MW500 - DECENTRALIZED VSD - MOTORDRIVE

The VSD wherever you need

MW500 - Decentralized VSD - MotorDrive

Summary

MW500

The VSD wherever you need

The MW500 is a high performance product dedicated for induction motor control, with embedded features and a high protection degree of IP66 / NEMA 4X which allow decentralized installation directly on the motor or on a wall. Designed exclusively for industrial or professional use, the decentralized WEG VSD adds a great deal of flexibility, allowing the user to install the product near to the controlled motor, thus eliminating the necessity of long cables and panels.

Decentralized
Indoor or outdoor applications

Flexible
Wide range of accessories and functions

Robust
IP66/NEMA 4X outdoor enclosure

Efficient
High performance for machines and processes

Reliable
Same trustworthiness of WEG products

Integrated
Communication networks

Characteristics

Motor or wall assembly

Plug-in modules

Easiness to setup

SoftPLC

Increasing the ruggedness and durability

Functions to streamline operation and performance

WEG quality

Connectivity

Advantages

It is possible for the MW500 to be assembled on a wall or, using the terminal box coupling directly over the W22 or W21 motors.

The optional communication network and I/O modules are fast and easily to be installed, allowing adaptation of the standard VSD to each application.

Within seconds, it is possible to download the SoftPLC program and parameters setup from a MW500 to others without powering them up, using the Flash Memory Module.

Built-in PLC (SoftPLC), allowing the VSD, motor and application to work in an interactive way. It allows the user to implement customized logic and applications.

Complete protection against contact with internal live parts, avoiding the entrance of dust or water coming from jets.

PID: process control.
Sleep: disables the VSD automatically.

Flying start: allows to start a motor that was running freely, accelerating it from the speed at which it was running.

Ride through: keeps the VSD in operation during voltage dips.

100% of the VSDs are tested with load at the factory under rated conditions.

Protection against ground fault, short circuit, over temperature and others.

Thermal protection of IGBTs based on manufacturer curve.

Conformal Coating (Tropicalization) as standard. Classified as 3C2 according to IEC 60721-3-3.

CANopen, DeviceNet, Profibus-DP, Modbus-RTU, EtherNet-IP, Modbus-TCP, PROFINET-IO and possibility of Bluetooth communication.

Benefits

Makes the commissioning easy, saving space and cabling, in other words, reducing cost for all installation.

Time saving, standardization and optimized costs according to the necessity.

Fast, easy and reliable programming for manufacturers that produce machines in large scale.

It eliminates the necessity of an external PLC, reducing costs, optimizing space and simplifying the system.

Panel not required, reducing the installation costs.

Energy saving.

It allows fast operating response of the machine and prevents occasional mechanical breakdowns.

It prevents machine stoppage and downtime.
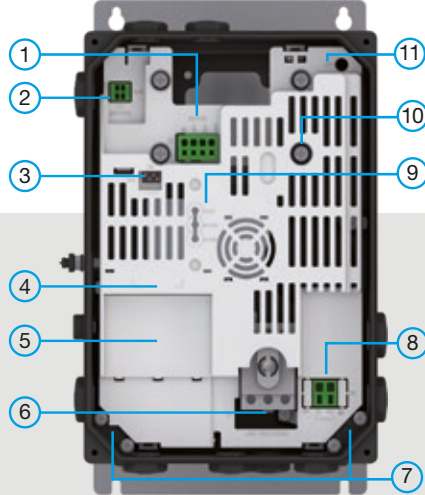
High reliability.

It prevents damage to the inverter which can be caused by adverse situations, normally external factors.

VSD lifetime is extended: protection against chemically active substances, related to contamination from the atmosphere.

Full integration with process network.

Easy Configuration

Main Components

LED indicators

Disconnect switch (optional)

Plug-in module

Motor seal

Wall adapter plate
(accessory not provided
with the drive)

Frontal cover

Motor connection
box screws

Main case

Motor connection box

Certifications

EAC CE cULus

Note: check for availability.
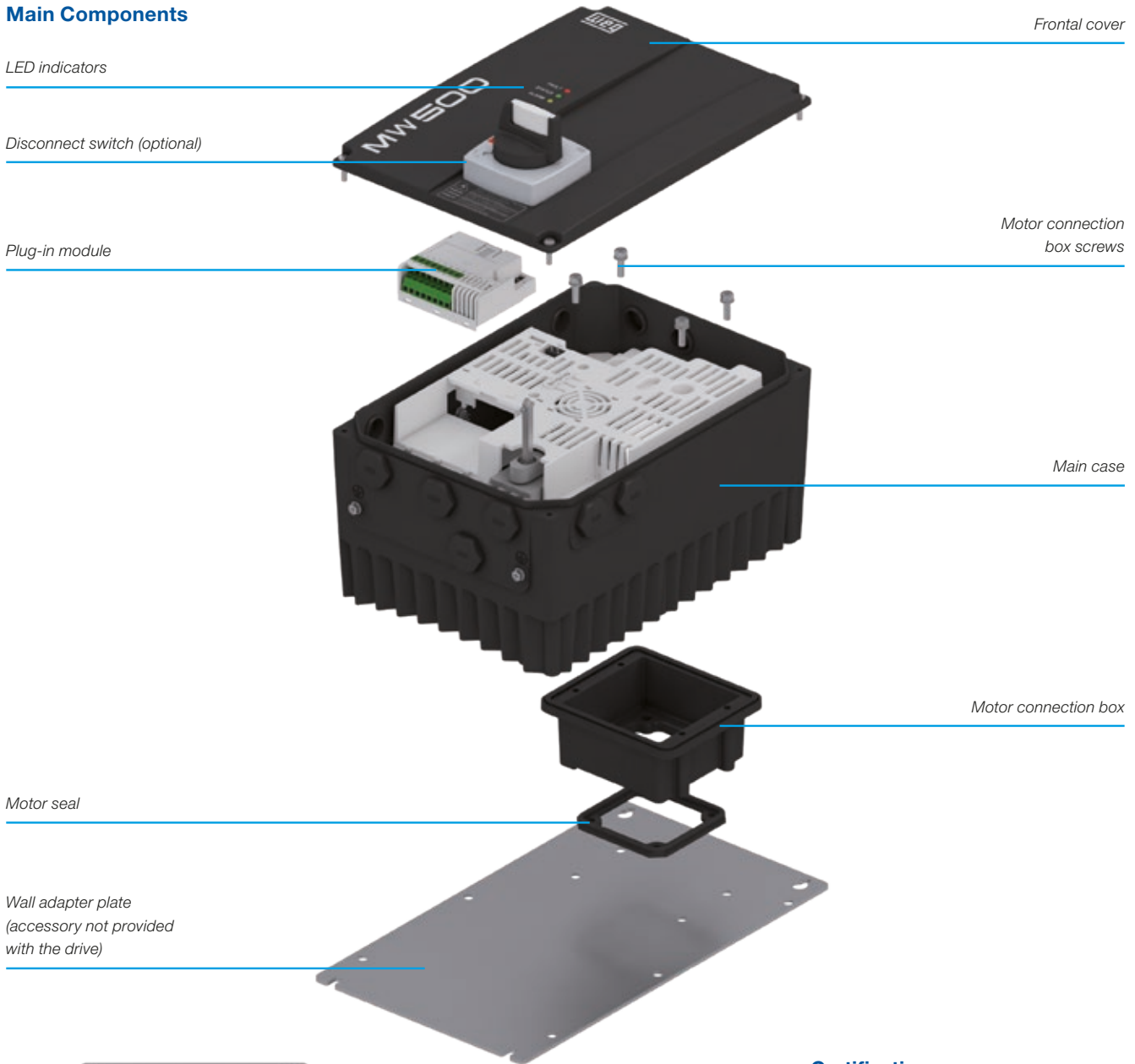
1 - Motor connection
2 - Motor PTC input
3 - S10 dip-switches
4 - Simplified label
5 - Plug-in slot
6 - Power supply connection

7 - Grouding points
8 - Braking resistor connection
9 - LED indicators
10 - Connection box screw
11 - Grounding connection screw

Applications

Centrifugal pumps

Process pumps

Mixers / bottlers

Conveyor belts

Compressors

Fans / exhaust fans

Washers/dryers

General machinery

Up to
50 ºC
on motor
mounting

Special Features

Conector IP66/NEMA 4X
Special conector for Remote HMI (M8) or external sensor

Analog Potentiometer Built-In
No need HMI to operate

Fins Instead of Fans
Reducing maintenance cost and audible noise

LED Indicators
Programmable status indication

Remote HMI
Simple and intuitive

Switch-Disconnector Built-In (Optional)
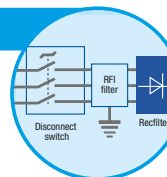Easy and safe machine maintenance

Characteristics

Conformal Coating

Increasing the lifetime, protecting the electronic boards against corrosive atmospheres. Classified as 3C2 according to IEC 60721-3-3.

