

GTW-4/0



USER MANUAL



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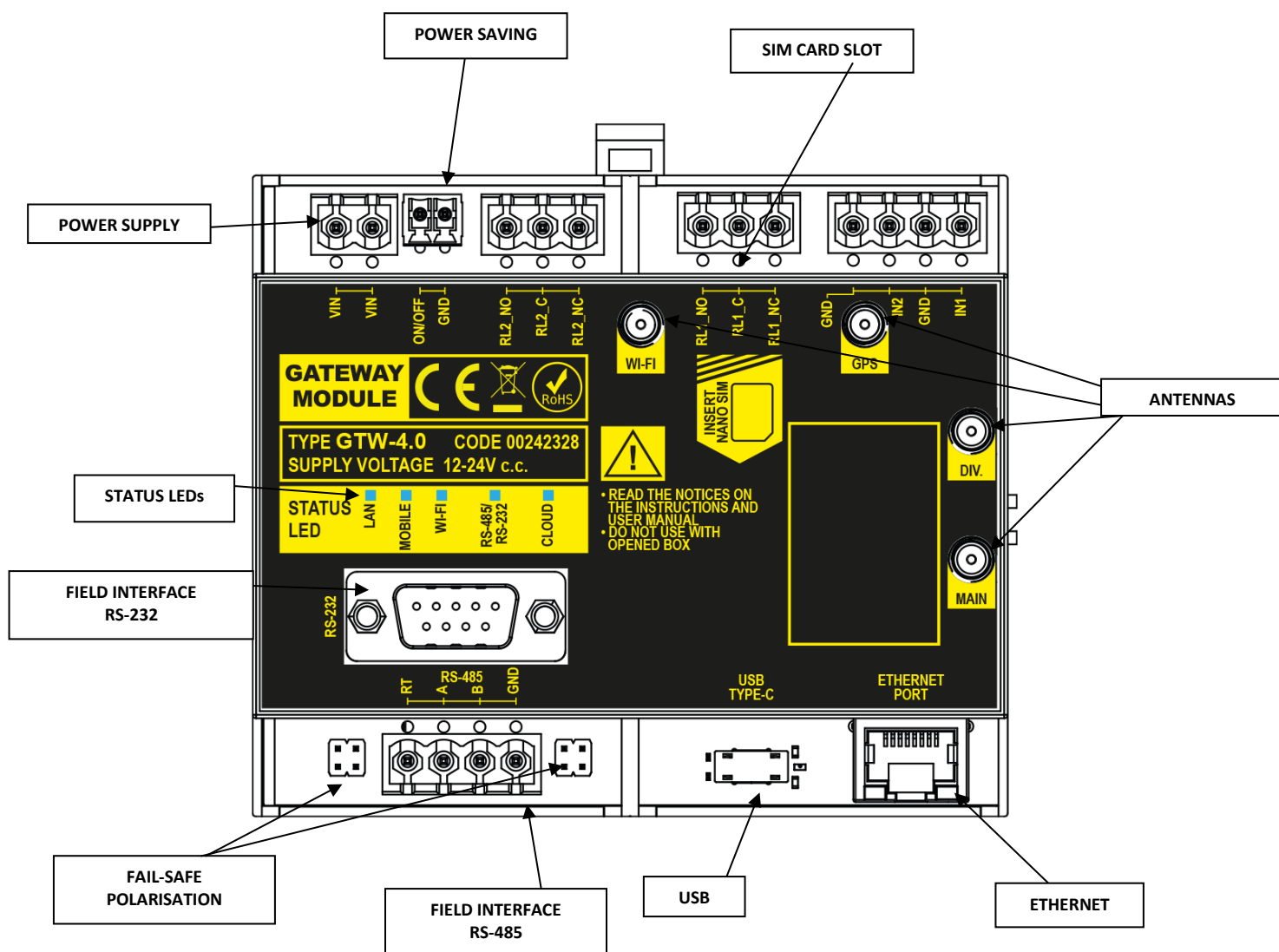
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CHRONOLOGY OF MANUAL REVISIONS

Date	Revision	Description	Page
12/01/2023	1.00	Hardware	
22/12/2023	1.01	Additions	
17/10/2024	1.02	Corrections, licenses and activations.	

