

CFW300

The CFW300 variable frequency drive is a high-performance VFD for three-phase induction motors. It is ideal for applications on machines or equipment that require precise control with easy setup and operation.

The CFW300 features a compact size with contactor-style electrical connections (top in / bottom out). The VFD's performance can be scaled to match the application by selecting WEG vector control (VVW) or scalar control (V/F). The CFW300 includes built-in operator interface (HMI) and SoftPLC with free WPS programming software for custom tailored control schemes. A variety of plug-in option modules for additional I/O and communications protocols may be added to provide extended capabilities, making the CFW300 a flexible and cost effective solution for your variable speed requirements.



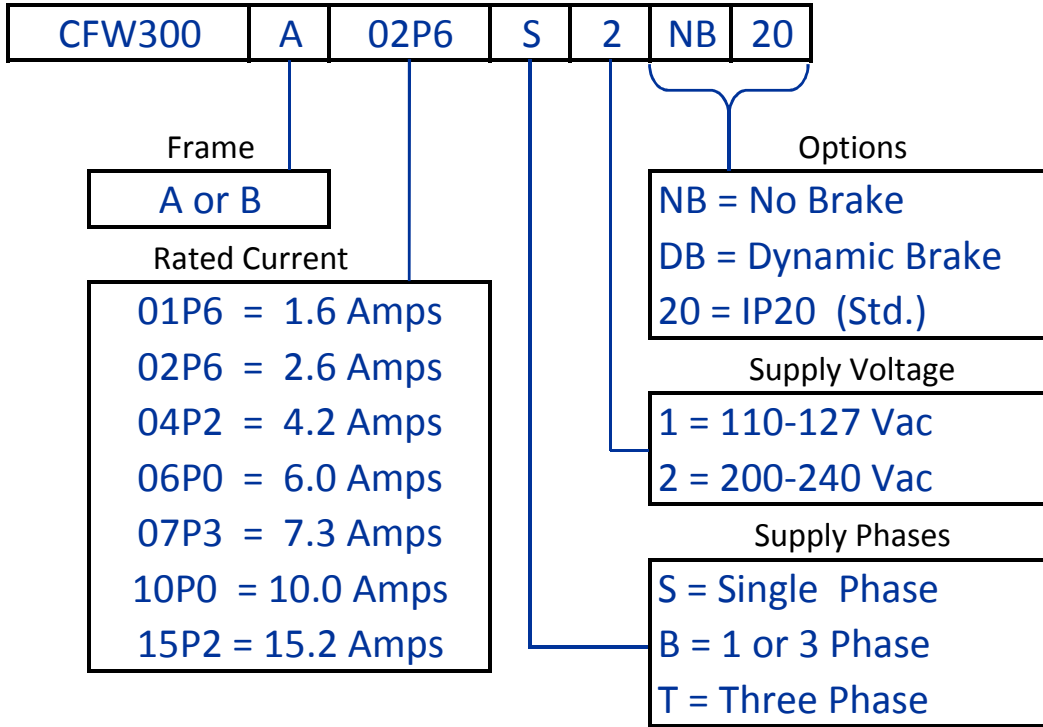
Standard Features

- Single and three-phase voltage supply
- Din rail or surface mounting with screws
- Voltage range:
 - 110-127 Vac and 200-240 Vac for single-phase models
 - 200-240 Vac for three-phase models
- Current / Power range: up to 15.2 Amps / 3.7 kW (5 HP)
- Control mode: Scalar (V/Hz) or Voltage Vector (VVW)
- Switching frequency: 2.5, 5, 10 or 15kHz
- Overload capacity: 150% for 60 sec. every 10min, 200% for 3 sec. every 10min.
- Degree of protection: IP20
- Operating temperature: 14 • 122°F (50°C); up to 140°F (60°C) with current derating (2% per 1°C above 50°C)
- Altitude: 0 • 3300 ft. (1000m); up to 13,200 ft. (4000m) with current derating (1% per 100m above 1000m)
- Humidity: 5 to 95% non-condensing
- Integrated brake chopper for frame size B (not available for size A)
- Local keypad supplied as standard

