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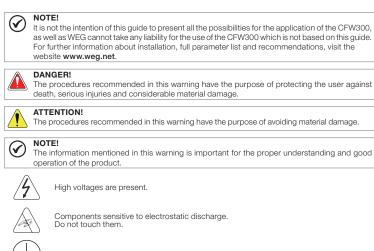
Quick Installation Guide

CFW300 Micro Drive

1 SAFETY INSTRUCTIONS

This quick installation guide contains the basic information necessary to commission the CFW300. It has been written to be used by qualified personnel with suitable training or technical qualification for operating this type of equipment. The personnel must 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 THE MANUAL AND IN THE PRODUCT



Mandatory connection to the protective ground (PE).

Connection of the shield to the ground.

3 PRELIMINARY RECOMMENDATIONS

DANGER

- Always disconnect the main power supply before touching any electrical component associated to the inverter. Several components can remain charged with high voltages or remain in movement (fans) even after the AC power is disconnected or switched off. Wait at least ten minutes after turning off the input power for the complete discharge of the power capacitors. Always connect the grounding point of the inverter to the protection earth (PE).
- The XC10 connector is not USB compatible, therefore, it cannot be connected to USB ports. This connectors serve only as interface between the CFW300 frequency inverter and its accessories.

NOTE! \bigcirc

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

Do not perform any withstand voltage test (hi-pot test)! 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

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.

4 ABOUT THE CFW300

The CFW300 frequency inverter is a high-performance product which allows speed and torque control of three-phase induction motors. This product provides the user with the options of vector (VVW) or scalar (V/f) control, both programmable according to the application.

5 TERMINOLOGY

Table 1: Terminology of the CFW300 inverters

	Duradurat	M	odel Ident	tification			Demos	Handman	Software Version	
	Product and Series	Frame Size	Rated Current	Phase Number	Rated Voltage	Brake	Protection	Hardware Version		
Ex.:	CFW300	A	01P6 S 2		2	NB	20			
le s	CFW300	Refer to Tabl	e 2						Blank = standard	
Available options		NB = without	t dynamic b	raking			1		Sx = special software	
Availab		DB = with dy	namic brak	ing		1	Blank = sta	ndard		
× 0		20 = IP20					Hx = specia	al hardware		

NOTE! \checkmark

200 V Line: Models with power supply of 110 to 127 Vac, 200 to 240 Vac or 280 to 340 Vdc S2, B2, T2 or D3)

400 V Line: Models with power supply of 380 to 480 Vac or 513 to 650 Vdc (T4).

Table 2. Wall		ach field of the nomenclature according to the rated curre	ni anu vonage or trie ir	iverter
Frame Size	Output Rated Current	N° of Phases	Rated Voltage	Brake
	01P6 = 1.6 A			
	02P6 = 2.6 A		1 = 110127 Vac	
	04P2 = 4.2 A		1 = 110127 vac	
	06P0 = 6.0 A			
	01P6 = 1.6 A	S = single-phase power supply		
	02P6 = 2.6 A			
	04P2 = 4.2 A			
	06P0 = 6.0 A			
	07P3 = 7.3 A		2 = 200240 Vac	
A	01P6 = 1.6 A		2 = 200240 Vac	NB
	02P6 = 2.6 A			
	04P2 = 4.2 A	T = three-phase power supply		
	06P0 = 6.0 A			
	07P3 = 7.3 A			
	01P6 = 1.6 A			
	02P6 = 2.6 A			
	04P2 = 4.2 A	D = DC power supply	3 = 280340 Vdc	
	06P0 = 6.0 A			
	07P3 = 7.3 A			
в	10P0 = 10.0 A	B = single-phase or three-phase power supply or DC	2 = 200240 Vac	DB
D	15P2 = 15.2A	T = three-phase power supply or DC	or 280340 Vdc	DB
	01P1 = 1.1 A			
	01P8 = 1.8 A		4 = 380480 Vac	
A	02P6 = 2.6 A	T = three-phase power supply		NB
	03P5 = 3.5 A			
	04P8 = 4.8 A			
в	06P5 = 6.5 A			ND
	08P2 = 8.2 A			
	10P0 = 10.0 A			
С	12P0 = 12.0 A			
	15P0 = 15.0 A			
	01P1 = 1.1 A			
	01P8 = 1.8 A		4 = 380480 Vac or	
	02P6 = 2.6 A	T = three-phase power supply or DC	513650 Vdc	
В	03P5 = 3.5 A		515050 Vuc	
	04P8 = 4.8 A			DB
	06P5 = 6.5 A			
	08P2 = 8.2 A			
	10P0 = 10.0 A			
C	12P0 = 12.0 A			
	15P0 = 15.0 A			

6 RECEIVING AND STORAGE

The CFW300 is supplied packed in a cardboard box. There is an identification label affixed to the outside of the package, identical to the one affixed to the side of the inverter.

Verify whethe

Tahlo 2. Available

The CFW300 identification label corresponds to the purchased model Any damage occurred during transportation.