IP66/NEMA 4X Protection Degree

Key to the decentralized solution, the IP66 provides protection against contact with internal live parts and the ingress of dust or water.

SoftPLC

Functions to streamline operation and increase performance, in many cases eliminating the necessity of an external PLC, optimizing and simplifying the system.

RFI Filter

With C2 option, the VSD faces a redution in the EMC level, some cases even more, taking advantage of the motor and VSD distance, thus increasing the EMC class.

Black Color

The black color increases the enclosure dissipation capability, helping the drive support up to 50 °C on motor mounting without derating.

SuperDrive G2 and WPS

Free softwares with possibility to comunicate via Bluetooth with PCs or Smartphones (Android and IOS), allowing the parameter setting, command and monitoring of VSD, in this last option, simulating an oscilloscope with Trend function.

MORE savings!
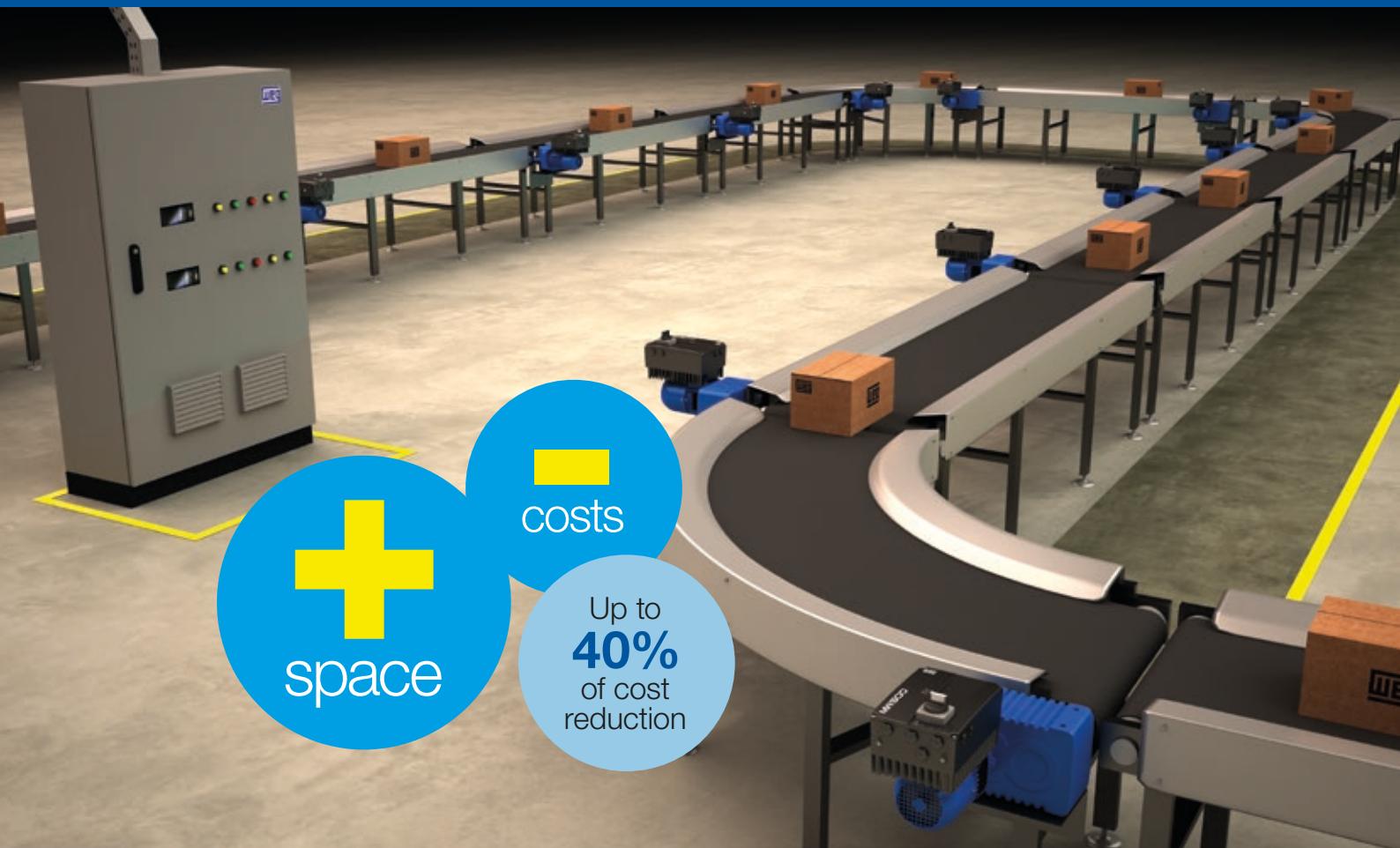
- Space saving and flexible solution
- Reduced installation costs
- Increased ruggedness
- Easy commissioning
- Cost savings on cables
- Panel not required

+ space

− costs

Up to **40%** of cost reduction

SuperDrive G2

Software application to program, control and monitor WEG VSDs. To connect MW500 to a computer it is necessary to use a plug-in module.

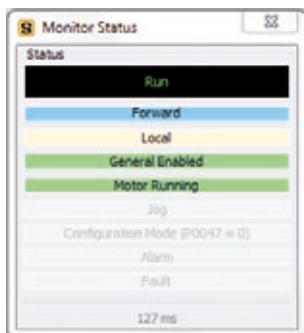## Changing and Monitoring Parameters in a List/Table
Parameter settings can be stored in a computer file format.

Monitor Parameters: Address 1

Number	Function	Minimum	Maximum	Factory Setting	User Setting	Unit
0	Access to Parameters	0	9999	0	0	
1	Speed Reference	0	65535	0	30	
2	Motor Speed	0	65535	0	30	
3	Motor Current	0	200	0	0.1	A
4	DC Link Voltage (Ud)	0	2000	0	311	V
5	Motor Frequency	0	500	0	2.5	Hz
6	VFD Status	0	7	0: Ready	1: Run	
7	Motor Voltage	0	2000	0	23	V
9	Motor Torque	-1000	1000	0	-5.2	%
11	Motor Current	-1	1	0	0.75	
12	DI8 to DI1 Status	00000000b	11111111b	00000000b	00000000b	
13	DO5 to DO1 Status	00000000b	01111111b	00000000b	00000001b	
14	AO1 Value	0	100	0	4.3	%
15	AO2 Value	0	100	0	1.4	%
16	FO % Value	0	100	0	0	%
17	FO Hz Value	0	20000	0	0	Hz
18	AI1 Value	-100	100	0	0	%
19	AI2 Value	-100	100	0	0	%
20	AI3 Value	-100	100	0	-100	%
21	FI % Value	-100	100	0	0	%
22	FI Hz Value	0	20000	0	0	Hz
23	Main SW Version	0	655.35	0	1.14	
24	Sec. SW Version	0	655.35	1.11	1	
27	Plug-In Mod. Config.	00000000b	00001001b	00000000b	00000001b	
29	Power HW Config.	00000000b	00111111b	00000000b	00000011b	
30	Heatsink Temperature	-20	150	0	25	C
37	Motor Overload Ixt	0	100	0	0	%
40	PID Process Variable	0	3000	0	0	
41	PID Setpoint Value	0	3000	0	0	
47	CONF State	0	999	0	0	
48	Present Alarm	0	999	0	0	
49	Present Fault	0	999	0	0	
50	Last Fault	0	999	0	0	
51	Current At Last Fault	0	200	0	0	A
52	DC Link At Last Fault	0	2000	0	0	V
53	Speed At Last Fault	0	500	0	0	Hz

