

English

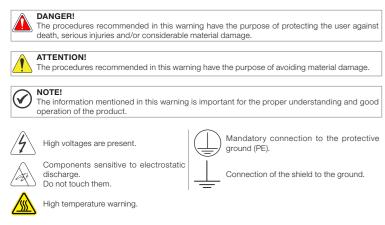
Quick Installation Guide

MW500

1 SAFETY INSTRUCTIONS

This quick installation guide contains the basic information necessary to commission the MW500. 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 THE MANUAL



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 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 invertee to the protection grounding (PE).

NOTE! Frequency Inverter may interfere with other electronic equipment. Follow the precaution recommended in manual available in www.weg.net.

NOTE! It is not the intention of this guide to present all the possibilities for the application of the MW500, as well as WEG cannot take any liability for the use of the MW500 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 perform any withstand voltage test! If necessary, contact WEG.

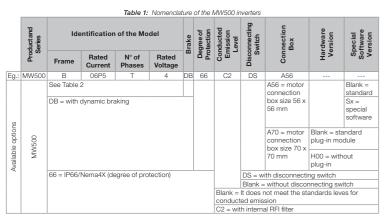
ATTENTION

The electronic boards have components sensitive to electrostatic discharges. Do not touch the components or connectors directly. If necessary, first touch the grounding point of the inverter, which must be connected to the protection ground or use a proper grounding strap. Do not touch the frame of the inverter directly. The inverter may be very hot during and after the operation.

4 ABOUT THE MW500

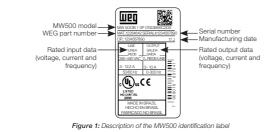
The MW500 is a high-performance, decentralized inverter with IP66 degree of protection dust an water. The MW500 allows speed and torque control of three-phase induction motors. This product features vector (VVW) and scalar (V/f) control - both programmable according to your application

5 NOMENCLATURE



ne	Rated			Availab	ole Options fo	the Inver	ning Identificati ters	ion Codes of
Frame	Output Current	N° of Phases	Rated Voltage	Brake	Degree of Protection	Conducted Emission Level	Disconnecting Switch	Connection Box
	02P1 = 2.1 A							
	02P9 = 2.9 A	S = single-phase	2 = 200240 V					
	03P4 = 3.4 A							
A	04P3 = 4.3 A							
	06P0 = 6 A							
M	01P3 = 1.3 A			DB	66 Blank or C2 B	Blank or C2		
	01P6 = 1.6 A						Blank or DS	A56 or A70
	02P0 = 2 A							
	02P6 = 2.6 A							
	04P3 = 4.3 A	T = three-phase	4 = 380480 V					
	05P2 = 5.2 A	power supply	4 = 380480 V					
В	06P5 = 6.5 A							
	10P0 = 10 A	1						
С	14P0 = 14 A							
U	16P0 = 16 A							

6 RECEIVING AND STORAGE



7 IDENTIFICATION LABEL

The MW500 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.

The MW500 identification label corresponds to the purchased model. Any damage occurred during transportation.

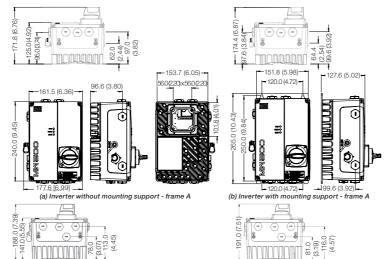
Report any damage immediately to the carrier

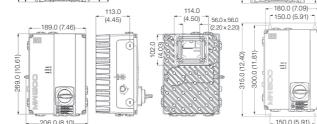
If the MW500 is not installed soon, store it in a clean and dry location (temperature between - 25 °C and 60 °C (- 13 °F and 140 °F)), with a cover to prevent dust accumulation inside it.

ATTENTION!

