



CFW900

System Drive

Launch



CFW900

System Drive



Flexibility

**Intelligent thermal
management**

Connectivity



Graphic HMI

**Safety
functions**

MAIN FEATURES OF THE STANDARD CFW900



CFW900 – SYSTEM DRIVE

- *IoT - Ready VFD* with MQTT protocol and the most popular network communication protocols among the most demanding customers: Modbus-RTU, EtherNet/IP, Modbus-TCP
- VVW scalar control, Vector (*Sensorless* and with *Encoder*), and VVW PM for permanent magnet motors
- Smart thermal management
- Advanced energy saving
- *Plug-and-play* expansion modules
- Functionalities built into the standard version:
 - Dual DC bus chokes
 - Dual port Ethernet, RS485, USB & Bluetooth®
 - Advanced SoftPLC function
 - Built in 800 mA @ 24Vdc Power supply; can also accept external 24VDC Control Power Supply for redundancy
 - Graphic HMI with *Help* function, Bluetooth, and USB Port
 - Built-in RFI filter
 - Safety functions: STO and SS1, SIL3, cat. 4 / Ple
 - 6 x DIs, 2 x DOs, 3 x Ros, 2 x AIs, 2 x AOs





APPLICATIONS and SEGMENTS

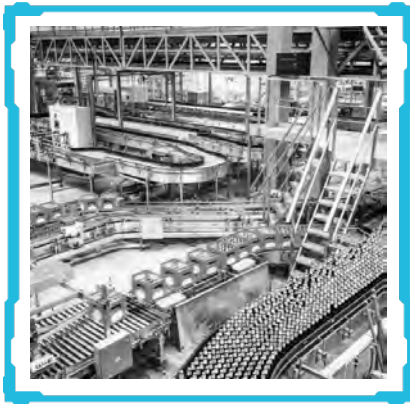
CFW900 SYSTEM DRIVE

SEGMENTS



CFW900 – SYSTEM DRIVE

Food and Drinks



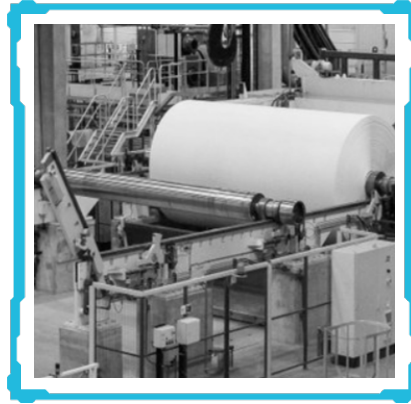
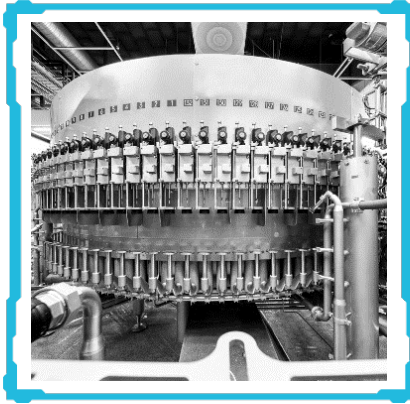
Pulp and Paper



Sugar and Alcohol



Cement and Mining



APPLICATIONS

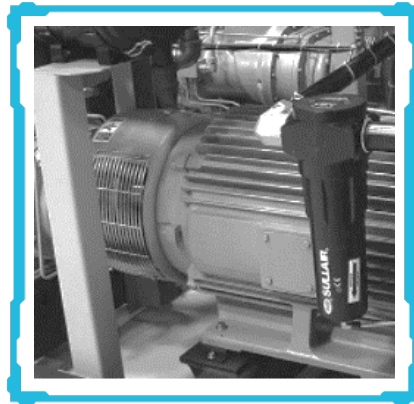


CFW900 – SYSTEM DRIVE

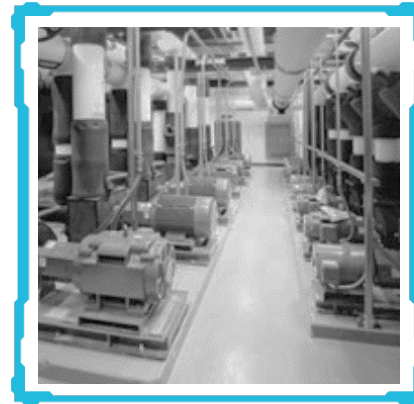
Cargo Handling



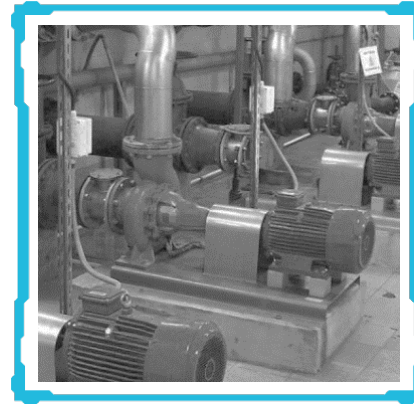
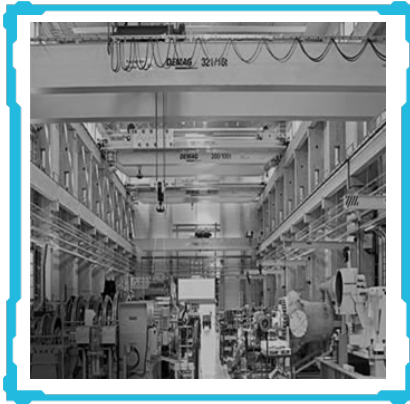
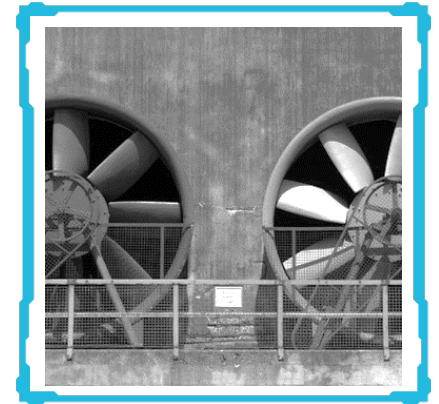
Compressors



