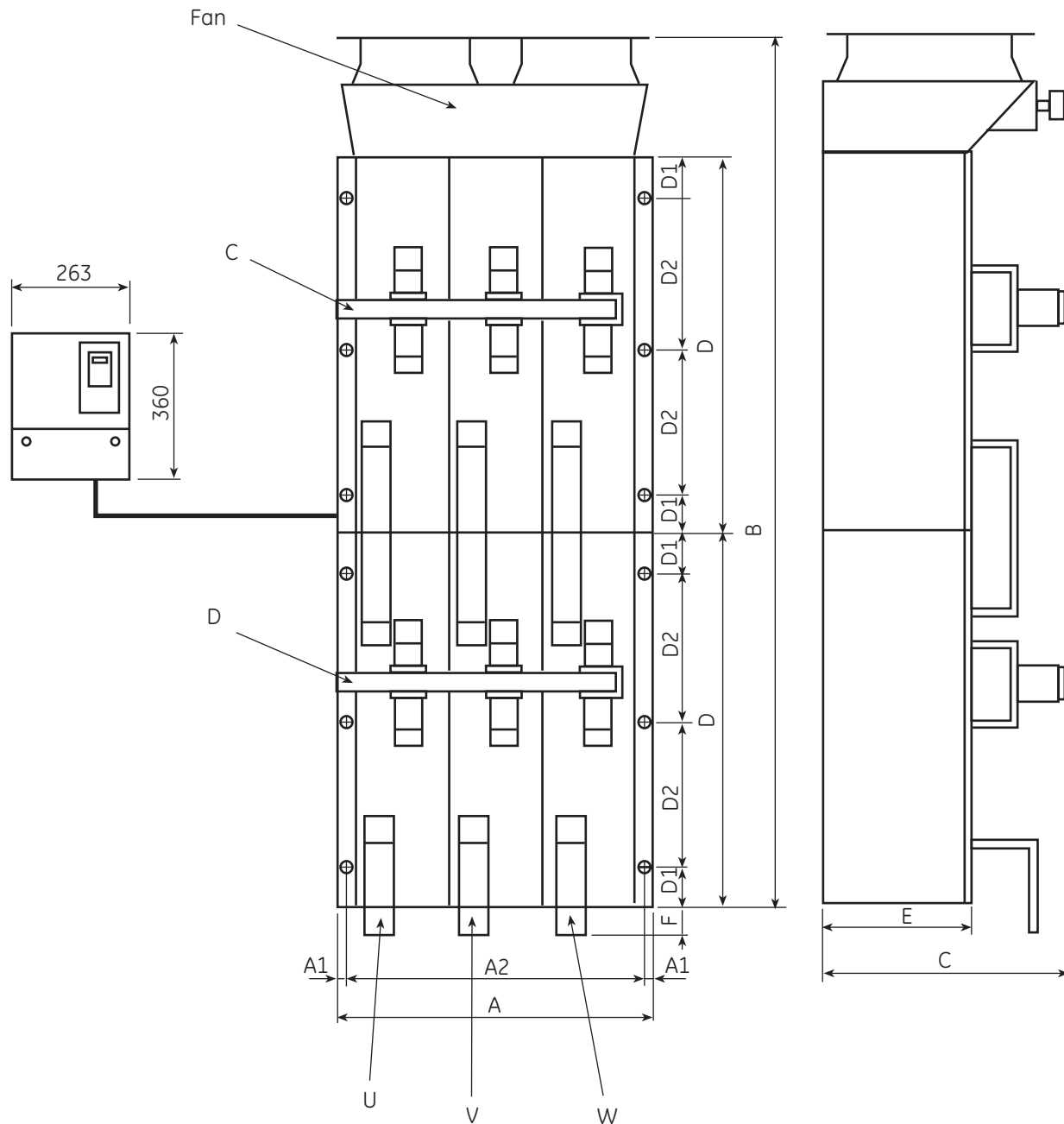
## Mechanical Dimensions of 900 A...2350 and Q2 Sizes

Model No.	A	B	C	D	E	F	A1	A2	D1	D2	lbs
6KDV30900Q2C...	19.7	22.44	10.82	14.17	6.02	2.95	0.39	18.89	1.96	—	144
6KDV31000Q2B...	19.7	22.44	10.82	14.17	6.02	2.95	0.39	18.89	1.96	—	144
6KDV31150Q2C...	19.7	29.92	10.82	21.65	6.02	3.74	0.39	18.89	1.96	8.85	154
6KDV31300Q2B...	19.7	29.92	10.82	21.65	6.02	3.74	0.39	18.89	1.96	8.85	154
6KDV31350Q2C...	24.4	30.07	14.17	21.65	9.17	3.74	0.39	23.62	1.96	8.85	221
6KDV31400Q2B...	19.7	29.92	10.82	21.65	6.02	3.74	0.39	18.89	1.96	8.85	154
6KDV31500Q2B...	19.7	29.92	10.82	21.65	6.02	3.74	0.39	18.89	1.96	8.85	154
6KDV31500Q2C...	24.4	30.07	14.17	21.65	9.17	3.74	0.39	23.62	1.96	8.85	221
6KDV31800Q2B...	24.4	30.07	14.17	21.65	9.17	3.74	0.39	23.62	1.96	8.85	221
6KDV31800Q2C...	28.0	30.51	15.55	22.04	10.03	3.93	0.39	27.24	1.96	9.05	309
6KDV32000Q2B...	28.0	30.9	15.55	25.98	10.03	3.93	0.39	27.24	1.96	11.02	309
6KDV32000Q2C...	28.0	30.51	15.55	22.04	10.03	3.93	0.39	27.24	1.96	9.05	309
6KDV32200Q2B...	28.0	30.51	15.55	22.04	10.03	3.93	0.39	27.24	1.96	9.05	309
6KDV32350Q2B...	32.28	46.45	20.66	34.44	11.61	5.90	0.39	31.49	0.98	11.81	574
6KDV32350Q2C...	32.28	46.45	20.66	34.44	11.61	5.90	0.39	31.49	0.98	11.81	574

DV-300 DC Drive



# DV-300 Dimensions



**Mechanical Dimensions of 900 A...2000 and Q4 Sizes**

Model No.	A	B	C	D	E	F	A1	A2	D1	D2	lbs
6KDV3090Q4G...	19.7	29.92	10.82	21.65	6.02	2.95	0.39	18.89	1.96	8.85	154
6KDV31150Q4G...	19.7	51.57	14.76	21.65	6.02	3.74	0.39	18.89	1.96	8.85	287
6KDV31300Q4F...	19.7	51.57	14.76	21.65	6.02	3.74	0.39	18.89	1.96	8.85	287
6KDV31350Q4F...	19.7	51.57	14.76	21.65	6.02	3.74	0.39	18.89	1.96	8.85	287
6KDV31350Q4G...	24.4	51.73	18.70	21.65	9.17	3.74	0.39	23.62	1.96	8.85	375
6KDV31500Q4F...	19.7	51.57	14.76	21.65	6.02	3.74	0.39	18.89	1.96	8.85	287
6KDV31500Q4G...	24.4	51.73	18.70	21.65	9.17	3.74	0.39	23.62	1.96	8.85	375
6KDV31800Q4F...	24.4	51.73	18.70	21.65	9.17	3.74	0.39	23.62	1.96	8.85	375
6KDV31800Q4G...	28.0	52.55	18.70	22.04	10.03	3.74	0.39	27.24	1.96	9.05	530
6KDV32000Q4F...	28.0	52.55	18.70	22.04	10.03	3.74	0.39	27.24	1.96	9.05	530
6KDV32000Q4G...	28.0	52.55	18.70	22.04	10.03	3.74	0.39	27.24	1.96	9.05	530



# Line/Load Reactors

## Up to 600V

### Motor Protection

Reactors help to protect motors from the high peak voltages and fast rise times (dv/dt) which can be experienced in IGBT inverter applications when the distance between the inverter and motor is long.

### Harmonic Reduction

Because all standard GE Line/Load reactors are compensated for harmonics (current and frequency), they are extremely effective at reducing the amount of harmonics which are produced by a drive/inverter. Use 5% impedance, harmonic compensated reactors for best reaction of harmonic distortion.

### Voltage Spike Protection

A 3% impedance reactor is very effective at protecting against damage to or nuisance tripping of AC voltage source inverters, due to voltage spikes.

Voltage spikes on the AC power lines cause elevation of the DC Bus voltage which may cause the inverter to "trip-off" and indicate an over-voltage protection condition. Use reactors to absorb these line spikes and offer protection to the rectifiers and DC Bus capacitors while minimizing nuisance tripping of the inverter.

Cabinet Product Number	List Price GO-52	NEMA 1 Enclosure Style	Type	W	H	D	Wgt (lbs.)
37GCAB8	\$146.00	CAB-8	Wall Mount	8	8	6	7
37GCAB13V	\$240.00	CAB-13V	Floor	13.22	13	13.09	31
37GCAB17V	\$650.00	CAB-17V	Floor	17	24	18.38	45
37GCAB26C	\$1564.00	CAB-26C	Floor	17.54	31	20.90	180

#### Outline Dimensions

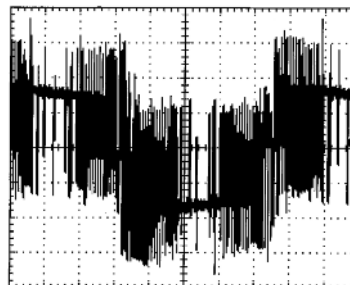
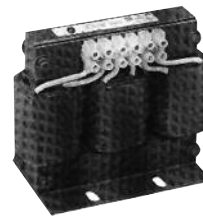
Exact terminal configuration may be different than shown. For exact terminal configuration contact factory for outline drawing.

### Agency Approvals

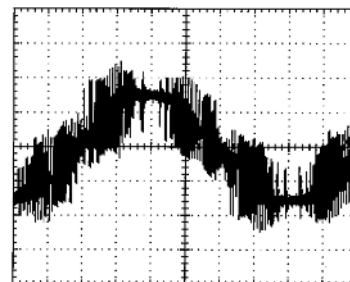
- GE line reactors are UL recognized.
- All UL approvals are for USA and Canada.
- UL-506 File #E191687 (1 amp-1200 amps)
- UL-508 File #E191686 (1 amp-1200 amps)
- All higher currents offer UL recognized insulation systems and construction.
- CE Marked

### NEMA 1 Cabinets

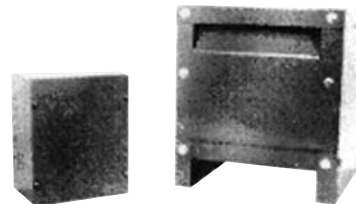
All GE Line/Load Reactors are available as either open type or in a NEMA Type 1 general purpose enclosure. To order a reactor mounted in a cabinet simply change the second to last digit of the product number from "0" to "1". Example 37G 00802 becomes 37G 00812.



