

FIMER



Solar Inverter ETHERNET expansion board

Quick Installation Guide

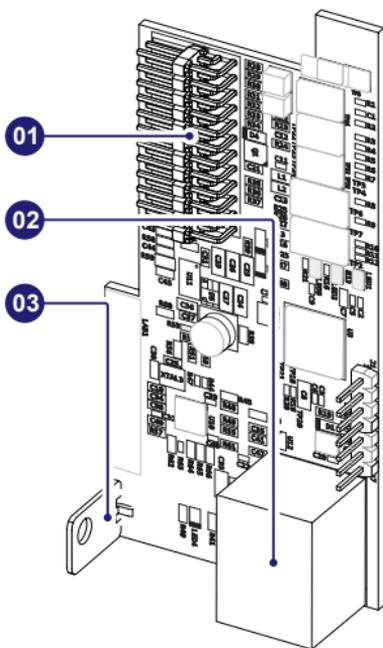
The device must be used in the manner described in the manual. If this is not the case the safety devices guaranteed by the inverter might be ineffective.

1. Main components

The main components of the ETHERNET expansion board are shown in the figure below and described in the following table:

Main components

- | | |
|----|-----------------------------|
| 01 | Connection terminals |
| 02 | Ethernet port |
| 03 | Mechanical mounting bracket |



2. Supplied component list

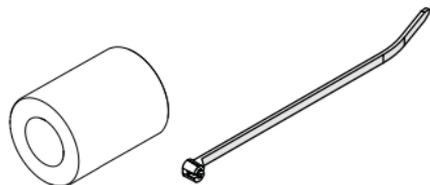
Components available in the kit

Quantity



Locking screw

1



Toroid + Cable Tie

1 + 1



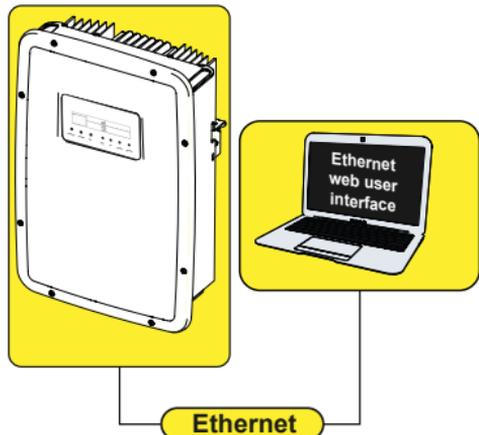
Technical documentation

1

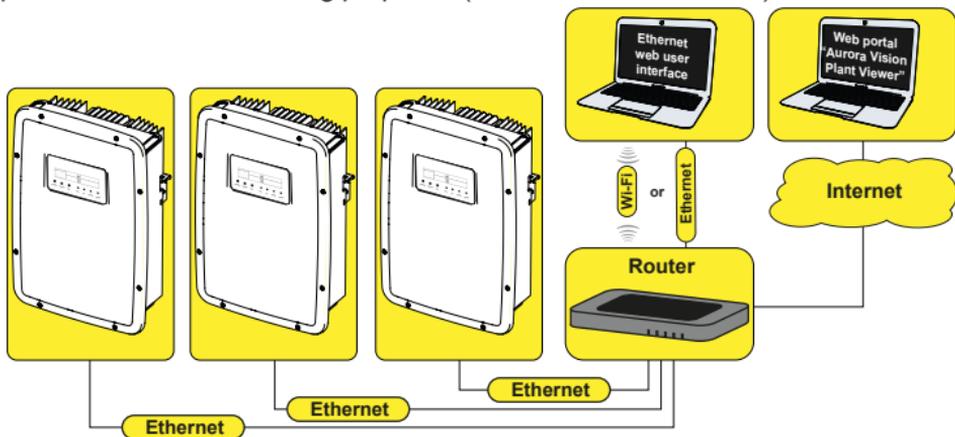
3. Operating diagram

The “ETHERNET expansion board” allows to connect the inverter to a local LAN network via an Ethernet connection.

The “ETHERNET expansion board” features an integrated web server that enables to establish a direct connection to a PC, allowing for board configuration and local monitoring of the inverter.



When the inverter is connected to the LAN network with access to the Internet, the Ethernet board allows to transfer data to the Plant Viewer/Aurora Vision® portal for remote monitoring purposes (over an Internet browser)