Pumps



Ventilation



TECHNICAL CHARACTERISTICS

CFW900 SYSTEM DRIVE

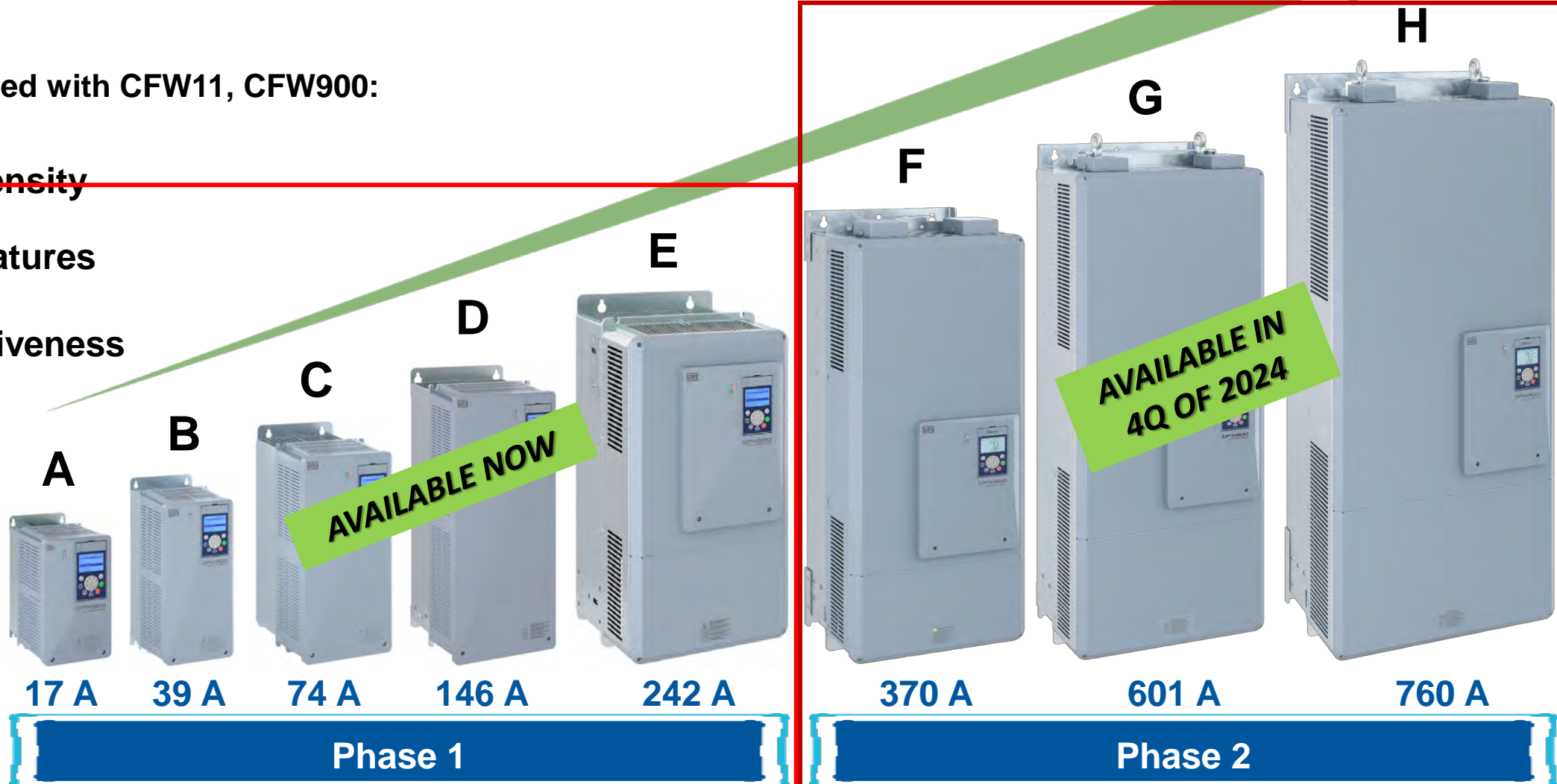
CFW900 POWER RANGE



CFW900 System Drive – Frames & Current Ranges

When compared with CFW11, CFW900:

- ↑ Power Density
- + Native features
- + Competitiveness



PERFORMANCE



CFW900 – SYSTEM DRIVE

- More memory and processing power
- 10% more efficient than the CFW11 on average
- New algorithms for motor control and self-tuning, which allows driving more demanding loads (dynamic applications with high overload)
- Available for launch:
 - Induction motor:**
 - ✓ Vector control: *sensorless* and with *encoder*
 - ✓ V/F and VVW scalar control
 - PM Motor:**
 - ✓ VVW PM Control
- Auxiliary functions (e.g., DC link regulation, *Ride Through*) with better performance and easy programming
- Specific PWM Modulation function for operation with long cables from the VFD output to the motor, without the need for an output filter up to 200 m



SMART THERMAL MANAGEMENT



CFW900 – SYSTEM DRIVE

- Sturdiness and reliability, reducing the downtime for system maintenance
- Automatic adjustment of the switching frequency; the motor keeps running in adverse conditions of higher temperature
- Reduces the need for VSD oversizing for applications with possible operation at high temperatures
- Protection of the VSD components increasing their service life
- Heatsink fan turns on and off automatically, ensuring efficient airflow through the cabinet and lower power consumption