INSTRUCTIONS IN BRIEF



STATUS LEDs	LAN	ON: Active Ethernet interface
	MOBILE	ON: Active mobile phone interface
	Wi-Fi	ON: Active Wi-Fi interface
	RS-485/RS-232	ON when control unit interface is active via RS-485 or RS-232.
	CLOUD	ON: Connected to the cloud.
ANTENNAS	CELLULAR-MAIN	Mobile phone antennas
	CELLULAR-DIVERSITY	
	GPS-GNSS	Geolocation antenna
	Wi-Fi	Wi-Fi antenna
SIM CARD SLOT	Houses the SIM card, essential for mobile phone interface	
FIELD INTERFACES	RS-232	Interfaces for communication with control units
	RS-485	
ETHERNET	For communication with the cloud	
USB	For GTW-4.0 setup	
FAIL-SAFE POLARISATION	Enable fail-safe network resistors	
POWER SAVING	Power saving mode	

GENERAL DESCRIPTION

The GTW-4.0 gateway allows remote management of systems controlled by Elcos control units. Up to 5 devices can be connected to a single gateway.

GTW-4.0 communicates with other Elcos devices via isolated RS-485 BUS or RS-232.

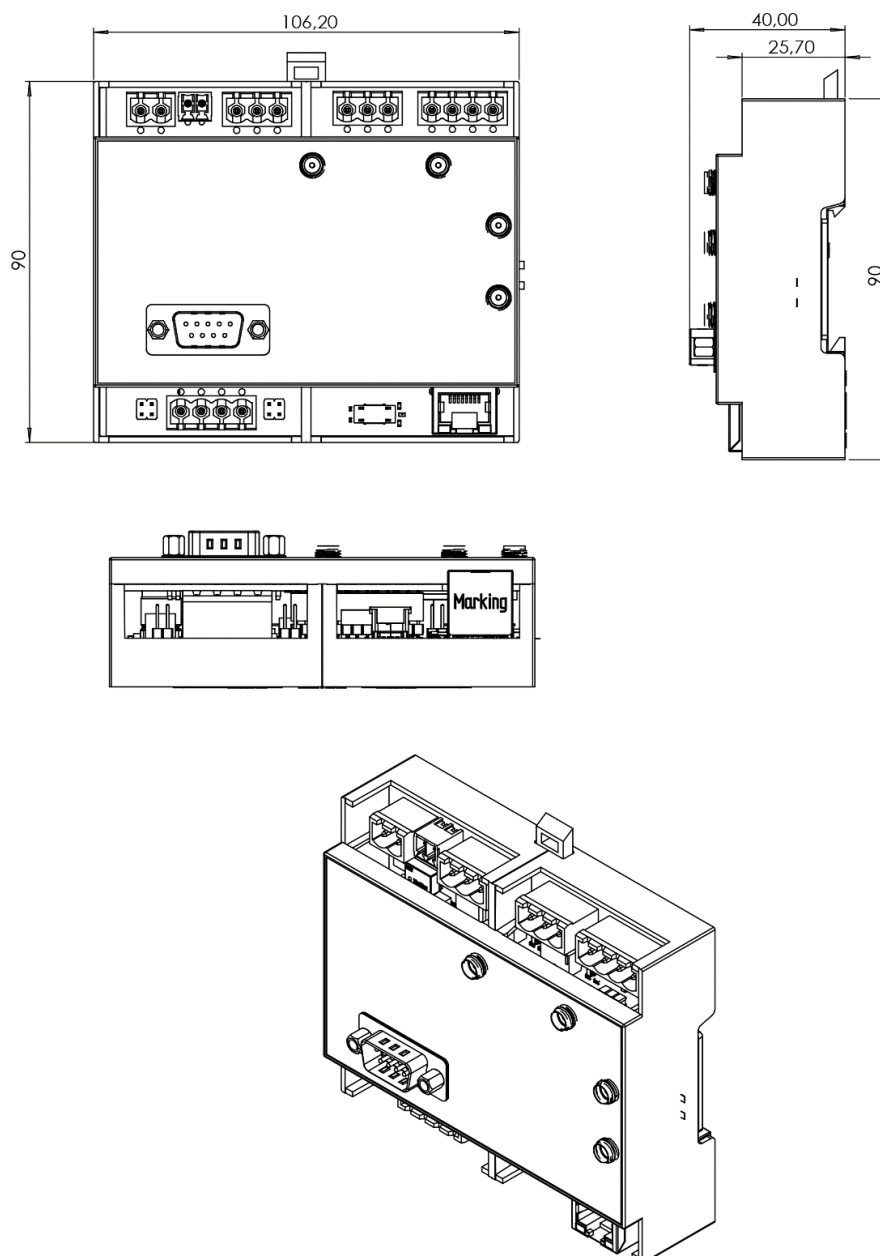
The gateway can be programmed with a PC, locally via USB and ZW-SMART software.