Typical Harmonic Distortion of PWM Inverter Without Reactor



With 5% Impedance Reactor



# Line/Load Reactors Up to 600V

Selection Table\* 600 Volts, 50/60 Hertz (open Type)

Ratings	HP/kw	1/7.5	1.5/1.1	2/1.5	3/2.2	5/3.7	7.5/5.5	10/7.5	15/11	20/15	25/18.5	30/22	40/30
208 Volts	3% Impedance	37G 00401	37G 00801	37G 00801	37G 01201	37G 01801	37G 02501	37G 03501	37G 04501	37G 05501	37G 08001	37G 10001	37G 13001
	5% Impedance	37G 00402	37G 00802	37G 00802	37G 01202	37G 01802	37G 02502	37G 03502	37G 04502	37G 05502	37G 08002	37G 10002	37G 13002
240 Volts	3% Impedance	37G 00401	37G 00801	37G 00801	37G 01201	37G 01801	37G 02501	37G 03501	37G 04501	37G 05501	37G 08001	37G 10001	37G 13001
	5% Impedance	37G 00402	37G 00802	37G 00802	37G 01202	37G 01802	37G 02502	37G 03502	37G 04502	37G 05502	37G 08002	37G 10002	37G 13002
380 Volts	2% Impedance	37G 00204	37G 00402	37G 00401	37G 00802	37G 00801	37G 01201	37G 01801	37G 02501	37G 03501	37G 04501	37G 04501	37G 08001
	4% Impedance	37G 00201	37G 00404	37G 00402	37G 00803	37G 00802	37G 01202	37G 01802	37G 02502	37G 03502	37G 04502	37G 04502	37G 08002
400 Volts	2% Impedance	37G 00201	37G 00402	37G 00402	37G 00802	37G 00801	37G 01201	37G 01801	37G 02501	37G 03501	37G 04501	37G 04501	37G 05501
	4% Impedance	37G 00202	37G 00404	37G 00403	37G 00803	37G 00802	37G 01202	37G 01802	37G 02502	37G 03502	37G 04502	37G 04502	37G 05502
415 Volts	2% Impedance	37G 00201	37G 00402	37G 00402	37G 00802	37G 00801	37G 01201	37G 01801	37G 02501	37G 03501	37G 04501	37G 04501	37G 05501
	4% Impedance	37G 00202	37G 00404	37G 00403	37G 00803	37G 00802	37G 01202	37G 01802	37G 02502	37G 03502	37G 04502	37G 04502	37G 05502
480 Volts	3% Impedance	37G 00201	37G 00201	37G 00402	37G 00402	37G 00802	37G 01202	37G 01802	37G 02502	37G 03502	37G 03502	37G 04502	37G 05502
	5% Impedance	37G 00202	37G 00202	37G 00403	37G 00403	37G 00803	37G 01203	37G 01803	37G 02503	37G 03503	37G 03503	37G 04503	37G 05503
600 Volts	3% Impedance	37G 00202	37G 00202	37G 00403	37G 00403	37G 00803	37G 00802	37G 01202	37G 01802	37G 02502	37G 02502	37G 03502	37G 04502
	5% Impedance	37G 00203	37G 00203	37G 00404	37G 00404	37G 00804	37G 00803	37G 01203	37G 01803	37G 02503	37G 02503	37G 03503	37G 04503

\*For maximum continuous current ratings refer to Specifications on next page.

Ratings	HP/kw	50/37.5	60/45	75/55	100/75	125/93	150/112	200/150	250/187	300/225	350/262	400/300	500/375	600/450	750/550
208 Volts	3% Impedance	37G 16001	37G 20001B14	37G 25001B14	37G 32001B14	37G 40001B14	37G 50001	37G 60001	37G 75001						
	5% Impedance	37G 16002	37G 20002B14	37G 25002B14	37G 32002B14	37G 40002B14	37G 50002	37G 60002	37G 75002						
240 Volts	3% Impedance	37G 13001	37G 16001	37G 20001B14	37G 25001B14	37G 32001B14	37G 40001B14	37G 50001	37G 60001	37G 75001					
	5% Impedance	37G 13002	37G 16002	37G 20002B14	37G 25002B14	37G 32002B14	37G 40002B14	37G 50002	37G 60002	37G 75002					
380 Volts	2% Impedance	37G 08001	37G 10001	37G 10001	37G 16001	37G 20001B14	37G 25001B14	37G 32002B14	37G 40001B14	37G 40001B14	37G 50001	37G 60001	37G 75002		
	4% Impedance	37G 08002	37G 10002	37G 10002	37G 16002	37G 20002B14	37G 25002B14	37G 32003B14	37G 40002B14	37G 40002B14	37G 50002	37G 60002	37G 75003		
400 Volts	2% Impedance	37G 08001	37G 08001	37G 10001	37G 13001	37G 20002B14	37G 25002B14	37G 32002B14	37G 32001B14	37G 40001B14	37G 50001	37G 50002	37G 75002		
	4% Impedance	37G 08002	37G 08002	37G 10002	37G 13002	37G 20003B14	37G 25003B14	37G 32003B14	37G 32002B14	37G 40002B14	37G 50002	37G 60003	37G 75003		
415 Volts	2% Impedance	37G 08001	37G 08001	37G 10001	37G 13001	37G 20002B14	37G 20002B14	37G 25001B14	37G 32001B14	37G 40001B14	37G 50001	37G 50001	37G 75002	37G 75002	
	4% Impedance	37G 08002	37G 08002	37G 10002	37G 13002	37G 20003B14	37G 20003B14	37G 25002B14	37G 32002B14	37G 40002B14	37G 50002	37G 50002	37G 75003	37G 75003	
480 Volts	3% Impedance	37G 08002	37G 08002	37G 10002	37G 13002	37G 16002	37G 20002B14	37G 25002B14	37G 32002B14	37G 40002B14	37G 50002	37G 50002	37G 60002	37G 75002	
	5% Impedance	37G 08003	37G 08003	37G 10003	37G 13003	37G 16003	37G 20003B14	37G 25003B14	37G 32003B14	37G 40003B14	37G 50003	37G 50003	37G 60003	37G 75003	
600 Volts	3% Impedance	37G 05502	37G 08002	37G 08002	37G 10002	37G 13002	37G 16002	37G 20002B14	37G 25002B14	37G 32002B14	37G 40002B14	37G 40002B14	37G 50002	37G 60002	37G 75002
	5% Impedance	37G 05503	37G 08003	37G 08003	37G 10003	37G 13003	37G 16003	37G 20003B14	37G 25003B14	37G 32003B14	37G 40003B14	37G 40003B14	37G 50003	37G 60003	37G 75003

Consult Factory

## For Input or Output of Adjustable Speed Drive/Inverter Systems

\*For higher or lower current ratings, consult factory.

\*For other voltages or frequencies, consult factory. Single phase reactors are also available, consult factory for proper selection.

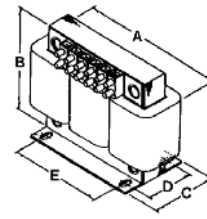
This table is suitable for selection of both input and output reactors because their harmonic compensation and IGBT protection allow them to be used in either application. Specific current and inductance ratings are indicated on next page. Consult factory for any special applications (higher current, motor rating different than controller rating, etc.)

Select GE Line/Load reactors based upon motor horsepower, (or kilowatts) and voltage. Verify that the motor full load ampere rating is within the fundamental current rating of the reactor, and the drive/inverter rating is within the maximum continuous rating of the reactor (See next page).



# Line/Load Reactors

## 3-Phase Reactors: Line/Load Specifications Table



### 600 Volts, 50/60 hz (Open Type)

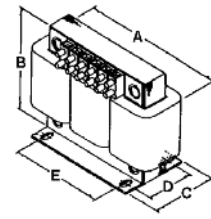
Open Type Product Number	List Price, Open Type GO-52	Fundamental Amps	Max. Amps	Inductance	Watts Loss	A mm/in.	B mm/in.	C mm/in.	D mm/in.	E mm/in.	Open Type Wgt. Kg/Lbs.	NEMA 1 Enclosure Style	List Price, NEMA GO-52
37G00201	\$188.00	2	3	12.0mh	7.5	112/4.4	102/4.0	74/2.8	50/2.0	36/1.44	1.8/4	CAB-8	\$350.00
37G00202	\$198.00	2	3	20.0mh	11.3	112/4.4	102/4.0	74/2.9	50/2.0	36/1.44	1.8/4	CAB-8	\$362.00
37G00203	\$226.00	2	3	32.0mh	16	112/4.4	102/4.0	74/2.9	50/2.0	36/1.44	1.8/4	CAB-8	\$390.00
37G00204	\$164.00	2	3	6.0mh	10.7	112/4.4	102/4.0	69/2.7	44/1.73	36/1.44	1.4/3	CAB-8	\$326.00
37G00401	\$190.00	4	6	3.0mh	14.5	112/4.4	102/4.0	74/2.9	50/2.0	36/1.44	1.8/4	CAB-8	\$352.00
37G00402	\$196.00	4	6	6.5mh	20	112/4.4	102/4.0	74/2.9	50/2.0	36/1.44	2.3/4	CAB-8	\$360.00
37G00403	\$204.00	4	6	9.0mh	20	112/4.4	102/4.0	79/3.1	54/2.1	36/1.44	1.8/5	CAB-8	\$368.00
37G00404	\$234.00	4	6	12.0mh	21	112/4.4	102/4.0	91/3.6	66/2.6	36/1.44	2.7/6	CAB-8	\$400.00
37G00801	\$200.00	8	12	1.5mh	19.5	152/6.0	122/4.8	79/3.1	54/2.1	50/2.0	3.1/7	CAB-8	\$364.00
37G00802	\$224.00	8	12	3.0mh	29	152/6.0	122/4.8	79/3.1	54/2.1	50/2.0	3.2/8	CAB-8	\$388.00
37G00803	\$306.00	8	12	5.0mh	25.3	152/6.0	122/4.8	86/3.4	63/2.5	50/2.0	5.0/11	CAB-8	\$474.00
37G00804	\$314.00	8	12	7.5mh	28	152/6.0	122/4.8	86/3.4	63/2.5	50/2.0	5.9/13	CAB-8	\$484.00
37G01201	\$236.00	12	18	1.25mh	26	152/6.0	122/4.8	79/3.1	54/2.1	50/2.0	4.0/9	CAB-8	\$402.00
37G01202	\$250.00	12	18	2.5mh	31	152/6.0	122/4.8	79/3.1	54/2.1	50/2.0	4.5/10	CAB-8	\$416.00
37G01203	\$360.00	12	18	4.2mh	41	152/6.0	122/4.8	94/3.7	70/2.75	50/2.0	8.1/18	CAB-8	\$532.00
37G01801	\$308.00	18	27	0.8mh	36	152/6.0	122/4.8	79/3.1	54/2.1	50/2.0	4.0/9	CAB-8	\$476.00
37G01802	\$316.00	18	27	1.5mh	43	152/6.0	122/4.8	86/3.4	53/2.5	50/2.0	5.4/12	CAB-8	\$486.00
37G01803	\$418.00	18	27	2.5mh	43	183/7.2	145/5.7	97/3.8	66/2.6	76/3.0	7.3/16	CAB-13V	\$690.00
37G02501	\$322.00	25	37.5	0.5mh	48	183/7.2	142/5.6	86/3.4	60/2.3	76/3.0	5.0/11	CAB-13V	\$590.00
37G02502	\$364.00	25	37.5	1.2mh	52	183/7.2	142/5.6	86/3.4	60/2.3	76/3.0	6.3/14	CAB-13V	\$634.00
37G02503	\$430.00	25	37.5	0.8mh	61	183/7.2	145/5.7	97/3.8	66/2.6	76/3.0	8.1/18	CAB-13V	\$704.00
37G03501	\$364.00	35	52.5	0.4mh	49	183/7.2	142/5.6	97/3.8	66/2.6	76/3.0	6.3/14	CAB-13V	\$634.00
37G03502	\$382.00	35	52.5	0.8mh	54	183/7.2	145/5.7	97/3.8	66/2.6	76/3.0	7.3/16	CAB-13V	\$654.00
37G03503	\$570.00	35	52.5	1.2mh	54	229/9.0	178/7.0	122/4.8	80/3.2	76/3.0	14/30	CAB-13V	\$850.00
37G04501	\$480.00	45	67.5	0.3mh	54	229/9.0	178/7.0	122/4.8	80/3.2	76/3.0	10/23	CAB-13V	\$756.00
37G04502	\$504.00	45	67.5	0.7mh	62	229/9.0	178/7.0	122/4.8	80/3.2	76/3.0	13/28	CAB-13V	\$782.00
37G04503	\$668.00	45	67.5	1.2mh	65	229/9.0	178/7.0	136/5.3	93/3.6	76/3.0	18/39	CAB-13V	\$954.00
37G05501	\$508.00	55	82.5	0.26mh	64	229/9.0	178/7.0	122/4.8	80/3.2	76/3.0	11/24	CAB-13V	\$786.00
37G05502	\$532.00	55	82.5	0.50mh	67	229/9.0	178/7.0	122/4.8	80/3.2	76/3.0	12/27	CAB-13V	\$810.00
37G05503	\$676.00	55	82.5	0.85mh	71	229/9.0	178/7.0	142/5.6	99/3.9	76/3.0	18/41	CAB-13V	\$962.00
37G08001	\$590.00	80	120	0.20mh	82	274/10.8	208/8.2	142/5.6	88/3.5	92/3.6	19/43	CAB-13V	\$872.00
37G08002	\$624.00	80	120	0.40mh	86	274/10.8	211/8.3	142/5.6	88/3.5	92/3.6	23/51	CAB-13V	\$908.00
37G08003	\$1098.00	80	120	0.70mh	96	274/10.8	213/8.4	160/6.3	117/4.6	82/3.6	25/55	CAB-13V	\$1404.00

