

PLC – PLC500

Programmable Logic Controller

Power in
processing,
flexibility in
programming

Industrial Motors

Commercial &
Appliance Motors

Automation

Digital &
Systems

Energy

Transmission &
Distribution

Coatings



Driving efficiency and sustainability





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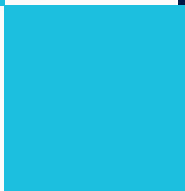
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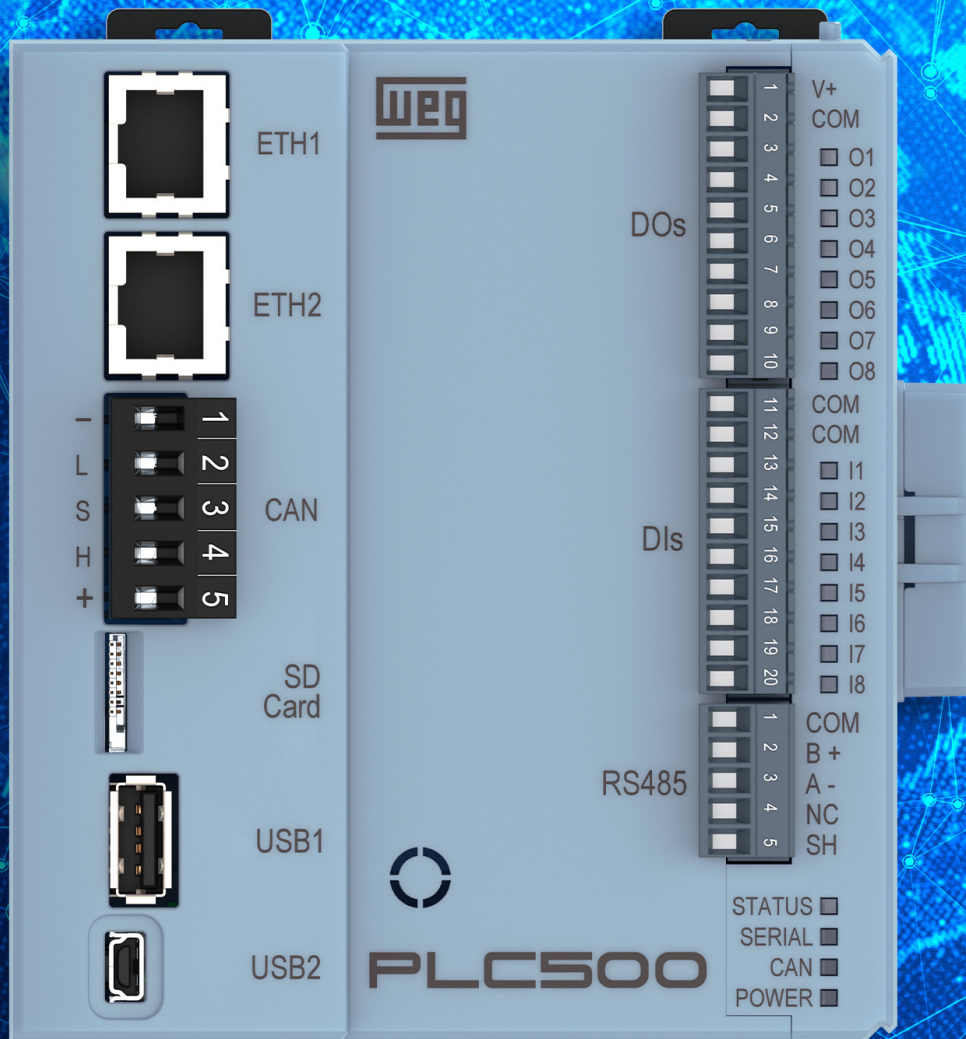
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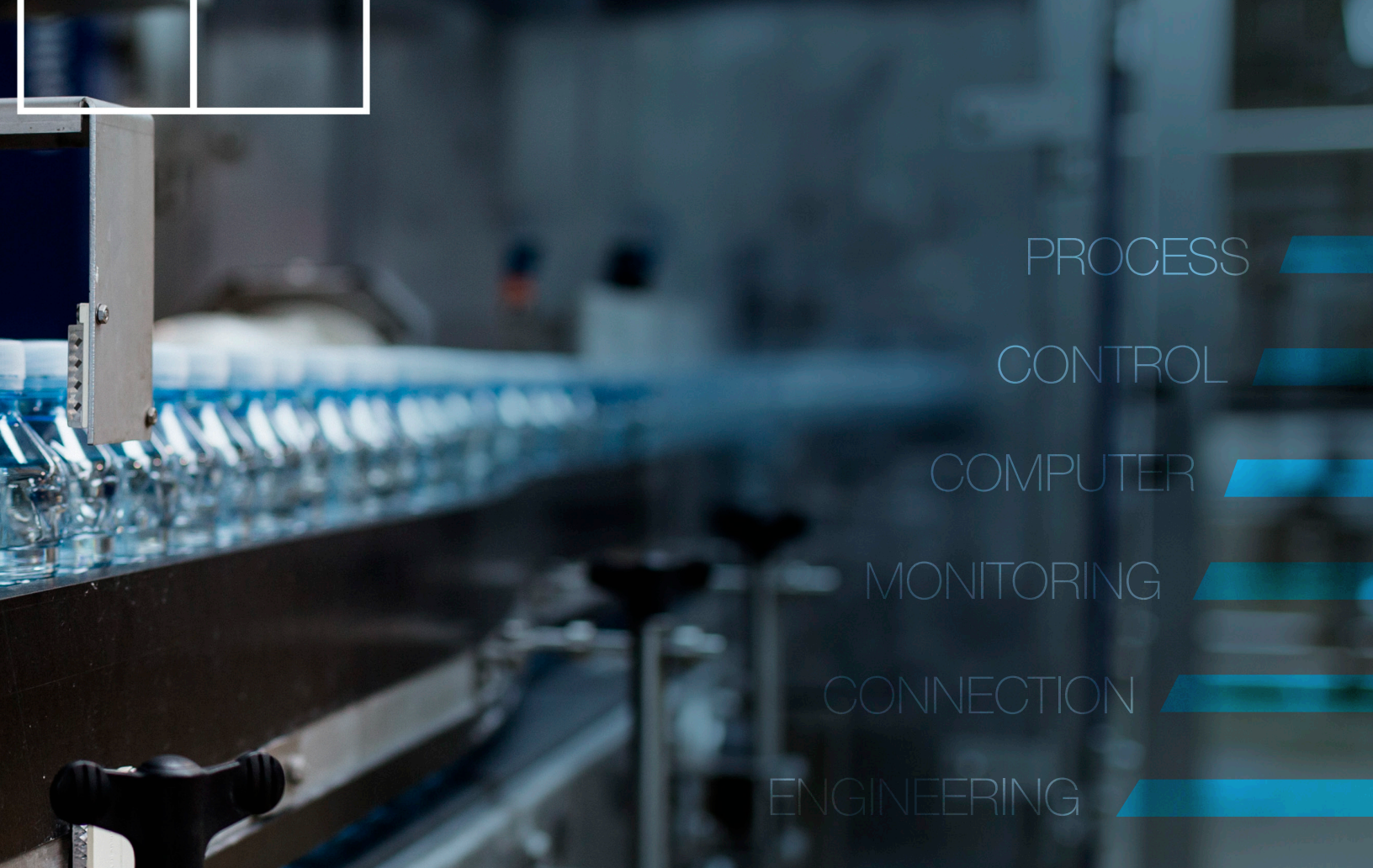
Power in processing, flexibility in programming