Once installed, the device provides access to Elcos cloud services.

COMPATIBILITY

Consult the device manuals to ensure compatibility.

MECHANICAL DIMENSIONS



INSTALLATION

POWER SUPPLY

The device can operate on direct current (DC) power with 12V/24V battery, or on 24VAC alternating current (AC). Use the "POWER SUPPLY" terminals to connect the power supply.

POWER SAVING

Short-circuiting the "POWER SAVING" terminals will stop operation of the device and switch it to power saving mode. The device will reset upon exiting power saving mode.

SET-UP

ANTENNAS

All antennas are magnetic and must be installed vertically on metal surface.

For mobile phone communication with the cloud, ensure to install at least the CELLULAR-MAIN ANTENNA. In areas with particularly weak signal strength, installing the CELLULAR-DIVERSITY ANTENNA will enhance reception quality and performance.

For geolocation, the GPS-GNSS ANTENNA must be installed vertically outdoors with a clear view of the sky.

For Wi-Fi communication with the cloud, install the Wi-Fi ANTENNA.

SIM card

When using mobile phone data communication with the cloud, insert the SIM data card and correctly configure the APN information.

RS-485 FIELD CONNECTION

This connection enables communication with multiple control units over long distances. The output is electrically isolated from the device's power supply.

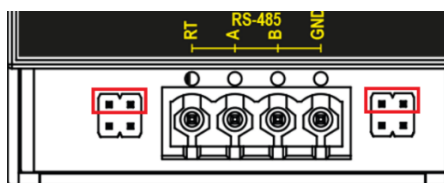
For proper network installation, see the document "INDICATIONS FOR RS-485 NETWORK INSTALLATION".

TERMINATION RESISTOR

To insert the termination resistor, connect terminal RT to terminal A.

FAIL-SAFE POLARISATION

To insert the fail-safe polarisation resistors, place the two jumpers as shown:



RS-232 CONNECTION

This connection lets you communicate with just one control unit.

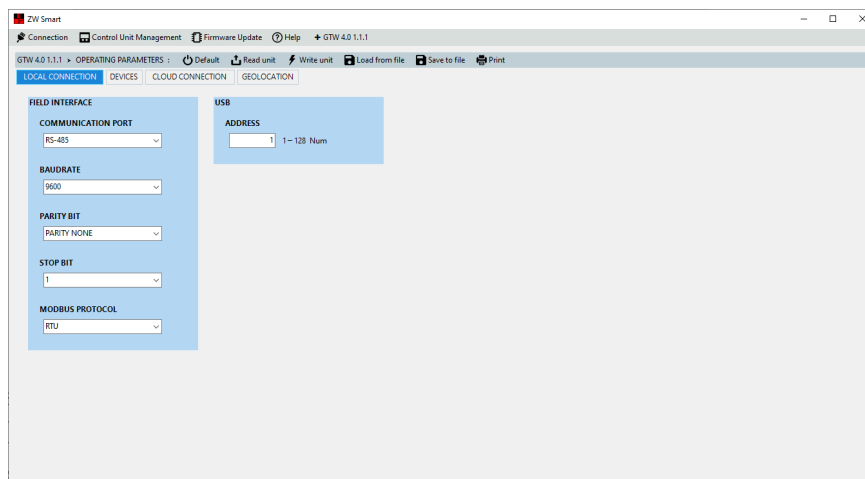
Use a standard RS-232 cable.

