

Transition guide

CFW11 → CFW900



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The purpose of this document is to help WEG employees in the transition between the CFW11 and CFW900 VSDs, as well as to help rearrange the opportunities in which it is appropriate to offer the CFW900 to customers, taking into account its gradual release.



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1 Current and voltage ranges

Currently, the CFW900 is available in the following current and voltage ranges:

- **Up to 10 A @200 – 240 V ac single-phase.**
- **Up to 250 A @200 – 240 V ac three-phase.**
- **Up to 242 A @380 – 480 V ac three-phase.**

Supply voltage	Maximum currents	
	CFW11	CFW900
200 - 240 V ac 1Ø	10 A	10 A
200 ¹⁾ - 240 V ac 3Ø	370 A	250 A
380 - 480 V ac 3Ø	1,141 A	242 A
500 - 600 V ac 3Ø	804 A	-
601 - 690 V ac 3Ø	703 A	-

Note: 1) CFW900 frame sizes D and E have a rated line voltage of 208 – 240 V ac.

At first, the new CFW900 does not have a current range as wide as the CFW11. However, the CFW900 will go up to 1200 A @380-480 V ac, 820 A @500-600 V ac and 720 A @601-690 V ac when its line is complete.

2 Current, voltage and power

(230 V ac 3Ø 50 Hz)

200¹⁾ – 240 V

In the following tables, the CFW11 and CFW900 drives are compared in terms of power, current and presence of braking IGBTs, by frame.

In the CFW900 frame column, the cells highlighted in blue indicate that the CFW900 covers the range in question with a smaller frame than the CFW11.

In the CFW900 power and current columns, the cells highlighted in green indicate a power/current gain.

CFW11						CFW900					
Frame	Current (A)		Power ²⁾ (kW)		Braking IGBT	Frame	Current (A)		Power ²⁾ (kW)		Braking IGBT
	ND	HD	230 V 3Ø 50 Hz				ND	HD	230 V 3Ø 50 Hz		
			ND	HD					ND	HD	
-	-	-	-	-	-	A	4.6	4.6	1.1	1.1	✓
A	6	5	1.5	1.1	✓	A	6	5	1.5	1.5	✓
A	7	7	1.5	1.5	✓	A	7.5	6.8	1.5	1.5	✓
A	10	8	2.2	2.2	✓	A	10.6	9.6	3	2.2	✓
A	13	11	3	3	✓	A	13	11	3	3	✓
A	16	13	4	3	✓	A	19	16	5.5	4	✓
B	24	20	5.5	5.5	✓	B	26	22	7.5	5.5	✓
B	28	24	7.5	5.5	✓	-	-	-	-	-	✓
B	33.5	28	9.2	7.5	✓	B	34	28	9.2	7.5	✓
C	45	36	11	11	✓	B	45	35	11	9.2	✓
C	54	45	15	11	✓	C	56	47	15	11	✓
C	70	56	22	15	✓	C	70	59	18.5	15	✓
D	86	70	22	22	✓	C	80	70	22	18.5	✓
D	105	86	30	22	✓	D	110	92	30	22	□
E	142	115	45	37	□	D	135	110	37	30	□
-	-	-	-	-	-	D	150	124	45	37	□
E	180	142	55	45	□	E	172	150	55	45	□
-	-	-	-	-	-	E	195	160	55	45	□
E	211	180	55	55	□	E	250	211	75	55	□



Incorporated to the standard product



Optional

Notes: 1) CFW900 frame sizes D and E have a rated line voltage of 208 – 240 V ac.

2) Motor powers are based on WEG W22 IR3 Premium three-phase, 4-pole motors, at voltage 230 V/50 Hz. Motor currents can vary according to speed and manufacturer, so use the above references as a guide only. The drives must be properly sized according to the rated current of the motor used.