PLC500 is a **Medium-sized Programmable Logic Controller**,

compact in size, robust in performance and modular in programming. It is a solution that uses WEG technology and the CODESYS® platform flexibility, allowing the development of flexible and efficient solutions. With high-performance hardware, it is possible to perform highly complex tasks,

such as timing, counting, basic and advanced math operations, interlocking logic, PID control and much more. All of this is achieved at high speed and with maximum operational accuracy.





Maximum efficiency in highly complex tasks

Highlights



Develop your solutions
on the CODESYS®
platform



Get the best
performance through
powerful hardware



Compact
design



Expandable
modular design



Easily add new
expansions,
Plug & Play



Add up to 8
expansion modules
locally



Reuse your programs
through the object-
oriented programming
concept



Centralized
development
platform



Designed for the
industrial environment



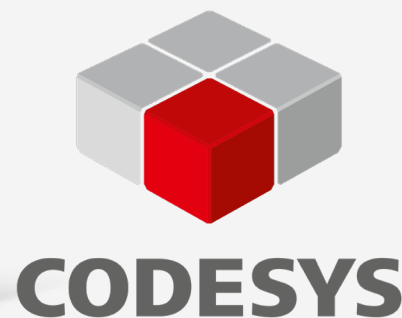
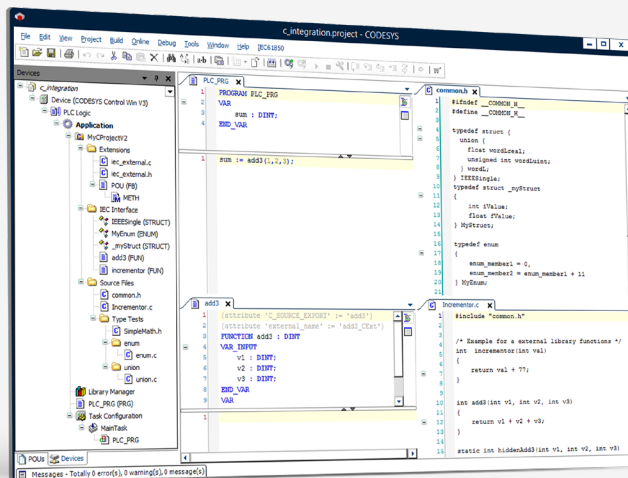
Cost
reduction