PARAMETER SETTINGS

To set the parameters of the GTW, use the ZW-SMART software connected via USB.

For a complete description, refer to the software's manual.

Use the "GTW-4.0" plugin, in the "Parameters" page.



Specifically:

- **LOCAL CONNECTION:** Defines the type of port used for communication with the control units and the related parameters. Communication with control units uses the modbus protocol and the GTW-4.0 acts as the client.
- **DEVICES:** Sets the number of connected control units and their modbus addresses. Up to 5 devices can be connected to a single GTW-4.0.
- **CLOUD CONNECTION:** Selects the type of field interface and their parameters.
- **GEOLOCATION:** enables or disables geolocation.

To apply the changes, reset the device by turning it off and then back on.

USE

Once configured, the GTW-4.0 allows you to remotely access control units in either of two ways: via an APP/WEB APP or via the ZW-SMART software.

WEB AND MOBILE APPLICATION

The GTW-4.0 is accessible via the Elcos RCI (Remote Control Interface) interface, available through any browser at: <https://ElcosRCI.elcos.it>.

Equivalent functions are also provided by the “Elcos RCI” app, available on the iOS App Store or Android Play Store.



To use this system, you must register. These credentials can be used interchangeably on both web and mobile versions of the platform.

The app has two access levels:

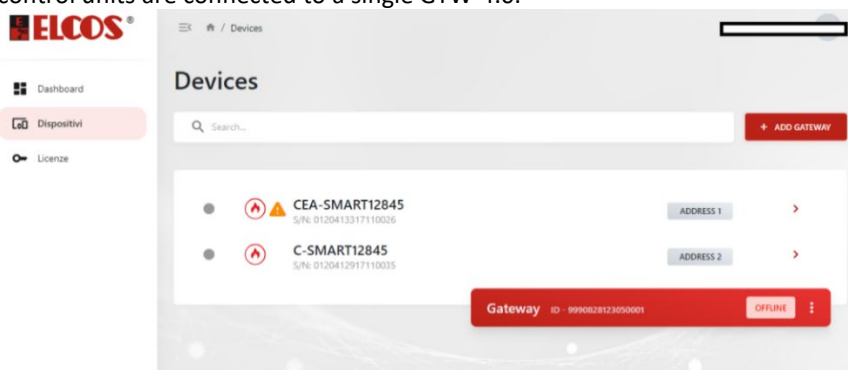
- **MANUFACTURER:** Designed for machine manufacturers
- **CUSTOMER:** Designed for machine users

The default access level is CUSTOMER. To switch between access levels, contact Elcos.

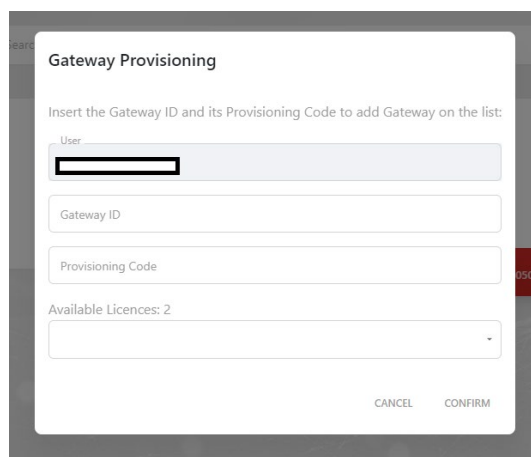
Registration and use of the app are free of charge, but access to the gateway requires a yearly license for each GTW-4.0, regardless of how many control units are connected to it, all connected devices will be visible.

Available devices are shown on the Devices page.

In the example, two control units are connected to a single GTW-4.0.



