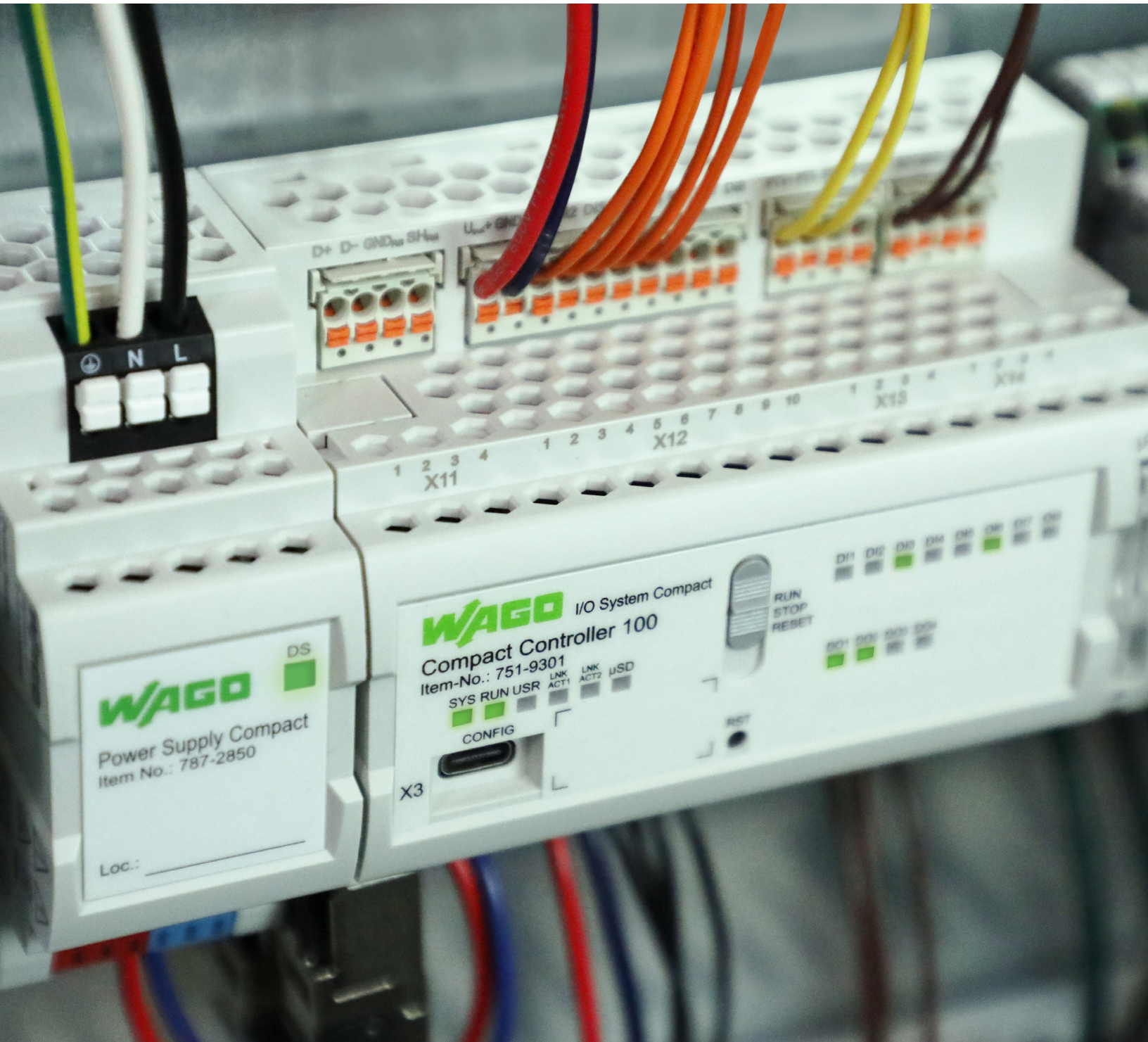
WAGO Compact Controller 100

Max Performance in a Minimum Space



COMPACT CONTROLLER 100

The all-new Compact Controller 100 joins WAGO's award winning line of PLCs. This ultra-compact controller offers powerful programming combined with on-board I/O.

Carefully engineered for machine builders and digital transformation projects, users will find this device cost effective and easy to use.

