

# Variable Speed Drive



**CFW 08**  
VECTOR INVERTER **Plus**



The WEG CFW 08 VSD series is intended for the speed control of three-phase induction motors. These VSD's incorporate the most advanced technology, and full features by their compactness and set of special functions available. WEG CFW-08 VSD's are easy to install and operate and are equipped with already optimized software that

can be easily set through a Keypad. This enables them to process and control industrial machine. In addition, the CFW 08 Plus series is equipped with dead time compensation techniques, thus avoiding motor instability and providing torque increase at low speeds.

## Benefits







- DSP (Digital Signal Processor) control allows a reasonable improvement of the inverter performance
- State of the Art Technology
- Electronics with SMD components
- V/Hz or Sensorless Vector Control
- Sinusoidal PWM - *Space Vector Modulation*
- IGBT modules of last generation
- Quiet motor running
- Interface with touching membrane keypad
- Flexible programming
- Compact dimensions
- Easy installation and Operation
- High starting torque
- Kit for conduit installation

## Main Applications

- Centrifugal pumps
- Process pumps
- Fans / Exhausts
- Stirrers / Mixers
- Extruding machines
- Conveyors
- Rollout tables
- Granulators / Peletizers
- Driers / rotating ovens
- Rotating filters
- Winders / Unwinders
- Cutting machines

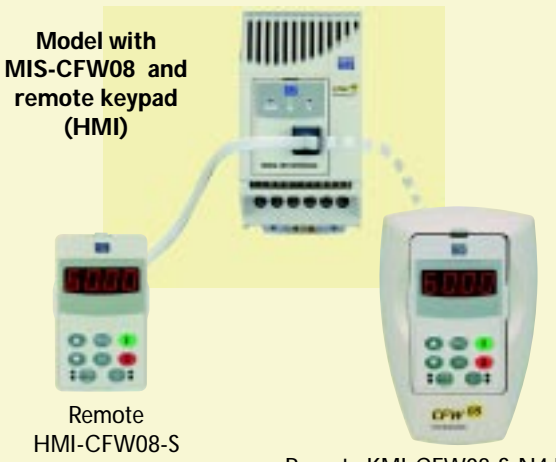
# CFW08 VARIABLE SPEED DRIVE

## Models and optional Accessories

					
<b>STANDARD</b>	<b>TCR-CFW08</b>	<b>MCS-CFW08 SERIAL INTERFACE MÓDULO</b>	<b>MIS-8R INTERFACE MÓDULO</b>	<b>KMD-CFW-08-M1</b>	<b>KN1-CFW08-MX</b>
Standard model with HMI-CFW08-P (Human Machine Interface)	Optional model without HMI (with dummy cover)	Optional Kit: Serial Communication RS-232 (MCS-01)	Optional Kit: Interface for remote serial HMI (HMI-CFW08-S)	Optional Kit: Fastening base on DIN rails (only for Size 1)	Optional Kit: connection in metallic conduit (NEMA 1)

## Remote Human-Machine Interface

**Model with MIS-CFW08 and remote keypad (HMI)**

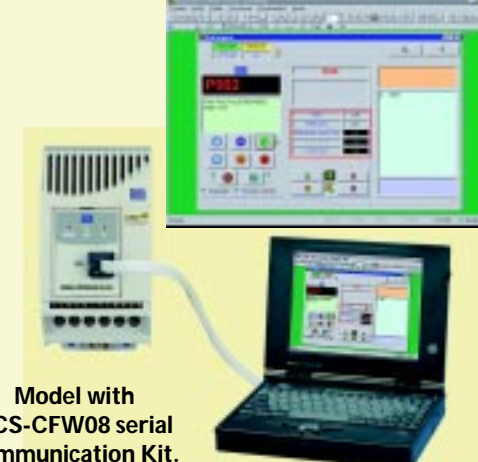


Remote HMI-CFW08-S for direct fastening (cables: 1 ... 10m)

Remote KMI-CFW08-S-N4 HMI with frame and NEMA 4 degree of protection (cables: 1 ... 10m)

