

Application Note AN005

SolaX RS485 Wiring Guide

Connecting the Levelise Hub to the SolaX battery inverters using RS485

Overview

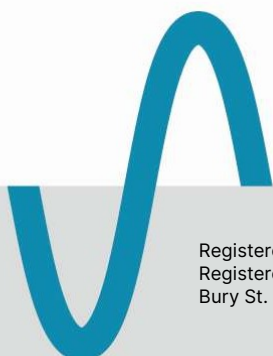
Hub 1.5 includes an RS485 cable in the box that can be used to connect the Hub to compatible inverters from SolaX (listed below). In case a cable of a different length is required, or to make use of the waterproof glands on either the Hub or the inverter, this note explains how to simply prepare and install a compatible cable by modifying any standard Cat5e Ethernet patch cable.

Compatible Models

- X1-AC
- X1-FIT G4
- X1-HYBRID G4
- X3-HYBRID G4

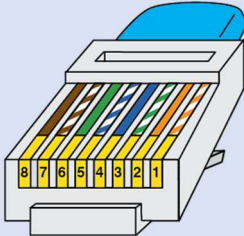
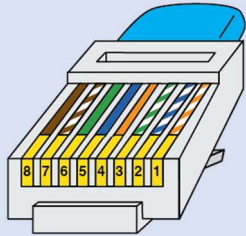
What You'll Need

- A TIA/EIA-568-B compliant Cat5e Ethernet patch cable of the required length
- 1x RJ45 connector
- RJ45 crimping tool
- Wire strippers
- Screwdrivers
- Cable tester



Quick Summary for Experienced Users

If you're confident with RJ45 terminations, use the following pinout reference table to rewire one end of a standard ethernet patch cable:

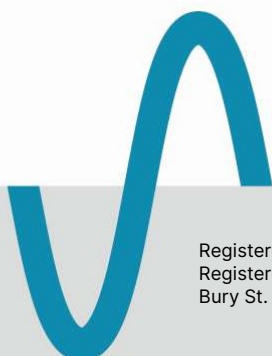
RJ45 Pin	Hub End (Standard)	SolaX End (Custom)
		
1	White/Orange	White/Orange
2	Orange (RS485 A+)	White/Blue
3	White/Green	White/Green
4	Blue (RS485 B-)	Orange (RS485 A+)
5	White/Blue	Blue (RS485 B-)
6	Green	Green
7	White/Brown	White/Brown
8	Brown	Brown

Tip: The Hub end of the cable uses a standard Ethernet configuration and does not need modification.

Detailed Steps-by-Step Guide

1. Prepare the Cable

- Cut off one RJ45 connector from the ethernet patch cable using wire cutters.
- Strip ~25mm of the outer sheath from the cut end.
- Untwist and straighten the wire pairs.



2. Rearrange the Wires

- Align wires from left to right according to the SolaX pinout table above.
- Ensure:
 - **Orange wire (RS485 A+)** is in **position 4**
 - **Blue wire (RS485 B-)** is in **position 5**

3. Terminate the Cable

- Trim wires evenly, leaving ~12mm exposed.

Important: Ensure the cut end is correctly fed through any required waterproofing glands for either the Hub and/or the inverter before terminating the cable.