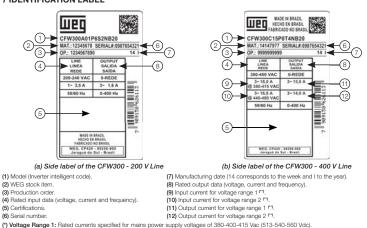
Report any damage immediately to the carrier

If the CFW300 is not installed soon, store it in a clean and dry location (temperature between -25 °C and 60 °C (-13 °F and 140 °F)), with a cover to prevent dust accumulation inside it.

ATTENTION!



7 IDENTIFICATION LABEL



 (11) Output current for voltage range 1 "".
 (12) Output current for voltage range 2 "". mains power supply voltages of 380-400-415 Vac (513-540-560 Vdc)

Yoltage Range 2: Rated currents specified for mains power supply voltages of 440-460-480 Vac (594-621-650 Vdc).
For further details, refer to Table 10, and also to the CFW300 user's and programming manuals available at www.weg.net Figure 1: (a) and (b) Description of the CEW300 identification label

8 MECHANICAL INSTALLATION

8.1 ENVIRONMENTAL CONDITIONS

Direct exposure to sunlight, rain, high humidity or sea-air. Inflammable or corrosive gases or liquids. Excessive vibration.

Dust, metallic particles or oil mist.

Environment conditions permitted for the operation of the inverter:

- Temperature around the inverter (IP20): **200 V Line:** from 0 °C to 50 °C (32 °F to 122 °F). **400 V Line:** from 0 °C to 40 °C (32 °F to 124 °F). For more details, refer to Table 10.

- For temperatures surrounding the inverter higher than the specifications above, it is necessary to apply 2 % of current derating for each degree Celsius (1.1 % for each degree Fahrenheit), limited to an increase of 10 °C (18 °F).
- Air relative humidity: 5 % to 95 % non-condensing
- Maximum altitude: up to 1000 m (3.300 ft) rated conditions.
- From 1000 m to 4000 m (3.300 ft to 13.200 ft) 1 % of current derating for each 100 m (330 ft) above 1000 m (3.300 ft) of altitude.

From 2000 m to 4000 m (6.600 ft to 13.200 ft) above sea level – maximum voltage derating (127 V / 240 V / 480 V, according to the model, as indicated in Table 10) of 1.1 % for each 100 m (330 ft) above 2000 m (6.600 ft).

Pollution degree: 2 (according to EN50178 and UL508C), with non-conductive pollution. Condensation must not originate conduction through the accumulated residues

8.2 DIMENSIONS, POSITIONING AND MOUNTING

The external dimensions and fixing holes, likewise the inverter net weight (mass) are shown in Figure 2.

Mount the inverter in the upright position on a flat and vertical surface. Allow the minimum clearances indicated in Figure 3, in order to allow the circulation of the cooling air. Do not install heat sensitive components right above the inverter

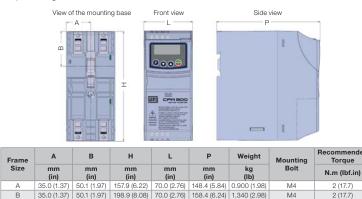


Figure 2: Inverter dimensions for mechanical installation

C 44.5 (1.75) 50.1 (1.97) 214.0 (8.43) 89.0 (3.50) 164.0 (6.45) 1.50 (3.3)

(a) Surface mounting



M4

2 (17.7)



(c) Minimum ventilation free spaces

Europe Cine	A	В	C		
Frame Size	mm (in)	mm (in)	mm (in)		
A	15 (0.59)	40 (1.57)	30 (1.18)		
В	35 (1.38)	50 (1.97)	40 (1.57)		
С	40 (1.57)	50 (1.97)	50 (1.97)		

Figure 3: (a) to (c) Mechanical installation data (surface mounting and minimum ventilation free espaces)

ATTENTION!

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

8.3 CABINET MOUNTING

For inverters installed inside cabinets or metallic boxes, provide proper exhaustion, so that the temperature remains within the allowed range. As a reference, Table 3 shows the air flow of rated ventilation for each model

Cooling Method: internal fan with air flow upwards

Table 3: Air flow of the internal fan								
Model	CFM	l/s	m³/min					
A	17.0	8.02	0.40					
В	17.0	8.02	0.48					
С	40.43	19.09	1.15					

8.4 SURFACE MOUNTING

Figure 3 illustrates the CFW300 installation procedure for surface mounting. The bolts and the tightening torque used for mounting the inverter CFW300 on the surface are specified in Figure 2.

8.5 DIN-RAIL MOUNTING

The CFW300 inverter can also be mounted directly on a 35 mm-rail, in accordance with DIN EN 50.022. Figure 3 illustrates the installation procedure of the CFW300 in DIN rail.

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 AC power supply is disconnected before starting the installation The CFW300 must not be used as an emergency stop device. Provide other devices for that purpose.

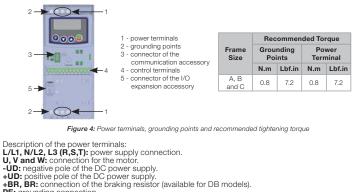
ATTENTION

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

Table 2)

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 Figure 4. The maximum tightening torque of the power terminals and grounding points must be checked in Figure 4



PE: arounding connection.