The robustness of the CODESYS® platform with WEG technology

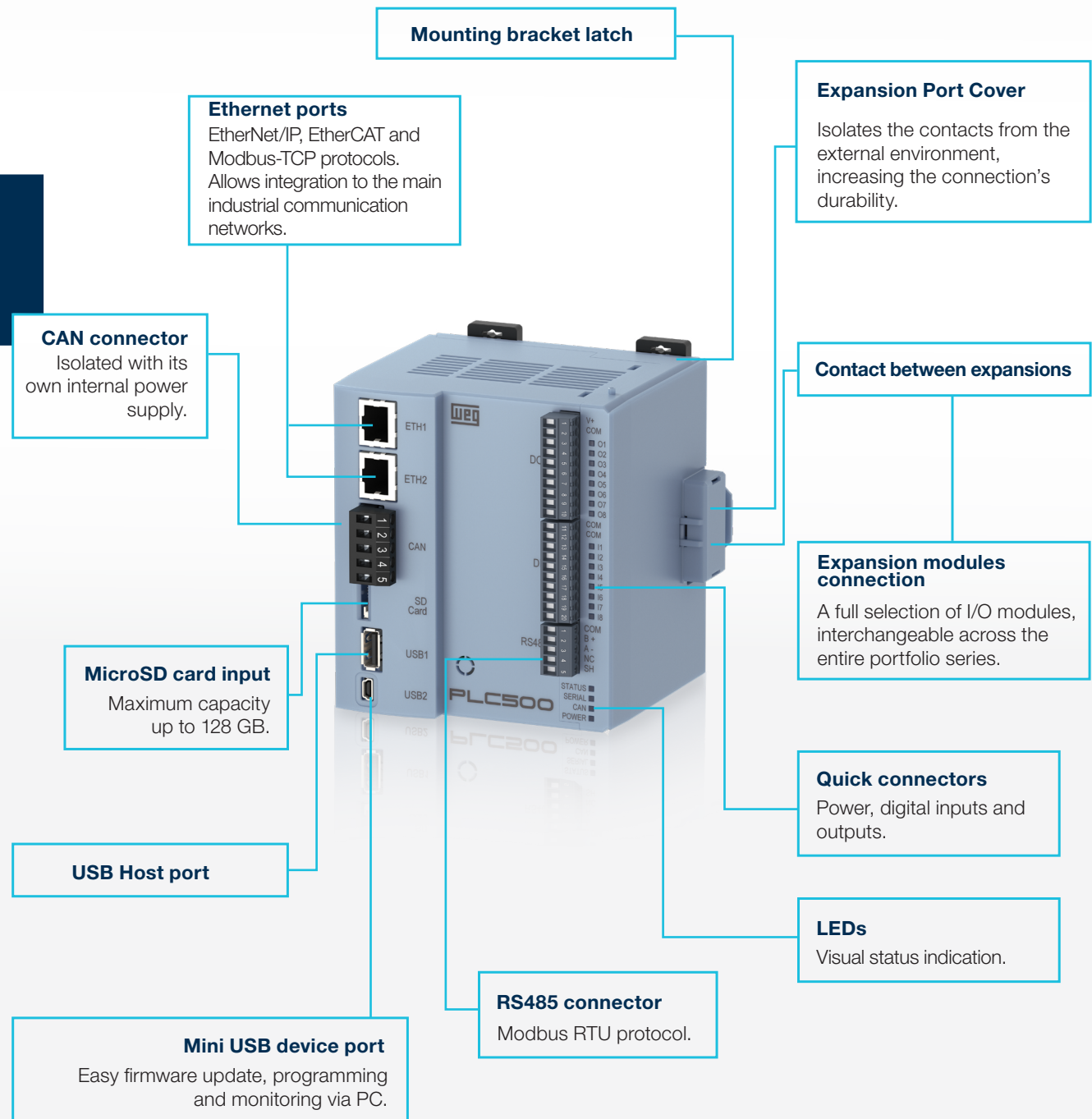


The high processing performance that simplifies the simultaneous handling of highly complex tasks is one of the main advantages of the PLC500. Efficiently modular, WEG's Medium-Sized Programmable Logic Controller combines powerful hardware, intelligent software, great memory capacity and the flexibility of the CODESYS® platform.

Especially developed for industrial automation, with open interfaces and several native functions, it also has an online platform for free download of functions (Codesys Store). The CODESYS® development platform is free and based on the IEC 61131-3 programming standard, which offers integrated solutions for developing, configuring and simulating efficient, fast and flexible applications that simplify commissioning and daily tasks.



Perform complex tasks with high performance processing



Perform complex tasks with high performance processing

Developed to be a high performance medium-sized controller with embedded IIoT function, the PLC500 allows you to obtain maximum performance from your applications, optimizing time and increasing your productive and operational efficiency. Flexibility is another unique feature of this solution, enabling numerous protocols to be available in a single product, without the need for additional communication modules.

Features

Built in connectivity and IIoT

Available protocols and IIoT services:

- Web Client SL
- MQTT Client SL
- Mail Service SL
- SMS Service SL
- SNMP Service SL
- Supported SNMP Versions
- SNTP Service SL
- AWS IoT Core Client SL
- Azure IoT Hub Client SL
- JSON Web Token SL
- Web Socket Client SL

MicroSD card slot

Maximum capacity up to 128 GB.

USB Ports

1x USB Host Port.
1x Mini USB Device Port for programming and monitoring via PC.

