PLCs – Programmable Logic Controllers PLC200/PLC201

Power in processing, **flexibility** in programming

Driving efficiency and sustainability

SUMMARY

30%

90%

weg

PLC
200

STA
ETH
SER
PWR

COM
B+
A-
SH
24V
COM
O1
O2
O3
O4
24V
COM
I1
I2
I3
I4
I5
I6
I7
I8

RS485

OUTPUTS

INPUTS

1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
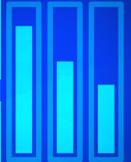
PLC200
Compact
in size,
**powerful
in control.**

Power in processing, flexibility in programming

The **PLC200** is a **Small- to Medium-sized Programmable Logic Controller**, compact in size, robust in performance and modular in programming. It is a solution that uses WEG's technology and the WPS® platform flexibility, enabling the development of flexible and efficient solutions. With high-performance hardware, it is possible to perform tasks such as timing, counting, mathematical operations, interlocking logic, PID control and much more.
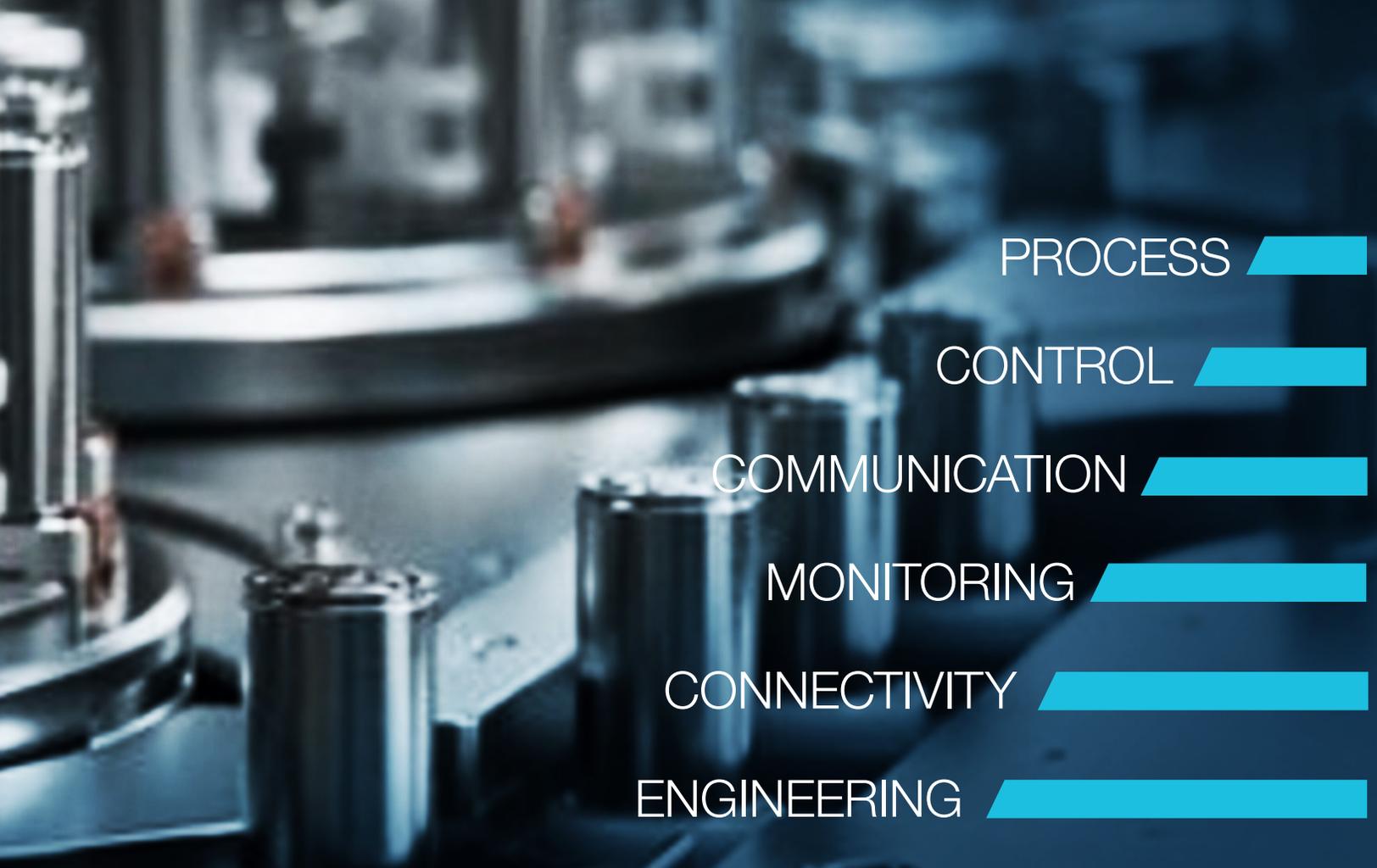
PROCESS