DANGER

DANGER!
 Observe the correct DC power supply connection, polarity and terminal positions.

9.2 CIRCUIT BREAKERS, FUSES, GROUNDING AND POWER CABLES

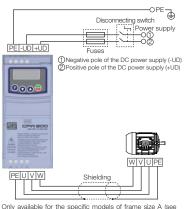
ATTENTION!

- Use proper cable lugs for the power and grounding connection cables. Refer to Table 10 for recommended wiring, circuit breakers and fuses. Keep sensitive equipment and wiring at a minimum distance of 0.25 m (9.85 in) from the inverter
- and from the cables connecting the inverter to the motor.

NOTE! \oslash

The wire gauges listed in Table 10 are guiding values. Installation conditions and the maximum permitted voltage drop must be considered for the proper wiring sizing. For compliance with UL standard, use UL class J fuses or circuit breakers in the inverter power supply with current not above the values indicated in Table 10.

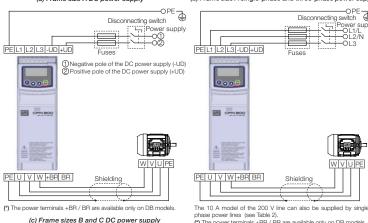
9.3 POWER CONNECTIONS



(a) Frame size A DC power supply

PE L1 L2 L3	Disconnecting switch
	Shielding

(*) The power terminal L3 is not available in single-phase models of frame size A. (b) Frame size A single-phase and three-phase power supply

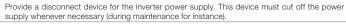


The 10 A model of the 200 V line can also be supplied by single phase power lines (see Table 2). (*) The power terminals +BR / BR are available only on DB models. (d) Frame sizes B and C three-phase power supply

Figure 5: (a) to (d) Power and grounding connection

9.3.1 Input Connections

DANGER



ATTENTION!

The power supply that feeds the inverter must have a solid grounded neutral. The CFW300 series inverter must not be used in IT networks (neutral is not grounded or grounding provided by a high ohm value resistor) or in grounded delta networks ("delta corner grounded"), because these type of networks damage the inverter.

NOTE!

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

9.3.1.1 Short Circuit Current Ratings (SCCR)

The CFW300 is suitable for use in circuits capable of delivering not more than (see column "SCCR") kAms

symmetrical (127 V, 240 V or 480 V), when protected by fuses or circuit breakers as specified in Table 10.
In case the CFW300 is installed in power supplies with current capacity over the specified, it is necessary to use protection circuits, such as fuses or circuit breakers, proper for those power supplies.

ATTENTION!

The opening of the branch-circuit protective device may be an indication that a fault current has been interrupted. To reduce the risk of fire or electric shock, current-carrying parts and other components of the inverter or cabinet should be examined and replaced if damaged. If burnout of the current element of an overload relay occurs, the complete overload relay must be replaced.

9.3.2 Power Supply Reactance

In order to prevent damages to the inverter and assure the expected useful life, you must have a minimum line impedance that provides a line voltage drop of 1 %. For more details, refer to the user's manual available at www.weg.net.

9.3.3 Dynamic Braking

-

$(\lambda$	NOTE
(\mathbf{v})	The dynamic braking is available on DB models from frame size B onwards.

Refer to Table 10 for the following specifications of the dynamic braking: maximum current, miminum braking resistance, rms current and cable gauge.

Refer to the user's manual available at www.weg.net for correct installation, sizing and protection.

9.3.4 Output Connections

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. Keep motor cables away from other cables (signal cables, sensor cables, control cables, etc.), according to Table 4. For more information, refer to the user's manual available at www.weg.net.

9.4 GROUNDING CONNECTIONS

DANGER

- The inverter must be connected to a protective ground (PE).
- Use a minimum wire gauge for ground connection equal to the indicated in Table 10. Connect the inverter grounding connections to a ground bus bar, to a single ground point or to a common grounding point (impedance ≤ 10 Ω).
- The neutral conductor of the line that feeds 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 voltage motors, welding machines, etc.).

DI1 Digital input 1 DI2 Digital input 2

Al1

Al1

Digital input 3 Digital input 4

Analog input 1 (Current)

Analog input 1 (Voltage) Beference +10 Vdc for p

Digital output 1 (Common

9.5 CONTROL CONNECTIONS

9 +10 V Reference +10 Vdc for potentiometer 10 DO1-RL-NC Digital output 1 (NC contact of relay 1) (a) NPN Configuration 12 DO1-RL-NO Digital output 1 (NO contact of relay 1) (P) For further information, refer to the detailed specification in Table 8. The CFW300 inverters are supplied with the digital inputs configured as active low (NPM). In order to change the configuration, check the use of parameter P271 in the programming manual of the CFW300. - Analog input A11 is set for input 0 to 10 ½ in order to change it, check parameter P233 of the programming manual of the CFW300.

Figure 6: (a) and (b) Signals of C300 control card connector

For the correct connection of the control, use:

(b) PNP Configuration

1. Gauge of the cables: 0.5 mm² (20 AWG) to 1.5 mm² (14 AWG).

- 2. Maximum torque: 0.4 N.m (3.54 lbf.in).
- 3. Wiring of the connector of the control board with shielded cable and separated from the other wiring (power, command in 110 V / 220 Vac, etc.).
- 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. Provide separation between the control and the power cables according to Table 4.