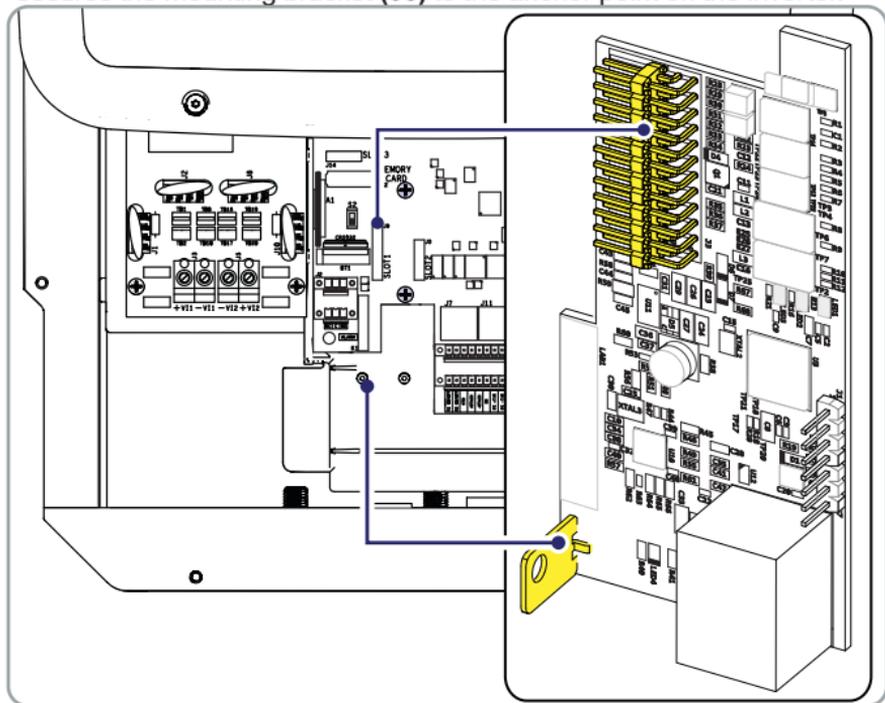
4. Assembly Instructions

⚠ ATTENTION – The inside of the inverter may only be accessed after the equipment has been disconnected from the grid and from the photovoltaic generator.

- Turn off the inverter by physically disconnecting the AC and DC voltages, as well as any voltage connected to the multi-function relay.
- Open the inverter front cover.
- Install the ETHERNET board by fitting the connection terminals **(01)** in the special receptacle on the inverter control and communication board (SLOT 1).

⚠ ATTENTION – During this step, check that all the terminals are correctly aligned. Any terminal misalignment may result in damage to the ETHERNET board and/or to the inverter.

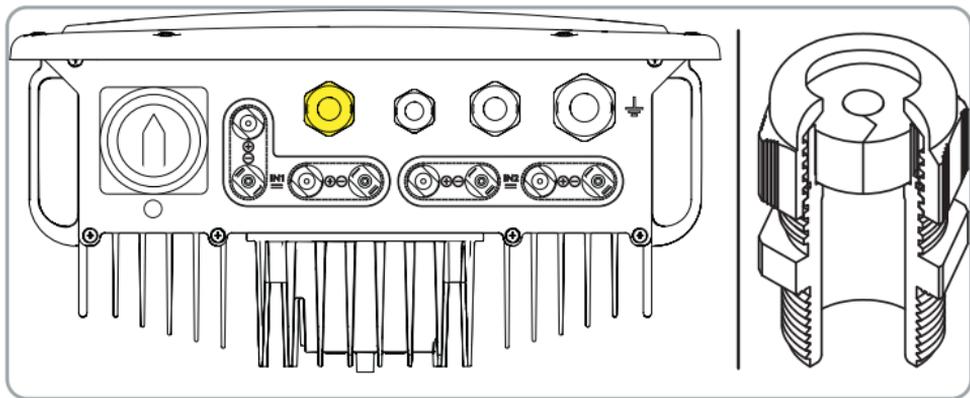
- Tighten the locking screw to fix the Ethernet board to the inverter. The screw secures the mounting bracket **(03)** to the anchor point on the inverter.



Once the installation is completed, the Ethernet cable can be connected to the dedicated port.

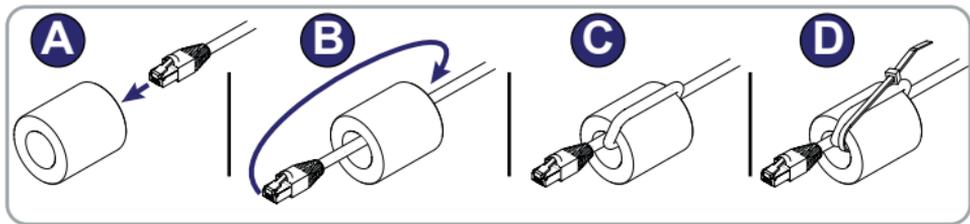
5. Input/output connections

The Ethernet cable for the connection of the “ETHERNET expansion board” must be fed through the inverter service cable gland shown in the figure below. This cable gland is equipped with a special gasket that fits the cable with the pre-installed connector:



Once the cable is fed through the cable gland, proceed with the installation of the supplied toroid:

Finally connect the cable to the Ethernet port on the accessory board.



6. On-display configuration

Upon starting the inverter for the first time after the ETHERNET board has been installed, a new “ETHERNET Board” section is added to the SETTINGS menu, with the following tree:

- **“DHCP” section.**

Enables/disables dynamic address assignment of the Ethernet board.

If DHCP is disabled, the Ethernet board IP address must be manually set (“IP Address” section).