CONTROL

COMMUNICATION

MONITORING
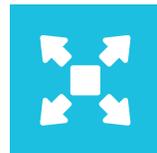
CONNECTIVITY

ENGINEERING

Highlights

Get the best
performance through
powerful hardware

Compact
design

Expandable
modular design

Easily add
new expansions,
Plug & Play

Add up to eight
expansion modules
locally

WEG IoT Ready

Development of high-level solutions with WPS®

Develop your solutions on the PLC200 through the WPS® programming platform and enjoy the best practical and intuitive tools for programming and developing solutions more efficiently, saving time and accelerating your startup.


The PLC200 is a high-performance programmable logic controller ideal for small- and medium-sized applications.
Modular and configurable hardware designed to deliver maximum productivity using WEG WPS® software.

International programming standard

Develop your solution using a programming platform, created following international programming standards (IEC 61131-3). The WPS® offers programming flexibility with both Ladder Logic (LD) and Structured Text (ST).

Ladder (LD)
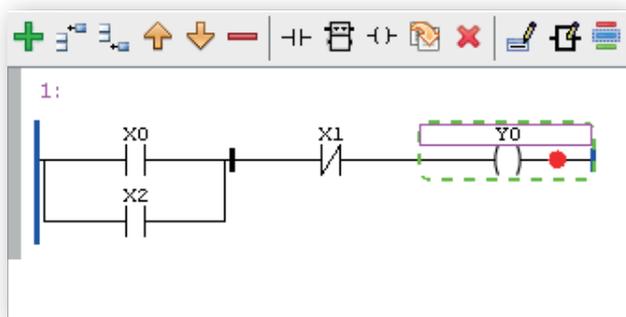
Structured Text (ST)

The WPS® programming platform allows the user to create and debug the complete solution, bringing more integration and flexibility to the daily routine.

Provided free of charge; visit **WPS® - WEG Program Suite** and download your updated version of the WPS®.

Perform complex tasks with high performance processing

Mounting bracket latch

Ethernet port
MQTT / Modbus TCP / EtherNet/IP (Adapter)

LEDs
Visual status indication

Expansion port cover
Isolates the contacts from the external environment, increasing the connection's durability

PLC200
RS485 connector
Modbus RTU

PLC201
CAN connector
CANopen

Contact between expansions

Expansion modules connection
A full selection of I/O modules, interchangeable across the entire portfolio series

Fast outputs
PWM - 300 kHz

Fast inputs
Connection of up to 4 dual-channel encoders

Connectors
Quick-connect power and I/O connectors

USB C device port
Simplified Firmware Updates, Programming, and Monitoring

Have more flexibility to develop your automation

The PLC200/PLC201 programmable logic controllers were developed on a platform that allows the interchangeability of the MOD expansion modules used in the RUW200, PLC410 and PLC500 lines. That provides high flexibility and synergy between our product line, all of which follows the Plug & Play concept.

Complete line of expansions
The same expansion modules used in the PLC500, PLC410 and RUW200 remote units can be used in the PLC200

Expansion boards with numerous possibilities:
- Thermocouple (J, K and T)
- RTD (Pt100 and Pt1000)
- Load cell
- Relay outputs
- Digital inputs and outputs
- Analog inputs and outputs

Expansion port cover
Isolates the contacts from the external environment, increasing the connection's durability.

Quick connectors
Power supply, inputs and outputs

Greater savings with a space-efficient installation
Expansion modules less than 1 inch wide

Complete, reliable, connected and efficient

In the era of Industry 4.0, where productive flexibility, adaptability, big data and cloud computing are requirements for more efficient and reliable operation, programmable controllers are part of a fundamental ecosystem, where they are responsible for collecting data and sending it to the cloud service.