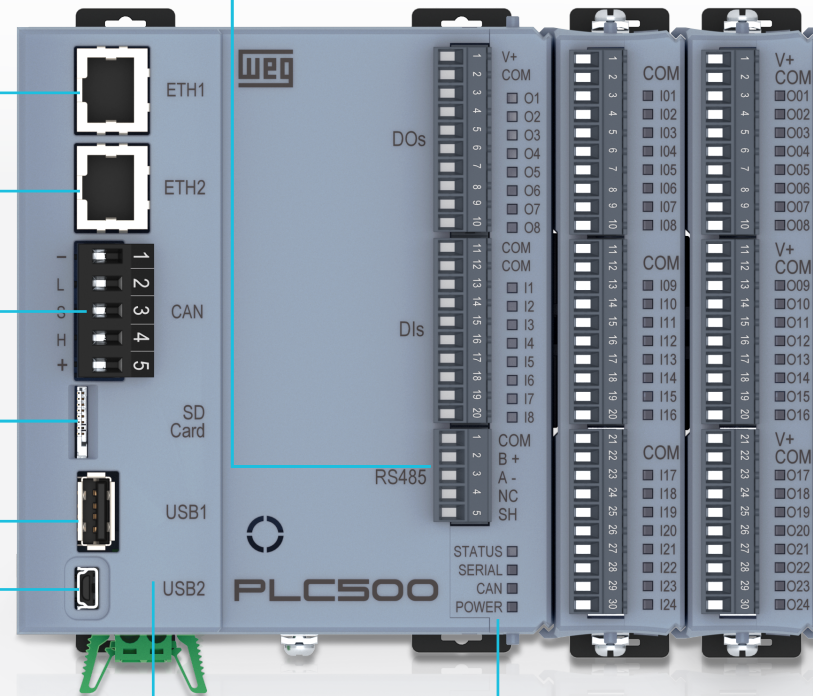
Smart CPU

CODESYS® solution development platform, greater operational stability and smart tools.



Ports and protocols

2x Gigabit Ethernet Ports (EtherNet/IP-Adapter, Modbus TCP-Client/Server and EtherCAT-Client), 1x CAN Port (CANopen-Master) and 1x RS485 (Modbus RTU Master/Slave). Allows integration to the main industrial communication networks.



Status LEDs

Visual status indication.

Add more flexibility to develop your automation

The PLC500 Programmable Controller was developed on a platform that allows the interchangeability of the MOD expansion cards used in the RUW100 line of remote units. That provides high flexibility and synergy between our product line, all of which following the Plug & Play concept.

Complete line of expansions

The same expansion cards used in the RUW100 remote units can be used in the PLC500.

Expansion cards 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

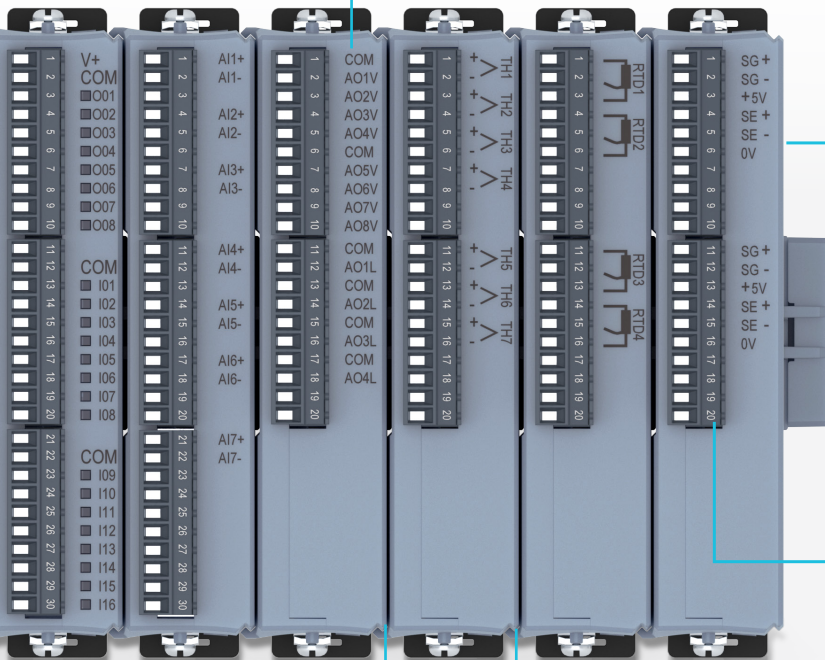
Isolates the contacts from the external environment, increasing the connection's durability.

Quick connectors

Power supply, inputs and outputs.

