DATASHEET
Variable Speed Drives



- İn	P	roduct coding roduct code eference		: CFW300A01P6T2NB2 : 13059422 : CFW300	20
Input phases in three-phase in a second seco	upply				
- İn				2	
Range 1 Range 1 Range 1 Range 200-240 V Nota a Duty cycle Heavy (HD) Not applicable			: 3		
Uty cycle 200-240 V Not a Rated current (HD) 1.6 Not a Overload current for 60 s (HD) 2.4 A Not a Single-phase input current (HD) [1] Not applicable Not a Three-phase / DC input current (HD) [1] 2.0 A Not a Voltage/Frequency Normal Overload (ND) Heavy Overload (ND) 4zwimum applicable motor: 0.33 / 0.25 2.20 / 160 Hz Not applicable 0.33 / 0.25 200 / 60 Hz Not applicable 0.33 / 0.25 2.30 / 160 Hz Not applicable 0.33 / 0.25 203 / 04 50 Hz Not applicable Not applicable 0.33 / 0.25 0.33 / 0.25 203 / 04 50 Hz Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable			: 3		
Duty cycle Heavy (HD) Hea Rated current (FD) 1.6 Not a Single-phase input current (FD) [1] Not applicable Not a Three-phase Input current (HD) [1] 2,0 A Not a Atximum applicable motor: Voltage/Frequency Normal Overload (ND) Heavy Overload (220V / 50Hz Not applicable 0.33 / 0.25 230V / 60Hz Not applicable 0.33 / 0.25 230V / 60Hz Not applicable 0.33 / 0.25 230V / 60Hz Not applicable 0.33 / 0.25 230V / 60Hz Not applicable 0.33 / 0.25 0.33 / 0.25 0.33 / 0.25 230V / 60Hz Not applicable Not applicable 0.33 / 0.25 Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Link Inductor : No Standard without braking : Standard without braking Link Inductor : No SoHz : SoHz : SoHz					Range 2
Rated current (HD) 1.6 Not a Overload current for 60 s (HD) 2.4 A Not a Single-phase input current (HD) [1] Not applicable Not a Three-phase / DC input current (HD) [1] 2.0 A Not a Voltage/Frequency Normal Overload (ND) Heavy Overload (220V / 60Hz Not applicable 0.33 / 0.25 230V / 60Hz Not applicable 0.33 / 0.25 230V / 60Hz Not applicable 0.33 / 0.25 Not applicable Not applicable Not applicable Dynamic braking [3] : Standard without braking External RFI filter : Cfw300-KFA-T2 Link Inductor : No Bort : Soltz : Soltz Line frequency : Soltz : Soltz<					Not applicable
Overload current for 60 s (HD) 2,4 A Not a single-phase input current (HD) [1] Not applicable Not applicable Not a aximum applicable motor: Voltage/Frequency Normal Overload (ND) Heavy Overload (ID) 220V / 50Hz Not applicable 0,33 / 0,25 230V / 50Hz Not applicable 0,33 / 0,25 230V / 50Hz Not applicable 0,33 / 0,25 Not applicable Not applicable Not applicable Dynamic braking [3] : Standard without braking External RH filter : CFW300-KFA-T2 Link Inductor : No UsB port : Standard without braking Line frequency range (minimum - maximum) : 4.462 Hz Phase unbalance : Stan					Heavy (HD)
Single-phase input current (HD) [1] Not applicable Not a Three-phase / DC input current (HD) [1] 2,0 A Not a Voltage/Frequency Normal Overload (ND) Heavy Overload (ND) 220V / 60Hz Not applicable 0,33 / 0,25 220V / 50Hz Not applicable 0,33 / 0,25 230V / 50Hz Not applicable 0,33 / 0,25 230V / 50Hz Not applicable 0,33 / 0,25 230V / 50Hz Not applicable 0,33 / 0,25 Not applicable Not applicable 0,33 / 0,25 Not applicable Not applicable 0,33 / 0,25 Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Unamic braking [3] : Standard without braking External RF1 litter : CFW300-KFA-T2 Link Inductor : No Memory card : Not included in the product USB port : Yes, by CFW300-CUSB Line frequency factor : 0,98 Rated efficiency : Category III Power factor					Not applicable
