



English



14953791

Quick Installation Guide

CFW500 Frequency Inverter

1 SAFETY INSTRUCTIONS

This quick installation guide contains the basic information necessary to commission the CFW500. It has been written to be used by qualified personnel with suitable training or technical qualification for operating this type of equipment. The personnel shall follow all the safety instructions described in this manual defined by the local regulations. Failure to comply with the safety instructions may result in death, serious injury, and/or equipment damage.

2 SAFETY WARNINGS IN THIS GUIDE AND IN THE PRODUCT

DANGER!
The procedures recommended in this warning aim at protecting the user against death, serious injuries and considerable material damages.

ATTENTION!
The procedures recommended in this warning aim at preventing material damages.

NOTE!
The information mentioned in this warning is important for the proper understanding and good operation of the product.

High voltages present.

Components sensitive to electrostatic discharges.
Do not touch them.

The connection to the protection grounding is required (PE).

Connection of the shield to the grounding.

3 PRELIMINARY RECOMMENDATIONS

DANGER!
Always disconnect the general power supply before changing any electric component associated to the inverter. Many components may remain loaded with high voltages and/or moving (fans), even after the AC power supply input is disconnected or turned off. Wait for at least ten minutes in order to guarantee the full discharge of the capacitors. Always connect the grounding point of the inverter to the protection grounding.

NOTE!
Frequency Inverter may interfere with other electronic equipment. Follow the precautions recommended in manual available for download on the website: www.weg.net.

NOTE!
It is not the intention of this guide to present all the possibilities for the application of the CFW500, as well as WEG cannot take any liability for the use of the CFW500 which is not based on this guide. For further information about installation, full parameter list and recommendations, visit the website www.weg.net.

Do not execute any applied potential test on the inverter!
If necessary, contact WEG.

ATTENTION!
Electronic boards have components sensitive to electrostatic discharges.
Do not touch directly on components or connectors. If necessary, first touch the grounding point of the inverter, which must be connected to the protection earth (PE) or use a proper grounding strap.

DANGER!
Crushing Hazard
In order to ensure safety in load lifting applications, electric and/or mechanical devices must be installed outside the inverter for protection against accidental fall of load.

DANGER!
This product was not designed to be used as a safety element. Additional measures must be taken so as to avoid material and personal damages.
The product was manufactured under strict quality control, however, if installed in systems where its failure causes risks of material or personal damages, additional external safety devices must ensure a safety condition in case of a product failure, preventing accidents.

ATTENTION!
The operation of this equipment requires detailed installation and operation instructions provided in the user's manual, programming manual and communication manuals, available for download on the website: www.weg.net.

4 ABOUT THE CFW500

The frequency inverter CFW500 is a high-performance product which allows the speed and torque control of three-phase induction motors.

5 NOMENCLATURE

Table 1: Nomenclature of the inverters CFW500											
Product and Series	Identification of the Model				Brake	Protection Rate	Conducted Emission Level	Safety Functions	Hardware Version	Special Software Version	
	Frame Size	Rated Current	N° of Phases	Rated Voltage							
Ex.:	CFW500	A	02P6	T	4	NB	20	C2	---	---	---
Available options	Refer to Table 2.2 to the CFW500 user's manual, available for download on the website: www.weg.net					DB = with dynamic braking	20 = IP20	Blank = it does not meet the levels of standards for conducted emission C2 or C3 = as per category 2 (C2) or 3 (C3) of IEC/EN 61800-3, with internal RFI filter	Y2 = with safety functions (STO and SS1-t, IEC/EN 61800-5-2)	Blank = standard plug-in module H00 = without plug-in	Blank = no safety functions
	NB = without dynamic braking										Sx = special software
	N1 = cabinet Nema1 (type 1 as per UL) (protection rate according to standard IEC IP20)										

NOTE!
For models with a special software version (Sx in the smart code) and for specific applications, refer to the application manual available for download on www.weg.net.

