



## AF-300 E11™

### Adjustable Frequency Drive



The AF-300 E11™ adjustable frequency drive is GE Fuji Drives' new generation of micro drives. GE Fuji Drives recognized your need for a high performance, full featured compact drive and designed the AF-300 E11 drive with these features in mind. This product is specifically intended for original equipment manufacturers who require maximum performance in a minimal space for a cost effective system. When you purchase a standard drive from GE Fuji, you receive not only a quality product, but quality service that's available 24 hours a day, seven days a week from the OnSite Support<sup>SM</sup> Service Center.

#### Specifications

230 Vac	single-phase input, 1/8-3 hp
230 Vac	three-phase input, 1/8-10 hp
460 Vac	three-phase input, 1/2-10 hp

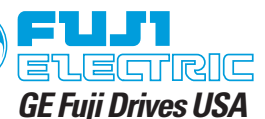
#### Applications

- Chemical machinery
- Wood-working machines
- Conveyance machinery
- Electrical pumps
- Fans/pumps
- Food processing machines
- Machine tools
- Packaging machinery
- Textile/paper making machinery

Feature	Benefit
Dynamic torque vector control	Provides optimal control of voltage and current vectors for maximum output torque
High starting torque	Capable of moving heavy loads like a conveyor, lift, and/or traverse
Compact design	Fits easily into limited space applications
Uniform height dimension	Standardizes panel design
Low noise	Minimizes influence to devices such as sensors
Automatic energy-saving function	Reduces motor loss and electric costs
Online tuning	Detects the secondary resistance of the motor and maintains stable rotation regardless of variation in motor temperature
"Catch a spinning motor"	Restarts a rotating motor without shock
PID control function	Eliminates need for some external process controls
Soft-switching IGBTs	Allow use with standard general purpose motors
Built-in RS 485	Allows low cost system integration using the RTU protocol
Configuration software	Configures different drives with Windows®-based software
Compliance with major international standards	Assurance of smooth integration with global equipment requiring CE, TUV, UL, CUL



<b>Environmental Conditions</b>	<i>Installation Location</i>	Free from corrosive gases, flammable gases, oil mist, dust and direct sunlight. Indoor use only.
	<i>Altitude</i>	1000m or less. Applicable to 3000m with power derating (-10%/1000m)
	<i>Ambient Temperature</i>	-10 to +50°C (+14°F to 122°F)
	<i>Ambient Humidity</i>	5 to 95% RH (non-condensing)
	<i>Vibration</i>	3mm: 2 to less than 9 Hz 9.8 m/s <sup>2</sup> : 9 to less than 20 Hz 2 m/s <sup>2</sup> : 20 to less than 55 Hz 1 m/s <sup>2</sup> : 55 to less than 200 Hz
	<i>Storage Condition</i>	Temperature: -25°C to +65°C (-4°F to 149°F) Humidity: 5 to 95% RH (non-condensing)
<b>Input</b>	<i>Rated Input AC Voltage</i>	200 to 240 Vac 50/60 Hz, 1 phase (1/8 to 3 hp) 200 to 230 Vac 50/60 Hz, 3 phase (1/8 to 10 hp) 380 to 480 Vac 50/60 Hz, 3 phase (1/2 to 10 hp) Voltage: -15% to +10%; voltage unbalance: within 3%; frequency ±5%
<b>Output</b>	<i>Setting</i>	Maximum frequency: 50 to 400 Hz Base frequency: 25 to 400 Hz Starting frequency: 0.1 to 60.0 Hz; holding time: 0.0 to 10.0s Carrier frequency: 0.75 to 15kHz
	<i>Accuracy (Stability)</i>	Digital setting: ±0.01% of maximum frequency (from -10°C to +50°C) Analog setting: ±0.2% of maximum frequency (at 25°C ± 10°C)
	<i>Setting Resolution</i>	Digital setting: 0.01 Hz at maximum frequency up to 99.99 Hz, (0.1 Hz at maximum frequency of 100.0 Hz and above) Analog setting: 1/3000 of maximum frequency (ex. 0.02 Hz at 60 Hz, 0.04 Hz at 120 Hz, 0.15 Hz at 400 Hz) Link setting: 1/20000 of maximum frequency or 0.01 Hz fixed (ex. 0.003 Hz at 60 Hz, 0.006 Hz at 120 Hz, 0.02 Hz at 400 Hz)
<b>Control</b>	<i>Control Method</i>	V/f control (sinusoidal PWM control) Dynamic torque vector control (sinusoidal PWM control)
	<i>Operation Method</i>	Keypad operation: RUN or STOP key Digital input signal: Forward/Reverse command, Coast-to-Stop command, etc. Link operation: RS485 (standard), Profibus-DP, Interbus-S™, DeviceNet™, Modbus Plus™, CAN Open (option)
	<i>Frequency Setting</i>	Keypad operation: UP or DOWN keys External potentiometer of 1 to 5k ohm Analog input: 0 to +10 Vdc (0 to +5 Vdc), 4 to 20 mA dc Multistep frequency: up to 16 different frequencies can be selected by digital input signal Link operation: RS485 (standard), Profibus-DP, Interbus-S™, DeviceNet™, Modbus Plus™, CAN Open (option)
	<i>Acceleration/Deceleration Time</i>	0.01 to 3600s (independently adjustable acceleration and deceleration, 2 different times are selectable)
	<i>Voltage/Frequency (V/F) Characteristics</i>	Adjustable at base and maximum frequency with AVR control: 320 to 480V (460V series), 80 to 240V (230V series)
	<i>Restart After Momentary Power Failure</i>	Drive restarts without causing the motor to stop if the automatic restart is specified for the drive
	<i>Frequency Limiter</i>	High and low limiters can be preset
	<i>Bias Frequency</i>	Bias frequency can be preset (-400 to +400 Hz)
	<i>Jump Frequency Control</i>	Jump frequency (3 points) and its common jump hysteresis width (0 to 30 Hz) can be preset
	<i>Torque Boost</i>	Selectable by load characteristics: constant torque load (auto/manual), variable torque load (manual)
<b>Protection</b>	<i>Overload</i>	Protects the drive by electronic thermal and detection of drive temperature
	<i>Overvoltage</i>	Detects dc link circuit overvoltage to stop drive (460V series: 800 Vdc, 230V series: 400 Vdc)
	<i>Overheating</i>	Protects the drive by detection of drive temperature
	<i>Motor Overload</i>	Electronic thermal overload relay can be selected for standard motor or drive motor
	<i>Motor Protection by PTC Thermistor</i>	When the motor temperature exceeds allowable value, the drive trips automatically
<b>Options</b>	<i>Standard</i>	EMI filters, DB resistors
	<i>Communications</i>	Profibus-DP, Interbus-S™, DeviceNet™, Modbus Plus™, CAN Open (option)



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