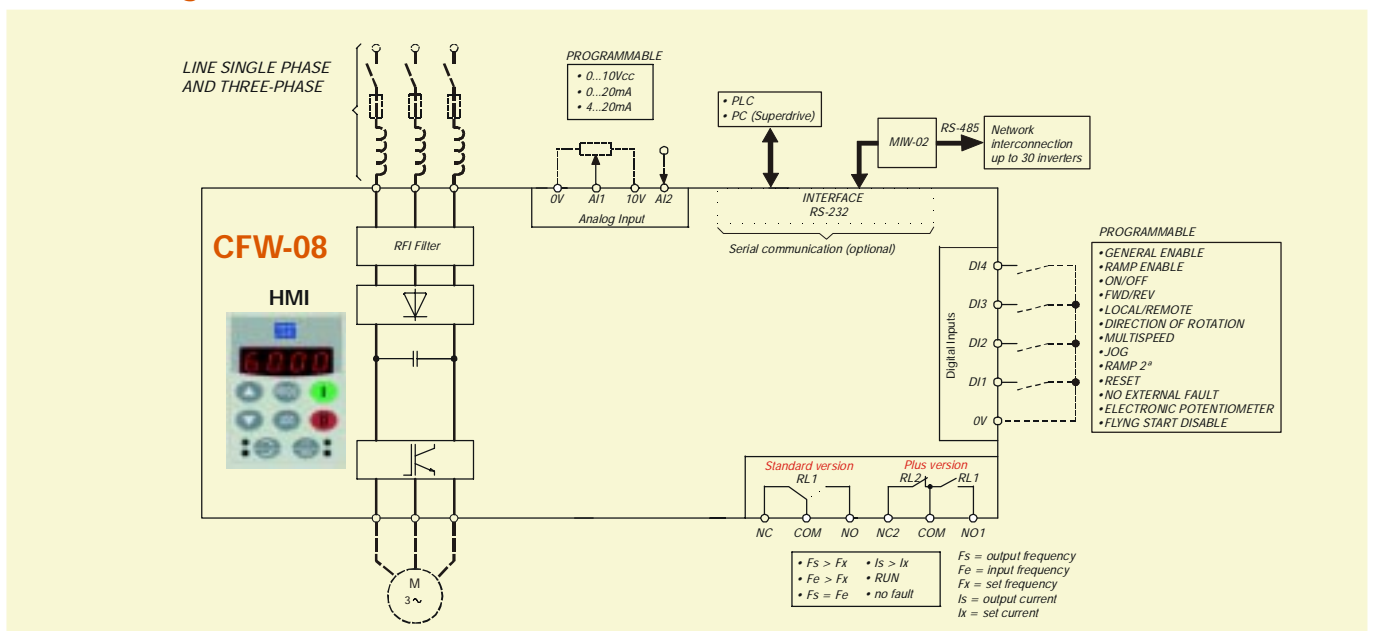
## Superdrive

**Model with KCS-CFW08 serial communication Kit.**



Programming Software via microcomputer PC in Windows ambient for parametrization, control and monitoring of CFW-08 VSD

## Block Diagram



# Specification Table

Line Voltage	CFW-08 VSD			MAX. RATED MOTOR POWER			Dimensions (mm)			Weight (kg)	
	Power Supply	Model	I nom (A)	Voltage (V)	Power		H	W	D		
					HP	kW					
200/220/230/240V	Single-phase or Three-phase	CFW080016B2024PSZ	1.6	220	0.25	0.18	151	75	131	1.0	
		CFW080026B2024PSZ	2.6		0.5	0.37					
		CFW080040B2024PSZ	4.0		1.0	0.75					
	Three-Phase	CFW080070T2024PSZ	7.0		2.0	1.5	200	115	150		2.0
	Single-phase or Three-phase	CFW080073B2024PSZ	7.3		2.0	1.5					
		CFW080100B2024PSZ	10		3.0	2.2					
	Three-Phase	CFW080160T2024PSZ	16		5.0	3.7					
380/400/415/440/460/480V	Three-Phase	CFW080010T3848PSZ	1.0	380	0.25	0.18	151	75	131	1.0	
		CFW080016T3848PSZ	1.6		0.5	0.37					
		CFW080026T3848PSZ	2.6		1.0	0.75					
		CFW080040T3848PSZ	4.0		2.0	1.5					
		CFW080027T3848PSZ	2.7		1.5	1.0	200	115	150		2.0
		CFW080043T3848PSZ	4.3		2.0	1.5					
		CFW080065T3848PSZ	6.5		3.0	2.2					
		CFW080100T3848PSZ	10		5.0	3.7					
	Three-Phase	CFW080010T3848PSZ	1.0	440	0.33	0.25				151	
		CFW080016T3848PSZ	1.6		0.75	0.55					
		CFW080026T3848PSZ	2.6		1.5	1.1					
		CFW080040T3848PSZ	4.0		2.0	1.5					
		CFW080027T3848PSZ	2.7		1.5	1.1	200	115	150	2.0	
		CFW080043T3848PSZ	4.3		2.0	1.5					
		CFW080065T3848PSZ	6.5		3.0	2.2					
		CFW080100T3848PSZ	10		5.0	3.7					

