

# CFW701 HVAC



## Variable Speed Drive

In order to be present in the world's biggest drives market WEG developed a product dedicated to heating, ventilation, air conditioning and refrigeration applications. Beyond a specific hardware designed for this purpose the CFW701 also brings in specific functions to perform according to market needs.

### 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 CFW701 HVAC allows the motor to be started cross the line. An external circuitry is needed for this operation.



#### USB Port

Ready to connect with a computer.



#### Dry Pump

It prevents the pump from running with no load.



#### PTC

Possibility for monitoring PTC sensor.



#### Short Cycle Protection

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

#### Motor Power Range

0.18 to 110 kW (0.25 to 150 HP)

#### Certifications



#### Characteristics

- **Focus on HVAC Duty**
  - Overload current: 150% during 60s
  - Ambient temperature: up to 50 °C
- **RFI Filter Built-In**
  - RFI Filter complying with IEC 61800-3 Category C3
- **Low Harmonic Distortion**
  - Meets the standard IEC 61000-3-12
- **SoftPLC**
  - PLC functions: making it a flexible and optimized solution
- **Advanced PID**
  - Main PID control the process by itself and 2 additional PID for use to control an independent process
- **Communication Protocols**
  - BACnet MS/TP, Modbus N2 and Modbus-RTU
- **Conformal Coating as Standard**

#### Accessories

- **Intuitive HMI**
  - Built-in as standard and remote for the panel door



Specific Engineering Units for HVAC for both HMI.

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

- 8 Isolated digital inputs
- 3 Differential analog inputs (0-10 V/4-20 mA (2) and 4-20 mA (1))
- 5 Digital outputs (2 relays with NA contacts, 3 isolated transistors)
- 2 Non-isolated analog outputs
- 1 Dedicated input for PTC



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## Variable Speed Drive

### Applications

- Hospitals
- Shopping
- Commercial buildings
- Universities
- Schools
- Airports
- Hotels
- Clean rooms
- Pump and fan applications in general



### Drive Ratings

CFW701 - variable speed drive					Maximum ND motor power <sup>1)</sup>		Maximum HD motor power <sup>1)</sup>												
Power supply (V)		Model	Frame sizes	Normal Duty (ND)	Heavy Duty (HD)	IEC		NEMA											
				A	A	kW	HP	kW	HP										
Single-phase	200-240	CFW701 A 06P0 S2	A	6	5	50 Hz - 220 V / 230 V	1.1	60 Hz - 230 V	1.5	50 Hz - 220 V / 230 V	1.1	60 Hz - 230 V	1						
		CFW701 A 07P0 S2		7	7		1.5		2		1.5		2						
		CFW701 A 10P0 S2		10	10		2.2		3		2.2		3						
Single-phase or three-phase	200-240	CFW701 A 06P0 B2	A	6	5	50 Hz - 220 V / 230 V	1.1	60 Hz - 230 V	1.5	50 Hz - 220 V / 230 V	1.1	60 Hz - 230 V	1						
		CFW701 A 07P0 B2		7	7		1.5		2		1.5		2						
		CFW701 A 07P0 T2		7	5.5		1.5		2		1.1		1						
Three-phase	200-240	CFW701 A 10P0 T2	A	10	8	50 Hz - 220 V / 230 V	2.2	60 Hz - 230 V	3	50 Hz - 220 V / 230 V	1.5	60 Hz - 230 V	2						
		CFW701 A 13P0 T2		13	11		3		3		2.2		3						
		CFW701 A 16P0 T2		16	13		4		5		3		3						
		CFW701 B 24P0 T2	B	24	20		5.5		7.5		5.5		5						
		CFW701 B 28P0 T2		28	24		7.5		10		5.5		7.5						
		CFW701 B 33P0 T2		33.5	28		9.2		10		7.5		10						
		CFW701 C 45P0 T2	C	45	36		11		15		11		15	9.2	10	9.2	10		
		CFW701 C 54P0 T2		54	45		15		20		11		15						
		CFW701 C 70P0 T2		70	56		18.5		25		15		20						
		CFW701 D 86P0 T2	D	86	70		22		30		18.5		25	22	30	18.5	25		
		CFW701 D 0105P0 T2		105	86		30		40		22		30						
		CFW701 E 0142P0 T2		142	115		37		50		30		40						
Three-phase	380-480	CFW701 E 0180P0 T2	E	180	142	50 Hz - 220 V / 230 V	55	60 Hz - 230 V	60	50 Hz - 220 V / 230 V	37	60 Hz - 230 V	50						
		CFW701 E 0211P0 T2		211	180		55		75		55		60						
		CFW701 A 03P6 T4		3.6	3.6		1.5		2		1.5		2						
Three-phase	380-480	CFW701 A 05P0 T4	A	5	5	50 Hz - 380 V / 415 V	2.2	60 Hz - 460 V	3	50 Hz - 380 V / 415 V	2.2	60 Hz - 460 V	3						
		CFW701 A 07P0 T4		7	5.5		3		3		2.2		3						
		CFW701 A 10P0 T4		10	10		4		5		4		5						
		CFW701 A 13P5 T4	B	13.5	11		5.5		7.5		5.5		7.5						
		CFW701 B 17P0 T4		17	13.5		7.5		10		5.5		7.5						
		CFW701 B 24P0 T4		24	19		11		15		9.2		10						
		CFW701 B 31P0 T4	C	31	25		15		20		11		15						
		CFW701 C 38P0 T4		38	33		18.5		25		15		20						
		CFW701 C 45P0 T4		45	38		22		30		18.5		25						
		CFW701 C 58P5 T4	D	58.5	47		30		40		22		30						
		CFW701 D 70P5 T4		70.5	61		37		50		30		40						
		CFW701 D 88P0 T4		88	73		45		60		37		50						
		CFW701 E 0105 T4	E	105	88		55		75		45		60						
		CFW701 E 0142 T4		142	115		75		100		55		75						
		CFW701 E 0180 T4		180	142		90		150		75		100						
		CFW701 E 0211 T4	211	180	110		150		90		150								
		Three-phase	500-600	CFW701 B 02P9 T5	B		2.9		2.7		50 Hz - 525 V / 575 V		1.5	60 Hz - 575 V	2	50 Hz - 525 V / 575 V	1.5	60 Hz - 575 V	2
				CFW701 B 04P2 T5			4.2		3.8				2.2		3		2.2		2
				CFW701 B 07P0 T5			7		6.5				4		5		4		5
				CFW701 B 10P0 T5	D		10		9				5.5		7.5		5.5		7.5
				CFW701 B 12P0 T5			12		10				7.5		10		5.5		7.5
CFW701 B 17P0 T5	17			17		11	15	11	15										
CFW701 D 22P0 T5	E			22	19	15	20	11	15										
CFW701 D 27P0 T5				27	22	18.5	25	15	20										
CFW701 D 32P0 T5				32	27	22	30	18.5	25										
CFW701 D 44P0 T5	E			44	36	30	40	22	30										
CFW701 E 53P0 T5				53	44	37	50	30	40										
CFW701 E 63P0 T5				63	53	45	60	37	50										
CFW701 E 80P0 T5	E			80	66	55	75	45	60										
CFW701 E 0107 T5				107	90	75	100	55	75										
CFW701 E 0125 T5				125	107	90	125	75	100										
CFW701 E 0150 T5	150			122	110	150	90	100											

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