The PLC200 was developed to be such controller, using the MQTT protocol as factory default, so the manufacturing plant operation is integrated with operational data, creating operational intelligence.
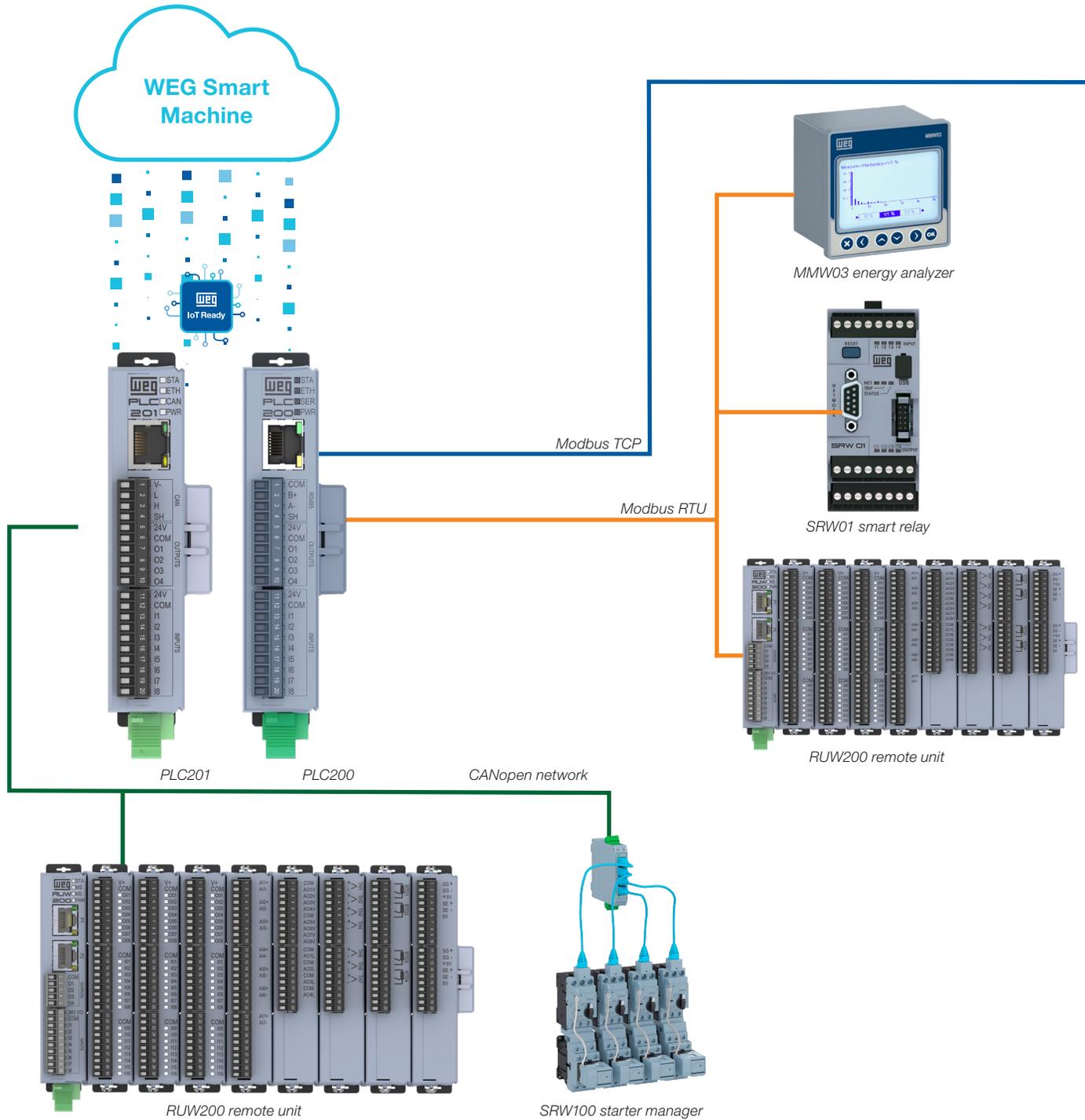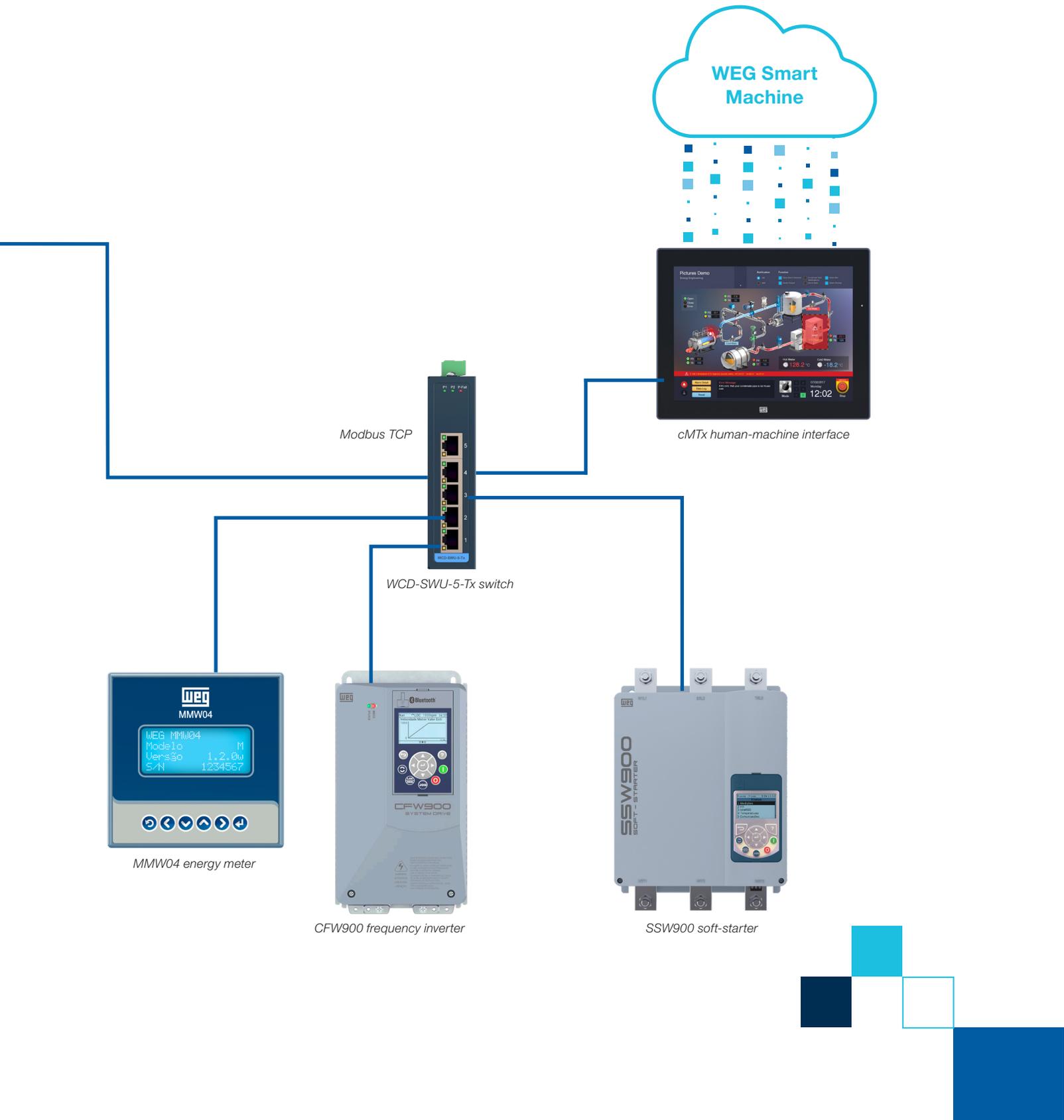
Main characteristics

