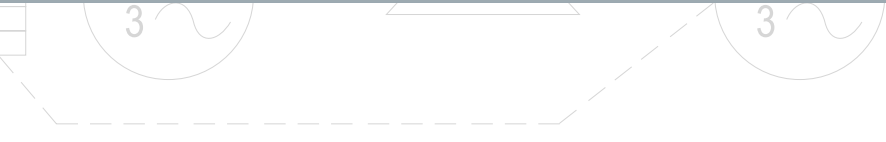
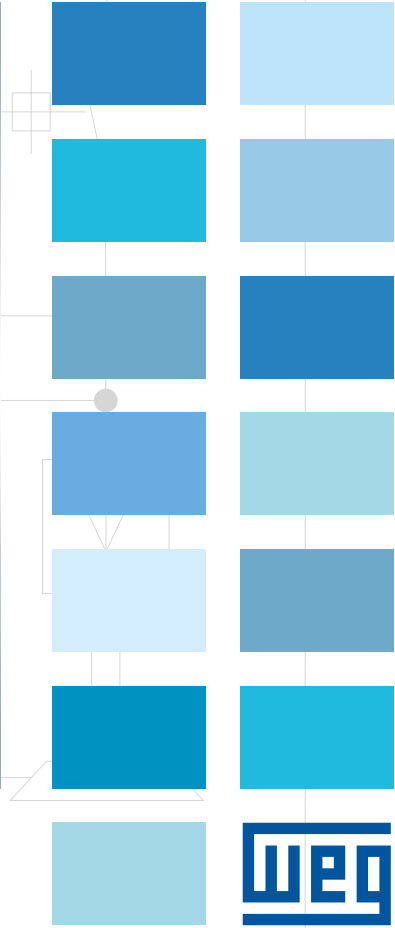
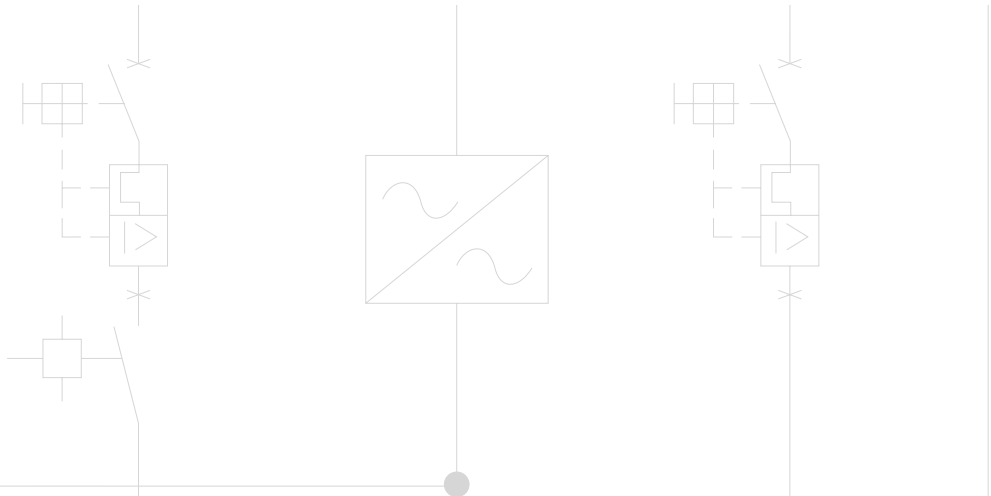


