DATASHEET
Variable Speed Drives

Main Features

Product coding	: CFW500B14P0T4DB66DSG2
Product code	: 14977397
Product reference	: CFW500 G2
Accessory module (control)	: CFW500-IOS

Basic data

Power supply	: 380-480 V
Input minimum-maximum voltage	: 323-528 V
- In	: 3
- Out	: 3

Supply voltage range	380-480 V	
Overload cicle	Normal Overload (ND)	Heavy Overload (HD)
Rated current		14
Overload current for 60 sec	Not applicable	21
Overload current for 3 sec	Not applicable	30

Maximum applicable motor:

Voltage/Frequency	Power (HP/kW) [1]	
	Normal Overload (ND)	Heavy Overload (HD)
380V / 50Hz	Not applicable	7,5 / 5,5
380V / 60Hz	Not applicable	7,5 / 5,5
400V / 50Hz	Not applicable	10 / 7,5
400V / 60Hz	Not applicable	7,5 / 5,5
440V / 50Hz	Not applicable	10 / 7,5
440V / 60Hz	Not applicable	10 / 7,5
460V / 60Hz	Not applicable	10 / 7,5
480V / 60Hz	Not applicable	10 / 7,5

Accessory module (control)	: CFW500-IOS
Dynamic braking [2]	: Standard with braking
External electronic suply 24Vcc	: Not available
Safety Stop	: Prepared to use the safety module (G2)
Internal RFI filter	: Without filter
External RFI filter	: Not available
Link Inductor	: No
Memory card	: Not included in the product
USB port	: Only with plug-in
Line frequency	: 50/60Hz
Line frequency range (minimum - maximum)	: 48-62 Hz
Phase unbalance	: Less or equal to 3% of input rated line voltage
Transient voltage and overvoltage	: Category III
Single-phase input current [3]	: Not applicable
Three-phase input current [3]	: 17,1 A
Power factor	: 0,75
Displacement factor	: 0,98
Rated efficiency	: ≥ 97%
Maximum connections (power up cycles - on/off) per hour	: 10 (1 each 6 minutes)
DC power supply	: Allow
Standard switching frequency	: 5 kHz
Selectable switching frequency	: 2,5 and 15 kHz
Real-time clock	: Not available
COPY Function	: Yes, by MMF

Dissipated power:

Mounting type	Overload	
	ND	HD
Surface	220 W	220 W
Flange	Not applicable	Not applicable

Source available to the user

Output voltage	: 24 Vcc
Maximum capacity	: 150 mA

Control/performance data

Power supply	: Switched-mode power supply
Control method	: V/f, VVW, Sensorless and Encoder
Encoder interface	: Only with plug-in
Control output frequency	: 0-500 Hz
Frequency resolution	: 0,015 Hz

Control/performance data

V/F Control
- Speed resolution : 1% of rated speed
- Speed range : 1:20

VVW Control
- Speed resolution : 1% of rated speed
- Speed range : 1:30

Sensorless vector control
- Speed resolution : 0,5% of rated speed
- Speed range : 1:100

Vector control with Encoder
- Speed resolution : 0,1% of nominal speed
- Speed range : Up to 0 rpm

Analog Inputs

Quantity (standard)	: 1
Levels	: 0-10V, 0-20mA and 4-20mA
Impedance for voltage input	: 100 kΩ
Impedance for current input	: 500 Ω
Function	: Programmable
Maximum allowed voltage	: 30 Vcc

Digital inputs

Quantity (standard)	: 4
Activation	: Active low and high
Maximum low level	: 5 V (low) e 15 V (high)
Minimum high level	: 9 V (low) e 20 V (high)
Input current	: 4,5 mA
Maximum input current	: 5,5 mA
Function	: Programmable
Maximum allowed voltage	: 30 Vcc