- Cloud-based solution: software always up-to-date, enabling updated information in real time, anywhere.
- Optimal use of resources.
- Reduced machine downtime and higher performance.
- Configurable and customizable dashboards and reports, with various graphic and analytical views.
- OEE monitoring and creation of KPIs.
- Collection, view and history of process and production data.
- Customizable anomaly alarms, which can be sent by e-mail and SMS.

- Simplified machine location.
- Co-creation of applications.
- Integration with other platforms, such as ERP, MES.
- Creation of new business models for machine manufacturers: opportunity to sell service to end customers.
- Development of predictive maintenance and control strategies (connectivity with WEG Motor Scan).
- Monitoring of machine devices, such as sensors, PLCs, drives and operating interfaces.

Increase your productivity with flexibility and high performance

Connectivity

WEG Smart Machine

IoT Ready

MMW03 energy analyzer

SRW01 smart relay

RUW200 remote unit

Modbus TCP

Modbus RTU

PLC201

PLC200

CANopen network

RUW200 remote unit

SRW100 starter manager

Modbus TCP

MQTT

EtherNet/IP™

Modbus RTU

CANopen

WEG Smart Machine

Modbus TCP

cMTx human-machine interface

WCD-SWU-5-Tx switch

MMW04 energy meter

CFW900 frequency inverter

SSW900 soft-starter

Modbus TCP

MQTT

EtherNet/IP

Modbus RTU

CANopen

Have even more flexibility for your application with the "remote function" of the PLC200