Tabl	le 4: Separation distance between cabl	es
Output Rated Current of the Inverter	Cable Length	Minimum Separation Distance
< 24 A	≤ 100 m (330 ft)	≥ 10 cm (3.94 ln)
5 24 A	> 100 m (330 ft)	≥ 25 cm (9.84 ln)

9.6 INSTALLATIONS ACCORDING TO EUROPEAN DIRECTIVE OF ELECTROMAGNETIC COMPATIBILITY

The CFW300 inverter series, when properly installed, meet the requirements of the directive of the electromagnetic compatibility (2014/30/EU).

These inverters were developed for professional applications only. Therefore, the emission limits of harmonic currents established by the EN 61000-3-2 and EN 61000-3-2/A 14 standards are not applicable.

9.6.1 Conformal Installation

- 1. Shielded output cables (motor cables) with shield connected at both ends, motor and inverter, by meanse of a low impedance to high frequency connection. Maximum motor cable length and conduced and radiated emission levels according to Table 7.
- 2. Shielded control cables, keeping the separation distance from other cables according to Table 4. 3. Grounding of the inverter according to instructions of the Section 9.4 GROUNDING CONNECTIONS. 4. Grounded power supply.
- 5. Use short wiring to ground the external filter or inverter.
- 6. Ground the mounting plate using a flexible braid as short as possible. Flat conductors have lower impedance at high frequencies.
- 7. Use cord grips for strain relief on conduits.

9.6.2 Emission and Immunity Levels

Table 5: Emission and immunity levels								
EMC Phenomenon	Basic Standard	Level						
Emission:								
Mains terminal disturbance voltage								
Frequency range: 150 kHz to 30 MHz	IEC/EN 61800-3	It depends on the inverter model and also on the						
Electromagnetic radiation disturbance	1EC/EN 01800-3	length of motor cable. Refer to Table 7						
Frequency Range: 30 MHz to 1000 MHz)		-						
Immunity:								
Electrostatic discharge (ESD)	IEC 61000-4-2	4 kV for contact discharge and 8 kV for air discharge						
		2 kV / 5 kHz (coupling capacitor) input cables						
Fast transient-Burst	IEC 61000-4-4	1 kV / 5 kHz control cables and remote HMI cables						
		2 kV / 5 kHz (coupling capacitor) motor cables						
Conducted Radio-Frequency	IEC 61000-4-6	0.15 to 80 MHz; 10 V; 80 % AM (1 kHz)						
Common Mode	IEC 01000-4-0	Motor, control and remote HMI cables						
		1.2/50 µs, 8/20 µs						
Surges	IEC 61000-4-5	1 kV line-to-line coupling						
		2 kV line-to-ground coupling						
Radio-Frequency Electromagnetic		80 to 1000 MHz						
Field	IEC 61000-4-3	10 V/m						
1 1010		80 % AM (1 kHz)						

Definition of Standard IEC/EN 61800-3: "Adjustable Speed Electrical Power Drives Systems' Environments:

First Environment: environments that include domestic installations, as well as establishments directly connected without intermediate transformer to a low-voltage power supply network which supplies buildings used for domestic purposes.

Second Environment: aincludes all establishments other than those directly connected to a low-voltage power supply network that supplies buildings used for domestic purposes Categories:

Category C1: inverters with a voltage rating less than 1000 V and intended for use in the First Environment. Category C2: inverters with a voltage rating less than 1000 V intended for use in the First Environment, not provided with a plug connector or movable installations. They must be installed and commissioned by a professiona

Category C3: inverters with a voltage rating less than 1000 V and intended for use in the Second Enviro nt only (not designed for use in the First Environment)

NOTE! \oslash A professional is a person or organization familiar with the installation and/or commissioning of inverters, including their EMC aspects.

9.6.3 Characteristics of the RFI Filter

CFW300 inverters, when installed with external filter, comply with the directive for electromagnetic compatibility (2014/30/EU). The use of RFI filter kit indicated in the table 6, or equivalent, is required to reduce the disturbance conducted from the inverter to the power line in the high frequency band (> 150 kHz) observing the maximum conducted emission levels of electromagnetic compatibility standards, such as EN 61800-3

Signal and control wiring

For further information about the RFI filter kit accessory model, refer to Table 6.

The Figure 7 demonstrate the connection of the filter to the inverter.



The accessories are hardware resources that can be added to the application with the CFW300. The accessories are incorporated to the inverters in an easy and quick way by using the "Plug and Play" concept. The accessory must be installed or modified with the inverter de-energized. They may be ordered separately, and will be shipped in individual packages containing the components and manuals with detailed instructions for their installation, operation and setting.

For the list of accessories available for the CFW300, see Chapter 7 of the user's manual, available at www.weg.net

10 TECHNICAL SPECIFICATIONS

10.1 POWER DATA

Power Supply:

- Tolerance: -15 % to +10 %
- 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 (EN 61010/UL508C).
 Transient voltages according to Category III.