Analog outputs

Analogic outputs - Quantity (standard)	: 1
Levels	: 0 to 10V, 0 to 20mA and 4 to 20mA
RL for voltage output	: 10 kΩ
RL for current output	: 500 Ω
Function	: Programmable

Digital outputs

Digital outputs - Quantity (standard)	: 1 NO/NC relay and 1 transistor
Maximum voltage	: 240 Vca and 24 Vcc
Maximum current	: 0,5 A and 150 mA
Function	: Programmable

Communication

- Modbus-RTU (with accessory: Any plug-in module)
- Modbus/TCP (with accessory CFW500-CEMB-TCP)
- Profibus DP (with accessory: CFW500-CPDP)
- Profibus DPV1 (with accessory: CFW500-CPDP)
- Profinet (with accessory CFW500-CEPN-IO)
- CANopen (with accessory: CFW500-CCAN)
- DeviceNet (with accessory: CFW500-CCAN)
- EtherNet/IP (with accessory CFW500-CETH-IP)
- EtherCAT (Not available)
- BACnet (Not aplicable)

Available protection

- Output phase-phase overcurrente/Short
- Overcurrent/Short circuit phase-ground
- Under/Overvoltage in power
- Heat sink overtemperature
- Motor overload
- IGBT's modules overload
- Fault/External alarm
- Programming error

Operation interface (HMI)

Avaliability	: Included in the product
Installation	: Fixed HMI
Number of HMI buttons	: 9
Display	: Numeric LCD
Indication accuracy	: 5% of rated current
Speed resolution	: 0,1 Hz
Standard HMI degree of protection	: IP66

Operation interface (HMI)

HMI battery type	: Not applicable
HMI battery life expectancy	: Not applicable
Remote HMI type	: Accessory
Remote HMI frame	: Not applicable
Remote HMI degree of protection	: IP54

Ambient conditions

Enclosure	: IP66
Degree of pollution	: 2

Temperature around the inverter: of -10 °C / 14 °F to 40 °C / 104 °F. For temperatures above the specified is necessary to apply current reduction of 2 % per °C of 40 (104) to 50 °C (122 °F).

Relative humidity: 5% to 95% without condensation.

Altitude: up to 1000 m (3281 ft) under normal conditions. Of 1000 m (3281 ft) to 4000 m (13123 ft) reduce the current in 1% for each 100 m above of 1000 m (3281 ft). Reduce the maximum voltage (240 V for models 200...240 V, 480 V for models 380...480 V and 600 V for models 500...600 V) in 1,1% for each 100 m above of 2000 m.

Sustainability policies

RoHS	: Yes
Conformal Coating	: 3C2

Dimensions and weigth

- Size	: B (IP66)
- Height	: 340 mm / 13.4 in
- Width	: 165 mm / 6.5 in
- Depth	: 252.9 mm / 9.96 in
- Weight	: 7.0 kg / 15.4 lb

Mechanical Installation

Mounting position	: Surface or DIN rail
Fixing screw	: M5
Tightening torque	: 5 N.m / 3.69 lb.ft
Allows side-by-side assembly	: No
Minimum spacing around the inverter:	
- Top	: 50 mm / 1.97 in
- Bottom	: 60 mm / 2.36 in
- Front	: 50 mm / 1.97 in
- Side	: 40 mm / 1.57 in

Electrical connections

Cable gauges and tightening torques:

	Recommended cable gauge	Recommended tightening torque
Power	4,0 mm² (12 AWG)	1,8 N.m / 1,33 lb.ft
Braking	6,0 mm² (10 AWG)	1,8 N.m / 1,33 lb.ft
Grounding	4,0 mm² (12 AWG)	0,5 N.m / 0.37 lb.ft
Control	0,5 to 1,5 mm² (20 to 14 AWG)	0,5 N.m / 0.37 lb.ft

SoftPLC	: Yes, incorporated
Maximum breaking current	: 24,0 A
Minimum resistance for the brake resistor	: 33 Ω
Recommended aR fuse	: FNH00-35K-A
Recommended circuit breaker	: MPW40-3-U020
Disconnect switch	: With disconnect switch
Motor coupling box	: Not applicable