Applications

- Centrifugal pumps
- Fans / Blowers
- Blenders / Mixers
- Centrifuges
- Compressors
- Conveyors
- Roller Tables
- Granulators
- Commercial Dryers
- Rotary Filters

CFW300 Catalog Number Sequence



Variable Frequency Drives



CFW300

IP20 Enclosure

Motor Voltage	Motor HP ¹	Drive Output Amps ²	Catalog Number	Braking Transistor	Frame Size	Dimensions (in.) HxWxD	Approx. Weight Lbs. (kg)	List Price	Multiplier Symbol	
230 Vac / 3 Phase	Input Power Supply: Single-Phase 110-127 Vac									
	1/4 or 1/3	1.6	CFW300A01P6S1NB20	No	A	6.3 x 2.8 x 5.9	2.0 (0.9)	\$361	V1	
	3/4	2.6	CFW300A02P6S1NB20	No	A	6.3 x 2.8 x 5.9	2.0 (0.9)	\$394	V1	
	1	4.2	CFW300A04P2S1NB20	No	A	6.3 x 2.8 x 5.9	2.0 (0.9)	\$420	V1	
	2	6.0	CFW300A06P0S1NB20	No	A	6.3 x 2.8 x 5.9	2.0 (0.9)	\$507	V1	
	Input Power Supply: Single-Phase 200-240 Vac									
	1/4 or 1/3	1.6	CFW300A01P6S2NB20	No	A	6.3 x 2.8 x 5.9	2.0 (0.9)	\$323	V1	
	3/4	2.6	CFW300A02P6S2NB20	No	A	6.3 x 2.8 x 5.9	2.0 (0.9)	\$348	V1	
	1	4.2	CFW300A04P2S2NB20	No	A	6.3 x 2.8 x 5.9	2.0 (0.9)	\$371	V1	
	2	6.0	CFW300A06P0S2NB20	No	A	6.3 x 2.8 x 5.9	2.0 (0.9)	\$461	V1	
	2	7.3	CFW300A07P3S2NB20	No	A	6.3 x 2.8 x 5.9	2.0 (0.9)	\$543	V1	
	3	10.0	CFW300B10P0B2DB20 ³	Yes	B	8.1 x 2.8 x 6.3	3.0 (1.4)	\$648	V1	
	Input Power Supply: Three-Phase 200-240 Vac									
	1/4 or 1/3	1.6	CFW300A01P6T2NB20	No	A	6.3 x 2.8 x 5.9	2.0 (0.9)	\$343	V1	
	3/4	2.6	CFW300A02P6T2NB20	No	A	6.3 x 2.8 x 5.9	2.0 (0.9)	\$376	V1	
	1	4.2	CFW300A04P2T2NB20	No	A	6.3 x 2.8 x 5.9	2.0 (0.9)	\$399	V1	
	2	6.0	CFW300A06P0T2NB20	No	A	6.3 x 2.8 x 5.9	2.0 (0.9)	\$484	V1	
	2	7.3	CFW300A07P3T2NB20	No	A	6.3 x 2.8 x 5.9	2.0 (0.9)	\$571	V1	
	3	10.0	CFW300B10P0B2DB20 ³	Yes	B	8.1 x 2.8 x 6.3	3.0 (1.4)	\$648	V1	
	5	15.2	CFW300B15P2T2DB20	Yes	B	8.1 x 2.8 x 6.3	3.0 (1.4)	\$792	V1	

Notes:

- ¹ "HP" rating based on "average FLA values". Use as a guide only.
- ² Motor FLA may vary with speed and manufacturer. ALWAYS compare motor FLA to Nominal AMPS of drive.
- ³ CFW300B10P0B2DB20 is capable of Single-Phase input without derating.
For other technical data please refer to WEG product manual.

