

Wiring Guide for GCL battery with SH5K / SH5K+

This document describes the wiring and setup procedure for a single GCL battery pack. Refer to manufacturer's documents for multiple parallel connections.

To set up the successful communication, make sure that:

- Plug the RJ45 connector into place, otherwise it may fall out and make the communication fail.
- Pins 3 and 6 of the Ethernet cable should be cut through.
- For most of the GCL batteries, you should not swap pin 4 (blue) and pin 5 (blue-white). Just try the normal connection and watch the battery energy indication on the inverter home screen.
- If '--' is indicated on the screen, please swap pin 4 (blue) and pin 5 (blue-white) to crimp the RJ45 plug again.

1 GCL and SH5K

The GCL battery communicates with the Sungrow SH5K V11 inverter via an Ethernet cable. Prepare the following materials and tools before wiring.

- Ethernet cables,
- RJ45 Crimpable plugs, and
- an RJ45 Crimping tool.

1.1 Cable Wiring Procedure

Step 1: Use the crimping tool to cut into the Ethernet cable plastic sheath about 1 inch (2.5 cm) from the end of the cut cable (Figure 1).

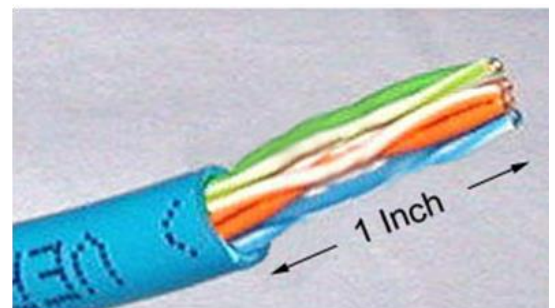


Figure 1 Cut cable end and leave 1 inch

Step 2: Pinch the wires between your fingers and straighten them out. Carefully push all 8 unstripped coloured wires at one end into the RJ45 plug as shown for T568B and T568A (Figure 2).

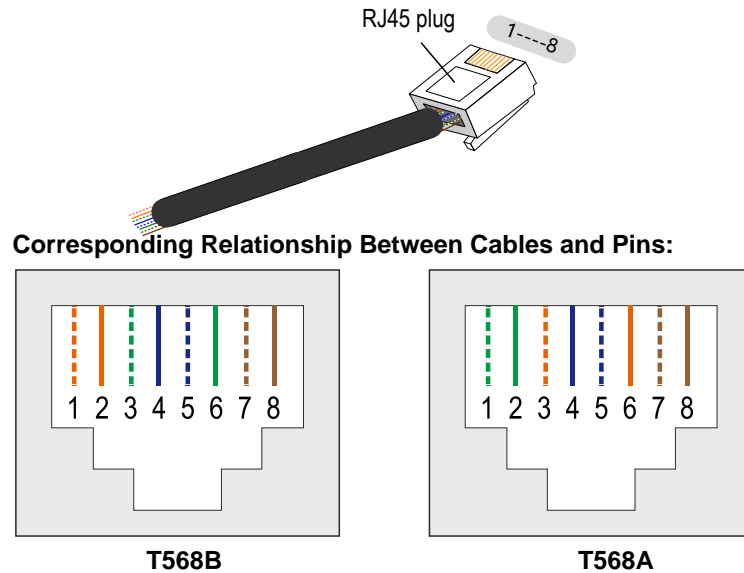


Figure 2 Colour cable order for GCL Ethernet cable

Step 3: Cut through pins 3 and 6 at the other end (Figure 3). Carefully push the other 6 unstripped coloured wires into the RJ45 plug.

(Note the position of the blue plastic sleeve. Also note how the wires go all the way to the end of the plastic sleeve. All the wires go all the way in. There should be no short wires.)

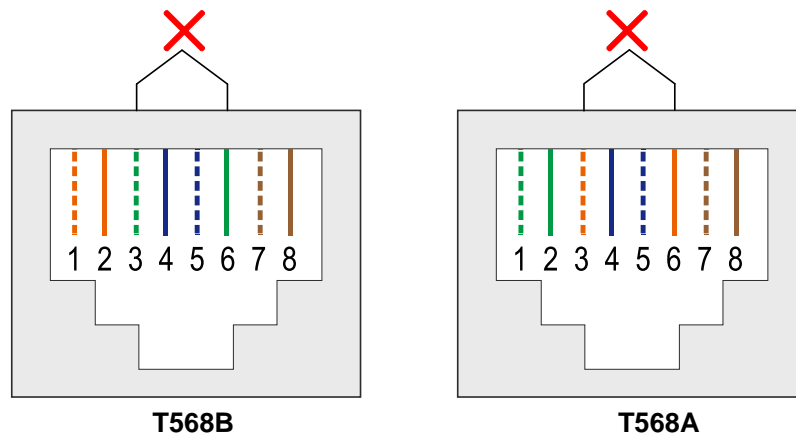


Figure 3 Cut off pins 3 and 6 at the other end

Step 4: Insert the RJ45 plug into the BAT_Com port (Figure 4) on the configuration circuit board until it makes a clicking sound, then plug the other side into the communication port of the GCL battery.