- Maximum of 10 connections per hour (1 every 6 minutes).
 Typical efficiency: ≥ 97 %.
 Classification of chemically active substances: level 3C2.
- Mechanical condition rating (vibration): level 3M4.
 Audible noise level: < 60dB.
- 10.2 ELECTRONICS/GENERAL DATA

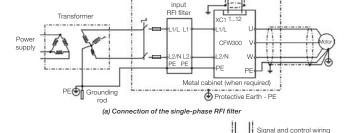
Table 8: Electronics/general data								
Control	Method	Types of control: - V/f (Scalar) - VW: voltage vector control Modulation: - PVMS VVM (Space Vector Modulation) - PVM SVM (Space Vector Modulation)						
	Output frequency	0 to 400 Hz, resolution of 0.1 Hz						
Performance	Speed control	V/f (Scalar): Speed regulation: 1 % of the rated speed (with slip compensation) Speed variation range: 1:20 VVW:						
		 Speed regulation: 1 % of the rated speed Speed variation range: 1:30 						
Inputs	Analog	1 insulated input. Levels: (0 to 10) V or (0 to 20) mA or (4 to 20) mA Linearity error s 0.25 % Impedance: 100 kQ for voltage input, 500 Ω for current input Programmable functions Maximum voltage permitted in the input: 30 Vdc						
Inputs	Digital	 4 isolated inputs Programmable functions: active high (PNP): maximum low level of 10 Vdc / minimum high level of 20 Vdc active low (NPN): maximum low level of 5 Vdc / minimum high level of 10 Vdc Maximum input voltage of 30 Vdc Input current: 11 mA Maximum input voltage of 30 Vdc 						