The PLC200/PLC201 programmable logic controllers can also be used as a remote station for **Modbus RTU[1)]**, **Modbus TCP, EtherNet/IP[2)]** and **CANopen[3)]** networks for connecting inputs and outputs already incorporated and as a complement with the "MOD" expansion modules in the Plug & Play concept, which are accessible through parameters without the need for local programming at remote stations, thus enabling distributed automation with centralized programming and interoperability with supervision systems (SCADA) and operating interfaces such as HMIs.
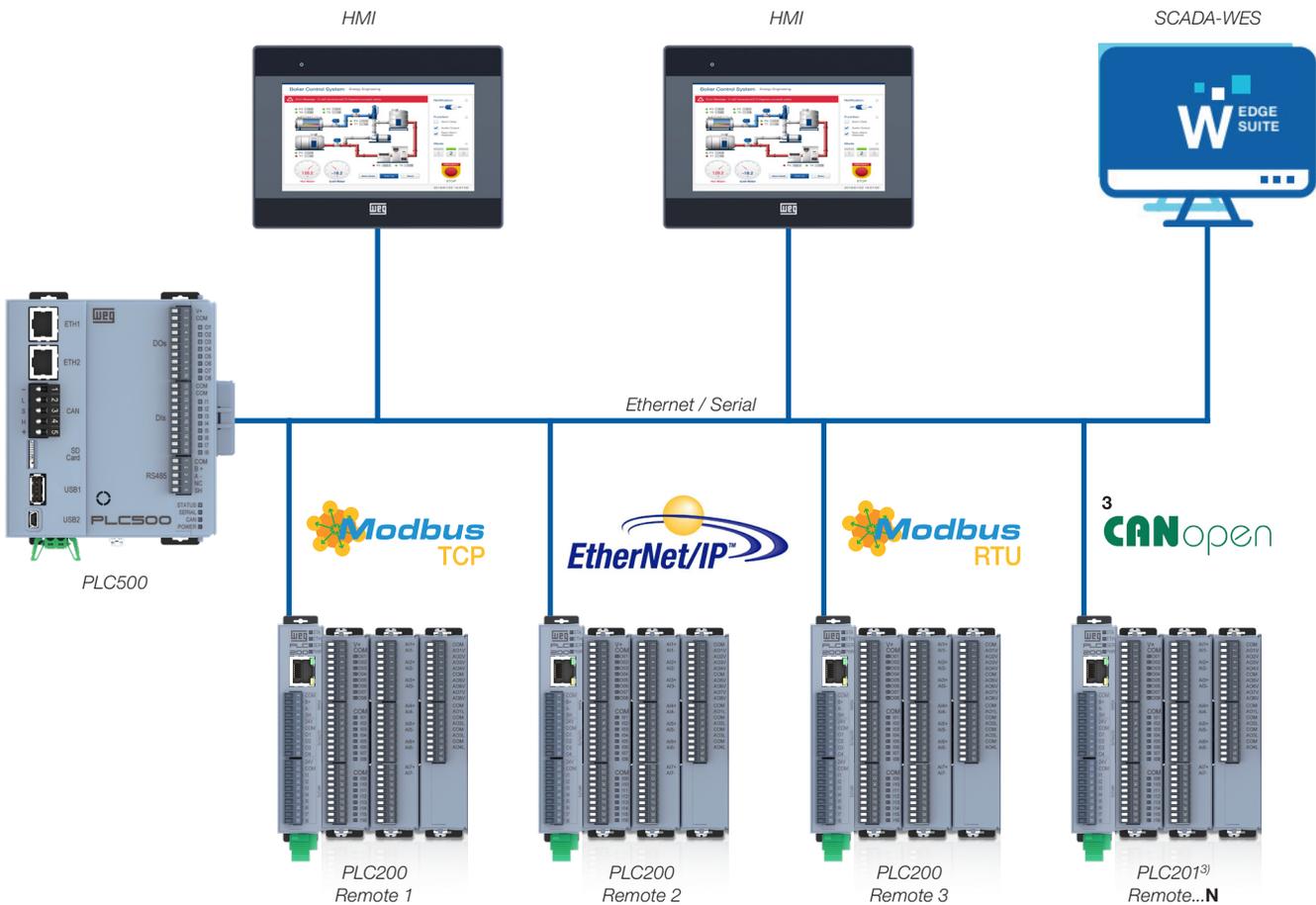
Notes: 1) Modbus-RTU protocol available only on PLC200.
2) The PLC200 has the EtherNet/IP protocol (Adapter), can be used as a remote station and does not support the EtherNet/IP protocol (Scanner).
3) CANopen protocol available only on PLC201.

