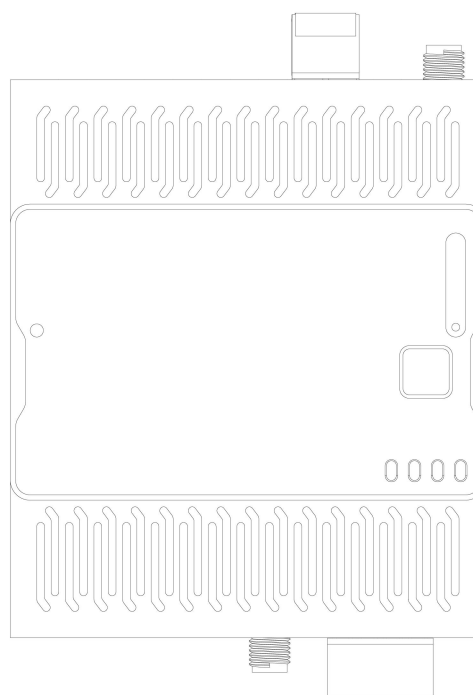
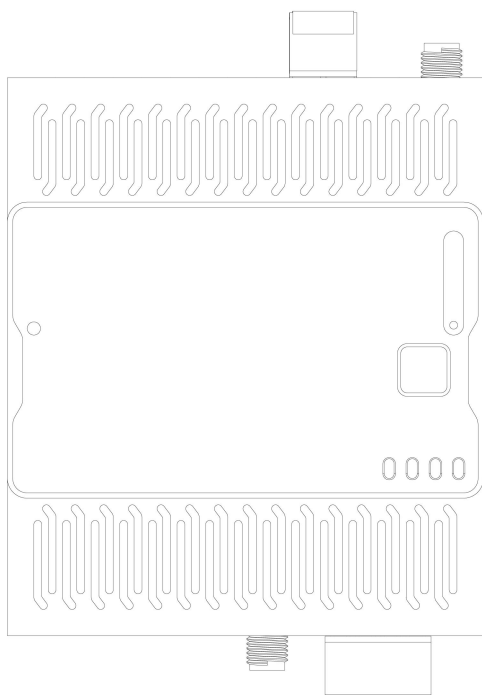


Gateway: Data Workstation

Enertrek_G30 Series

User Manual

08/2026



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1 Gateway: Data Workstation Overview

1.1 Function Overview

The Enertrek G30 is an Ethernet gateway—also known as a data workstation—that connects all Enertrek sub-devices or RS485 bus devices. It serves as the access point for the entire Enertrek system and integrates a web server for configuring network parameters and managing device addition, deletion, and modification operations.

As the core device of the system, the Enertrek G30 provides multiple functions including data acquisition, processing, analysis, and visualization. It supports device management, fault diagnosis, work order management, and AI-optimized control, enabling the system to operate efficiently.

Key Features

Data Management

- **Data Acquisition:** Supports multi-protocol data acquisition and protocol conversion.
- **Data Cleaning:** Real-time alarms and historical database management.
- **Data Normalization and Aggregation:** Unified standardized processing to ensure data consistency.

Data Analysis and Storage

- **Fault Monitoring and Diagnosis:** Real-time monitoring of equipment status and precise fault localization.
- **Data Storage:** Supports long-term storage of large-volume data.
- **Data Analysis and Prediction:** Provides planning forecasts and intelligent control optimization based on historical data.

Data Visualization and Control

- **Data Visualization:** Provides clear and intuitive charts and interface displays.
- **Data Reporting:** Generates comprehensive statistical reports.
- **Remote Control:** Supports remote device operation and management.

Intelligent Optimization and Diagnostics

- **Energy-Saving Diagnostics:** Optimizes system energy efficiency and provides

energy-saving solutions.

- Fault Alerts: Real-time alert notifications for rapid response to anomalies.

System Integration and Interfaces

- API Data Interface: Supports data integration with third-party platforms to enhance system interoperability.

With its high performance and versatile features, the Enertrek G30 meets the data management and optimization needs of industrial and commercial systems, providing robust support for intelligent management.

1.2 Key Features

Features	Description
Enertrek Bus	• Connects Enertrek series sub-devices to build an integrated system.
RS485 Communication Interface	• Supports connection to other third-party devices based on the Modbus protocol, enabling compatibility expansion.
Ethernet interface	• Used to establish a data connection with the platform, enabling real-time data exchange. • Supports access to the built-in web server for device and network management
Supported Protocols	• Northbound communication protocol: MQTT, used to send data to upper-layer platforms. • Southbound communication protocol: Modbus, used for communicating with devices and data acquisition.
Web Server Features	• Device Management: Supports device creation, deletion, modification, and querying, as well as status monitoring. • Network Parameter Management: Configure and adjust network-related settings.

2 Features

The gateway data workstation enables connectivity between the platform and Modbus serial devices via Ethernet/WiFi or Ethernet/WiFi/4G. Through this gateway, the platform can remotely access information from serial slave devices and perform operations such as control and data acquisition.

Key Features

Data Management

- **Data Acquisition:** Real-time acquisition of data from serial slave devices.
- **Data Processing and Analysis:** Cleans, standardizes, and analyzes the collected data.
- **Data Reporting and Visualization:** Generates statistical reports and presents data through visualizations.

System Platform Features

- **Device Management:** Supports adding, deleting, modifying, and querying devices, as well as monitoring their operational status.
- **Fault Diagnosis:** Monitors device operation in real time, quickly identifies faults, and triggers alarms.
- **Intelligent Optimization Control:** Combines analyzed data to provide optimization recommendations or execute automated control.

The Gateway Data Workstation serves as a vital bridge for remote management and optimization of serial devices on the platform side. It can be widely applied in industries such as manufacturing, energy, and construction, helping to achieve system intelligence and efficiency.

2.1 Overview of Features and Benefits

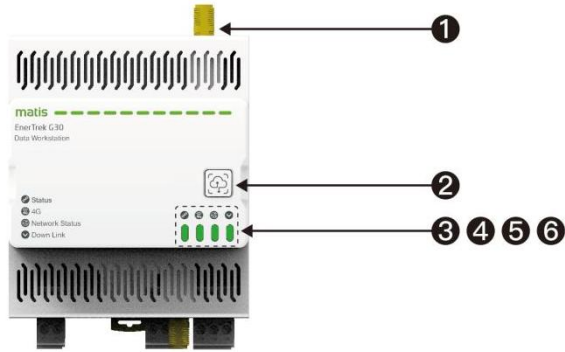
Features	Benefits
Plug-and-play	• Connect Enertrek devices or RS485 serial devices directly to the Ethernet gateway for rapid deployment. • Supports safe, ultra-low-voltage 12 VDC power supply to ensure safe operation.
Web Server Functionality	• Device Configuration: Device and network parameters can be configured via the embedded Web Server. • Browser Access: Browser-based operation compatible with all operating systems, providing a convenient user experience.
Protocol Conversion	• Converts Modbus protocol data to the MQTT protocol, encapsulates it in JSON format, and uploads it to the platform for direct display and use.
Data Conversion	• Supports configuration of multiple data types to perform data format conversion, adapting to different application requirements.
Remote Monitoring	• Supports remote monitoring and control of devices via the platform, enabling data read and write operations.

Offline Data Storage

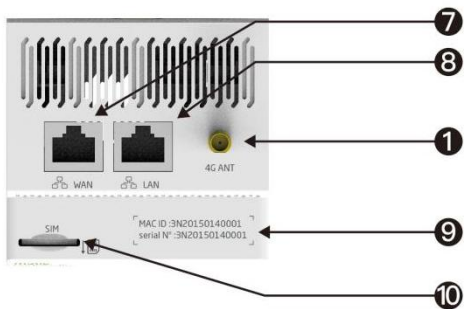
- In the event of a network outage, the gateway temporarily stores data internally and automatically resends it once the network is restored, ensuring data integrity.

