

Application Note – Ethernet Connection Using the 8-Pin Terminal Block

The Ethernet communication option enables using an Ethernet connection to connect the inverter to the monitoring portal through a LAN.

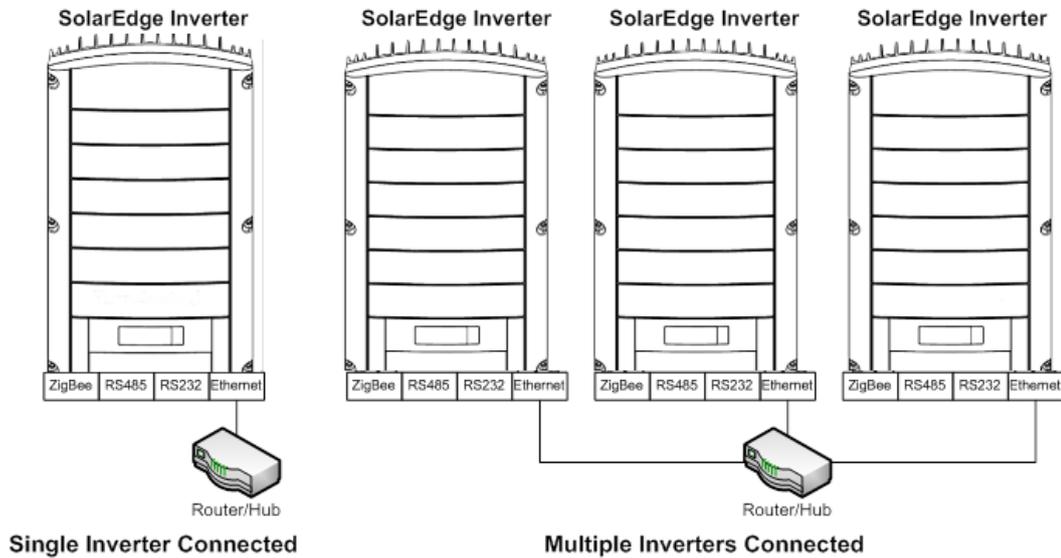


Figure 1: Example of Ethernet connection

Two types of communication boards are available, with different Ethernet connectors: one with an 8-pin terminal block connection and the other with a standard RJ45 Ethernet connector, as shown below:

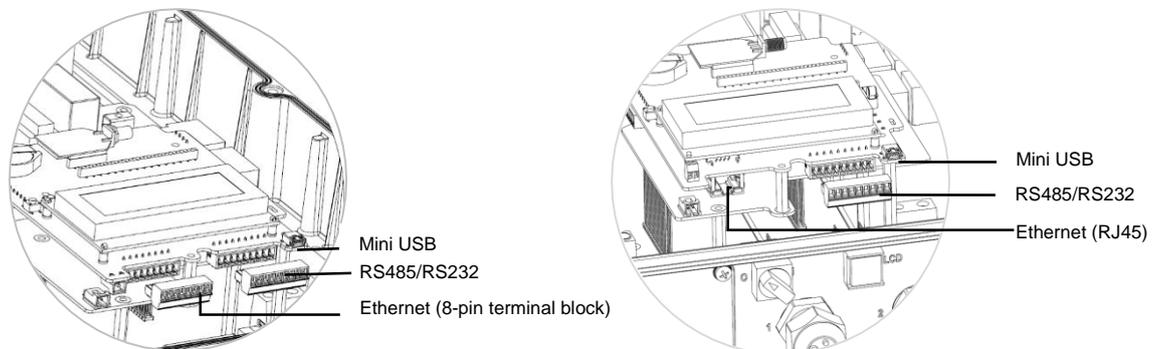


Figure 2: Internal Connectors

This document describes how to create a LAN connection using the Ethernet 8-pin terminal block. For the RJ45 connector option, refer to the *SolarEdge Installation Guide Chapter 6: Setting Up Communication, Creating an Ethernet (LAN) Connection*.

Removing the Inverter Cover

If the cover is not already removed (for example, during initial installation, while AC is still not connected), use the following procedure for cover removal for communication connections purposes.

- 1 Turn the inverter ON/OFF switch to OFF.
- 2 Disconnect the AC to the inverter by turning OFF any AC circuit breakers or disconnects. Wait 5 minutes for the capacitors to discharge.
- 3 Open the inverter cover's six Allen screws and carefully pull the cover vertically before lowering it.



CAUTION:

When removing the cover, make sure not to damage internal components. SolarEdge will not be held responsible for any components damaged as a result of incautious cover removal.

Creating an Ethernet (LAN) Connection

- 1 Remove the inverter cover as described above.
- 2 Open communication gland #1 at the bottom of the inverter and remove the rubber seal.
- 3 Remove the plastic filling from the large opening that has a cut in the rubber seal and insert an Ethernet CAT5/6 cable through the opening.



CAUTION:

The internal side of the gland includes a rubber waterproof fitting, which should be used to ensure proper sealing.

CAT5/6 standard cables have eight wires (four twisted pairs), as shown in the diagram below. Wire colors may differ from one cable to another. You can use either wiring standard, as long as both sides of the cable have the same pin-out and color-coding.