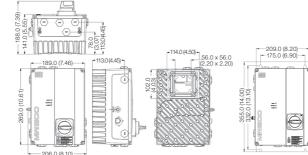


8 DIMENSIONS





(c) Inverter nout mounting support - frame E





Weight Kg (lb) N.m (lbf.in) N.m (lbf.in) Plate N.m (lbf.in) 2 (17.7) p/ M6 6.64 (58. С 8.9 (19.62) 4 (35.4) 4 (35.4) 4 (35.4) p/ M8 15.20 (134.53)

Figure 2: (a) to (f) Inverter dimensions for mechanical installation

9 INSTALLATION AND CONNECTION

9.1 ENVIRONMENTAL CONDITIONS

- Avoid:
- Direct exposure to sunlight. Inflammable, corrosive liquids or gases
- Metallic particles or oil mist.

Environmental conditions permitted for the operation of the inverter:

- Ambient temperature surrounding the inverter: from 0 °C (32 °F) until: 40 °C (104 °F) Nema4x/IP66 (mounted on the wall). - 50 °C (122 °F) - Nema4x/IP66 (mounted integrated on the motor.
- 40 °C (104 °F) Nema4x/IP66 mounted integrated on the motor (Refer to Table 10).
 For temperatures surrounding the inverter higher than the specifications above, it is necessary to apply a derating on the current of 2 % for each Celsius degree (or 1.11 % each °F), limited to an increase of 10 °C (50 °F). Air relative humidity: 5 % to 90 % non-condensing.
- Maximum altitude: up to 1000 m (3.300 ft) standard conditions (no derating required of current).
 From 1000 m to 4000 m (3.300 ft to 13.200 ft) current derating of 1 % each 100 m (or 0.3 % each 100 ft) above 1000 m (3.300 ft) altitude
- From 2000 m to 4000 m (6.600 ft to 13.200 ft) maximum voltage reduction (480 V for 380...480 V models) of 1.1 % for each 100 m (330 ft) above 2000 m (6.600 ft) altitude.
- Pollution degree; 2 (according to EN50178 and UL508C), with non-conductive pollution. Condensation must not originate conduction through the accumulated residues.

9.2 POSITIONING AND MOUNTING

The external dimensions, the net weight (mass) of the inverter and the suggested torque values are sented in Figure 2.

Integrate the motor

For assembling of the inverter coupled to the motor follow the step by step in Figure D.1 of APPENDIX D -MOUNTING INSTRUCTIONS, in the user's manual MW500, available for download on the website: www. weg.net.

Wall mounted:

For assembling of the inverter in the wall follow the step by step in Figure D.2 of APPENDIX D - MOUNTING INSTRUCTIONS, in the user's manual MW500, available for download on the website: www.wea.net.

Figure 3: Exploded motor mounting

ATTENTION Provide independent conduits for the physical separation of signal, control, and power cables (refer to Chapter 10 ELECTRICAL INSTALLATION).

9.3 MOTOR AND ADAPTATION KIT SELECTION

To select the compatible motor frame, see Table 3.

	Table 3: Motor frame selection													
	MW500	Inverter			1	EC				Nema				
e size	Terminal		80	90	100	112	132	160	180	143T/154T	182T/184T	213T/215T	254T/256T	284T/286T
Fram	box (mm)	Inverter model		56 x 56	ò	70 >	¢70	-	-	56 x 56	70 :	ĸ 70	110 x 110	110 x 110
A	56 x 56	MW500A56	Yes	Yes	Yes	Yes (1) (2)	-	-	-	Yes	Yes (1)	Yes (1)	No	No
A	70 x 70	MW500A70	Yes (1)	Yes (1)	Yes (1)	Yes ⁽²⁾	-	-	-	Yes (1)	Yes (2)	Yes (2)	No	No
в	56 x 56	MW500B56	Yes	Yes	Yes	Yes (1)	Yes (1)	-	-	Yes	Yes (1)	Yes (1)	No	No
В	70 x 70	MW500B70	Yes ⁽¹⁾	Yes (1)	Yes (1)	Yes (1)	Yes	-	-	Yes (1)	Yes (2)	Yes (2)	No	No
С	70 x 70 110 x 110	MW500C	-	-	-	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes	Yes
(1)	It is possible to assemble by following the assembly directions of Table 4. Adaptation kit selection.													