3 Gateway: Data Workstation Diagram

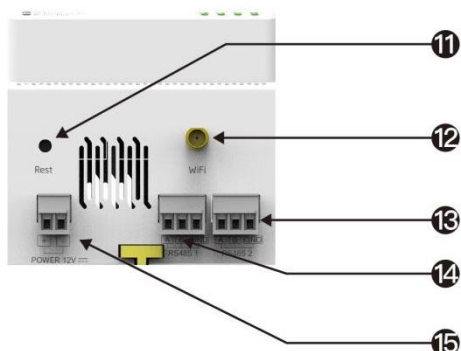
3.1 Gateway: Data Workstation Enertrek_G30 Series



1. Antenna_4G
3. Gateway Status LED
4. 4G Status LED
5. Network Status LED
6. Downstream Status LED



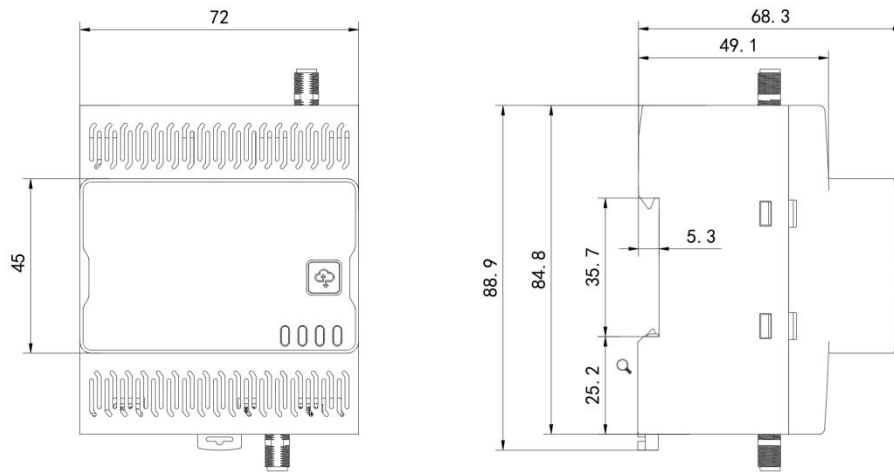
7. Port 1: Ethernet1 Network Communication Port
8. Port 2: Ethernet 2 Config Communication Port
9. Device Name Label
10. 4G SIM Card Slot



11. Reset Button
12. Antenna_WiFi
13. RS485 Port 1
14. RS485 Port 2
15. 12 Vdc Power Terminal Block

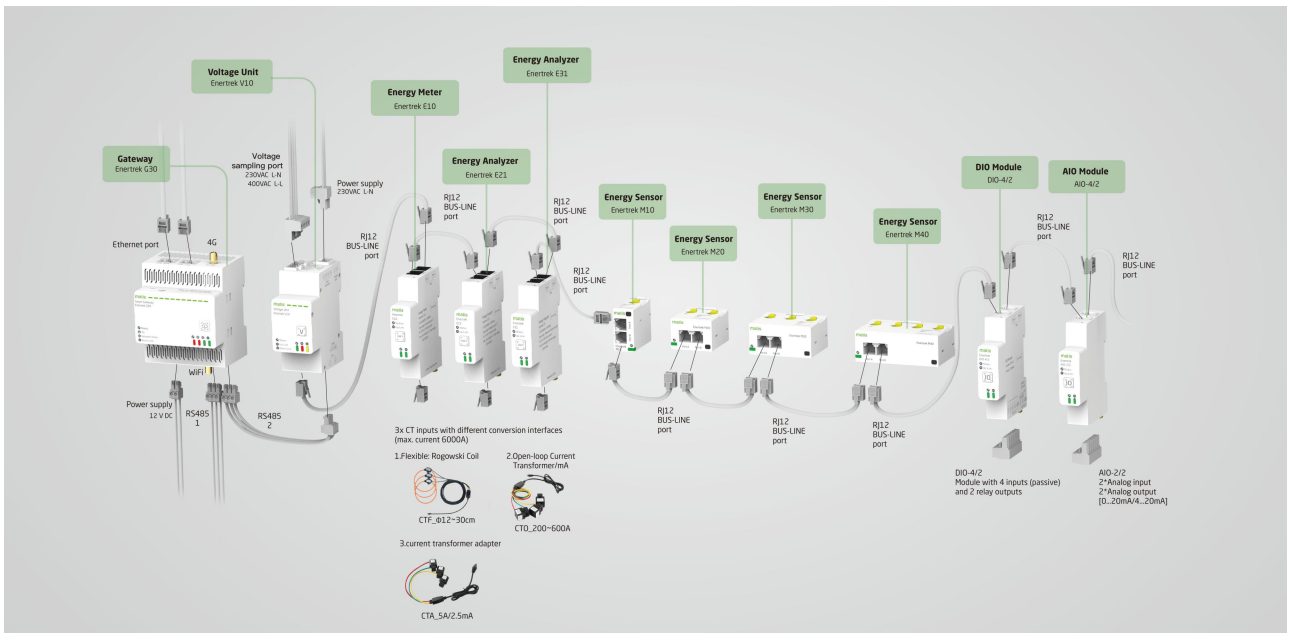
4 Hardware and Installation

4.1 Enertrek_G30 Series Dimensions (mm)



5 Wiring

5.1 Enertrek_G30 Series Wiring Diagram



6 LED Status Indicators

6.1 Gateway Status LED

Indicates the gateway status.

Name	Color	Status	Description
Operating Indicator (Red, Green)	Green light	Initialization/Operation	Device is operating normally
	Green light flashing (2 flashes per second)	Reset (Level 1)	Press and hold the Reset button for 5 to 10 seconds to confirm the reset; the IP settings will be reconfigured to DHCP mode.
	Red light flashing rapidly (2 flashes per second)	Reset (Level 2)	When the reset button is pressed for more than 15 to 20 seconds, the red light flashes rapidly (2 flashes per second).
	Red light flashing (1 flash per second):	Duplicate downstream address	Red light flashing (1 flash per second): The system has detected a duplicate downstream device address. Check and change the downstream device address.
	Red light: Not in operation or hardware failure	Fault	Red light: Not in operation or hardware failure
	Red and green lights flashing alternately (2 flashes per second)	Device firmware is being updated	

6.2 4G Status LED

Indicates the status of the gateway's 4G module.

Name	LED Indication	Status Indication	Description
------	----------------	-------------------	-------------

Network Status Indicator (Green)	Solid	4G module is operating normally	
	Off	4G module not operating	

7 Web Configuration

The EnerTrek G30 gateway features a built-in Web Server. Users can access the web interface through the local area network (LAN) or the gateway LAN port to perform device networking, real-time data monitoring, remote control, communication parameter configuration, network settings, firmware upgrades, and system maintenance.

No dedicated upper computer software is required; users can access the web interface directly through a standard web browser.

Supports both Modbus MQTT and Modbus TCP communication modes.

Supports COM1 and COM2 serial communication channels and Modbus RTU device management.

Recommended browsers: Chrome 90+, Edge 90+, or Firefox 90+.

Access Security:The default login password is 123456. After commissioning, it is recommended to manage user access permissions and the local network configuration according to the project security requirements.

7.1 Web Access

7.1.1 Access via LAN Port

1. Connect the computer to the gateway LAN port using an Ethernet cable.
2. The default IP address assigned to the gateway LAN port is 192.168.120.200.
3. Set the computer's Ethernet adapter to a static IP address within the same network segment, such as 192.168.120.3, with a subnet mask of 255.255.255.0.

4. Enter `http://192.168.120.200` in the web browser.

PC Network Settings: Configure a Static IP Address

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address (I): 192 . 168 . 120 . 3

Subnet mask (U): 255 . 255 . 255 . 0

Default gateway (D): 192 . 168 . 120 . 1

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses:

Preferred DNS server (P): 8 . 8 . 8 . 8

Alternate DNS server (A): . . .

