Application Note AN018

Hinen RS485 Wiring Guide

Connecting the Levelise Hub to Hinen battery inverters using RS485

Overview

For RS485 links the Hinen HXXXX-EU inverter series uses a single RJ45 connector that combines the inverters meter and Hub communications into a single plug. As a result, the Hub 2-Inverter RS485 cable supplied in the box must be modified for Hub 2 to work properly.

This note explains how to modify the Hub 2-Inverter RS485 cable to use for compatible Hinen inverters

What You'll Need

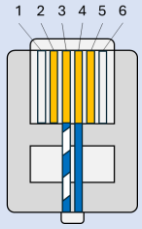
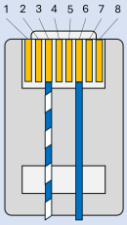
- Hub 2-Inverter RS485 cable (included with Hub 2)
- RJ45 connector
- RJ45 crimp tool
- Wire strippers
- Cable tester

Compatible Models

- Hinen H3000-EU
- Hinen H3600-EU
- Hinen H4000-EU
- Hinen H4600-EU
- Hinen H5000-EU
- Hinen H6000-EU

Quick Summary for Experienced Users

If you're confident, use the following pinout reference table to re-terminate the RJ45 (inverter) end of the Hub 2-Inverter RS485 cable supplied in the box. **Do not modify the RJ11 (Hub) end:**

Pin	**Hub End** (RJ11 Connector – do not modify)	**Hinen End** (RJ45 Connector)
		
1	Not present	Hinen Meter (RS485 B)
2	Unused by Hub	Hinen Grid CT N
3	**Blue & white (RS485 B)**	**Blue & white (RS485 B)**
4	**Blue (RS485 A)**	Unused by Hub
5	Unused by Hub	Hinen Meter (RS485 A)
6	Not present	**Blue (RS485 A)**
7	Not present	Unused by Hub
8	Not present	Hinen Grid CT P

Important: Hinen inverters use pins 1 and 5 for smart meter communication and pins 2 and 8 for CT connection. You must ensure that the meter and/or CT is connected to the inverter using the same RJ45 connector as Hub 2. If possible use an appropriate RJ45 splitter for this rather than splicing the cable with Wagos for the best long-term results.

Do not unwind twisted pairs within a CAT5 cables as this destroys their common mode noise rejection properties and increases the likelihood of communication problems.

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

Detailed Steps-by-Step Guide

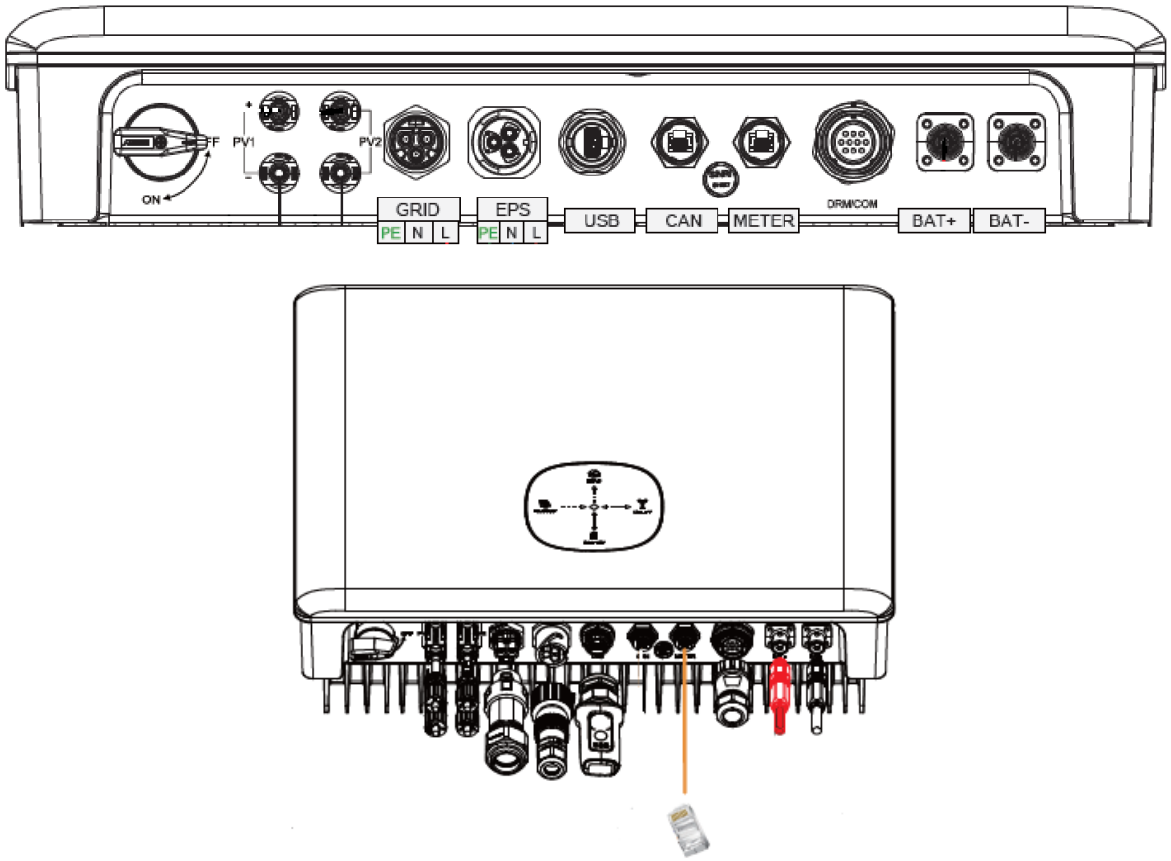
1. **Prepare the Cable**
   - Cut off the RJ45 connector from the Hub 2-Inverter RS485 cable using wire cutters.
     Important: Only modify the RJ45 (inverter) end of the cable. Never cut, re-terminate or replace the RJ11 (Hub) end – poorly re-terminated RJ11 connectors cause unreliable communication with Hub 2. If the cable needs extending, make the extension at the RJ45 end.
   - 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 Hinen pinout table above.
   - Ensure:
     - **Blue wire (RS485 A)** is in **position 6**
     - **Blue & white wire (RS485 B)** is in **position 3**
     - The Hinen CT is connected
       - **Black wire** in **position 2**
       - **Red wire** in **position 8**
     - **OR** The Hinen Smart Meter is connected
       - **Orange wire (RS485 B)** in **position 1**
       - **Orange and white wire (RS485 A)** in **position 5**