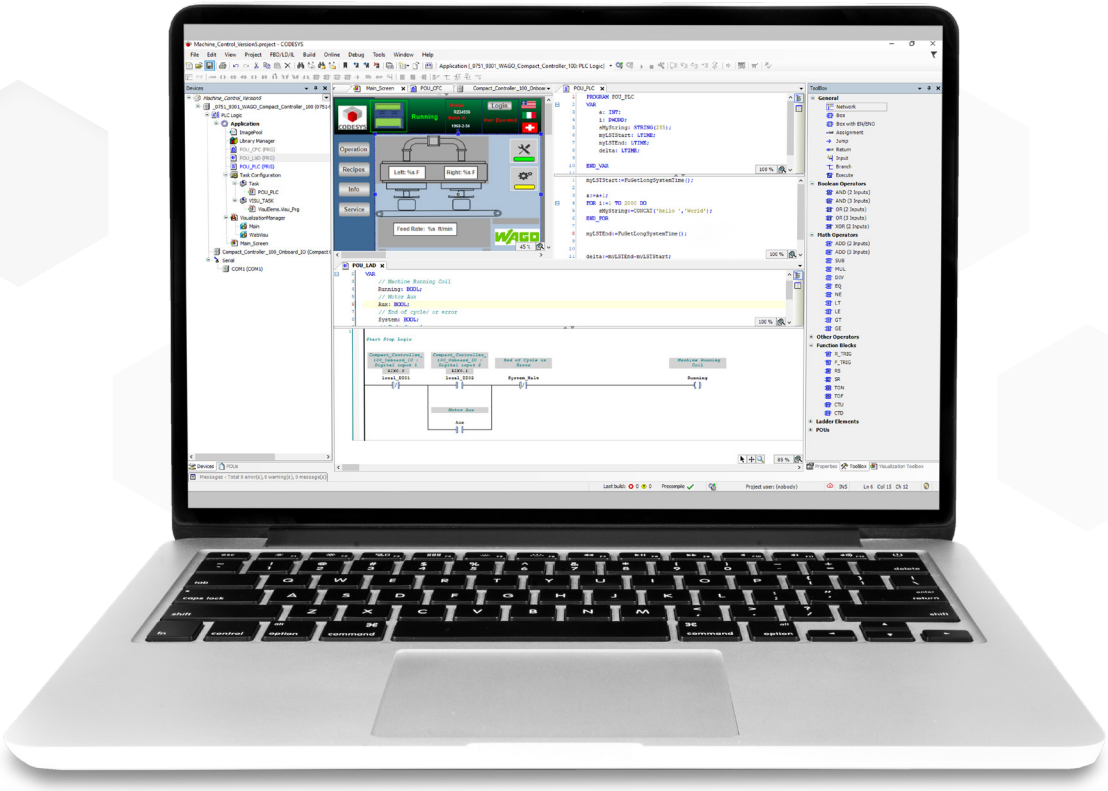
Device	Part Number
Compact Controller 100	751-9301
1.25 A Power Supply	787-2850
Micro SD Card	758-879/000-001

Powerful control
- Powerful Cortex Processor
- Ample internal memory
- MicroSD Card for extra storage

Ultimate in connectivity for industrial networking
- Two configurable RJ45 Ethernet ports
- One serial port
- USB-C service port

Help protect assets with built-in network security
- Built-In Firewall
- Support of VPNs
- Enable/Disable communication ports

Ready for digital transformation applications
- Easy Cloud Server configuration
- Support of MQTT protocol