NOTES: 1) The maximum motor powers listed above were based on WEG II and IV-pole motors. For motor with different number of poles (ex.: VI and VIII-poles), other voltages (ex.: 230V, 400V and 460V) and/or motors from other manufacturers, specify the VSA through the rated motor current.

## Coding

CFW-08	0040	B	2024	P	O	00	00	00	00	00	00	00	Z
1	2	3	4	5	6	7	8	9	10	11	12	13	14

1 CFW-08 Variable Speed Drive

2 Rated Output Current:

200-240 V		380-480 V	
0016	1.6 A	0010	1.0 A
0026	2.6 A	0016	1.6 A
0040	4.0 A	0026	2.6 A
0070	7.0 A	0027	2.7 A
0073	7.3 A	0040	4.0 A
0100	10 A	0043	4.3 A
0160	16 A	0065	6.5 A
		0100	10 A
		0130	13 A
		0160	16 A

3 Number of Phase

S = single-phase  
T = three-phase  
B = single-phase or three-phase

4 Power supply  
2024 = 200-240 V  
3848 = 380-480 V

5 Manual Language  
P = Portuguese  
E = English  
S = Spanish  
G = German

6 Options  
S = standard  
O = with options

7 Enclosure  
00 = standard  
N1 = Nema 1

8 Huma-Machine Interface  
00 = standard  
SI = without interface

9 Dynamic Braking  
00 = standard  
DB = dynamic braking (Built-in IGBT)

10 Control board  
00 = standard  
A1 = control 1 (plus)

11 EMI filter  
00 = without filter  
FA = Built-in Class A filter

12 Special Hardware  
00 = not provided  
Hx = special Hardware in version X

13 Software Especial  
00 = not provided  
Hx = special Hardware in version X

14 End code

Ex.: CFW080040B2024EOA1Z

VSD of CFW-08 series, 4.0 A, single-phase or three-phase at 200-240 Vac, manual in English and Plus control board.