☐ Validate settings upon exit (L)

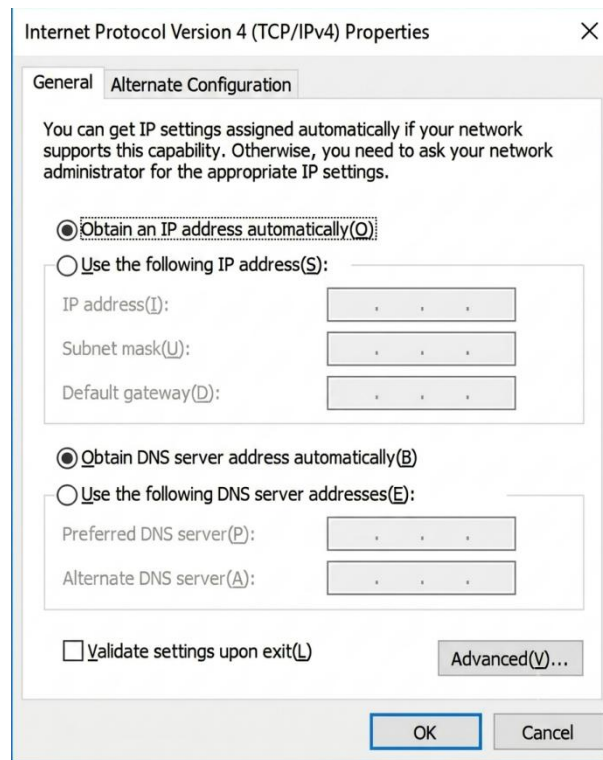
Advanced...

OK Cancel

7. 1. 2 Access via WAN Port

The WAN port supports DHCP by default. Connect the gateway WAN port and the computer to the same local area network (LAN). After obtaining the IP address dynamically assigned to the gateway by the router, enter the assigned IP address in the web browser to access the web interface. If a static IP address is required, configure the IP address, subnet mask, and gateway according to the parameters of the local network.

PC Network Settings: Set to Obtain an IP Address Automatically

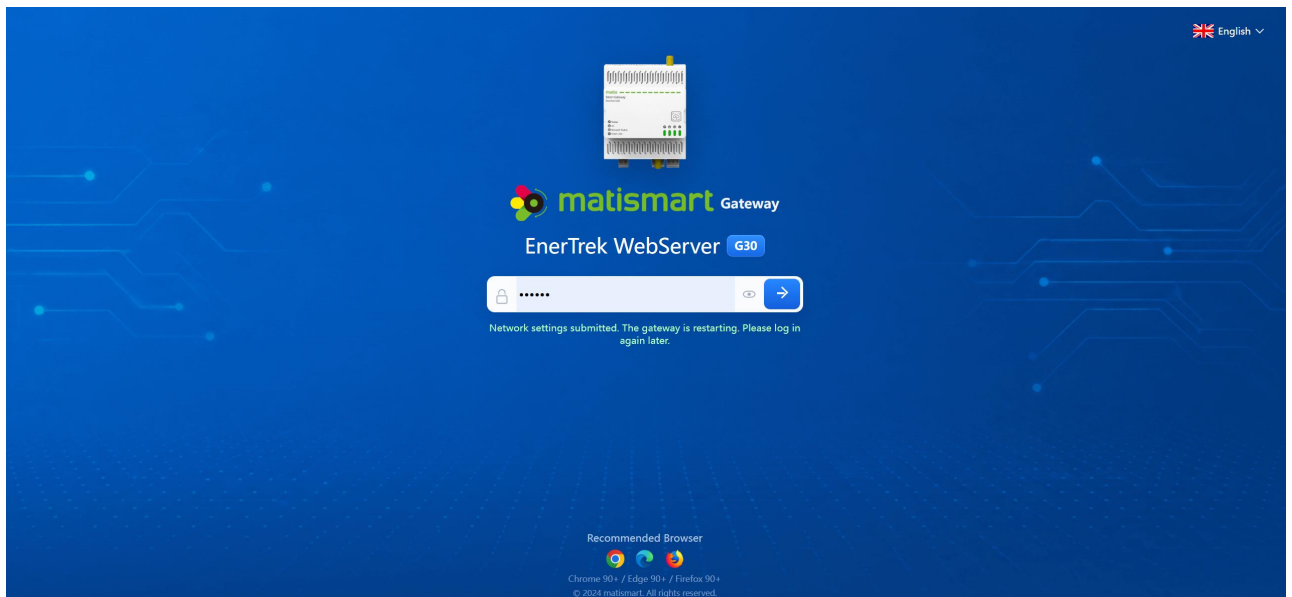


7. 1. 3 Access via WiFi

First access the Web Server through the LAN or WAN interface. Navigate to “Communication Configuration > Wi-Fi / 4G”, enter the Wi-Fi SSID and password, and save the settings. After the gateway connects to the wireless network, access the Web Server using the Wi-Fi IP address displayed on the page. The computer and the gateway must be connected to the same local area network (LAN).

7. 1. 4 Web Server Login

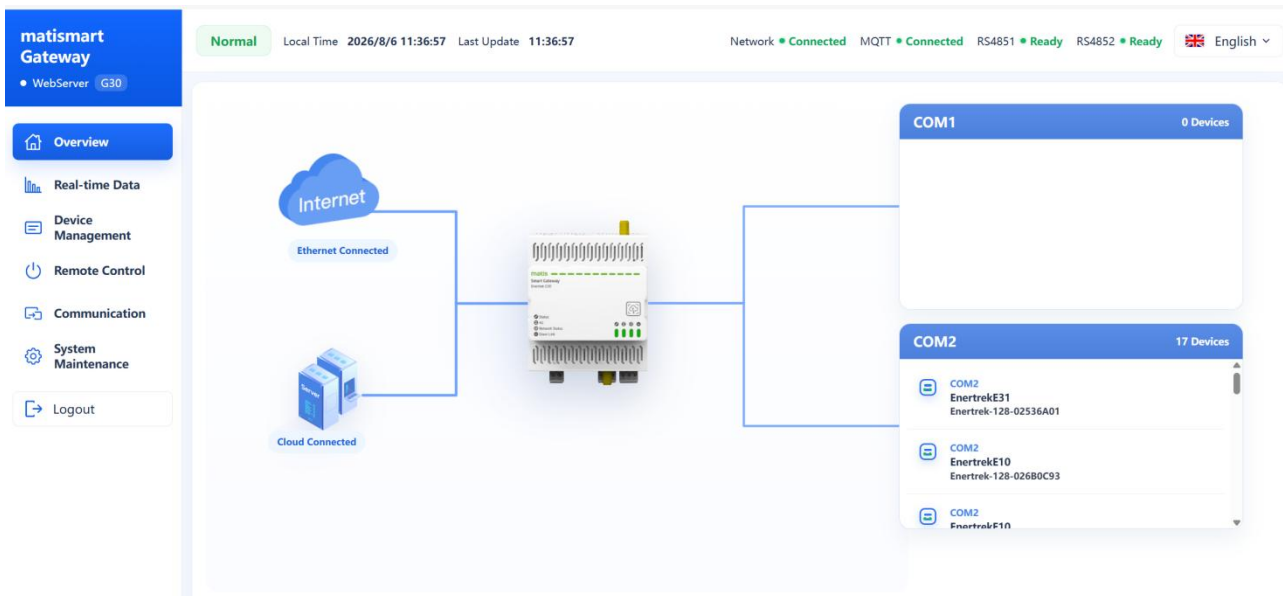
Enter the access password on the login page, then click the arrow on the right to log in to the system. The factory default password is 123456.



Web Server Login Page

7.2 Home Page Overview

After successful login, the system enters the “Home Page Overview” interface. The page displays the network topology showing the connection relationships between the Internet, cloud platform, gateway, and RS485 devices. The top status bar indicates the status of the network, MQTT, RS485-1, and RS485-2. The right panel displays the COM1 and COM2 communication channels and the number of connected devices.



