SOLAR PUMP DRIVES

Guaranteed control and maximum system efficiency

Motors | Automation | Energy | Transmission & Distribution | Coatings

GUARANTEED CONTROL AND **MAXIMUM SYSTEM EFFICIENCY**

Designed to drive centrifugal and submersible pumps, the new CFW500 and CFW700 Solar Pump Drives turn solar energy, provided from photoelectric panels, into hydraulic energy, bringing ***great efficiency*** and maximizing system availability.
It also offers ***automatic control of pump starting and stopping***, depending on the availability of solar energy or pressure level.

Main Characteristics

- Continuous maximum power point tracking (MPPT)
- Double PID for simultaneously controlling of both DC voltage and pipeline pressure
- Counter for working hours and generated kWh indication
- Up to four distinct speed and pressure setpoints
- Sleep/Wake up function triggered by DC voltage or pipeline pressure
- Hybrid power source available[1)] (solar panels + gensets) to increase the available operational time for periods of low solar irradiation
- Scalar or Vector control
- Modbus-RTU RS485 communication
- Side-by-side mounting possible
- Dry pump protection
- Overpressure and broken pipe protection
- Simple programming
- Available for ambient temperature up to 50 °C without derating. Maximum ambient temperature of 60 °C with derating
- Possibility to operate in off-grid systems
- Smart thermal management
- Automatic MPPT (Maximum Power Point Tracking) efficiency higher than 99%

Note: 1) Requires solar irradiation sensor.

Benefits

Off-Grid Systems

Compact

Simplified Setup and Installation

State-of-the-Art

Energy Saving

Reliability
Products 100% tested.

SoftPLC
Customizable SoftPLC functions.

Double PID Control
DC voltage control with maximum power point tracking (MPPT) and pipeline pressure control through pressure sensor.

Robust
150% overcurrent for 60 seconds and ambient temperature up to 50 °C.

Tropicalized Electronic Boards
Enhance lifetime, protecting electronic circuit in harmful environments. Class 3C2 of standard IEC 60721-3-3.

Application

Irrigation pivots

Farm irrigation

Water supply in remote villages

Farm drinking fountain

Application Example

CFW500 Solar Pump Drive

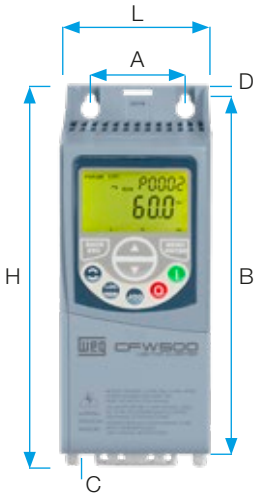
Plug-In Module Fitted as Standard on CFW500

- 4 digital inputs
- 2 relay outputs
- 1 transistor output
- 2 analog inputs
- 1 analog output
- 2 RS485 ports
- Power supply +24 V dc

Available Powers

Dimensions

IP20 Version



Front view

Side view

Size	A	B	C	D	H	L	P	Weight
	mm [in]	mm [in]	mm [in]	mm [in]	mm [in]	mm [in]	mm [in]	kg [lb]
A	50 [1.97]	175 [6.89]	11.9 [0.47]	7.2 [0.28]	189 [7.44]	75 [2.95]	150 [5.91]	0.8 [1.76]
B	75 [2.95]	185 [7.3]	11.8 [0.46]	7.3 [0.29]	199 [7.83]	100 [3.94]	160 [6.3]	1.2 [2.65]
C	100 [3.94]	195 [7.7]	16.7 [0.66]	5.8 [0.23]	210 [8.27]	135 [5.31]	165 [6.5]	2 [4.4]
D	125 [4.92]	290 [11.41]	27.5 [1.08]	10.2 [0.4]	306.6 [12.1]	180 [7.08]	166.5 [6.55]	4.3 [9.48]
E	150 [5.9]	330 [13]	34 [1.34]	10.6 [0.4]	350 [13.8]	220 [8.7]	191.5 [7.5]	10 [22.05]
F	200 [7.87]	525 [20.67]	42.5 [1.67]	15 [0.59]	550 [21.65]	300 [11.81]	254 [10]	26 [57.3]

Note: for the dimensions in the NEMA type 1 version, refer to the user manual.