To add a device, you must associate a license to a device (PROVISIONING process) by providing the “Gateway ID” and the “Provisioning Code”, both found on the device:



Gateway Provisioning

Insert the Gateway ID and its Provisioning Code to add Gateway on the list:

User:

Gateway ID:

Provisioning Code:

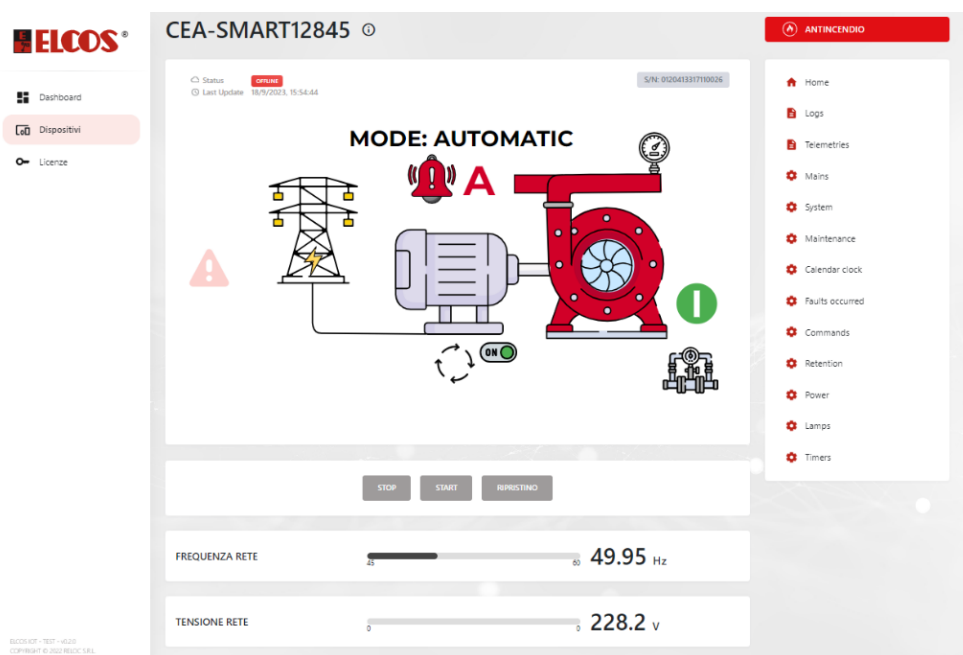
Available Licences: 2

Devices can also be unlinked to release a license.

The GTW-4.0 allows access to many ELCOS devices. Each device has its own graphic interface, varying depending on the field of application and features.

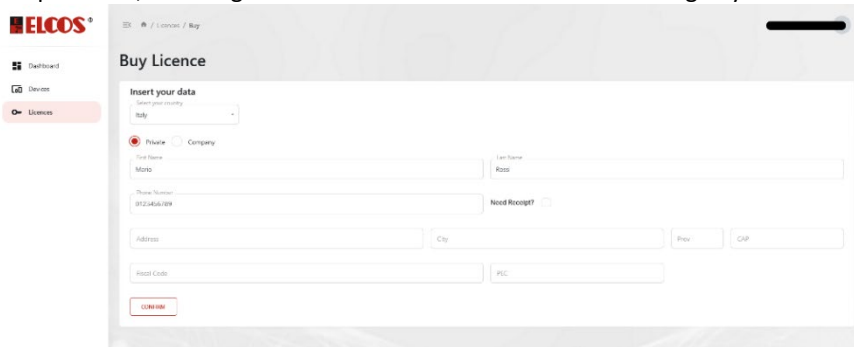
Basic features of each device:

- HOME: The main page with a system overview.
- LOGS: Gathers historical information from the control unit (not available in every model).
- TELEMETRIES: Provides registered telemetry data and enables downloading of operation reports.
- PECULIAR PAGES: Displays data and provides controls for each connected device, highlighting their unique characteristics.



In the licenses page, accessible from the left column, you can:

- BUY LICENSE: By selecting “Buy now”, you will be directed to the payment procedure and prompted for the necessary information, including the license duration (from 1 to 5 years). The platform uses PayPal to finalise the purchase, ensuring a secure transaction via either an existing PayPal account or any credit card.