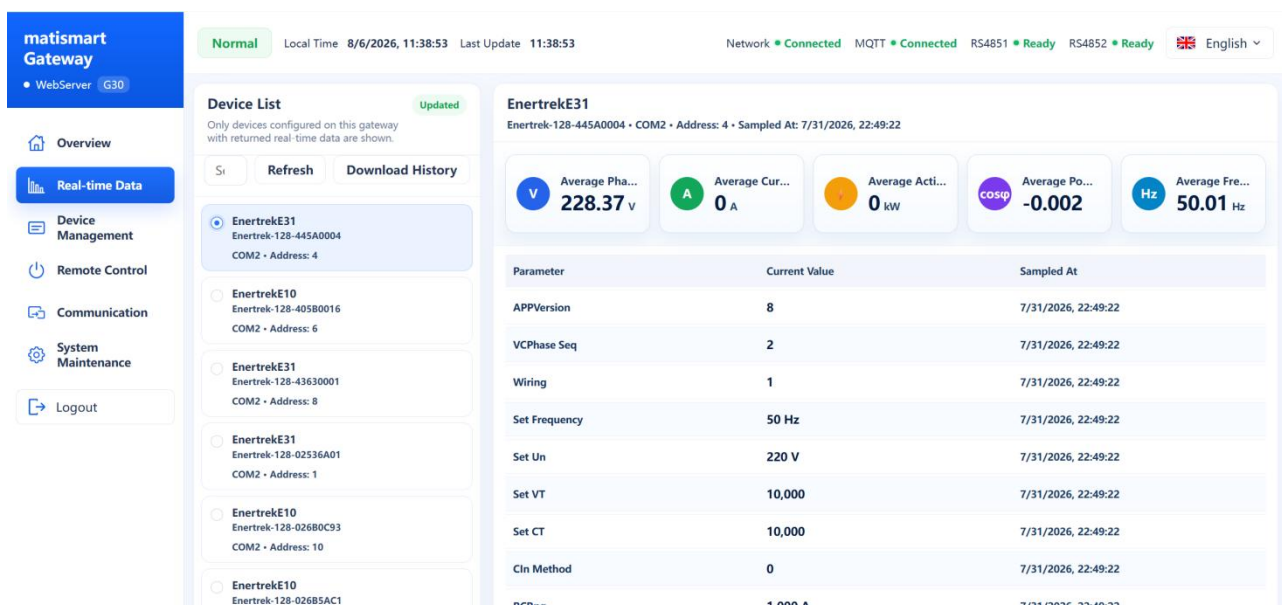
Status Troubleshooting: If the “Network” status is normal but the “MQTT” status is abnormal, check the cloud platform server address, port, account, Topic, and SSL settings first. If the network

status is abnormal, check the WAN, Wi-Fi, or 4G network parameters.

7.3 Real-Time Data

Click “Real-Time Data” in the left navigation menu. Select the target device from the device list to view the latest measurement data uploaded by the device.

- Summary Panel: Displays average voltage, average current, active power, average power factor, and average frequency.
- Parameter List: Displays parameter names, current values, and sampling timestamps.
- Device List: Displays only the devices configured on the current gateway and providing real-time data feedback.
- Supports device search, data refresh, and historical data download.



Real-Time Data Page

7.4 Device Management

The Device Management page is used to configure serial communication channels, add devices, and view the communication topology. The communication channel parameters must match the settings of the connected devices.

The screenshot displays the 'Enertrek Gateway: Data Workstation' interface. On the left is a sidebar with navigation options: Overview, Real-time Data, Device Management (selected), Remote Control, Communication, System Maintenance, and Logout. The main area is titled 'Communication Topology' and shows a diagram of the Enertrek G30 gateway connected to COM1 (RS485) and COM2 (RS485). Below this is the 'Device Details' section for 'EnertrekE31', showing its SN, model, COM port, address, baudrate, parity/stop bits, and protocol (Modbus RTU). To the right is the 'Add Channel' form with fields for COM Port, Channel Name, Baudrate, Data Bits, Parity, and Stop Bits, and a 'Save Channel' button. Further right is the 'Add Device' form with fields for Channel Name, Data Bits, and Stop Bits, and an 'Add Device Guide' section. At the bottom is the 'Channel List' table, which lists channels and their associated devices.

Channel Name	COM Port	Baudrate	Parameters	Devices	Action
EnertrekAuto	COM2	19200	N / 8 / 1	17 Devices	Edit Channel Delete Channel
EnertrekE31	Enertrek-128-02536A01		Address: 1 Protocol: Modbus RTU		Edit Device Delete Device
EnertrekE10	Enertrek-128-02680C93		Address: 10 Protocol: Modbus RTU		Edit Device Delete Device
EnertrekE10	Enertrek-128-02685AC1		Address: 5 Protocol: Modbus RTU		Edit Device Delete Device
EnertrekM10	Enertrek-128-30670005		Address: 21 Protocol: Modbus RTU		Edit Device Delete Device

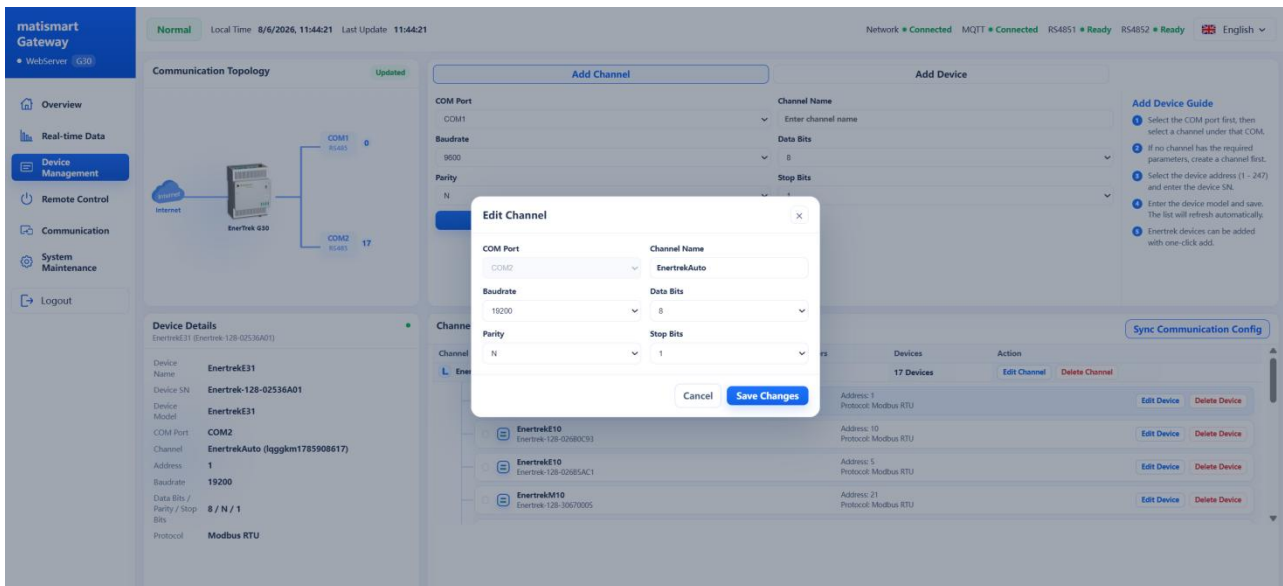
Device Management Overview

7. 4. 1 Add Serial Communication Channel

1. Select the COM port.
2. Enter the channel name.
3. Configure the baud rate, data bits, parity, and stop bits.
4. Click "Save Channel".