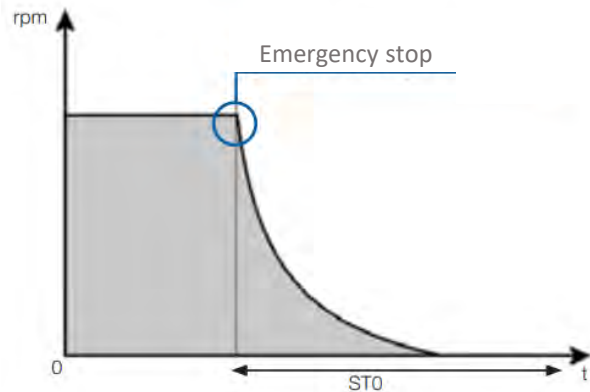


SAFETY FUNCTIONS - STO and SS1

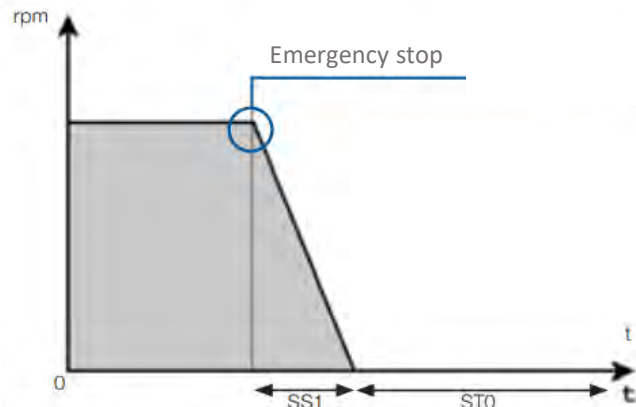


CFW900 – SYSTEM DRIVE

STO



SS1

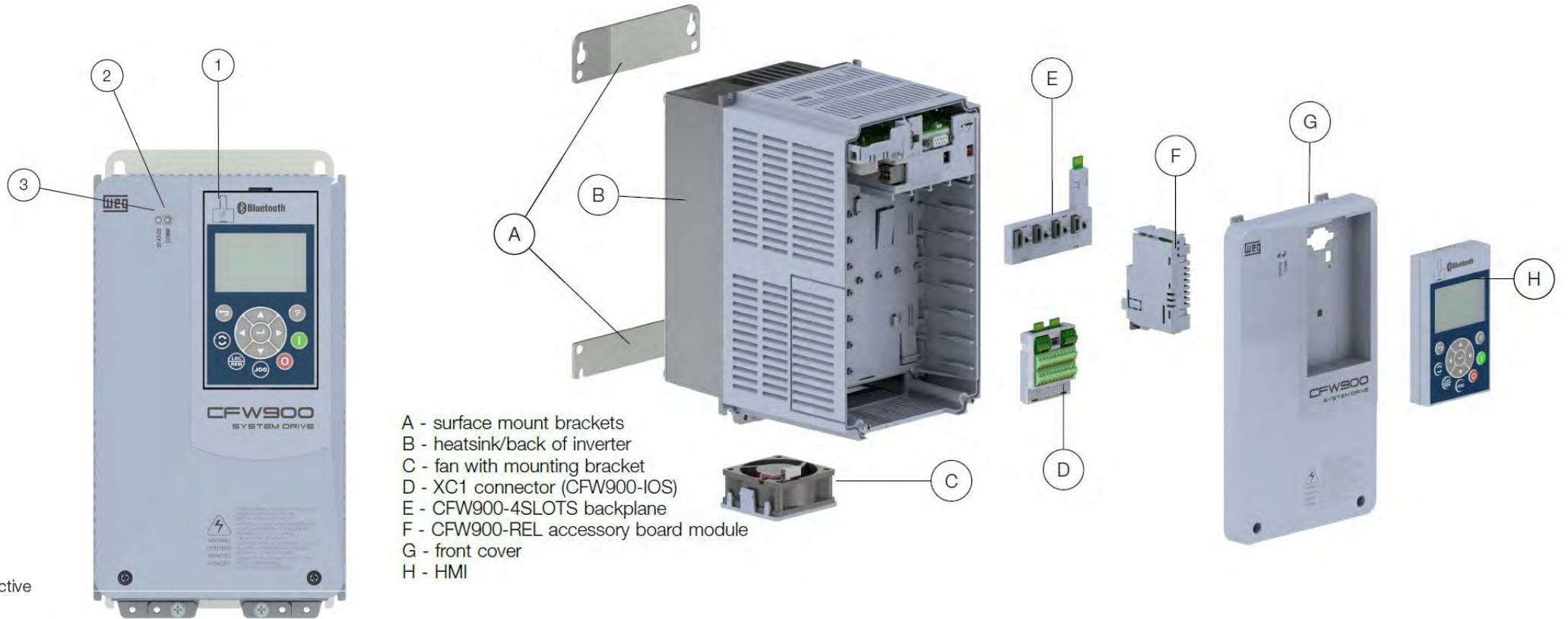


- The CFW900 has the STO and SS1 functions integrated in the standard product.
- STO/SS1 Functions - Compliance with SIL 3 / PL e safety performance requirements.
- Lower risk of unexpected and hazardous motions in industrial equipment and processes.
- Self-monitoring safety circuit, enabling installations without external safety relays.

MAIN COMPONENTS



CFW900 – SYSTEM DRIVE



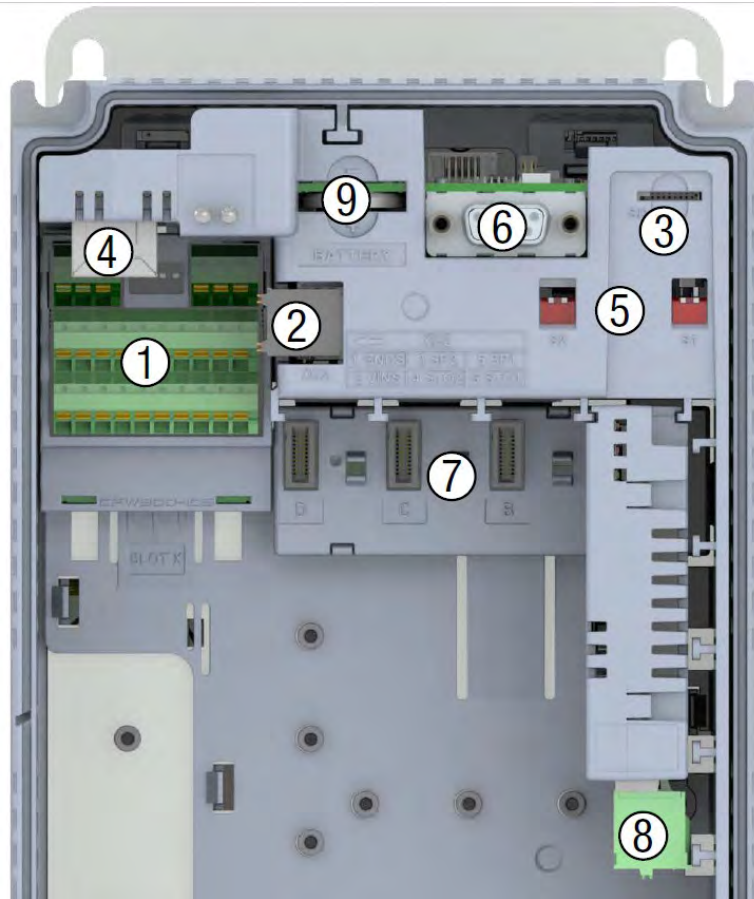
- A - surface mount brackets
- B - heatsink/back of inverter
- C - fan with mounting bracket
- D - XC1 connector (CFW900-IOS)
- E - CFW900-4SLOTS backplane
- F - CFW900-REL accessory board module
- G - front cover
- H - HMI

- 1 USB Connector
- 2 Communication LED
Off: communication inactive
On/flashing: communication active
- 3 Status LED
Green: normal operation
Yellow: alarm condition
Red: protection tripping condition