Three-phase / DC input current (HD) [1] 2,0 A Not a Asximum applicable motor: Voltage/Frequency Normal Overload (ND) Heavy Overload (220V / 50Hz Not applicable 0,33 / 0,25 220V / 60Hz Not applicable 0,33 / 0,25 230V / 60Hz Not applicable 0,33 / 0,25 230V / 60Hz Not applicable 0,33 / 0,25 Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Dynamic braking [3] : Standard without braking External RF ifter : CFW300-KFA-T2 Link Inductor : No Wemory card : No for product USB port : Standard without braking Line frequency range (minimum - maximum) : 48-62 Hz Phase unbalance : Category III Power factor : 0,83					Not applicable Not applicable
Asimum applicable motor: Voltage/Frequency Normal Overload (ND) Heavy Overload (f 220V / 50Hz Not applicable 0,33 / 0,25 220V / 50Hz Not applicable 0,33 / 0,25 230V / 50Hz Not applicable 0,33 / 0,25 230V / 50Hz Not applicable 0,33 / 0,25 230V / 60Hz Not applicable 0,33 / 0,25 Not applicable Not applicable 0,33 / 0,25 Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Dynamic braking [3] : Standard without braking External RFI filter : CFW300-KFA-T2 Link flouctor : Not included in the product USB port : Yes, by CFW300-CUSB Line frequency tange (minimum - maximum) : 48-62 Hz Phase unbalance : 0,83 Transient voltage and overvoltage : 0,83 Displacement factor : 0,83 Displacement factor : 0,98 Stated efficiency : 2,5 and 15 kHz Stead efficiency : 2,5 and 15 kHz					Not applicable
Voltage/Frequency Normal Overload (ND) Heavy Overload (220V/ 50Hz Not applicable 0,33 / 0,25 230V/ 50Hz Not applicable 0,33 / 0,25 230V/ 60Hz Not applicable 0,33 / 0,25 230V/ 60Hz Not applicable 0,33 / 0,25 Not applicable Not applicable 0,33 / 0,25 Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Viation to transition to the product USB port : Standard without braking Line frequency range (minimum - maximum) : 48-62 Hz : Less or equal to 3% of input rated line voltage Transient voltage and overvoltage : Category III : 0,83 Displacement factor : 0,83 : 297% Maximum connections (power up cycles - on/off) per hour : 10 (1 each 6 minutes) DC power supply : 5 kHz : 2,5 and 15 kHz Selectable switching frequency [4]: : 5 wht : 30 W Source available to the user : 10 Vdc : 3 witchech-mode power su		5/[1]		2,0 A	
220V / 50Hz Not applicable 0.33 / 0.25 220V / 60Hz Not applicable 0.33 / 0.25 230V / 50Hz Not applicable 0.33 / 0.25 230V / 60Hz Not applicable 0.33 / 0.25 230V / 60Hz Not applicable 0.33 / 0.25 Not applicable Not applicable Not applicable Dynamic braking [3] : Standard without braking External RFI filter : CFW300-KFA-T2 Line frequency : Standard without braking Line frequency : Standard without braking Line frequency : Standard without applicable Phase unbalance : Category III Power ator : 0.83 Displacement factor : 0.98 Rated efficiency : Stand af bithz Maximum connections (power up cycles - on/off) per hou : Not avaliab				····	0 1 1 1 1 5
220V / 60Hz Not applicable 0,33 / 0,25 230V / 50Hz Not applicable 0,33 / 0,25 230V / 60Hz Not applicable 0,33 / 0,25 Not applicable Not applicable 0,33 / 0,25 Not applicable Not applicable Not applicable Dynamic braking [3] : Standard without braking External RFI filter : CFW300-KFA-T2 Link Inductor : No Memory card : Not included in the product USB port : Standard without braking Line frequency range (minimum - maximum) : 48-62 Hz Phase unbalance : Category III Power factor : 0,83 Displacement factor : 0,83 Rated efficiency : 2 97% Maximum connections (power up cycles - on/off) per hour : 10 (1 each 6 minutes) DC power supply : Skeld Subching frequency [4]: : 5 kHz Selectable switching frequency : 2 97% Maximum capacity : 50 mA Cortrol p		N	· · ·		