3 Current, voltage and power

(230 V ac 3Ø 60 Hz)

200¹⁾ – 240 V

CFW11						CFW900					
Frame	Current (A)		Power ²⁾ (kW)		Braking IGBT	Frame	Current (A)		Power ²⁾ (kW)		Braking IGBT
	ND	HD	230 V 3Ø 60 Hz				ND	HD	ND	HD	
			ND	HD							
-	-	-	-	-	-	A	4.6	4.6	1.5	1.5	✓
A	6	5	1.5	1	✓	A	6	5	2	2	✓
A	7	7	2	2	✓	A	7.5	6.8	3	2	✓
A	10	8	3	2	✓	A	10.6	9.6	3	3	✓
A	13	11	3	3	✓	A	13	11	4	3	✓
A	16	13	5	3	✓	A	19	16	7.5	5	✓
B	24	20	7.5	5	✓	B	26	22	10	7.5	✓
B	28	24	10	7.5	✓	-	-	-	-	-	✓
B	33.5	28	10	10	✓	B	34	28	10	10	✓
C	45	36	15	10	✓	B	45	35	15	10	✓
C	54	45	20	15	✓	C	56	47	20	15	✓
C	70	56	25	20	✓	C	70	59	25	25	✓
D	86	70	30	25	✓	C	80	70	30	30	✓
D	105	86	40	30	✓	D	110	92	40	30	□
E	142	115	50	40	□	D	135	110	50	40	□
-	-	-	-	-	-	D	150	124	60	50	□
E	180	142	60	50	□	E	172	150	75	60	□
-	-	-	-	-	-	E	195	160	75	60	□
E	211	180	75	60	□	E	250	211	100	75	□



Incorporated to the standard product



Optional

Notes: 1) CFW900 frame sizes D and E have a rated line voltage of 208 – 240 V ac.

2) Motor powers are based on WEG W22 IR3 Premium three-phase, 4-pole motors, at voltage 230 V/60 Hz. Motor currents can vary according to speed and manufacturer, so use the above references as a guide only. The drives must be properly sized according to the rated current of the motor used.

4 Current, voltage and power

(400 V ca 3Ø 50 Hz)

380 – 480 V

CFW11						CFW900					
Frame	Current (A)		Power ²⁾ (kW)		Braking IGBT	Frame	Current (A)		Power ²⁾ (kW)		Braking IGBT
	ND	HD	400 V 3Ø 50 Hz				ND	HD	400 V 3Ø 50 Hz		
			ND	HD					ND	HD	
-	-	-	-	-	-	A	2.8	2.4	1.1	1.1	✓
A	3.6	3.6	1.5	1.5	✓	A	3.6	2.8	1.5	1.1	✓
A	5	5	2.2	2.2	✓	A	4.8	3.9	2.2	1.5	✓
A	7	5.5	3	2.2	✓	A	6.5	5.3	3	2.2	✓
A	10	10	4	4	✓	A	9.6	8	4	3	✓
A	13.5	11	5.5	5.5	✓	A	14	12	7.5	5.5	✓
B	17	13.5	9.2	5.5	✓	A	17	17	7.5	7.5	✓
B	24	19	11	9.2	✓	B	26	21	11	11	✓
B	31	25	15	11	✓	B	33	28	15	11	✓
C	38	33	18.5	15	✓	B	39	33	18.5	15	✓
C	45	38	22	18.5	✓	C	50	40	22	18.5	✓
C	58.5	47	30	22	✓	C	62	50	30	22	✓
D	70.5	61	37	30	✓	C	74	62	37	30	✓
D	88	73	45	37	✓	D	96	75	45	37	□
E	105	88	55	45	□	D	124	103	55	55	□
E	142	115	75	55	□	D	146	124	75	55	□
E	180	142	90	75	□	E	172	146	90	75	□
E	211	180	110	90	□	E	203	161	110	90	□
-	-	-	-	-	-	E	242	190	132	90	□



Incorporated to the standard product



Optional

Note: 1) Motor powers are based on WEG W22 IR3 Premium three-phase, 4-pole motors, at voltage 400 V/50 Hz. Motor currents can vary according to speed and manufacturer, so use the above references as a guide only. The drives must be properly sized according to the rated current of the motor used.