Greater savings with a space-efficient installation

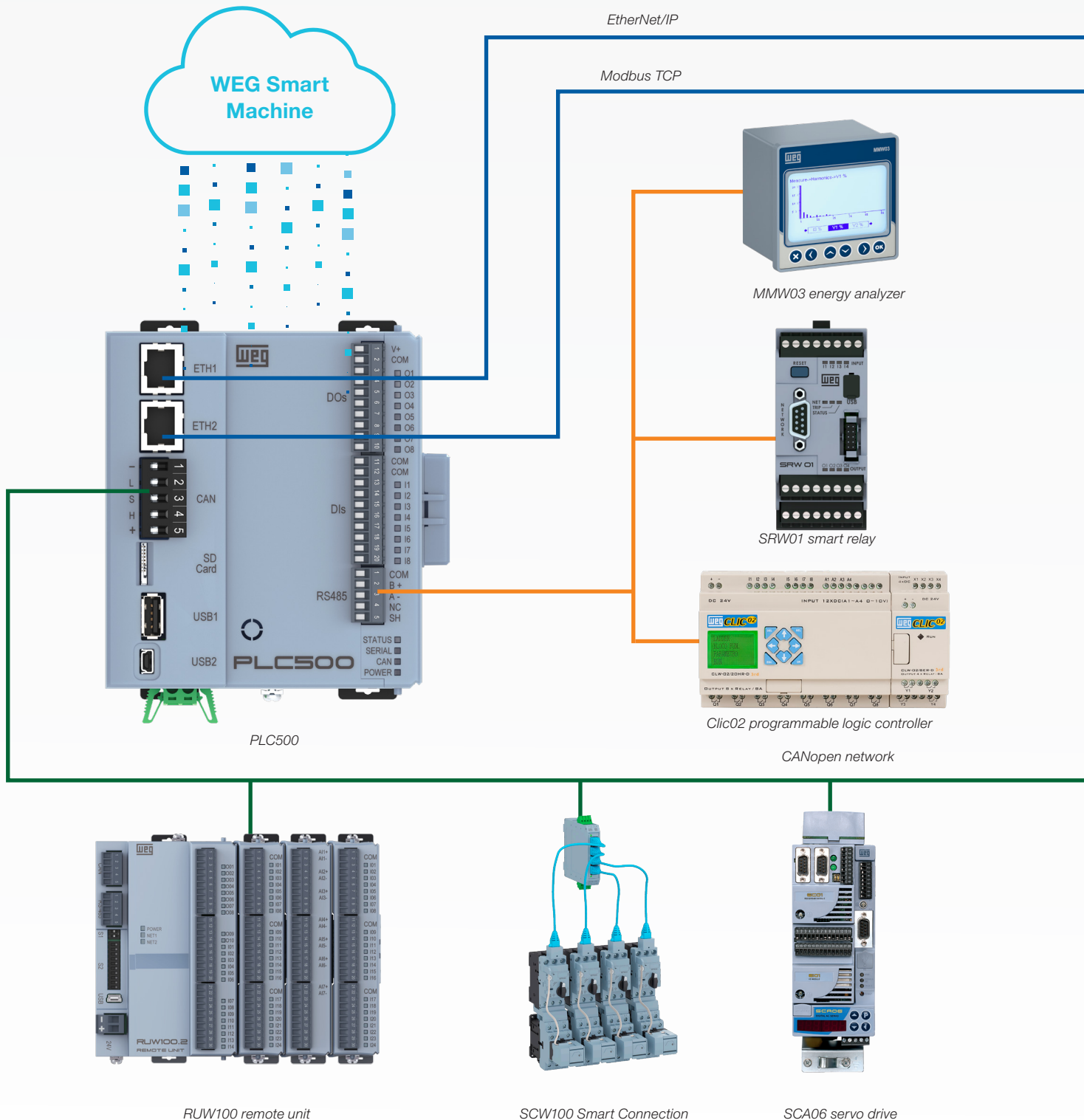
Expansion cards less than 1 inch wide



To learn more,
[click here.](#)

Increase your productivity with flexibility and high performance

Connectivity





WCD-ED300 edge computing device



WCD-SWU-5-Tx switch

Modbus TCP



cMTx human-machine interface



Supervisory system



SSW07 Soft-Starter



SSW900 Soft-Starter



CFW500 VSD



CFW900 VSD

EtherCAT®

EtherNet/IP™

Complete, reliable, connected and efficient

Especially developed for machine manufacturers, WEG Smart Machine is WEG's Cloud Computing-Based platform that allows OEMs to monitor the performance and operation of their machines anywhere in the world.

WEG Smart Machine, by means of the PLC500 and WCD-ED300 Gateway, enables machine manufacturers to offer new services to their customers and machine operators, such as remote assistance and operation alerts through configurable alarms, maintenance schedules, among other services, always observing the business rules established on a case-by-case basis between the manufacturers and their customers.

Main features

- 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 email 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.



For more information about **WEG Smart Machine**, please contact the Automation Sales team.