CFW900 CONTROLS



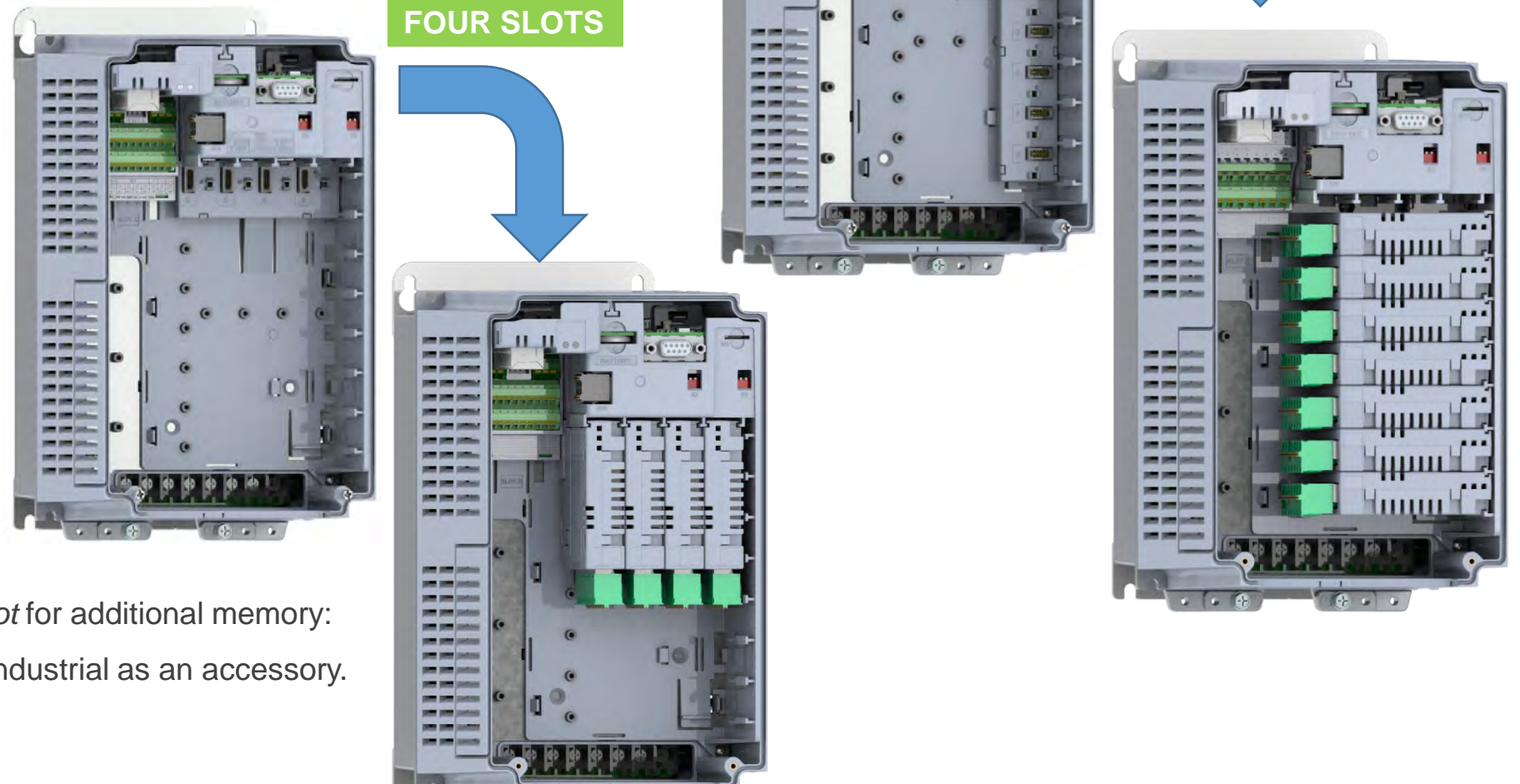
CFW900 – SYSTEM DRIVE



Item	Description
1	Connector XC1 (CFW900-IOS)
2	Connector XC2 (Safety module)
3	XC3 connector (MicroSD card slot)
4	XC4A and XC4B connectors
5	DIP switches S1 and S2: Safety module configuration
6	XC6 connector: DB9 for connecting the HMI/remote HMI
7	Backplane CFW900-4SLOTS:
8	XC30 (CFW900-REL-01)
9	CR2032 battery for real time clock