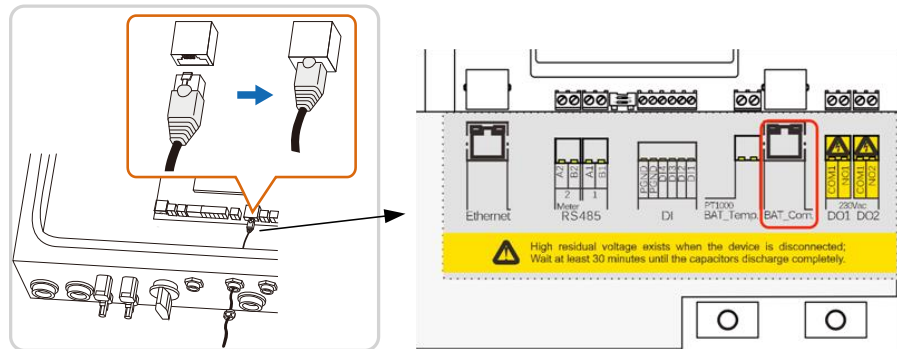


Figure 4 BAT_Com. Port

Step 5: Watch the SH5K home screen. If you see '--', the communication is not correctly connected (Figure 5). You should swap pins 4 and 5 of the Ethernet cable.

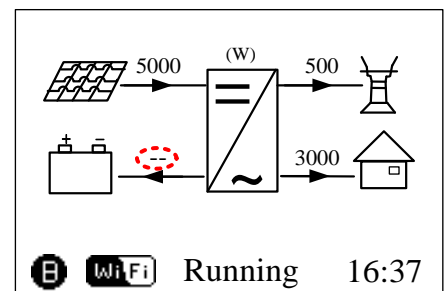


Figure 5 SH5K Home Screen

Step 6 Cut off the RJ45 plug with 6 wires in and use the crimping tool to cut into the Ethernet cable plastic sheath about 1 inch (2.5 cm) from the end of the cut cable (Figure 6). Pick out the pins 4 and 5, then cross them over and carefully push the wires to the RJ45 plug again.

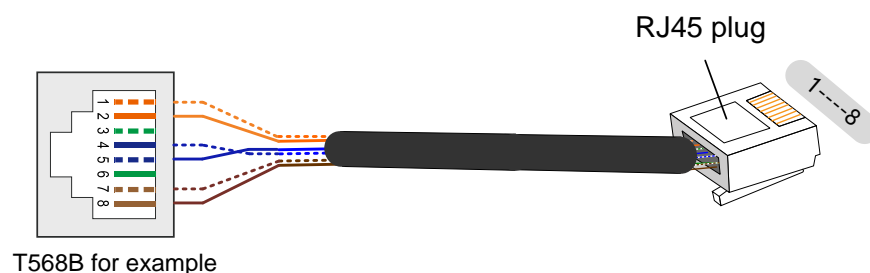


Figure 6 Swapping pins 4 and 5 of a standard Ethernet cable

Step 7 Insert the RJ45 plug and watch the SH5K home screen. Soon as you see '0' beside the battery the communication is connected (Figure 7).

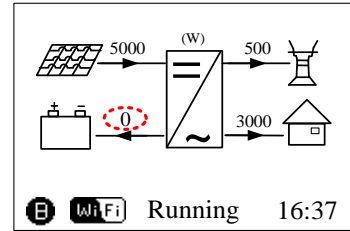


Figure 7 SH5K Home Screen

1.2 Inverter Settings

Select the correct battery model and the Tray Number. The tray number indicates how many batteries are connected in parallel. (Figure 8)

Main Screen (Press **ENTER**) → Menu (Press **▼** × 2) → Settings (Press **ENTER**) → Input password 111 (Press **ENTER**) → Settings (Press **▼** × 5) → Battery Type (Press **ENTER**)

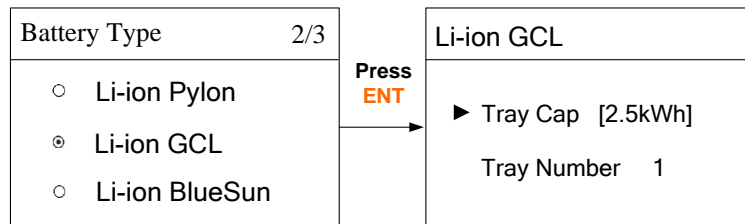


Figure 8 Setting battery type and capacity

2 GCL and SH5K+

The GCL battery communicates with the Sungrow SH5K+ inverter via an Ethernet cable (CAN wire).