Specification

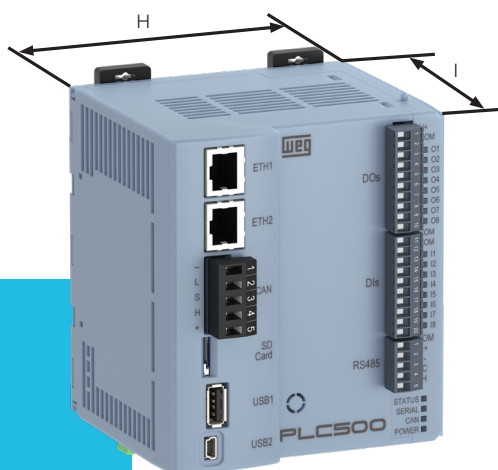
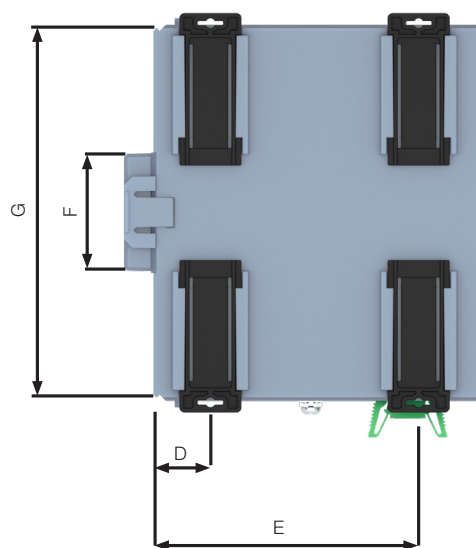
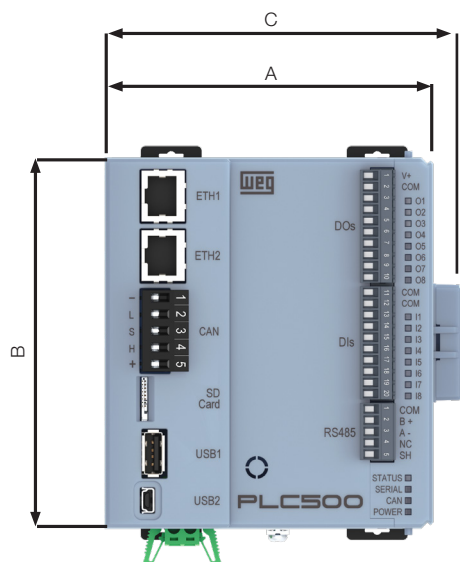
Versions		PLC500	PLC500ED
Power supply		24 V dc (V min.: 20.4 V dc / V max.: 28.8 V dc)	
		Power supply: minimum recommended capacity 3 A	
		CPU consumption in normal operation: 150 mA (without accessories and without active communication networks). This value may vary due to CPU mounting plus expansion cards.	
Processor		Dual core @ 1 GHz + coprocessor @ 200 MHz	
Scan cycle time	100 thousand instructions	Total time 1.19ms	
	Per instruction	0.012 μs	
Memory	RAM	1 GB	
	Flash	4 GB	
	Data	8 MB	64 MB
	Code	16 MB	16 MB
	Retentive	64 KB	64 KB
	Persistent	16 kB	16 kB
Maximum instruction capacity		Approximately 6 million simple instructions	
Axis control		N/A	N/A
Digital inputs		8 DI x PNP	
		Fast inputs: DI1 to DI4 - 150 kHz per channel	
		Maximum input voltage of 28.8 V	
		High level: Vin ≥ 10 V dc	
		Low level: Vin ≤ 5 V dc	
		Consumption @ 24 V dc: 2.1 mA	
		Insulation voltage: 500 V	
Digital outputs		Max. number of DIs via expansion boards: 200 points + remote units via Fieldbus	
		8 DO x PNP	
		Recommended voltage V+: 24 V dc	
		Maximum voltage V+: 28.8 V dc	
		Maximum frequency of PWM outputs (DO1, DO2 and DO3): 300 kHz	
		Maximum current of outputs DO1...DO3: 100 mA/output	
		Maximum current of outputs DO4...DO8: 500 mA/output	
Communication ports		Max. number of DOs via expansion boards: 200 points + remote units via Fieldbus	
		CANopen (master) Maximum number of slaves: 127	
		Modbus RTU (master/slave) Maximum number of slaves: 247	
		2 x Gigabit Ports 10/100/1,000 (RJ45) - Modbus TCP (master/slave) - EtherNet/IP (adapter) - EtherCAT (client) Maximum number of Modbus slaves: undefined Eth1 and Eth2 ports have different IP address numbers	
		Mini USB device Program transfer and monitoring by emulating an Ethernet port	
		USB host USB 2.0 (use with a flash drive)	
		MicroSD card Max.: 128 GB (optional accessory: 8 GB card code: 16352814)	
Maximum number of expansion cards		8 ¹⁾	
Software		CODESYS® (V 3.5 SP18 or later - free of charge)	
Cloud solutions		WEG Smart Machine - WEGnology Access: https://www.weg.net/institutional/BR/pt/solutions/digital-solutions	
Programming language		LD (ladder) - ST (structured text) - IL (instruction list) - SFC (sequential function chart) - FBD (function block diagram)	
Operating temperature		0 °C to 45 °C (32 °F to 113 °F)	
Storage temperature		-25 °C to 60 °C (-13 °F to 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 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 - UKCA	
Dimensions (H x W x D) (Inch)		129.8 x 101.6 x 106.9 mm (5.11 x 4 x 4.2 mm)	
Weight		0.540 Kg (1.19 lbs)	

Notes: 1) For further information on mounting limitations, refer to the product user manual (chapter 13 - Expansion Modules).

2) MicroSD card not included.