CFW500 Solar Pump Drive

Technical Data

CFW500				Maximum applicable motor						
				IEC					UL	
Reference	Power supply (V)		Frame	Rated output current (A)	Power supply (V) 50 Hz	kW	Power supply (V) 60 Hz	HP	Power supply (V) 60 Hz	HP
CFW500A01P6S2NB20	Single-phase	200-240 V ac or 310 V dc	A	1.6	230	0.25	220	0.33	230	0.33
CFW500A02P6S2NB20				2.6		0.55		0.5		0.75
CFW500A04P3S2NB20				4.3		1.1		1		1.5
CFW500A07P0S2NB20				7		1.5		2		2
CFW500A01P6B2NB20	Single-phase or three-phase		A	1.6		0.25		0.33		0.33
CFW500A02P6B2NB20				2.6		0.55		0.5		0.75
CFW500A04P3B2NB20				4.3		1.1		1		1.5
CFW500B07P3B2DB20			B	7.3		1.5		2		2
CFW500B10P0B2DB20				10		2.2		3		3
CFW500A07P0T2NB20	Three-phase		A	7		1.5		2		2
CFW500A09P6T2NB20				9.6		2.2		3		3
CFW500B16P0T2DB20			B	16		4		5		5
CFW500C24P0T2DB20			C	24		5.5		7.5		7.5
CFW500D28P0T2DB20			D	28		7.5		10		10
CFW500D33P0T2DB20				33		9.2		12.5		10
CFW500D47P0T2DB20				47		11		15		15
CFW500E56P0T2DB20			E	56		15		20		20
CFW500A01P0T4NB20	Three-phase	380-480 V ac or 540 V dc	A	1	415	0.37	460	0.5	460	0.5
CFW500A01P6T4NB20				1.6		0.75		1		0.75
CFW500A02P6T4NB20				2.6		1.1		1.5		2
CFW500A04P3T4NB20				4.3		1.5		3		3
CFW500A06P1T4NB20				6.1		3		4		5
CFW500B02P6T4DB20			B	2.6		1.1		1.5		2
CFW500B04P3T4DB20				4.3		1.5		3		3
CFW500B06P5T4DB20				6.5		3		4		5
CFW500B10P0T4DB20				10		4		7.5		7.5
CFW500C14P0T4DB20			C	14		7.5		10		10
CFW500C16P0T4DB20				16		7.5		12.5		10
CFW500D24P0T4DB20			D	24		11		15		15
CFW500D31P0T4DB20				31		15		25		25
CFW500E39P0T4DB20			E	39		18.5		30		30
CFW500E49P0T4DB20				49		22		40		40
CFW500F77P0T4DB20			F	77		37		60		60
CFW500F88P0T4DB20				88		45		75		75
CFW500F0105T4DB20				105		55		75		75

Note: HP rating based on FLA values from WEG W22, 4 poles, 230 V ac and 440 V ac. kW rating based on FLA values from WEG W22, 4 poles, 220 V ac and 380 V ac. The CFW500 must be sized according to the motor rated current.

CFW700 Solar Pump Drive

Available as Standard[1)]

- 8 digital inputs
- 1 relay output
- 4 transistor outputs
- 2 analog inputs
- 2 analog outputs
- 1 RS485 port
- Power supply +24 V dc

Note: 1) No need for additional plug-in module.

Ratings

Dimensions

Frame	H mm (in)[3)]			W mm (in)		D mm (in)			Weight kg (lb)		
	IP20	NEMA1	IP55	IP20 / NEMA1	IP55	IP20 / NEMA1	IP55[4)]		IP20	NEMA1	IP55
							D1	D2			
A	270 (10.61)	305 (12.02)	-	145 (5.71)	-	227 (8.94)	-	-	6.3 (13.9)	7.1 (15.7)	-
B	316 (12.43)	351 (13.82)	529 (20.83)	190 (7.46)	273 (10.75)	227 (8.94)	237 (9.33)	279.1 (10.99)	10.4 (22.9)	11.3 (24.9)	17.0 (37.4)
C	405 (15.95)	448.1 (17.64)	670 (26.38)	220 (8.67)	307 (12.09)	293 (11.52)	306 (12.05)	348.1 (13.7)	20.5 (45.2)	21.4 (47.2)	30.0 (66.1)
D	550 (21.63)	-	754 (29.69)	300 (11.81)	375 (14.76)	305 (12.00)	301.3 (11.86)	338.6 (13.33)	32.6 (71.8)	-	49.0 (108.02)
E	675 (26.6)	1)	1,000 (39.37)	335 (13.2)	430 (16.93)	358 (14.1)	388.8 (15.31)	419 (16.5)	65.0 (143.3)	2)	96.0 (211.64)

Notes: 1) Height 735 (28.94) = 0142 T2, 0105 T4, 0142 T4 and all T5 models. Height 828.9 (32.63) = 0180 T2 / T4, 0211 T2 / T4.
2) Weight 67.12 (147.97) = 0142 T2, 0105 T4, 0142 T4 and all T5 models. Weight 69.3 (152.78) = 0180 T2 / T4, 0211 T2 / T4.
3) The height does not take into account the grounding connection terminals.
4) D1= Without disconnecting switch. D2= With disconnecting switch.