The CAN wire is included in the delivery, as shown in Figure 9.



Figure 9 CAN in the delivery

2.1 Cable Wiring Procedure

There are four pins within CANL and CANH, pick out the green and green-white pins and cut them through (Figure 10).



Figure 10 CAN wire with green and green-white pins cutting through

Step 1: Insert the RJ45 plug into the battery port until it makes a clicking sound.

Step 2: Plug CANH into the CANH port and plug CANL into the CANL port of the configuration circuit board of SH5K+ (Figure 11).

CANH: Blue

CANL: Blue- White

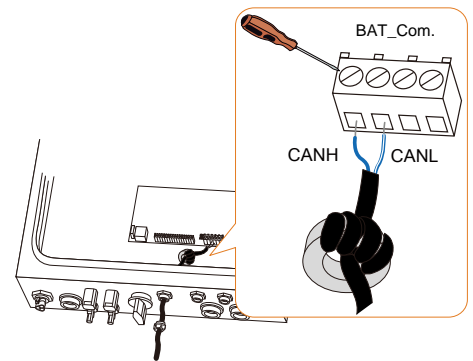


Figure 11 CANH and CANL connection to SH5K+ circuit board

Step 3 Watch the SH5K+ home screen. If you see '--', the communication is not correctly connected (Figure 12). You should swap CANH and CANL of the CAN cable.

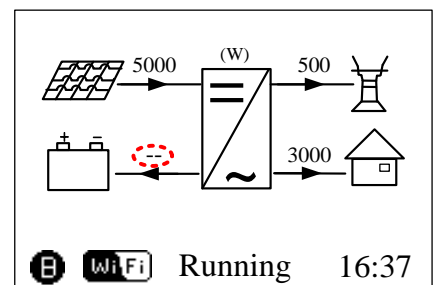


Figure 12 SH5K+ Home Screen

Step 4: Plug CANH into the CANL port and plug CANL into the CANH port of the configuration circuit board of SH5K+ (Figure 13).

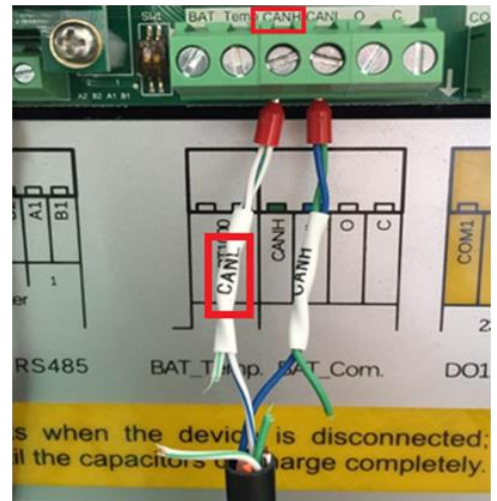


Figure 13: Swapping CANH and CANL

Step 5 Soon as you see '0' beside the battery the communication is connected (Figure 14).

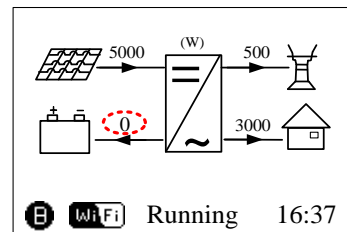


Figure 14 SH5K+ Home Screen

2.2 Inverter Settings

Select the correct battery model and the Tray Number. The tray number indicates how many batteries are connected in parallel (Figure 15).

Main Screen (Press **ENT**) → Menu (Press **▼** × 2) → Settings (Press **ENT**) → Input password 111 (Press **ENT**) → Settings (Press **▼** × 8) → Battery Type (Press **ENT**)

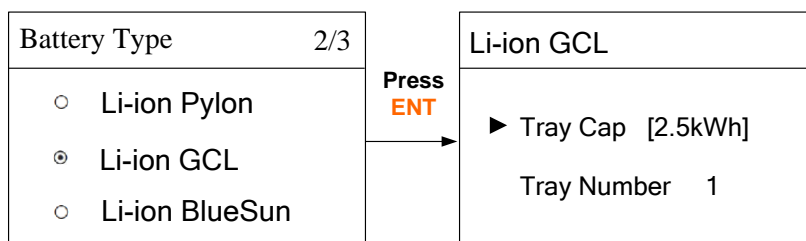


Figure 15 Setting battery type and capacity