\*To order a reactor mounted in NEMA 1 enclosure simply change the second to last digit of the product number from "0" to "1".



# Line/Load Reactors

## 3-Phase Reactors: Line/Load Specifications Table



### 600 Volts, 50/60 hz (Open Type)

Open Type Product Number	List Price, Open Type GO-52	Fundamental Amps	Max. Amps	Inductance	Watts Loss	A mm/in.	B mm/in.	C mm/in.	D mm/in.	E mm/in.	Open Type Wgt. Kg/Lbs.	NEMA 1 Enclosure Style	List Price, NEMA GO-52
37G10001	\$794.00	100	150	0.15mh	94	274/10.8	211/8.3	142/5.6	88/3.5	92/3.6	21/47	CAB-13V	\$1086.00
37G10002	\$872.00	100	150	0.30mh	84	274/10.8	208/8.2	147/5.8	93/3.6	92/3.6	23/51	CAB-13V	\$1168.00
37G10003	\$1282.00	100	150	0.45mh	108	274/10.8	213/8.4	160/6.3	106/4.2	92/3.6	33/74	CAB-13V	\$1598.00
37G13001	\$880.00	130	195	0.10mh	108	229/9.0	179/7.04	124/4.9	80/3.16	76/3	13/29	CAB-13V	\$1176.00
37G13002	\$992.00	130	195	0.20mh	180	274/10.8	213/8.4	171/6.75	93/3.66	92/3.63	26/57	CAB-13V	\$1294.00
37G13003	\$1310.00	130	195	0.30mh	128	274/10.8	213/8.4	184/7.25	106/4.16	92/3.63	29/64	CAB-13V	\$1628.00
37G16001	\$1098.00	160	240	0.075mh	116	274/10.8	213/8.4	146/5.75	80/3.16	92/3.63	18/40	CAB-13V	\$1404.00
37G16002	\$1226.00	160	240	0.150mh	149	274/10.8	213/8.4	152/6	88/3.47	92/3.63	22/50	CAB-13V	\$1540.00
37G16003	\$1474.00	160	240	0.230mh	138	274/10.8	213/8.4	181/7.13	106/4.16	92/3.63	31/67	CAB-13V	\$1800.00
37G20001B14	\$1178.00	200	300	0.055mh	124	274/10.8	213/8.4	152/6	106/4.16	92/3.63	22/48	CAB-13V	\$1488.00
37G20002B14	\$1436.00	200	300	0.110mh	168	274/10.8	213/8.4	216/8.5	112/4.41	92/3.63	31/67	CAB-13V	\$1760.00
37G20003B14	\$1800.00	200	300	0.185mh	146	274/10.8	267/10.5	237/9.35	150/5.91	92/3.63	46/100	CAB-13V	\$2142.00
37G25001B14	\$1334.00	250	375	0.045mh	154	274/10.8	208/8.17	184/7.25	106/4.16	92/3.63	31/68	CAB-13V	\$1652.00
37G25002B14	\$2080.00	250	375	0.090mh	231	366/14.4	356/14	210/8.25	131/5.16	117/4.6	49/106	CAB-17V	\$2866.00
37G25003B14	\$3190.00	250	375	0.150mh	219	366/14.4	356/14	288/11.35	148/5.82	117/4.6	64/140	CAB-17V	\$4032.00
37G32001B14	\$2102.00	320	480	0.040mh	224	366/14.4	356/14	168/6.6	129/5.07	117/4.6	50/110	CAB-17V	\$2890.00
37G32002B14	\$2432.00	320	480	0.075mh	264	375/14.75	356/14	257/10.13	149/5.88	117/4.6	57/125	CAB-17V	\$3236.00
37G32003B14	\$3410.00	320	480	0.125mh	351	366/14.4	356/14	330/13	181/7.13	117/4.6	86/190	CAB-17V	\$4264.00
37G40001B14	\$2294.00	400	600	0.030mh	231	366/14.4	356/14	254/10	131/5.16	117/4.6	46/100	CAB-17V	\$3092.00
37G40002B14	\$3416.00	400	600	0.060mh	333	394/15.5	356/14	292/11.5	172/6.76	117/4.6	71/155	CAB-17V	\$4270.00
37G40003B14	\$4182.00	400	600	0.105mh	293	394/15.5	356/14	368/14.5	184/7.26	117/4.6	91/200	CAB-17V	\$5074.00
37G50001B14	\$2452.00	500	750	0.025mh	266	394/15.5	356/14	267/10.5	140/5.5	117/4.6	55/120	CAB-17V	\$3256.00
37G50002	\$3614.00	500	750	0.050mh	340	394/15.5	356/14	330/13	172/6.76	117/4.6	82/180	CAB-1726C	\$5438.00
37G50003	\$4854.00	500	700	0.085mh	422	394/15.5	356/14	375/14.75	248/9.76	117/4.6	132/290	CAB-1726C	\$6738.00
37G60001	\$2992.00	600	900	0.020mh	307	394/15.5	356/14	279/11	168/6.66	117/4.6	73/160	CAB-1726C	\$4784.00
37G60002	\$4230.00	600	900	0.040mh	414	394/15.5	356/14	356/14	172/6.76	117/4.6	96/210	CAB-1726C	\$6084.00
37G60003	\$6714.00	600	840	0.065mh	406	394/15.5	356/14	394/15.5	235/9.26	117/4.6	132/290	CAB-1726C	\$8692.00
37G75001	\$4734.00	750	1125	0.015mh	427	559/22	508/20	254/10	168/6.63	183/7.2	91/200	CAB-30B26C	\$6614.00
37G75002	\$6118.00	750	1125	0.029mh	630	559/22	508/20	317/12.5	197/7.76	183/7.2	141/310	CAB-30B26C	\$8066.00
37G75003	\$8690.00	750	1125	0.048mh	552	559/22	508/20	376/14.8	242/9.51	183/7.2	183/400	CAB-30B26C	\$10714.00

\*To order a reactor mounted in NEMA 1 enclosure simply change the second to last digit of the product number from "0" to "1".



# Matrix Series D Harmonic Filters

Matrix Harmonic filters provide broadband reduction of harmonics. Matrix Harmonic Filters not only offer better performance over other broad band filtering and 18-pulse harmonic reduction techniques, they are also suitable for a wider range of applications. Matrix Harmonic Filters can be installed in either variable or constant torque drive applications and can be applied on either diode or SCR rectifiers. For any application other than variable torque applications, it is suggested that you contact the factory for filter selection.

## Typical Applications

Use Matrix Harmonic filters to minimize harmonic current distortion in these and other 6-pulse rectifier applications:

- Fans and Pumps
- Water Treatment Facilities
- HVAC Systems
- AC or DC Motor Drives
- Rectifier type welders
- Induction Heating Equipment
- UPS Equipment
- Elevators

Matrix Filter enables most AC drive systems to comply with the voltage and current distortion limits outlined in IEEE 519. A complete harmonic analysis and product selection tool is available on the internet. Go to [geindustrial.com](http://geindustrial.com) and select Products, select Capacitors, choose Matrix Harmonic Filter and then select Energy Savings Calculator and Harmonic Estimator.

Matrix Harmonic Filters are multi-stage low pass filters specially configured to avoid the attraction of harmonics from other sources on a shared power system. Matrix filters will not cause power system resonance. However, the configuration of the filter requires that only drives or equivalent loads be loaded on the output of a Matrix harmonic filter. One filter can be used with multiple drives. However, if there is a drive bypass circuit, there must be one filter per drive and the filter and drive combination must be bypassed.

Matrix Harmonic Filters are available in a NEMA 1, NEMA 3R or as a modular design preassembled onto panels for subsequent assembly into customer supplied cabinet.

## Product Specifications

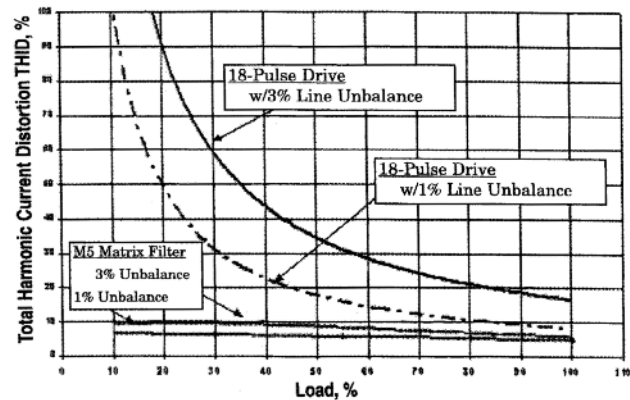
- Input Voltage 480 Volts +/- 10%
- Ambient Temperature:
  - Storage - 40°C to 90°C
  - Operating - 40°C to 50°C
- Altitude: 1000 meters maximum
- UL approved - File E191686 for U.S. and Canada

## Minimum System Requirements to Achieve Performance Levels

- Source Impedance: 1.5% minimum to 5% maximum
- System voltage: 480 volts (line to line) +/- 10%
- Frequency: 60 Hz +/- .75 Hz
- Balanced Line Voltage: within 1%
- Background Voltage Distortion: 0% THVD

The Matrix D Filters typically achieve 5% THID at full load and guarantee worst case current distortion at any load between 0% and 100%, will be 8% THID or less at the filter input terminals. The Matrix D Series is typically used in place of applications requiring harmonic mitigation associated with 12- or 18-pulse rectifiers. The chart below compares the performance of Matrix D Filters to 18-pulse rectifiers in real world applications, which include line voltage unbalance of 1% to 3% and loading conditions from 0% to 100%.

Matrix D Filter performs better than 18-pulse in normal operating conditions.