CFW700 Solar Pump Drive

Technical Data

Standard Version

CFW700 variable speed drive							Maximum applicable motor[1]											
							Normal duty (ND)						Heavy duty (HD)					
Reference	Power supply (V)		Frame size	Braking IGBT	Rated output current (A)		IEC				UL		IEC				UL	
					ND	HD	Power supply (V) 50 Hz	kW	Power supply (V) 60 Hz	HP	Power supply (V) 60 Hz	HP	Power supply (V) 50 Hz	kW	Power supply (V) 60 Hz	HP	Power supply (V) 60 Hz	HP
CFW700A06P0S2DB20C3	Single-phase	200-240 V ac	A	Built-in	6.0	5.0	230	1.5	220	2.0	230	1.5	230	1.1	220	1.5	230	1.5
CFW700A07P0S2DB20C3					7.0	7.0		1.5		2.0		2.0		1.5		2.0		2.0
CFW700A10P0S2DB20					10	10		2.2		3.0		3.0		2.2		3.0		3.0
CFW700A06P0B2DB20	Single-phase or three-phase	200-240 V ac	A	Built-in	6.0	5.0	230	1.5	220	2.0	230	1.5	230	1.1	220	1.5	230	1.0
CFW700A07P0B2DB20					7.0	7.0		1.5		2.0		2.0		1.5		2.0		2.0
CFW700A07P0T2DB20	Three-phase	200-240 V ac	A	Built-in	7.0	5.5	230	1.5	220	2.0	230	2.0	230	1.1	220	1.5	230	1.0
CFW700A10P0T2DB20					10	8.0		2.2		3.0		3.0		1.5		2.0		2.0
CFW700A13P0T2DB20					13	11		3.0		3.0		3.0		3.0		3.0		3.0
CFW700A16P0T2DB20					16	13		4.0		5.0		5.0		3.0		3.0		3.0
CFW700B24P0T2DB20			B	Built-in	24	20		5.5		7.5		7.5		5.5		5.0		5.0
CFW700B28P0T2DB20					28	24		7.5		10		10		5.5		7.5		7.5
CFW700B33P5T2DB20					33.5	28		9.2		10		10		7.5		10		10
CFW700C45P0T2DB20			C	Built-in	45	36		11		15		15		9.2		10		10
CFW700C54P0T2DB20					54	45		15		20		20		11		15		15
CFW700C70P0T2DB20					70	56		22		25		25		15		20		20
CFW700D86P0T2DBN1			D	Built-in	86	70		22		30		30		22		25		25
CFW700D0105T2DBN1					105	86		30		40		40		22		30		30
CFW700E0142T2DB20C3			E	Built-in	142	115		45		60		50		30		40		40
CFW700E0180T2DB20C3					180	142		55		75		60		45		60		50
CFW700E0211T2DB20C3					211	180		55		75		75		55		75		60
CFW700E0142T2NB20C3					142	115		45		60		50		30		40		40
CFW700E0180T2NB20C3					180	142		55		75		60		45		60		50
CFW700E0211T2NB20C3					211	180		55		75		75		55		75		60
CFW700A03P6T4DB20	Three-phase	380-480 V ac	A	Built-in	3.6	3.6	415	1.5	460	2.0	460	2.0	415	1.5	460	2.0	460	2.0
CFW700A05P0T4DB20					5.0	5.0		2.2		3.0		3.0		2.2		3.0		3.0
CFW700A07P0T4DB20					7.0	5.5		3.0		5.0		3.0		2.2		3.0		3.0
CFW700A10P0T4DB20					10	10		4.0		7.5		5.0		4.0		7.5		5.0
CFW700A13P5T4DB20					13.5	11		5.5		10		7.5		5.5		7.5		7.5
CFW700B17P0T4DB20			B	Built-in	17	13.5		9.2		10		10		5.5		10		7.5
CFW700B24P0T4DB20					24	19		11		20		15		9.2		15		10
CFW700B31P0T4DB20					31	25		15		25		20		11		20		15
CFW700C38P0T4DB20			C	Built-in	38	33		18.5		30		25		15		25		20
CFW700C45P0T4DB20					45	38		22		30		30		18.5		30		25
CFW700C58P5T4DB20					58.5	47		30		50		40		22		30		30
CFW700D70P5T4DBN1			D	Built-in	70.5	61		37		60		50		30		50		40
CFW700D88P0T4DBN1					88	73		45		75		60		37		60		50
CFW700E0105T4DB20C3			E	Not built-in[2]	105	88		55		75		75		45		75		60
CFW700E0142T4DB20C3					142	115		75		100		100		55		100		75
CFW700E0180T4DB20C3					180	142		90		150		150		75		100		100
CFW700E0211T4DB20C3					211	180		110		150		150		90		150		150
CFW700E0105T4NB20C3					105	88		55		75		75		45		75		60
CFW700E0142T4NB20C3					142	115		75		100		100		55		100		75
CFW700E0180T4NB20C3					180	142		90		150		150		75		100		100
CFW700E0211T4NB20C3					211	180		110		150		150		90		150		150

Notes: 1) The motor power ratings are just reference values, valid for WEG 4-pole standard motors with frequency of 60 Hz and supply voltage of 220, 380, 440 or 600 V. 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.

