

QUICK INSTALLATION GUIDE

LITHIUM SERIES 48V 5.1 kWh Slim

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HYBRID INVERTER TURBO ENERGY



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1. TURBO ENERGY HYBRID INVERTER Configuration

Paso 1: Conectarse al wifi del INVERSOR

To be able to upload the SunBox to the cloud and be able to see the monitoring of the system, it is essential to connect the equipment to the internet. To do this, the following steps must be followed:

Step 0: Locate the serial number of the logger

At the bottom of the inverter there is a label with a QR code, the serial number of your logger and the password to access the Wi-Fi of the logger



The logger creates a Wi-Fi network whose name is "AP_" followed by the serial number of the logger.

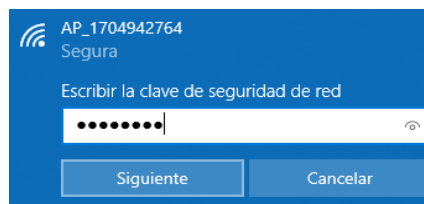
Step 1: Connect to the Wi-Fi network

With an electronic device that has Wi-Fi (PC, Tablet, Smartphone ...) the connection with the Wi-Fi of the recorder is established:

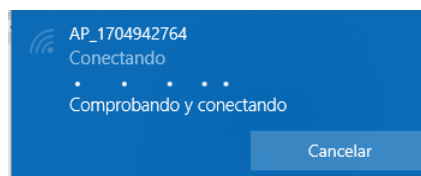
Open the wireless network connection of your PC, tablet, or smartphone

Click View Available Wireless Networks

Select the corresponding one with the device which you want to connect with (identified by "AP_" and the serial number of logger)



Enter the key that appears on the logger along with the serial number.



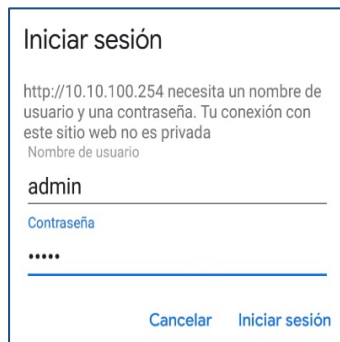
Step 2: Connect to the web portal

Once connected to the Wi-Fi network with your PC, tablet, or smartphone you must access the web portal of the registrar.

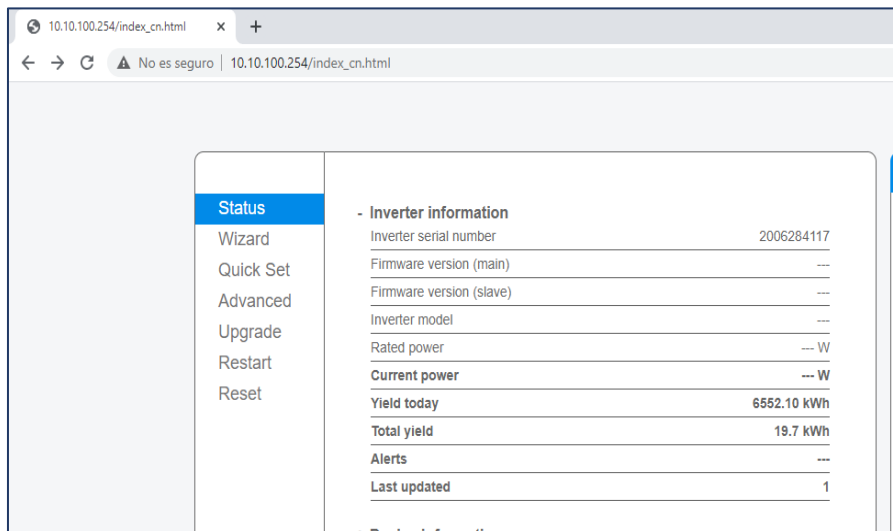
To do this, a web browser on the PC, tablet or smartphone that has been connected to the wi-Fi of the logger

Type in the address bar of the web browser the text "10.10.100.254"

A login pop-up window will appear asking for username and password. The default user is "admin" and the password is "admin" and pulsar the button "Login".