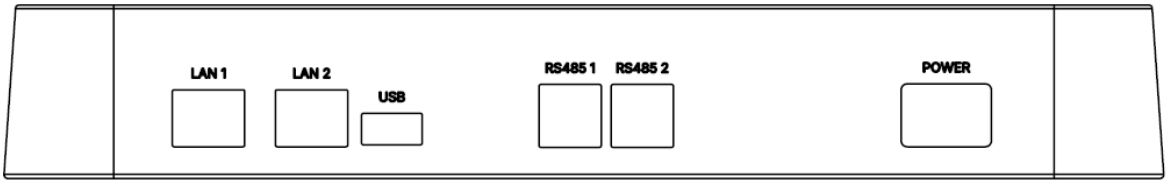
3. **Terminate the Cable**
   - Trim wires evenly, leaving ~12mm exposed.
   - Insert wires into the RJ45 plug, ensuring full insertion and correct alignment as shown below.
     Important: Ensure the cable sheath also enters the plug slightly for strain relief.
   - Crimp the connector securely.
   - Use a cable tester to verify continuity and pinout (Recommended).

4. **Connect the Cable**
   - Plug the modified RJ45 end into the port marked as ‘METER’ on the underside of the inverter*.

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



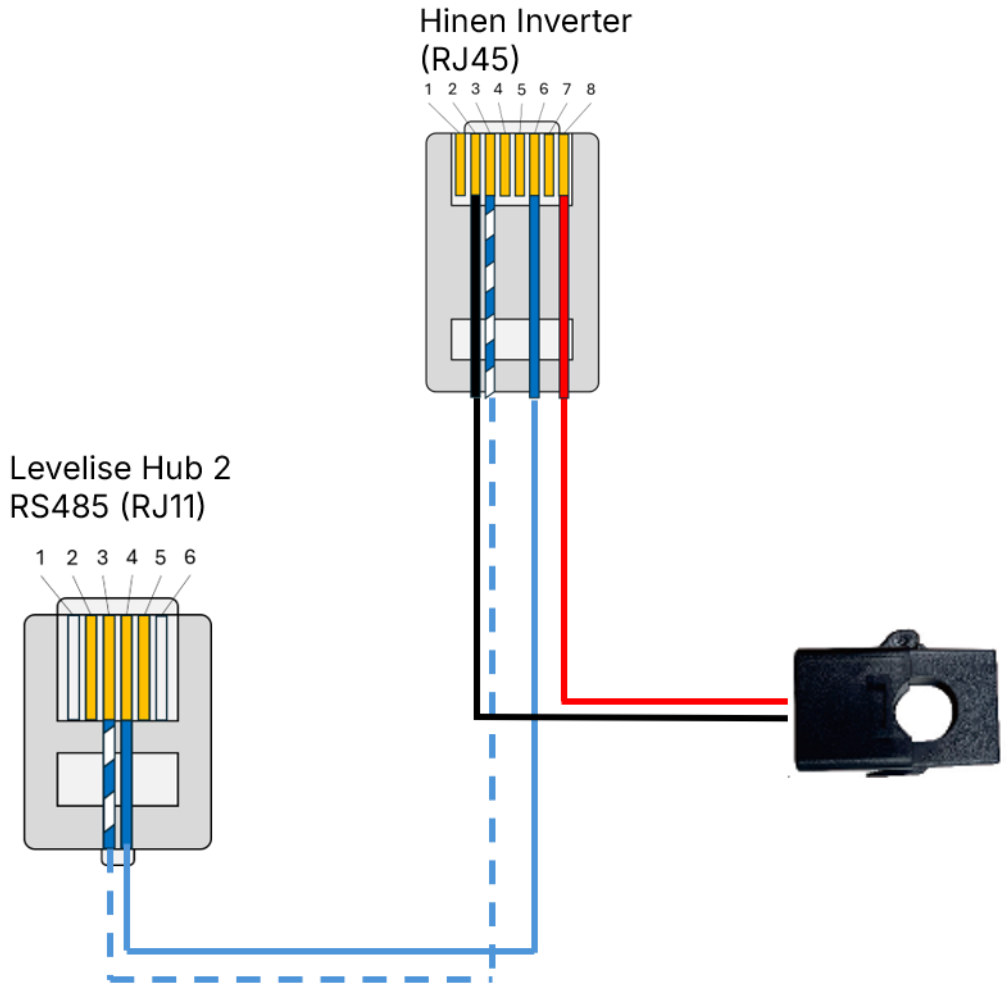
- Plug the unmodified RJ11 end into the port marked ‘RS485 1’ on Hub 2.



