



FUJI
ELECTRIC

GE Fuji Drives USA



ISO103-01

AF-300 F11™
Adjustable Frequency Drive

Reliable Connectable Affordable

Making Your Job Easier

The AF-300 F11™ is available from 1/2 to 400 hp in NEMA 1, 4, and 12 enclosures, and can be ordered with a standard three-contactor bypass and your choice of building automation connectivity.

GE Fuji Drives offers the new AF-300 F11 adjustable frequency drive to address the requirements of fan and pump duty in HVAC (heating, ventilation, air conditioning) systems, while providing energy savings and affordability in a simple and reliable package. The AF-300 F11 is designed for commercial variable torque applications, such as variable air volume (VAV) and other air distribution systems, fans, pumps, and cooling towers, and it effortlessly interfaces with today's major building automation communication systems. Because HVAC customers want a drive with simple and powerful startup and configuration, and diagnostics tools to modify performance for their system requirements, the AF-300 F11 is the right choice.



IS0103-06



IS0103-02

IS0103-04

FEATURE

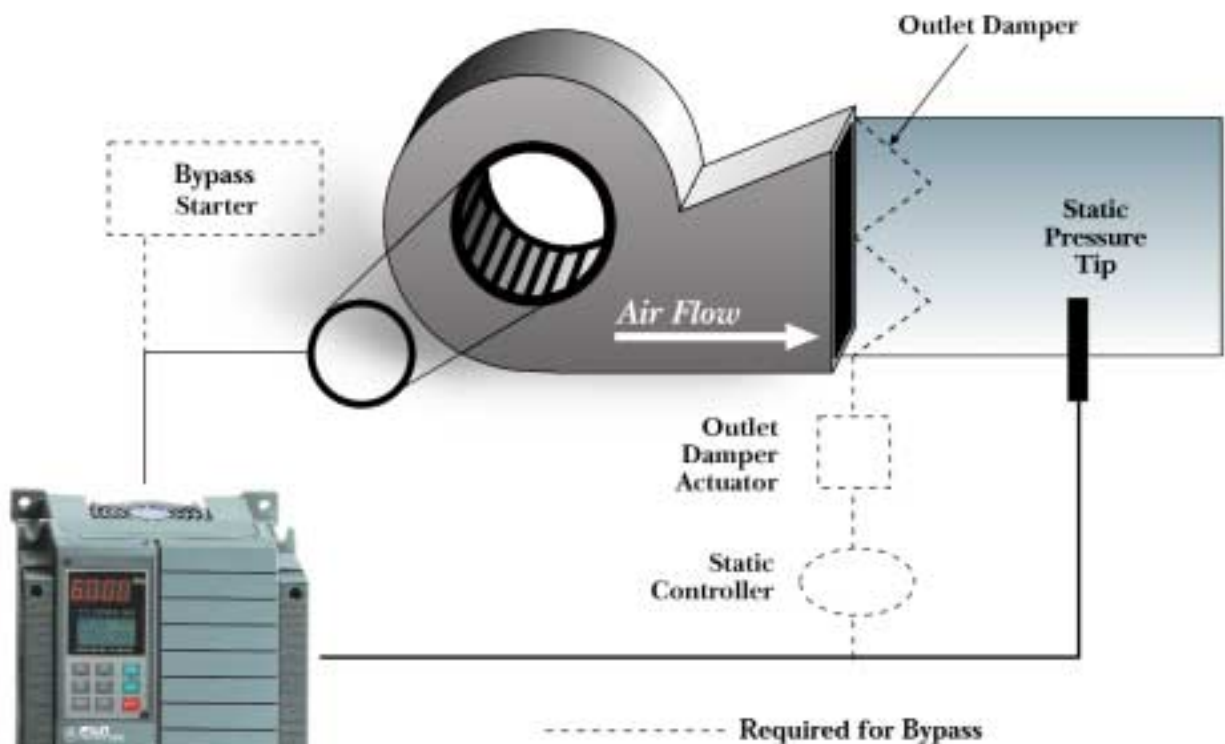
BENEFIT

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|--|---|
| ■ Pre-loaded motor parameters and factory defaults | ■ Out-of-the-box installation |
| ■ Simple, yet powerful parameter set | ■ Easy startup without comprising configuration for demanding applications |
| ■ Control and connectivity options | ■ Interface with major building automation systems |
| ■ Energy-saving operation | ■ Reduces operating costs by minimizing drive and motor loss at light load |
| ■ New generation IGBT | ■ Reduces electrical noise, voltage spiking, and the need for expensive output filters |
| ■ Bypass options | ■ Two and three contactor bypasses for mission-critical installations |
| ■ Intelligent display keypad with backlight | ■ Accepts commands from local or remote keypad or from facility management systems; also has copy function in six different languages |