(2) Only applicable to WEG W22 motors with new frames - see Figure 6. The terminals supplied with the MW500 cannot be used on WEG W22

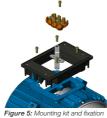
To select adaptation kits, see Table 7.

F	Adaptatio	n Size (mm)	Kit to Change the Size				
Frame Size	From	To	For the Motor	For the Wall			
A	56 X 56	70 X 70	13185989	13100469			
A	70 X 70	56 X 56	12778122	13100470			
В	56 X 56	70 X 70	12778124	12362338			
В	70 X 70	56 X 56	12778123	13100468			

NOTE! In order to install the MW500 on the motor, it is recommended to use the terminals supplied with the inverter. (See Table 3).

ATTENTION!

- In case the MW500 Frame A is installed on a WEG motor W22 frame 112, 182/T4 and 213/5T the terminals supplied with the motor cannot be used.
- If the MW500 is installed on a motor that is not of the WEG W22 line, the use of the terminal
- Always check the tightening torgue of the motor terminal connections (Example: 2 Nm).





- 174.6 (6.90)

- 144.0 (5.67)-

0

Ó

116 0 /4 57

Ó

(d) Inverter with mounting support - frame E

(f) Inverter with mounting support - frame C



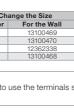


Figure 4: Exploded wall mounting

0







(a) Frames W22 63 to 132 before the changes

Figure 6: (a) and (b) Differences in WEG W22 motors - new versus old

10 ELECTRICAL INSTALLATION

DANGER!

- The following information is merely a guide for proper installation. Comply with the applicable local regulations for electrical installations.
- Make sure the power supply is disconnected before starting the installation
- The MW500 must not be used as an emergency stop device. Provide other devices for that purpose.

10.1 IDENTIFICATION OF THE POWER TERMINALS AND GROUNDING POINTS

Description of the power terminals

- Terminal X1 (L1/L, L2/N and L3 (R, S, T, ↓)): AC power supply.
 Terminal X2 (U/T1, V/T2, W/T3, ↓): connection for the motor.
- Terminal X3 (DC-, BR, DC+, 4): DC Link and brake connection. DC- is the negative pole of the voltage of the DC Link, BR is the connection of the brake resistor and DC+ is the positive pole of the voltage of the DC Link.

10.1.1 Power and Grounding Wiring, Circuit Breakers and Fuses

ATTENTION!

Use proper cable lugs for the power and grounding connection cables. Refer to Table 11 for ecommended 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

NOTE! The wire

- The wire gauges listed in Table 11 are approximate values. Installation conditions and the maximum permitted voltage drop must be considered for the proper wiring sizing.

10.1.2 Power Connections

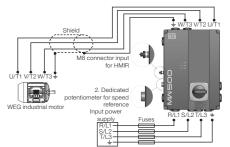


Figure 7: Power and grounding connection

10.1.3 Input Connections

ATTENTION!

The power supply that feeds the inverter must have a grounded neutral. In case of IT networks, follow the instructions described in Item 3.2.3.2 IT Networks in the user's manual MW500, available for download on the website: www.weg.net.

NOTE!

The input power supply voltage must be compatible with the inverter rated voltage Capacitors for power factor correction are not needed at the inverter input (L1/L, L2/N, L3 or R, S, T) and must not be installed at the output (U/T1, V/T2, W/T3).

Power supply capacity

- The MW500 is suitable for use in a circuit capable of delivering not more than 30.000 Arms symmetrically (200 V - 480 V)
- In case the MW500 is installed in power supplies with current capacity over 30,000 Arms, it is necessary to use proper protection circuits for those power supplies, such as fuses or circuit breakers.