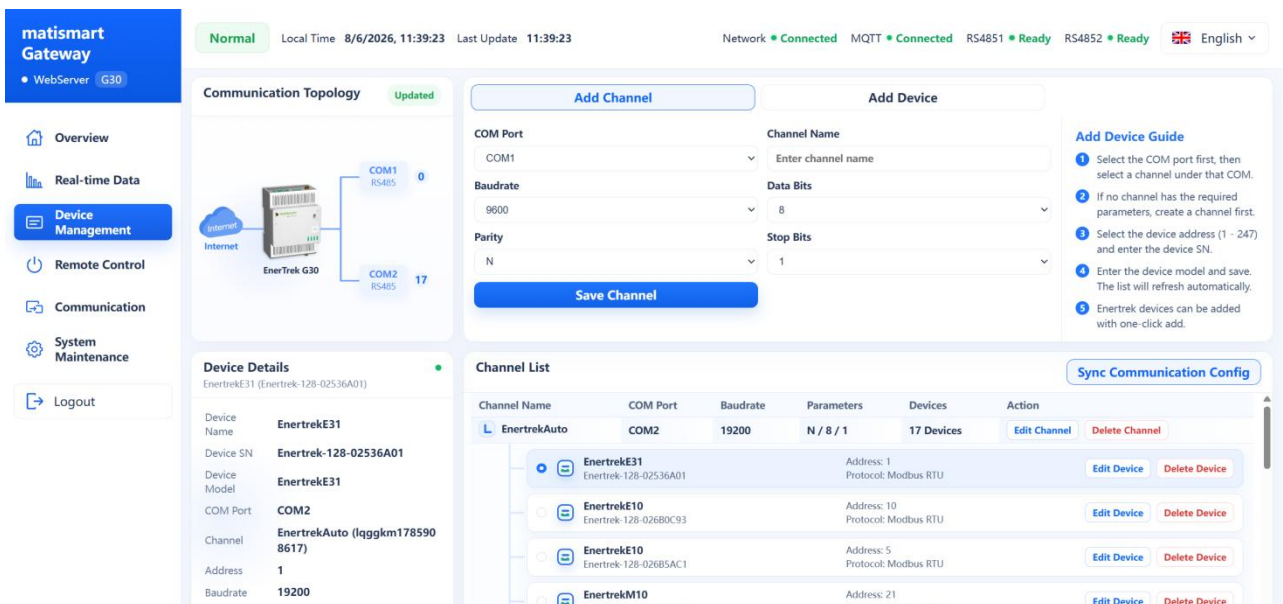
7. 4. 2 Edit Serial Communication Channel

In the channel list, click "Edit Channel" to modify the channel name and serial communication parameters. After completing the configuration, click "Save Changes" to apply the settings. The COM port cannot be modified in the edit window.



7. 4. 3 Add Device

1. Select the COM port and target communication channel.
2. Set the device communication address (range: 1–247).
3. Enter the device SN and select the device name/model.
4. Click “Save Device” to save the configuration. EnerTrek series devices can also be added using the “One-Click Add EnerTrek Device” function.

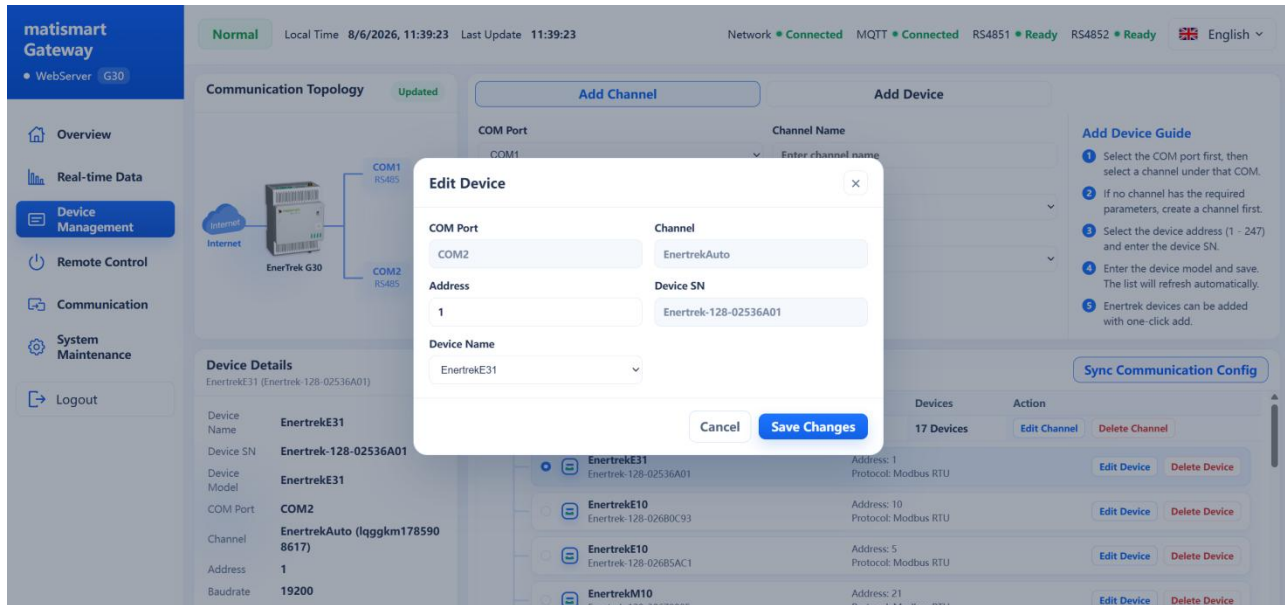


Add Device

7. 4. 4 Edit Device

Click “Edit Device” next to the device entry to modify the communication address and device

name. The COM port, communication channel, and device SN are used for device identification and cannot be modified in this window.



Edit Device

7. 4. 5 Synchronize Configuration with Cloud Platform

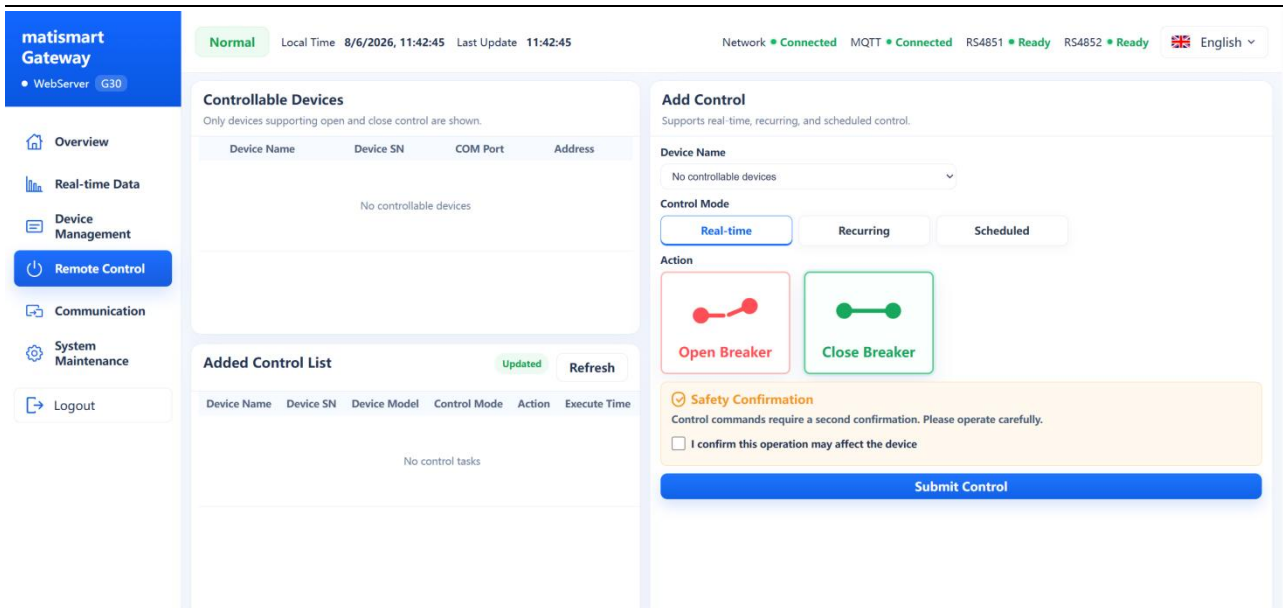
After adding, modifying, or deleting channels or devices, ensure that the gateway is connected to the cloud platform. Click “Report Communication Configuration” to synchronize the current communication topology to the platform. If the configuration is not reported, the configuration on the platform side may not be updated.

7. 5 Remote Control

The “Remote Control” page displays only devices that support open/close control. The system supports real-time control, cyclic control, and scheduled control.

1. Select the target device from the left panel.
2. Select the control mode.
3. Select Open or Close.
4. Read the safety confirmation notice and check the confirmation box.
5. Click “Submit Control”. Cyclic and scheduled tasks will be displayed in the task list below,

where users can refresh or delete the tasks.



Remote Control Page

Safety Warning: Open/Close commands directly affect on-site equipment. Before executing any operation, confirm the target device, communication address, circuit, and site safety conditions to prevent accidental operation

7. 6 Network Parameter Configuration and Communication Configuration

7. 6. 1 Protocol Operating Modes

The gateway supports the following two protocol operating modes:

Modbus MQTT: The gateway connects to the cloud platform and supports active data reporting and remote control.