Specifications

| Versions		PLC200	PLC201
Power supply		24 V$_{DC}$ (V min.: 20.4 V$_{DC}$ / V max.: 28.8 V$_{DC}$)	
		Power supply: minimum recommended capacity 2 A	
		CPU consumption in normal operation: 100 mA (without accessories and without active communication networks). This value may vary due to CPU mounting plus expansion boards.	
Processor		Single Core @400 MHz	
Scan cycle time	10 thousand instructions	Total time: 2.2ms	
	Per instruction	220ns	
Memory	Flash / Source code	1 MB	
	RAM / Volatile data	128 KB	
	RAM / Retentive data	4 KB	
Maximum instruction capacity		Approximately 80 thousand simple instructions	
Digital inputs		8 DI x PNP	
		Fast inputs: DI1 to DI8 - 150 kHz per channel	
		Maximum input voltage 28.8 V	
		High level: Vin ≥ 10 V$_{DC}$	
		Low level: Vin ≤ 5 V$_{DC}$	
		Consumption @ 24 V$_{DC}$: 0.74 mA	
		Insulation voltage: 500 V	
		Max. DI number via expansion boards: 200 points + remote units via Fieldbus	
Digital outputs		4 DO (DO1...DO4–PNP)	
		Recommended voltage V+: 24 V$_{DC}$	
		Maximum voltage V+: 28.8 V$_{DC}$	
		Maximum frequency of PWM outputs: 300 kHz	
		Maximum current of outputs DO1...DO3: 100 mA/output	
		Max. number of DOs via expansion boards: 196 points + remote units via Fieldbus	
Communication ports	Serial CAN	-	CANopen Maximum number of slaves: 126
	Serial RS485	Modbus RTU (master/slave) Maximum number of slaves: 246	-
	Ethernet	1x Port 10/100 (RJ45) – MQTT / EtherNet/IP (Adapter) / Modbus TCP (master/slave) Maximum number of Modbus slaves: undefined	
	USB C device	Program transfer and monitoring	
Maximum number of expansion boards		8[1]	
Software		WPS®	
Cloud solutions		WEG Smart Machine - WEGnology	
Programming language		LD (ladder) – ST (structured text)	
Operating temperature		0 °C ~ 50 °C (32 °F ~ 122 °F)	
Storage temperature		-25 °C ~ 60 °C (-13 °F ~ 140 °F)	
Protection rating		IP20	
Pollution degree		2 (according to EN 50178 and UL 508C), with non-conductive pollution	
Altitude		1,000 m (3,300 ft). Above 1,000 m up to 4,000 m (3,300 ft to 13,200 ft), the output current must be derated by 1% for every 100 m (328 ft)	
Mounting		On DIN rail or on panel with screws	
Certifications		UL / CE	
Dimensions (H x W x D)		133.6 x 25 x 98.2 mm (4.72 x 0.98 x 3.86 in)	
Weight		0.350 kg (0.771 lbs)	

Note: 1) For further information on mounting limitations, refer to the product user manual (chapter 11 - Expansion Modules).

Dimensions

PLC200/PLC201

| Dimension reference	A	B	C	D	E	F	G	H	I
Dimension in mm (in)	115.7 (4.56)	25 (0.98)	34 (1.33)	123.1 (4.84)	19 (0.74)	117.1 (4.61)	35.5 (1.4)	57.9 (2.28)	89.4 (3.52)
Fixing screw	M3 Ø 3.1 (0.122)								
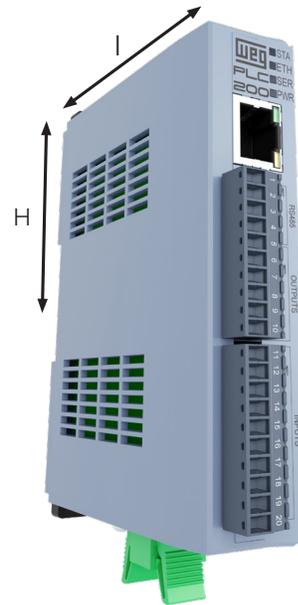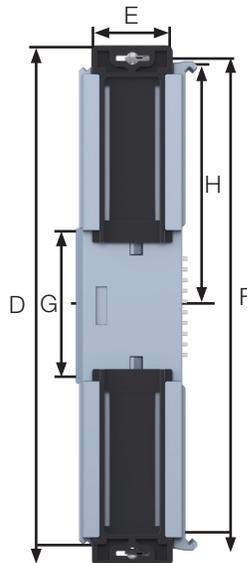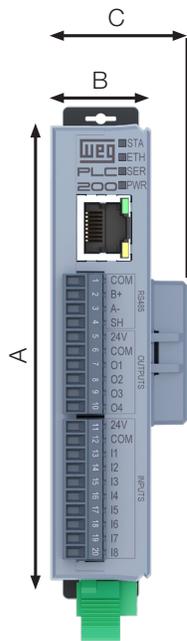
Simple and quick expansion module installation