CFW500 Machinery Drives

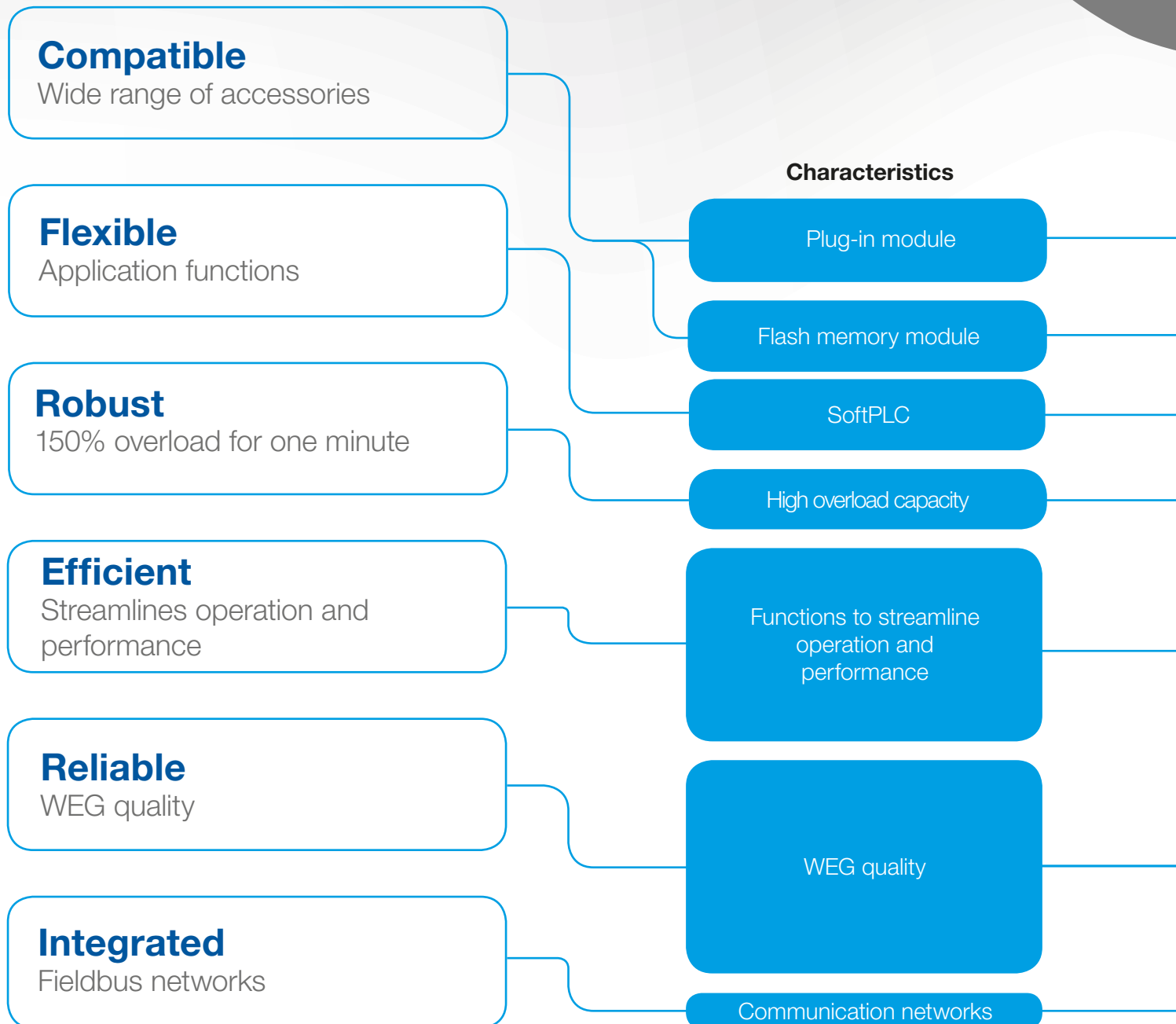
Variable Speed Drives

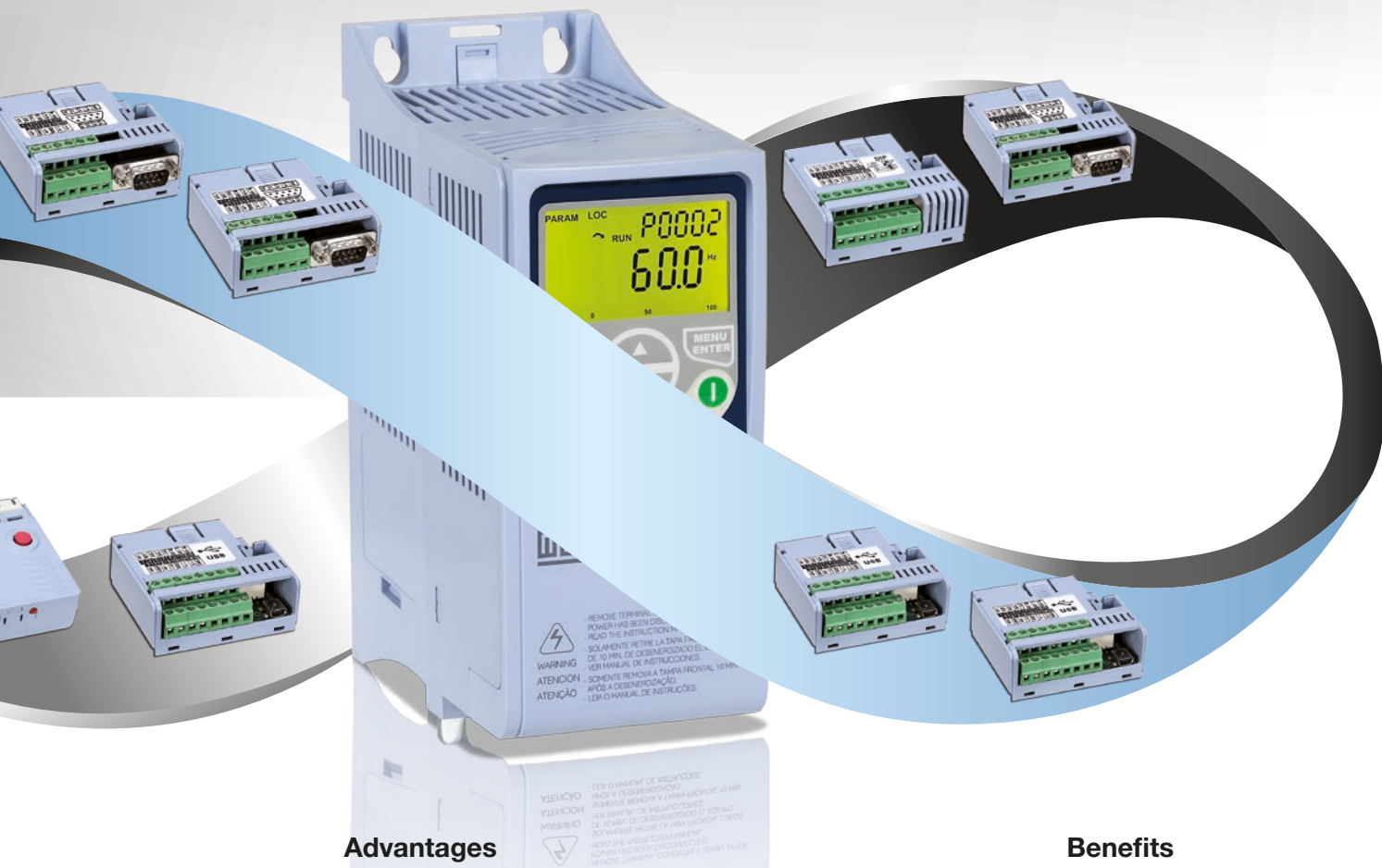


CFW500

One VSD, endless possibilities

The CFW500 has advanced technology Plug & Play options, developed for fast commissioning, providing great flexibility and competitive advantage while offering excellent performance and reliability. Designed for exclusively industrial or professional use, is perfect for OEM, system integrators, panel installers and End Users providing great benefit and added value.





Advantages

Benefits

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

Within seconds, it is possible to download the SoftPLC program and parameters set from a CFW500 to others without powering them up.

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

It withstands an overload of 150% for one minute every 6 minutes, at an ambient temperature of 50 °C.

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

Flying start: allows control of a motor that is turning 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 and Modbus-RTU.

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

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

It eliminates the need for an external PLC, reducing costs, optimizing space and simplifying the system.