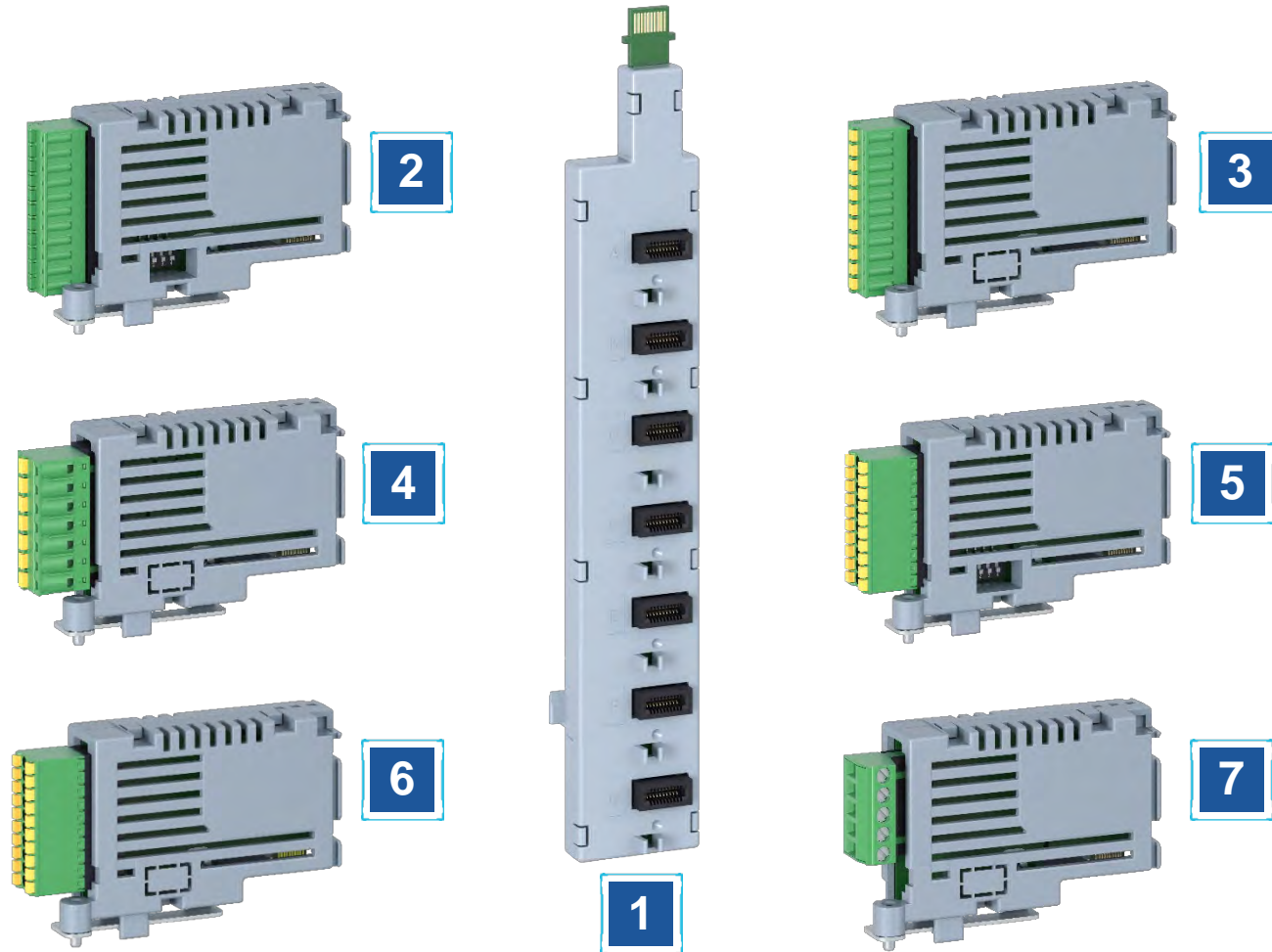
FLEXIBILITY

- 4 Slots with the possibility of expansion to 7 Slots;
- Position for accessory modules is not fixed, allowing the installation of more modules of the same type;



- The CFW900 has a *slot* for additional memory: 8GB MicroSD card – industrial as an accessory.

FLEXIBILITY



1. CFW900-7SLOTS FUNCTION EXPANSION
MODULE

2. CFW900-IOAI-01 CONTROL MODULE

3. CFW900-ENC-01 CONTROL MODULE

4. CFW900-REL-01 CONTROL MODULE

5. CFW900-TEMP-01 CONTROL MODULE

6. CFW900-IOD-01 CONTROL MODULE

7. CFW900-CCAN-W COMMUNICATION MODULE

BUILT-IN GRAPHIC HMI

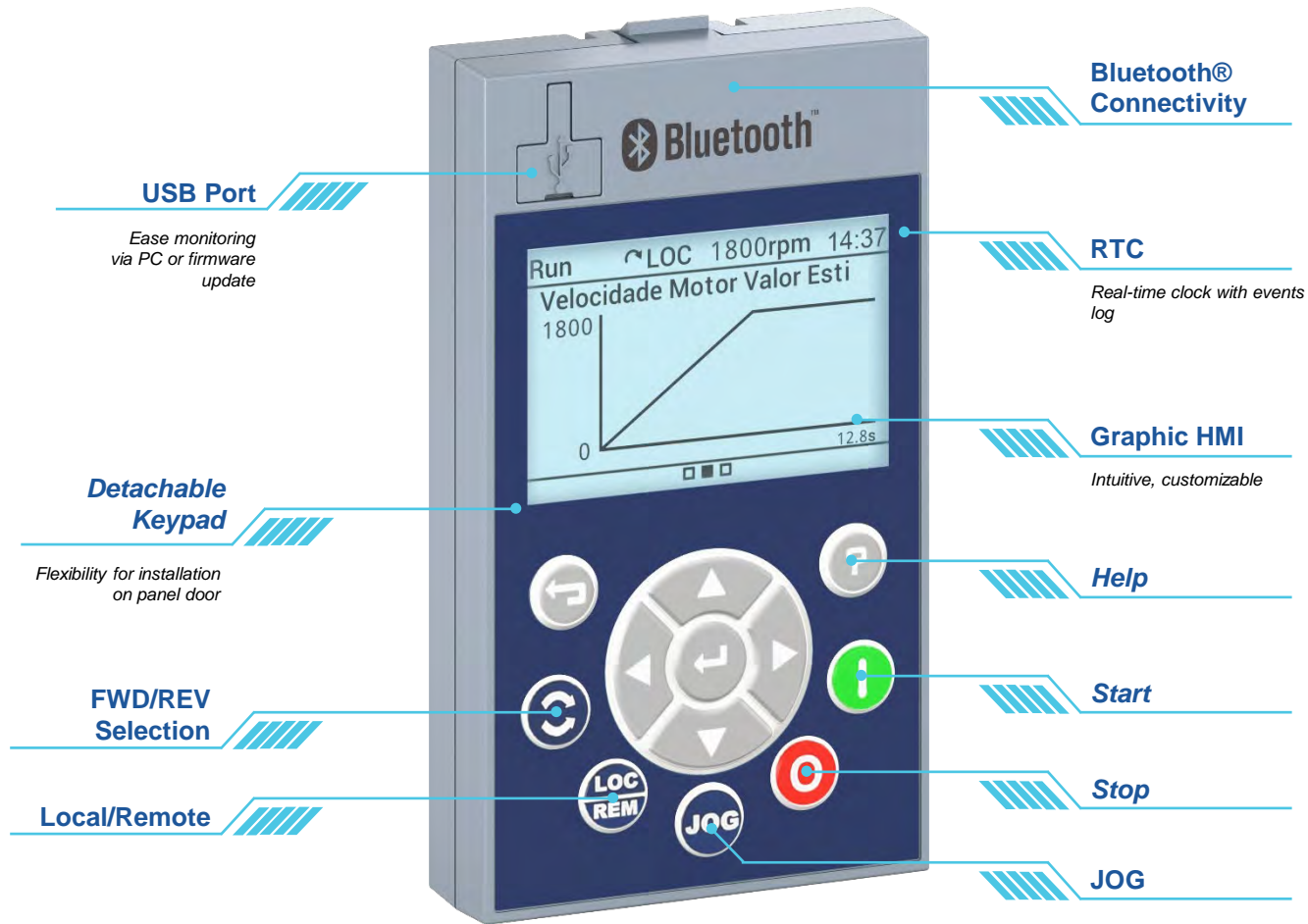
CFW900 – SYSTEM DRIVE



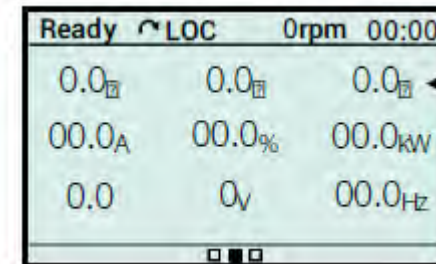
- User-friendly programming.
- *Soft keys*: easy access to parameters.
- Parameter groups: access directed to variables.
- Graphic *display with backlight*.
- USB port.
- The menus are divided into levels, containing menus and submenus.
- There are three main screens, which can be configured to display up to nine variables each, with possibility of customization.
- Language selection: Portuguese, Spanish and English (Other languages under development).