6 IDENTIFICATION LABEL

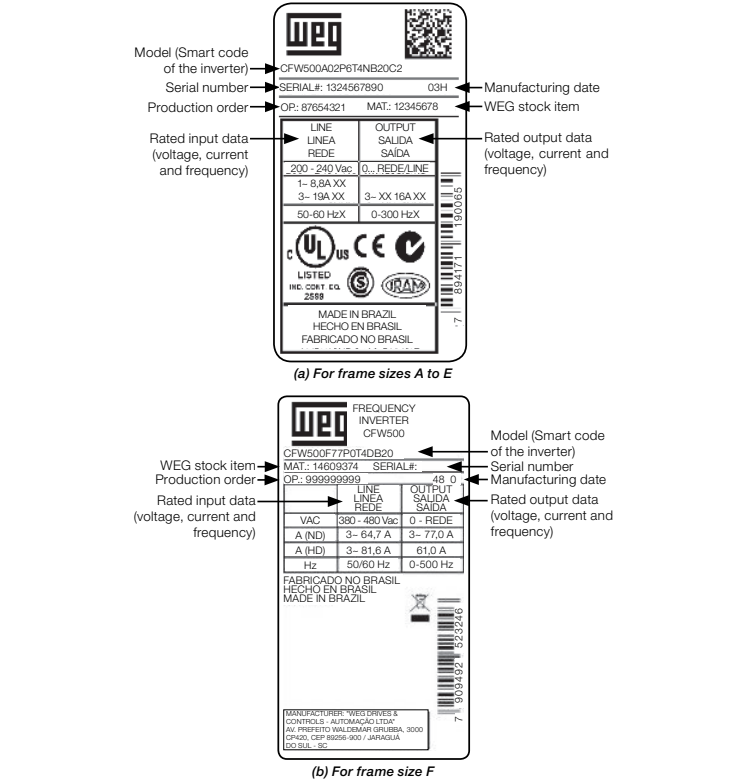


Figure 1: (a) and (b) Description of the identification label on the CFW500

7 RECEIVING AND STORAGE

The CFW500 is supplied in a cardboard package up to frame size E. Models with larger enclosures are packed in a wooden box. On this package, there is an identification label which is the same as the one attached to the side of the inverter.

Follow the procedures below to open the package of models from frame size F up:
1. Place the package on a table with the help of two people.
2. Open the package.
3. Remove the cardboard or styrofoam protection.

Check if:
■ The identification of the CFW500 matches the model purchased.
■ Any damages occurred during transportation.

Report any damage immediately to the carrier.

If the CFW500 is not installed soon, store it in a clean and dry location (temperature between -25 °C and 60 °C (-77 °F and 140 °F)), with a cover to prevent dust accumulation inside it.

ATTENTION!
When the inverter is stored for a long period, it becomes necessary to perform the capacitor reforming. Refer to the procedure recommended in the user's manual, available for download on the website: www.weg.net.

8 INSTALLATION AND CONNECTION

8.1 Environmental Conditions:

Avoid:
■ Direct exposure to sunlight, rain, high humidity or sea-air.
■ Inflammable or corrosive liquids or gases.
■ Excessive vibration.
■ Dust, metallic particles or oil mist.

Environmental conditions permitted for the operation of the inverter:
■ Temperature around the inverter from -10 °C (14 °F) to the nominal temperature.
■ Inverters with frame sizes A to E: for temperatures surrounding the inverter higher than the specifications in Table B.4 in the user's manual CFW500, available for download on the website: www.weg.net, it is necessary to apply of 2 % of current derating for each Celsius degree, limited to an increase of 10 °C (50 °F).
■ Inverters with frame size F: for temperatures around the inverter higher than the specification indicated in Table B.5 in the user's manual, available for download on the website: www.weg.net, it is necessary to derate the current by 1 % for each degree Celsius up to 50 °C (122 °F) and by 2 % for each degree Celsius up to 60 °C (140 °F).

■ Air relative humidity: 5 % to 95 % non-condensing.
■ Maximum altitude: up to 1000 m (3.300 ft) - nominal conditions.
■ 1000 m to 4000 m (3.300 ft to 13.200 ft) - 1 % of current derating for each 100 m (328 ft) above 1000 m of altitude.
■ From 2000 m to 4000 m (6.600 ft to 13.200 ft) above sea level - maximum voltage reduction (240 V for 200...240 V models, 480 V for 380...480 V models and 600 V for 500...600 V models) of 1.1 % for each 100 m (330 ft) above 2000 m (6.600 ft).
■ Pollution degree: 2 (according to EN 50178 and UL 508C), with non-conductive pollution. Condensation must not originate conduction through the accumulated residues.

8.2 Positioning and Mounting

The external dimensions and the drilling for the mounting, as well as the net weight (mass) of the inverter are presented in Figure 2.

Mount the inverter in the upright position on a flat and vertical surface. First, put the screws on the surface where the inverter will be installed, install the inverter and then tighten the screws observing the maximum torque for the screws indicated in "Figure 2: Inverter dimensions for mechanical installation" on page 1.

Allow the minimum clearances indicated in Figure 3, in order to allow the cooling air circulation. Do not install heat sensitive components right above the inverter.