RJ45 Pin #	Wire Color ¹		10Base-T Signal 100Base-TX Signal
	T568B	T568A	
1	White/Orange	White/Green	Transmit+
2	Orange	Green	Transmit-
3	White/Green	White/Orange	Receive+
4	Blue	Blue	Reserved
5	White/Blue	White/Blue	Reserved
6	Green	Orange	Received-
7	White/Brown	White/Brown	Reserved
8	Brown	Brown	Reserved

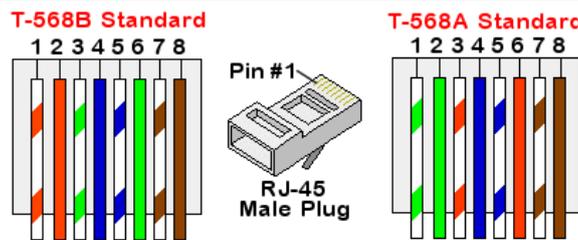


Figure 1: Standard cable wiring

- 4 Pull the connector out, as shown below:

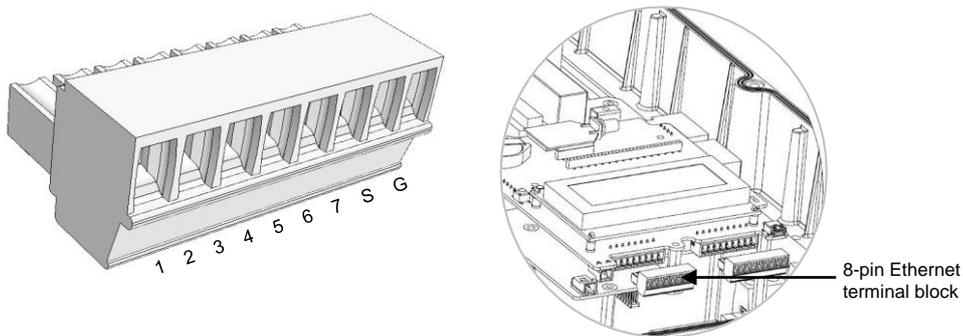


Figure 2: The 8-pin Ethernet terminal block

- 5 Loosen the screws, except for that of pin G. Insert the ends of the wires into the pins according to the following table:

Terminal Block Pin #	RJ45 Pin #	Color	
		T568B Standard	T568A Standard
1	1	White/Orange	White/Green
2	2	Orange	Green
3	3	White/Green	White/Orange
4	4 and 5	Blue + White/Blue	Blue + White/Blue
6	6	Green	Orange
7	7 and 8	Brown + White/Brown	Brown + White/Brown
S	Aluminium shield		
G-unconnected			

¹ The inverter connection does not support RX/TX polarity change. Supporting crossover Ethernet cables depends on the switch capabilities.

- 6 Tighten the screws of the Ethernet terminal block.
- 7 Check that the wires are fully inserted and cannot be pulled out easily. Push the Ethernet terminal block firmly all the way into the Ethernet connector on the communication board.
- 8 For the switch/router side, use a pre-crimped cable or use a crimper to prepare an RJ45 communication connector: Insert the eight wires into the RJ45 connector in the same order as in Figure 1.
- 9 Connect the cable's RJ45 connector to the RJ45 port of the Ethernet switch or router. You can connect more than one inverter to the same switch/router or to different switches/routers, as needed. Each inverter sends its monitored data independently to the SolarEdge monitoring portal.
- 10 Inverters are configured by default to **LAN**. If reconfiguration is required:
 - Make sure the ON/OFF switch is OFF.
 - Turn ON the AC to the inverter by turning ON any AC circuit breakers or disconnects.



WARNING!
ELECTRICAL SHOCK HAZARD. Do not touch uninsulated wires when the inverter cover is removed.

- 11 Use the user buttons to configure the connection: Select the **Communication** option to define and configure the communication option used by the inverter to communicate with the SolarEdge monitoring portal and the communication option used to communicate between multiple inverters.
- 12 By default the LAN setting is preconfigured to use DHCP (automatic IP assignment). If not using DHCP (the DHCP setting is *Disabled*) select **Server** → **LAN** → **LAN Conf**, and set the parameters:
 - Communication → LAN Conf → Set IP → [Set devices' IP]
 - Communication → LAN Conf → Set Mask → [Set devices' subnet mask]
 - Communication → LAN Conf → Set Gateway → [Set devices' gateway]
 - Communication → LAN Conf → Set DNS → [Set devices' DNS]



NOTE:
If your network has a firewall, you may need to configure it to enable the connection to the following address:
- Destination Address: prod.solaredge.com
- TCP Port: 22222 (for incoming and outgoing data)

Verifying the Connection

- 1 Close the inverter cover.
- 2 Turn ON the AC to the inverter by turning ON the circuit breaker on the main distribution panel.
- 3 Wait for the inverter to connect to the SolarEdge monitoring portal. This may take up to two minutes. A status screen similar to the following appears on the LCD panel:



S_OK: Indicates that the connection to the SolarEdge monitoring portal is successful.