Once you have accessed the web portal of the registrar you will be able to see the "Status" page with general information of the registrar.



Click on the "Wizard" link under the "Status" link to run the connection wizard from the logger to the wi-fi of the installation (the Wi-Fi of your house or your plant).

Step3: Configure the
LOGGER's access to the wi-fi of the plant

Step 3.1: Select the wi-fi of the plant

When we run the connection wizard, we see the list of Wi-Fi networks to which the registrar has access. Among them must appear the Wi-Fi of our plant. We must select that Wi-Fi and press the "Next" button at the bottom of the screen:

The screenshot shows a web interface for configuring a device. On the left is a navigation menu with options: Status, Wizard (selected), Quick Set, Advanced, Upgrade, Restart, and Reset. The main content area is titled "Please select your current wireless network:". It contains a "Site Survey" table with columns for SSID, BSSID, RSSI, and Channel. Below the table is a note: "★Note: When RSSI of the selected WiFi network is lower than 15%, the connection may be unstable, please select other available network or shorten the distance between the device and router." There is a "Refresh" button below the note. Below that is a section "Add wireless network manually:" with input fields for "Network name (SSID) (Note: case sensitive)" and "Encryption method" (set to "Disable"). A "Next" button is at the bottom right. At the very bottom, there is a progress indicator with four steps, where step 1 is highlighted.

SSID	BSSID	RSSI	Channel
AP_1704942764	9C:D8:63:71:9C:50	100	12
Solar-WiFi19B00055	98:D8:63:8B:55:CC	100	1
vodafone7A38	74:DA:88:B:1F:5E	45	1
TP-LINK_8D10	7C:8B:CA:B9:8D:10	37	11
RMNTRNS	90:3A:72:32:C5:58	30	8
RMNTRNS	34:FA:9F:2C:CA:E8	25	3
DIRECT-35-HP	E6:E7:49:26:F6:35	23	6
PageWide MFP P57750	F0:E4:A2:3E:53:9A	16	1
TURBO-E	D8:47:32:3D:83:6	6	11

Step 3.2: Enter the password of the Wi-Fi of the plant: in the field "Password" enter the password of the Wi-Fi of your plant and press the button "Next."

The screenshot shows the next step in the wizard, titled "Please fill in the following information:". It features a "Password (8-64 bytes) (Note: case sensitive)" input field with a "Show Password" checkbox. Below this is a section for "Obtain an IP address automatically" with an "Enable" dropdown menu. Underneath are input fields for "IP address", "Subnet mask", "Gateway address", and "DNS server address". "Back" and "Next" buttons are at the bottom. A progress indicator at the very bottom shows four steps, with step 2 highlighted.

Step 3.3: In this step

it is **NOT** necessary to select any option and then press the "Next" button. Used to configure the security of the connection a la Wi-Fi. Selecting Hide AP, the Wi-Fi network will appear as hidden.

<ul style="list-style-type: none"> Status Wizard Quick Set Advanced Upgrade Restart Reset 	<p>Enhance Security</p> <p>You can enhance your system security by choosing the following methods</p> <p>Hide AP <input type="checkbox"/></p> <hr/> <p>Change the encryption mode for AP <input type="checkbox"/></p> <p>Encryption mode: WPA2-PSK</p> <p>Change the user name and password for Web server <input type="checkbox"/></p> <p>Current user name: admin</p> <p>New user name (Max. 15 characters): <input type="text"/></p> <p>Re-enter user name: <input type="text"/></p> <p>New password (Max. 15 characters): <input type="password"/></p> <p>Re-enter password: <input type="password"/></p> <p style="text-align: center;">Back Next</p>	<p>Help</p> <p>Change the encryption mode for AP If you set password for the AP network, you will need to enter the password to connect to AP.</p> <p>Change the user name and password for Web server If you change the username and password for the web server, you will need to enter the new username and password to get access to the setting page.</p>
<p>1 2 3 4</p>		

Step 3.4 If the adjustment has been made successfully press the "OK" button to restart the connection.