It does not require oversizing the VSD.

Energy saving.

It enables 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 lifespan is extended: protection against dust, humidity, high temperatures and chemicals.

Full integration with process network.

Drive Ratings

The correct way to select a VSD is matching its output current with the motor rated current. The tables below present the expected motor power for each VSD model. Use the motor power ratings below only as a guidance. Motor rated currents may vary with speed and manufacturer. IEC motor powers are based on WEG 4-pole motors; NEMA motor powers are based on NEC table 430-150.

Motor Voltages Between 220 V and 230 V

Power supply	Model	Rated current A	IEC		NEMA	
			50 Hz 230 V	60 Hz 220 V	60 Hz 230 V	
200-240 V	10	CFW500 A 01P6 S2	1.6	0.25	0.25	0.33
		CFW500 A 02P6 S2	2.6	0.55	0.5	0.5
		CFW500 A 04P3 S2	4.3	1.1	1	1
		CFW500 A 07P0 S2	7	1.5	2	2
	1/30	CFW500 A 01P6 B2	1.6	0.25	0.25	0.33
		CFW500 A 02P6 B2	2.6	0.55	0.5	0.5
		CFW500 A 04P3 B2	4.3	1.1	1	1
		CFW500 B 07P3 B2	7.3	1.5	2	2
	30	CFW500 B 10P0 B2	10	2.2	3	3
		CFW500 A 07P0 T2	7	1.5	2	2
		CFW500 A 09P6 T2	9.6	2.2	3	3
		CFW500 B 16P0 T2	16	4	5	5
		CFW500 C 24P0 T2	24	5.5	7.5	7.5
		CFW500 D 28P0 T2 ¹⁾	28	7.5	10	10
		CFW500 D 33P0 T2 ¹⁾	33	9.2	12.5	10
		CFW500 D 47P0 T2 ¹⁾	47	11	15	15

Note: 1) Coming soon.

