SELECTION GUIDE
GATEWAY DATA LOGGERS
EXCGLB SERIES

Quick setup guide

Lovato electric

ENERGY AND AUTOMATION

SELECTION GUIDE GATEWAY DATA LOGGERS EXCGLB SERIES

Follow steps 1 to 5 to configure your gateway data logger quickly and easily!
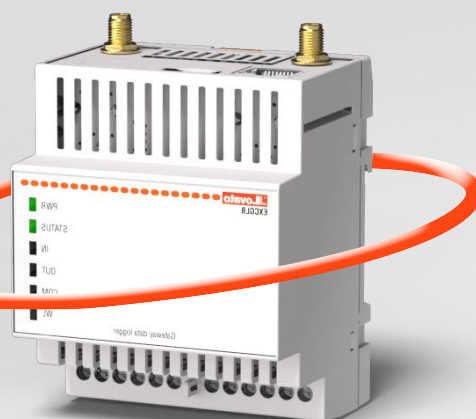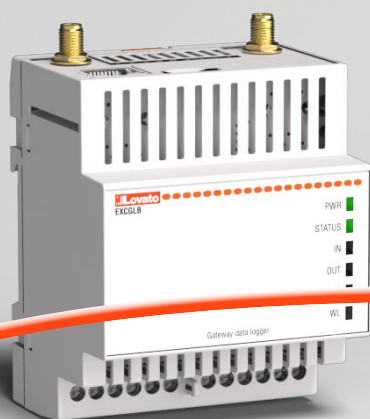
## 1 WHERE DO YOU WANT TO INSTALL THE GATEWAY DATA LOGGER?

A - PRIVATE LOCAL NETWORK
B - CORPORATE NETWORK

Install the gateway data logger in a freely configurable local network or within a corporate network, subject to rules imposed by the company's IT department.

2 DOES THE GATEWAY DATA LOGGER NEED TO BE CONNECTED TO INTERNET?

A - NO
B - YES
- WI-FI NETWORK
- MOBILE 4G (LTE)
- WIRED NETWORK

Connect the gateway data logger to the internet via Wi-Fi, 4G (LTE) mobile network, or wired network.
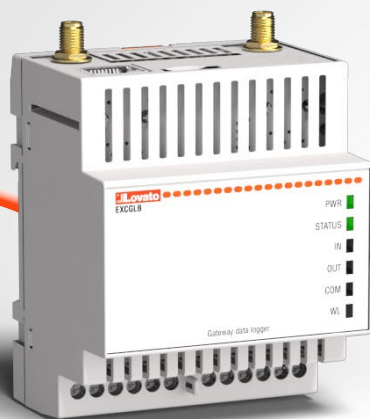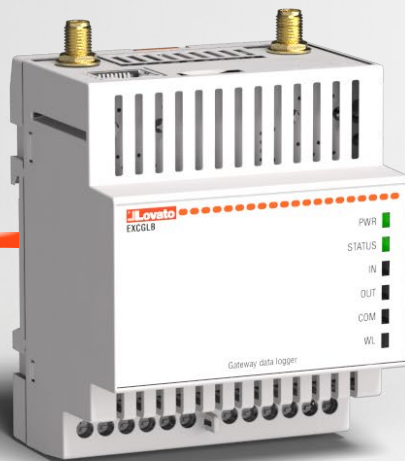
3 CONNECT AND CONFIGURE THE FIELD DEVICES

Connect field devices to the gateway data logger via RS485, Ethernet, or mixed configuration, up to a *maximum of 20 devices* (of which a maximum of 10 via Ethernet).
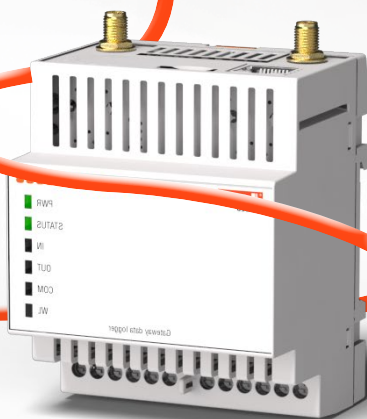
A - ETHERNET
B - RS485

5 DO YOU WANT **TO CONNECT** THE GATEWAY DATA LOGGER **S**ynergy_{cloud}?

Connect the gateway data logger to your **S**ynergy_{cloud} account to remotely monitor data collected from field devices via web browser or mobile devices.