1,085 ms

- Upload/download parameters from the PC to the MW500 and vice versa
- Offline editing of the parameters stored on the PC

Status Monitoring

Monitor Status

Status
- Run
- Forward
- Local
- General Enabled
- Motor Running
- Jog
- Configuration Mode (P0047 = 0)
- Alarm
- Fault

127 ms
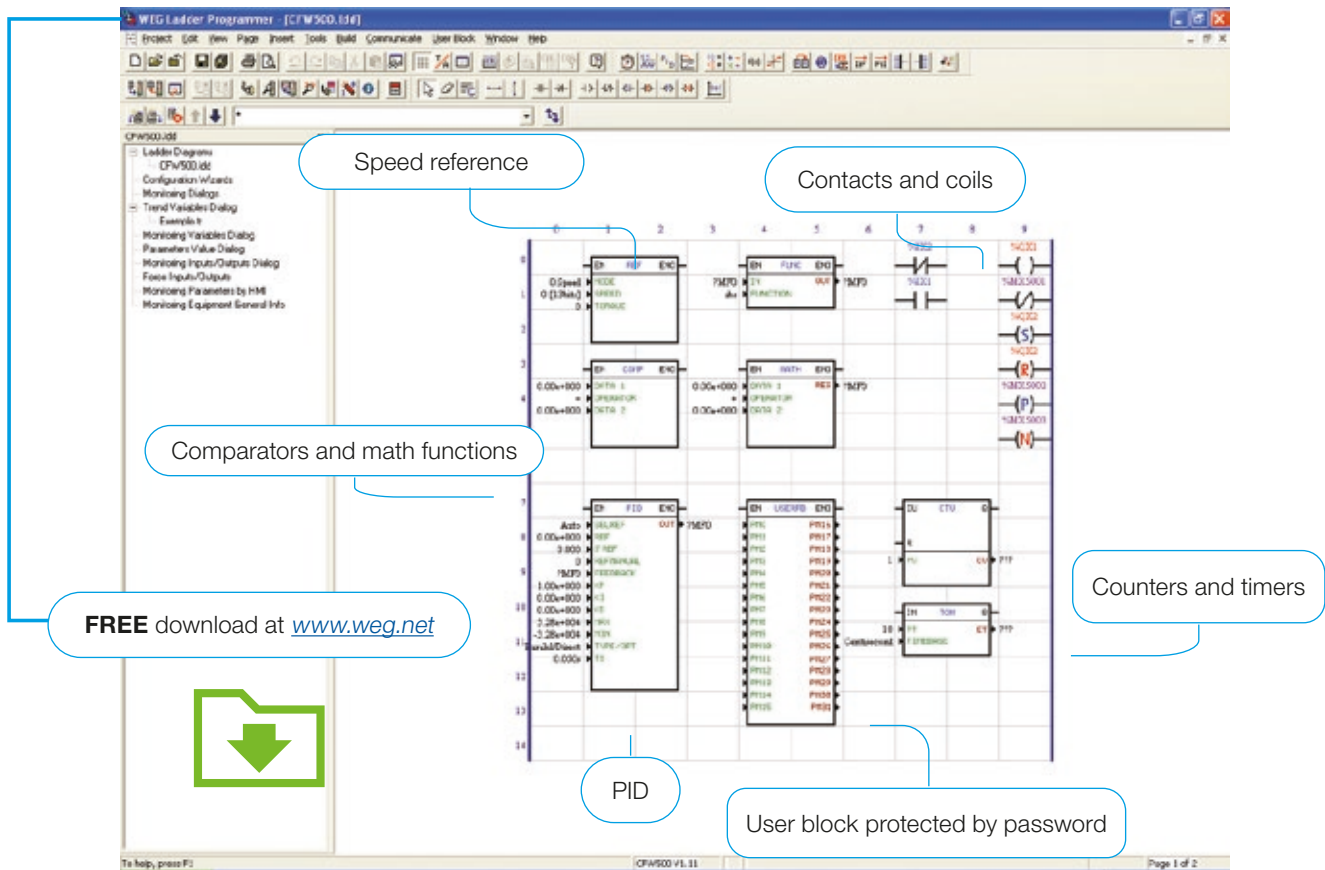
Operation with HMI
Online parameter editing.

Monitor Using Keypad

Parameter
2 — Motor Speed
30

Commands

JOG | | LOC REM

I | 0

General Enable | General Disable | Reset

7 ms

New User Setting

P0100
Acceleration Time
0.1...999
10.0 — Send
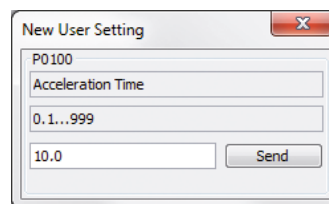
SoftPLC - Built-In in the Standard Product

Functionalities of a PLC available as standard, allowing the creation of applications. The WLP software and the SoftPLC functionality are a smart and simple way to make your MW500, motor and application work together. Plug-in module required to connect with a computer.

Speed reference

Contacts and coils

Comparators and math functions

FREE download at www.weg.net

Counters and timers

PID

User block protected by password
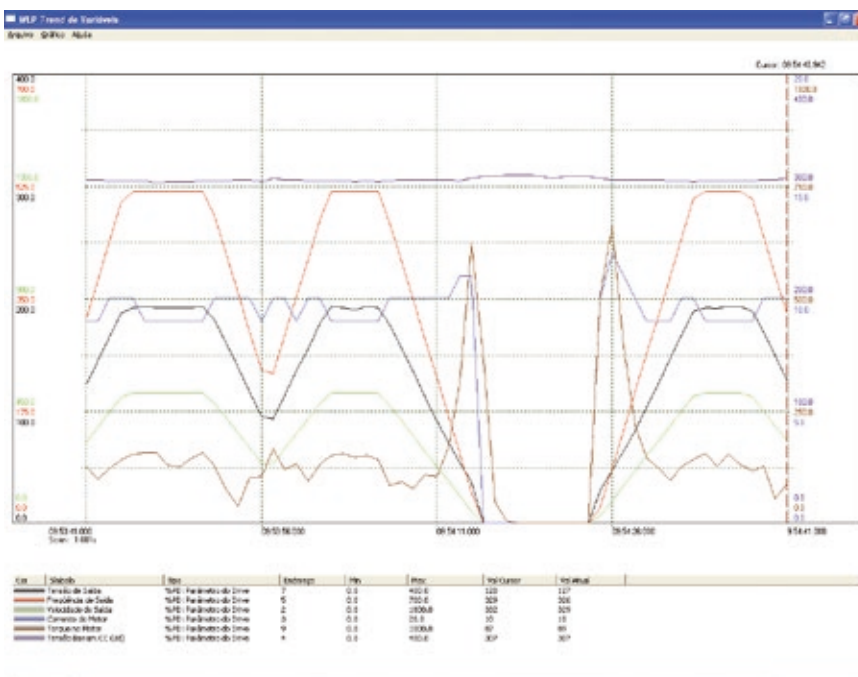
Trace Function
- Online graphic monitoring of parameters/variables
- Configurable up to six channels

Easy programming: Ladder

WPS - WEG Programming Suit

Trend Function
- Online graphic monitoring of parameters/variables
- Possibility to export an image with the respective graph based upon the selected period

Friendly environment

USB plug-in module available as accessory

WPS - WEG Programming Suit

Online Monitoring Parameters/Variables List
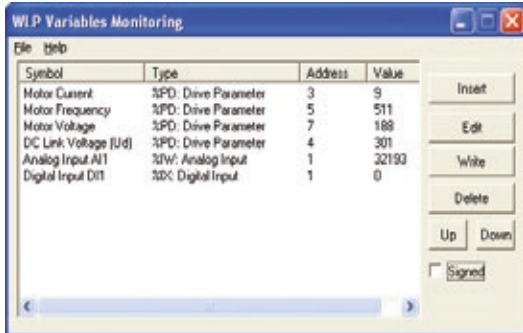
Parameter Edition

For changing the parameters values.