230V / 50Hz Not applicable 0,33 / 0,25 230V / 60Hz Not applicable 0,33 / 0,25 Not applicable Not applicable 0,33 / 0,25 Not applicable Not applicable Not applicable Dynamic braking [3] : Standard without braking External RFI filter : CFW300-KFA-T2 Link Inductor : No Memory card : Yes, by CFW300-CUSB Line frequency : SoHz Line frequency : SoHz Line frequency (range (minimum - maximum)) : 48-62 Hz Phase unbalance : Q.83 Transient voltage and overvoltage : Category III Power factor : Q.93 Displacement factor : Q.93 Displacement factor : Q.93 Sulching frequency [4]: : S HHz Sulchard grequency [4]: : Sotand 15 kHz Sulchard grequency [4]: : 30 W Source available to the user : Yes, by CFW100-CFW300-MKF Displacetabe power [5]: : 30 W Source available to the user : 30 W Contro					
230V / 60Hz Not applicable 0,33 / 0.25 Not applicable Not applicable Not applicable Dynamic braking [3] : Standard without braking External RF1 filter : CFW300-KFA-T2 Link Inductor : No Memory card : Not included in the product USB port : Yes, by CFW300-CUSB 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 Power factor : 0,83 Displacement factor : 0,98 Rated efficiency : 25 and 15 kHz Selectable switching frequency [4]: : 5 kHz Selectable switching frequency [4]: : 5 kHz Selectable switching frequency [4]: : 30 W Source available to the user Output voltage Output voltage : 10 Vdc Maximum capacity : 50 mA <td< td=""><td></td><td></td><td></td><td></td><td></td></td<>					
Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Use applicable Not applicable Not applicable Use applicable Not applicable Not applicable Use applicable Not applicable Not applicable Use applicable Not applicable Not applicable Use applicable Not applicable Not applicable Use applicable Not applicable Not applicable Use applicable Not applicable Not applicable Use applicable Not applicable Not applicable Use applicable Not applicable Not applicable Use applicable Not applicable Not applicable Use applicable Not applicable Not applicable Use and overvoltage : CFW300-CLVSB : Sol4z Use and overvoltage : 0,98 : Sol4ic<					
Not applicableNot applicableNot applicableNot applicableNot applicableNot applicableNot applicableNot applicableNot applicableDynamic braking [3]: Standard without brakingExternal RFI filter: CFW300-KFA-T2Link Inductor: Not included in the productUSB port: Yes, by CFW300-CUSBLine frequency: 50HzLine frequency range (minimum - maximum): 48-62 HzPhase unbalance: Less or equal to 3% of input rated line voltageTransient voltage and overvoltage: Category IIIPower factor: 0,83Displacement factor: 0,98Rated efficiency:: 50HzSwitching frequency [4]:: 5 kHzSelectable switching frequency:: 2,5 and 15 kHzSelectable switching frequency:: 30 WSource available to the user: 10 VdcOutput voltage:: 10 VdcMaximum capacity:: 50 mAControl/performance data:: 50 mAPower supply:: Watchael-mode power supplyControl performance data:: 0.400 HzPower supply:: 50 mAControl performance data:: 0.400 HzPower su					
Not applicableNot applicableNot applicableNot applicableNot applicableNot applicableNot applicableDynamic braking [3]: Standard without brakingExternal RFI filter: CFW300-KFA-T2Link Inductor: NoMemory card: Not included in the productUSB port: Yes, by CFW300-CUSBLine frequency: 50HzLine frequency range (minimum - maximum): Less or equal to 3% of input rated line voltagePhase unbalance: Category IIIPower factor: 0,98Displacement factor: 0,98Rated efficiency: 2 97%Maximum connections (power up cycles - on/off) per hour: 10 (1 each 6 minutes)DC power supply: Not allowSwitching frequency [4]:: 5 kHzReal-time clock: Not availableCOPY Function: Yes, by CFW100-CFW300-MMFDisplayed power [5]:: 30 WSource available to the user: 400 kdOutput voltage: 2 50 mAMaximum capacity: 50 mAControl Output frequency: 2 400 kLEncoder interface: Available with CFW300-IOAENCControl output frequency: 2 10 VdcMaximum capacity: 50 mAControl output frequency: 0.1 HzVIF Control: Vif (escalar) and VVWEncoder interface: Available with CFW300-IOAENCControl output frequency: 0.1 HzVF Control: 1% of rated speed- Speed range: 1/20VVW Control: 1% of					