Matrix D vs. 18-pulse



# Matrix Series D Harmonic Filters

## Selection Table

Matrix D, 480 VAC, 60 HZ, Three Phase, Variable Torque

### Applications

Select Matrix filters based on the horsepower (or kilowatt) rating for the adjustable speed drive or the combined current rating of all motors to be connected to the load side of the filter. For variable torque, DC drive or other applications consult factory for proper filter selection.

### Source Impedance

If the source impedance is less than 1.5% impedance, it is required that an input reactor of at least 1.5% impedance be added in order to have guaranteed performance level. For best value and performance it is recommended that a 3% line reactor be used whenever the source impedance is less than 1.5%.

### General Purpose Enclosure Style

#### 480 Volts, 60 Hz

Amps	HP	NEMA 1 & NEMA 2 Drip Proof	List Price GO-52A	Enclosure	Wt. (Lbs.)	NEMA 3R Weather Resistant	List Price GO-52A	Enclosure	Wt. (Lbs.)	Figure
6	3	37GMDG0006D	\$1623.00	CAB-12C2	76	37GMDW0006D	\$1856.00	CAB-12C3	86	Figure 1
8	5	37GMDG0008D	\$1661.00	CAB-12C2	79	37GMDW0008D	\$1888.00	CAB-12C3	89	Figure 1
11	7.5	37GMDG0011D	\$1790.00	CAB-12C2	83	37GMDW0011D	\$2140.00	CAB-12C3	93	Figure 1
14	10	37GMDG0014D	\$1821.00	CAB-12C2	89	37GMDW0014D	\$2202.00	CAB-12C3	99	Figure 1
21	15	37GMDG0021D	\$2118.00	CAB-12C2	100	37GMDW0021D	\$2312.00	CAB-12C3	110	Figure 1
27	20	37GMDG0027D	\$2160.00	CAB-12C2	115	37GMDW0027D	\$2355.00	CAB-12C3	125	Figure 1
34	25	37GMDG0034D	\$2496.00	CAB-12C2	126	37GMDW0034D	\$2691.00	CAB-12C3	136	Figure 1
44	30	37GMDG0044D	\$2626.00	CAB-12C2	138	37GMDW0044D	\$2819.00	CAB-12C3	148	Figure 1
52	40	37GMDG0052D	\$3057.00	CAB-17C2	190	37GMDW0052D	\$3270.00	CAB-17C3	199	Figure 2
66	50	37GMDG0066D	\$3518.00	CAB-17C2	219	37GMDW0066D	\$3731.00	CAB-17C3	228	Figure 2
83	60	37GMDG0083D	\$3830.00	CAB-17C2	241	37GMDW0083D	\$4042.00	CAB-17C3	250	Figure 2
103	75	37GMDG0103D	\$4010.00	CAB-17C2	244	37GMDW0103D	\$4223.00	CAB-17C3	253	Figure 2
128	100	37GMDG0128D	\$5592.00	CAB-26C2	385	37GMDW0128D	\$5794.00	CAB-26C3	406	Figure 3
165	125	37GMDG0165D	\$6110.00	CAB-26C2	441	37GMDW0165D	\$6301.00	CAB-26C3	462	Figure 3
208	150	37GMDG0208D	\$6571.00	CAB-26C2	461	37GMDW0208D	\$6924.00	CAB-26C3	482	Figure 3
240	200	37GMDG0240D	\$6596.00	CAB-26C2	467	37GMDW0240D	\$6949.00	CAB-26C3	488	Figure 3
320	250	37GMDG0320D	\$11131.00	CAB-26D2	663	37GMDW0320D	\$11483.00	CAB-26D3	794	Figure 4
403	300	37GMDG0403D	\$12507.00	CAB-26D2	706	37GMDW0403D	\$12860.00	CAB-26D3	838	Figure 4
482	400	37GMDG0482D	\$13240.00	CAB-26D2	800	37GMDW0482D	\$13593.00	CAB-26D3	931	Figure 4
636	500	37GMDG0636D	\$18140.00	CAB-30D2	1205	37GMDW0636D	\$18429.00	CAB-30D3	1247	Figure 5
786	600	37GMDG0786D	\$20188.00	CAB-30D2	1416	37GMDW0786D	\$20478.00	CAB-30D3	1458	Figure 5

#### 480 Volts, 60 Hz

Amps	HP	Open Panel	List Price GO-52A	Weight (Lbs.)	HMR Size (in.)	Capacitor Assemblies Size (in.)
6	3	37GMDP0006D	\$1061.00	22	11.3"H x 6"W x 6.2"D	4.8"H x 4.8"W x 7.3"D
8	5	37GMDP0008D	\$1101.00	24	11.3"H x 6"W x 6.3"D	4.8"H x 4.8"W x 7.3"D
11	7.5	37GMDP0011D	\$1239.00	29	12.4"H x 7.2"W x 5.7"D	4.8"H x 4.8"W x 8.2"D
14	10	37GMDP0014D	\$1269.00	35	12.4"H x 7.3"W x 6.3"D	4.8"H x 4.8"W x 8.2"D
21	15	37GMDP0021D	\$1455.00	46	15.8"H x 9"W x 6.5"D	5.6"H x 5.6"W x 7.3"D
27	20	37GMDP0027D	\$1558.00	61	15.8"H x 9"W x 7"D	5.6"H x 5.6"W x 8.2"D
34	25	37GMDP0034D	\$1826.00	72	15.8"H x 9"W x 7.5"D	5.6"H x 5.6"W x 8.7"D
44	30	37GMDP0044D	\$1982.00	84	15.8"H x 9"W x 8"D	5.6"H x 5.6"W x 7.3"D
52	40	37GMDP0052D	\$2433.00	125	16.5"H x 12.3"W x 9.6"D	5.6"H x 5.6"W x 7.3"D
66	50	37GMDP0066D	\$2820.00	154	16.5"H x 12.3"W x 10.7"D	8"H x 7.3"W x 12"D
83	60	37GMDP0083D	\$3207.00	176	16.5"H x 12.3"W x 11.3"D	8"H x 7.3"W x 12"D
103	75	37GMDP0103D	\$3398.00	180	16.5"H x 12.3"W x 11"D	8"H x 7.3"W x 12"D
128	100	37GMDP0128D	\$4551.00	217	23"H x 15.3"W x 11.3"D	12"H x 7.3"W x 12"D
165	125	37GMDP0165D	\$5085.00	273	23"H x 15.3"W x 11.5"D	12"H x 7.3"W x 12"D
208	150	37GMDP0208D	\$5362.00	292	23"H x 15.3"W x 12"D	15"H x 7.3"W x 12"D
240	200	37GMDP0240D	\$5459.00	298	23"H x 15.3"W x 12.4"D	15"H x 7.3"W x 12"D
320	250	37GMDP0320D	\$8121.00	464	35.5"H x 18"W x 20.2"D	15"H x 7.3"W x 12"D 8"H x 7.3"W x 12"D
403	300	37GMDP0403D	\$9672.00	508	35.5"H x 18"W x 22.5"D	12"H x 7.3"W x 12"D 15"H x 7.3"W x 12"D
482	400	37GMDP0482D	\$10439.00	602	35.5"H x 18"W x 23"D	15"H x 7.3"W x 12"D 15"H x 7.3"W x 12"D
636	500	37GMDP0636D	\$15092.00	873	35.5"H x 24"W x 23.5"D	12"H x 8.1"W x 12"D 15"H x 7.3"W x 12"D 15"H x 7.3"W x 12"D
786	600	37GMDP0786D	\$17056.00	1082	35.5"H x 24"W x 24"D	15"H x 7.3"W x 12"D 15"H x 7.3"W x 12"D 5.6"H x 5.6"W x 7.3"D