I/Os Monitoring

Enable/Disable I/Os

It simplifies and speeds up the validation of the application.

FREE download at *www.weg.net*

Coding

The MW500 code identifies its construction characteristics, nominal current, voltage range and optionals. Using the smart code, it is possible to select the MW500 required for your application simple and quickly.

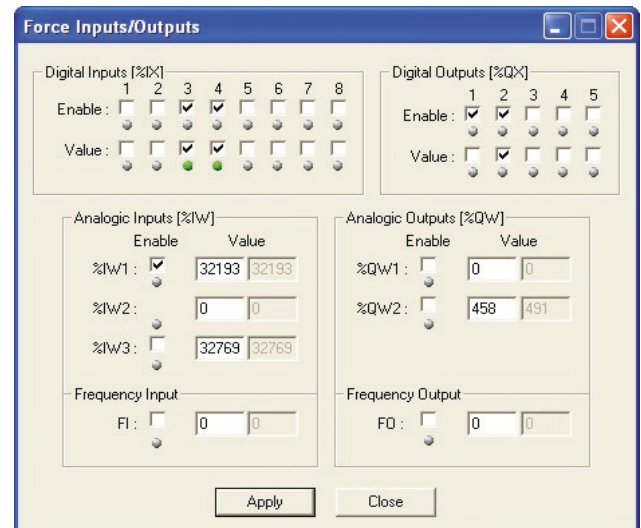| Product and series	Model identification				Braking IGBT	Degree of protection	Conducted emission level[1]	Disconnect switch	Connection box[2]	Hardware version	Software version
	Frame size	Rated current	N° of phases	Rated voltage							
MW500	A	02P6	T	4	DB	66	C2	DS	A56	H00	---
MW500	Check table below										
	DB = with dynamic braking										
	66 = IP66/NEMA 4X										
	Blank = with no RFI filter C2 = according to category 2 of IEC 61800-3 standard, with internal RFI filter										
	Blank = without disconnect switch DS = with disconnect switch										
	A56 = motor connection box size 56x56 mm; applies to frames A and B A70 = motor connection box size 70x70 mm; applies to frames A and B Blank = motor connection box sizes 70x70 mm and 110x110 mm; applies to frame size C										
	H00 = without plug-in module										
	Blank = standard Sx = special software										

Frame sizes	Model	Rated current	Number of phases	Rated voltage
A	02P1	2.1 A	S = single phase power supply	2 = 200... 240 V
	02P9	2.9 A		
	03P4	3.4 A		
	04P3	4.3 A		
	06P0	6.0 A		
A	01P3	1.3 A	T = three-phase power supply	4 = 380... 480 V
	01P6	1.6 A		
	02P0	2.0 A		
	02P6	2.6 A		
	04P3	4.3 A		
B	05P2	5.2 A		
	06P5	6.5 A		
	10P0	10.0 A		
C	14P0	14.0 A		
	16P0	16.0 A		

Notes: 1) RFI filter.
    Categories:
    - Category C1: inverters with voltages below 1,000 V, for use in the First Environment.
    - Category C2: inverters with voltages below 1,000 V, with plugs or mobile installation, when used in the "First Environment", must be installed and started-up by a qualified professional.
    - Category C3: inverters with voltages below 1,000 V, developed for use in the Second Environment and not designed for use in the "First Environment".
    Environments:
    - First Environment: environments that include household installations, such as buildings directly connected, without intermediate transformer, to a low-voltage power supply grid, which supplies buildings used for domestic purposes.
    - Second Environment: includes all the buildings other than those directly connected to a low-voltage power supply grid, which supplies buildings used for domestic purposes.
    For the RFI filters of external installations, refer to the MW500 user manual.
  2) For frame size C, connections to box with 70 and 110 mm are possible, therefore no dedicated order option code for 70 or 110 mm is needed.
  3) Output current for installation on flat surface and ambient temperature of 40 ºC or over the motor and ambient temperature of 50 ºC.
    For information about installation over the motor and ambient temperature of 40 ºC, check the user manual.

Drive Ratings

Ratings and Models

MW500 variable speed drive for decentralized solutions					Maximum applicable motor[1]				
					IEC				UL
					60 Hz		50 Hz		60 Hz
Reference[2]	Power supply (V)	Frame size	Braking IGBT	Rated output current (A)[3]	380 V ac		380-400 V ac	400 V ac	440-460 V ac
					HP	kW	HP	kW	HP
MW500 without disconnecting switch and without RFI filter									
MW500A01P3T4DB66XXXH00	380-480	Three-phase	Built-in	1.3	0.5	0.37	0.5	0.37	0.5
MW500A01P6T4DB66XXXH00				1.6	0.75	0.55	0.75	0.55	0.75
MW500A02P0T4DB66XXXH00		A		2.0	1.0	0.75	1.0	0.75	1.0
MW500A02P6T4DB66XXXH00				2.6	1.5	1.1	1.5	1.1	1.5
MW500A04P3T4DB66XXXH00				4.3	2.0	1.5	2.0	1.5	3.0
MW500B05P2T4DB66XXXH00				5.2	3.0	2.2	3.0	2.2	3.0
MW500B06P5T4DB66XXXH00		C		6.5	4.0	3.0	4.0	3.0	4.0
MW500B10P0T4DB66XXXH00				10	5.0	3.7	5.5	4.0	7.5
MW500C14P0T4DB66H00		B		14	7.5	5.5	7.5	5.5	10
MW500C16P0T4DB66H00				16	10	7.5	10	7.5	10
MW500 without disconnecting switch and with RFI filter									
MW500A01P3T4DB66C2XXXH00	380-480	Three-phase	Built-in	1.3	0.5	0.37	0.5	0.37	0.5
MW500A01P6T4DB66C2XXXH00				1.6	0.75	0.55	0.75	0.55	0.75
MW500A02P0T4DB66C2XXXH00		A		2.0	1.0	0.75	1.0	0.75	1.0
MW500A02P6T4DB66C2XXXH00				2.6	1.5	1.1	1.5	1.1	1.5
MW500A04P3T4DB66C2XXXH00				4.3	2.0	1.5	2.0	1.5	3.0
MW500B05P2T4DB66C2XXXH00				5.2	3.0	2.2	3.0	2.2	3.0
MW500B06P5T4DB66C2XXXH00		B		6.5	4.0	3.0	4.0	3.0	4.0
MW500B10P0T4DB66C2XXXH00				10	5.0	3.7	5.5	4.0	7.5
MW500C14P0T4DB66C2H00		C		14	7.5	5.5	7.5	5.5	10
MW500C16P0T4DB66C2H00				16	10	7.5	10	7.5	10
MW500 with disconnecting switch and without RFI filter									
MW500A01P3T4DB66DSXXXH00	380-480	Three-phase	Built-in	1.3	0.5	0.37	0.5	0.37	0.5
MW500A01P6T4DB66DSXXXH00				1.6	0.75	0.55	0.75	0.55	0.75
MW500A02P0T4DB66DSXXXH00		A		2.0	1.0	0.75	1.0	0.75	1.0
MW500A02P6T4DB66DSXXXH00				2.6	1.5	1.1	1.5	1.1	1.5
MW500A04P3T4DB66DSXXXH00				4.3	2.0	1.5	2.0	1.5	3.0
MW500B05P2T4DB66DSXXXH00				5.2	3.0	2.2	3.0	2.2	3.0
MW500B06P5T4DB66DSXXXH00		B		6.5	4.0	3.0	4.0	3.0	4.0
MW500B10P0T4DB66DSXXXH00				10	5.0	3.7	5.5	4.0	7.5
MW500C14P0T4DB66DSH00		C		14	7.5	5.5	7.5	5.5	10
MW500C16P0T4DB66DSH00				16	10	7.5	10	7.5	10
MW500 with disconnecting switch and with RFI filter									
MW500A01P3T4DB66C2DSXXXH00	380-480	Three-phase	Built-in	1.3	0.5	0.37	0.5	0.37	0.5
MW500A01P6T4DB66C2DSXXXH00				1.6	0.75	0.55	0.75	0.55	0.75
MW500A02P0T4DB66C2DSXXXH00		A		2.0	1.0	0.75	1.0	0.75	1.0
MW500A02P6T4DB66C2DSXXXH00				2.6	1.5	1.1	1.5	1.1	1.5
MW500A04P3T4DB66C2DSXXXH00				4.3	2.0	1.5	2.0	1.5	3.0
MW500B05P2T4DB66C2DSXXXH00				5.2	3.0	2.2	3.0	2.2	3.0
MW500B06P5T4DB66C2DSXXXH00		B		6.5	4.0	3.0	4.0	3.0	4.0
MW500B10P0T4DB66C2DSXXXH00				10	5.0	3.7	5.5	4.0	7.5
MW500C14P0T4DB66C2DSH00		C		14	7.5	5.5	7.5	5.5	10
MW500C16P0T4DB66C2DSH00				16	10	7.5	10	7.5	10