Modbus TCP: The gateway functions as a local Modbus TCP Server, providing access for clients within the local area network (LAN).

7. 6. 2 Cloud Platform Connection (Modbus MQTT)

Configure MQTT parameters under “Communication Configuration > Cloud Platform Connection”, including the name, Client ID, server address, port, username, password, electrical parameter reporting interval, and SSL settings.

The page provides separate uplink and downlink Topics for heartbeat, electrical parameters, open/close commands, and alarms. It also supports uploading the CA certificate, client certificate,

and client key.

matismart Gateway
• WebServer

Normal Local Time: 8/6/2026, 11:43:37 Last Update: 11:43:37 Network: Connected MQTT: Connected RS4851: Ready RS4852: Ready English

Protocol Mode Updated

☒ Modbus MQTT
The gateway connects to the cloud by MQTT for reporting and remote control.

Current Mode: Modbus MQTT

☐ Modbus TCP
The gateway works as a local Modbus TCP server on the LAN.

Cloud Connection Ethernet Settings Wi-Fi / 4G

Name	Client ID	Server Address	Port
ManuCloud	174911148549_data	tcp://47.94.229.186	1883
Username	admin	Upload Period	SSL
	*****	1 min	Disabled

Heartbeat topic (Gateway -> Platform)
 matis/gateway/up/ matis/gateway/up/174911148549 Copy
 matis/gateway/up/Variable/ matis/gateway/up/Variable/174911148549 Copy

Electrical parameter topic (Gateway -> Platform)
 matis/gateway/up/pVariable/ matis/gateway/up/pVariable/174911148549 Copy

Breaker control topic (Gateway -> Platform)
 matis/gateway/up/breakCMD/ matis/gateway/up/breakCMD/174911148549 Copy

Alarm topic (Gateway -> Platform)
 matis/gateway/up/alarm/ matis/gateway/up/alarm/174911148549 Copy

Heartbeat topic (Platform -> Gateway)
 matis/gateway/down/ matis/gateway/down/174911148549 Copy
 matis/gateway/down/pVariable/ matis/gateway/down/pVariable/174911148549 Copy
 matis/gateway/down/breakCMD/ matis/gateway/down/breakCMD/174911148549 Copy
 matis/gateway/down/alarm/ matis/gateway/down/alarm/174911148549 Copy

CA File Client Certificate Client Key

Choose File No file chosen Choose File No file chosen Choose File No file chosen

Not configured Not configured Not configured

Save Config Refresh

Cloud Platform Connection and MQTT Parameters

Protocol Integration: Before modifying MQTT parameters, ensure that the user platform has completed the gateway protocol integration. The full Topic is automatically generated by combining the configured page prefix with the gateway ID.

7. 6. 3 Ethernet Port Settings

The WAN port is used to connect to the local area network (LAN) or the Internet and supports both dynamic IP and static IP configurations. The LAN port uses a static IP address and is mainly used for direct connection to a PC to access the Web Server. The default IP address is 192.168.120.200.

The screenshot displays the 'matismart Gateway' web interface. The top status bar shows 'Normal' mode, local time '8/6/2026, 11:45:13', and last update '11:45:13'. It also indicates network status: 'Network Connected', 'MQTT Connected', 'RS4851 Ready', 'RS4852 Ready', and language set to 'English'. The left sidebar contains navigation links: Overview, Real-time Data, Device Management, Remote Control, Communication (selected), System Maintenance, and Logout. The main content area is titled 'Protocol Mode' and shows 'Modbus MQTT' as the current mode. Below this, there are three tabs: 'Cloud Connection', 'Ethernet Settings' (selected), and 'Wi-Fi / 4G'. The 'Ethernet Settings' tab is divided into 'WAN' and 'LAN' sections. The 'WAN' section shows 'IP Mode' set to 'Dynamic' with a 'Save WAN' button. The 'LAN' section shows 'IP Mode' set to 'Static' with fields for IP (192.168.120.200), Netmask (255.255.255.0), Gateway (192.168.130.1), and MAC (08:00:27:00:01:93), along with a 'Save LAN' button.

WAN and LAN Ethernet Port Settings

- Dynamic IP: Automatically assigned by the on-site router or DHCP server.
- Static IP: Configure the IP address, subnet mask, and gateway according to the local network settings.
- After modifying network parameters, record the new IP address to avoid losing access to the Web Server.

7. 6. 4 Wi-Fi Settings

1. Navigate to "Communication Configuration > Wi-Fi / 4G".
2. Select the Wi-Fi network mode.
3. Enter the Wi-Fi SSID and password.
4. Click "Save Network Settings" and wait for the gateway to establish the Wi-Fi connection and obtain an IP address.

The screenshot displays the 'matismart Gateway' web interface. The top status bar shows 'Normal' status, local time '8/6/2026, 11:45:13', and last update '11:45:13'. It also indicates network and MQTT connections are 'Connected', and RS485 ports are 'Ready'. A language dropdown is set to 'English'.

The left sidebar contains navigation links: Overview, Real-time Data, Device Management, Remote Control, **Communication** (highlighted), System Maintenance, and Logout.

The main content area is titled 'Protocol Mode' and shows 'Modbus MQTT' as the selected mode. Below this, the 'Current Mode' is 'Modbus MQTT'. The 'Network Mode' section has tabs for 'Cloud Connection' and 'Ethernet Settings', with 'Wi-Fi / 4G' selected. Under 'Network Mode', the 'Wi-Fi' tab is active, showing fields for 'Wi-Fi SSID' (MatiaMart), 'Wi-Fi Password' (Matia2022), and 'Wi-Fi IP' (192.168.130.70). A 'Save Network' button is at the bottom. The 'Ethernet Settings' tab shows an 'APN List' table with columns for MCCMNC, APN, Username, Password, Dial Number, and Action. The table contains one entry for MCCMNC '46009' and APN '3gnet'. An 'Add APN' button is at the bottom right.

Wi-Fi Network Settings

7. 6. 5 4G Settings

Before inserting or removing the SIM card, disconnect the gateway power supply. Insert the SIM card, connect the 4G LTE antenna, and power on the gateway again. The gateway will normally dial up automatically. Some SIM cards or overseas mobile operators may require configuration of the PIN and APN.

1. Select the 4G network mode.
2. Enter the SIM PIN if required.
3. Configure the MCC, MNC, APN, username, password, and dial-up number according to the operator's information.
4. Click "Add APN" and then save the network settings.

The screenshot shows the 'matismart Gateway' web interface. The left sidebar contains navigation links: Overview, Real-time Data, Device Management, Remote Control, Communication (highlighted), System Maintenance, and Logout. The main content area is titled 'Protocol Mode' and shows 'Modbus MQTT' as the selected mode. Below this, there are tabs for 'Cloud Connection' and 'Ethernet Settings'. The 'Ethernet Settings' tab is active, showing 'Wi-Fi / 4G' settings. Under 'Network Mode', '4G' is selected. The '4G PIN' field is empty. The 'APN List' table shows two entries: '46009' with APN '3gnet' and '199#' with APN '199#'. The 'Add APN' button is visible at the bottom right.