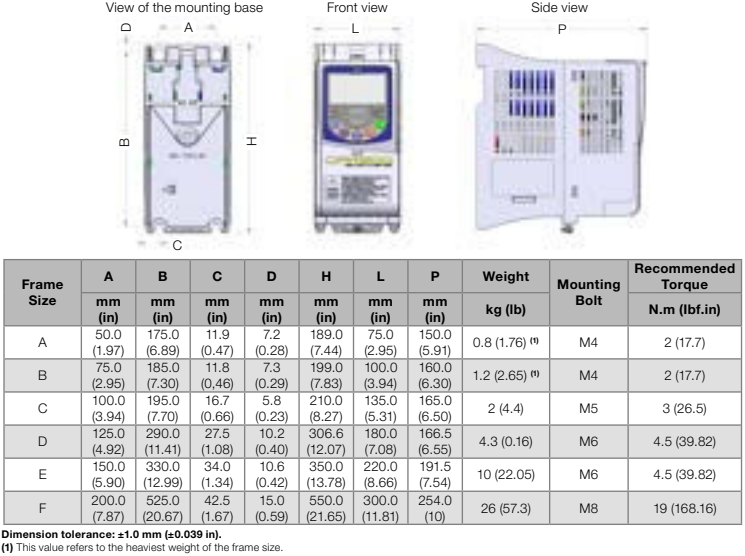
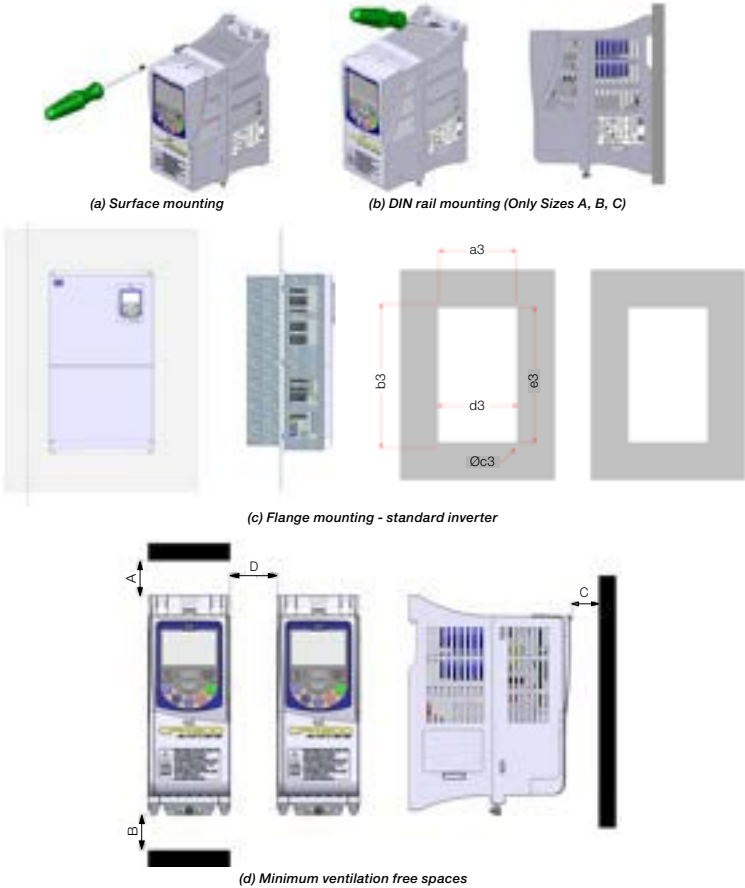


Figure 2: Inverter dimensions for mechanical installation



Frame Size	a3	b3	c3	d3	e3	A	B	C	D	Torque Par ⁽¹⁾
	mm (in)	mm (in)	M	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	N.m. (lbf. in)
A	-	-	-	-	-	15.0 (0.59)	40.0 (1.57)	30.0 (1.18)	10.0 (0.39)	-
B	-	-	-	-	-	35.0 (1.38)	50.0 (1.97)	40.0 (1.57)	15.0 (0.59)	-
C	-	-	-	-	-	40.0 (1.57)	50.0 (1.97)	50.0 (1.97)	30.0 (1.18)	-
D	-	-	-	-	-	40.0 (1.57)	50.0 (1.97)	50.0 (1.97)	40.0 (1.57)	-
E	-	-	-	-	-	110.0 (4.33)	130.0 (5.11)	50.0 (1.97)	40.0 (1.57)	-
F	275.0 (10.83)	517.0 (20.35)	M8	288.0 (11.34)	488.0 (19.21)	110.0 (4.33)	130.0 (5.11)	10.0 (0.39)	30.0 (1.18)	20 (177)

Dimension tolerance: ±1.0 mm (±0.039 in).
(1) Recommended torque for fixing the inverter (valid for C3).
(2) It is possible to mount inverters side by side without lateral free space (D = 0), however with maximum ambient temperature of 40 °C (104 °F).
Figure 3: (a) to (d) Mechanical installation data (surface mounting and minimum ventilation free spaces)

ATTENTION!
■ When installing two or more inverters vertically, respect the minimum clearance A + B (as per Figure 3) and provide an air deflecting plate so that the heat rising up from the bottom inverter does not affect the top inverter.
■ Provide independent conduits for the physical separation of signal, control, and power cables (refer to the Chapter 9 ELECTRICAL INSTALLATION).

9 ELECTRICAL INSTALLATION

DANGER!
■ The following information is merely a guide for proper installation. Comply with applicable local regulations for electrical installations.
■ Make sure the power supply is disconnected before starting the installation.
■ The CFW500 must not be used as an emergency stop device. Provide other devices for that purpose.

ATTENTION!
Integral solid state short circuit protection does not provide branch circuit protection. Branch circuit protection must be provided in accordance with applicable local codes.