5 Current, voltage and power

(460 V ac 3Ø 60 Hz)

380 – 480 V

CFW11						CFW900					
Frame	Current (A)		Power ²⁾ (HP)		Braking IGBT	Frame	Current (A)		Power ²⁾ (HP)		Braking IGBT
	ND	HD	460 V 3Ø 60 Hz				ND	HD	460 V 3Ø 60 Hz		
			ND	HD					ND	HD	
-	-	-	-	-	-	A	2.8	2.4	2	1.5	✓
A	3.6	3.6	2	2	✓	A	3.6	2.8	2	2	✓
A	5	5	3	3	✓	A	4.8	3.9	3	3	✓
A	7	5.5	3	3	✓	A	6.5	5.3	5	3	✓
A	10	10	5	5	✓	A	9.6	8	7.5	5	✓
A	13.5	11	7.5	7.5	✓	A	14	12	10	7.5	✓
B	17	13.5	10	7.5	✓	A	17	17	10	10	✓
B	24	19	15	10	✓	B	26	21	20	15	✓
B	31	25	20	15	✓	B	33	28	25	20	✓
C	38	33	25	20	✓	B	39	33	30	25	✓
C	45	38	30	25	✓	C	50	40	40	30	✓
C	58.5	47	40	30	✓	C	62	50	50	40	✓
D	70.5	61	50	40	✓	C	74	62	60	50	✓
D	88	73	60	50	✓	D	96	75	75	60	□
E	105	88	75	60	□	D	124	103	100	75	□
E	142	115	100	75	□	D	146	124	125	100	□
E	180	142	150	100	□	E	172	146	150	125	□
E	211	180	150	150	□	E	203	161	175	125	□
-	-	-	-	-	-	E	242	190	200	150	□

✓ Incorporated to the standard product

□ Opcional

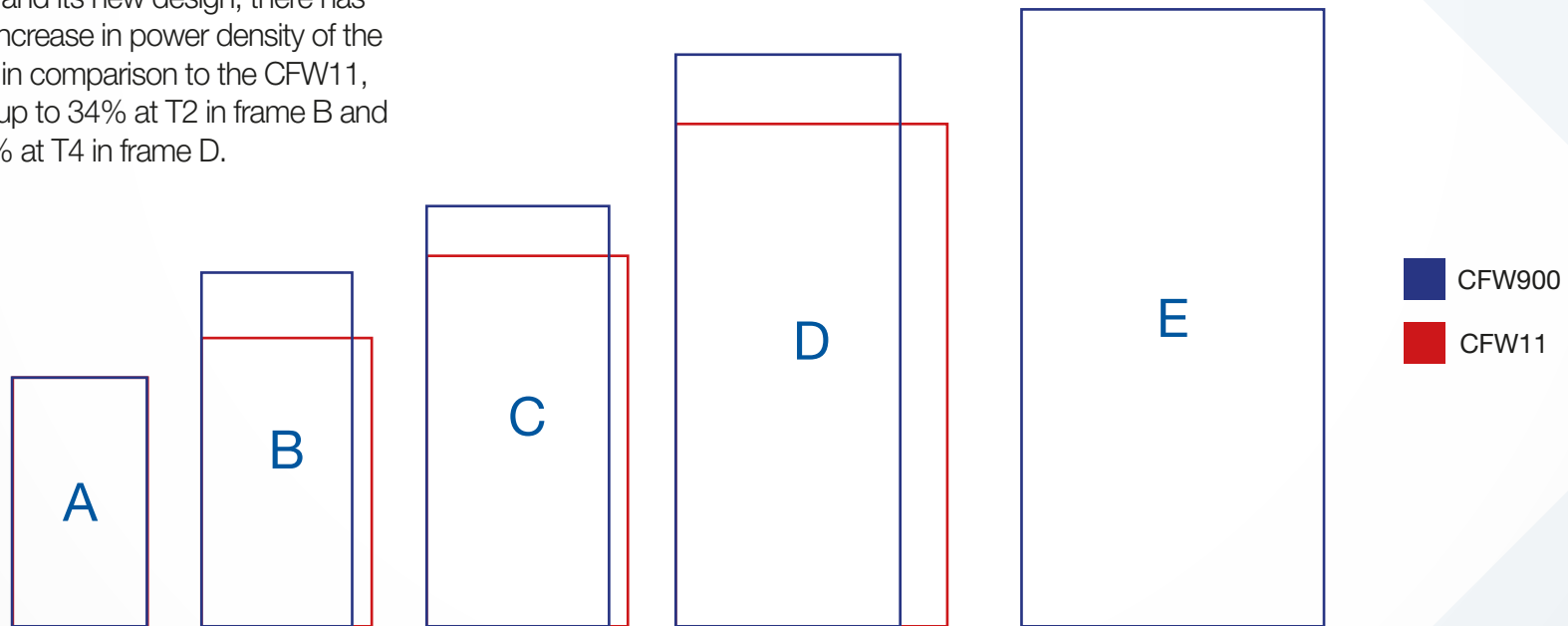
Note: 1) Motor powers are based on WEG W22 IR3 Premium three-phase, 4-pole motors, at voltage 460 V/60 Hz. Motor currents can vary according to speed and manufacturer, so use the above references as a guide only. The drives must be properly sized according to the rated current of the motor used.