4G, SIM PIN and APN Settings

7. 6. 6 Switching Operating Mode

After selecting a new protocol operating mode, the system will prompt:

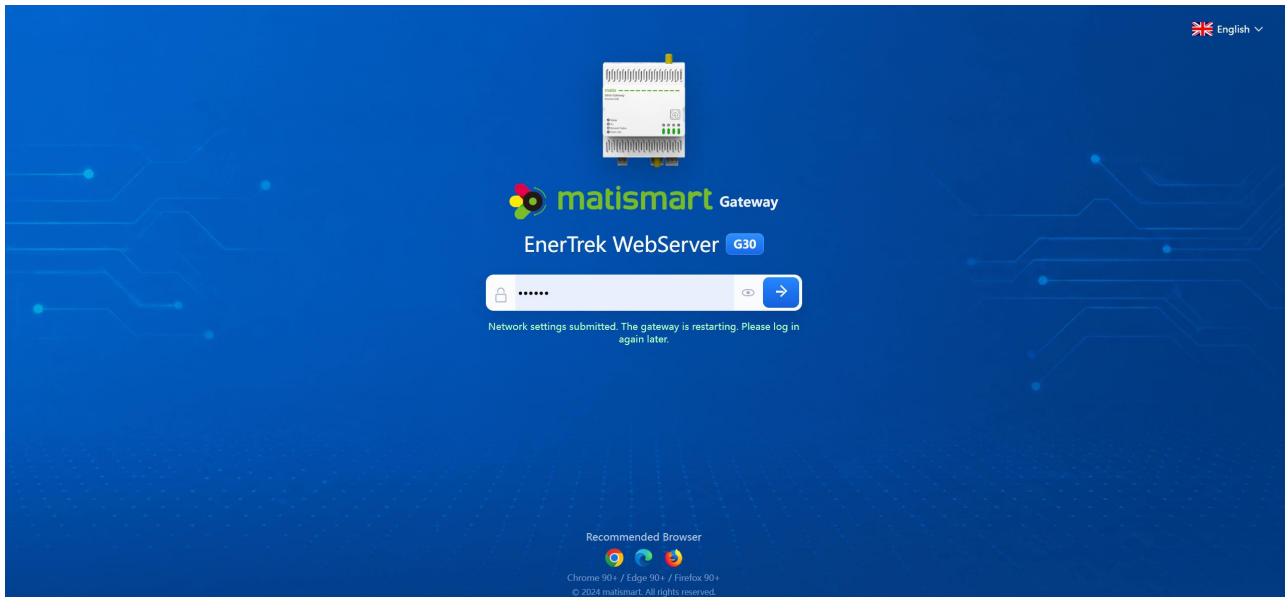
“The gateway needs to be restarted for the communication mode change to take effect.” Click “Confirm” to restart the gateway.

The screenshot shows the same 'Enertrek Gateway' interface, but with a 'Notice' dialog box displayed in the center. The dialog box contains the text: 'Changing network settings will restart the gateway. This session will exit and return to the login page. Continue?'. There are 'Cancel' and 'OK' buttons at the bottom of the dialog. The background interface is dimmed, showing the '4G' settings page.

Operating Mode Switching Confirmation

During the restart process, the login page will display: “Mode switched. The gateway is restarting. Please log in again later.”

Wait until the gateway has completed startup, then log in again using the password 123456.

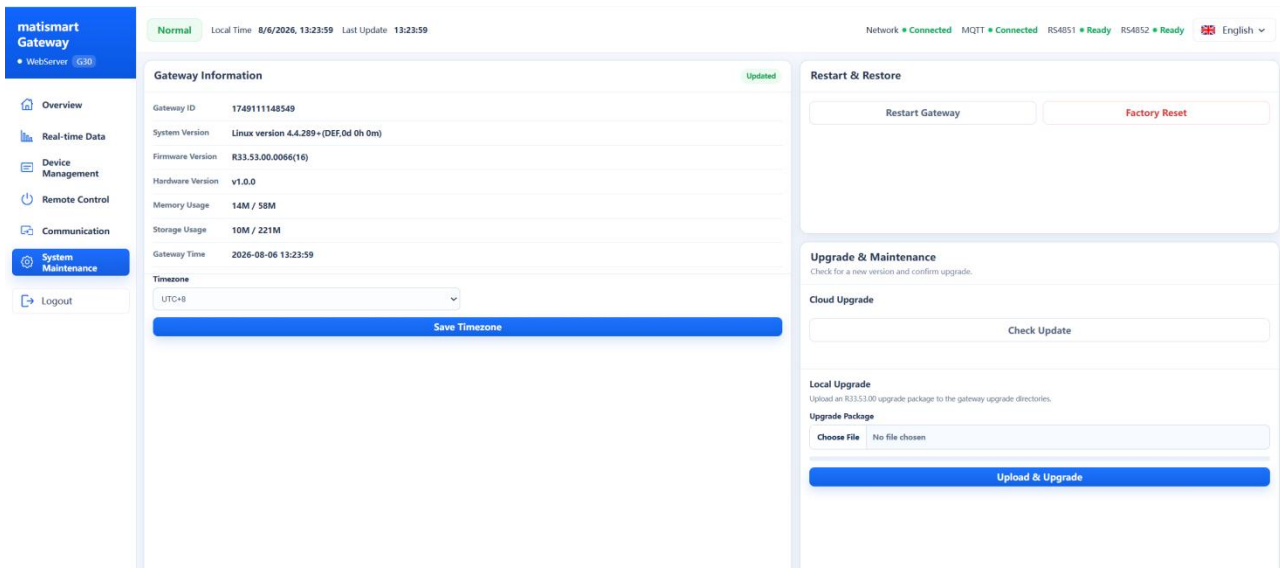


Gateway Restart Prompt

7.7 System Maintenance

The System Maintenance page provides centralized access to gateway information and system management functions, including time zone settings, gateway restart, factory reset, cloud upgrade, and local upgrade.

- **Basic Information:** Displays gateway ID, system version, firmware version, hardware version, memory, storage capacity, and gateway time.
- **Time Zone:** Select the required time zone and click “Save Time Zone” to apply the setting.
- **Restart Gateway:** Restarts the system without clearing any existing configurations.
- **Restore Factory Settings:** Clears all user configurations and restores the gateway to its factory default state. Back up configuration parameters before performing this operation.
- **Cloud Upgrade:** Click “Check for Updates”. If a new version is available, follow the instructions to complete the upgrade.
- **Local Upgrade:** Select the correct upgrade package and click “Upload and Upgrade” to perform a local firmware upgrade.



System Maintenance Page

Upgrade Notes: During the upgrade process, do not disconnect the power supply, unplug the network cable, or close the page. The upgrade package must be compatible with the product model and the current hardware version.

7.8 Modbus TCP Mode

After selecting Modbus TCP in the protocol operating mode and restarting the gateway, the gateway will operate as a local Modbus TCP Server.

In this mode, the page retains essential functions such as communication configuration, system maintenance, and logout.

7.8.1 TCP Port and Serial Port Parameters

Configure the Modbus TCP server port and set the serial port parameters used for forwarding, including the serial port, baud rate, parity, data bits, and stop bits.

The example port is 1500. In actual projects, the configuration should be consistent with the settings of the host system.

The screenshot shows the 'matismart Gateway' web interface. The top navigation bar includes 'WebServer' and 'G30'. The left sidebar has 'Communication', 'System Maintenance', and 'Logout' options. The main content area is titled 'Protocol Mode' and shows 'Modbus TCP' selected. Below this, there are two tabs: 'Serial Parameters' and 'Ethernet Settings'. The 'Serial Parameters' tab is active, showing 'Port Config' with a 'Port' field set to '1500'. The 'Serial Info' section includes 'Serial Port' (COM1), 'Baudrate' (9600), 'Parity' (N), 'Data Bits' (8), and 'Stop Bits' (1). There are 'Save Config' and 'Refresh' buttons at the bottom.

Modbus TCP Port and Serial Port Parameters

7. 8. 2 Modbus TCP Ethernet Port Settings

The WAN port is used as the Modbus TCP access interface and supports both dynamic IP and static IP configurations.

The LAN port uses a static IP address and is mainly used for accessing the Web Server.

The client should establish a connection using the WAN port IP address and the configured TCP port.