Notes: 1) The power values for maximum applicable motor shown in the table above are reference values and valid for WEG motors. IEC motor powers are based on WEG motor four-pole W22 High Efficiency IE2, three-phase induction motors with power supply of 220 V, 230 V, 415 V or 460 V. UL motor power are based on WEG motor four-pole W22 Premium.
The proper sizing must be always determined according to the rated current of the motor, which must be lower than or equal to the inverter rated output current. For further information, please refer to the User's Manual.
2) The reference "XXX" in the smart code must be filled with A56 or A70, matching the MW500 connection box with the motor terminal box.
For further details, check the tables "Motor and Drive Mechanical Combination" to select the code accordingly to the specified motor.
3) Output current for installation on flat surface and ambient temperature of 40 ºC or over the motor and ambient temperature of 50 ºC.
For information about installation over the motor and ambient temperature of 40 ºC, check the user manual.

Drive Ratings

Ratings and Models

MW500 variable speed drive for decentralized solutions					Maximum applicable motor[1]				
					IEC				UL
		Frame size	Braking IGBT	Rated output current (A)[3]	60 Hz		50 Hz		60 Hz
Reference[2]	Power supply (V)				220-230 V ac		220-230 V ac		230 V ac
					HP	kW	HP	kW	HP
MW500 without disconnecting switch and without RFI filter									
MW500A02P1S2DB66XXXH00	200-240 Single-phase	A	Built-in	2.1	0.5	0.37	0.5	0.37	0.5
MW500A02P9S2DB66XXXH00				2.9	0.75	0.55	0.75	0.55	0.75
MW500A03P4S2DB66XXXH00				3.4	1.0	0.75	1.0	0.75	1.0
MW500A04P3S2DB66XXXH00				4.3	1.5	1.1	1.5	1.1	1.5
MW500A06P0S2DB66XXXH00				6.0	2.0	1.5	2.0	1.5	2.0
MW500 without disconnecting switch and with RFI filter									
MW500A02P1S2DB66C2XXXH00	200-240 Single-phase	A	Built-in	2.1	0.5	0.37	0.5	0.37	0.5
MW500A02P9S2DB66C2XXXH00				2.9	0.75	0.55	0.75	0.55	0.75
MW500A03P4S2DB66C2XXXH00				3.4	1.0	0.75	1.0	0.75	1.0
MW500A04P3S2DB66C2XXXH00				4.3	1.5	1.1	1.5	1.1	1.5
MW500A06P0S2DB66C2XXXH00				6.0	2.0	1.5	2.0	1.5	2.0
MW500 with disconnecting switch and without RFI filter									
MW500A02P1S2DB66DSXXXH00	200-240 Single-phase	A	Built-in	2.1	0.5	0.37	0.5	0.37	0.5
MW500A02P9S2DB66DSXXXH00				2.9	0.75	0.55	0.75	0.55	0.75
MW500A03P4S2DB66DSXXXH00				3.4	1.0	0.75	1.0	0.75	1.0
MW500A04P3S2DB66DSXXXH00				4.3	1.5	1.1	1.5	1.1	1.5
MW500A06P0S2DB66DSXXXH00				6.0	2.0	1.5	2.0	1.5	2.0
MW500 with disconnecting switch and with RFI filter									
MW500A02P1S2DB66C2DSXXXH00	200-240 Single-phase	A	Built-in	2.1	0.5	0.37	0.5	0.37	0.5
MW500A02P9S2DB66C2DSXXXH00				2.9	0.75	0.55	0.75	0.55	0.75
MW500A03P4S2DB66C2DSXXXH00				3.4	1.0	0.75	1.0	0.75	1.0
MW500A04P3S2DB66C2DSXXXH00				4.3	1.5	1.1	1.5	1.1	1.5
MW500A06P0S2DB66C2DSXXXH00				6.0	2.0	1.5	2.0	1.5	2.0

Notes: 1) The power values for maximum applicable motor shown in the table above are reference values and valid for WEG motors. IEC motor powers are based on WEG motor four-pole W22 High Efficiency IE2, three-phase induction motors with power supply of 220 V, 230 V, 415 V or 460 V. UL motor power are based on WEG motor four-pole W22 Premium.
The proper sizing must be always determined according to the rated current of the motor, which must be lower than or equal to the inverter rated output current. For further information, please refer to the User's Manual.
2) The reference "XXX" in the smart code must be filled with A56 or A70, matching the MW500 connection box with the motor terminal box.
For further details, check the tables "Motor and Drive Mechanical Combination" to select the code accordingly to the specified motor.
3) Output current for installation on flat surface and ambient temperature of 40 ºC or over the motor and ambient temperature of 50 ºC.
For information about installation over the motor and ambient temperature of 40 ºC, check the user manual.

Dimension and Weight[1]

IP66/NEMA 4X

Frame size	H mm (in)	W mm (in)	D (without disconnect switch) mm (in)	D (with disconnect switch) mm (in)	Weight Kg (lb)
A	240 (9.45)	161.5 (6.36)	125 (4.92)	171.8 (6.76)	3.7 (8.16)
B	269 (10.61)	189 (7.46)	141 (5.55)	188 (7.39)	5.3 (11.68)
C	304.5 (12.0)	219.5 (8.6)	171.6 (6.8)	218.4 (8.6)	8.9 (19.62)

Note: 1) VSD without wall monting support.