CODESYS V3.5 Engineering Tool

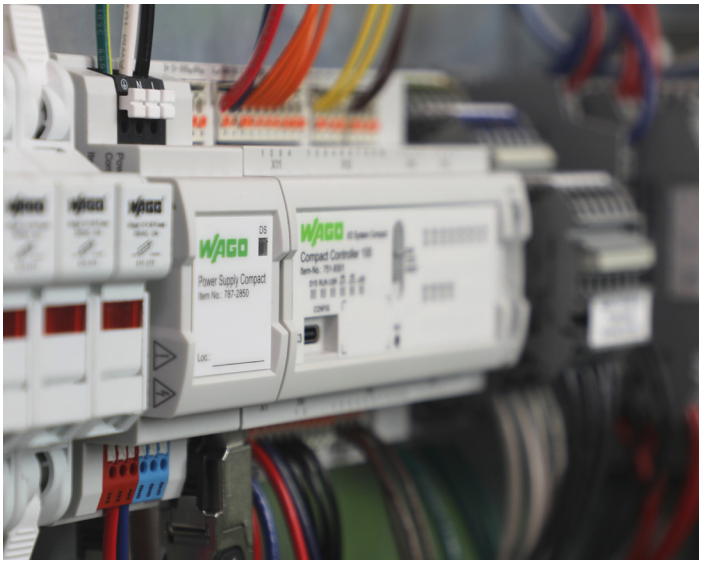
The Compact Controller 100 is programmed using market leading CODESYS V3.5 development software to help reduce development time and costs. Engineers are able to use the most appropriate programming languages for their applications. In addition, the same software is used to create web visualizations that can be used by equipment operators and maintenance staff to interface with machines.

Professional engineering software for IEC 61131-3 compliant projects
- No cost CODESYS V3.5 Programming software
- Use the language of your choice, or any combination - *Ladder Diagram, Sequential Function Chart, Function Block Diagram, Continuous Function Chart, Structured Text*

Build your own operator interfaces via HTML5 Web Visualizations
- Develop user interfaces via a web browser
- One software for logic and screen development, with common data tags

Expand your options via a Linux based real-time operating system
- Docker applications in parallel with IEC61131
- Add data handling apps like Node Red

Adept Control



Machine Control
WAGO's Compact Controller 100 is engineered to provide users with exceptional control performance. Its compact footprint makes this controller ideal for small machine automation applications.

IIoT Application
Perfect for plant floor digitalization projects thanks to its wide-ranging technologies; including MQTT protocol for connecting to Cloud Services & on-board network security.

High Performance
- Cortex A7 650 Mhz processor for a wide variety of functions
- 4GB Flash memory, 512 MB Ram

Two Configurable RJ45 Ports
- Use as a switch or separated with unique IP address per port
- Support of popular Industrial Ethernet protocols: MODBUS TCP/UDP, Ethernet/IP & EtherCAT

HTML5 Visualization
- Built-in web server for configuration and operator interface screens
- State-of-the-art technology for visualizations to be displayed on mobile devices like smartphones and tablets

IIoT Ready
- Easy to connect to Cloud servers with MQTT
- JSON function blocks for data handling

Cyber Security
- SSH and SSL/TLS encryption methods are integrated by default
- Built-in firewall provides additional protection against unwanted access
- Network broadcast protection & rate limiting

Micro SD Card Slot
- Expand memory capabilities up to 32 GB
- Save user program, application data, source code and device settings

Easy Handling
- USB-C service port for configuration & programming
- Start/stop/reset switch for system control

Maintenance-Free
- Easy to maintain
- No fan or battery that need maintenance

I/O Built-In

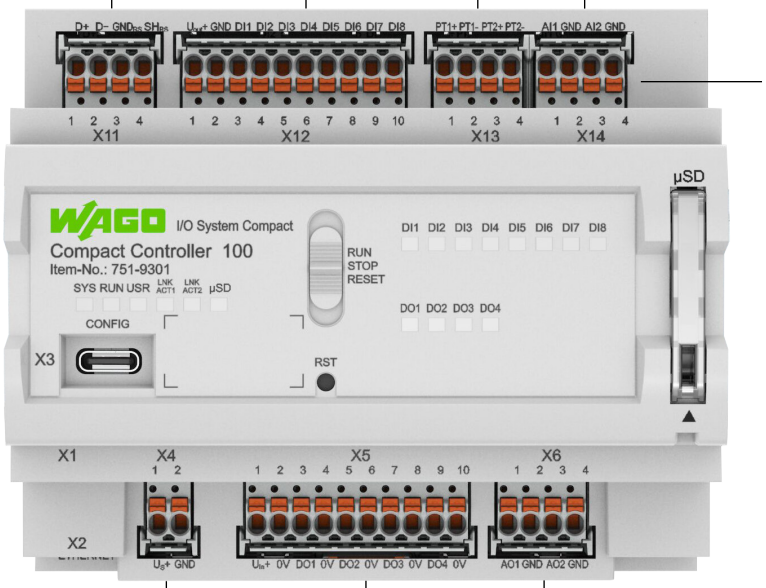
The Compact Controller 100's built-in I/O has the flexibility for your simple control applications. With small dimensions and a wide variety of I/O, you can fit the controller in small machine applications or use it for digital transformation projects.