9.1 Identification of the Power Terminals and Grounding Points

The power terminals can be of different sizes and configurations, depending on the model of the inverter, according to Table 2. The maximum torque of the power terminals and grounding points must be checked in Table 2.

Table 2: Power terminals, grounding points and recommended tightening torque

Frame Size	Power Supply	Recommended Torque			
		Grounding Points		Power Terminals	
		N.m	Lbf.in	N.m	Lbf.in
A	200...240 V	0.5	4.34	0.5	4.34
	380...480 V	0.5	4.34	0.5	4.34
B	200...240 V	0.5	4.34	0.5	4.34
	380...480 V	0.5	4.34	0.5	4.34
C	200...240 V	0.5	4.34	1.7	15
	380...480 V	0.5	4.34	1.8	15.93
	500...600V	0.5	4.34	1.0	8.68
D	200...240 V	0.5	4.34	2.4	21.24
	380...480 V	0.5	4.34	1.76	15.57
E	200...240 V	0.5	4.34	3.05	27
	380...480 V	0.5	4.34	3.05	27
F	380...480 V	0.5	8.85	5.5	48.68

Description of the power terminals:
L/L1, N/L2 and L3 (R, S, T): AC power supply. Some models of voltage 200-240 V (see option of models in Table 5) can operate in 2 or 3 phases (single-phase/ three-phase inverters) without derating of the rated current. In this case, the AC power supply can be connected to two of the three input terminals without distinction. For the single-phase models only, the power voltage must be connected to L/L1 and N/L2.
U, V, W: connection for the motor.
-UD: negative pole of the voltage of the DC Link.
+UD: positive pole of the voltage of the DC Link.
BR: connection of the brake resistor.
DCR: connection to the external DC Link inductor (optional). Only available for models 28 A, 33 A, 47 A and 56 A / 200-240 V and 24 A, 31 A, 39 A and 49 A / 380-480 V.

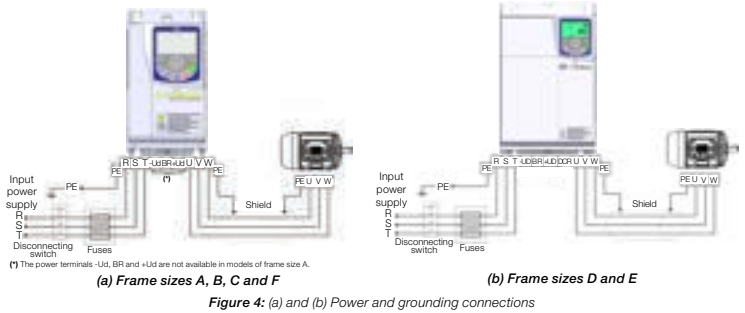
9.2 Power and Grounding Wiring, Circuit Breakers and Fuses

ATTENTION!
■ Use proper cable lugs for the power and grounding connection cables. Refer to Table 5 for recommended wiring, circuit breakers and fuses.
■ Keep sensitive equipment and wiring at a minimum distance of 0.25 m from the inverter and from the cables connecting the inverter to the motor.
■ It is not recommended the use of mini circuit breakers (MDU), because of the actuation level of the magnet.

ATTENTION!
Residual Current Device (RCD):
■ When installing an RCD to guard against electrical shock, only devices with a trip current of 300 mA should be used on the supply side of the inverter.
■ Depending on the installation (motor cable length, cable type, multimotor configuration, etc.), the RCD protection may be activated. Contact the RCD manufacturer for selecting the most appropriate device to be used with inverters.

NOTE!
■ The wire gauges listed in Table 5 are orientative values. Installation conditions and the maximum permitted voltage drop must be considered for the proper wiring sizing.
■ In order to meet UL requirements, use ultra fast (for frame sizes A, B and C), and use fuse type J or circuit breaker (for frame sizes D and E) fuses at the inverter supply with a current not higher than the values presented in Figure 5.

9.3 Power Connections



9.3.1 Input Connections

DANGER!
Provide a disconnect device for the inverter power supply. This device must cut off the power supply whenever necessary (during maintenance for instance).

ATTENTION!
The power supply that feeds the inverter must have a grounded neutral. In case of IT networks, follow the instructions described in the user's manual, available for download on the website: www.weg.net.

NOTE!
■ The input power supply voltage must be compatible with the inverter rated voltage.
■ Power factor correction capacitors are not needed at the inverter input (L/L1, N/L2, L3 or R, S, T) and must not be installed at the output (U, V, W).

Power supply capacity

- Suitable for use in circuits capable of delivering not more than 30.000 Arms symmetrical (200 V, 480 V or 600 V), when protected by fuses as specified in Table 5.

9.3.2 Dynamic Braking



NOTE!

The dynamic braking is available from frame size B for the CFW500. For installation information, refer to item 3.2.3.4 Dynamic Braking of the user's manual, available for download on the website: www.weg.net.

9.3.3 Output Connections



ATTENTION!

The inverter has an electronic motor overload protection that must be adjusted according to the driven motor. When several motors are connected to the same inverter, install individual overload relays for each motor.