10.1.4 IT Networks

ATTENTION!

When inverters with internal RFI filter is used in IT networks (neutral conductor not grounded or grounded through a high ohmic value resistor), remove grounding screw XE1, since those kinds of network cause damage to the filter capacitors of the inverter.

10.1.5 Dynamic Braking

\bigcirc NOTE!

The dynamic braking is available from frame B. For installation information, refer to Item 3.2.3.3 Dynamic Braking of the user's manual, available for download on the website: www.weg.net.

10.1.6 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 MW500 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 condition 1 is 1.1 x P0401.

ATTENTION!

If a disconnect switch additional or a contactor is installed at the power supply between the inverter and the motor, never operate it with the motor spinning 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 10.1.10 Cable Separation Distance

When using shielded cables to install the motor: Follow the safety recommendations of IEC60034-25.

 Use the low impedance connection for high frequencies to connect the cable shield to the grounding. Use parts supplied with the inverter.



10.1.7 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 11. 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 $\leq 10 \Omega$).
- Do not share the grounding wiring with other equipment that operate with high currents (e.g. high power motors, soldering machines, etc.).

10.1.8 Control Board

Plug-in modules are connected to control board. S10 DIP-switch are available in control board, for more information refer to Section 4.3 OPERATING MODES OF THE HMIR in the user's manual MW500, available for download on the website: www.weg.net.

10.1.9 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 MW500. Refer to the guide of the plug-in module in print or in the CD of the product. The typical functions and connections for the CFW500-IOS standard plug-in module are shown in Figure 9. For further details about the specifications of the connector signals, refer to Chapter 14 TECHNICAL SPECIFICATIONS.

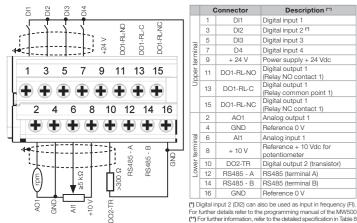


Figure 9: Signals of the connector of the CFW500-IOS plug-in module

For the correct connection of the control, use: I. 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 cables separated from the other wiring (power, command in 110 V / 220 Vac, etc.), according to Item 10.1.10 Cable Separation Distance. If those cables must cross other cables, it must be done perpendicularly, keeping the minimum separation distance of 5 cm (1.97 in) at the crossing point.
- 4. Relays, contactors, solenoids or coils of electromechanical brakes 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 HMIB (refer to Secction 13.3 ACCESSORIES), the cable that connects to the inverter must be separated from the other cables in the installation, keeping a minimum distance of 10 cm (3.94 in)
- 6. When using analog reference (Al1) and the frequency oscillates (problem of electromagnetic interference), interconnect the GND of the connector of the plug-in module to the inverter grounding connection.

10.1.10 Cable Separation Distance

Provide separation between the control and power cables and between the control cables (relay output cables and other control cables) as per Table 5.

Table 5: Cable separation distance								
Inverter Rated Output Current	Cable Length (s)	Minimum Separation Distance						
≤ 24 A	≤ 100 m (330 ft)	≥ 10 cm (3.94 in)						
5 24 A	> 100 m (330 ft)	≥ 25 cm (9.84 in)						

11 INSTALLATIONS ACCORDING TO EUROPEAN DIRECTIVE OF ELECTROMAGNETIC COMPATIBILITY

Inverters with option C2 or C3 (MW500...C2...) feature internal RFI filter in order to reduce the electromagnetic interference. Those inverters, when properly installed, meet the requirements of the directive of electromagnetic compatibility (2014/30/EU).

The MW500 inverter series was developed for professional applications only. Therefore, the emission limits of harmonic currents by the standards EN 61000-3-2 and EN 61000-3-2/A 14 are not applicable.