Connection of the expansion module

Connecting the expansion modules is quick and simple:

1 Remove the module cover.

2 Add the expansion module by sliding it in until it is fully aligned with the back.

3 Attach the cover to the last expansion module.
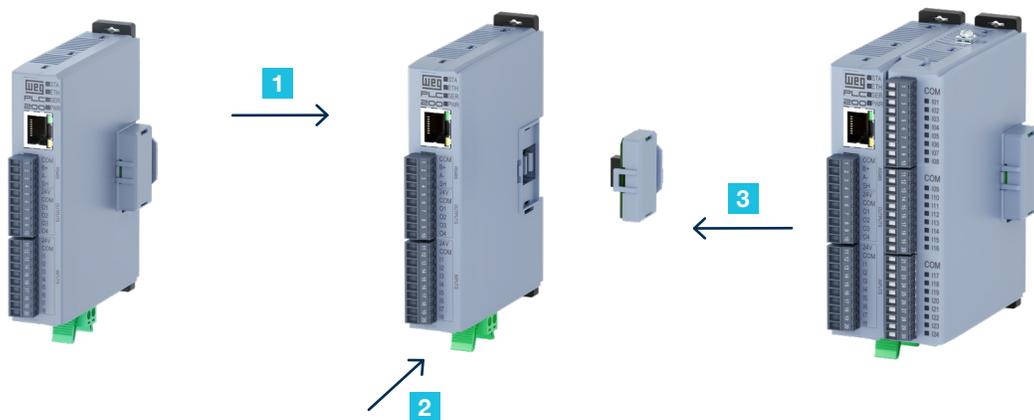
Specifications

The user easily and quickly installs the expansion modules on the RUW200 through the Plug & Play concept. When the RUW200 is powered up, the electronic circuit identifies the number of connected expansions, the model and the firmware version of each one. They also receive an address according to their position so that it is possible to access them through the communication bus.

Expansion units

Reference	Internal current consumption[1] (mA)	Inputs					Outputs		
		Bidirectional digital	Voltage or current analog	J, K and T type thermocouple	Pt100 and Pt1000 type RTD	Load cells	Isolated digital PNP (500 mA)	Analog in voltage (0-10 V) or current (0 - 20 mA)	Analog in voltage (0 - 10 V)
MOD1.00-24DI	0	24	-	-	-	-	-	-	-
MOD1.10-24DO	0	-	-	-	-	-	24	-	-
MOD1.20-16DO08DI	0	8	-	-	-	-	16	-	-
MOD1.30-8DO16DI	0	16	-	-	-	-	8	-	-
MOD2.00-7AI	40	-	7	-	-	-	-	-	-
MOD3.00-8AOVI	150	-	-	-	-	-	-	4	4
MOD4.00-7TH	0	-	-	7	-	-	-	-	-
MOD5.00-4RTD	0	-	-	-	4	-	-	-	-
MOD6.00-2SG	30	-	-	-	-	2	-	-	-

Note: 1) The sum of internal current consumption of MOD modules is limited to 300 mA and with a maximum number of eight modules per PLC200/PLC201. If this value is exceeded, an error will be generated in the WPS® programming software.

# Technical characteristics - expansion units

General technical characteristics		
Digital inputs	Type	Bidirectional
	Maximum input voltage	+28.8 V
	Voltage levels for detection	High level: Vin ≥ 10 V / Low level: Vin ≤ 3 V
	Consumption	24 V: 10 mA
	Insulation voltage	500 V
Analog inputs	Type	Current or voltage input
	Voltage range	0 to 10 V differential
	Common mode voltage limits	-10 to 10 V
	Current range	0 to 20 mA
	Resolution	24 Bits
Digital outputs	Type	PNP
	Recommended voltage	+24 V
	Maximum voltage	+28 V
	Max. current per output	500 mA
Current analog outputs	Max. current	20 mA
	Maximum load	500 Ω
	Resolution	16 Bits
Thermocouple inputs	Type	J, K and T
RTD input	Type	Pt100 and Pt1000 with two or three wires[1]
Load cell input	Type	4 or 6 wires
Relay output	Type	Isolated outputs
	Maximum load	7 A - 250 V_{AC}, resistive load / 5 A - 30 V_{DC}, resistive load
Operating temperature		0 °C to 45 °C
Air relative humidity		Air relative humidity: 5% to 90% non-condensing
Protection rating		IP20
Pollution degree		2 (according to EN 50178 and UL 508C), with non-conductive pollution
Altitude		1,000 m (3,300 ft). Above 1,000 m up to 4,000 m (3,300 ft to 13,200 ft), the output current must be derated by 1% for every 100 m (328 ft) above 1,000 m (3,300 ft)

Note: 1) A three-wire model is required to perform the wire resistance compensation.