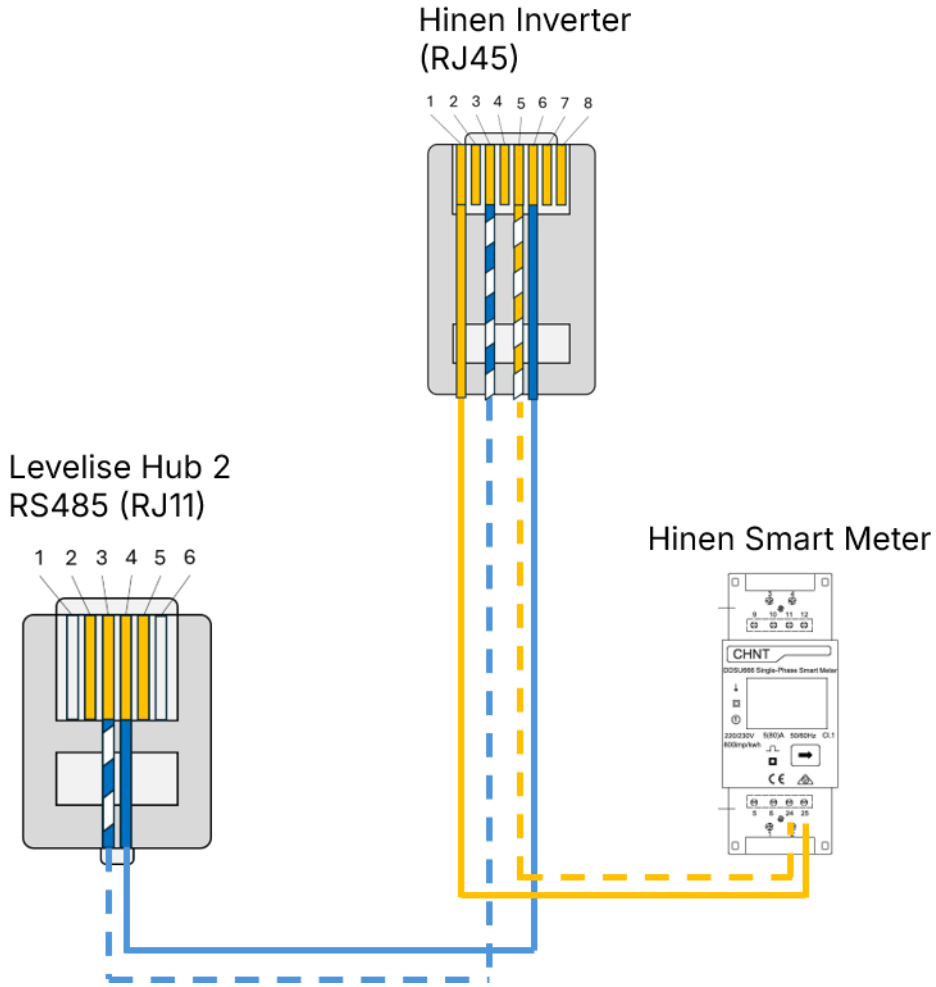
- If using the Outdoor Kit, ensure all cable glands are properly sealed and the RS485 cables are not bent at the port.

Example Wiring Diagrams

For Hinen with single Grid CT



For Hinen with smart meter



Additional Resources

For more details on Hinen products, refer to documentation at hinen.com