6 Dimensions and mechanical installation

Currently, the CFW900 is available in frames A, B, C, D and E. Therefore, the comparison below takes into account the corresponding frames of the CFW11. Considering the current ranges of the CFW900 and its new design, there has been an increase in power density of the CFW900 in comparison to the CFW11, reaching up to 34% at T2 in frame B and up to 66% at T4 in frame D.



Frame	CFW11	CFW900
IP20/IP21/ UL Type 1	H x W x D (mm)	
A	270 x 145 x 227	269 x 145 x 222
B	316 x 190 x 227	385 x 165 x 227
C	405 x 220 x 293	460 x 200 x 293
D	550 x 300 x 305	625 x 250 x 294
E	675 x 335 x 358	675 x 335 x 358



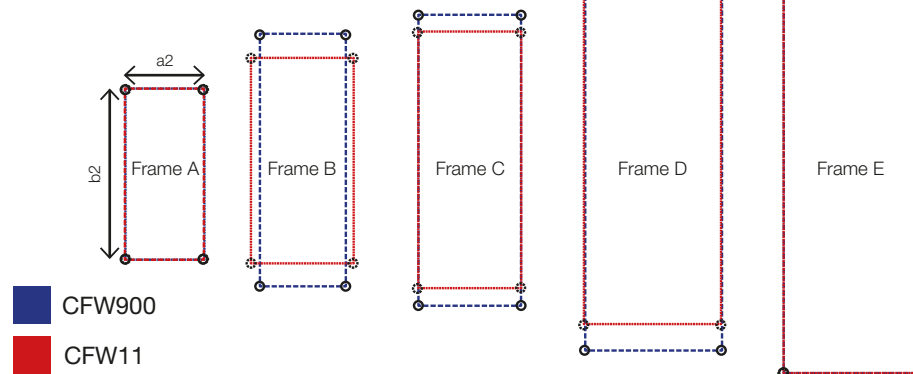
Frame	Protection rating	A mm	B mm	C mm	D mm
A	IP20	25	25	10	0
	IP21/UL type 1	25	25	10	30
B	IP20	40	45	10	0
	IP21/UL type 1	40	45	10	30
C	IP20	110	130	10	0
	IP21/UL type 1	110	130	10	30
D	IP20	110	130	10	0
	IP21/UL type 1	110	130	10	30
E	IP20	150	250	20	0
	IP21/UL type 1	150	250	20	30



Minimum mounting distances for ventilation are the same for the CFW11 and CFW900 in frames A to E, with just one reservation: the CFW11 side-by-side installation – when two drives are installed side-by-side with no spacing between them – is possible for frames A, B and C. The CFW900 side-by-side installation is valid up to frame E. In these cases, side-by-side installation should only be done with drives with IP20 protection rating. Furthermore, it is possible to install the CFW900 frames A to C horizontally, which is impossible with the CFW11.

As for the fixation, since the footprint of the drives is not the same, **the distance between the fixing holes for the CFW900 and CFW11 is NOT compatible in all frames.** Therefore, if the customer wants to replace his CFW11 with a CFW900, the possibility of adapting the customer's panel to accommodate the CFW900 must be assessed.

Illustration of the hole positions for surface mounting - CFW11 and CFW900 IP20



Frame	Inverter	Surface Mounting	
		a2 (mm)	b2 (mm)
A	CFW11	115	250
	CFW900	115	250
B	CFW11	150	300
	CFW900	125	370
C	CFW11	150	375
	CFW900	150	425
D	CFW11	200	525
	CFW900	200	600
E	CFW11	200	650
	CFW900	200	650

7 Protection rating

The CFW11 line can reach IP20, IP21, IP55, UL Type 1 and UL Type 12 protection ratings. Currently, the CFW900 has the following protection ratings: IP20, IP21 and UL Type 1 for the front part; its back part will have IP55/UL Type 12 protection rating. Separation into front and back part is applicable for flange mounting.