Motor and Drive Mechanical Mounting Combination

Left axis label: **IEC (mm)**

Motor frame size	Motor terminal box mounting points / mounting points of the MW500 (mm)	Converter frame size	A	AA	AB	B	BB	C	D	E	ES	F	G	GD	H	HB	L	MA	MB	ØK	A'	H'	HD	L'
70		A	112	20	132	90	113.5	45	14	30	18	5	10	5	71	142	250	62		7		313	266.1	63
80	56x56 M5x0.8	A	125	30.5	149		125.5	50	19j6	40	28	6	15.5	6	80	160	276	72		10	177.6	331	284	55
L80		A	125	30.5	149		125.5	50	19j6	40	28	6	15.5	6	80	160	325	72		10	177.6	331	284	6
90S		A	140	36.5	164	100	131	56	24j6	50	36	8	20	7	90	180	304	78	56	10	177.6	351	304	43
90S		B	140	36.5	164	100	131	56	24j6	50	36	8	20	7	90	180	304	78	56	10	206	368	321	72
L90S		A	140	36.5	164	100	131	56	24j6	50	36	8	20	7	90	180	335	78	56	10	177.6	351	304	12
L90S		B	140	36.5	164	100	131	56	24j6	50	36	8	20	7	90	180	335	78	56	10	206	368	321	41
90L		A	140	36.5	164	125	156	56	24j6	50	36	8	20	7	90	180	329	90.5	56	10	177.6	351	304	30
90L		B	140	36.5	164	125	156	56	24j6	50	36	8	20	7	90	180	329	90.5	56	10	206	368	321	59
L90L		A	140	36.5	164	125	156	56	24j6	50	36	8	20	7	90	180	360	90.5	56	10	177.6	351	304	-1
L90L		B	140	36.5	164	125	156	56	24j6	50	36	8	20	7	90	180	360	90.5	56	10	206	368	321	28
100L		A	160	40	188	140	173	63	24j6	50	36	8	20	7	100	200	376	90.5	56	10	177.6	371	324	9
100L		B	160	40	188	140	173	63	24j6	50	36	8	20	7	100	200	376	90.5	56	10	206	388	341	38
L100L		A	160	40	188	140	173	63	24j6	50	36	8	20	7	100	200	420	90.5	56	10	177.6	371	324	-35
L100L		B	160	40	188	140	173	63	24j6	50	36	8	20	7	100	200	420	90.5	56	10	206	388	341	-6
112M	70x70 M6x1.0	A	190	40.5	220	140	177	70	28j6	60	45	8	24	8	112	224	393	105	56	12	177.6	395	348	-2
112M		B	190	40.5	220	140	177	70	28j6	60	45	8	24	8	112	224	393	105	56	12	206	411	364	27
112M		C	190	40.5	220	140	177	70	28j6	60	45	8	24	8	112	224	393	105	56	12	240.9	442	396	35
L112M		A	190	40.5	220	140	177	70	28j6	60	45	8	24	8	112	224	423	105	56	12	177.6	395	348	-32
L112M		B	190	40.5	220	140	177	70	28j6	60	45	8	24	8	112	224	423	105	56	12	206	411	364	-3
L112M		C	190	40.5	220	140	177	70	28j6	60	45	8	24	8	112	224	423	105	56	12	240.9	442	396	5
132S		B	216	45	248	178	187	89	38k6	80	63	10	33	8	132	272	452	124.1	70	12	206	460	413	-3
132S		C	216	45	248	178	187	89	38k6	80	63	10	33	8	132	272	452	124.1	70	12	240.9	490	444	18
L132S		B	216	45	248	178	187	89	38k6	80	63	10	33	8	132	272	477	124.1	70	12	206	460	413	-28
L132S		C	216	45	248	178	187	89	38k6	80	63	10	33	8	132	272	477	124.1	70	12	240.9	490	444	-7
132M		B	216	45	248	178	225	89	38k6	80	63	10	33	8	132	272	490	143.1	70	12	206	460	413	-18
132M		C	216	45	248	178	225	89	38k6	80	63	10	33	8	132	272	490	143.1	70	12	240.9	490	444	-3
L132M		B	216	45	248	178	225	89	38k6	80	63	10	33	8	132	272	515	143.1	70	12	206	460	413	-43
L132M		C	216	45	248	178	225	89	38k6	80	63	10	33	8	132	272	515	143.1	70	12	240.9	490	444	-28
132M/L		B	216	45	248	178/203	250	89	38k6	80	63	10	33	8	132	272	515	155.5	110	12	206	460	413	-30.6
132M/L		C	216	45	248	178/203	250	89	38k6	80	63	10	33	8	132	272	515	155.5	110	12	240.9	490	444	-15.6
L132M/L		B	216	45	248	178/203	250	89	38k6	80	63	10	33	8	132	272	539	155.5	110	12	206	460	413	-54.6
L132M/L		C	216	45	248	178/203	250	89	38k6	80	63	10	33	8	132	272	539	155.5	110	12	240.9	490	444	-39.6
160M	110x110 M8x1.25	C	254	64	308	210	254	108	42k6	110	80	12	37		160	324	598	157.8	110	14.5	240.9	543	496	-47
160L		C	254	64	308	254	298	108	42k6	110	80	12	37		160	324	642	178.5	110	14.5	240.9	543	496	-91

Motor and Drive Mechanical Mounting Combination

	Motor		MW500	Dimensions NEMA																				
Motor frame size	Motor terminal box mounting points / mounting points of the MW500 (mm)	Converter frame size	2E	J	A	2F	B	BA	U	N-W	ES	S	R	S	D	HI	C	MA	MB	ØH	A'	H'	HD	L'
143T	56x56 M5	A	5.500	1.437	6.457	4.000	5.157	2.250	0.875	2.250	1.575	0.187	0.765	0.187	3.500	7.043	12.346	3.148	2.205	0.344	6.99	13.77	11.93	1.69
143T		B																			8.1	14.43	12.62	2.83
L143T		A															13.566				6.99	13.77	11.93	0.47
L143T		B																			8.1	14.43	12.62	1.61
145T		A				5.000	6.142										13.346	3.640			6.99	13.77	11.93	1.69
145T		B																			8.1	14.43	12.62	2.2
L145T		A															14.566				6.99	13.77	11.93	0.47
L145T		B																			8.1	14.43	12.62	0.98
182T	56x56 M6	A	7.500	1.594	8.661	4.500	5.945	2.750	1.125	2.750	1.969	0.250	0.984	0.250	4.500	8.883	14.860	3.608	2.756	0.406	6.99	15.7	13.86	0.445
182T		B																			8.1	16.34	14.5	1.545
L182T		A															16.041				6.99	15.7	13.86	-0.736
L182T		B																			8.1	16.34	14.5	0.364
184T		A				5.500	6.969									8.974	15.860	4.093			6.99	15.7	13.86	-0.07
184T		B																			8.1	16.34	14.5	1.03
L184T		A															17.041				6.99	15.7	13.86	-1.251
L184T		B																			8.1	16.34	14.5	-0.151
213T	70x70 M6	B	8.500	1.988	9.764	5.500	7.362	3.50	1.375	3.375	2.480	0.313	1.203	0.313	5.250	10.762	18.021	4.884	2.756	0.406	8.1	18.15	16.31	-0.09
213T		C																			9.50	19.27	17.42	1.53
L213T		B															19.527				8.1	18.15	16.31	-1.596
L213T		C																			9.50	19.27	17.42	0.024
215T		B				7.000	8.858										19.517	5.634			8.1	18.15	16.31	0.65
215T		C																			9.50	19.27	17.42	0.01
L215T		B															20.905				8.1	18.15	16.31	-0.738
L215T		C																			9.50	19.27	17.42	-1.378
254T	110x110 M8	C	10.000	2.539	12.126	8.252	10.000	4.250	1.625	4.000	2.456	0.375	1.406	0.375	6.250	12.746	23.213	6.076	4.331	0.531	9.50	21.25	19.41	-1.6
256T		C				10.000											24.945	7.085			9.50	21.25	19.41	-2.6
284TS		C	11.000	3.110	13.780	9.500	11.732	4.750	1.875	3.250	2.480				7.000	14.087	25.061	7.335			9.50	22.6	20.7	-3.2
284T		C								4.622	3.149	0.500	1.594	0.500			26.433				9.50	22.6	20.7	-3.2