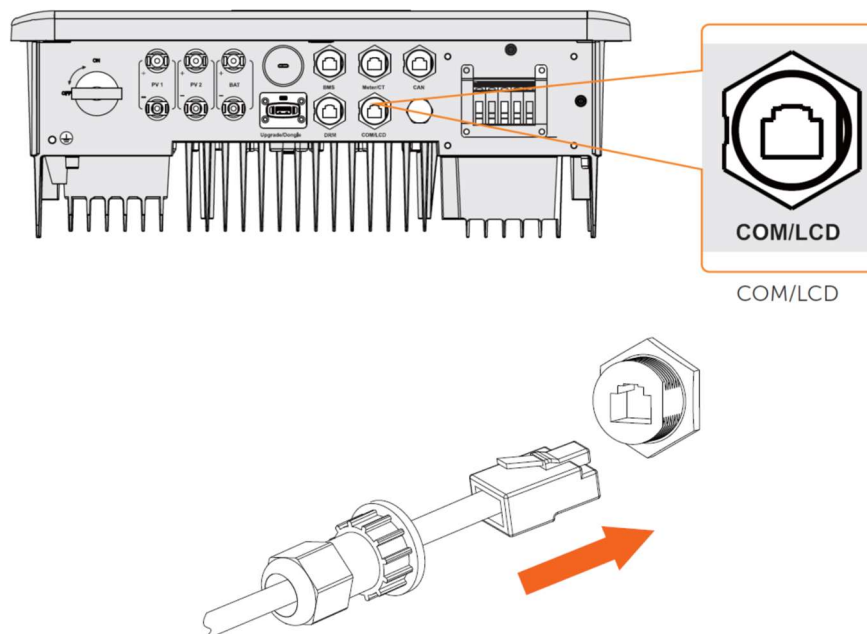
- Insert wires into the RJ45 plug, ensuring full insertion and correct alignment as shown below.

Important: Ensure the cable sheath also enters the plug slightly for strain relief.

- Crimp the connector securely.
- Use a cable tester to verify continuity and pinout (Recommended).

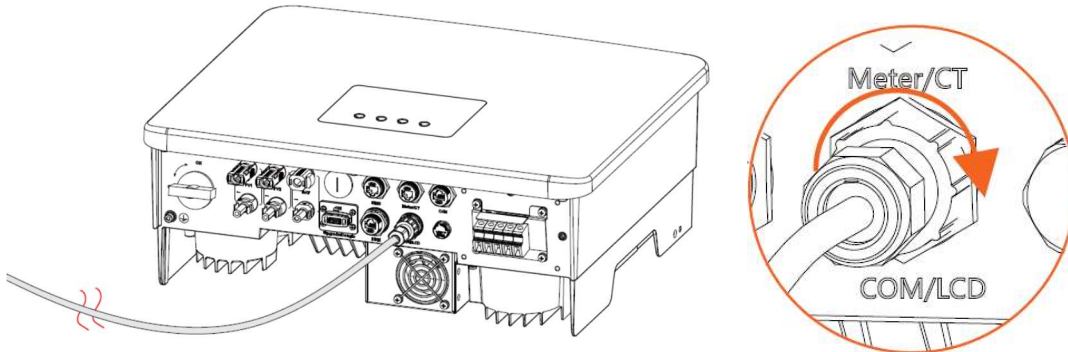
4. Connect the Cable

- Plug the modified RJ45 end into the port marked as 'COM/LCD' on the underside of the inverter*.

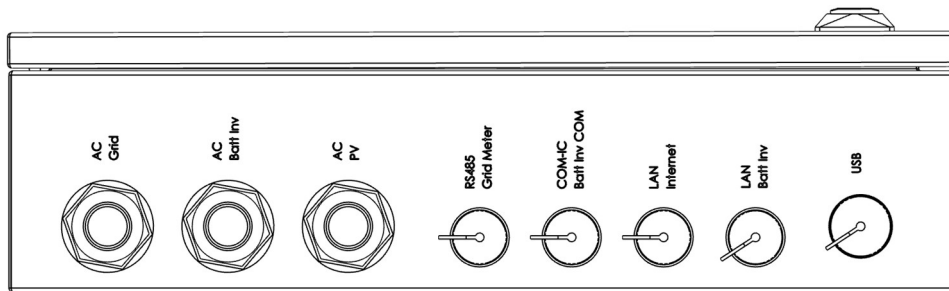


* IMPORTANT: Where these steps differ from or conflict with the manufacturer instructions, the manufacturer's instructions take precedence

- If necessary, reattach the waterproof connector by tightening the swivel nut for sealing.



- Plug the unmodified RJ45 end into 'COM-IC Batt Inv Com' port on Hub and tighten the waterproofing gland as necessary.



- For outdoor use, ensure all cable glands are properly sealed.

Additional Resources

For more details on SolaX product, refer to SolaX's documentation at solaxpower.com