Options and Accessories¹

Type	CATALOG NUMBER	Description	Approx. Wt. (lbs.)	List Price	Multiplier Symbol
I/O ²	CFW300-IOAR	I/O Expansion Module; 1 AI, 1 AO, 3 DOR, +10vdc	0.2	\$141	V1
I/O ²	CFW300-IODR	I/O Expansion Module; 4 DI, 3 DOR	0.2	\$108	V1
I/O ²	CFW300-IOAENC	I/O and Encoder Module; 1 AI, 2 AO, +10vdc, 1 Incremental Encoder Input, +5vdc	0.2	\$143	V1
I/O ²	CFW300-IOADR	I/O Expansion Module; 1 NTC Sensor Input, 3 DOR	0.2	\$207	V1
RS485 Card	CFW300-CRS485	RS-485 Module; 1 RS-485 Input (Modbus-RTU), 1 Mini USB for Remote Keypad	0.2	\$82	V1
USB Card	CFW300-CUSB	USB Communication Module w/ 2-meter Cable; 1 Mini USB	0.2	\$87	V1
RS232 Card	CFW300-CRS232	RS-232 Communication Module (Modbus-RTU); 1 RS232	0.2	\$82	V1
CANopen Card	CFW300-CCAN	CANopen/DeviceNet Comm. Module; 1 CAN/DeviceNet, External 24vdc Power	0.2	\$100	V1
Profibus DP Card	CFW300-CPDP	Profibus DP Communication Module; 1 Profibus DP 9-Pin Connector	0.2	\$294	V1
Remote Keypad	CFW300-KHMIR	Remote Keypad; Includes CFW300-CRS485 and 3-meter Cable	0.4	\$256	V1
Flash Memory Module	CFW300-MMF	Flash Memory Module for saving program and parameters to/from drive.	0.2	\$210	V1
RFI Filter Kit – Fr. A	CFW300-KFA	CFW300 RFI Filter Kit – Frame Size A - SINGLE PHASE INPUT MODELS ONLY	0.3	\$90	V1
RFI Filter Kit – Fr. B	CFW300-KFB	CFW300 RFI Filter Kit – Frame Size B - SINGLE PHASE INPUT MODELS ONLY	0.3	\$105	V1

Notes:

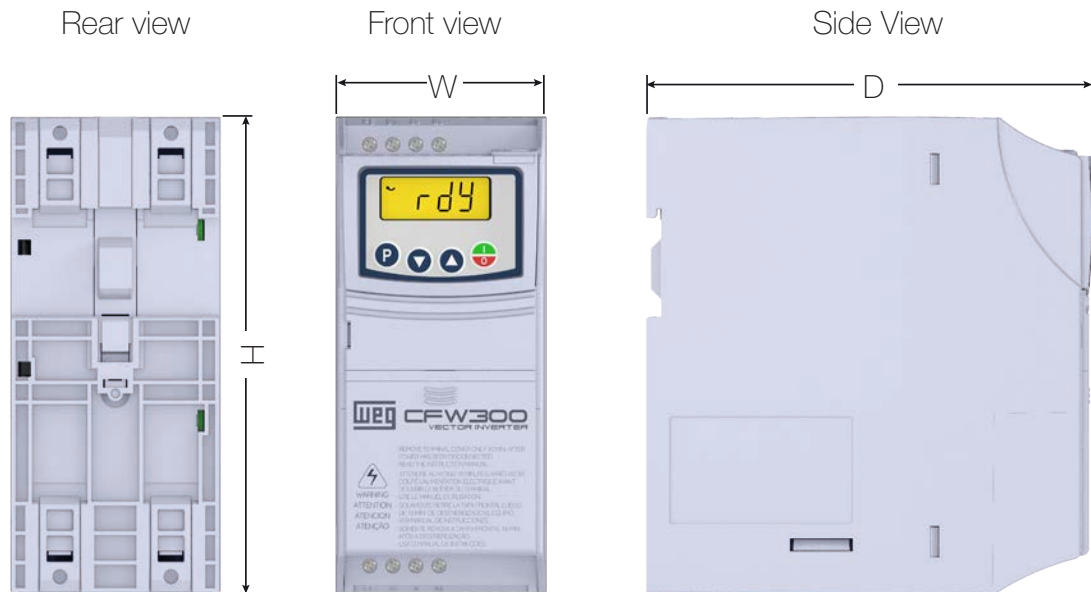
- ¹ Up to Qty. (1) I/O Expansion Module plus Qty. (1) Communication Module can be added to the CFW300 VFD.
- ² Option card I/O is in addition the standard CFW300 I/O which includes: 4 DI, 1 AI, 1 DOR.