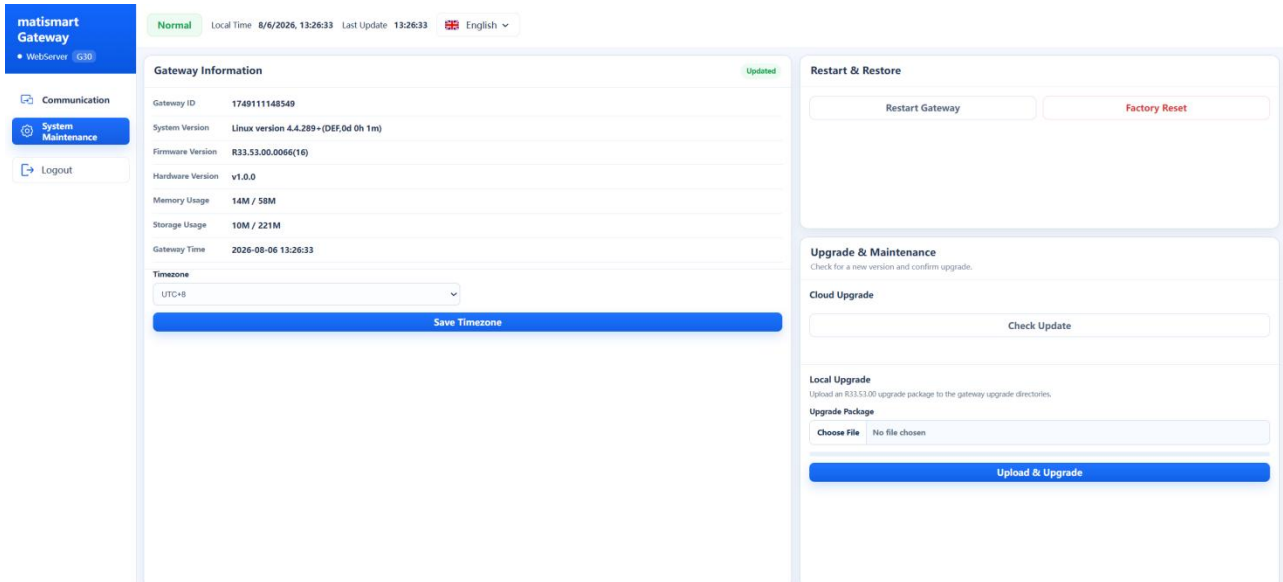
The screenshot shows the 'matismart Gateway' web interface with 'Modbus TCP' selected in the 'Protocol Mode'. The 'Ethernet Settings' tab is active, showing 'WAN' and 'LAN' configurations. The 'WAN' section includes 'IP Mode' (Dynamic), 'IP' (192.168.130.112), 'Netmask' (255.255.255.0), 'Gateway' (192.168.130.1), and 'MAC' (00:b8:11:a9:36:15). The 'LAN' section includes 'IP Mode' (Static), 'IP' (192.168.120.200), 'Netmask' (255.255.255.0), 'Gateway' (empty), and 'MAC' (08:00:27:00:01:93). There are 'Save WAN' and 'Save LAN' buttons at the bottom.

Modbus TCP Mode Ethernet Port Settings

7. 8. 3 System Maintenance in Modbus TCP Mode

The System Maintenance function is the same as that in Modbus MQTT mode.

Click “Check for Updates” to check the latest cloud version. If the page displays “The current version is already the latest version”, no upgrade is required.



System Maintenance in Modbus TCP Mode

8 Function Buttons and Indicator Lights

8. 1 Configuration Button

Activate WiFi Hotspot:

Press and hold the configuration button for 3–5 seconds to enable the gateway’s WiFi hotspot. Users can access the built-in Web page through a computer or mobile phone for device configuration and management.

Soft Restart Gateway:

Press and hold the configuration button for 10–15 seconds to perform a soft restart of the gateway.

8. 2 Reset Button

Reset Network Settings:

Press and hold the reset pin for 5–10 seconds to restore the gateway's network settings to factory defaults:

- WAN port is set to DHCP mode;
- LAN port IP address is restored to 192.168.120.200;
- Web interface login password is restored to the default value.

Restore Factory Settings:

Press and hold the reset pin for 15–20 seconds to restore the device to factory settings. All user-defined configurations will be cleared.

8.3 Network Status LED

The Network Status LED indicates the network status of the gateway.

Name	LED Indicator	Status Indication	Description
Network Status Indicator (Blue/Orange)	Solid Blue	WiFi/Ethernet/4G data communication is normal.	Solid blue indicates that the device is connected to the platform.
	Solid Orange	WiFi/Ethernet/4G data communication is abnormal.	Solid orange indicates a network error and the device is not connected to the platform.

8.4 RS485 Traffic Status LED

The traffic status of the RS485 serial line is indicated by a blue LED.

When the gateway is transmitting or receiving data on the RS485 network, the blue LED will flash.

When no data is being transmitted or received, the blue LED remains off.

Name	LED Indicator	Status Indication
RS485 Traffic Status Indicator (Blue)	Blue flashing (Normal)	Serial port data transmission or reception is in progress.
	Blue off	No data transmission or reception.

8.5 Ethernet Communication LED

The dual-color Ethernet LED indicates the communication status of the Ethernet ports ETH1 and ETH2.

LED Indicator	Status Indication
Yellow	10 Mbps link
Yellow flashing	10 Mbps activity
Green	100 Mbps link
Green flashing	100 Mbps activity

9 MQTT Protocol

Refer to the MQTT Protocol for more information.

10 API Protocol

Refer to the API Interface Protocol for more information.

11 Technical Specifications

11.1 Specifications

Features	Value
Processor	ARM926EJ-S Core
RAM	Maximum operating speed: 300 MHz
DDR	Built-in 64 MB DDR II memory
eMMC	GB
USB 2.0	USB Host / Device
Encryption/Decryption Engine	• ECC-256 • AES-256 • RSA-2048 • SHA-512 • HMAC • Random number generator

Operating System	Deeply customized Linux-based
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11.2 Electrical Specifications

Features	Value
Power Supply	12 V DC
Power Consumption	≤3W

11.3 Mechanical Specifications

Specifications	Value
Indicator Lights	Gateway Status \ 4G Module Status \ Uplink Communication \ Downlink Communication
Installation	DIN rail
Protection Rating	IP40 (frontal protruding parts)
Dimensions	72 x 105 x 71 mm
Weight	136 g

11.4 Environmental characteristics

Features	Value
Operating Temperature	-10 to 55 °C
Storage Temperature	-25 to 70 °C
Relative humidity	5 to 95% relative humidity, non-condensing
Altitude	Below 2,000 meters

11.5 Serial communication

Specifications	RMS	Default value
Baud rate	9600	9600
	19200	
	38,400	

Data bits	5, 6, 7, 8	8
Parity method	Odd parity	No parity
	Even parity	
	No Parity	
Stop Bit	1, 2	1

11.6 Ethernet interface

Characteristics	Effective value
Number of ports	2 ports
Port Speed	1 x 10/100 Mbit/s auto-negotiating WAN port, configurable as an Ethernet LAN port 1 x 10/100 Mbit/s auto-negotiating Ethernet LAN port, accessible via embedded web server
LAN protocol	Ethernet LAN protocol
WAN Protocol	Supports static IP and DHCP
Configuration methods	Web-based, centralized configuration management software

11.7 4G wireless communication

Features	Value
4G	FDD-LTE: B1/B3/B5/B8 TDD-LTE: B34/B38/B39/B40/B41
SIM/UIM Interface	Supports 1.8V/3V SIM/UIM cards

12 Document Revision History

File Name	Enertrek_G30_Smart Gateway_User Manual	File No.	
Current Version	V1.3	Effective Date	26-04-18
Prepared by Department	Marketing Department	Confidentiality / Status	Controlled / Released

Version No.	Revision Date	Revised Chapter / Page	Description of Revision	Reason for Revision	Revised by	Reviewed by	Approved by	Remarks
V1.0	2025-02-19	Entire Document	Initial release	New document creation	Zhang Jianwei			
V1.3	26-04-18	Chapter 8	Added WiFi wireless access to the Web Server in gateway configuration and networking methods	Function optimization	Kang Pei	Zhang Jianwei		
V1.4	26-06-19	New Chapter 8	Added Modbus TCP mode switching and configuration functions for the gateway	New function description	Kang Pei			
V1.5	26-08-05	Chapter 7	Updated Web Server pages	Web function update	Zhang Jianwei			

Instructions for Use:

- 1.The version number should follow formats such as V1.0, V1.1, V2.0, etc. Minor revisions should use the minor version number, while major structural changes or functional updates should use the major version number.
- 2.The Description of Revision should clearly state “what was changed”, and the Reason for Revision should clearly explain “why the change was made.”
- 3.Before releasing a controlled document, the preparation, review, and approval processes must be completed, and revision records must be retained.