

Application Note AN015

SolaX RS485 Wiring Guide

Connecting the Levelise Hub to the SolaX battery inverters using RS485

Overview

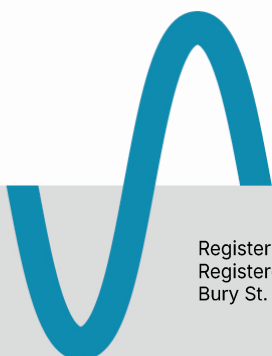
Hub 2 includes an RS485 cable in the box that can be used to connect the Hub to compatible inverters from SolaX (listed below). In case a cable of a different length is required, or to make use of the waterproof glands on either the Hub or the inverter, this note explains how to prepare and install a compatible cable from scratch.

Compatible Models

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

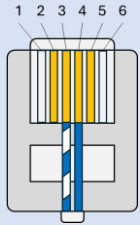
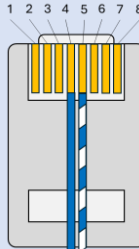
What You'll Need

- Cat5e Ethernet cable
- 1x RJ45 connector
- RJ45/RJ11 crimping tool
- Wire strippers
- Screwdrivers
- Cable tester



Quick Summary for Experienced Users

If you're confident, use the following pinout reference table to make a new cable from scratch by terminating the required length of Cat5e cable with an RJ11 connector (included in the box) at one end and an RJ45 connector at the other:

Pin	Hub End (RJ11 Connector)	SolaX End (RJ45 Connector)
		
1	Not present	Unused by Hub
2	Unused by Hub	Unused by Hub
3	Blue & white (RS485 B)	Unused by Hub
4	Blue (RS485 A)	Blue (RS485 A)
5	Unused by Hub	Blue & white (RS485 B)
6	Not present	Unused by Hub
7	Not present	Unused by Hub
8	Not present	Unused by Hub

Otherwise, follow the detailed step-by-step instructions below to modify the Hub 2-Inverter RS485 cable provided.

Detailed Steps-by-Step Guide

1. Prepare the Cable

- Cut the required length of Cat5e cable
- Strip ~25mm of the outer sheath from each end of the cable. Be careful not to nick the inner conductors.
- Untwist and straighten the wire pairs.

2. Rearrange the Wires

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

Trim the wires evenly, leaving ~12mm exposed.

Insert wires into the RJ11 plug, ensuring full insertion and correct aligned as shown below.

Crimp the connector securely.

Use a cable tester to verify continuity and pinout (Recommended)

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

If necessary, reattached the water proof connector by tightening the swivel nut for sealing.

Plug the RJ11 end into the port marked 'RS485 1' on Hub 2

If using the Outdoor Kit, ensure all cable glands are properly sealed.

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

3. Terminate the Cable

- Trim the 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.

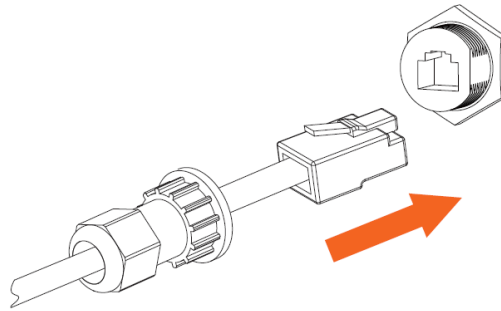
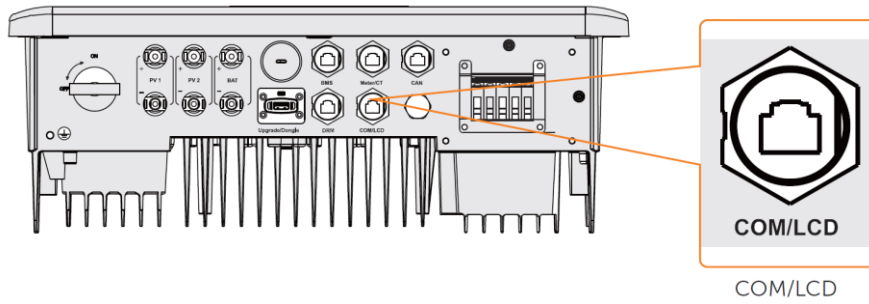
Important: Ensure the cable sheath also enters the plug slightly for strain relief.

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

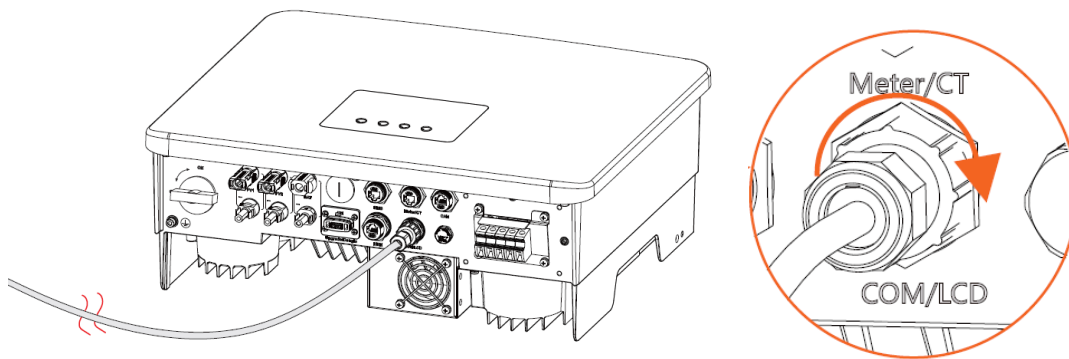
4. Connect the Cable

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

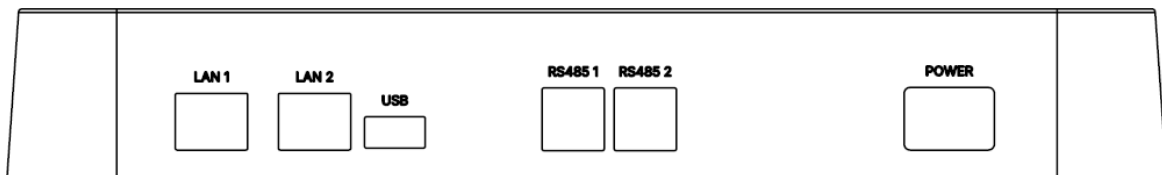




- If necessary, reattach the waterproof connector by tightening the swivel nut for sealing.



- Plug the RJ11 end into the port marked 'RS485 1' on Hub 2.



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

- If using the Outdoor Kit, ensure all cable glands are properly sealed.

Additional Resources

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