11.1 CONFORMAL INSTALLATION

- 1. Inverter with optional internal RFI filter MW500...C2... (with grounding switch of the capacitors of the internal RFI filter in the position ON). Check the installation of the grounding screw in Figure A.2 in the user's manual MW500, available for download on the website: www.weg.net.
- 2. Shielded output cables (motor cables) with the shield connected at both ends, motor and inverters, by means of low impedance for high frequency connection. Maximum motor cable length and conducted and radiated emission levels according to Table 7. For more information (RFI filter commercial reference, otor cable length and emission levels) refer to the Table 7.
- 3. Shielded control cables, keeping the separations distance from other cables according to Table 5. 4. Grounding of the inverter according to instructions of Item 10.1.7 Grounding Connections
- 5. Grounded power supply.

11.2 EMISSION AND IMMUNITY LEVELS

Table 6: 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 on the length of the cabo motor cable. Refer to Table 7						
Electromagnetic radiation disturbance Frequency Range: 30 MHz to 1000 MHz)								
Immunity:								
Fast transient-Burst	IEC 61000-4-4	2 kV / 5 kHz (coupling capacitor) input cables 1 kV / 5 kHz control cables and remote HMI cables 2 kV / 5 kHz (coupling capacitor) motor cables						
Conducted Radio-Frequency Common Mode	IEC 61000-4-6	0.15 to 80 MHz; 10 V; 80 % AM (1 kHz) Motor, control and remote HMI cables						
Surges	IEC 61000-4-5	1.2/50 μs, 8/20 μs 1 kV line-to-line coupling 2 kV line-to-ground coupling						
Radio-Frequency Electromagnetic Field	IEC 61000-4-3	80 to 1000 MHz 10 V/m 80 % AM (1 kHz)						

Definition of Standard IEC/EM 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 ed for domestic purposes

Second Environment: includes 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 rated voltage below 1000 V and intended for use in the First Environment. Category C2: inverters with a rated voltage below 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 professional.

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

Category C3: inverters with a rated voltage below 1000 V and intended for use in the Second Environment only (not designed for use in the First Environment)

1	Table 7: Cond	ucted and radia	ted emissio	n levels, and additio	onal informatio	n			
		External RFI F tralized Instal		With External RFI Filter					
Inverter Model	Max	d Emission - imum ble Length	Radiated Emission	External RFI Filter Part Number	Conducted Maxin Motor Cab	Radiated Emission - Category			
	Category C3	Category C2	Category	(manufacturer: XXX)	Category C2	Category C1	Without Metallic Cabinet		
MW500A02P1S2C2	10 m	5 m	30 m C2	-	-	-	-		
MW500A02P9S2C2	10 m	5 m	30 m C2	-	-	-	-		
MW500A03P4S2C2	10 m	5 m	30 m C2	-	-	-	-		
MW500A04P3S2C2	10 m	5 m	30 m C2	-	-	-	-		
MW500A06P0S2C2	10 m	5 m	30 m C2	-	-	-	-		
MW500A01P3T4C2	10 m	5 m	30 m C3	-	-	-	-		
MW500A01P6T4C2	10 m	5 m	30 m C3	-	-	-	-		
MW500A02P0T4C2	10 m	5 m	30 m C3	-	-	-	-		
MW500A02P6T4C2	10 m	5 m	30 m C3	-	-	-	-		
MW500A04P3T4C2	10 m	5 m	30 m C3	-	-	-	-		
MW500B05P2T4C2	6 m	-	6 m C3	-	-	-	-		
MW500B06P5T4C2	6 m	-	6 m C3	-	-	-	-		
MW500B10P0T4C2	6 m	-	6 m C3	-	-	-	-		
MW500C14P0T4C2	3 m	(*)	3 m C3	-	-	-	-		
MW500C16P0T4C2	3 m	(7)	3 m C3	-	-	-	-		
(*) Above the motor.									

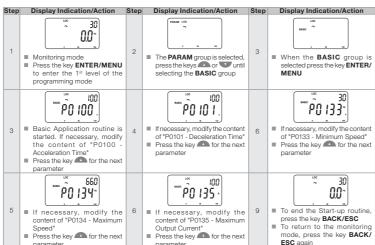
12 PREPARATION AND POWERING UP

DANGER Always disconnect the general power supply before making any connections.