BUILT-IN GRAPHIC HMI

CFW900 – SYSTEM DRIVE



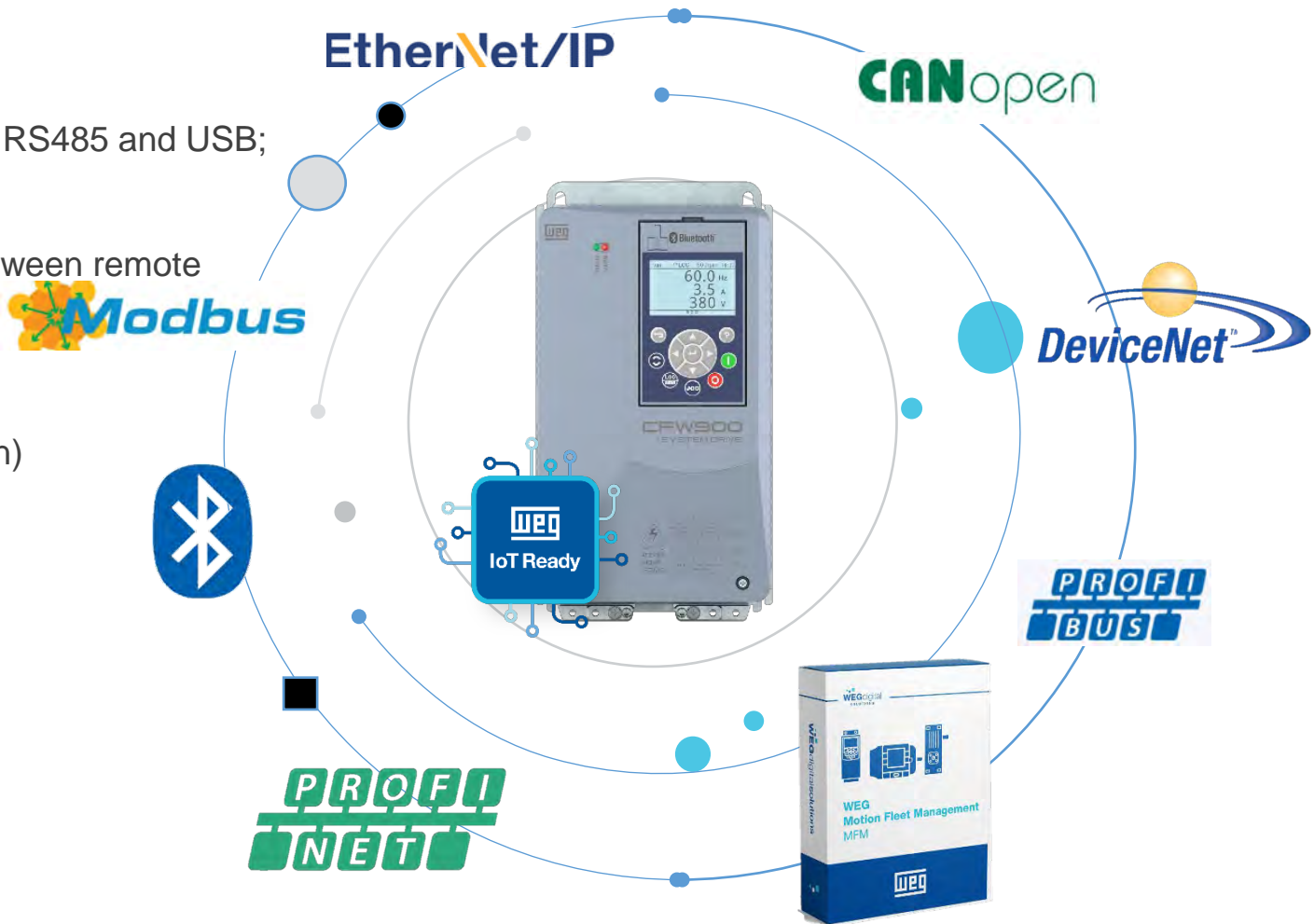
- There are three main screens, which can be configured to display up to nine variables each, with possibility of customization



CONNECTIVITY

CFW900 – SYSTEM DRIVE

- Available physical ports: dual port Ethernet, RS485 and USB;
- IoT ready product;
- MQTT protocol: ideal for communication between remote devices. High service quality, higher security level, easy implementation;
- Bluetooth (WPS Mobile and Desktop version)
- WPS Mobile and WPS PC version;
- Fieldbus (industrial Networks):
 - ✓ Modbus-RTU / TCP-IP
 - ✓ CANopen
 - ✓ DeviceNet
 - ✓ EtherNet/IP¹
 - ✓ Profibus-DP¹
 - ✓ PROFINET IO¹
 - ✓ EtherCAT¹



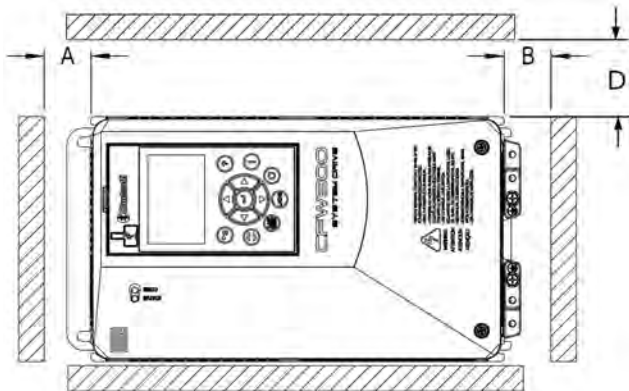
Note: 1) Under development.

MECHANICAL CHARACTERISTICS

CFW900 – SYSTEM DRIVE

- Flange mounting (IP55 / UL Type 12) Dual ambient temperature rating, one for the back (power circuit) and one for the front (control circuit)
- Reduced need for forced panel ventilation when flange-mounted.

Horizontal mounting (up to frame size C)



SOFTPLC FUNCTION

CFW900 – SYSTEM DRIVE

- Built-in PLC with advanced features¹; no need to include additional PLC modules.
- Programmable through *WPS software*.
- Quick diagnostics and copy of parameter settings to the PC.
- Online programming transfer and monitoring.
- Ladder programming language.



