Rev. 4

Application Note AN014

Fox ESS RS485 Wiring & Setup Guide

Connecting the Levelise Hub 2 (LEV0002) to the Fox ESS H1-G2 hybrid inverter using RS485.

Overview

The Fox ESS H1-G2 hybrid inverter uses a proprietary communications connector that combines the RS485, meter and CT connections into a single plug. It also ships with incompatible default Modbus settings. As a result, both the inverter's Modbus configuration and the Hub 2-Inverter RS485 cable supplied in the box must be modified for Hub 2 to work properly.

This note explains how to update the inverter's Modbus settings and how to modify the Hub 2-Inverter RS485 cable.

What You'll Need

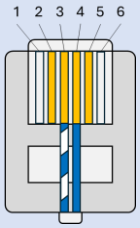
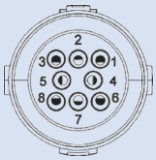
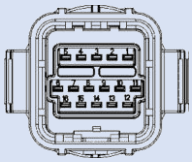
- Hub 2-Inverter RS485 cable (included with Hub 2)
- Fox ESS 8- or 16-pin communication connector (included with Inverter)
- Wire strippers
- Screwdrivers

Compatibility

- Levelise Hub 2
- Fox AC1/H1-[3.7,5.0]-E-G2 and ECS2900 batteries
- Fox AC1/H1-[3.7,5.0]-E-G2 and EP[6,12] batteries

Quick Summary for Experienced Users

If you're confident, use the following pinout table to re-terminate the inverter end of the Hub 2-Inverter RS485 cable supplied in the box with the H1-G2 communication connector. **Do not modify the RJ11 (Hub) end:**

Pin	**Hub End** (RJ11 Connector – do not modify)	**H1-G2 End** (Proprietary Connector)
		 or 
1	Not present	Unused by Hub
2	Unused by Hub	Unused by Hub
3	**Blue & white (RS485 B)**	**Blue & white (RS485 B)**
4	**Blue (RS485 A)**	**Blue (RS485 A)**
5	Unused by Hub	Unused by Hub
6	Not present	Unused by Hub
5(-16)	Not present	Unused by Hub

Confirm or update the Modbus Settings to match the values below:

Setting	Value
Modbus Address	**247**
Baud Rate	**19200**

If preferred, follow the detailed steps below.

Detailed Steps-by-Step Guide

1. Update the Inverter Settings

Use the **Up (^)**, **Down (⌄)**, **OK (✓)** and **Return (↵)** buttons on the control panel to navigate

- Go to Menu → Setting → Communication → RS485
- Enter password when prompted (default **0000**)
- Set **Device ID** to **247** and/or confirm.
- Go to Menu → Setting → Feature
- Set **UART1BpsSet** to **19200** and confirm
- Return to the top menu and repeat the steps to confirm both values

2. 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 ~30mm of the outer sheath from the cut end.
- Untwist and straighten the wire pairs.
- Trim wires evenly, leaving ~25 mm exposed.
- Identify the white/blue and blue wires.
- Strip about 5 mm of insulation from the white/blue and blue wires.

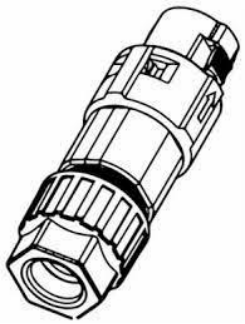
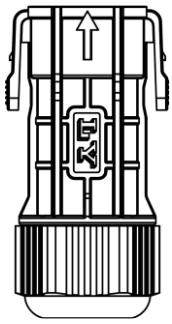
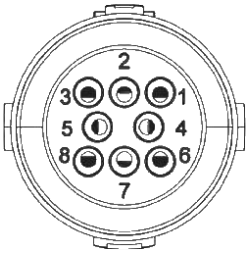
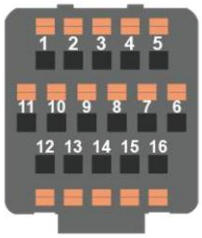
  Important: Ensure that the remaining unused wires are appropriately trimmed and/or terminated to avoid shorting.