Standards

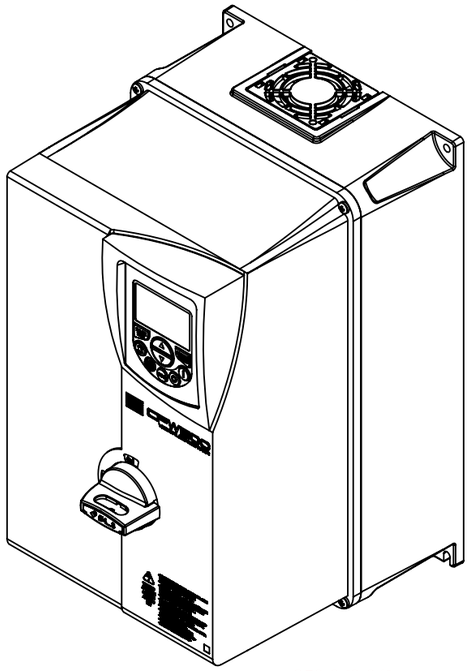
Safety	- UL 508C - Power conversion equipment. - UL 840 - Insulation coordination including clearances and creepage distances for electrical equipment. - EN 61800-5-1 - Safety requirements electrical, thermal and energy. - EN 50178 - Electronic equipment for use in power installations. - EN 60204-1-Safety of machinery. Electrical equipment of machines. Part 1: General requirements. Note: To have a machine in accordance with that standard, the manufacturer of the machine is responsible for the installation of an emergency-stop device and a network switching equipment. - EN 60146 (IEC 146) - Semiconductor converters. - 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	- EN 61800-3 - Adjustable speed electrical power drive systems - Part 3: EMC product standard including specific test methods. - EN 55011 - Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) radio-frequency equipment.

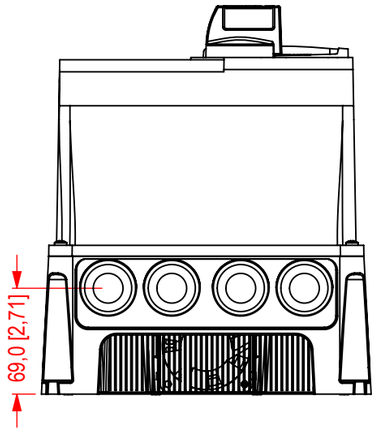
Standards

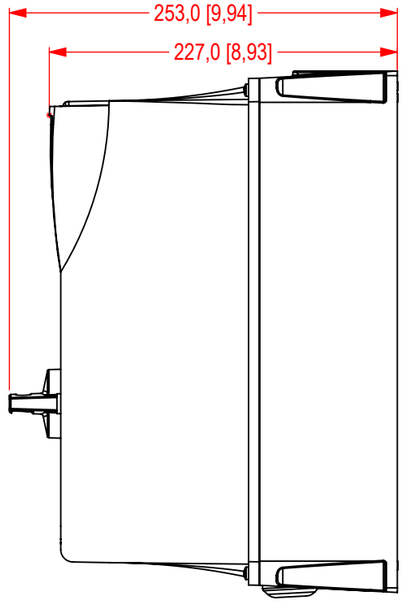
	- CISPR 11 - Industrial, scientific and medical (ISM) radio-frequency equipment - Electromagnetic disturbance characteristics - Limits and methods of measurement. - EN 61000-4-2 - Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 2: Electrostatic discharge immunity 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 6: Immunity to conducted disturbances, induced by radio-frequency fields.
Mechanical Construction	- EN 60529 e UL 50