<ul style="list-style-type: none"> Status Wizard Quick Set Advanced Upgrade Restart Reset 	<p>Setting complete!</p> <p>Click OK, the settings will take effect and the system will restart immediately.</p> <p>If you leave this interface without clicking OK, the settings will be ineffective.</p> <p style="text-align: center;">Back OK</p>	<p>Help</p> <p>After clicking OK, the system will restart immediately.</p>
<p>1 2 3 4</p>		

If the restart occurs successfully a message will appear indicating that it has been done successfully, if it does not appear then refresh the browser page:

<ul style="list-style-type: none"> Status Wizard Quick Set Advanced Upgrade Restart Reset 	<p>Setting complete! Please close this page manually!</p> <p>Please login our management portal to monitor and manage your PV system (Please register an account if you do not have one.)</p> <p>To re-login the configuration interface, please make sure that your computer or smart phone and our device are in the same network segment, and enter the new IP address of the device to access the interface.</p>	<p>Help</p> <p>*Note: The IP address of the device may have changed, please refer to User Manual to check the procedures to obtain the new IP address.</p>
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Step 4: Check the connection of the REGISTRAR to the wi-Fi of the plant

After restarting the web page log back in to the "Status" page and check the status of the registrar's network connection:

Status		Help
Wizard	- Inverter information	<p>The device can be used as a wireless access point (AP mode) to facilitate users to configure the device, or it can also be used as a wireless information terminal (STA mode) to connect the remote server via wireless router.</p> <p>Status of remote server</p> <p>◆Not connected: Connection to server failed last time. If under such status, please check the issues as follows: (1) check the device information to see whether IP address is obtained or not; (2) check if the router is connected to internet or not; (3) check if a firewall is set on the router or not;</p> <p>◆Connected: Connection to server successful last time;</p> <p>◆Unknown: No connection to server. Please check again in 5 minutes.</p>
Quick Set	Inverter serial number 1911294008	
Advanced	Firmware version (main) ---	
Upgrade	Firmware version (slave) ---	
Restart	Inverter model ---	
Reset	Rated power --- W	
	Current power --- W	
	Yield today 6553.30 kWh	
	Total yield 1722.2 kWh	
	Alerts ---	
	Last updated 0	
	- Device information	
	Device serial number 1704942764	
	Firmware version LSW3_14_FFFF_1.0.40	
	Wireless AP mode Enable	
	SSID AP_1704942764	
	IP address 10.10.100.254	
	MAC address 9C:D8:63:71:9C:50	
	Wireless STA mode Enable	
	Router SSID TURBO-E	
	Signal Quality 1%	
	IP address 192.168.8.122	
	MAC address 98:D8:63:71:9C:50	
	- Remote server information	
	Remote server A Connected	
	Remote server B Not connected	

Once we have verified that the registrar is connected to the Wi-Fi of the plant and (which must have internet access) it is possible to add the plant to the cloud platform.

Paso 3: Inverter settings

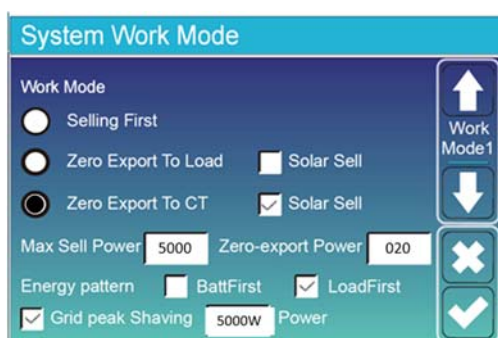
When programming the inverter, you can choose between several configuration options:

1. Selling first: the priority for excess energy is to deliver it to the grid.
2. Zero Export to Load: The output power feeds the Load
3. Zero export to CT: Production feeds the sum of loads (Network and Load).

Select one of these three modes and enable or disable the option to pour power into the grid.

In addition, power can be prioritized to the charge or to the battery.

The recommended working mode is: Zero Export to CT / Solar Sell activated / Load First. In this way the energy generated will feed the load, the excess amount will go to the battery and finally, the excess energy will be poured into the grid.