A - NO
B - YES

4 **DETECT** THE CONNECTED DEVICES

Access to the gateway data logger web server to verify recognition of connected devices.

1 WHERE DO YOU WANT TO INSTALL THE GATEWAY DATA LOGGERS?

Choose between:

Corporate network
subject to rules imposed by IT

Ask the IT manager for the IP address format to be used and configured on all devices (e.g., 172.100.110.x).
The IP address of the gateway data logger can be:
- a **static** IP address assigned by the IT manager
- a virtual **static** IP assigned by a **DHCP server**, which must remain unchanged over time.

Private local network
freely configurable

The IP address format can be chosen freely.
We recommend keeping the default IP address of the gateway data logger **192.168.0.1**

ⓘ If you want to interface with 𝐒ynergy Cloud, the gateway data logger must be connected to the internet. Check with your IT manager in advance to find out the IP address to assign to the gateway data logger and to ensure that it is authorized to connect to the internet.

ACCESS TO THE WEB SERVER
OF THE GATEWAY DATA LOGGER

❶ The gateway data logger must be powered

❷ Connect the EXCGLB gateway data logger to a PC using a direct Ethernet cable.

❸ Assign the PC's Ethernet network card an IP address from the same IP range as the gateway data logger (192.168.0.xxx).

❹ Open a browser and enter the IP address of the gateway data logger 192.168.0.1 in the address bar.

❺ The web server login page opens.
Enter the default credentials:
a. username= admin
b. password= admin

ⓘ When you log in for the first time, you will be asked to change your credentials, which must comply with the requirements specified on the screen.

Find out how:
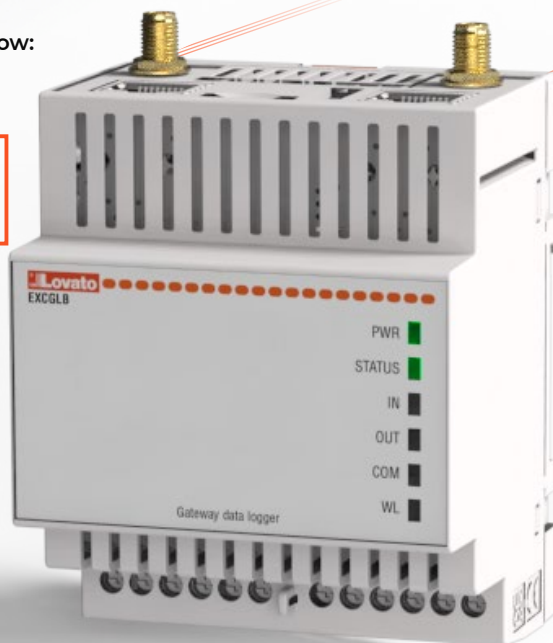
Corporate network
subject to rules imposed by IT

Go to section::

→ CHANGING THE IP ADDRESS
  OF THE GATEWAY DATA LOGGER

Private local area network
freely configurable.

Go to section:

→ SET DATE AND TIME

CHANGE THE IP ADDRESS OF THE GATEWAY DATA LOGGER (ONLY FOR CORPORATE NETWORKS)

❶ Access the web server of the gateway data logger

❷ To change the IP address of the gateway data logger, click on the menu on the left *Settings ➜ Network Interfaces*.

❸ Click on the *Edit* button to change the IP address:

- In the case of a manually configured static IP address:

Enter the new IP address in the field *address* (e.g., 172.10.20.10) on the *Eth0* line and click *Save*.

Find out how:

- In the case of an IP address assigned via a DHCP server:

❶ Enable the DHCP flag on the *Eth0* line

⚠ Warning! If the IP address of the gateway data logger is assigned via DHCP, before proceeding with the next steps, check with your IT manager that the DHCP server is up and running. If you attempt to assign an address via DHCP without a functioning DHCP server, the gateway data logger will not receive an IP address, causing the connection to be lost and making it impossible to access its web server. In this case, you will need to send the product to LOVATO Electric for a factory reset.