Dimensions

Expansions

Dimension reference	A	B	C	D	E	F	G	H	I	J
Dimension in mm (in)	115.7 (4.56)	25 (0.98)	19 (0.74)	123.1 (4.84)	19 (0.74)	117.1 (4.61)	35.5 (1.4)	57.9 (2.28)	89.4 (3.52)	31.6 (1.25)
Fixing screw	M3 Ø 3.1 (0.122)									

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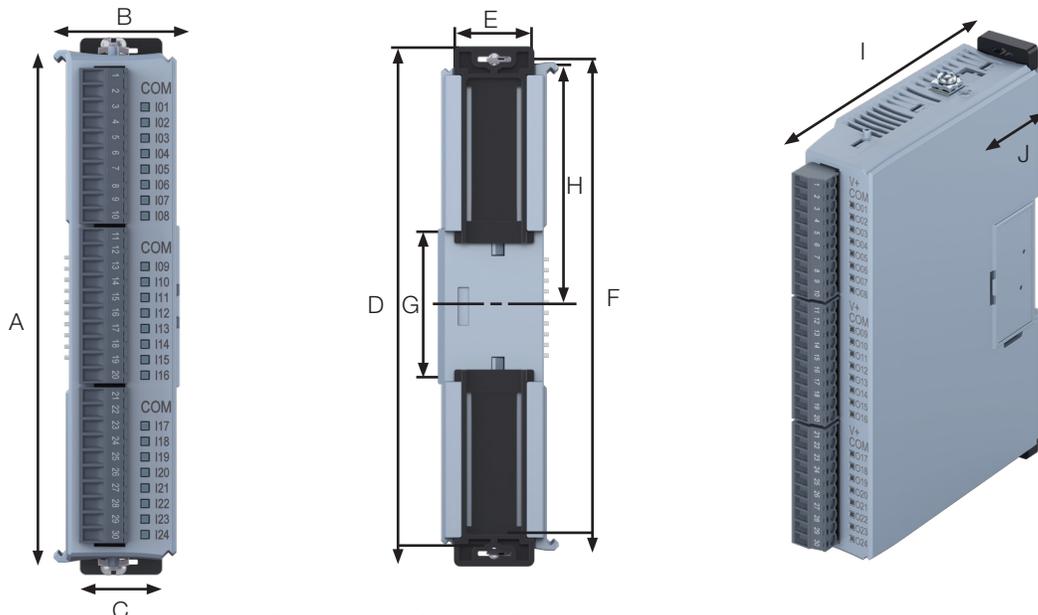
Global presence
is essential, as much as understanding your needs.

Global Presence

With more than 47,000 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 the **PLC200/ PLC201 PLCs – Programmable Logic Controllers** are the right choice for your application and business, assuring safety, efficiency and reliability.
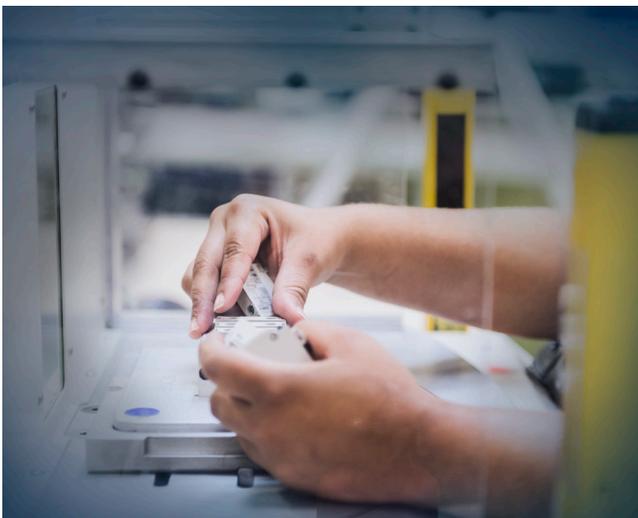
Availability is having a global support network

Partnership is creating solutions that suits your needs

Competitiveness is combining technology and inovation

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High performance and reliable products to improve your production process.

Excelence is to provide a whole solution in industrial automation that improves our customers productivity.

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is not limited to products and solutions
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