Table 10: List of models of CEW300 series main electrical specification

	Current X TABLE TO Dynamic Braking Fuses and Cir						es and Circuit E	and Circuit Breakers for Inverter Protection ^{(4), (10)}																								
	er		7		Maximum	ated Frequ	minal urrou empe	Power V	Grounding	~3	Re		, + , - P			Fuse ^{(4), (1}	5)															
Inverter	of Input Ph	Power Supply Rated Voltage	ame size	Range 1 ^{(1) (3)} Range 1 ^{(1) (2)}	m Motor	Rated Carrier Frequency	Vominal Inverter Surrounding Temperature	Wire Size	_j Wire Size	Maximum Current	Minimum commendo Resistor	Braking rms Current	Power Wire Size for +BR and BR Terminals	Maximum I²t ⁽⁴⁾	Maximum Current	Fuse (semicor type, class		Fuse (UL class J, 600 V)	Cir	cuit Breaker (or ty	/pe E) ^{(6), (7)}											
	Phase				NID (1)(1)	(fsw)	F00 (051	mm ²	mm ²	(Imax)	be	0,	mm ²			WEG Model	SCCR	SCCR	\ \	VEG Model (8)	SCCR (9)											
	ŝ			[Arms]	[HP/kW]	[kHz]	[°C/°F]	(AWG)	(AWG)	[A]	[Ω]	[Arms]	(AWG)	[A ² s]	[A]	WEG	[kA]	[kA]	[A]	WEG	[kA]											
CFW300A01P6S1NB20	1		A	1.6	0.25/0.18			1.5 (16)	2.5 (14)					375	20	FNH00-20K-A	65	65	10.0	MPW40-3-U010	5											
CFW300A02P6S1NB20	1	110 107./	Α	2.6	0.5/0.37	7		2.5 (14)	2.5 (14)					375	20	FNH00-20K-A	65	65	16.0	MPW40-3-U016	5											
CFW300A04P2S1NB20	1	1 110127 Vac	110127 Vac	A	4.2	1/0.75	1		2.5 (14)	4.0 (12)					660	35	FNH00-35K-A	65	65	20.0	MPW40-3-U020	5										
CFW300A06P0S1NB20	1		A	6.0	1.5/1.32	1		4.0 (12)	4.0 (12)					660	40	FNH00-40K-A	65	65	32.0	MPW40-3-U032	5											
CFW300A01P6S2NB20	1		A	1.6	0.25/0.18	1		1.5 (16)	2.5 (14)				Γ	375	20	FNH00-20K-A	65	65	6.3	MPW40-3-D063	5											
CFW300A02P6S2NB20	1		A	2.6	0.5/0.37	1		1.5 (16)	2.5 (14)					375	20	FNH00-20K-A	65	65	10.0	MPW40-3-U010	5											
CFW300A04P2S2NB20	1		A	4.2	1/0.75	1		1.5 (16)	2.5 (14)					375	20	FNH00-20K-A	65	65	16.0	MPW40-3-U016	5											
CFW300A06P0S2NB20	1	-	A	6.0	1.5/1.32			2.5 (14)	4.0 (12)					660	20	FNH00-20K-A	65	65	16.0	MPW40-3-U016	5											
CFW300A07P3S2NB20	1		200240 Vac	200240 Vac	200240 Vac	200240 Vac	200240 Vac	200240 Vac	200240 Vac	200240 Vac	A	7.3	2/1.5	1		2.5 (14)	4.0 (12)					660	25	FNH00-25K-A	65	65	20.0	MPW40-3-U020	5			
CFW300A01P6T2NB20	3										200240 vac	200240 vac	200240 vac	A	1.6	0.25/0.18	1		1.5 (16)	2.5 (14)	Dynar	mic brał	king not a	available	500	20	FNH00-20K-A	65	65	2.5	MPW40-3-D025	5
CFW300A02P6T2NB20	3										Α	2.6	0.5/0.37	5	50/122	1.5 (16)	2.5 (14)					500	20	FNH00-20K-A	65	65	6.3	MPW40-3-D063	5			
CFW300A04P2T2NB20	3			Α	4.2	1/0.75			1.5 (16)	2.5 (14)					500	20	FNH00-20K-A	65	65	10.0	MPW40-3-U010	5										
CFW300A06P0T2NB20	3						A	6.0	1.5/1.32			2.5 (14)	4.0 (12)					500	20	FNH00-20K-A	65	65	10.0	MPW40-3-U010	5							
CFW300A07P3T2NB20	3		A	7.3	2/1.5			2.5 (14)	4.0 (12)			500	20	FNH00-20K-A	65	65	16.0	MPW40-3-U016	5													
CFW300A01P6D3NB20	1		A	1.6	0.25/0.18			1.5 (16)	2.5 (14)					-	20	FNH00-20K-A	65	65	-	-	-											
CFW300A02P6D3NB20	1		A	2.6	0.5/0.37			1.5 (16)	2.5 (14)					-	20	FNH00-20K-A	65	65	-	-	-											
CFW300A04P2D3NB20	1	280340 Vdc	280340 Vdc	A	4.2	1/0.75			1.5 (16)	2.5 (14)					-	20	FNH00-20K-A	65	65	-	-	-										
CFW300A06P0D3NB20	1		A	6.0	1.5/1.32			2.5 (14)	4.0 (12)					-	20	FNH00-20K-A	65	65	-	-	-											
CFW300A07P3D3NB20	1		A	7.3	2/1.5			2.5 (14)	4.0 (12)					-	20	FNH00-20K-A	65	65	-	-	-											
CFW300B10P0B2DB20	1/3	200240 Vac	В	10.0	3/2.2			4.0 (12)	4.0 (12)	11	39	10	2.5 (14)	300	35	FNH00-35K-A	65	65	25.0	MPW40-3-U025	5											
CFW300B15P2T2DB20	3	/ 280340 Vdc	В	15.2	5/3.7			4.0 (12)	4.0 (12)	11	39	10	2.5 (14)	685	35	FNH00-35K-A	65	65	25.0	MPW40-3-U025	5											
CFW300A01P1T4NB20				1.1	0.5/0.37			1.5 (16)	2.5 (14)			94.5	20	FNH000-20K-A	65	-	1.6	MPW40-3-D016	5													
CFW300A01P8T4NB20				1.8	1/0.75			1.5 (16)	2.5 (14)					94.5	20	FNH000-20K-A	65	-	2.5	MPW40-3-D025	5											
CFW300A02P6T4NB20		380480 Vac	A	2.6	1.5/1.1			1.5 (16)	2.5 (14)					167	20	FNH000-20K-A	65	-	4.0	MPW40-3-U004	5											
CFW300A03P5T4NB20				3.5	2/1.5			1.5 (16)	2.5 (14)					167	20	FNH000-20K-A	65	-	6.3	MPW40-3-D063	5											
CFW300A04P8T4NB20				4.8	3/2.2	5		1.5 (16)	2.5 (14)	Dunor	mio brol	king not a	woilable	252	20	FNH000-20K-A	65	-	10.0	MPW40-3-U010	5											
CFW300B06P5T4NB20			в	6.5 5.6	4/3			1.5 (16)	2.5 (14)	Dynai	nic brai	ang not a	avaliable	416	20	FNH000-20K-A	65	-	10.0	MPW40-3-U010	5											
CFW300B08P2T4NB20				8.2 7.6	5.5/4.0			2.5 (14)	2.5 (14)					416	25	FNH000-25K-A	65	-	16.0	MPW40-3-U016	5											
CFW300C10P0T4NB20				10.0 8.3	6/4.5			2.5 (14)	2.5 (14)					510	25	FNH000-25K-A	65	-	16.0	MPW40-3-U016	5											
CFW300C12P0T4NB20			C	12.0 11.0	7.5/5.5			4.0 (12)	4.0 (12)					510	35	FNH000-35K-A	65	-	20.0	MPW40-3-U020	5											
CFW300C15P0T4NB20	3			15.0 14.0	10/7.5	2.5	40/104	4.0 (10)	4.0 (10)					510	35	FNH000-35K-A	65	-	25.0	MPW40-3-U025	5											
CFW300B01P1T4DB20	3			1.1	0.5/0.37		+0/104	1.5 (16)	2.5 (14)	4.4	180	3.1	1.5 (16)	94.5	20	FNH000-20K-A	65	-	1.6	MPW40-3-D016	5											
CFW300B01P8T4DB20		000 400 1/		1.8	1/0.75			1.5 (16)	2.5 (14)	4.4	180	3.1	1.5 (16)	94.5	20	FNH000-20K-A	65	-	2.5	MPW40-3-D025	5											
CFW300B02P6T4DB20		380480 Vac / 513650 Vdc		2.6	1.5/1.1			1.5 (16)	2.5 (14)	4.4	180	3.1	1.5 (16)	167	20	FNH000-20K-A	65	-	4.0	MPW40-3-U004	5											
CFW300B03P5T4DB20			в	3.5	2/1.5			1.5 (16)	2.5 (14)	4.4	180	3.1	1.5 (16)	167	20	FNH000-20K-A	65	-	6.3	MPW40-3-D063	5											
CFW300B04P8T4DB20				4.8	3/2.2	5		1.5 (16)	2.5 (14)	9.8	82	6.9	2.5 (14)	252	20	FNH000-20K-A	65	-	10.0	MPW40-3-U010	5											
CFW300B06P5T4DB20				6.5 5.6	4/3	1		1.5 (16)	2.5 (14)	11.8	68	8.3	2.5 (14)	416	20	FNH000-20K-A	65	-	10.0	MPW40-3-U010	5											
CFW300B08P2T4DB20				8.2 7.6	5.5/4.0	1		2.5 (14)	2.5 (14)	11.8	68	8.3	2.5 (14)	416	25	FNH000-25K-A	65	-	16.0	MPW40-3-U016	5											
CFW300C10P0T4DB20				10.0 8.3	6/4.5			2.5 (14)	2.5 (14)	20.5	39	14.5	4.0 (10)	510	25	FNH000-25K-A	65	-	16.0	MPW40-3-U016	5											
CFW300C12P0T4DB20			C	12.0 11.0	7.5/5.5			4.0 (12)	4.0 (12)	20.5	39	14.5	4.0 (10)	510	35	FNH000-35K-A	65	-	20.0	MPW40-3-U020	5											
CFW300C15P0T4DB20			1 1	15.0 14.0	10/7.5	2.5	7	4.0 (10)	4.0 (10)	20.5	39	14.5	4.0 (10)	510	35	FNH000-35K-A	65		25.0	MPW40-3-U025	5											