Option Card and I/O Table

CFW 300 Option Modules	DI ¹	AI	AO	DOR	Encoder	Infrared	RS485	RS232	USB	CANopen	Profibus-DP
CFW300-IOAR	4	1	1	3							
CFW300-IODR	4 + 4			3							
CFW300-IOAENC	4	1	2		1						
CFW300-IOADR	4	1		3		1					
CFW300-CRS485	4						1				
CFW300-CRS232	4							1			
CFW300-CUSB	4								1		
CFW300-CCAN	4									1	
CFW300-CPDP											1

Notes: 1) CFW300 Drive includes 4DI as standard. Option Modules provide suplimental I/O as shown in this table.

Dimensions



Frame Size IP20	Height in. (mm)	Width in. (mm)	Depth in. (mm)	Weight Lbs. (kg)
A (w/o RFI)	6.3 (157.9)	2.8 (70.0)	5.9 (148.4)	2.0 (0.9)
A (w/RFI)	7.8 (196.0)	2.8 (70.0)	7.5 (190.1)	2.9 (1.3)
B (w/o RFI)	8.1 (198.9)	2.8 (70.0)	6.3 (158.4)	3.0 (1.4)
B (w/ RFI)	9.4 (237.0)	2.8 (70.0)	7.9 (200.1)	4.0 (1.8)

Variable Frequency Drives



CFW300

Technical Data

Power Supply	Voltage	Single Phase	110-127 Vac (+10%, -15%)
		Single Phase or Three Phase	200-240 Vac (+10%, -15%)
	Frequency	50 / 60Hz +/- 2Hz	
Output	Voltage	0-230 Vac Three Phase	
	Frequency	0-400 Hz, 0.1Hz Resolution	
Control	Control Modes	Volts per Hertz (Scalar)	
		Sensorless Voltage Vector	
		Sinusoidal PWM (Space Vector Modulation)	
	Switching Frequency	2.5, 5, 10 or 15kHz	
	Frequency Range	0-400 Hz	
	Overload Capacity	150% for 60 seconds, repeatable every 10 min.	
Control Inputs	4 programmable isolated digital inputs, NPN or 24Vdc logic (PNP)		
	1 programmable differential analog input; programmable for current or voltage		
Control Outputs	1 programmable relay output: One NO/NC (Form C) 250 Vac / 0.5 A		
Communication	Field Bus	Optional modules for RS-485, RS-232, CANopen, DeviceNet, Profibus-DP, USB	
Safety	Protections	Motor over current	DC link over voltage
		Motor overload	DC link under voltage
		Output phase-to-phase short circuit	Drive over temperature
		Output phase-to-ground short circuit	External fault
		Programming error	
Enclosure	Degree of Protection	IP20	
	Mounting	Surface mounting with screws or DIN rail mounting	
Ambient	Temperature	14 - 122°F (50°C), up to 140°F (60°C) with 2% / 1.8°F (1°C) output current derating	
	Humidity	5-95% Non Condensing	
	Altitude	0-3300 ft (1000m) Up to 13,200 ft (4000m) with 1% / 330ft (100m) output current derating	
Regulatory Conformance	EMC Directive 89 / 336 / EEC	Electromagnetic compatibility – Industrial Environment EMC Emission and Immunity with optional filter	
	ENC61800-2, 3, 5-1 ENC61800-4-2, 3, 4, 5, 6		
	LVD 73/23/EEC	Low Voltage Directive	
	UL 508C, UL 840, UL 50	Electrical Equipment standards	
Special Functions	Linear and “S” ramp accel and decel, local/remote control, FWD/REV selection, DC braking, manual and auto torque boost, motor slip compensation, electronic pot, two skip frequencies, maximum and minimum adjustable frequency limits, adjustable output current		
Keypad	4 digit LCD display and 4 keys		
	Readouts for: output frequency (Hz), output current (A), output voltage (V), motor torque (%) in vector mode, DC bus voltage (V), value proportional to frequency (Ex.: RPM), fault and status messages		