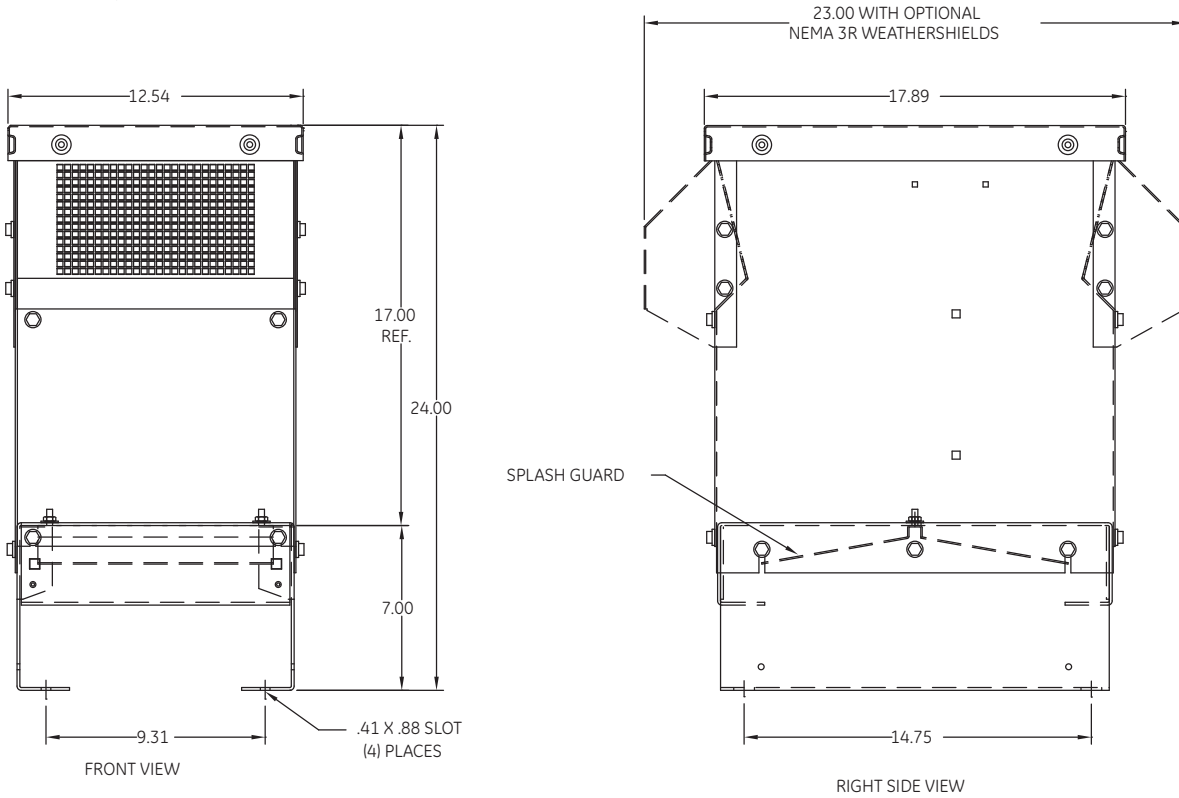




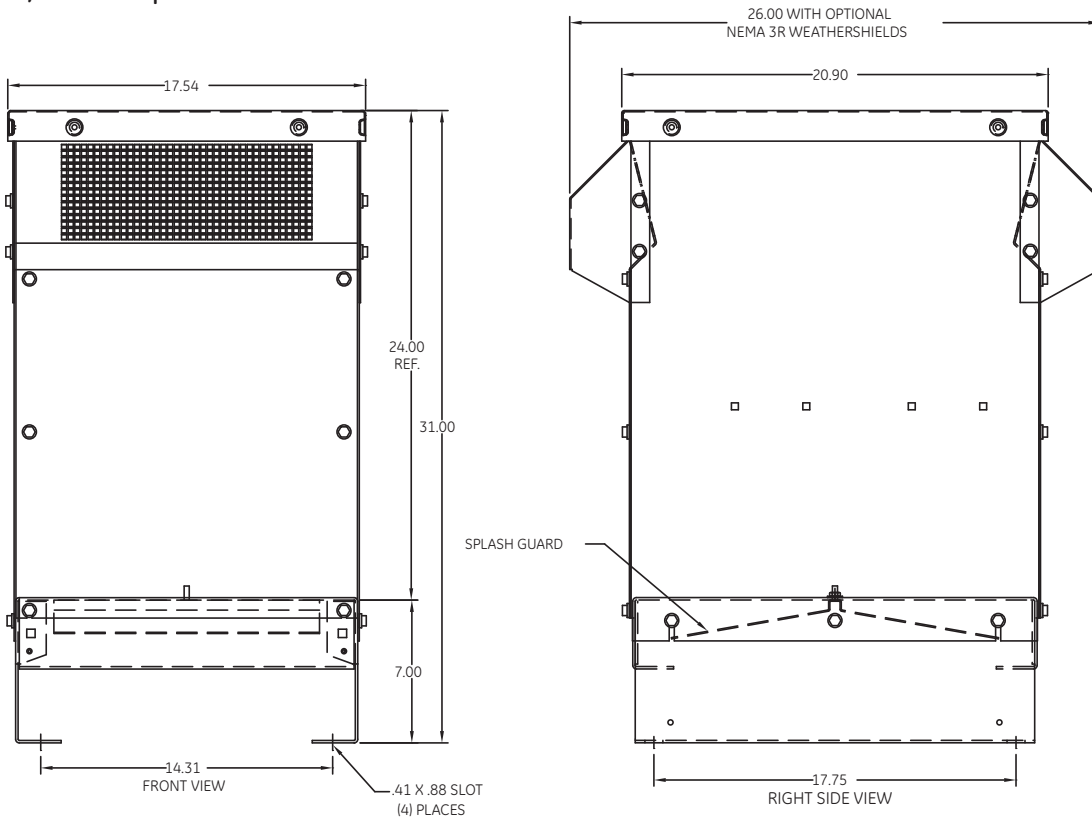
# Matrix Series D Harmonic Filters

## Outlines and Dimensions

### CAB-12C, 6-44 Amps



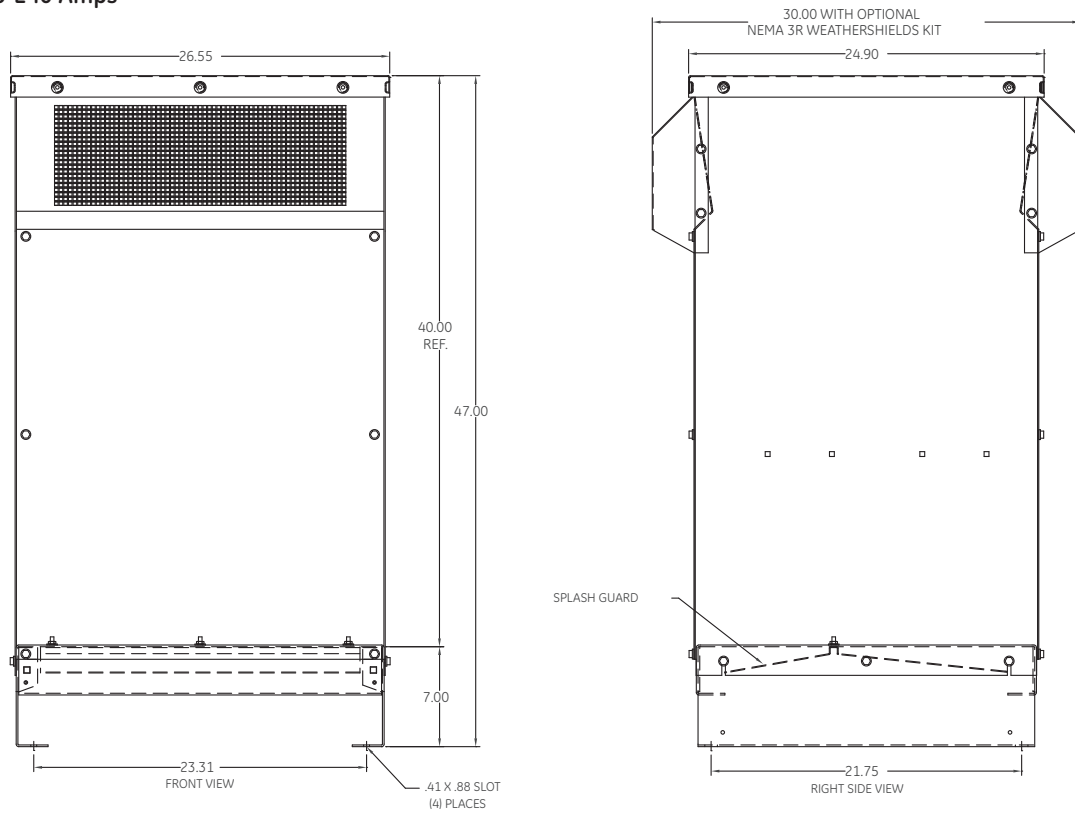
### CAB-17C, 52-103 Amps



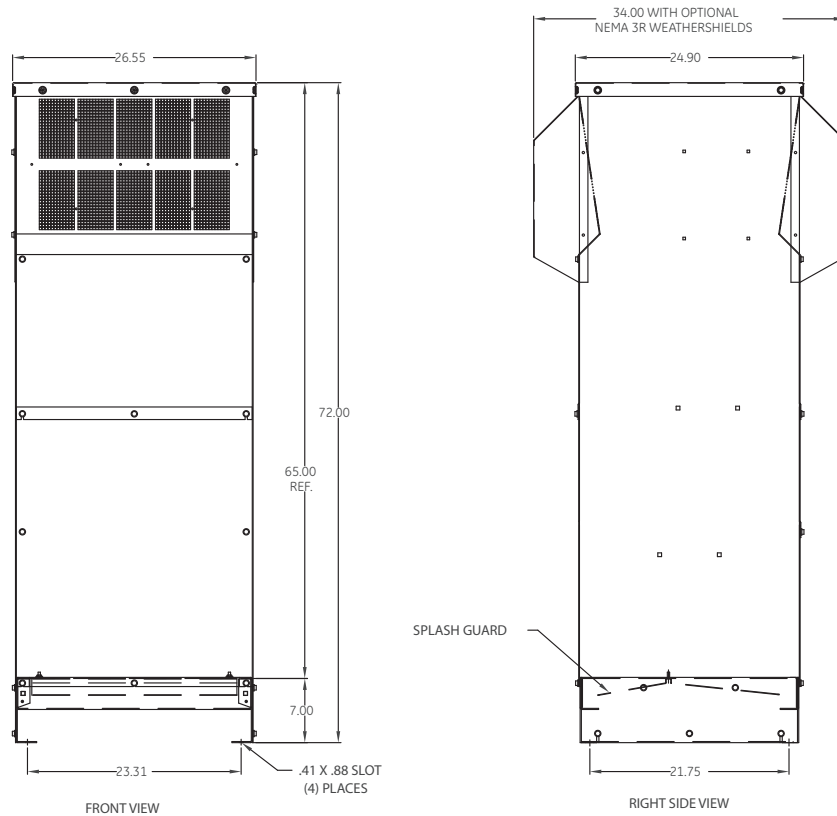
# Matrix Series D Harmonic Filters

## Outlines and Dimensions

CAB-26C, 128-240 Amps

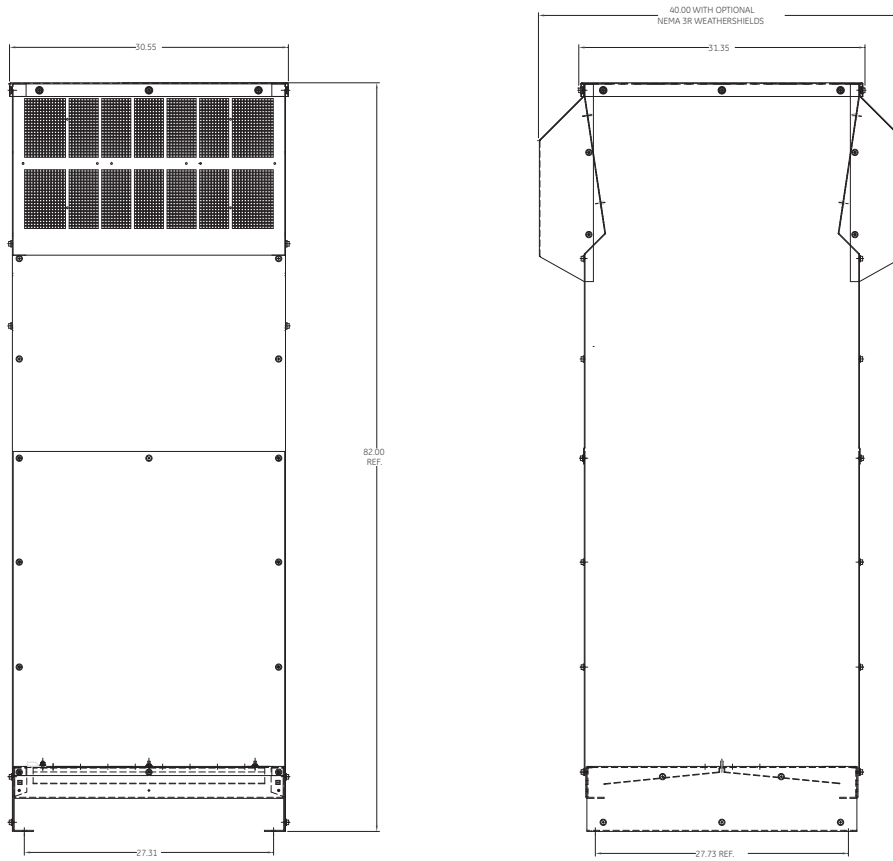


CAB-26D, 320-482 Amps



# Matrix Series D Harmonic Filters Outlines and Dimensions

CAB-30D, 636-786 Amps



# Industry White Papers

## Europe and the CE Marking: Questions and Answers

### Q: What is the CE marking?

**A:** The CE marking is the European Union's (EU) mark of compliance to one or more directives which have been enacted by the Council of the European Communities and should be affixed to products, packages, and/or instructions according to the terms of the applicable directives for products placed on the market within the member countries of the EU.

### Q: What countries are members of the EU?

**A:** There are presently 15 member countries in the EU (formerly called the European Community, or EC). They are, (in alphabetical order): Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and the United Kingdom. Four other countries, Iceland, Liechtenstein, Norway, and Switzerland, comprise the European Free Trade Association (EFTA) whose members retain national laws with mandatory marks. Some of these countries have applied for membership in the EU.

### Q: What does a country have to do to become a member of the EU?

**A:** The European Union is much more than a trade agreement such as the North American Free Trade Agreement (NAFTA) between the United States, Canada, and Mexico. The EU countries actually forfeit a portion of their sovereignty to join the union. EU members are bound by common laws, promoting harmonization, and legally must accept products which conform to these laws, regardless of whether they bear certain national marks which many of the countries have historically required. Some marks may still be required to meet market demands, but the CE marking is the only mark legally required to enter a member country.

