TURBO ENERGY
SOLAR INNOVATION

QUICK INSTALLATION GUIDE

LITHIUM SERIES 48V 5.1 kWh Slim

+

HYBRID INVERTER TURBO ENERGY

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 wifi of the logger

The logger creates a Wifi network whose name is "AP_" followed by the serial number of the logger.
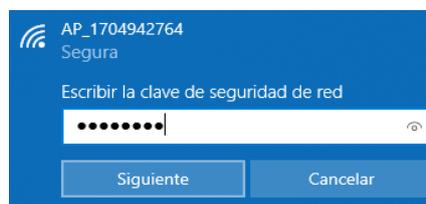
Step 1: Connect to the Wifi network

With an electronic device that has Wifi (PC, Tablet, Smartphone ...) the connection with the Wifi of the recorder is established:
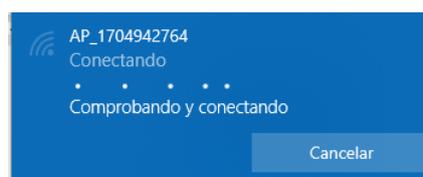
Open the wireless network connection of your PC, tablet or smartphone

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".
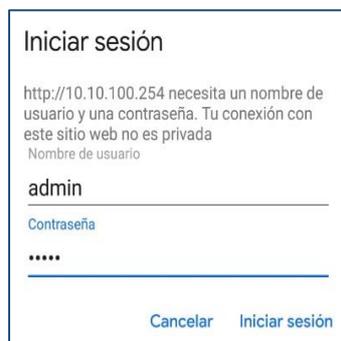
Once you have accessed the web portal of the registrar you will be able to see the "Status" page with general information of the registrar.
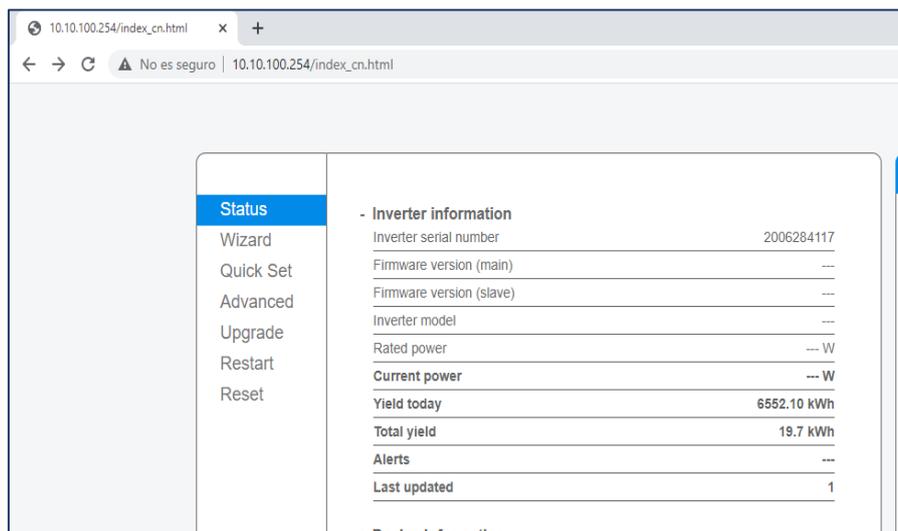
Click on the "Wizard" link under the "Status" link to run the connection wizard from the logger to the wi-fi of the installation (the wifi of your house or your plant).

<u>Step3</u>: 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 wifi of our plant. We must select that wifi and press the "Next" button at the bottom of the screen:

Step 3.2: Enter the password of the wifi of the plant: in the field "Password" enter the password of the wifi of your plant and press the button "Next·"

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 theconexión a la wifi. Seleccionando Hide AP, la red Wifi aparecerá como red oculta.

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

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:

<u>Step 4</u>: 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		
Wizard	- **Inverter information**	
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

Help

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.

Status of remote server
◆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;

◆Connected: Connection to server successful last time;

◆Unknown: No connection to server.Please check again in 5 minutes.

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

Paso 3: Configuración del inversor

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 / Sollar 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.
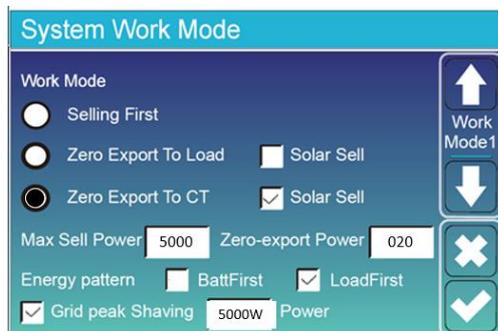
- **Selling first:** Entregar a la red primero
- **Zero Export to Load:** La potencia de salida se ajusta a la carga de BackUp
- **Zero Export to CT:** El sistema ajusta la producción a la suma de las cargas **(Red y BackUp)**
- **Solar Sell:** Vender el excedente de energía
- **Max Sell Power:** máxima 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 Inline Package) switches that will be configured differently depending on the number of batteries to be connected


1=ON

0=OFF
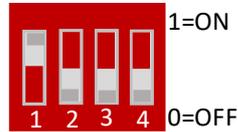
Address	Dial switch position				Explain
	#1	#2	#3	#4	
1	ON	OFF	OFF	OFF	Pack1/Master
2	OFF	ON	OFF	OFF	Pack2
3	ON	ON	OFF	OFF	Pack3
4	OFF	OFF	ON	OFF	Pack4
……					

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

Inverter   Battery
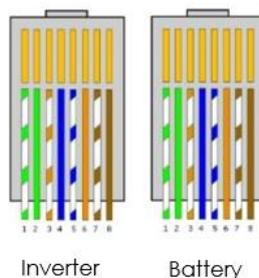
1. Communication Verification

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.

Li-BMS

Mean Voltage:50.34V	Charging Voltage :53.2V
Total Current:55.00A	Discharging Voltage :47.0V
Mean Temp :23.5C	Charging current :50A
Total SOC :38%	Discharging current :50A
Dump Energy:57Ah	

Sum Data

Details Data