Dimensions

Dimension reference	A	B	C	D	E	F	G	H	I
Dimension in mm (in)	101.7 (4)	115 (4.53)	110.7 (4.36)	20.6 (0.81)	84.7 (3.33)	35.8 (1.41)	115 (4.53)	101.7 (4)	89.5 (3.52)
Fixing screw	M3 Ø 3.1 (0.122)								

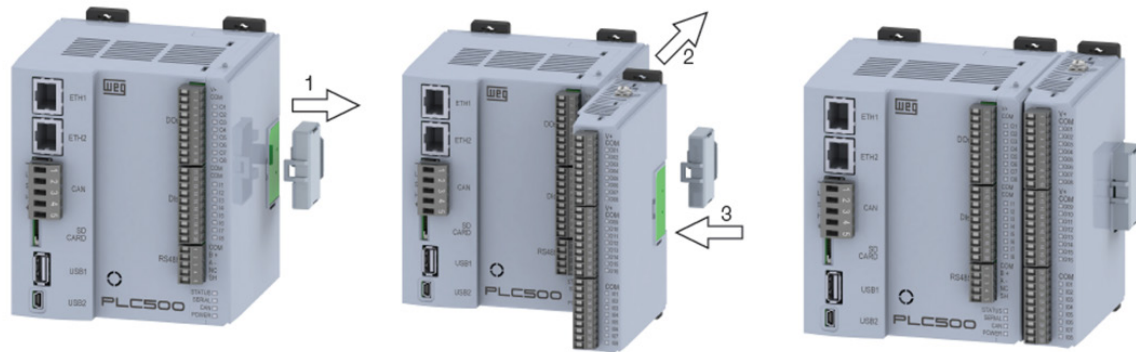


Expansions modules simple and quick installation

Expansion modules

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.



Specification

The user easily and quickly installs the expansion modules on the PLC500 through the Plug & Play concept. When the PLC500 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

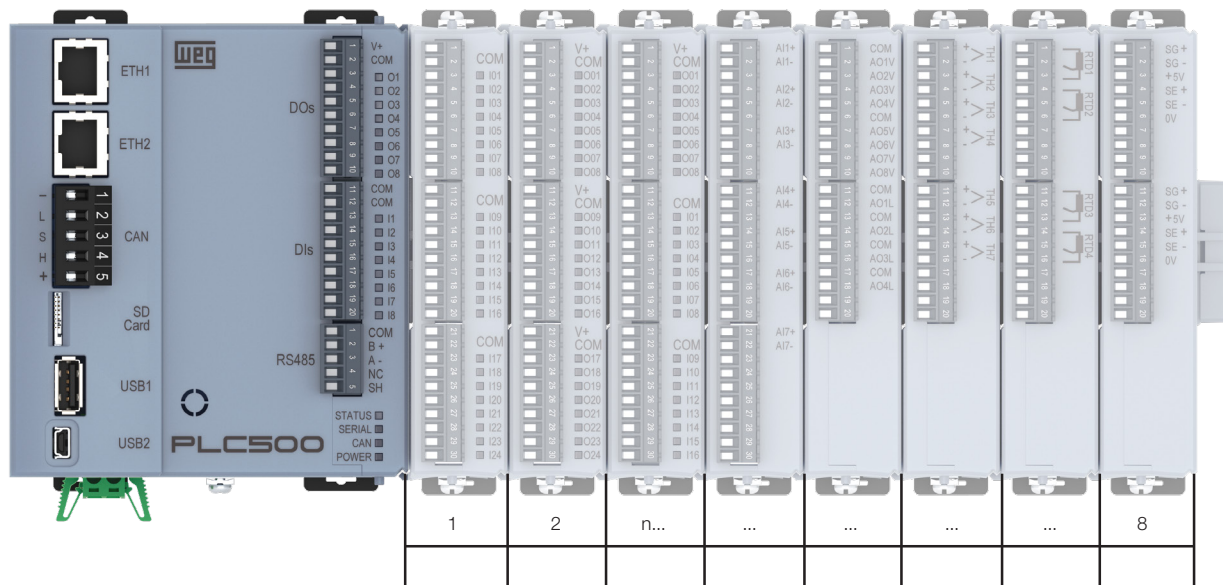
Reference	Inputs					Outputs			
	Bidirectional digital	Voltage or current analog	J, K and T type thermocouple	Pt100 and Pt1000 type RTD	Load cells	Isolated digital PNP (500 mA)	Analog in voltage (0-10 V) or current (0-20 mA)	Analog in voltage (0 - 10 V)	Relay output
MOD1.00-24DI	24	-	-	-	-	-	-	-	-
MOD1.10-24DO	-	-	-	-	-	24	-	-	-
MOD1.20-16DO8DI	8	-	-	-	-	16	-	-	-
MOD1.30-8DO16DI	16	-	-	-	-	8	-	-	-
MOD2.00-7AI	-	7	-	-	-	-	-	-	-
MOD3.00-8AOVI ¹⁾	-	-	-	-	-	-	4	4	-
MOD4.00-7TH	-	-	7	-	-	-	-	-	-
MOD5.00-4RTD	-	-	-	4	-	-	-	-	-
MOD6.00-2SG	-	-	-	-	2	-	-	-	-
MOD7.00-6RE ²⁾	-	-	-	-	-	-	-	-	6

Notes:

1) The installation of MOD3.00 expansions on the PLC500 is limited to three; however, other digital input/output, analog input, thermocouple and load cell expansions can be installed up to the limit of eight boards. If there are two MOD3.00 expansions installed, it is not possible to install MOD7.00 expansions. If there is only one MOD3.00 expansion installed, it is possible to install up to three MOD7.00 expansions, and it is also possible to install other expansion models up to the limit of the PLC500.