### Q: How are the member countries' national laws and standards harmonized?

**A:** Europe created two standards development groups for the purpose of generating product standards which blend and minimize deviations in European member countries' national standards. They are:

European Committee for Standardization (CEN) - for non-electrical standards

European Committee for Electrotechnical Standardization (CENELEC) - for electrical standards

The member countries are required to adopt the harmonized standards (called "ENs" or "European norms") created by CEN and CENELEC into their national laws when directed to do so by the Council of the European Communities. These standards are then used to confer a presumption of compliance with essential requirements as laid out by the applicable directives.

### Q: How does a directive get issued and where is it published?

**A:** Directives are issued by the European Council and are published in the "Official Journal of the European Communities" (the "OJ"). Directives are generally relatively short and legalistic in nature as opposed to being lengthy technical documents. The OJ is somewhat similar in nature to the U.S. Government's "Federal Register" in that volumes of rules and regulations often having little to do with one another are listed in chronological order.

### Q: What are the applicable directives for adjustable speed drives?

**A:** Currently there are three (3) directives which are commonly known to be applicable to industrial control equipment in general and to adjustable speed drives in particular. They are:

Machinery Directive: 89/392/EEC

as amended by: 91/368/EEC

93/44/EEC

93/68/EE

Low Voltage Directive: 73/23/EEC

as amended by: 93/68/EEC

EMC Directive: 89/336/EEC

The directives do not contain detailed technical requirements, but rather state the basic essential requirements that the equipment must be safe (in the case of the machinery and low voltage directives) or that it must neither interfere with nor be disrupted by surrounding equipment (EMC directive). Detailed technical requirements are left to the referenced ENs (European norms) which confer a "presumption of compliance" with the directives. Unfortunately, when an EN is published, it does not automatically offer this "presumption of compliance" for a particular product until the European Council issues a ruling in the OJ stating that "EN \_\_\_ can be used to presume compliance with all or part of the \_\_\_ Directive." Since these rulings are scattered throughout the numerous volumes of the OJ (recall it is organized in chronological order), it can be very difficult to ascertain which ENs are pertinent and necessary to adhere to for a particular product. Usually an individual or organization which closely follows EU developments should be consulted.

### Q: How does the machinery directive apply to adjustable speed drives?

**A:** In most cases, the machinery directive will not apply to drives, at least on an individual component basis. This directive is intended to apply to assemblies of linked parts or components, at least one of which moves. The directive further clarifies what equipment falls within its scope in Article 1, Part 5, which declares that for machinery where the risks are mainly of electrical nature, such machinery shall be covered exclusively under the low voltage directive. Therefore, although a stand-alone drive would not be subject to the machinery directive, any machine which uses a drive with a motor most likely will be, and thus drives used as components in such machines should be evaluated for possible features or shortcomings which would make it impossible for the machine as a whole to comply with the directive.

### Q: How does the low voltage directive apply to adjustable speed drives?

**A:** The low voltage directive applies to electrical equipment designed for use with a voltage rating of between 50 and 1000 Vac or between 75 and 1500 Vdc. The directive stipulates that such equipment may be placed on the market only if it has been constructed in accordance with good engineering practice in safety matters in force in the EU, and that it does not endanger the safety of persons, domestic animals, or property when properly installed and maintained and used in applications for which it was made. **(continued next page)**



# Industry White Papers

## Europe and the CE Marking: Questions and Answers

### (continued from previous page)

Clearly the low voltage directive does apply to virtually all low voltage adjustable speed drives on the market today. One point of confusion regarding the low voltage directive is that it has been in existence since 1973, however, conformance to the directive was not indicated by affixing of the CE marking to either the product or its packaging. Per Article 13 of 93/68/EEC, however, the low voltage directive was amended to require that manufacturers issue an EC Declaration of Conformity to the EN standards applicable to their product and affix the CE marking as a visible indication of the declaration.

### **Q: What are the approved standards (ENs) for which a presumption of compliance can be conferred for adjustable speed drives?**

**A:** CENELEC has directed the International Electrotechnical Commission (usually referred to as the IEC) to develop standards for ac and dc drive systems which they can then adopt and publish as European norms (ENs). The IEC has two working groups of SC22G, a technical subcommittee which focuses on the generation of standards for semiconductor power converters for adjustable speed drive systems, dedicated to developing two new standards:

General Purpose Low Voltage Adjustable Frequency  
AC Power Drive Systems

General Purpose Adjustable Speed DC Power Drive Systems

The following ENs typically apply to variable speed drives:

EN50178 - Electronic equipment for use in power installations

EN55011 - Emissions from industrial, scientific,  
and medical (ISM) equipment

EM61800 - Adjustable speed electrical power drive systems

### **Q: What is some background information on the EMC directive?**

**A:** EMC is short for electromagnetic compatibility. In the United States, the Federal Communications Commission (FCC) has the authority to regulate most commercially available products for emissions and immunity to electromagnetic interference, and since 1983 has done so through FCC Rule 15 Subpart J and other rules. This implementation of limits is primarily aimed at products for the residential and commercial marketplaces and not the industrial marketplace. In cases where interference does occur, either mitigating methods must be employed by the offender, or the user may simply choose to relocate the equipment until interference is within acceptable levels. Not surprisingly, due to its background, the FCC regulations have been restricted to the category traditionally referred to as RFI, or radio frequency interference (450 kHz for conducted and 30 mHz for radiated emissions).

Starting 3 May 1989, the European Union took a much more aggressive stance in regulating electromagnetic interference issues than has been done in the United States. Led by the Germans, who have historically had strong electromagnetic interference laws, the European Council issued Directive 89/336/EEC, which has become commonly known as the EMC directive. This directive is more far reaching than RFI limits, such as FCC Rule 15, in that a vast range of electrical appliances and equipment, including those intended for the industrial environ-

ment, falls within its scope. In addition, the scope of the EMC directive is being redefined within the context of the IEC to include topics that historically have been referred to as power quality issues such as harmonics, waveform notching, susceptibility to electrostatic discharge, and the like. This is largely due to the fact that the IEC technical committee, which specializes in electromagnetic compatibility issues, is dominated by representatives of power companies. The 89/336/EEC directive required mandatory compliance by 1 January 1992, however, it was realized that the wide scope of the directive demonstrated the overriding need to provide for a substantial transitional period to allow for changeover from the national-based systems to the new exclusive EU system. Therefore, on 28 April 1992, the council adopted Directive 92/31/EEC, which allowed a transitional period until 31 December 1995.

### **Q: What does the EMC directive actually say?**

**A:** Like most directives, the EMC directive is not highly technical in nature, but rather attempts first to define its scope and then to state essential requirements such as the following which can be found in Article 4: "The apparatus within the scope of the directive are to be so constructed that:

- a) the electromagnetic disturbance it generates does not exceed a level allowing radio and telecommunications equipment and other apparatus to operate as intended;
- b) the apparatus has an adequate level of intrinsic-immunity to electromagnetic disturbance to enable it to operate as intended."

The protection requirements of the directive are therefore laid down in terms of objectives, while the limit values and methods of measurement must be given in the harmonized standards (European norms or ENs). To develop the ENs, the EU's electrotechnical standard-making body (CENELEC) reached a cooperative agreement with the IEC. The remainder of the directive is dedicated to describing the various methods by which compliance with the directive can be achieved, of which there can be several depending on the product involved. Products that issue a declaration of conformity to Directive 89/336/EEC will clearly indicate the conditions required for compliance. These conditions may include items such as filters and special wiring and grounding procedures.

### **Q: What is the cooperative agreement between CENELEC and the IEC?**

**A:** This agreement stipulates that the IEC has the primary responsibility for developing electrotechnical standards. These standards can be adopted, with possible amendments, and published by CENELEC as "harmonized" European standards (ENs). When CENELEC has a need for a specific standard, it asks the IEC to develop one. If the IEC is not in a position to meet the requirements of CENELEC (ex. too short of a deadline), CENELEC will develop the standard by itself. In these cases, the IEC may adopt standards prepared in CENELEC, again with possible amendments. It is important to realize that although IEC and CENELEC standards will usually be equivalent or similar from a technical point of view, it is actually the ENs issued by CENELEC which are legally binding within the EU due to their role in compliance with applicable directives.



# Industry White Papers

## Europe and the CE Marking: Questions and Answers

### Q: How are the EMC standards being created?

**A:** The organization of EMC work within the IEC is presently organized as follows:

Technical Committee No. 77 (TC77) is responsible for basic standards having general application and for generic standards

CISPR (the International Special Committee on Radio Interference) is responsible for the protection of radio and television broadcasting, but has extended its field of activity to include information technology equipment (ITE)

Numerous product committees have the task of developing standards specific to their products

To ensure coordination between these special committees and the outside world, the Advisory Committee on Electromagnetic Compatibility (ACEC) was set up to coordinate the work and provide advice to the product committees

The organization of EMC work within CENELEC is somewhat simpler than that of the IEC:

Technical Committee 110 (TC110) is responsible for basic standards, generic standards, and a certain degree of supervision of the product standards

Various product committees in parallel with some, but not all, IEC committees

### Q: What is the difference between basic standards, generic standards, and product specific standards for EMC?

**A:** Basic EMC standards specify the general conditions or rules necessary for achieving electromagnetic compatibility applicable to all products and to which the product committees may refer. The IEC 1000 series of standards are basic EMC standards. Generic EMC standards relate to a given environment and are applicable to all equipment installed in the environment where there is no product-specific EMC standard for that equipment. Product-specific EMC standards specify the requirements and tests specific to the products considered.

### Q: Is it absolutely essential that all core drives with a final destination in the EU comply with the EMC directive, even if they are only used as components on machines built in the U.S. and exported to Europe?

**A:** Literally speaking, the EMC directive applies to "all electrical and electronic appliances together with equipment and installations containing electrical and/or electronic components liable to cause electromagnetic disturbance or the performance of which is liable to be affected by such disturbance." For the purposes of the EMC directive, a "component" is defined as any item which is used in the composition of an apparatus and which is not itself an apparatus with an intrinsic function intended for the final consumer. Therefore, from a legal point of view, compliance with the EMC directive and affixation of the CE marking is only required on the complete apparatus as opposed to each individual component which make up the apparatus.

However, subsequent interpretations by EU officials have declared that components that can be sold directly to final users and are somewhat complex in nature (examples given are motors, electronic circuit cards, and thermostats so obviously drives would be included) are subject to the obligations laid down in the EMC directive. Simple components (integrated circuits, low voltage fuses, miniature resistors, etc.) and more complex components which are intended for use by professional assemblers are not subject to the provisions of the EMC directive. It is the responsibility of the assembler to ensure that the end product housing these components or subassemblies complies with the directive requirements. Therefore, even though the CE marking indicating compliance with the EMC directive is not legally required for drives sold as components, it may very well be a market requirement for machinery OEMs who want to sell to the EU to avoid possible issues with replacement parts, as well as to ensure them the necessary documentation to help meet the EMC requirements for their machines.

Keep in mind that starting in 1997, all low voltage equipment, whether component or complete apparatus, must comply with the low voltage directive and thus bear the CE marking. This is no different than the U.S. situation where most components bear the UL mark as well as the final product. There is no way to tell just from the marking on the product itself which directives the product meets (this is accomplished by the manufacturer's declaration of conformity).

### Q: Is there anything positive for U.S. manufacturers in all of this?

**A:** Looked at one way, the CE marking and all of the directives could be thought of as a major trade barrier which EU members have erected to make it difficult for those outside to get their products in. And although there are elements of some of the directives which appear that way, overall this is certainly not the case. In fact, the EU member nations have had to knock down a number of their own trade barriers to create this vast mega-market whose size exceeds that of the U.S. One example is the myriad of national marks that used to be legally required to enter some of the countries. In the game of international trade, the U.S. has suffered from the disadvantage that our foreign competitors could develop one product with one mark and sell it into the largest homogeneous market in the world. Now the rest of the world has the same advantage with the EU. There may still be market requirements in some countries for national marks such as VDE or BSI, but legally the product cannot be restricted. U.S. manufacturers should view the new system as a great opportunity for global growth.