The motor overload protection available in the CFW500 is in accordance with the UL508C standard. Note the following information:

1. Trip current equal to 1.2 times the motor rated current (P0401).
2. When parameters P0156, P0157 and P0158 (Overload current at 100 %, 50 % and 5 % of the rated speed, respectively) are manually set, the maximum value to meet the condition 1 is 1.1 x P0401.



ATTENTION!

If a disconnect switch or a contactor is installed at the power supply between the inverter and the motor, never operate it with the motor turning or with voltage at the inverter output.

The characteristics of the cable used to connect the motor to the inverter, as well as its interconnection and routing, are extremely important to avoid electromagnetic interference in other equipment and not to affect the life cycle of windings and bearings of the controlled motors.

Keep motor cables away from other cables (signal cables, sensor cables, control cables, etc.), according to Item 9.3.6 Cable Separation Distance.

Connect a fourth cable between the motor ground and the inverter ground.

9.3.4 Grounding Connections



DANGER!

- The inverter must be connected to a protection grounding (PE).
- Use grounding wiring with a gauge at least equal to that indicated in Table 5.
- The maximum tightening torque of the grounding connections is of 1.7 N.m (15 lbf.in).
- Connect the grounding points of the inverter to a specific grounding rod, or specific grounding point or to the general grounding point (resistance $\leq 10 \Omega$).
- The neuter conductor that powers up the inverter must be solidly grounded; however, this conductor must not be used to ground the inverter.
- Do not share the grounding wiring with other equipment that operate with high currents (e.g. high power motors, soldering machines, etc.).

9.3.5 Control Connections

The control connections (analog input/output, digital input/output and interface RS485) must be performed according to the specification of the connector of the plug-in module connected to the CFW500. Refer to the guide of the plug-in module in the package of the product. The typical functions and connections for the CFW500-IOS standard plug-in module are shown in Figure 5.

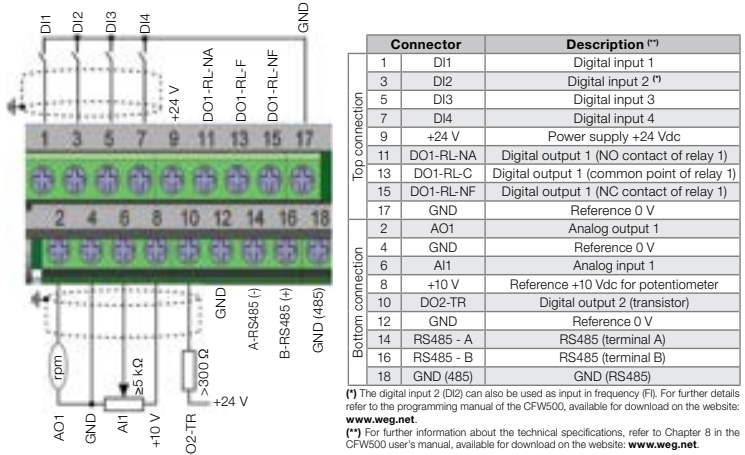


Figure 5: Signals of the connector of the CFW500-IOS plug-in module

For the correct connection of the control, use:

1. Gauge of the cables: 0.5 mm² (20 AWG) to 1.5 mm² (14 AWG).
2. Maximum torque: 0.5 N.m (4.50 lbf.in).
3. Wiring of the plug-in module connector with shielded cable and separated from the other wiring (power, command in 110 V / 220 Vac, etc), according to Item 9.3.6 Cable Separation Distance.
4. Relays, contactors, solenoids or coils of electromechanical brake installed close to the inverters may occasionally generate interference in the control circuitry. To eliminate this effect, RC suppressors (with AC power supply) or freewheel diodes (with DC power supply) must be connected in parallel to the coils of these devices.
5. When using the external HMI, the cable that connects to the inverter must be separated from the other cables in the installation, keeping a minimum distance of 10 cm.
6. When using analog reference (AI1) and the frequency oscillates (problem of electromagnetic interference), interconnect the GND of the connector of the plug-in module to the inverter grounding connection.

9.3.6 Cable Separation Distance

Table 3: Cable separation distance		
Inverter Output Rated Current	Length of the Cable(s)	Minimum Separation Distance
≤ 24 A	≤ 100 m (330 ft)	≥ 10 cm (3.94 in)
	> 100 m (330 ft)	≥ 25 cm (9.84 in)
≥ 28 A	≤ 30 m (100 ft)	≥ 10 cm (3.94 in)
	> 30 m (100 ft)	≥ 25 cm (9.84 in)

10 PREPARATION AND POWERING UP



DANGER!

Always disconnect the general power supply before making any connection.

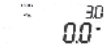
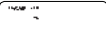
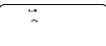
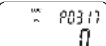
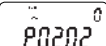
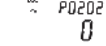
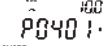
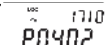
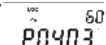
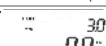
1. Check if the power, grounding and control connections are correct and firm.
2. Remove all materials left from the inside of the inverter or drive.