## Technical Data

Model		Standard CFW-08	CFW-08 Plus
POWER SUPPLY	Voltage	Single-Phase	200 - 240V: 200 / 220 / 230 / 240 V (+10%, -15%)
		Three-Phase	200 - 240V: 200 / 220 / 230 / 240 V (+10%, -15%)
	Frequency	380 - 480V: 380 / 400 / 415 / 440 / 460 / 480 V (+10%, -15%)	
	Cos φ (Displacement Factor)	50 / 60 Hz +/- 2 Hz (48 ... 62 Hz)	
ENCLOSURE	Standard	> 0,98	
	Optional	IP 20	
CONTROL	Power Supply Type	NEMA 1 with additional kit for metallic conduit connection	
	Control Method	Switching power supply	
	Control Type	DSP (Digital Signal Processor), 16 bits, sinusoidal PWM ( <i>Space Vector Modulation</i> )	
		Imposed voltage - linear V/Hz or quadratic (scalar)	
		VVC: <i>Voltage Vector Control</i>	
	Suitching Frequency	IGBT Transistors IGBT – Frequencies : 2.5 / 5.0 / 10 / 15 kHz	
	Frequency Range	0 ... 300 Hz	
	Frequency Resolution	Analog Ref.: 0.1% of Fmax. and digital Ref.: 0.01 Hz (f<100Hz); 0.1Hz (f>100Hz)	
Accuracy (25°C ± 10°C)	Analog Ref.: 0.5% and digital Ref.: 0.01%		
Overload capacity	150% during 60 sec. every 10 min. (1.5 x Rated Current.)		
Efficiency	>95%		
INPUTS	Analog	1 isolated input 0...10 V. 0...20 mA or 4...20 mA	2 isolated inputs 0...10 V, 0...20 mA ou 4...20 mA
	Digital	4 programmable isolated inputs	
OUTPUTS	Relay	1 programmable output, reversal contact I (NO/NC)	2 programmable outputs, 1 NO and 1 NC
	Analog	Programming options: Is > Ix ; Fs > Fx ; Fe > Fx ; Fs = Fe ; Run	
COMMUNICA-TION	Serial Interface	-   1 Isolated analog output 0 - 10 V (8 bits)	
	"Field Bus" Networks	RS-232 or RS-485 (optional)	
SAFETY	Protections	Unit for ProfiBus DP Communication, DeviceNet or ModBus (optional)	
		DC ling overvoltage / undervoltage	
		Overtemperature	
		Output overcurrent	
		Motor overload (i x t)	
		Hardware fault, external fault and serial communication error	
		Short-circuit at output and short-circuit at output between phase-ground	
		Programming fault and self-tuning error	
HUMAN-MACHINE INTERFACE (HMI)	Commands	On/Off , Parameter Setting ( Programming of special functions )	
		Frequency Increment / Decrement ( Speed )	
		JOG, Reversal of Direction of Rotation and Local /Remote Selection	
	Monitoring (Reading)	Motor Output Frequency ( Hz )	
		DC Link Voltage ( V )	
		Value proportional to the frequency ( Ex.:RPM )	
		Heat Sink Temperature	
		Motor Output Current ( A )	
		Motor Output Voltage ( V )	
		Error / Fault Messages	
Load Torque			
AMBIENT	Temperature	0 ... 40 °C ( up to 50 °C with output current derating (2% / °C )	
	Humidit	5 ... 90% non condensing	
	Altitude	0 ... 1000 m ( up tp 4000 m with output current derating (10% / 1000 m)	
FINISHING	Color	Light gray – PANTONE – 413 C	
CONFORMITIES	Electromagnetic Compatibility	EMC directive 89 / 336 / EEC – Industrial Environment	
		EN 61800-3 Standard ( EMC - Electromagnetic Compatibility )	
	Low Voltage	LVD 73/23/EEC - Low Voltage Directive / UL 508C	

## Resources / Special Functions

Standard / Plus
Incorporated Human-Machine Interface - 7 segment LED
Programming enabling password
Fault self-diagnosis and Auto-Reset
Specific value indication (programmable) - ( Ex.: m/min; rpm, etc )
Slip compensation
Manual and automatic I x R
Programmable V/Hz Curve
JOG Function (transitory speed pulses)
COPY Function via remote keypad (HMI-CFW08-S)
Linear and 'S'type ramp and double ramp
Acceleration and deceleration ramps (independent)
DC braking (DC Current)
Multi-Speed Function (up to 8 pre-programmable speeds)
FWD/REV Selection
Local/Remote Operation selection
Overposed PID Regulator ( automatic level, pressure control, etc )
Starting with running motor ( <i>Flying Start</i> )
Rejection of critical or resonant frequencies ( <i>Skip Frequency</i> )
Operation during transitory line faults ( <i>Ridethru</i> )

Optional		
Remote Keypad (HMI) (7 segment LED)	HMI-CFW08-S	
Remote Keypad (HMI) (IP 55 Enclosure)	HMI-CFW08-IN4-S	
Interface Module for remote keypad (HMI)	MIS-CFW08	
Interconnection cable of the remote HMI ( 1 ; 2 ; 3 ; 5 ; 7,5 and 10 m )	CAB-HMI08-S-X	
Serial Communication module RS-232	MCS-CFW08	
RS-232 to RS-485 converter (MCS-CFW08 Module required)	MIW-02	
Programming Software via microcomputer PC	SUPERDRIVE	
NEMA 1 Kit for metallic conduit connection	KN1-CFW08-MX	
Kit for assembling on DIN rail	KMD-CFW08	
Frame Kit moldura for HMI-CFW-08-S	KMR-CFW08-S	
Units for Fieldbus Communication Networks	ProfiBus DP	MFW-01 / PD
	DeviceNet	MFW-01 / DN
	ModBus RTU built-in	-
EMC Filter with high Attenuation Capacity - Class A - internal	-	
EMC Filter with high Attenuation Capacity -Class B - external	-	

Distributor



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