Serial Port (X11)
- RS-485 up to 115200 baud
- Half-duplex
- Internal termination resister

2 Resistive Temperature Inputs (X13)
- Platinum or nickel resistance sensors
- -60 °C to 350 °C range
- 16 Bit resolution

8 Digital Inputs (X12)
- 24VDC nominal
- 5.0µs time constant
- High side switching

2 Analog Inputs (X14)
- 0...10VDC
- 16 Bit resolution



Pluggable Connectors
via WAGO's PicoMAX Push-In CAGE CLAMP®

Controller Power Supply (X4)
- 21VDC to 28VDC
- Power Consumption 0.5 Amps

2 Analog Outputs (X6)
- 0...10VDC
- 12 bit resolution

4 Digital Outputs (X5)
- 24 VDC nominal
- 0.5 Amps per channel
- High side switching

CODESYS Development System

The Compact Controller 100 is programed with CODESYS; the leading software platform for IEC61131-3 compliant project engineering. This system combines advanced programming with capabilities of professional software development for modern control applications.

Supported IEC61131-3 Languages include:
Ladder Diagram, Structured Text, Function Block Diagram, Continuous Function Chart and Sequential Function Chart

WAGO offers the CODESYS Development system free of charge. Download at WAGO.com/us

Features of the development environment:

- Tools for creating structured & efficient applications
- WAGO and CODESYS libraries with documentation
- Multi-Controller development in one application
- Task system to optimize application performance
- Customizable windows
- Color-coded syntax & automatic syntax checking
- Integrated debugging & tracing tools
- Security built-in: file encryption, encrypted communications

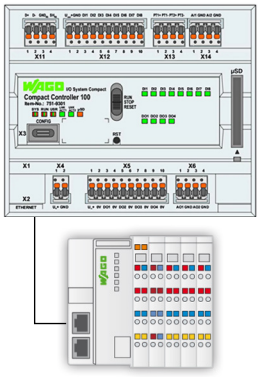
CODESYS

Development of HMI screens directly in the IEC61131-3 environment
Developing a human machine interface (HMI) and a PLC application will enable users to operate & maintain their systems in a very efficient manner. The HTML5 based visualizations are hosted within the Compact Controller 100 and can be viewed using most web browsers on your PC and mobile devices. With the logic and HMI development tools using a common database, engineering development time and maintenance costs can be reduced.

Visualizations

- Create modern and professional visualization screens quickly
- Integrated alarm management tools
- Language, Images and Unit conversion switching
- Multi-level access
- Common element libraries such as gauges, pushbuttons, & trends

Features + Accessories



Remote I/O for the Compact Controller
If your application expands or you need more I/O, no problem! You can easily interface a WAGO 750 series distributed I/O coupler with the Compact Controller. Using a 750-362 Modbus coupler is a cost-effective way to add additional I/O to your system.

With over 500 I/O modules to choose from, users can easily expand the number and type of I/O for their specific application.

Compact, Reliable Power Supply
WAGO offers the 787-2850 Power Supply which delivers 1¼ Amps at 24 VDC. With the same housing dimensions as the Compact Controller 100, it is an ideal pairing. The combination controller & power supply has a compact footprint to fit well within the physical limits of smaller machines.

Industrial Protocols Supported
The two Ethernet ports on the Compact Controller 100 supports many popular industrial protocols. Users can exchange data with remote devices such as sensors or variable frequency drives over Modbus, Ethernet/IP or EtherCAT. The communication is ideal for fundamental control and monitoring for a few control devices.

IIoT Protocols Supported
Collection information for digital twin modeling is simplified with the Compact Controller 100. Users can connect to SCADA or Cloud Services using MQTT, the OASIS standard messaging protocol for the Internet of things. This light weight publish/subscribe messaging ideal for connecting remote devices with a small code footprint and minimal network bandwidth.

RS485 EtherNet/IP
Modbus EtherCAT
MQTT

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