2) The installation of MOD7.00 expansions on the PLC500 is limited to five; however, other digital input/output, analog input, thermocouple and load cell expansions can be installed up to the limit of eight modules. If there are five MOD7.00 expansions installed, it is not possible to install MOD3.00 expansions. If there are three (or fewer) MOD7.00 expansions installed, it is possible to install a MOD3.00 expansion, and it is also possible to install other expansion models up to the limit of the PLC500.

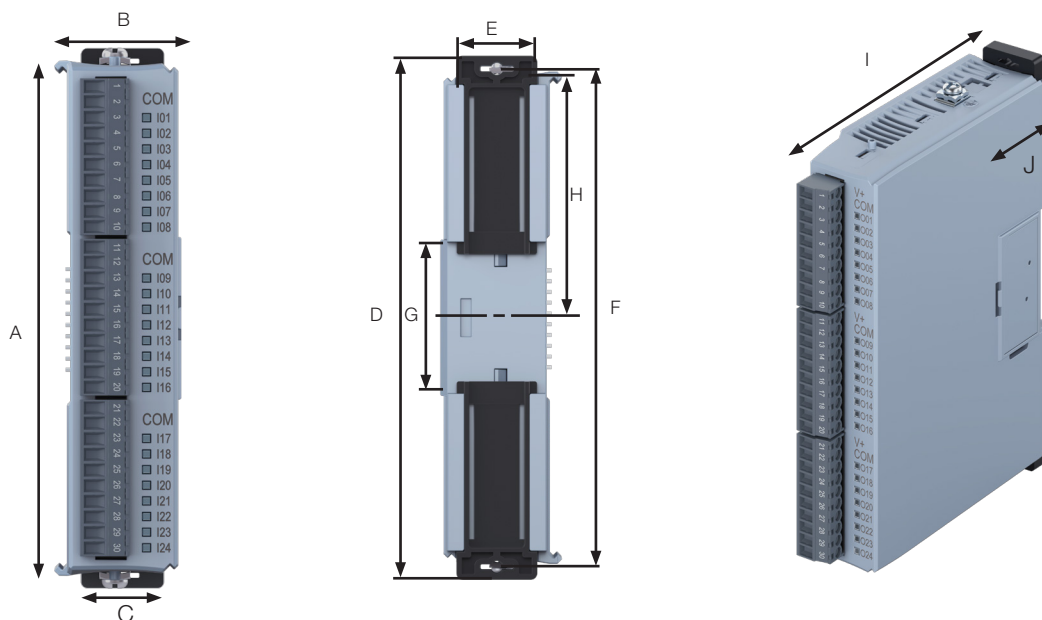
Expansions modules simple and quick installation



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)									

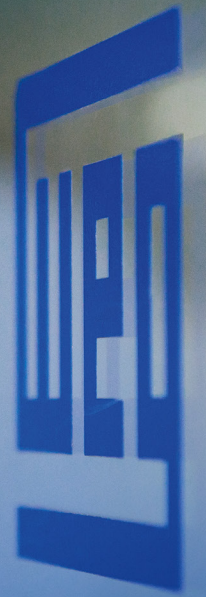


Technical Characteristics

Technical Specifications		
Digital Input	Type	Bidirectional
	Maximum voltage input	+28.8V
	Voltage level detection	High level: $V_{in} \geq 10V$ / Low level: $V_{in} \leq 3V$
	Consumption	24V: 10mA
	Isolation voltage	500V
Analog Input	Type	Voltage or Current input
	Voltage range	0 to 10V differential
	Voltage limits in common mode	-10 to 10V
	Current range	0 to 20mA
	Resolution	24 bits
Digital Output	Type	PNP
	Recommended voltage supply	+24V
	Maximum voltage	+28V
	Maximum current per output	500mA
Analog Output	Maximum current	20mA
	Maximum load	500Ω
	Resolution	16 bits
Thermocouple Input	Type	J, K and T
RTD Input	Type	Pt100 and Pt1000, two or three wires 1)
Load cell Input	Type	4 or 6 wires
Relay Output	Type	Isolated Outputs
	Maximum load	7A - 250Vac, resistive load / 5A - 30 Vdc, resistive load
Operating Temperature		32°F to 113°F (0°C to 45°C)
Relative Humidity		Air: 5% to 90% without condensation
Protection Degree		NEMA1 / IP20
Pollution Grade		2 (according to EN 50178 and UL 508C), with non-conductive pollution
Altitude		Up to 3,300ft (1,000m) (maximum altitude under normal conditions) 3,300ft to 13,200ft (1,000m to 4,000m): current derating of 1% for each 330ft (100m) above 3,300ft (1,000m) of altitude
Note: 1) A 3-wire RTD is required for wire resistance compensation		

Global presence

is essential, as much
as understanding
your needs.



Global Presence

With more than 40,000 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 **PLC500 Programmable Logic Controller** is 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 innovation



Know More

High performance and reliable products to improve your production process.



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

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 youtube.com/wegvideos



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The information contained is reference values.