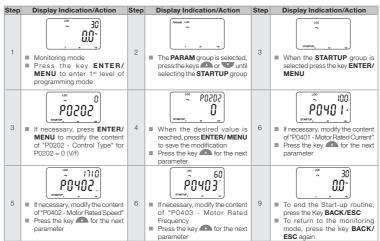
- . Check if the power, grounding and control connections are correct and firm. 2. Remove all materials left from the inside of the inverter.
- 3. Check if the motor connections and motor current and voltage match the inverter
- 4. Mechanically uncouple the motor from the load. If the motor cannot be uncoupled, be sure that its turning in any direction (clockwise or counterclockwise) will not cause damages to the machine or risk of accidents.
- Close the covers of the inverter.
 Measure the voltage of the input power supply and check if it is within the permitted range, as presented
- in Chapter 14 TECHNICAL SPECIFICATIONS.
- 7. Power up the input: close the disconnecting switch. 8. Check the success of the powering up:



12.1 MENU BASIC - BASIC APPLICATION



12.2 V/F CONTROL TYPE (P0202 = 0)



13 OPTIONAL KITS AND ACCESSORIES

13.1 RFI FILTER

Built-in RFI filter option is available to reduce the conducted disturbance from the inverter to the main power supply in the high frequency band (> 150 kHz). It is necessary to meet the maximum levels of conducted and radiated emissions of electromagnetic compatibility standards, such as EN 61800-3 and EN 55011. For further details, refer to Chapter 11 INSTALLATIONS ACCORDING TO EUROPEAN DIRECTIVE OF ELECTROMAGNETIC COMPATIBILITY.



When inverters with internal RFI filter is used in IT networks (neutral conductor not grounded or grounded through a high ohmic value resistor), remove grounding screw XE1, since those kinds of network cause damage to the filter capacitors of the inverter.

13.2 DISCONNECTING SWITCH

An integrated disconnecting switch is available as an option.

13.3 ACCESSORIES

The accessories are hardware resources that can be added in the application with the MW500.

The accessories are incorporated to the inverters in an easy and quick way by using the "Plug and Play" concept. When an accessory is connected to the inverter, the control circuitry identifies the model and informs the code of the accessory connected in parameter P0027. The accessory must be installed or modified with the inverter de-energized. They may be ordered separately and are sent in their own package containing the components and manuals with detailed instructions for their installation, operation and setting. Refer to Table 7.1 of the user's manual, available for download on the website: www.weg.net.

14 TECHNICAL SPECIFICATIONS

14.1 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/UL 508C).
 Transient voltage according to Category III.
- Maximum of 10 connections per hour (1 every 6 minutes).
- Typical efficiency: ≥ 97 %.

14.2 ELECTRONICS/GENERAL DATA

Table 8: Electronics/general data								
Control	Method	Types of control: Vf (Scalar) VW: voltage vector control WW voltage vector Modulation)						
	Output frequency	0 to 500 Hz, resolution of 0.015 Hz						
Performance	V/f control	 Speed regulation: 1 % of the rated speed (with slip compensation) Speed variation range: 1:20 						
	Vector control (VVW)	 Speed regulation: 1 % of the rated speedl Speed variation range: 1:30 						