Protection ratings available				
CFW11				
Front part	IP20		✓	
	IP21	Frame A ¹⁾ , B, C	✓	
		Frame D to H	☑	
UL Type 1	Frame D	✓		
	Frame A ¹⁾ , B, C and E	☑		
Back part	IP54	Frame A to E	✓ ²⁾	
		Frame F, G, H	☐	
IP55/UL Type 12 enclosure				☐
CFW900				
Front part	IP20			✓
	IP21			☑
UL Type 1	Frame A to E			☑
Back part	IP55/ UL Type 12			✓
IP55/UL Type 12 enclosure				☐

✓	Standard
☑	Accessory
☐	Special version

} Under development

Notes: 1) Exception: in the optional CFW11 frame A version with STO, it is not possible to use the IP21/UL Type 1 kit (it remains IP20).
 2) Exception: models 180T2, 211T2, 180T4, 211T4 and models T6 frame E – not available.

Therefore, the CFW900 has protection ratings similar to those of the CFW11, with the difference that the back of the CFW900 always has the IP55/UL Type 12 protection rating.

8 Environmental conditions

- **Temperature:** regarding temperature, the CFW900 has been improved in 2 points: Intelligent Thermal Management and Dual Zone Rating.
 - The Intelligent Thermal Management function monitors the internal temperature of the drive and acts on the switching frequency of the IGBTs in order to reduce losses in these components and keep the motor operating under the most adverse conditions of temperature and overload.
 - Dual Zone Rating is about separating the drive into two parts (front and back), each with its own operating temperature range, with the front being designed to withstand higher temperatures. The greatest benefit of this feature is found in flange-mounting, in which the back part is outside the panel and the front part is inside the panel, where the temperature is higher, especially in panels with reduced ventilation

Operating conditions			CFW11	CFW900	
Operating temperature with no derating	Size	A to D	-10 a 50 °C	Back part	Input temp: -10 to 50 °C ¹⁾
				Front part	-10 to 60 °C ²⁾
	E	-10 a 45 °C	Back part	Input temp: -10 to 45 °C ¹⁾	
			Front part	-10 to 60 °C ²⁾	

Notes: 1) With the Intelligent Thermal Management enabled (factory standard).

2) Exceptions: Models CFW900C74P0T4 and CFW900D0146T4 are specified up to 55 °C.

Combining these two characteristics, the need for derating the CFW900 by temperature is considerably reduced.

- **Humidity:** regarding humidity, both drives can be applied in environments with humidity from 5 to 95%, non-condensing.
- **Altitude:** both drives can be installed in locations up to 1,000 m above sea level without applying derating. Above that altitude, derating must be applied.

Therefore, with regard to environmental conditions, the CFW900 performs better than the CFW11.

9 Rated switching frequency

Rated switching frequency		
Fra	CFW11	CFW900
A	5 kHz	4 kHz
B	5 kHz	4 kHz
C	5 kHz	4 kHz
D	5 kHz	4 kHz
E	2.5 kHz	2 kHz

Decreasing the CFW900 rated switching frequency a little, it is possible to increase the inverter efficiency (decreasing switching losses) without compromising the motor efficiency.

The IEC 61800-9 (Ecodesign) standard defines that the switching frequency of inverters that drive motors up to 90 kW must be 4 kHz, and for higher powers, 2 kHz.

Note: with the Intelligent Thermal Management function active, the CFW900 switching frequency is subject to variations.

10 Overload

The CFW900 is a more robust drive than the CFW11 against overloads:

			CFW11	CFW900
Overload	ND	110% I _{ND}	60s every 10min	60s every 5min
		150% I _{ND}	3s every 10min	3s every 5min
	HD	150% I _{HD}	60s every 10min	60s every 5min
		200% I _{HD}	3s every 10min	3s every 5min

Therefore, in this regard, the CFW900 performs better than the CFW11.

11 RFI Filter

Regarding electromagnetic compatibility (EMC), the new CFW900 is optimized in relation to the CFW11.