Buy Licence

Insert your data

Country:

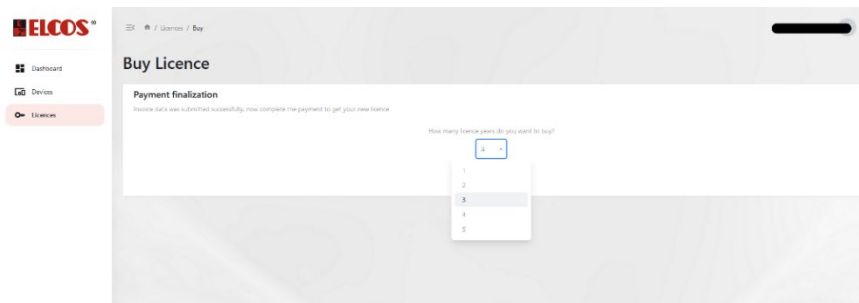
☒ Private ☐ Company

First Name: Last Name:

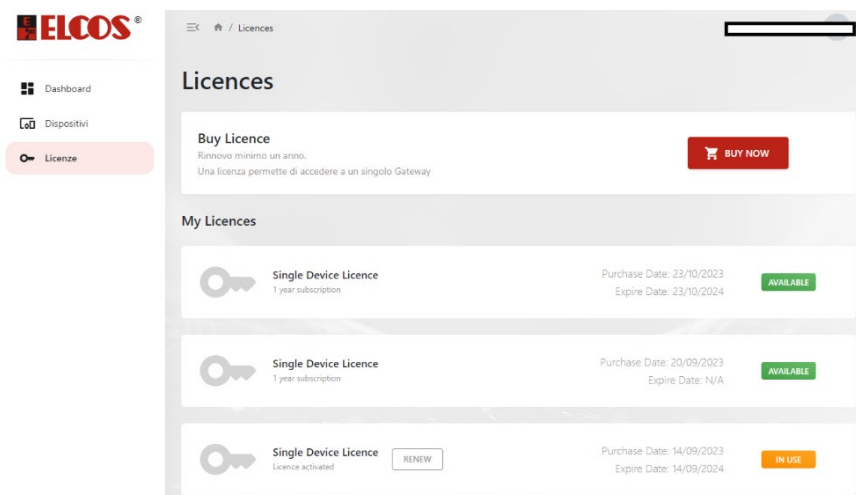
Phone Number: Need Receipt? ☐

Address: City: Prov: CAP:

Post Code: P.I.C.:

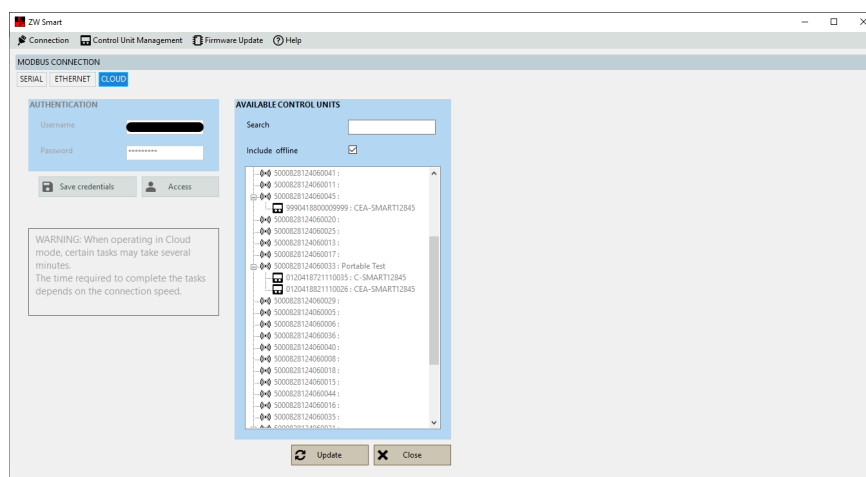


- **VIEW:** View the status of the licenses linked to your account. Licenses can be: **AVAILABLE**, if not linked to any device; or **IN USE**, if linked to a gateway. The license expiration date is set based on its duration in years when linked for the first time. Unlinking the license from a gateway does not alter the expiration date.