❷ Disconnect the ethernet cable used for direct connection to the PC and insert the corporate network cable connected to the **active and functioning DHCP server.**

❸ Ask the IT manager for the new virtual static IP address assigned by the DHCP server to the gateway data logger.

⚠ Take a note of this IP address, which must be set on the devices that will be connected via Ethernet to the gateway data logger.

After changing the IP address, the connection to the web server will be lost. From that point on, access to the web server will only be possible from a PC connected to the same network as the gateway data logger (e.g., a PC connected to the corporate network).

ⓘ To change the PC's IP address, see the section ACCESS WEB SERVER - point 3.

SET THE DATE AND TIME
OF THE GATEWAY DATA LOGGER

To record data with the correct time reference, it is mandatory to set the current date and time.

❶ Open a browser and access the web server by entering the IP address of the gateway data logger

❷ From the *Settings* menu, click on *Date & Time*

❸ Click on *Edit* and update the date, time, and time zone

❹ Disable the NTP function

❺ Update the date and time and click on *Save*.

Find out how:
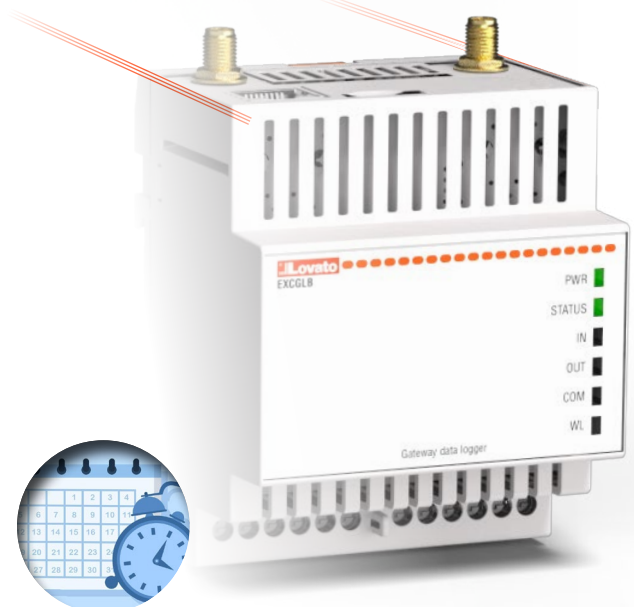
2 DOES THE GATEWAY DATA LOGGER NEED TO BE CONNECTED TO THE INTERNET?

A - NO: skip to section 3.
B - YES: choose from the following options.

| Wi-Fi	Mobile network 4G LTE	Wired network
ℹ️ Option available only for model EXCGLB01.	ℹ️ Option available only for models EXCGLB02 and EXCGLB03.	ℹ️ Option available for all EXCGLB models...
❶ Connect the Wi-Fi antenna (recommended code CX07) to the Wi-Fi connector on the gateway data logger.	❶ With the gateway data logger powered off, insert a data SIM card into the appropriate SLOT on the EXCGLB and connect the 4G LTE antenna (recommended code CX05) to the LTE connector on the gateway data logger.	Connect the gateway data logger to the wired network connected to the Internet via an Ethernet cable.
❷ Access the EXCGLB web server and select the item from the menu on the left. *SETTINGS → NETWORK INTERFACES.*	❷ Access the EXCGLB web server and select the item from the menu on the left. *SETTINGS → NETWORK INTERFACES.*	The gateway data logger automatically connects to the internet via the wired network.
❸ In the *WI-FI* section click on *EDIT* and select the Wi-Fi network you want to connect to from the drop-down menu, enter the Wi-Fi network password, and click the SAVE button.	❸ In the *MOBILE NETWORKING SETTINGS* section enter the SIM PIN (if present), the APN of the network operator (e.g., mobile.vodafone.it), activate the Enabled button, and click the SAVE button.	
[QR code] **Find out how:** 🎥	[QR code] **Find out how:** 🎥	
❹ It is recommended to restart the power supply of the gateway data logger.	❹ It is recommended to restart the power supply of the gateway data logger.	
	ℹ️ If the SIM card is recognized and there is signal, the blue WL LED starts flashing.	
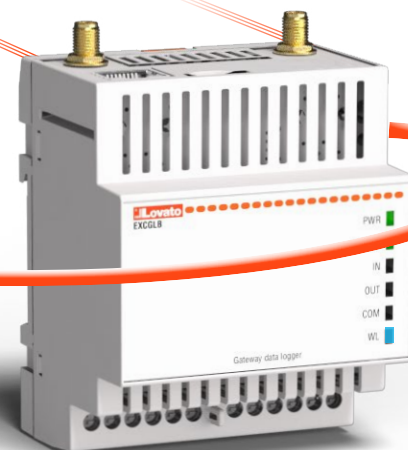
Find out how:

INTERNET CONNECTION TEST

From the web server, access the *Settings* ➔ *Administration Area* menu, in the *PING* section, type the address www.lovatoelectric.com in the Address field, click the *START* button, and verify that the gateway data logger responds correctly.
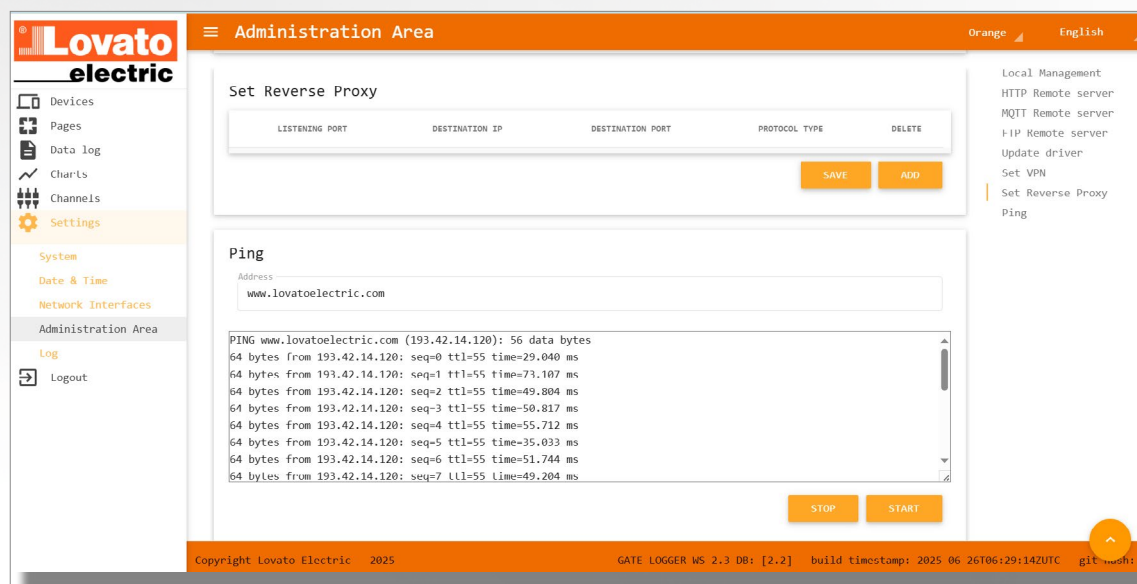

Find out how:

ACTIVATION OF THE NTP SERVICE

Once the gateway data logger is connected to the internet, the NTP function must be enabled for automatic date and time updates via the internet.

❶ From the web server, access the *Settings* menu
❷ Click on the *Date & Time* item
❸ Click ok *Edit* and select the correct time zone (Current Timezone)
❹ Enable the NTP function
❺ Click on *Save*.