- The CFW900 has a built-in RFI filter in its standard version, in all frames.
- The CFW11 has a built-in RFI filter in some frames and the filter as an option for others. For models of frames A to D, the filter is optional. For models of frames E, F, G and H, the RFI filter is included as a standard product.

RFI Filter		
Size	CFW11	CFW900
A	<input type="checkbox"/>	<input checked="" type="checkbox"/>
B	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C	<input type="checkbox"/>	<input checked="" type="checkbox"/>
D	<input type="checkbox"/>	<input checked="" type="checkbox"/>
E	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
G	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
H	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
I	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<input checked="" type="checkbox"/>	Incorporated to the standard product
<input type="checkbox"/>	Optional
-	Unavailable

} Under development

Therefore, in this regard, the CFW900 has advantages over the CFW11 in frames A, B, C and D.

12 Motor cable length

Thanks to the new PWM modulation technology for long cables of the **CFW900**, it can operate motors with longer cable distances than the **CFW11** without the need for any output filter:

For motor cable distances up to 200 m, panels assembled with CFW900 will be more compact due to the absence of output filters, saving space, components and assembly time.

Therefore, regarding the need to use output filters, **the CFW900 has only advantages over the CFW11.**

CFW11	Cable - motor distance
No output reactance required	0...100 m
With output reactance	100...300 m
With sinusoidal filter at the VSD output	300...1,000 m

CFW900	Cable - motor distance
No output reactance required	0...200 m ¹⁾
With output reactance	200...500 m ¹⁾
With sinusoidal filter at the VSD output	500...5,000 m

Note: 1) Using PWM modulation for long cables.

13 Motor control types

Both drives have Scalar, VVW, Sensorless Vector and Vector with Encoder control types for induction motors; and with the VVW PM method for permanent magnet motors. In the CFW900, due to the great improvements applied to the VVW control, it is now called VVW+.

VVW PM control is only possible in special firmware version on the CFW11, while VVW+ PM is standard on the CFW900. This control is valid for driving PM motors from any manufacturer, including WEG.

A new pre-magnetization function was developed for the Scalar and VVW+ control types in the CFW900, which allows starting motors with load faster. In this way, several applications that would require the use of Sensorless Vector control in the CFW11 can now be activated by the VVW+ control of the CFW900.

The CFW900 also features improvements in the current limit function in all of its control types.

14 *Advanced energy saving function*

The Optimal Flux and Energy Saving functions present in the CFW11 were improved and unified into a single function in the CFW900, called Advanced Energy Saving Function.

Such function can be applied to constant and variable torque loads, including applications with sudden load variations.

15 *Safety*

The CFW900 has a higher safety rating than the CFW11 in accordance with IEC 62061 and ISO 13849 standards, which fall under IEC 61508.

With regard to safety functions, the new CFW900 is optimized in relation to the CFW11.

By default, all CFW900 inverters leave the factory with the Safe Torque Off (STO) and Safe Stop 1 (SS1) functions, in accordance with IEC 61800-5-2 standard, while to obtain STO for the CFW11, an optional version of the drive is required, and the SS1 function is only possible using external safety components.

Therefore, with regard to safety applications, the CFW900 is superior to the CFW11.

SIL rating	CFW11	CFW900
SIL	SIL 2	SIL 3
PL	PL d	PL e

Safety function	CFW11	CFW900
STO	☐	✓
SS1	×	✓

✓	Standard
☐	Optional
×	Unavailable

16 Communication

Currently, although the CFW900 presents some novelties, it still does not have all the communication protocols that the CFW11 line covers.

The CFW900 was developed to cover all the most important protocols present in the CFW11 and also brings some new features (MQTT and Bluetooth®). However, the CFW900 still does not have all the protocols planned for its scope.