Motor Voltages Between 380 V and 480 V

Power supply	Model	Rated current A	IEC		NEMA	
			50 Hz 415 V	60 Hz 460 V	60 Hz 460 V	
380-480 V	30	CFW500 A 01P0 T4	1	0.25	0.5	0.33
		CFW500 A 01P6 T4	1.6	0.75	1	0.75
		CFW500 A 02P6 T4	2.6	1.1	1.5	1
		CFW500 A 04P3 T4	4.3	1.5	3	2
		CFW500 A 06P1 T4	6.1	3	4	3
		CFW500 B 02P6 T4	2.6	1.1	1.5	1
		CFW500 B 04P3 T4	4.3	1.5	3	2
		CFW500 B 06P5 T4	6.5	3	4	3
		CFW500 B 10P0 T4	10	4	7.5	7.5
		CFW500 C 14P0 T4	14	7.5	10	10
		CFW500 C 16P0 T4	16	7.5	12.5	10
		CFW500 D 24P0 T4 ¹⁾	24	11	15	15
		CFW500 D 31P0 T4 ¹⁾	31	15	25	25

Note: 1) Coming soon.

Dimensions and Weights

IP20

Frame size	H mm	W mm	D mm	Weight Kg
A	189.1	75.2	149.5	0.8
B	199.1	100.2	160.1	1.2
C	210	135.2	165.1	2
D ¹⁾	306.6	180	166.5	4.3

Note: 1) Coming soon.

NEMA1

Frame size	H mm	W mm	D mm	Weight Kg
A	22.3	75.2	149.5	1.05
B	243.3	100.2	160.1	1.49
C	254.8	135.2	165.1	2.35
D ¹⁾	362	180	166.5	4.8

Note: 1) Coming soon.



Technical Data

Power supply	Voltage and power range	1-phase, 200-240 V ac (+10%-15%) 0.25 to 2 HP (0.25 to 1.5 kW)
		1-phase/3-phase, 200-240 V ac (+10%-15%) 0.25 to 3 HP (0.25 to 2.2 kW)
3-phase, 200-240 V ac (+10%-15%) 2 to 7.5 HP (1.5 to 5.5 kW)		
3-phase, 380-480 V ac (+10%-15%) 0.5 to 12.5 HP (0.25 to 7.5 kW)		
	Supply frequency	50/60 Hz (48 Hz to 62 Hz)
Motor connection	Voltage	3-phase, 0-100% of supplied voltage
	Output frequency	0 a 500 Hz
	Displacement power factor	>0.97
	Overload capacity	1.5 x I _n (drive) for 1 minute every 6 minutes
	Switching frequency	Default 5 kHz (selectable 2.5 to 15 kHz)
	Acceleration time	0.1 to 999s
	Desacceleration time	0.1 to 999s
Environment	Temperature	40 °C - NEMA1
		40 °C - IP20 side by side and/or with RFI filter
		50 °C - IP20 without RFI filter (except the models for 9.6 A and 24 A for 200-240 V)
		2% of current derating for each °C above the specific operating temperature, limited to an increase of 10 °C
	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	
Degree of protection	IP20 or NEMA1 (with kit NEMA1)	
Performance	V/f control	Speed regulation: 1% of the rated speed (with slip compensation)
		Speed variation range: 1:20
Vector control (VWV)	Speed regulation: 1% of the rated speed	
	Speed variation range: 1:30	
Braking methods	DC current applied to motor dynamic braking	Available as standard for frame sizes B and C. For frame size A "DB" models has to be used. An extra resistor must be fitted in 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		
Communication	Modbus-RTU	All plug-in modules for RS485 and CFW500-CRS232 for RS232
	Profibus-DP	Plug-in module CFW500-CPDP
	DeviceNet	Plug-in module CFW500-CCAN
	CANopen	Plug-in module CFW500-CCAN
Chokes (external as accessory)	AC input chokes	For reducing THD
	AC output chokes	For longer motor cables

Technical Data - 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. <i>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.</i>
	EN 60146 (IEC 146)	Semiconductor converters.
Electromagnetic Compatibility (EMC) Standards	EN 61800-2	Adjustable speed electrical power drive systems - Part 2: General requirements - Rating specifications for low voltage adjustable frequency AC power drive systems.
	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 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.
Mechanical construction standards	EN 60529	Degrees of protection provided by enclosures (IP code).
	UL 50	Enclosures for electrical equipment.