NEMA (in)
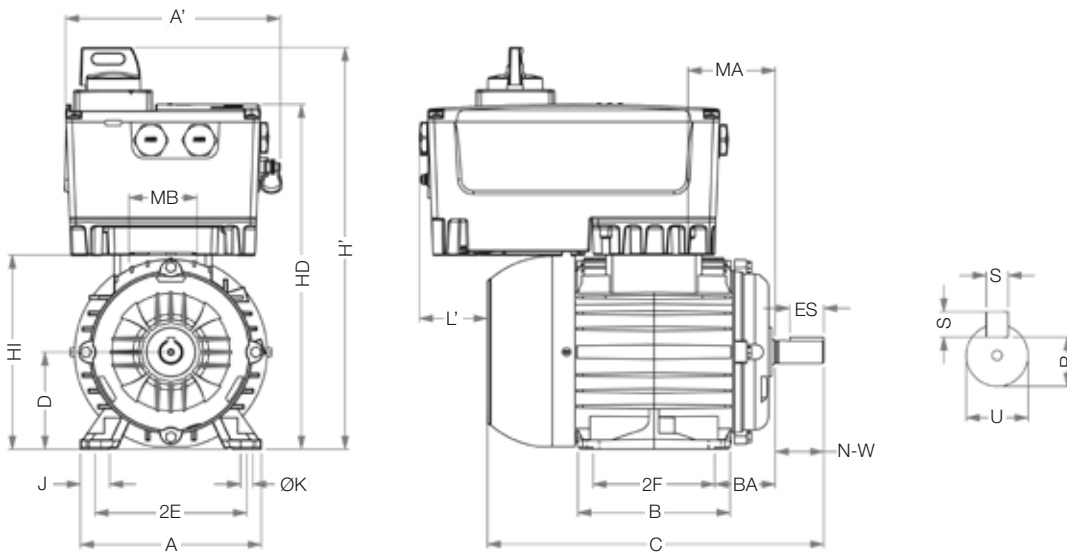
Accessories and Optionals

The MW500 VSD was developed to meet the hardware configurations required by a wide range of applications. The table below presents the available options:
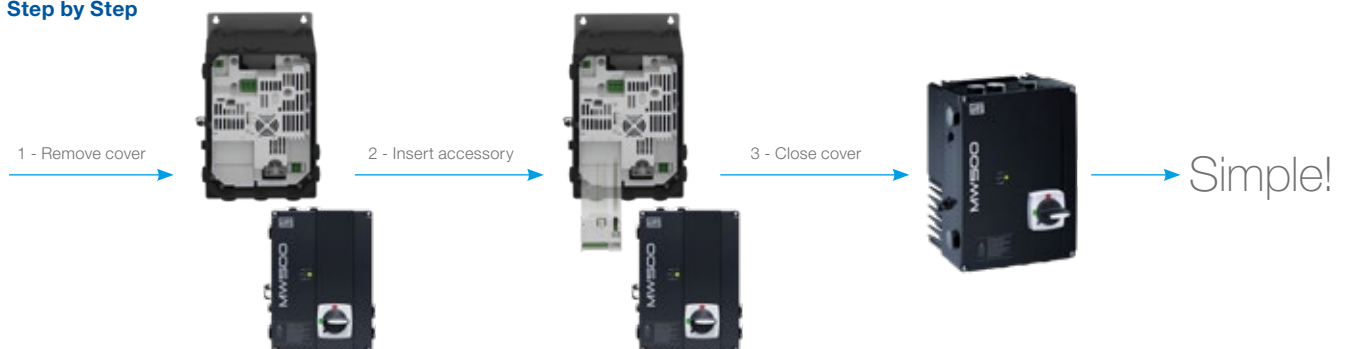
Option	Type	Description	Optional item code	Accessory model	Available
RFI filter	Optional	Used to reduce the disturbance conducted from the CFW500 to the power supply, in the high frequency band (>150 kHz), according to standards 61800-3 and EN 55011	C2	-	Factory installation only
Disconnect switch	Optional	A disconnect switch built-in the product for easy and safe maintenance	DS	-	Factory installation only
Wall mounting kit	Accessory	An adaptation plate for assemble the drive on the wall. For more information please check the user manual	-	MW500 - KCFA MW500 - KCFB MW500 - KCFC	User installation
Motor mounting kit	Accessory	An adaptation box for assemble the drive on the motor. For more information please check the user manual	-	MW500 - KAIM - A56 MW500 - KAIM - A70 MW500 - KAIM - B56 MW500 - KAIM - B70	User installation
I/O expansion modules (plug-in)	Accessory	Used to configure the I/O points according to the needs of the application/machine	-	CFW500-IOS CFW500-IOD CFW500-IOAD CFW500-IOR-B	-
Communication module (plug-in)	Accessory	Used for the communication of the MW500 with the main networks of the market (fieldbus)	-	CFW500-CUSB (USB) CFW500-CCAN (CANopen /DeviceNet) CFW500-CRS485 CFW500-CPDP2 (Profibus-DP) CFW500-CEMB-TCP (Modbus-TCP) CFW500-CEPN-IO (PROFINET-IO) CFW500-CETH-IP (EtherNet/IP)	-
Flash memory module (plug-in)	Accessory	Used to download the programming of a MW500 to others without having to power them up	-	CFW500-MMF	-
Remote HMI	Accessory	Used to transfer the operation to the panel door or machine console. Maximum distance of 10 m. Degree of protection IP54	-	CFW500-HMIR	-
Cables for remote HMI	Accessory	Communication wire for connection of IP20 keypad via XC10 connector	-	MW500-CCHMIR0.5M CFW500-CCHMIRXXM, where XX is the cable length of with lengths (X) of 1, 2, 3, 5, 7.5 and 10 meters	-