- **“Address IP” section.**

Sets the Ethernet board IP address.

- **“Gateway” section.**

Sets the IP address of the gateway receiving the data from the monitored system.

- **“Netmask” section.**

Sets the subnet mask for the Internet network.

- **“Primary DNS” section.**

Sets the primary DNS for the Internet network.

- **“Secondary DNS” section.**

Sets the secondary DNS for the Internet network.

- **“Portal IP add.” section.**

Sets the Aurora Vision® portal IP address.

- **“AV Method” section.**

Enables/disables data transmission to the Aurora Vision®/Plant Viewer portal.

- **“Data to portal” section.**

Enables/disables data transmission to the portal

- **“Send events” section.**

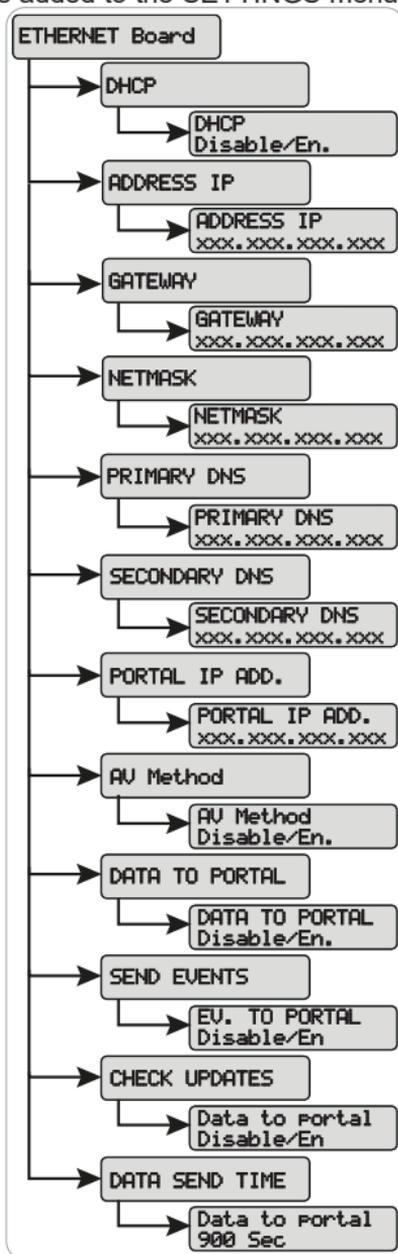
Enables/disables sending events (error codes) to the portal.

- **“Check Updates” section.**

Enables/disables checking for “ETHERNET expansion board” firmware updates.

- **“Data send time” section.**

Sets the time for the data transmission to the portal (not available on the current product version). The default value is 900 seconds.



7. Integrated webserver

An internal webserver integrated in the Ethernet board is available for configuration and monitoring.

The screenshot shows a web interface with a navigation bar at the top containing: HOME | VIEW | CONFIG | EVENTS | UPGRADE | REGISTRATION | 7. The language is set to 'Ita' and 'Eng'. The main content is divided into four sections:

- Network:** IP Address: 10.200.101.133; MAC Address: 00:04:A3:BB:98:4A; Date/Time: 24-04-2014 12:15:34. Includes a globe icon.
- Energy:** Daily Energy: 0.00 kWh; Annual Energy: 0.00 kWh; Total Energy: 0.000 kWh. Includes an image of a solar panel and a power plug.
- CO2 Saved:** Co2 Saved: 0.00 t. Includes an image of a piggy bank.
- Inverter:** Output Power: 0.0000 kW; Model: TRIO-8.5-TL-OUTD kW; Status: OK. Includes an image of an inverter unit.

The HOME screen shows general information about the network (IP address, MAC address, date and time), the generated energy, the CO2 emissions and the inverter (output power, inverter model and inverter state).

- VIEW menu

Displays specific information about the inverter (inverter info) and the system (system info).

- CONFIG menu

Enter the default username and password (admin/admin) to edit system and network parameters, date and time, and password.

- UPGRADE menu

Updates the Ethernet board firmware.

- REGISTRATION menu

Used to register on the Aurora Vision® portal.

A login form with the following fields and buttons:

- Nome utente: admin
- Password: [masked with 6 dots]
- Buttons: OK, Annulla

8. Characteristics and technical data

Communication

Communication protocol	Ethernet/IP, Modbus TCP
Communication services	Manual IP address assignment, Bootp, DHCP Ethernet
Webserver	Integrated webserver

Connectivity

Cabled ports	RJ45 connector for Ethernet cable
Ethernet cable	Cat. 5 UTP

Features

Led	1 ModBus TCP LED, 1 Ethernet LED, 1 Network Status LED
Baud rate	10/100 Mbps

The features that are not specifically mentioned in this data sheet are not included in the product

FIMER_ETHERNET expansion board_Quick Installation Guide_EN_RevC

05/05/2021

FIMER

For more information please contact your local FIMER representative or visit:

fimer.com

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. FIMER does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of FIMER. Copyright© 2021 FIMER. All rights reserved.