Ranges 1 and 2 only for 400 V Line.

- Hanges 1 and 2 only for 400 V Line.
 Range 1: Grid supply voltage: 380-400-415 Vac (513-540-560 Vdc).
 Range 2: Grid supply voltage: 380-400-415 Vac (544-621-650 Vdc).
 For inverter 5 semiconductor protection, use the WEG recommended class aR semiconductor fuses (Pt < maximum Pt).
 In order to comply with LL50C standard, use UL class J, 600 V tuses.
 In order to comply with LL50C standard, use the accessories LST25 and TSB-22, required for MPW motor protector be Manual Seff-Protected (Type E) Combination Motor Controller.
 Manual Self-Protected (Type E) Combination Motor Controller.
- Protected (Type E) Combination Motor Controller. (7) Manual Self-Protected (Type E) Combination Motor Controller, UL listed for 200 240 V and 480Y/277 V systems. Not UL listed for use on 480 V Delta20Elta systems, corner ground, or high-impedance ground systems (IT system). (8) Largest WEG MPW circuit breaker recommended. (9) Standard Fault level: D apply the CPW200 with MPW circuit breaker (or Type E) in power supplies with short circuit current levels higher than this (High Fault level up to 65 kA), please refer to Item 3.2.3.1.1 Short Circuit Current Ratings (SCCR) of the user's manual for proper than this (High Fault level up to 65 kA), please refer to Item 3.2.3.1.1 Short Circuit Current Ratings (SCCR) of the user's manual for proper than this (High Fault level up to 65 kA), please refer to Item 3.2.3.1.1 Short Circuit Current Ratings (SCCR) of the user's manual for proper than this (High Fault level up to 65 kA), please refer to Item 3.2.3.1.1 Short Circuit Current Ratings (SCCR) of the user's manual for proper than this (High Fault level up to 65 kA), please refer to Item 3.2.3.1.1 Short Circuit Current Ratings (SCCR) of the user's manual for proper than this (High Fault level up to 65 kA), please refer to Item 3.2.3.1.1 Short Circuit Current Ratings (SCCR) of the user's manual for proper than this (High Fault level up to 65 kA), please refer to Item 3.2.3.1 Short Circuit Current Ratings (SCCR) of the user's manual for proper than this (High Fault Level D) that the user's manual for proper than this (High Fault Fau
- (10) For DC power supply, please refer to Item 3.2.3.1.1 Short Circuit Current Ratings (SCCR) of the user's manual for proper configuration of protection



Externa

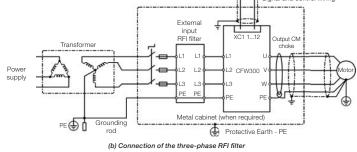


Figure 7: (a) and (b) Connection of the RFI filter - general conditions

Table 6: External BEI filter models for CEW300

WEG Item	Name	Description								
13015615	CFW300-KFA-S1-S2	RFI filter kit CFW300 frame size A single-phase (200 V Line) (1)								
13015616	CFW300-KFB-S2	RFI filter kit CFW300 frame size B single-phase (200 V Line) (1)								
14606604	CFW300-KFA-T2	RFI filter kit CFW300 frame size A three-phase (200 V Line) (1)								
14606606	CFW300-KFB-T2	RFI filter kit CFW300 frame size B three-phase (200 V Line) (1)								
14136636	CFW300-KFA-T4	RFI filter kit CFW300 frame size A three-phase (400 V Line) (2)								
14136669	CFW300-KFB-T4	RFI filter kit CFW300 frame size B three-phase (400 V Line) (2)								
14136672	CFW300-KFC-T4	RFI filter kit CFW300 frame size C three-phase (400 V Line) (2)								
(1) The filter kit is provide	 The filter kit is provided with the following parts: RFI Filter and connecting bars. 									
(2) The filter kit is provide	(2) The filter kit is provided with the following parts: RFI Filter, connecting bars and common mode choke.									