CFW11		Communication module
USB	✓	-
Modbus-RTU	☑	RS485-01, RS232-01, RS232-05, RS485-05, CAN/RS485-01
Modbus-TCP	☑	MODBUSTCP-05, MODBUSTCP-2P-05
CANopen	☑	CAN-01, CAN/RS485-01
DeviceNet	☑	DEVICENET-05, CAN-01, CAN/RS485-01
EtherNet/IP	☑	ETHERNET/IP-05, ETHERNETIP-2P-05
BACnet ¹⁾	☑	RS485-01, CAN/RS485-01
EtherCAT	☑	ETHERCAT-05
Profibus-DP	☑	PROFDP-05, PROFIBUS DP-01
Profinet-IRT	☑	PROFINETIO-05

CFW900		Communication module
USB	✓	-
Modbus-RTU	✓	-
Modbus-TCP	✓	-
CANopen	☑	CFW900-CCAN-W
DeviceNet	☑	CFW900-CCAN-W
EtherNet/IP	✓	-
BACnet	☞	-
EtherCAT	☑	-
Profibus-DP	☑	-
Profinet-IRT	☑	-
MQTT	✓	-
Bluetooth®	☐	-

✓	Standard
☑	Accessory
☐	Optional
☞	To be defined

} Under development

} CFW900 novelty

Note 1) Special firmware version.

17 Accessories

The CFW11 drive has four slots for accessories. However, each accessory can only be connected to a specific slot, making it impossible to use more than one accessory of the same type (2 identical accessories).

The CFW900 has four slots by default, which can be expanded to seven by using the CFW900-7SLOTS accessory. It is worth of notice that the CFW900 comes from the factory with a CFW900-REL-01 accessory, which would take one of the four slots. However, the user has the option of not using this accessory.

All slots are interchangeable, that is, any accessory can be mounted in any slot and in any quantity, except for communication accessories.

Regarding communication, the CFW11 has two slots compatible with communication accessories (Slot 3 for WEG communication accessories and Slot 4 for Anybus accessories).

The only limitation of the CFW900 in terms of communication accessories is that a maximum of one communication accessory of each type can be used. Therefore, the CFW900 is a more flexible drive than the CFW11 in terms of accessories.

IMPORTANT: accessories are not compatible between the drives.

18 Independent control power supply at 24 V dc

In the **CFW900 standard version**, it is possible to power the control using an external 24 V dc source. This is an interesting feature when you have the VSDs connected via a communication network, and you want to exchange information with the VSDs even when they are turned off.

In the CFW11 line, this is only available in inverters **with the W option**.

It is also worth of mentioning that the CFW900 has two 24 V dc terminals on the control I/Os: VIN and VOUT. The VIN terminal (input) connects the external 24 V dc source to the VSD, while the VOUT terminal (output) powers other loads (e.g., sensor). The CFW11 has only one +24 V dc terminal available, which serves as an input to the CFW11 VSD with the W option and as an output on the CFW11 VSD without the W option.

Independent control circuit power supply (24 V dc)	
CFW11	CFW900
<input type="checkbox"/>	<input checked="" type="checkbox"/>

<input checked="" type="checkbox"/>	Standard
<input type="checkbox"/>	Optional

19 HMI

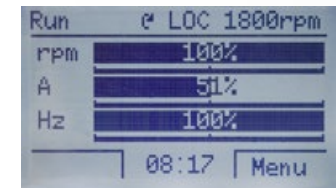
The CFW11 VSD has an alphanumeric HMI capable of reproducing numbers, letters and bar graphs only in Portuguese, Spanish, English, German and French.

The CFW900 has a graphic HMI capable of reproducing letters, numbers and line and bar graphs. When mounted remotely on a frame (accessory), its protection rating is IP65/UL Type 12. Currently, the CFW900 HMI texts are available in English, Spanish, German, and Portuguese.

Eventually the following languages will be available: French, Italian and Dutch. Other languages such as Chinese, Turkish, Polish and Russian are under study.

There is a new HELP key (“?”) on the CFW900 HMI that the user can press to obtain more information about all parameters.

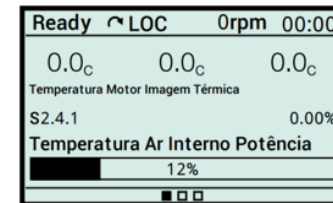
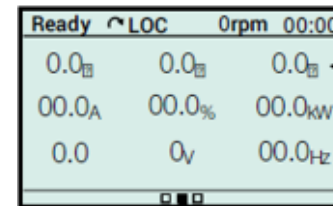
Furthermore, the CFW900 USB port is located on the HMI, which facilitates access to the USB port, especially when the HMI is installed on the panel door. On the CFW11, the USB port is located on the drive body, requiring the panel door to be opened to access it. On both drives, the USB port can be used to parameterize the drive, update the firmware and connect it to the programming software.



