

# CFW501 HVAC



## Variable Speed Drive

The CFW501 HVAC is a variable-speed drive intended for use with asynchronous motors when heating, ventilation, air conditioning and refrigeration applications are to be met. Offering excellent effectiveness, the CFW501 HVAC follows the CFW500 topology with accessories incorporated in the standard version.

new

### The Full HVAC Potential



#### Fire Mode

This function makes the drive to inhibit its internal faults making the motor run at adverse conditions without stopping the process.



#### Sleep / Wake-Up Mode

It prevents the operation of the motor at low speeds for certain amount of time to be previously programmed. Also the instant when the motor has to be restarted can be determined by using the wake-up mode.



#### Broken Belt

It monitors motor torque and prevents it from running with no load in case of a broken belt.



#### Energy Saving

Depending on the motor speed and load conditions the flux is reduced decreasing losses and therefore efficiency is improved causing energy saving.



#### Filter Maintenance Alarm

It warns about the need to replace the filter.



#### Bypass

Using one of its output relay the CFW501 HVAC allows the motor to be started cross the line. An external circuitry is needed for this operation.



#### Short Cycle Protection

It prevents a compressor/motor from being switched on and off in short period of times.



#### Dry Pump

It prevents the pump from running with no load.



#### PTC

Possibility for monitoring PTC sensor.

#### Motor Power Range

0.18 to 7.5 kW

### Characteristics

- **Focus on HVAC Duty**  
Overload current: 110% during 60 s  
Ambient temperature: 50 °C
- **Internal RFI Filter**  
RFI Filter complying with IEC61800-3 Category C2 or C3 as optional
- **Low Harmonic Distortion**  
Meets the standard IEC61000-3-12
- **SoftPLC**  
PLC functions: making it a flexible and optimized solution
- **Advanced PID**  
Main PID control the process by itself and two additional PID for use to control independent process variables
- **Communication Protocols**  
BACnet MS/TP, Metasys N2 and Modbus-RTU (available in terminals)
- **Conformal Coating as Standard**

### Accessories

- **Intuitive HMI**  
Built-in as standard and remote for the panel door
- **Flash Memory**  
Saving up to 2 different settings



Specific Engineering Units for HVAC for both HMI.



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## Variable Speed Drive



- Vector (V/W) and Scalar (V/Hz) control
- Free Windows based software Superdrive G2. Designed for the programming commanding and monitoring the CFW500
- Hospitals
- Shopping
- Commercial Buildings
- Universities
- Schools
- Airports
- Hotels
- Clean Rooms
- Pump and Fan applications in general

### Ratings and Models

CFW501 - Variable Speed Drive					Maximum Motor Power <sup>1)</sup>			
Power Supply (V)		Model	Frame Size	Braking IGBT	Output Current (A)	Power Supply (V)	Rated Motor Power	
							HP	kW
Three-phase	380-480	CFW501A01P0T4NB20	A	N/A	1.00	400	0.34	0.25
		CFW501A01P6T4NB20			1.60		0.75	0.55
		CFW501A02P6T4NB20			2.60		1.50	1.10
		CFW501A04P3T4NB20			4.30		2.00	1.50
		CFW501A06P1T4NB20			6.10		3.00	2.20
		CFW501B02P7T4DB20	B	Built-in	2.70		1.50	1.10
		CFW501B04P3T4DB20			4.30		2.00	1.50
		CFW501B06P5T4DB20			6.50		4.00	3.00
		CFW501B10P0T4DB20			10.00		5.50	4.00
		CFW501C14P0T4DB20			14.00		7.50	5.50
		CFW501C16P0T4DB20	C	Built-in	16.00		10.00	7.50

Note: 1) Use motor power ratings below only as a guidance. Motors are rated for 400 V, 50 Hz, 4-pole. The right way to size a VFD is matching its output current with the rated motor current.

### Inputs and Outputs (I/O):

- 4 Isolated digital inputs
- 2 Differential analog inputs (0-10 V or 0-20 mA or 4-20 mA)
- 3 Digital outputs (2 relays with NA/NF contacts, 1 isolated transistors)
- 1 Isolated analog outputs (0-10 V or 0-20 mA or 4-20 mA)
- 1 Dedicated input for PTC
- 2 RS485 ports



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