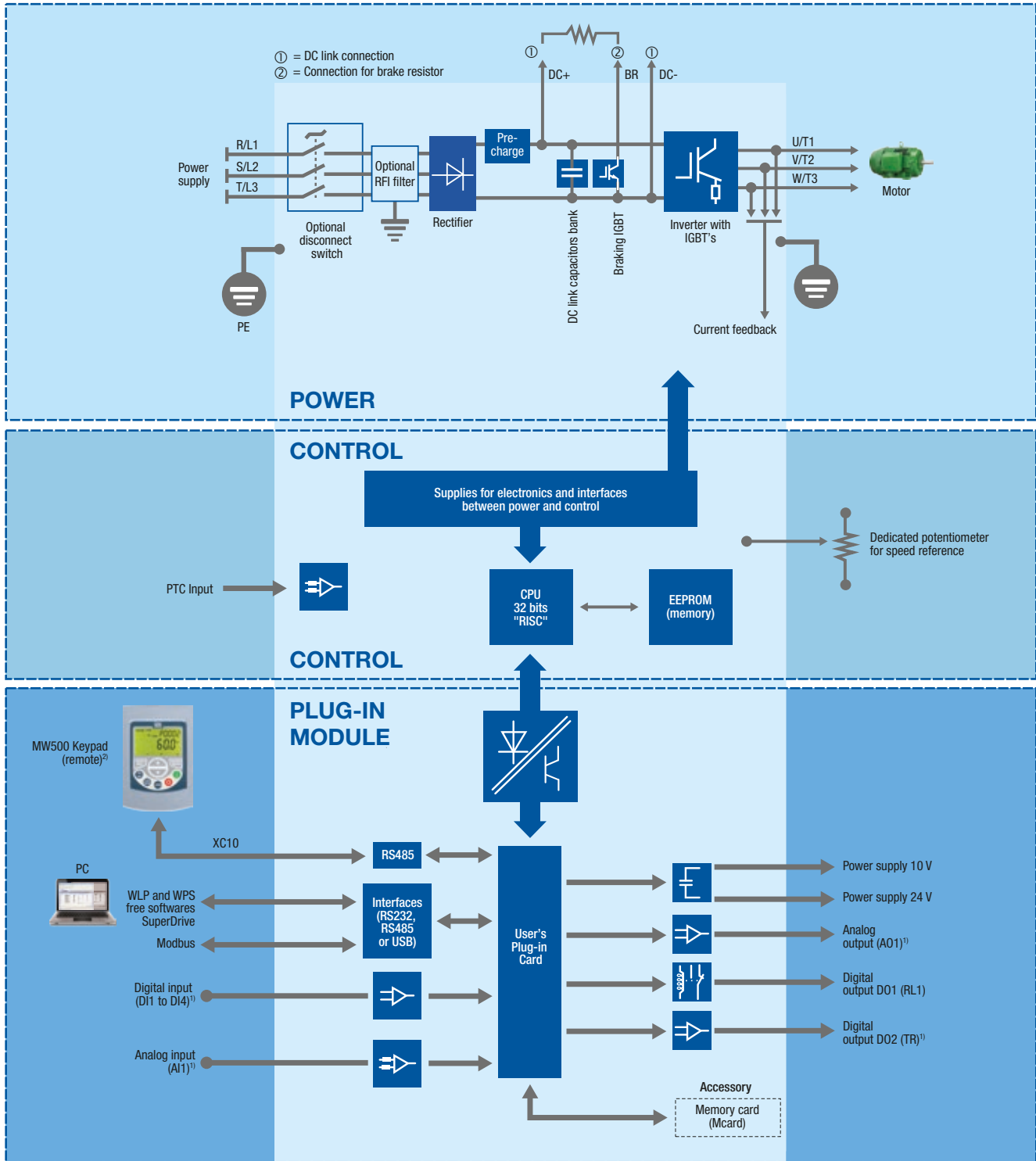## Plug-In Modules

Plug-in module	Inputs		Outputs			USB port	Communication networks		V dc source	
	Digital	Analog	Analog	Relay	Transistor		Modbus-RTU RS485	Others	10 V	24 V
CFW500-IOS	4	1	1	1	1	-	1	-	1	1
CFW500-IOD	8	1	1	1	4	-	1	-	1	1
CFW500-IOAD	6	3	2	1	3	-	1	-	1	1
CFW500-IOR-B	5	1	1	4	1	-	1	-	1	1
CFW500-CUSB	4	1	1	1	1	1	1	-	1	1
CFW500-CCAN	2	1	1	1	1	-	1	CANopen/DeviceNet	1	1
CFW500-CRS232	2	1	1	1	1	-	1	RS232	-	1
CFW500-CRS485[1]	4	2	1	2	1	-	2	-	1	1
CFW500-CPDP	2	1	1	1	1	-	1	Profibus-DP	-	1
CFW500-CEMB-TCP	2	1	1	1	1	-	1	Modbus-TCP	-	1
CFW500-CEPN-IO	2	1	1	1	1	-	1	PROFINET-IO	-	1
CFW500-CETH-IP	2	1	1	1	1	-	1	EtherNet/IP	-	1

Note: 1) All plug-in models have at least one RS485 port. The CFW500-CRS485 plug-in module has two RS485 ports.
The CFW500 allows the installation of one plug-in module per unit.
The plug-in modules are the same as those used on the CFW500.
For the other installation accessories of the MW500, refer to the product catalog or the user's manual.

Step by Step

1 - Remove cover   2 - Insert accessory   3 - Close cover   Simple!

Block Diagram

① = DC link connection
② = Connection for brake resistor

POWER

Power supply — R/L1, S/L2, T/L3

Optional disconnect switch

PE

Optional RFI filter

Rectifier

Pre-charge

DC link capacitors bank

Braking IGBT

Inverter with IGBT's

Current feedback

DC+, BR, DC-

U/T1, V/T2, W/T3

Motor

CONTROL

Supplies for electronics and interfaces between power and control

PTC Input

CPU 32 bits "RISC"

EEPROM (memory)

Dedicated potentiometer for speed reference

CONTROL

PLUG-IN MODULE

MW500 Keypad (remote)[2]

PC

WLP and WPS free softwares SuperDrive

Modbus

XC10

RS485

Interfaces (RS232, RS485 or USB)

Digital input (DI1 to DI4)[1]

Analog input (AI1)[1]

User's Plug-in Card

Power supply 10 V

Power supply 24 V

Analog output (AO1)[1]

Digital output DO1 (RL1)

Digital output DO2 (TR)[1]

Accessory

Memory card (Mcard)

Notes: 1) The number of analog/digital inputs/outputs, as well as other resources, may vary according to the plug-in module used. For further information, refer to the specific plug-in module guide, available at www.weg.net.
2) Not provided with the product.

Technical Data

Power supply	Voltage and power range	1-phase, 200-240 V ac (+10%-15%) 0.37 to 1.5 kW (0.5 to 2.0 HP)
		3-phase, 380-480 V ac (+10%-15%) 0.37 to 7.5 kW (0.5 to 10 HP)
	Supply frequency	50/60 Hz (48 Hz to 62 Hz)
Motor connection	Voltage	3-phase, 0-100% of supplied voltage
	Output frequency	0 to 500 Hz
	Displacement power factor	>0.97
	Overload capacity	1.5 x In (drive) for 1 minute, every 10 minutes
	Switching frequency	Default 5 kHz (selectable 2.5 to 15 kHz)
	Aceleration time	0.1 to 999s
	Deceleration time	0.1 to 999s
Environment	Temperature	40 ºC - for wall mounting installation
		50 ºC - for motor mounting installation using self-ventilation at nominal speed
		2% of current derating for each ºC above the specific operating temperature, limited to an increase of 10 ºC
	Humidity	5% to 95% non-condensing
	Altitude	Up to 1,000 m - rated conditions
		1,000 m to 4,000 m - 1% of current derating for each 100 m above 1,000 m of altitude
		From 2,000 to 4,000 m maximum voltage reduction (380-480 V models) of 1.1 % for each 100 m above 2,000 m altitude.
	Protection degree	IP66/NEMA 4X
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 speed
		Speed variation range: 1:30
Braking methods	Dynamic braking	Available as standard for frame sizes A, B and C. An external resistor must be used for dynamic braking capability.
Safety	Protection	Overcurrent/phase-phase short circuit in the output
		Overcurrent/phase-ground short circuit in the output
		Under/overvoltage
		Overtemperature in the heatsink
		Overload in the motor
		Overload in the power module (IGBTs)
		External alarm / fault
		Setting error
Conectivity	Fieldbus	Profibus-DP, CANopen, DeviceNet, EtherNet/IP, Modbus-TCP, PROFINET-IO, USB, RS485, RS232 and Bluetooth

Standards

Safety standards	**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: 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.*
	EN 60146 (IEC 146)	Semiconductor converters.
	EN 61800-2	Adjustable speed electrical power drive systems - Part 2: General requirements - Rating specifcations 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 specifc test methods.
	CISPR 11	Industrial, scientifc 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 feld 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 standards	**EN 60529**	Degrees of protection provided by enclosures (IP code).
	UL 50	Enclosures for electrical equipment.
	IEC 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.
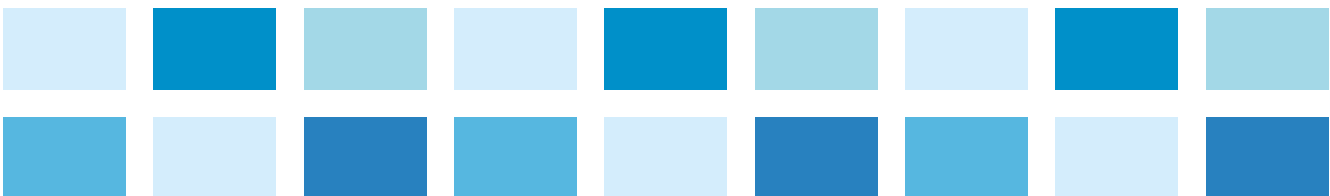
Global presence is essential,
as much as understanding your needs.

Global Presence

With more than 30.000 employees worldwide, WEG is one of the largest electric motors, electronic equipments and systems manufacturers. We are constantly expanding our portfolio of products and services with expertise and market knowledge. We create integrated and customized solutions ranging from innovative products to complete after-sales service.

WEG's know-how guarantees our **MW500 - Decentralized VSD - MotorDrive** is the right choice for your application and business, assuring safety, efficiency and reliability.

Availability is to have a global support network

Partnership is to create solutions that suit your needs

Competitive edge is to unite technology and innovation

Know More

High performance and reliable products to improve your production process.

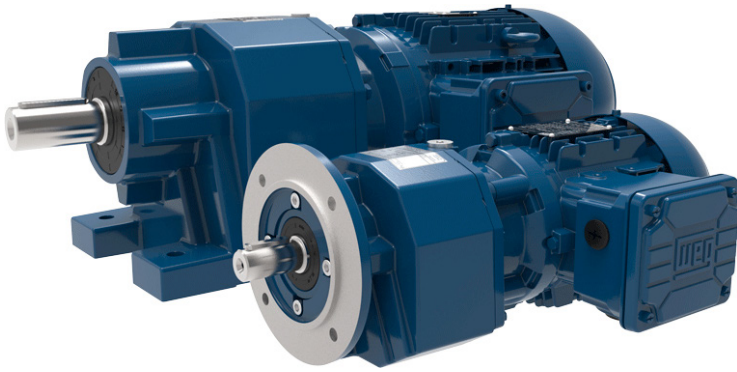Excelence is to provide a whole solution in industrial automation that improves our customers productivity.

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Industrial Motors and Gears Limited

Tel. 01642 467999 | Mob. 07815 889460
Fax. 01642 467988
Email. sales@imag-uk.com
Web. www.imag-uk.com

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