3. Check if the motor connections and if the motor current and voltage match the inverter.
4. Mechanically uncouple the motor from the load. If the motor cannot be uncoupled, be sure that the turning in any direction (clockwise or counterclockwise) will not cause damages to the machine or risk of accidents.
5. Close the covers of the inverters or drive.
6. Measure the voltage of the input power supply and check if it is within the permitted range, as presented in Chapter 11 TECHNICAL SPECIFICATIONS.
7. Power up the input: close the disconnecting switch.
8. Check the success of the powering up:
The display of the HMI indicates:



10.1 Startup

10.1.1 V/f Control Type (P0202 = 0)

Step	Indication on the Display/Action	Step	Indication on the Display/Action
1	 ■ Monitoring mode ■ Press the key ENTER/MENU to enter 1st level of programming mode	2	 ■ The PARAM group is selected, press the keys  or  until selecting the STARTUP group
3	 ■ When the STARTUP group is selected ■ Press the key ENTER/MENU	4	 ■ The parameter "P0317 - Oriented Start-up" is then selected, press the ENTER/MENU to get into the parameter content
5	 ■ Change the parameter P0317 to "1 - Yes", by using the  key	6	 ■ If necessary, press ENTER/MENU to modify the content of "P0202 - Control Type" for P0202 = 0 (V/f)
7	 ■ When the desired value is reached, press ENTER/MENU to save the modification ■ Press the key  for the next parameter	8	 ■ If necessary, modify the content of "P0401 - Motor Rated Current" ■ Press the key  for the next parameter
9	 ■ If necessary, modify the content of "P0402 - Motor Rated Speed" ■ Press the key  for the next parameter	10	 ■ If necessary, modify the content of "P0403 - Motor Rated Frequency" ■ Press the key  for the next parameter
11	 ■ To end the Start-up routine, press the key BACK/ESC ■ To return to the monitoring mode, press the key BACK/ESC again		

11 TECHNICAL SPECIFICATIONS

11.1 Power Data

- Power Supply:
- Voltage Tolerance: -15 % to +10 % of nominal voltage.
 - Frequency: 50/60 Hz (48 Hz to 62 Hz).
 - Phase imbalance: ≤ 3 % of the rated phase-to-phase input voltage.
 - Overvoltage according to Category III (IEC/EN 61010/UL 508C).
 - Transient voltage according to Category III.
 - Maximum of 10 connections (power up cycles - ON/OFF) per hour (1 every 6 minutes).
 - Typical efficiency: ≥ 97 %.

12 CONSIDERED STANDARDS

Table 4: Considered standards	
Safety standards	■ UL 508C - power conversion equipment. ■ Note: Suitable for Installation in a compartment handling conditioned air. ■ UL 840 - insulation coordination including clearances and creepage distances for electrical equipment. ■ IEC/EN 61800-5-1 - safety requirements electrical, thermal and energy. ■ EN 50178 - electronic equipment for use in power installations. ■ IEC/EN 60204-1 - safety of machinery. Electrical equipment of machines. Part 1: general requirements. ■ Note: for the machine to comply with this standard, the manufacturer of the machine is responsible for installing an emergency stop device and equipment to disconnect the input power supply. ■ IEC/EN 60146 (IEC 146) - semiconductor converters. ■ IEC/EN 61800-2 - adjustable speed electrical power drive systems - part 2: general requirements - rating specifications for low voltage adjustable frequency AC power drive systems.
Electromagnetic compatibility (EMC) standards	■ IEC/EN 61800-3 - adjustable speed electrical power drive systems - part 3: EMC product standard including specific test methods. ■ CISPR 11 - industrial, scientific and medical (ISM) radio-frequency equipment - electromagnetic disturbance characteristics - limits and methods of measurement. ■ IEC/EN 61000-4-2 - electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 2: electrostatic discharge immunity test. ■ IEC/EN 61000-4-3 - electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 3: radiated, radio-frequency, electromagnetic field immunity test. ■ IEC/EN 61000-4-4 - electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 4: electrical fast transient/burst immunity test. ■ IEC/EN 61000-4-5 - electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 5: surge immunity test. ■ IEC/EN 61000-4-6 - electromagnetic compatibility (EMC)- part 4: testing and measurement techniques - section 6: immunity to conducted disturbances, induced by radio-frequency fields.
Mechanical construction standards	■ EN 60529 - degrees of protection provided by enclosures (IP code). ■ UL 50 - enclosures for electrical equipment. ■ IEC/EN 60721-3-3 - classification of environmental conditions - part 3: classification of groups of environmental parameters and their severities - section 3: stationary use at weather protected locations level 3m4.

13 CERTIFICATIONS

Certifications ^(*)	Notes
UL e cUL	E184430
CE	
IRAM	
C-Tick	
EAC	

(*) For updated information on certifications, please contact WEG.