- Insert each stripped wire into an appropriately sized ferrule and crimp.

3. Prepare the Fox ESS Connector*

- The Fox ESS H1-G2 inverter is provided with either an 8- or 16-pin communications connector that plugs into the 'METER/CT/RS485' port on the underside of the inverter.

- Locate the 8- or 16-pin connector (see below).

Connector type	8-pin	16-pin
Assembled connector		
Connector pin arrangement (view from push fitting side)		

- Carefully loosen the connector gland and remove the connector end from its housing.

4. Terminate the Cable

- Feed the cable through the gland on the connector housing.
- Push the **Blue (RS485 A)** ferruled wires into terminal **4**
- Push the **Blue & white (RS485 B)** ferruled wires into terminal **3**.

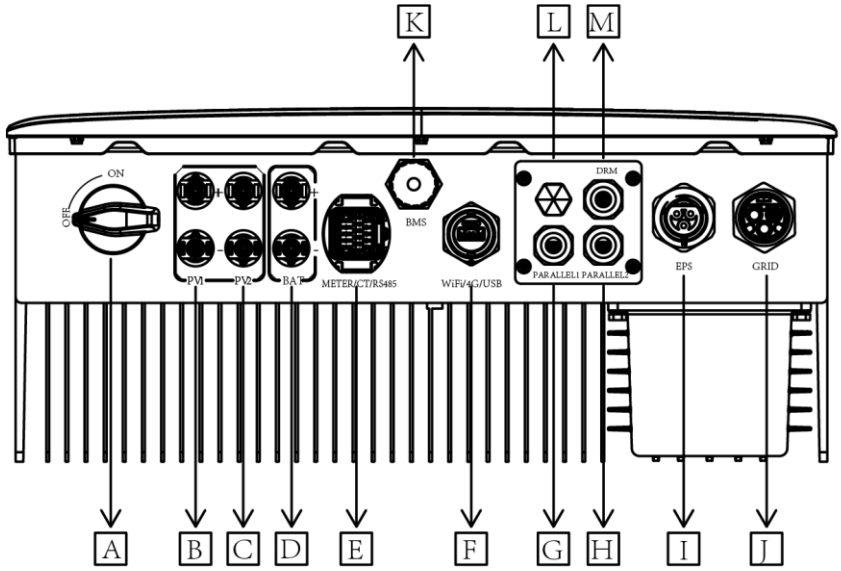
Important: If the connector uses screw terminals, loosen and then retighten the screws before and after inserting. If the connector uses spring clamps, press gently with a screwdriver to open the clamp before inserting.

- Reassemble the connector to its housing and tighten the cable gland for proper sealing.

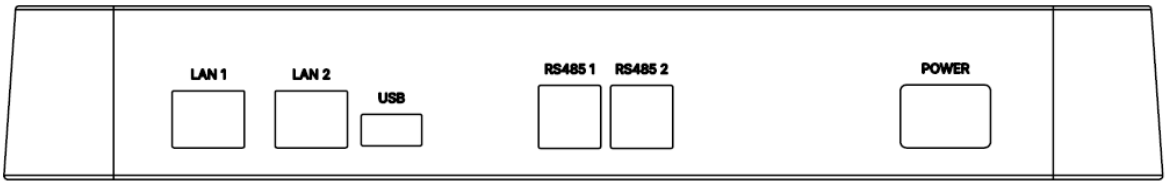
Important: Ensure the cable sheath also enters the housing via the gland for strain relief.

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

5. **Connect the Cable**
   - Insert the communication connector into port (E) labelled 'METER/CT/RS485' the underside of the inverter (see below).



   - 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.

Additional Resources

For more details on the H1-G2 system, refer to Fox ESS's documentation at [fox-ess.com](fox-ess.com)