# Industry White Papers

## Glossary– Drives Terminology

The following are standard definitions of terms that are used when discussing adjustable frequency drives.

**+BUS:** The portion of the dc bus that is at a positive potential.

**-BUS:** The portion of the dc bus that is at a negative potential.

**AC Contactor:** Contactor designed for the specific purpose of establishing or interrupting an ac power circuit.

**Adjustable Speed:** The concept of varying the speed of a motor, either manually or automatically. The desired operating speed (set speed) is relatively constant regardless of load.

**Adjustable Speed Drive (Electrical):** Comprised of the motor, drive controller, and operator's controls (either manual or automatic).

**Ambient Temperature:** The temperature of air, water, or a surrounding medium where equipment is operated or stored.

**Axis:** A principal direction along which movement of the tool or workpiece occurs. Also refers to one of the reference lines of a coordinate system.

**Bandwidth:** Generally, frequency range of system input over which the system will respond satisfactorily to a command.

**Base Speed:** The manufacturer's nameplate rating where the motor will develop the rated horsepower at the rated load and voltage. With dc drives, it is commonly the point where full armature voltage is applied with full rated field excitation. With ac systems, it is commonly the point where 60 Hz is applied to the induction motor.

**Bias:** The steady state deviation of a controlled variable from a fixed setpoint.

**Braking:** Provides a means of stopping an ac or dc motor and can be accomplished in several ways.

- A. Dynamic Braking (ac drives) - Accomplished by continuing to excite the motor from the drive. This causes a regenerative current to the drive's dc intermediate bus circuit. The dynamic brake resistors are then placed across the dc bus to dissipate the power returned. The brake resistor is usually switched by a transistor or other power switch controlled by the drive.
- B. Regenerative Braking - Similar to dynamic braking, but accomplished electronically. The generated power is returned to the line through the power converter. It may also be dissipated as losses in the converter (within its limitations).
- C. Squirrel-Cage Motor Dynamic Braking/"DC Injection Braking" (This form is not the same as that noted for ac drives.) - Another form of braking which uses a control circuit that applies a dc voltage across the ac motor's stator windings at a set frequency point for a set duration of time. This type of braking results in a low amount of braking torque until the motor reaches a speed well below 50%. At a speed below 7 Hz, the available braking torque increases sharply.

D. Motor-Mounted or Separately Mounted brake - A positive action, mechanical, friction device. Normal configuration is such that when the power is removed, the brake set is set. This can be used as a holding brake. (Note: A separately mounted brake is one which is located on some part of the mechanical drive train other than the motor.)

**Breakaway Torque:** The torque to start a machine from standstill. It is always greater than the torque needed to maintain motion.

**Breakdown Torque:** The ac motor maximum torque which is developed with rated voltage applied at rated frequency.

**Bridge Rectifier:** A full-wave rectifier that conducts current in only one direction. AC applied to the input results in approximate dc at the output.

**Bridge Rectifier (Diode):** A diode rectifier is a non-controlled, full-wave rectifier that produces a constant rectified dc voltage.

**Closed Loop:** A regulator circuit in which the actual value of the controlled variable (ex. speed) is sensed and a signal proportional to this value (feedback signal) is compared with a signal proportional to the desired value (reference signal). The difference between these signals (error signal) causes the actual value to change in the direction that will reduce the difference in signals to zero.

**Cogging:** A condition in which a motor does not rotate smoothly but steps or jerks from one position to another during shaft revolution. Cogging is most pronounced at low motor speeds and can cause objectionable vibrations in the driven machine.

**Commutation (Inverter):** The process by which forward current is interrupted or transferred from one switching device to the other. In most circuits where power is supplied from an ac source, turn-on control is adequate and turnoff occurs naturally when the ac cycle causes the polarity across a given device to reverse.

**Constant Horsepower Range:** A range of motor operation where motor speed is greater than base rating of the motor. In the case of the ac motor operation, this usually occurs above 60 Hz, where the voltage remains constant as the frequency is increased.

**Constant Torque Range:** A speed range in which the motor is capable of delivering a constant torque, subject to motor thermal characteristics. This is essentially when the drive/motor combination is operating at constant volts/Hz.

**Constant Voltage Range (ac drives):** The range of motor operation where the drive's output voltage is held constant as output frequency is varied. This speed range produces motor performance similar to a dc drive's constant horsepower range.

**Constant Volts per Hertz (V/Hz):** This relationship exists in ac drives where the output voltage is varied directly proportional to frequency. This type of operation is required to allow the motor to produce constant rated torque as speed is varied.

**Continuous Duty (CONT):** A motor that can continue to operate within the insulation temperature limits after it has reached normal operating (equilibrium) temperature.

**Converter:** The process of changing ac to dc. This is accomplished through the use of a diode rectifier circuit. The term may also refer to the process of changing ac to dc to ac (ex. adjustable frequency drive). A frequency converter, such as that found in an adjustable frequency drive, consists of a rectifier, a dc intermediate circuit, an inverter, and a control circuit.



# Industry White Papers

## Glossary– Drives Terminology

**Current Limiting:** An electronic method of limiting the maximum current available to the motor. This is adjustable so that the motor's maximum current can be controlled. It can also be preset as a protective device to protect both the motor and control from extended overloads.

**Damping:** The reduction in amplitude on an oscillation in the system.

**Dead Band:** The range of values through which a system input can be changed without causing a corresponding change in system output.

**Deviation:** Difference between an instantaneous value of a controlled variable and the desired value of the controlled variable corresponding to the set point. Also called "error."

**di/dt:** The rate of change in current versus a rate of change in time. Line reactors and isolation transformers can be used to provide the impedance necessary to reduce the harmful effects that unlimited current sources can have on phase controlled rectifiers (SCRs).

**Diode:** A device that passes current in one direction but blocks current in the reversed direction.

**Drift:** The deviation from the initial set speed with no load change over a specific time period. Normally, the drive must be operated for a specified warm-up time at a specified ambient temperature before drift specifications apply. Drift is normally caused by random changes in operating characteristics of various control components.

**Drive Controller (variable speed/frequency drive):** An electronic device that can control the speed, torque, horsepower, and direction of an ac motor.

**Duty Cycle:** The relationship between the operating and rest times or repeatable operation at different loads.

**dv/dt:** The rate of change in voltage versus a rate of change in time. Specially designed resistor-capacitor networks can help protect the diodes from excessive dv/dt which can result from line voltage spikes, line disturbances, and circuit configurations with extreme forward conducting or reverse blocking requirements.

**Dwell:** The time spent in one state before moving to the next. In motion control applications, for example, a dwell time may be programmed to allow time for a tool change or part clamping operation.

**Eddy Current:** Currents induced in motor components from the movement of magnetic fields. Eddy currents produce waste heat and are minimized by lamination of the motor poles and armature.

**Efficiency:** Ratio of mechanical output to electrical input indicated by a percent. In motors, it is the effectiveness with which a motor converts electrical energy into mechanical energy. In electrical drives, it is the effectiveness with which the drive converts electrical power into adjustable frequency operation at various operating points.

**EMF:** Electromotive force which is another term for voltage or potential difference.

**Enable:** To allow an action or acceptance of data by applying an appropriate signal to the appropriate input.

**Enclosure:** The housing in which the control is mounted. Enclosures are available in different designs for various environmental conditions.

**Encoder:** An electromechanical transducer that produces a serial or parallel digital indication of mechanical angle or displacement. Essentially, an encoder provides high resolution feedback data related to shaft position and is used with other circuitry to indicate velocity and direction. The encoder produces discrete electrical pulses during each increment of shaft rotation.

**Error:** Difference between the set point signal and the feedback signal. An error is necessary before a correction can be made in a controlled system.

**Feedback:** The element of a control system that provides an actual operation signal for comparison with the set point to establish an error signal used by the regulator circuit.

**Filter:** A device that passes a signal or a range of signals and eliminates all others.

**Floating Ground:** A circuit in which the electrical common point is not at earth ground potential or the same ground potential as the circuitry with which it is associated. A voltage difference can exist between the floating ground and earth ground.

**Flux:** The electromagnetic field created by passing current through a conductor. For motors, the magnetic field created by energizing the motor windings.

**Flux Vector:** The mathematical representation of flux indicating both filed strength and orientation.

**Force:** The tendency to change the motion or position of an object with a push or pull.

**Four-Quadrant Operation:** The four combinations of forward and reverse rotation and forward and reverse torque of which a regenerative drive is capable. The four combinations are as follows:

1. Forward rotation/forward torque (motoring)
2. Forward rotation/reverse torque (regeneration)
3. Reverse rotation/reverse torque (motoring)
4. Reverse rotation/forward torque (regeneration)

**Full-Load Torque:** The torque necessary to produce rated horsepower at full-load speed.

**GTO:** Gate turn-off power semiconductor device.

**Harmonics:** A sinusoidal component of a periodic wave or quantity having a frequency that is an integral multiple of the fundamental frequency.

**Head:** A measurement of pressure, usually in feet of water.

**Horsepower:** A measure of the amount of work that a motor can perform in a given period of time. Refer to power for kW equivalent.

**Hunting:** Undesirable fluctuations in motor speed that can occur after a step change in speed reference (either acceleration or deceleration) or load.





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**Hysteresis Loss:** The resistance offered by materials to becoming magnetized results in energy being expended and corresponding loss. Hysteresis loss in a magnetic circuit is the energy expended to magnetize and demagnetize the core.

**IGBT (Insulated Gate Bipolar Transistor):** Semiconductor devices used for power circuits that are capable of high power output that operate at carrier frequencies of 20 kHz or more. IGBTs have a faster rate of rise resulting in high di/dt that occurs when the device is turned off.

**Induction Motor:** An alternating current motor in which the primary winding on one member (usually the stator) is connected to the power source. A secondary winding on the other member (usually the rotor) carries the induced current. For a squirrel cage induction motor, there is no physical electrical connection to the secondary winding; its current is induced.

**Inertia:** A measure of a body's resistance to changes in velocity, whether the body is at rest or moving at a constant velocity. The velocity can be either linear or rotational. The moment of inertia ( $WK^2$ ) is the product of the weight ( $W$ ) of an object and the square of the radius of gyration ( $K^2$ ). The radius of gyration is a measure of how the mass of the object is distributed about the axis of rotation.  $WK^2$  is usually expressed in units of  $lb/ft^2$ .

**Instability:** A situation where the output of a system does not track the input. For closed loop systems, the control system error is either increasing or oscillating.

**Intermittent Duty (INT):** A motor that never reaches equilibrium temperature (equilibrium), but is permitted to cool down between operations. For example, a crane, hoist, or machine tool motor is often rated for 15 or 30 minute duty.

**Interposing Relay:** A relay that accepts control signals of one logic level in order to provide isolated contact signals in a circuit operating a different logic level.

**Inverter:** A term commonly used for an ac adjustable frequency drive. An inverter is also used to describe a particular section of an ac drive. This section uses the dc voltage from a previous circuit stage (intermediate dc circuit) to produce an ac current or voltage having the desired frequency.