ZW-SMART

You can use the ZW-SMART software to connect to control units remotely. Select the CLOUD connection and enter your Elcos RCI access credentials.



It then displays all the GTW-4.0 (ONLINE and OFFLINE) available and the connected ELCOS control units.

The software provides various access levels; each with different available functions. All the possible operations by locally connecting an Elcos device (USB or other interface) are also possible remotely; it might take longer depending on the type of connection.

It is possible to:

- Set the operating parameters (all devices, all types of users)
- Make adjustments (all devices, "Manufacturer" users)
- Update the FW (certain devices, "Manufacturer" users)

Refer to the ZW-Smart software manual for additional information.

WARNING

The device sends information gathered from the connected control units to the cloud. It is designed to be installed on a DIN rail inside electrical panels.

Warning: Compliance with the following recommendations is obligatory



- Always make connections following the wiring diagram provided in the manual.
- The installation must always guarantee adequate dissipation of heat.
- Always install the device at a lower position than any other devices that produce or dissipate heat.
- Handle and connect without exposing the electronic circuit board to mechanical strain.
- Do not let cuttings of copper conductors or other metal residues drop onto the control unit.
- Strictly avoid using a battery charger for emergency start-up; this could damage the control unit.
- To safeguard persons and equipment, always disconnect the electrical system terminals from the battery poles before connecting an external battery charger.

Device sensitive to electrostatic discharge



- Handle with care and do not open the container unless precautions to avoid electrostatic discharges have been taken.

This device is not suitable for operation under the following conditions:



- When room temperatures exceed the limits specified in the technical data sheet.
- Where abrupt shifts in temperature and air pressure produce exceptional condensation.
- In environments with high pollution levels from dust, fumes, vapour, salts and corrosive or radioactive particles.
- In areas exposed to high heat radiation from direct sunlight, ovens or the like.
- When there is a presence or suspicion of mould or pests.
- Where there is a danger of fire or explosion.
- Where the control panel may be subject to strong shocks or vibrations.

Electromagnetic Compatibility

This control unit works correctly only if it is installed in systems that comply with regulations governing CE marking; in fact, it complies with the immunity requirements given in EN61326-1, but this does not rule out the possibility that malfunctions could occur in extreme cases that may arise in particular situations.

The installer is responsible for checking that the level of perturbation does not exceed that specified in standards.

Operation and maintenance

We recommend the following maintenance on a weekly basis:



- Checking the signals;
- Checking the battery status;
- Checking the wires are connected firmly and the condition of the terminals.

INFORMATION FOR ORDERING

Type	Item Code
GTW-4/0	00242328
4G ANTENNA	70070187
GPS-GNSS ANTENNA	70070196
Wi-Fi ANTENNA	70070195

TECHNICAL SPECIFICATIONS

POWER SUPPLY		
Power supply voltage	8 - 48 VDC	24 VAC
Power Saving	<12µA @24VDC; <1µA @12VDC	
Maximum nominal power consumption	~215mA @12VDC	~190mA@24VAC
	~105mA@24VDC	
INSULATION CLASS		
Class III		
ENVIRONMENTAL CONDITIONS		
Operating temperature	(-20 ÷ 60) °C	
Storage temperature	(-20 ÷ 60) °C	
Relative humidity	≤ 80%	
LINES OF COMMUNICATION		
USB 2.0 (B-TYPE connector)	Not isolated. Maximum cable length 3 m.	
RS-485	Optoisolated	
RS-232	Not isolated. Maximum cable length 3 m.	
PROTECTION CLASS		
IP	IP 20	
CONTAINER		
Weight	172g	
Dimensions (LxHxW)	(108 x 90 x 40) mm	
MATERIAL	CONTAINER	PC/ABA
	HOOK	PPO
	DATAPLATE	PVC

ONLINE DOCUMENTATION

Downloadable from the website www.elcos.it/en



CONFORMITY

CE