Therefore, in terms of functionality, the new CFW900 HMI is more modern and has only advantages over the CFW11 HMI.

As for the languages, **currently** the CFW900 HMI has fewer languages available than the CFW11 HMI.

The CFW11 and CFW900 HMIs are not compatible with each other, which means that it is not possible to install the HMI of one drive on the other. The cables for remote connection of the HMIs are also not compatible with each other.



20 Drive parameter setting

CFW11 and CFW900 parameters have different structures and codes. Therefore, the parameters of the drives are set differently. The organization of the CFW900 parameters was designed in a more friendly way, similar to the parameters of the SSW900 soft-starter.

For example, the parameters set during the oriented startup to the scalar control method for the two drives are compared on the right.

Note: at the first power-up of the CFW900, the user has the option to choose the language on the HMI display and then is asked if they want to go through the oriented startup without having to enter any access password.

CFW11 oriented startup - scalar control

Parameter	Description
P0317	Oriented startup
P0201	Language
P0202	Control type
P0296	Line rated voltage
P0298	Application
P0398	Motor service factor
P0400	Motor rated voltage
P0401	Motor rated current
P0402	Motor rated speed
P0403	Motor rated frequency
P0404	Motor rated power
P0405	Encoder pulse number
P0406	Motor ventilation

CFW900 oriented startup - scalar control

Parameter	Description	Comment
A1	Oriented startup	
C11.1.3	Configuration - language	
	Set date and time?	
C1.1.1	Power supply - type	Three-phase AC, single-phase AC or DC
C1.1.2	Line supply - rated voltage	
C1.2.1	Inverter use - overload regime	HD or ND
C1.3.1	Switching frequency - user	
C2.1.1	Motor data - motor type	Induction or PM
C3.1.1	Configuration - control type	
C2.1.2	Motor data - motor power unit	HP/cv or kW
C2.1.3	Motor data - rated power	
C2.1.4	Motor data - rated voltage	
C2.1.5	Motor data - rated current	
C2.1.6	Motor data - rated frequency	
C2.1.8	Motor data - rated speed	
C2.1.9	Motor data - rated efficiency	
C2.1.10	Motor data - rated cos phi	
C2.1.11	Motor data - service factor	
C2.1.12	Motor data - ventilation	

SoftPLC Programming

■ CFW11

- The SoftPLC function is programmed through the WLP software (WEG Ladder Programmer).
- The WPS software (WEG Programming Suite) can be used to parameterize the CFW11 and monitor the variables read by the drive. Data is stored in the drive memory.

■ CFW900

- The WPS software (WEG Programming Suite) in the CFW900 is used both to program the SoftPLC function and to parameterize the drive and monitor the variables.

The WPS software is more modern and user friendly than the WLP. Although both software applications use Ladder language, **programs created in WLP cannot run in WPS and vice versa**, that is, if your customer uses a CFW11 with a specific program in the SoftPLC, this program cannot simply be copied and used in the WPS. In this case, if the customer exchanges his CFW11 for a CFW900, the SoftPLC Ladder program must be rewritten.

SoftPLC Memory

SoftPLC Memory	CFW11	CFW900
	15 KB	128 KB

The CFW900 has a larger native memory for SoftPLC programs than the CFW11.

However, with the CFW11, it's possible to use an accessory called **PLC11** that increases the SoftPLC memory to **320 KB**. It is worth noting that, in the CFW11, the available memory for the SoftPLC Ladder program is shared with the memory for variables created by the user and with the Trace function, when it is active. In the CFW900 the 128 KB memory is exclusive for the Ladder and the user variables occupy separate memory areas.

Another CFW900 advantage is that it counts with the option of using a **MicroSD** card of up to 32 GB, as an accessory. With this card, you can add the following functions to the application and the inverter:

- *Copy of parameters from one VSD to others, or parameters backup.*
- *Drive Scan data storage (saves data to upload to the cloud when internet connection is re-established).*
- *Firmware update.*

Driving efficiency and sustainability



Access: weg.net

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The values shown are subject to change without prior notice.
the information contained is reference values.