The Drive For Energy Savings

AF-300 F11 adjustable frequency drives can reduce energy costs, simplify mechanical systems, and improve control by interfacing with major building automation systems.

- Lower energy usage in HVAC systems during off-peak cycles by reducing fan or pump speed to regulate flow, and reduce peak demand charges by providing a soft-starting advantage.
- Eliminate the need for mechanical flow control devices such as inlet guide vanes, dampers, and control valves, and lower overall investment. The AF-300 F11 drives also provide ambient noise reduction associated with cooling towers, exhaust fans, and condenser fans.
- Interface with Metasys® N2, APOGEE® FLN Protocol (pending), Modbus™ RTU-RS-485, LONWORKS®, and other building automation control protocols.



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*With the AF-300 F11, you benefit from the **design** and **dependability** you have come to expect from GE Fuji Drives.*

Powerful Features

Savings backed up by Affinity Laws

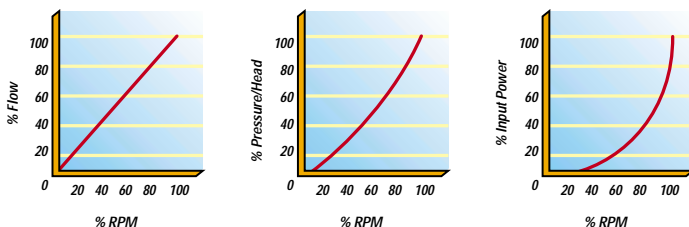


Since most HVAC systems are designed for maximum estimated load, but rarely run at those levels, energy savings with the AF-300 F11 are often dramatic.

When you reduce the speed of an ac motor with an adjustable speed drive, energy usage decreases, thereby reducing energy costs. In a centrifugal application, such as a fan or pump, the Affinity Laws show that reducing speed reduces flow proportionally; pressure (or head) varies as the square of speed and power requirements vary as the cube of speed. Reducing speed to meet a demand of 50% flow reduces the power requirement to only 12.5%.

Energy savings with the AF-300 F11 can be simply calculated using GE Fuji Drives' energy analysis software. Contact a GE sales representative for information about this tool.

Affinity Laws for Centrifugal Loads



Standard Features

- Built-in PID control
- Catch-spinning motor in any direction at any speed
- Automatic energy-saving operation that minimizes drive and motor loss at light load
- Configuration software
- Connectivity to building automation systems:
 - Metasys N2
 - APOGEE FLN Protocol (pending)
 - Modbus RTU-RS-485
 - LONWORKS
- Power dip ride-thru
- NEMA 1, NEMA 4, and NEMA 12 enclosure options
- Disconnect, bypass, and control configurations specific to HVAC applications
- Agency certifications: UL and cUL

Reliable, Connectable, Affordable



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Affordability

The AF-300 F11 offers affordable bypass design features.

- Three designs for maximum configuration flexibility:
 - 2 contactor
 - 2 contactor with drive service switch
 - 3 contactor
- Simple control indication for bypass operation
- Disconnect and fuses or molded case circuit breaker
- Intuitive front cover stencil design for easy system set-up and diagnostics
- GE designed with Type II coordination for bypass starter

Connectability

The AF-300 F11 is designed to interface with major building automation systems from simple analog controls to more sophisticated communications systems. The AF-300 F11 operates with the following control schemes:

- Discrete terminal control (standard)
- Metasys N2
- APOGEE FLN Protocol (pending)
- Modbus RTU-RS-485 (standard)
- LONWORKS



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Reliability

Why is GE Fuji Drives known in the industry for reliability? Simply because we design and manufacture every major component of the drive to our strict standards, starting with the IGBT power output devices. Our soft-switching design and tight integration with the AF-300 F11's powerful microprocessor create truly dependable drives that are easy on motors.