**Isolation Transformer:** A transformer that electrically separates the drive from the ac power line. An isolation transformer provides the following advantages:

1. Guards against inadvertent grounding of plant power lines through grounds in the drive.
2. Enhances protection of semiconductors from line voltage transients.
3. Reduces disturbances from other solid-state control equipment, such as drives without isolation transformers, time clock systems, electronic counters, etc.

**Jogging:** Means of accomplishing momentary motor movement by repetitive closure of a circuit using a single push button or contact element.

**Kinetic Energy:** The energy of motion possessed by a body.

**Linear Acceleration/Deceleration:** A circuit that controls the rate at which the motor is allowed to accelerate to a set speed or decelerate to zero speed. On most drives, this circuit is adjustable and can be set to accommodate a particular application.

**Linearity:** A measure of how closely a characteristic follows a straight line function.

**Locked-Rotor Current:** Steady-state current taken from the line with the rotor at standstill (at rated voltage and frequency). This is the current when starting the motor and load.

**Locked-Rotor Torque:** The minimum torque that a motor will develop at rest for all angular positions of the rotor (with rated voltage applied at rated frequency).

**Mechanical Safe Speed:** Defined by the operating limits of the driven equipment being controlled by the adjustable frequency drive which should not be exceeded. The manufacturer's specification is to be followed carefully.

**Megger Test:** A test used to measure an insulation system's resistance. This is usually measured in megohms and tested by passing a high voltage at low current through the motor windings and measuring the resistance of the various insulation systems.

**NEC:** The National Electric Code contains recommendations of the National Fire Protection Association and is revised every three years. City or state regulations may differ from code regulations and take precedence over NEC rules.

**Negative Feedback:** A condition where feedback is subtractive to the input reference signal. Negative feedback forms the basis for automatic systems.

**NEMA:** The National Electrical Manufacturers Association is a non-profit organization organized and supported by manufacturers of electrical equipment and supplies. Some of the standards NEMA specifies are: horsepower ratings, speeds, frame sizes and dimensions, torques, and enclosures.

**Open Loop:** A control system that lacks feedback.

**Operating/Service Deviation:** A means of specifying the speed regulating performance of a drive controller, generally in percent of base speed. Operating deviation defines speed change due to load change and typically assumes:

1. A change from one steady-state load value to another (not transient).
2. A 95% maximum load change.

Service deviation defines speed change due to changes in ambient conditions greater than typical variations (noted in basic adjustable frequency drive specifications).

**Overload Capacity:** The ability of the drive to withstand currents beyond the system's continuous rating. It is normally specified as a percentage of full-load current for a specified time period. Overload capacity is defined by NEMA as 150% of rated full-load current for one minute.

**Overshoot:** The amount that a controlled variable exceeds desired value after a change of input.

**PCC (Point of Common Coupling):** The electrical connecting point or interface between the utility distribution system and the user's electrical distribution system. The selection of the PCC within the system is often done by the utility.



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**PLC (Programmable Logic Controller):** Solid-state control logic for machines and processes where a sequence of operations can be changed easily with programming (software).

**Plugging:** A type of motor braking provided by reversing either line voltage polarity or phase sequence so that the motor develops a counter torque which exerts a retarding force to brake the motor.

**Position Transducer:** An electronic device (ex. encoder or resolver) that measures actual position and converts this measurement into a feedback signal convenient for transmission. This signal may then be used as an input to a programmable controller which controls the parameters of the positioning system.

**Positive Feedback:** A condition where the feedback is additive to the input signal. This generally results in an unstable system.

**Power:** Work done per unit of time. Measured in horsepower or watts: 1 hp = 33,000 ft/lbs = 746 watts.

**Power Factor:** A measurement of the time phase difference between the voltage and current in an ac circuit. It is represented by the cosine of the angle of this phase difference. Power factor is the ratio of real power (kW) to total kVA, or the ratio of actual power (W) to apparent power (VA).

**Displacement Power Factor** - The displacement component of power factor. The ratio of the active power of the fundamental wave, in watts, to the apparent power of the fundamental wave, in volt-amperes.

**Total Power Factor** - The ratio of the total power input, in watts, to the total volt-ampere input to the converter. The power factor is determined at the ac line terminals of the converter.

**Distortion Factor** - The ratio of the root-mean square of the harmonic content to the root-mean-square value of the fundamental quantity, expressed as a percent of the fundamental.

**Preset Speed:** One or more fixed speeds at which the drive will operate.

**Pull-Up Torque:** The torque required to accelerate the load from standstill to full speed (where breakdown torque occurs), expressed in percent of running torque. It is the torque required not only to overcome friction, windage, and product loading, but also to overcome the inertia of the machine. The torque required by a machine may not be constant after the machine has started to turn. This load type is characteristic of fans, centrifugal pumps, and certain machine tools.

**PWM (Pulse Width Modulated):** A type of ac adjustable frequency drive that accomplishes frequency and voltage control at the output section (inverter) of the drive. The drive's output voltage is always a constant amplitude and by "chopping" (pulse width modulating) the average, voltage is controlled.

**Reactance:** Any force that opposes changes in current or voltage. The inertia of electrons causes them to oppose sudden changes in current flow or voltage.

**Rectifier:** A device that transforms alternating current to direct current.

**Regeneration:** The characteristic of a motor to act as a generator when the rotor synchronous frequency is greater than the applied frequency.

**Regenerative Braking:** The technique of slowing or stopping a drive by regeneration.

**Regenerative Control:** A regenerative drive contains the inherent capability and/or power semiconductors to control the flow of power to and from the motor.

**Regulation:** The ability of a control system to hold a speed once it has been set. Regulation is given in percentages of either base speed or set speed. Regulation is rated upon two separate sets of conditions:

**A.** Load regulation (speed regulation) is the percentage of speed change with a defined change in load. Assuming all other parameters to be constant.

**B.** Line regulation is the percentage of speed change with a given line voltage change, assuming all other parameters to be constant.

**Resolution:** The smallest distinguishable increment into which a quantity can be divided (ex. position or shaft speed). It is also the degree to which nearly equal values of a quantity can be discriminated. For encoders, it is the number of unique electrically identified positions occurring in 360 degrees of input shaft rotation.

**SCR (Silicon Control Rectifier):** A solid-state device that has an anode, a cathode, and gate which controls when it allows conduction.

**Service Factor:** When used on a motor nameplate, a number that indicates how much above the nameplate rating a motor can be loaded without causing serious degradation (ex. A motor with 1.15 S.F. can produce 15% greater torque than one with 1.0 S.F.). When used in applying motors or gearmotors, it is a figure of merit which is used to adjust measured loads in an attempt to compensate for conditions which are difficult to measure or define.

**Set Speed:** The desired operating speed.

**Shock Load:** The load seen by a clutch, brake, or motor in a system which transmits high peak loads. This type of load is present in crushers, separators, grinders, conveyors, winches, and cranes.

**Slewing:** An incremental motion of the motor shaft or machine table from one position to another at maximum speed without losing position control.

**Slip:** The difference between rotating magnetic field speed (synchronous speed) and rotor speed of ac induction motors. Usually expressed as a percentage of synchronous speed.

**Speed Range:** The speed minimum and maximum at which a motor must operate under constant or variable torque load conditions. A 10:1 speed range for a motor with top speed of 1800 rpm means the motor must operate as low as 180 rpm and still remain within regulation specifications. Controllers are capable of wider controllable speed ranges than motors because there is no thermal limitation, only electrical. Controllable speed range of a motor is limited by the ability to deliver 100% torque below base speed without additional cooling.



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**Speed Regulation:** The numerical measure, in percent, of how accurately the motor speed can be maintained. It is the percentage of change in speed between full load and no load.

**Stability:** The ability of a drive to operate a motor at constant speed (under varying load) without "hunting" (alternately speeding up and slowing down). It is related to both the characteristics of the load being driven and electrical time constants in the drive regulator circuits.

**Surge Protection:** The process of absorbing and clipping voltage transients on an incoming ac line or control circuit. MOVs (Metal Oxide Varistors) and specially designed R-C networks are usually used to accomplish this.

**Synchronous Speed:** The speed of an ac induction motor's rotating magnetic field. It is determined by the frequency applied to the stator and the number of magnetic poles present in each phase of the stator windings. Mathematically, it is expressed as: Sync speed (rpm) =  $120 \times \text{applied frequency (Hz)} / \text{number of poles per phase}$ .

**Tachometer - Generator (Tach):** A small generator normally used as a rotational speed sensing device. Tachometers are typically coupled to the shaft of dc or ac motors requiring close speed regulation. The tach feeds a signal to a controller which then adjusts the output voltage or frequency to the motor. This feedback signal can be either an analog dc signal (V/rpm) or digital (pulses/revolution).

**Thread Speed:** A fixed low speed, usually adjustable, supplied to provide a convenient method for loading and threading machines. May also be called a preset speed.

**Torque:** A turning force applied to a shaft, tending to cause rotation. Torque is normally measured in ounces/inches or pounds/feet and is equal to the force applied times the radius through which it acts.

**Torque Constant (in/lbs):** This motor parameter provides a relationship between input current and output torque. For each ampere of current applied to the rotor, a fixed amount of torque will result.

**Torque Control:** A method of using current limit circuitry to regulate torque instead of speed.

**Transducer:** A device that converts one energy form to another (ex. mechanical to electrical). Also, a device that when actuated by signals from one or more systems or media can supply related signals to one or more other systems or media.

**Transient:** A momentary deviation in an electrical or mechanical system.

**Transistor:** A solid-state, three-terminal device that allows amplification of signals and can be used for switching and control. The terminals are called the emitter, base, and collector.

**Vector:** A quantity that has magnitude, direction, and sense. This quantity is commonly represented by a directed line segment of which the length represents the magnitude and worse orientation in space represents the direction.

**VVI:** A type of ac adjustable frequency drive that controls the voltage and frequency of the motor to produce variable speed operation. A VVI-type drive controls the voltage in a section other than the output section where frequency generation takes place. The frequency control is accomplished by an output bridge circuit which switches the variable voltage to the motor at the desired frequency.

**X-Axis:** The axis of motion that is always horizontal and parallel to the work-holding surface.

**Y-Axis:** The axis of motion that is perpendicular to both the X and Z axes.

**Z-Axis:** The axis of motion that is always parallel to the principal spindle of the machine.



# Warranty Coverage and Technical Support

## Warranty Coverage

Warranty period is 36 months after shipment from the company. This includes all drives, panels and 18 Pulse / MultiPulse panels, but does not include the DV300 DC Drives. The DV300 DC Drives have a warranty period of 18 months after shipment only. Before calling the Post Sales Service number to determine warranty status, the drive serial number will be required. The serial number is located on the drive nameplate.

### Extended Warranty Pricing (Excludes DV300 DC Drives)

For an extended warranty period of 12 months, add 10% to the net price. For an extended warranty period of 24 months, add an additional 20% to the net price.

After Shipment	Price Addition
36 months	None—Standard Warranty
48 months	10% Net Price Adder
60 months	20% Net Price Adder

### Out-of-Warranty Procedures

When the defective part has been identified, contact your local authorized GE standard drives distributor to order a replacement part.

If assistance is required to determine warranty status, identify defective parts, or obtain the name of your local distributor, call:

# 1-888-GE-RESOLVe

(1-888-437-3765, United States)

(1-804-965-1062, International)

GE Post Sales Service Center

## Technical Support

For Pre-Sales application support and post sales troubleshooting and installation support, call:

# 1-800-GE1-STOP

(1-800-431-7867, United States)

(1-804-965-1062, International)





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