Free software! Visit: www.weg.net

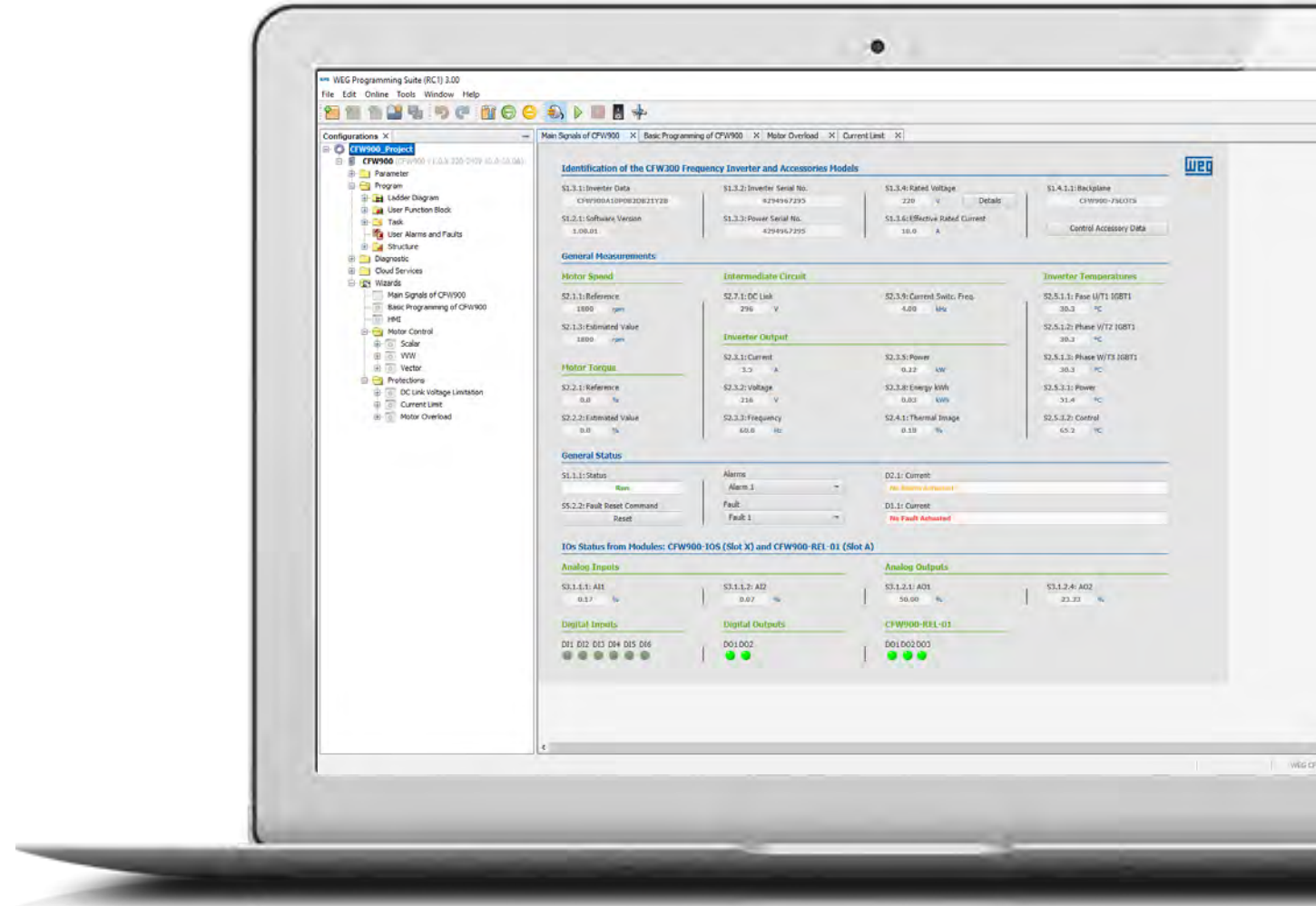
Note: 1) New functions under development.

CFW900 – SYSTEM DRIVE

PC Version

- Ladder programming language
- Real-time graphical monitoring
- Parameter setting, parameter *backup*
- Fault, alarm and event log
- VSD *firmware* update
- Communication with CFW900 through ports:
Ethernet, RS485 and USB

Free software! Visit: www.weg.net



CFW900 – SYSTEM DRIVE

- New dedicated configuration wizard for the CFW900

Free software! Visit: www.weg.net

Signal	Value	Unit	Status
AI1	19/20	0.17 %	
AI2	21/22	0.08 %	
AO1	1/3	50.00 %	
AO2	2/3	23.33 %	
DI1	Run/Stop DI		10 ●
DI2			11 ●
DI3			12 ●
DI4			13 ●
DI5			14 ●
DI6			15 ●
DO1	No Fault		23 ●
DO2	Run		24 ●

CFW900 – SYSTEM DRIVE

- New dedicated configuration wizard for the CFW900

Free software! Visit: www.weg.net

Identification of the CFW300 Frequency Inverter and Accessories Models

S1.3.1: Inverter Data CFW900A10P0B2DB21Y2B	S1.3.2: Inverter Serial No. 4294967295	S1.3.4: Rated Voltage 220 V	S1.4.1.1: Backplane CFW900-7SLOTS
S1.2.1: Software Version 1.00.01	S1.3.3: Power Serial No. 4294967295	S1.3.6: Effective Rated Current 10.0 A	Control Accessory Data

General Measurements

Motor Speed	Intermediate Circuit	Inverter Temperatures
S2.1.1: Reference 1800 rpm	S2.7.1: DC Link 296 V	S2.5.1.1: Fase U/T1 IGBT1 30.3 °C
S2.1.3: Estimated Value 1800 rpm	Inverter Output	S2.5.1.2: Phase V/T2 IGBT1 30.3 °C
Motor Torque	S2.3.1: Current 3.5 A	S2.5.1.3: Phase W/T3 IGBT1 30.3 °C
S2.2.1: Reference 0.0 %	S2.3.2: Voltage 216 V	S2.5.3.1: Power 51.4 °C
S2.2.2: Estimated Value 0.0 %	S2.3.3: Frequency 60.0 Hz	S2.5.3.2: Control 65.2 °C

General Status

S1.1.1: Status Run	Alarms Alarm 1	D2.1: Current No Alarm Actuated
S5.2.2: Fault Reset Command Reset	Fault Fault 1	D1.1: Current No Fault Actuated

IOs Status from Modules: CFW900-IO5 (Slot X) and CFW900-REL-01 (Slot A)

Analog Inputs	Analog Outputs
S3.1.1.1: AI1 0.17 %	S3.1.2.1: AO1 50.00 %
S3.1.1.2: AI2 0.07 %	S3.1.2.4: AO2 23.33 %
Digital Inputs	Digital Outputs
D11 D12 D13 D14 D15 D16	DO1 DO2
● ● ● ● ● ●	● ●

Motor Overload Protection

Overload Protection Level

C7.4.1: Protection Enable
Fault/Alarm

Actuation of the Motor Overload Ixt Curve

C7.4.6: Motor Thermal Class
Class SE

Warm Start Motor Overload Curves

Graph showing Protection Actuation Time vs. Output current / Overload current. The graph displays several curves for different overload levels: 100%, 86%, and 62%.