Inverter						R	ecomn	nended Fuse					Dynamic Braking																	
	Number of Input Phases	Number of Input Phases		Frame Size	Output Rated Current	Maximum Motor	I²t [A²s]	UL [A]	Recommended WEG aR Fuse	Ci	rcuit Breaker	Power Wire Size	Grounding Wire Size	Maximum Current	Recommend Resistor	Power Wire Siz for DC and BR Terminals														
		[Vrms]		[Arms]	[HP/ kW]				[A]	WEG	mm ² (AWG)	mm ² (AWG)	[A]	[Ω]	[A]	mm ² (AWG)														
W500A02P1S2DB66		200	000	000	200 240		2.1	0.5/0.37	373	20	FNH00-20K-A	9.0	MPW18-3-U010	2.5 (14)	2.5 (14)	6	127	4.5	2.5 (14)											
W500A02P9S2DB66]							2.9	0.75/0.55	373	20	FNH00-20K-A	9.0	MPW18-3-U010	2.5 (14)	2.5 (14)	6	127	4.5	2.5 (14)										
W500A03P4S2DB66																		3.4	1/0.75	373	20	FNH00-20K-A	9.0	MPW18-3-U010	2.5 (14)	2.5 (14)	6	127	4.5	2.5 (14)
W500A04P3S2DB66]	240	240	240						4.3	1.5/1.1	373	20	FNH00-20K-A	13.5	MPW18-3-U016	2.5 (14)	2.5 (14)	6	127	4.5	2.5 (14)								
N500A06P0S2DB66	1			6.0	2/1.5	420	25	FNH00-25K-A	25	MPW40-3-U025	2.5 (14)	2.5 (14)	8	100	5.7	2.5 (14)														
W500A01P3T4DB66		380	380	A	1.3	0.5/0.37	450	20	FNH00-20K-A	1.6	MPW18-3-D016	2.5 (14)	2.5 (14)	6	127	4.5	2.5 (14)													
W500A01P6T4DB66]			380	380	380								1.6	0.75/0.55	450	20	FNH00-20K-A	2.5	MPW18-3-D025	2.5 (14)	2.5 (14)	6	127	4.5	2.5 (14)				
W500A02P0T4DB66]									2.0	1/0.75	450	20	FNH00-20K-A	2.5	MPW18-3-D025	2.5 (14)	2.5 (14)	6	127	4.5	2.5(14)								
W500A02P6T4DB66	1											2.6	1.5/1.1	450	20	FNH00-20K-A	4	MPW18-3-U004	2.5 (14)	2.5 (14)	6	127	4.5	2.5 (14)						
W500A04P3T4DB66	3							4.3	2/1.5	450	20	FNH00-20K-A	6.3	MPW18-3-D063	2.5 (14)	2.5 (14)	6	127	4.5	2.5 (14)										
W500B05P2T4DB66] 3	480		5.2	3/2.2	450	20	FNH00-20K-A	10	MPW25-10	2.5 (14)	4.0 (12)	8	100	5.7	2.5 (14)														
W500B06P5T4DB66	1		В	6.5	4/3	450	20	FNH00-20K-A	10	MPW25-10	2.5 (14)	4.0 (12)	8	100	5.7	2.5 (14)														
W500B10P0T4DB66]			10.0	5/4	1000	20	FNH00-25K-A	16	MPW25-16	2.5 (14)	4.0 (12)	16	47	11.5	2.5 (14)														
W500C14P0T4DB66]		С	14.0	7.5/5.5	1000	35	FNH00-35K-A	20	MPW40-3-U020	4.0 (12)	4.0 (12)	24	33	14	6 (10)														
W500C16P0T4DB66	1			16.0	10/7.5	1000	35	FNH00-35K-A	25	MPW40-3-U020	4.0 (12)	4.0 (12)	24	33	14	6 (10)														

For further information, refer the website: www.weg.net.