Dynamic braking [3] : Standard without braking External RFI filter : CFW300-KFA-T2 Link Inductor : No Memory card : No tincluded in the product USB port : Yes, by CFW300-CUSB Line frequency range (minimum - maximum) : 48-62 Hz Phase unbalance : Less or equal to 3% of input rated line voltage Power factor : 0,83 Displacement factor : 0,98 Rated efficiency : 2 97% Maximum connections (power up cycles - on/off) per hour : 10 (1 each 6 minutes) DC power supply : 5 kHz Selectable switching frequency [4]: : 5 kHz Selectable switching frequency : 2, 5 and 15 kHz Displace method : Not available COPY Function : Yes, by CFW100-CFW300-MMF Dissipated power [5]: : 30 W Source available to the user : 10 Vdc Maximum capacity : 50 mA Control method : Vif (escalar) and VVW Encoder interface : Available with CFW300-IOAENC Control output frequency : 0.400 Hz Frequency resolution : 1% of rated speed	Not applicable		Not applicable	N	ot applicable
External RFI filter : CFW300-KFA-T2 Link inductor : No Memory card : Not included in the product USB port : Yes, by CFW300-CUSB Line frequency ange (minimum - maximum) : 48-62 Hz Phase unbalance : Less or equal to 3% of input rated line voltage Transient voltage and overvoltage : Category III Power factor : 0,98 Rated efficiency : 0,98 Rated efficiency : 0,98 Rated efficiency : 0,98 Rated efficiency : 0,98 Rated efficiency : 0,98 Rated efficiency : 2,97% Maximum connections (power up cycles - on/off) per hour : 10 (1 each 6 minutes) DC power supply : Not allow Switching frequency [4]: : 5 kHz Selectable switching frequency : 2,5 and 15 kHz Selectable switching frequency : 2,5 and 15 kHz Selectable switching frequency : 10 Vdc Maximum capacity : 50 mA COTV / Function : Yes, by CFW100-CFW300-MMF Dissipated power [5]: : 30 W Source available to the user Output voltage : 10 Vdc Maximum capacity : 50 mA Control/performance data Power supply : Switched-mode power supply Control method : V/f (escalar) and V/W Encoder interface : Available with CFW300-IOAENC Control output frequency : 0-400 Hz Frequency resolution : 1% of rated speed - Speed range VWW Control - Speed range : 10% of rated speed	Not applicable		Not applicable	N	ot applicable
Control output frequency : 0-400 Hz Frequency resolution : 0.1 Hz V/F Control : 1% of rated speed - Speed resolution : 1% of rated speed - Speed range : 1:20 V/W Control : 1% of rated speed - Speed resolution : 1% of rated speed	rt quency quency range (minimum - r inbalance nt voltage and overvoltage actor ement factor fficiency m connections (power up of rer supply ng frequency [4]: ble switching frequency ne clock function red power [5]: a vailable to the user voltage m capacity bl/performance data supply method		: Yes, by CF ¹ : 50Hz : 48-62 Hz : Less or equ : Category II : 0,83 : 0,98 : ≥ 97% : 10 (1 each : Not allow : 5 kHz : 2,5 and 15 : Not availab : Yes, by CF ¹ : 30 W : 10 Vdc : 50 mA : Switched-m : V/f (escalar	W300-CUSB Ial to 3% of input rated line 6 minutes) kHz le W100-CFW300-MMF iode power supply) and VVW	• voltage
Sensorless vector control - Speed resolution : Not applicable	output frequency ncy resolution ntrol resolution range ontrol resolution range ess vector control		: 0-400 Hz : 0.1 Hz : 1% of rated : 1:20 : 1% of rated : 1:30	speed speed	
The information contained are reference values. Subject		ha information acre			