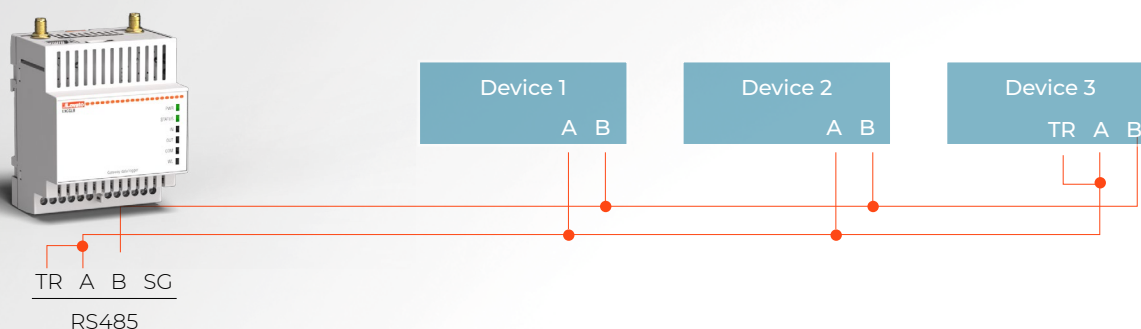# **3** CONNECT AND CONFIGURE THE FIELD DEVICES
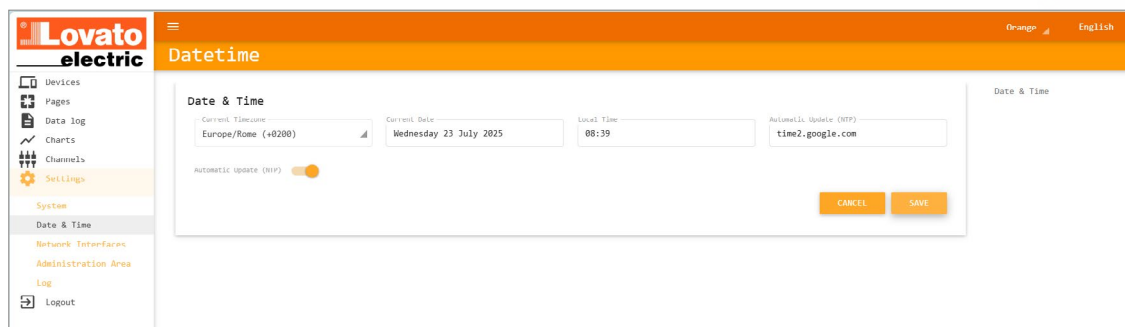
The devices in the field can be connected via RS485 port, Ethernet port, or even in a mixed configuration, up to a maximum of 20 devices (of which a maximum of 10 via Ethernet).
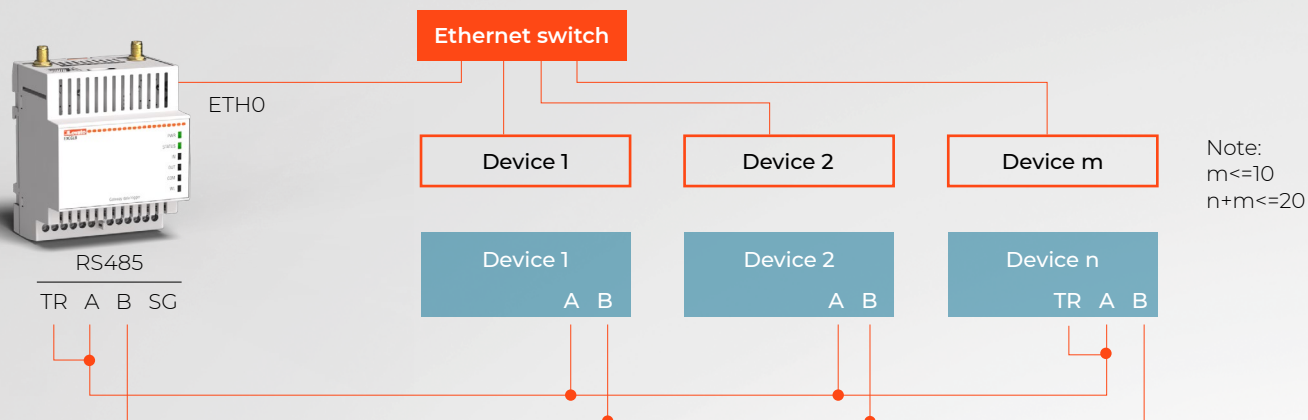
Devices connected via RS485

- **Connect terminals A and B** of the gateway data logger in series to terminals A and B of the RS485 ports of the **device installed in the field** using twisted pair cable.
- A 120Ω termination resistor must be connected to the first and last devices on the RS485 serial network. Most LOVATO Electric devices already have a built-in termination resistor (TR), which can be activated by placing a jumper between the TR and A terminals, as shown in the example below. Connect the TR-A terminals exclusively on the first device (EXCGLB) and on the last device of the RS485 serial network.