14 LIST OF MODELS CFW500 SERIES

Table 5: List of models of CFW500 series, main electrical specifications

Inverter	Number of Input Phases	Power Supply Rated Voltage	Frame Size	Output Rated Current	Maximum Motor	Recommended Fuse			Circuit Breaker	Power Wire Size	Grounding Wire Size	Dynamic Braking					
						I²t [A²s]	Current [A]	Recommended WEG aR Fuse				Maximum Current	Recommended Resistor	Braking rms Current	Power Wire Size for DC+ and BR	Terminals	
		[Vrms]		HD [Arms]	HD [HP/ kW]				[A]	WEG	mm² (AWG)	mm² (AWG)	(I _{lim}) [A]	[Ω]	[A]	mm² (AWG)	
CFW500A01P6S2	1		A	1.6	0.25/0.18	373	20 ⁽¹⁾	FNH00-20K-A	5.5	MPW18-3-D063	1.5 (16)	2.5 (14)	Dynamic braking not available				
CFW500A02P6S2			2.6	0.5/0.37	373	20 ⁽¹⁾	FNH00-20K-A	9.0	MPW18-3-U010	1.5 (16)	2.5 (14)						
CFW500A04P3S2			4.3	1/0.75	373	25 ⁽¹⁾	FNH00-25K-A	13.5	MPW18-3-U016	1.5 (16)	2.5 (14)						
CFW500A07P0S2			7.0	2/1.5	800	40 ⁽¹⁾	FNH00-40K-A	25	MPW40-3-U025	4.0 (12)	4.0 (12)						
CFW500B07P3S2	1		B	7.3	2/1.5	450	40 ⁽¹⁾	FNH00-40K-A	25	MPW40-3-U025	2.5 (14)	4.0 (12)	10	39	7	2.5 (14)	
CFW500B10P0S2			10	3/2.2	450	63 ⁽¹⁾	FNH1-63K-A	32	MPW40-3-U032	4.0 (12)	4.0 (12)	15	27	11	2.5 (14)		
CFW500A01P6B2		1/3	220...240	A	1.6	0.25/0.18	680	20 ⁽¹⁾	FNH00-20K-A	5.5/2.5 ⁽¹⁾	MPW18-3-D063 / MPW18-3-D025 ⁽¹⁾	1.5 (16)	2.5 (14)	Dynamic braking not available			
CFW500A02P6B2					2.6	0.5/0.37	680	20 ⁽¹⁾	FNH00-20K-A	9.0/4.0 ⁽¹⁾	MPW18-3-U010 / MPW18-3-U004 ⁽¹⁾	1.5 (16)	2.5 (14)				
CFW500A04P3B2				4.3	1/0.75	680	25/20 ⁽¹⁾⁽²⁾	FNH00-25K-A / FNH00-20K-A ⁽¹⁾	14/6.3 ⁽¹⁾	MPW18-3-U016 / MPW18-3-D063 ⁽¹⁾	1.5 (16)	2.5 (14)					
CFW500B07P3B2	B			7.3	2/1.5	450	40/20 ⁽¹⁾⁽²⁾	FNH00-40K-A / FNH00-20K-A ⁽¹⁾	25/12 ⁽¹⁾	MPW40-3-U025 / MPW18-3-U016 ⁽¹⁾	2.5/1.5 (14/16) ⁽¹⁾	4.0 (12)	10		39	7	2.5 (14)
CFW500B10P0B2			10	3/2.2	450	63/25 ⁽¹⁾⁽²⁾	FNH1-63K-A / FNH00-25K-A ⁽¹⁾	32/16 ⁽¹⁾	MPW40-3-U032 / MPW18-3-U016 ⁽¹⁾	4.0/2.5 (12/14) ⁽¹⁾	4.0 (12)	15	27	11	2.5 (14)		
CFW500A07P0T2			A	7.0	2/1.5	680	20 ⁽¹⁾	FNH00-20K-A	10	MPW18-3-U010	1.5 (16)	2.5 (14)	Dynamic braking not available				
CFW500A09P6T2				9.6	3/2.2	1250	25 ⁽¹⁾	FNH00-25K-A	16	MPW18-3-U016	2.5 (14)	2.5 (14)					
CFW500B16P0T2	B		16	5/3.7	1000	40 ⁽¹⁾	FNH00-40K-A	25	MPW40-3-U025	4.0 (12)	4.0 (12)	20		20	14	4.0 (12)	
CFW500C24P0T2			C	24	7.5/5.5	1000	63 ⁽¹⁾	FNH00-63K-A	40	MPW40-3-U040	6.0 (10)	4.0 (12)		26	15	13	6.0 (10)
CFW500D28P0T2				28	10/7.5	2750	63 ⁽¹⁾	FNH00-63K-A	40	MPW40-3-U040	10 (8)	10 (8)	38	10	18	10 (8)	