Table 7: Conducted and radiated emission levels, and additional information

	Inverter Model		Switching Frequency		ssion – Maximum ble Length	Radiated Emission
			fsw [kHz]	Category C3	Category C2	Category
	0001/11:00	CFW300AXXPXS1NB20 (2)	5	27 m (1063 in)	3 m (118 in)	
	200 V Line	CFW300AXXPXS2NB20 (2)	5	27 m (1063 in)	20 m (787 in)	
(3	S1, S2, B2, T2)	CFW300B10P0B2DB20	5	27 m (1063 in)	27 m (1063 in)	
	12)	CFW300XXXPXT2XX20 (2)	5	20 m (787 in)	-	
		CFW300AXXPXT4NB20 (2)	5	10 m (394 in)	-	C3
	00011111	CFW300BXXPXT4XX20 (2)	5	10 m (394 in)	-	
4		CFW300C10P0T4XX20 (2)	5	10 m (394 in)	5 m (197 in)	
	(14)(7	CFW300C12P0T4XX20 (2)	5	10 m (394 in)	5 m (197 in)	
		CFW300C15P0T4XX20 (2)	2.5	20 m (787 in)	10 m (394 in)	
4	100 V Line (T4) ⁽¹⁾	CFW300AXXPXT4NB20 ⁽²⁾ CFW300BXXPXT4XX20 ⁽²⁾ CFW300C10P0T4XX20 ⁽²⁾ CFW300C12P0T4XX20 ⁽²⁾	5 5 5 5 5	10 m (394 in) 10 m (394 in) 10 m (394 in) 10 m (394 in)	- 5 m (197 in) 5 m (197 in)	C3

For the models of 400 V Line, use the ferrite available with the RFI filter accessory on the motor cables (according to Table 6).
 Where there is an "X", it is assumed as any corresponding value of Table 2.

Dutputs	Relay	1 relay with NO/NC contact Maximum voltage: 250 Vac Maximum current: 0.5 A Programmable functions
	Power supply	10 Vdc power supply. Maximum capacity: 50 mA
Safety	Protection	Overcurrent/phase-phase short circuit in the output Under/overvoltage Motor overload Overtemperature in the power module (IGBTs) Fault / external alarm Programming error
ntegral keypad HMI)	Standard keypad	4 keys: Start/Stop, Up arrow, Down arrow and Programming LCD Display View/edition of all parameters Indication accuracy: - current: 10 % of the rated current - speed resolution: 0.1 Hz
Enclosure	IP20	Frame sizes A, B and C

11 CODES AND STANDARDS

Table 9: Codes and standard

Table 5. Godes and standards			
Safety standards	 UL 508C - power conversion equipment UL 6180C-5-1 - adjustable speed electrical power drive systems - Part 5-1: Safety requirements - electrical, thermal and energy UL 840 - insulation coordination including clearances and creepage distances for electrical equipment EN 6180C-5-1 - safety requirements electrical, thermal and energy EN 50178 - electronic equipment for use in power installations EN 6180C-1 - safety of machinery. Electrical equipment of machines. Part 1: general requirements Note: the final assembler of the machine is responsible for installing a safety stop device and a supply disconnecting device EN 61204 (IEC 146) - semiconductor converters EN 61800-2 - adjustable speed electrical prever drive systems - Part 2: general requirements - rating specifications for low voltage adjustable frequency AC power drive systems 		
Mechanical standards	EN 60529 - degrees of protection provided by enclosures (IP code) UL 50 - enclosures for electrical equipment IEC 60721-33 - classification of environmental conditions		
Electromagnetic compatibility (EMC) standards ^{ey}	 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 EN 61000-4-2 - electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 2: electrostatic discharge immunity test EN 61000-4-3 - electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 3: radiated, radio-frequency, electromagnetic field immunity test EN 61000-4-4 - electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 4: electrical fast transient/burst immunity test EN 61000-4-5 - electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 5: surge immunity test EN 61000-4-6 - electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 5: surge immunity test EN 61000-4-6 - electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 5: surge immunity test EN 61000-4-6 - electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 6: surge immunity test EN 61000-4-6 - electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 6: immunity test EN 61000-4-6 - electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 6: immunity test 		
•	tendende over betelletten of DEL (her Eacher) and the soferte overlap ensure tendents for developed on the overlap tendents		

with standards upon installation of RFI filter. For further details refer to user's manual available for download on the websit

NOTE!

For further information, refer to www.weg.net.

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