Configure the devices in the field: set the following parameters in each device connected via RS485:
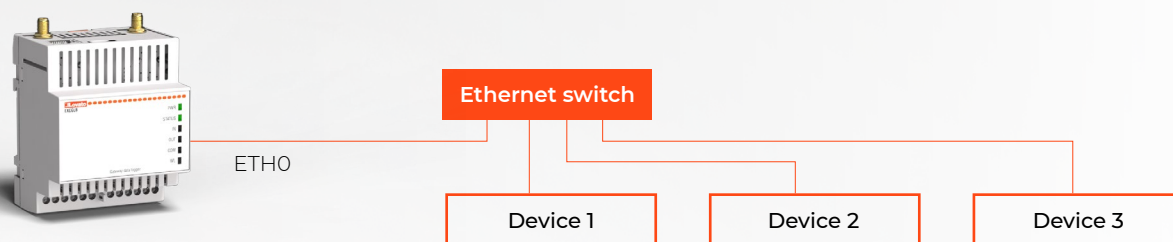
PARAMETER	INFO	Device 1	Device 2	Device 3
Serial address (node)	Set a unique serial address (node) different from all others	**1**	**2**	**3**
Speed	Set all devices to the same speed. Recommended value: 38400bps (default speed of EXCGLB) ❶	38400 BPS	38400 BPS	38400 BPS
Data format	Set to all devices the same data format: 8 data bits, no parity	8/N	8/N	8/N
stop BIT	Set 1 stop bit	1	1	1
Protocol	Set Modbus-RTU protocol	Modbus-RTU	Modbus-RTU	Modbus-RTU

❶ If even one of the devices has a lower maximum speed setting (e.g., 9600 bps), set the speed of all devices (including the gateway data logger) to that value. To change the communication parameters of the gateway data logger, access the Channels section from the web server.

For more information on configuring the parameters, refer to the device manuals available on the website www.LovatoElectric.com

Devices connected via Ethernet

ONLY devices that can be configured as **Clients** capable of connecting to a remote IP address can be connected.

ℹ️ All LOVATO Electric DMG series power analyzers and DME series energy meters equipped with an Ethernet port support this function.

Ethernet switch

ETH0

| Device 1 | Device 2 | Device 3 |

Configure the devices in the field: set the following parameters in each device connected via Ethernet:

PARAMETER	INFO	Device 1	Device 2	Device 3
Serial address (node)	Set unique serial address (node) different from all the others	**4**	**5**	**6**
Protocol	Set protocol Modbus-TCP	Modbus-TCP	Modbus-TCP	Modbus-TCP
IP address	Set a unique IP address belonging to the same network range as the gateway data logger (default 192.168.0.1)❷	192.168.0.**2**	192.168.0.**3**	192.168.0.**4**
Subnet mask	255.255.255.0	255.255.255.0	255.255.255.0	255.255.255.0
TCP port	Set the value to 1001 on all the devices.	1001	1001	1001
Client/server function	Configure all devices as clients. If this option is not available, the device is not compatible with EXCGLB.	Client	Client	Client
Remote IP address	Set the IP address value of the gateway data logger on all the devices ❷	192.168.0.1	192.168.0.1	192.168.0.1
Remote IP port	Set the value to 1000 on all the devices.	1000	1000	1000

❷ If the IP address of the gateway data logger has been changed from the default value (192.168.0.1), align the IP address format of all devices connected to Ethernet with the new IP address format of the gateway data logger. Example: If EXCGLB has been configured with IP address 172.10.20.10, set each device connected to Ethernet to a unique IP address belonging to the 172.10.20.x network range (e.g., 172.10.20.11, 172.10.20.12, etc.) and set the IP address of the gateway data logger 172.10.20.10 in the "Remote IP address" parameter.