- **Selling first:** Entregar a la red primero
- **Zero Export to Load:** La potencia de salida se ajusta a la carga de BackUp
- **Zero Export to CT:** El sistema ajusta la producción a la suma de las cargas (Red y BackUp)
- **Solar Sell:** Vender el excedente de energía
- **Max Sell Power:** máxima Potencia de salida
- **Zero-export Power:** Potencia de salida de la red
- **Batt First:** La energía de las placas se utiliza para cargar las baterías primero.
- **Load First:** La energía de las placas se utiliza para la carga y después para las baterías.
- **Grid Peak Shaving:** Limite de potencia a tomar de red

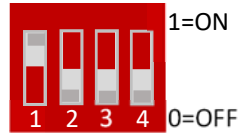
The inverter also incorporates the possibility of using the Grid Peak Shaving function, which allows to reduce the maximum power consumed from the network. With this function the user can have less power contract in the hours of the day that are more expensive and the surplus power that is consumed, will be supplied by the battery.

There are three different modes:

- GM (General Mode): Mode to supply the energy consumed with Battery and plates
- BU (BackUP): No battery discharge mode
- CH (Charge): Battery charging mode

1. Configuration of Lithium Series 48V 5.1kWh Slim

Each module has 4 DIP (Dual In-line Package) switches that will be configured differently depending on the number of batteries to be connected



They are configured according to the binary code, starting with the master.

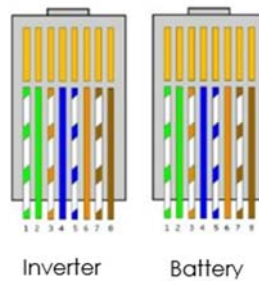
Address	Dial switch position				Explain
	#1	#2	#3	#4	
1	ON	OFF	OFF	OFF	Pack1/Master
2	OFF	ON	OFF	OFF	Pack2
3	ON	ON	OFF	OFF	Pack3
4	OFF	OFF	ON	OFF	Pack4
5	ON	OFF	ON	OFF	Pack5
6	OFF	ON	ON	OFF	Pack6
7	ON	ON	ON	OFF	Pack7
8	OFF	OFF	OFF	ON	Pack8
9	ON	OFF	OFF	ON	Pack9
10	OFF	ON	OFF	ON	Pack10
11	ON	ON	OFF	ON	Pack11
12	OFF	OFF	ON	ON	Pack12
13	ON	OFF	ON	ON	Pack13
14	OFF	ON	ON	ON	Pack14
15	ON	ON	ON	ON	Pack15

2. Wiring configuration

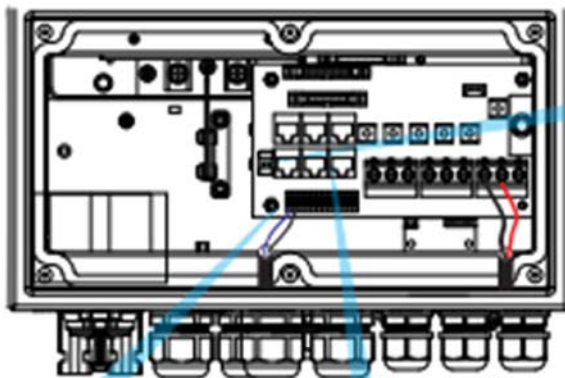


The cable needed to make the connection is the **RJ45**. It is a special cable that is composed of 8 smaller cables each with a different color configuration.

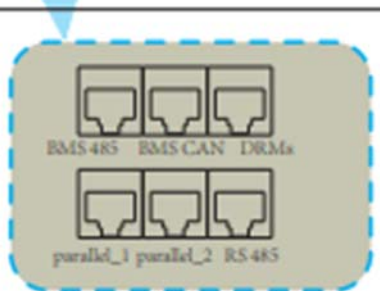
It's needed to use a standard pin-to-pin cable with RJ45 connector



For the connection between the inverter and battery, the RJ45 cable will be connected to the CAN-1 port in the battery



In the inverter, the RJ45 cable will be connected to the BMS CAN port



1. Communication Verification

To verify that the communication has been done correctly you can check by pressing the battery icon on the main screen and pressing on the Li-BMS button. If similar or non-zero data appears, it means that the communication between battery and inverter is correct.