Inputs "	Analog	Knob additional input for speed reference variation 1 insulated input. Levels: (0 to 10) V or (0 to 20) mA or (4 to 20) mA Linearity error ≤ 0.25 % Impedance: 100 kΩ for voltage input, 500 Ω for current input Programmable functions Maximum voltage permitted in the input: 30 Vdc
	Digital	4 insulated inputs Programmable functions: - active high (PNP); maximum low level of 15 Vdc / minimum high level of 20 Vdc - active low (NPN); maximum low level of 5 Vdc / minimum high level of 9 Vdc Maximum input voltage of 30 Vdc Input current: 4.5 mA
Outputs (*)	Relay	1 relay with NC/NO contact Maximum voltage: 240 Vac Maximum current: 0.5 A Programmable functions
	Transistor	 T insulated digital output open sink (uses as reference the 24 Vdc power supply) Maximum current 150 mA ^(*) (maximum capacity of the 24 Vdc) power supply Programmable functions
	Power supply	 24 Vdc power supply. Maximum capacity: 150 mA 10 Vdc power supply. Maximum capacity: 2 mA
Communication	Interface RS485	 Insulated RS485 Modbus-RTU protocol with maximum communication of 38.4 kbps
Safety	Protection	Overcurrent/phase-phase short circuit in the output Overcurrent/phase-ground short circuit in the output Under/overoltage Overtemperature in the heatsink Overload in the motor Overload in the motor Overload in the power module (IGBTs) External alarm/fault Setting error
Human-machine interface (keypad)	Remote keypad (HMIR)	9 keys: Start/Stop, up arrow, down arrow, Direction of Rotation, Jog, Local/ Remote, BACK/ESC and ENTER/MENU LCD display View/edition of all parameters Indication accuracy: - current: 5 % of the rated current - speed resolution: 0.1 Hz
Enclosure	Degree of protection	■ IP66 ■ UL type 4X

(*) The number and/or type of analog/digital inputs/outputs may vary, depending on the Plug-in module (accessory) used. For the table above, it was considered the standard plug-in module. For further information, refer to the programming manual and the guide supplied with the optional item.
(*) The maximum capacity of 150 mA must be considered by adding the load of the 24 V power supply and transistor output, that is, the sum of the consumption of both must not exceed 150 mA.

15 CONSIDERED STANDARDS

	Table 9: 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 EN 61800-5-1 - safety electrical, thermal and energy requirements EN 61800-6-2 - 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	 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 CISPR 11 - industrial, scientific and medical (ISM) radio-frequency equipment - electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 2: electrostatic discharge immunity test EN 61000-4-2 - electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 3: radiated, radio-frequency, electromagnetic field immunity test EN 61000-4-3 - electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 4: electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 4: electromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 5: surge 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: lectromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 6: lectromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 6: lectromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 6: lectromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 6: lectromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 6: lectromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 6: lectromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section 6: lectromagnetic compatibility (EMC) - part 4: testing and measurement techniques - section
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 3M8

16 MAIN PAREMETERS

Table 10: Input and output currents, overload currents, carrier frequency and power losses specifications for: (40 °C / 104 °F IP66 for motor integrate mountig)

	Output Bated	Overload	Rated Carrier	Input Rated	Inverter Power Losses
Inverter	Current	Currents	Frequency	Current	Surface Mounting
	(Inom)	1 min	(fsw)		
	[Arms]	[Arms]	[kHz]	[Arms]	[W]
MW500A02P1S2DB66	2.8	4.2	4	6.8	49
MW500A02P9S2DB66	3.8	5.8	4	9.3	49
MW500A03P4S2DB66	4.5	6.8	4	11.0	49
MW500A04P3S2DB66	5.7	8.6	4	13.9	49
MW500A06P0S2DB66	6.0	12.0	4	14.6	65
MW500A01P3T4DB66	1.7	2.6	4	1.6	45
MW500A01P6T4DB66	2.1	3.2	4	1.9	45
MW500A02P0T4DB66	2.6	4.0	4	2.4	45
MW500A02P6T4DB66	3.4	5.2	4	3.1	45
MW500A04P3T4DB66	5.7	8.6	4	5.2	65
MW500B05P2T4DB66	6.9	10.4	4	6.8	109
MW500B06P5T4DB66	8.6	13.0	4	7.9	109
MW500B10P0T4DB66	13.3	20.0	4	12.2	168
MW500C14P0T4DB66	16.5	28.0	4	15.2	220
MW500C16P0T/DB66	10.2	32.0	4	177	270