For more information on parameter configuration, refer to the device manuals available on the website www.LovatoElectric.com

4 DETECT THE DEVICES CONNECTED

Find out how:

AUTOMATIC DEVICE RECOGNITION

❶ open a browser and access the web server by entering the IP address of the gateway data logger.

❷ click on the menu on the left *Devices.*

❸ devices connected via Ethernet and most LOVATO Electric devices connected via RS485 are automatically recognized and listed in the *Devices* list. If the devices are not displayed, click on the icon ⚡ and refresh the page.

❹ the icon ⚠ indicates that a scenario must be assigned to the device. Select the device row and click on the icon. ✏

❺ Select the desired scenario from the *Scenario* drop-down menu and assign a custom name to the device in the *Description* * field.

* We recommend setting the default Basic scenario.
For different scenarios, refer to instruction I722, which can be downloaded from www.lovatoelectric.com

⚠ To change the scenario, you must delete the device from the *Devices* list.

❻ Once the scenario has been assigned, after about 10 seconds the device icon in the *Devices* menu becomes 🔄

ⓘ If the icon is displayed, 🔄 it means that one or more devices are offline.
a. refresh the page
b. check the wiring and connection parameters
c. if the icon does not turn green 🔄, contact service@lovatoelectric.com.

MANUAL DEVICE RECOGNITION

Find out how:

Devices that are not automatically recognized, such as LOVATO Electric LRK series micro PLCs, the DMECD data concentrator, and third-party devices, must be configured manually.

❶ click on the icon ➕ to add a device.

❷ Fill in the following fields:
a. *Description*: assign a name to the device
b. *Model*: select the device model from the drop-down menu

ⓘ If the desired model is not listed, please contact service@lovatoelectric.com to request its inclusion
c. *Status*: Enabled
d. *Licensed*: Yes
e. *Modbus node address:* enter the serial address set on the device
f. *Scenario*: select the desired scenario.

❸ click *Save* and the device will be added to the *Devices* list

a. If the device is recognized correctly, the icon appears 🔄

b. If the icon ⚠, appears next to the device, it means that the gateway data logger has detected a model other than the one selected. Position the mouse pointer over the symbol ⚠, to display the model of the recognized device.

c. If the icon 🔄 is present, it means that one or more devices are offline. Check the connections and connection parameters. Once you have checked these steps, if the icon does not turn green, contact service@lovatoelectric.com.

ⓘ If the device is not recognized, check:
a. wiring
b. parameter settings
c. if the problem persists, contact service@lovatoelectric.com.

5 DO YOU WANT TO **CONNECT** THE GATEWAY DATA LOGGERS TO **Synergy** cloud ?

Lovato electric

Synergy cloud is software for remotely monitoring devices from a PC or mobile device connected to the Internet.
To enable Cloud functions, you must have a license for each device connected to the gateway data logger.

For licensing information, please contact service@lovatoelectric.com.
For information on activating licenses and creating an account, **Synergy** cloud please contact service@lovatoelectric.com.

Find out how:

INTERFACING THE GATEWAY DATA LOGGER TO **Synergy** cloud

To interface the gateway data logger to **Synergy** cloud :

❶ Connect the PC and the gateway data logger to the Internet (see chapter 2).

❷ Open a browser and access the web server by entering the IP address of the gateway data logger.

❸ Click on the menu *SETTINGS ➔ ADMINISTRATION AREA ➔ HTTP REMOTE SERVER*

❹ Enter your account credentials **Synergy** cloud (user and password) to which you want to connect the gateway data logger.

⚠ The Remote Server address field (https://monitoring.lovatoelectric.com/api/gl/Excgla/Send) must not be modified.
If it is accidentally modified or deleted, you can restore the default value by clicking on the appropriate button.

ACCESS TO **Synergy** cloud

❶ From a PC connected to the Internet, open a browser and enter the address
https://monitoring.lovatoelectric.com

❷ LOG IN by entering your **Synergy** cloud account credentials

❸ Verify that the devices connected to the gateway data logger are displayed in the *DEVICES* list of **Synergy** cloud

For further information, please contact service@lovatoelectric.com.

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