DATASHEET Variable Speed Drives



V/F Control

- Speed range Vector control with Encoder - Speed resolution

Analog Inputs

Quantity (standard) Levels Impedance for voltage input Impedance for current input Function Maximum allowed voltage

Digital inputs

Digital inputs - Quantity (standard) Activation Maximum low level Minimum high level Input current Maximum input current Function Maximum allowed voltage

Analog outputs

Analogic outputs - Quantity (standard) Levels RL for voltage output RL for current output Function

Digital outputs

Digital outputs - Quantity (standard) Maximum voltage Maximum current Function

Communication

- Modbus-RTU (with accessory: CFW300-CRS485; CFW300-CRS322, CFW300-CUSB or CFW300-CBLT)

- Modbus/TCP (Not available)
- Profibus DP (with accessory: CFW300-CPDP)
- Profibus DPV1 (with accessory: CFW300-CPDP)
- Profinet (Not available)
- CANopen (with accessory: CFW300-CCAN)
- DeviceNet (with accessory: CFW300-CCAN)
- EtherNet/IP (Not available)
- EtherCAT (Not available)
- Bluetooth (with accessory: CFW300-CBLT)
- BACnet (Not available)

Available protection

- Output phase-phase overcurrente/Short
- Not applicable
- Under/Overvoltage in power
- Heat sink overtemperature
- Motor overload
- Not applicable
- Fault/External alarm
- Programming error

- CPU or memory failure

Operation interface (HMI)

Avaliability Installation Number of HMI buttons Display Indication accuracy Speed resolution Standard HMI degree of protection HMI battery type HMI battery life expectancy Remote HMI type Remote HMI frame Remote HMI degree of protection

Ambient conditions

Enclosure

: IP20

: Included in the product

: 10% of rated current

: Accessory CFW300-KHMIR

: Fixed HMI

: 0.1 Hz

: IP20

: Numeric LCD

: Not applicable

: Not applicable

: Not applicable : IP54

4

15/02/2021

The information contained are reference values. Subject to change without notice. Image merely illustrative.



: Not applicable

- : Not applicable
- : 1 : 0-10V, 0-20mA and 4-20mA : 100 kΩ : 500 Ω : Programmable
- : 30 Vcc

: 4 : Active low and high : 5 V (low) and 10 V (high) : 10 V (low) and 20 V (high) : 11 mA : 20 mA : Programmable : 30 Vcc

: Only with plug-in : Not applicable : Not applicable : Not applicable : Not applicable

: 1 NO/NC relay : 250 Vac : 0.5 A : Programmable

DATASHEET Variable Speed Drives



Ambient conditions

Degree of pollution (EN50178 and UL508C or UL61800-5-1) : 2 Temperature around the inverter: of 0 °C / 32 °F to 50 °C / 122 °F. For temperatures above the specified is necessary to apply current reduction of 2 % per °C of 50 (122) o 60 °C (140 °F). Relative humidity: 5% to 95% without condensation.

Sustainability policies RoHS Conformal Coating	: Yes : 3C2
Dimensions and weigth - Size - Height - Width - Depth - Weight	: A : 157.9 mm / 6.2 in : 70 mm / 2.76 in : 148.4 mm / 5.8 in : 0.9 kg / 2 lb
Mechanical Installation Mounting position Fixing screw Tightening torque Allows side-by-side assembly Minimum spacing around the inverter: - Top - Bottom - Front - Side	: Surface or DIN rail : M4 : 2 N.m / 1.48 lb.ft : Yes, without derating : 15 mm / 0.59 in : 40 mm / 1.57 in : 30 mm / 1.18 in : Not applicable

Electrical connections

Cable gauges and tightening torques	s:
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	Recommended cable gauge	Recommended tightening torque
Power	1,5 mm² (16 AWG)	0,8 N.m / 0,6 lb.ft
Braking	Not applicable	0,8 N.m / 0,6 lb.ft
Grounding	2,5 mm² (14 AWG)	0.8 N.m / 0.6 lb.ft
Control	0,5 to 1,5 mm ² (20 to 14 AWG)	0,5 N.m / 0.37 lb.ft

Additional especifications	
SoftPLC	: Yes, incorporated
Maximum breaking current	: Not available
Minimum resistance for the brake resistor	: Not available
Recommended fuse	: FNH00-20K-A
Recommended circuit breaker [6]	: MPW40-3-D025

Standards

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 61800-2 - Adjustable speed electrical power drive systems - Part 2: General requirements - Rating specifications for low voltage adjustable frequency AC power drive systems. UL 508C - Power conversion equipment.
Electromagnetic Compati	••
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DATASHEET Variable Speed Drives



Standards

Standards	
Mechanical Construction	 - 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. - With external filter only - 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 3m4. - EN 60529 e UL 50

Certifications

1) Considering minimum impedance of 1%;

2) 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;

3) Braking resistor is not included;

4) For operation with a switching frequency above nominal, apply derating to the output current (refer to the user manual).

5) Surface mounting, HD overload.

6) Only for electrical circuit protection. For protection of inverters, use aR fuses indicated.

7) Only with external filter.