Motor Overload Alarm / Fault

S2.3.1: CURRENT
3.5 A

D4.1.5.1: IXT MOTOR LEVEL
14 %

S2.4.1: THERMAL IMAGE
0.30 %

C7.4.2: IXT ALARM LEVEL
70 %

A045 ALARM

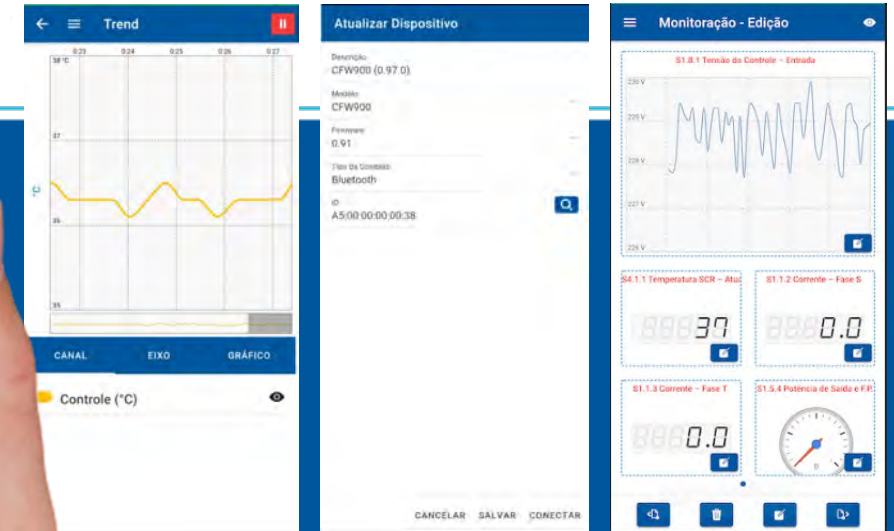
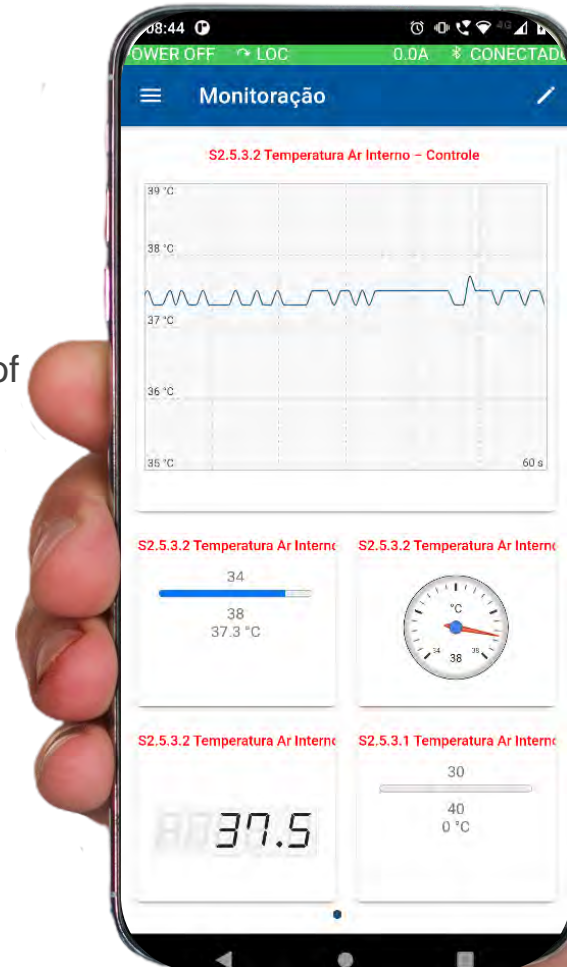
100.0%

F072 OVERLOAD FAULT MOTOR DISABLED

WPS - Mobile

CFW900 – SYSTEM DRIVE

- Parameter setting
- Parameter monitoring with *layout*
- Customized components
- *Backup*, restoration and comparison of parameters
- Trends
- Bluetooth connection with CFW900





AVAILABLE VERSIONS

CFW900 SYSTEM DRIVE

AVAILABLE VERSION

CFW900 – SYSTEM DRIVE

Protection Rating
IP20 *standard*



AVAILABLE VERSION

CFW900 – SYSTEM DRIVE



Protection Rating IP21

Frame A with kit IP21 - "CFW900-IP21A" accessory.



UL Type 1

Frame A with UL Type 1 kit - "CFW900-KN1A" accessory.

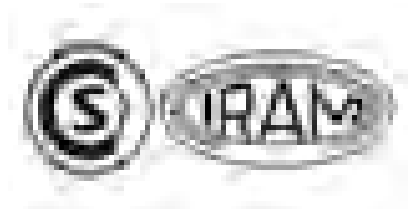
CERTIFICATIONS

CFW900 SYSTEM DRIVE

CERTIFICATIONS



Coming soon





MARKET POSITIONING

CFW900 SYSTEM DRIVE

POSITIONING

CFW900 – SYSTEM DRIVE

- **Flexible** – Possibility of slot expansion and built-in advanced PLC functions.
- **Robust** – 150% overload for 1 minute.
- **Efficient** – Simplifies operation with excellent performance / Reaches higher energy efficiency levels.
- **Reliable** – Thermal management for adverse situations.
- **Safe** – Built-in safety functions.
- **Compact** – Among the most compact models in the Premium Drives category.
- **Connected** – Ready for cloud communication.

The CFW900 VSD is a high-performance product rated as WEG Premium AC Drives.

The main features of this product are the on-board technology, which provides flexibility to solve different types of application, and its connectivity.

+ ADVANTAGES

CFW900 – SYSTEM DRIVE



- Easy operation
- Shorter commissioning time
- More memory and processing power



- MQTT protocol in the standard product (device to cloud)
- Bluetooth on standard product
- Practical monitoring: WPS Mobile app
- WPS: New dedicated setup wizard



- Wide power range in a small size
- New book-type cabinet design



- Technological update of the components
- Advanced energy saving function for induction motors
- New advanced algorithms for motor control



- Safety functions without the need for an additional accessory;
- Compliance with IE2 efficiency class, maximum Eco Design rating – IEC 61800-9



- Modern graphic HMI
- Menus are divided into levels
- Help Function



- Intelligent thermal management

CFW900 SYSTEM DRIVE



**CFW900
Questions?**