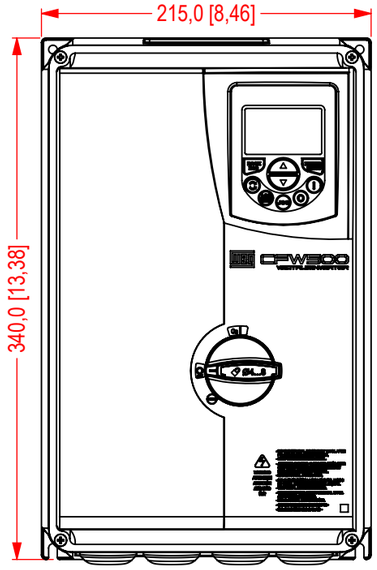
Certifications
UL, CE, RCM, CS/IRAM and EAC

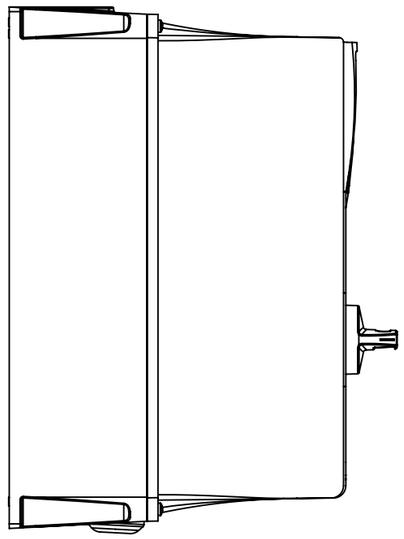
Notes
1) Motor power is orientative, valid for standard WEG Motors of IV poles. The correct sizing must be done according to the nominal current of the motor used, which must be less than or equal to the rated output current of the inverter;
2) Braking resistor is not included;
3) Considering minimum line impedance of 1%;
4) For more information, refer to the user manual of CFW500;
5) All images are merely illustrative.
6) For operation with switching frequency above nominal, apply derating to the output current (refer to the user manual).

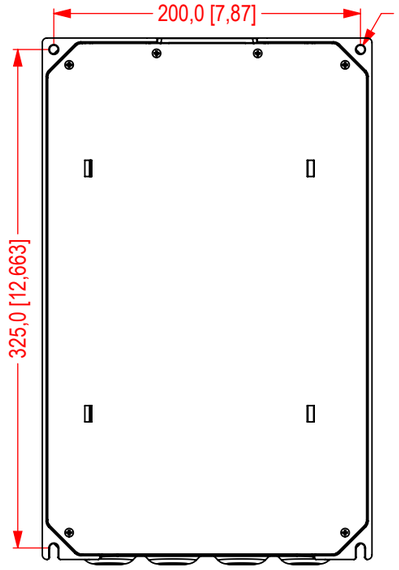


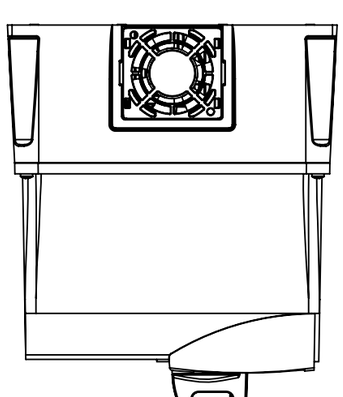












MASSA BRUTA/GROSS WEIGHT		MASSA LÍQUIDA/NET WEIGHT			ESCALA/SCALE	3:1	
			JEANCG			27.08.2020	00
ECM	LOC	RESUMO DE MODIFICAÇÕES *SUMMARY OF MODIFICATIONS*	EXECUTADO *EXECUTED*	VERIFICADO *CHECKED*	LIBERADO *RELEASED*	DATA *DATE*	VER
EXEC	JEANCG	CFW500		10007006683			
VERIF/CHECKED		MEC B / SIZE B					
LIBER/RELEASED		IP66		00			
DT LIBER/REL DT	27.08.2020	WAU JARAGUÁ DO SUL DESENV. DRIVES SERIADOS		FOL/SHEET 1 / 1			

SWD - A3