2) The braking IGBT on frame E may be internally mounted by including DB in the smart code or externally mounted by including NB in the smart code and using the DBW03.

RFI filter already included as standard on models of frame "E".

ND = Normal Duty (normal overload = 110% of the rated current for one minute or 150% of the rated current for 3 seconds; one overload every 10 minutes).
HD = Heavy Duty (heavy overload = 150% of the rated current for one minute or 200% of the rated current for 3 seconds; one overload every 10 minutes).

CFW700 Solar Pump Drive

Technical Data

CFW700 variable speed drive							Maximum applicable motor[1]											
							Normal duty (ND)						Heavy duty (HD)					
Reference	Power supply (V)		Frame size	Braking IGBT	Rated output current (A)		IEC				UL		IEC				UL	
					ND	HD	Power supply (V) 50 Hz	kW	Power supply (V) 60 Hz	HP	Power supply (V) 60 Hz	HP	Power supply (V) 50 Hz	kW	Power supply (V) 60 Hz	HP	Power supply (V) 60 Hz	HP
CFW700B02P9T5DB20	Three-phase	500-600 V ac	B	Built-in	2.9	2.7	525	1.5	575	2.0	575	2.0	525	1.5	575	2.0	575	2.0
CFW700B04P2T5DB20					4.2	3.8		2.2		3.0		3.0		2.2		3.0		2.0
CFW700B07P0T5DB20					7.0	6.5		4.0		5.0		5.0		4.0		5.0		5.0
CFW700B10P0T5DB20					10	9.0		5.5		7.5		7.5		5.5		7.5		7.5
CFW700B12P0T5DB20					12	10		7.5		10		10		5.5		7.5		7.5
CFW700B17P0T5DB20					17	17		11		15		15		11		15		15
CFW700C22P0T5DB20			C		22	19		15		20		20		11		20		15
CFW700C27P0T5DB20					27	22		18.5		25		25		15		20		20
CFW700C32P0T5DB20					32	27		22		30		30		18.5		25		25
CFW700C44P0T5DB20					44	36		30		40		40		22		30		30
CFW700E53P0T5DB20C3			E		53	44		37		50		50		30		40		40
CFW700E63P0T5DB20C3					63	53		45		60		60		37		50		50
CFW700E80P0T5DB20C3					80	66		55		75		75		45		75		60
CFW700E0107T5DB20C3					107	90		75		100		100		55		100		75
CFW700E0125T5DB20C3					125	107		90		125		125		75		100		100
CFW700E0150T5DB20C3					150	122		110		150		150		90		125		100
CFW700E53P0T5NB20C3				Not built-in[2]	53	44		37		50		50		30		40		40
CFW700E63P0T5NB20C3					63	53		45		60		60		37		50		50
CFW700E80P0T5NB20C3					80	66		55		75		75		45		75		60
CFW700E0107T5NB20C3					107	90		75		100		100		55		100		75
CFW700E0125T5NB20C3					125	107		90		125		125		75		100		100
CFW700E0150T5NB20C3					150	122		110		150		150		90		125		100

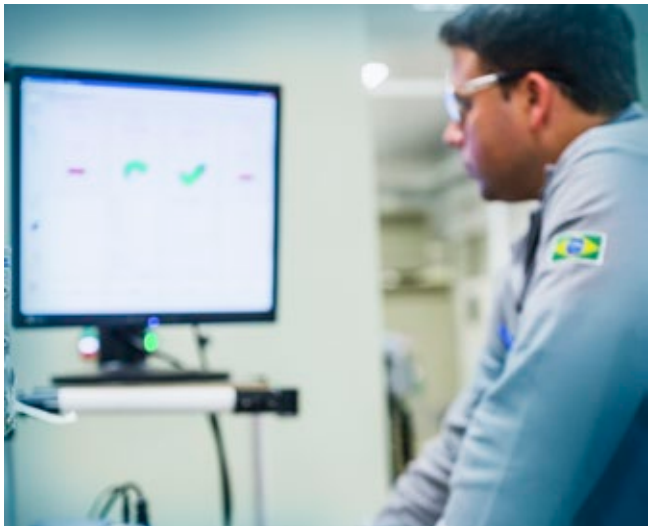
Global presence is essential, as much as understanding your needs.

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 ***Solar Pump Drives*** are 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



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