CFW500D33P0T2		D		33	12.5/9.2	2750	80 ⁽¹⁾	FNH00-80K-A	50	MPW65-3-U050	10 (8)	10 (8)	45	8.6	22	10 (8)	
CFW500D47P0T2				47	15/11	2750	100 ⁽¹⁾	FNH00-100K-A	65	MPW65-3-U065	10 (8)	10 (8)	45	8.6	22	10 (8)	
CFW500E56P0T2	E		56	20/15	6600	125 ⁽¹⁾	FNH00-125K-A	80	MPW80-3-U080	16 (6)	16 (6)	95	4.7	48	16 (6)		
CFW500A01P0T4					1.0	0.25/0.18	450	20 ⁽¹⁾	FNH00-20K-A	1.6	MPW18-3-D016	1.5 (16)	2.5 (14)	Frenagem reostática não disponível			
CFW500A01P6T4				1.6	0.5/0.37	450	20 ⁽¹⁾	FNH00-20K-A	2.5	MPW18-3-D025	1.5 (16)	2.5 (14)					
CFW500A02P6T4		A		2.6	1.5/1.1	450	20 ⁽¹⁾	FNH00-20K-A	4.0	MPW18-3-U004	1.5 (16)	2.5 (14)					
CFW500A04P3T4				4.3	2/1.5	450	20 ⁽¹⁾	FNH00-20K-A	6.3	MPW18-3-D063	1.5 (16)	2.5 (14)					
CFW500A06P1T4			6.1	3/2.2	450	20 ⁽¹⁾	FNH00-20K-A	10	MPW18-3-U010	1.5 (16)	2.5 (14)						
CFW500B02P6T4			2.6	1.5/1.1	450	20 ⁽¹⁾	FNH00-20K-A	4.0	MPW18-3-U004	1.5 (16)	2.5 (14)	6	127	4.5	1.5 (16)		
CFW500B04P3T4		B	4.3	2/1.5	450	20 ⁽¹⁾	FNH00-20K-A	6.3	MPW18-3-D063	1.5 (16)	2.5 (14)	6	127	4.5	1.5 (16)		
CFW500B06P5T4				6.5	3/2.2	450	20 ⁽¹⁾	FNH00-20K-A	10	MPW18-3-U010	1.5 (16)	2.5 (14)	8	100	5.7	2.5 (14)	
CFW500B10P0T4				10	5/3.7	1000	25 ⁽¹⁾	FNH00-25K-A	16	MPW18-3-U016	2.5 (14)	2.5 (14)	16	47	11.5	2.5 (14)	
CFW500C14P0T4	C		14	7.5/5.5	1000	35 ⁽¹⁾	FNH00-35K-A	20	MPW40-3-U020	4.0 (12)	4.0 (12)	24	33	14	6.0 (10)		
CFW500C16P0T4			16	10/7.5	1000	35 ⁽¹⁾	FNH00-35K-A	25	MPW40-3-U025	4.0 (12)	4.0 (12)	24	33	14	6.0 (10)		
CFW500D24P0T4		D	24	15/11	1800	60 ⁽¹⁾	FNH00-63K-A	40	MPW65-3-U040	6.0 (10)	6.0 (10)	34	22	21	10 (8)		
CFW500D31P0T4				31	20/15	1800	60 ⁽¹⁾	FNH00-63K-A	50	MPW65-3-U050	10 (8)	10 (8)	48	18	27	10 (8)	
CFW500E39P0T4	E		39	25/18.5	2100	80 ⁽¹⁾	FNH00-80K-A	50	MPW65-3-U050	10 (8)	10 (8)	78	8.6	39	10 (8)		
CFW500E49P0T4				49	30/22	13000	100 ⁽¹⁾	FNH00-100K-A	65	MPW65-3-U065	10 (8)	10 (8)	78	8.6	39	10 (8)	
CFW500C01P7T5			1.7	1/0.75	495	20 ⁽¹⁾	FNH00-20K-A	2.5	MPW18-3-D025	1.5 (16)	2.5 (14)	1.2	825	0.6	1.5 (16)		
CFW500C03P0T5			C	3.0	2/1.5	495	20 ⁽¹⁾	FNH00-20K-A	4	MPW18-3-U004	1.5 (16)	2.5 (14)	2.6	392	1.3	1.5 (16)	
CFW500C04P3T5				4.3	3/2.2	495	20 ⁽¹⁾	FNH00-20K-A	6.3	MPW18-3-D063	1.5 (16)	2.5 (14)	4	249	2	1.5 (16)	
CFW500C07P0T5				7.0	5/3.7	495	20 ⁽¹⁾	FNH00-20K-A	10	MPW18-3-U010	2.5 (14)	2.5 (14)	6	165	3	1.5 (16)	
CFW500C10P0T5		10		7.5/5.5	495	25 ⁽¹⁾	FNH00-20K-A	16	MPW18-3-U016	2.5 (14)	2.5 (14)	9	110	4.5	1.5 (16)		
CFW500C12P0T5				12	10/7.5	495	25 ⁽¹⁾	FNH00-20K-A	16	MPW18-3-U016	2.5 (14)	2.5 (14)	12.2	82	6.1	1.5 (16)	