

StorEdge™ Interface Wiring Guide & On Site Checklist for Europe, APAC, South Africa

This document is a battery wiring guide and contains an on-site checklist with steps for post-installation verification of a StorEdge system with one of the following configurations:

- LG Chem RESU7H/RESU10H Battery, SolarEdge Inverter Unit, StorEdge Interface Unit, Modbus Meter
- LG Chem RESU7H/RESU10H Battery, SolarEdge HD-Wave Inverter Unit, StorEdge Interface Unit for HD-Wave and LG Chem, Modbus Meter



CAUTION

Do not connect SESTI-S1 and SESTI-S2 StorEdge Interface Unit to the SolarEdge HD-Wave inverters when using LG Chem batteries. Connecting these products may damage the equipment and void the warranty.



CAUTION

For proper battery performance the LG Chem battery should stay connected to the StorEdge Interface and in charging mode; extended battery disconnection may result in deep discharge and damage the battery. If the battery must be disconnected, first turn OFF the LG battery auxiliary power supply switch and the circuit breaker switch. For full battery installation and commissioning follow LG Chem instructions.

For more details, please refer to the StorEdge Interface Installation Guide supplied with the StorEdge Interface. For additional assistance contact SolarEdge Support (refer to *Support and Contact Information* on page 8).

Wiring Guide



WARNING!

For LG Chem RESU7H/RESU10H batteries:

Before wiring the system, make sure that the battery is powered off, using both of the following switches:

- * Auxiliary power supply switch
- * Circuit breaker switch

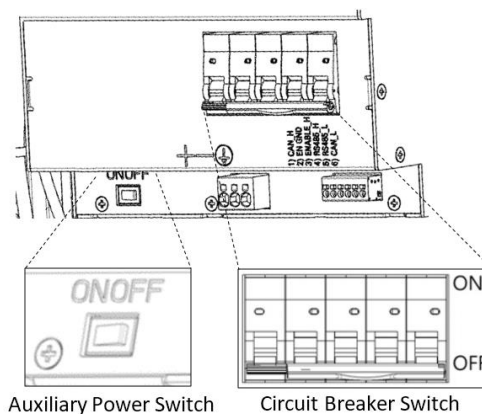


Figure 1: LG Chem Auxiliary Power Switch and Circuit Breaker Switches

Wiring Types and Connectors

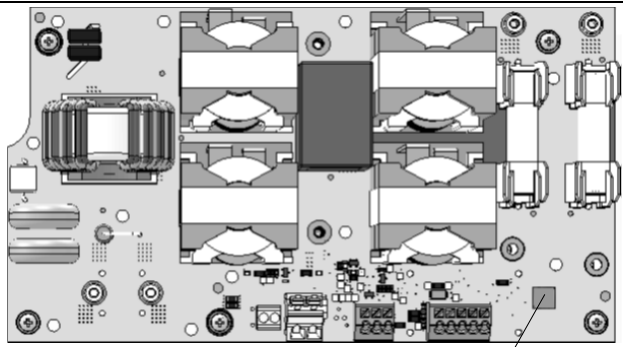
To connect the battery to the StorEdge Interface, use the following wiring types and connectors:

Recommended Cable Type (min-max cross section)	SolarEdge Connector	LG Chem RESU7H/RESU10H Battery Connector
DC: 6 mm ² (2.5-6 mm ²), 600V insulated Ground/PE: 6-10mm ² , 600 V insulated	BAT DC +	DC +
	BAT DC -	DC -
		Ground
Control and monitoring: 5-wire shielded twisted pair cable, 0.2 mm ² (0.2-1.5 mm ²), 600V insulated. CAT5 600V insulated can also be used.	En (enable)	ENABLE_H
	V+	Not connected
	B- (RS485)	RS485_L
	A+ (RS485)	RS485_H
	G (RS485) or Thermal (depending on interface type)	EN_G

Wiring Diagrams – Connecting Batteries to the StorEdge Interface

The diagrams on the following pages illustrate the connection of batteries to the StorEdge system. The following table will help you find the appropriate wiring diagram for your system configuration. Pay attention to whether the battery DIP switch setup on the StorEdge Interface main board has 0 or 2 switches.

Battery Type	Connected to	Wiring Diagram
LG Chem RESU7H/RESU10H	StorEdge Interface with no DIP Switches	See Figure 2 on page 3
	StorEdge Interface with 2 Switches	See Figure 3 on page 3



DIP Switches

Connecting the LG Chem RESU7H/RESU10H to a StorEdge Interface with no DIP Switches, and SolarEdge Inverter and Meter

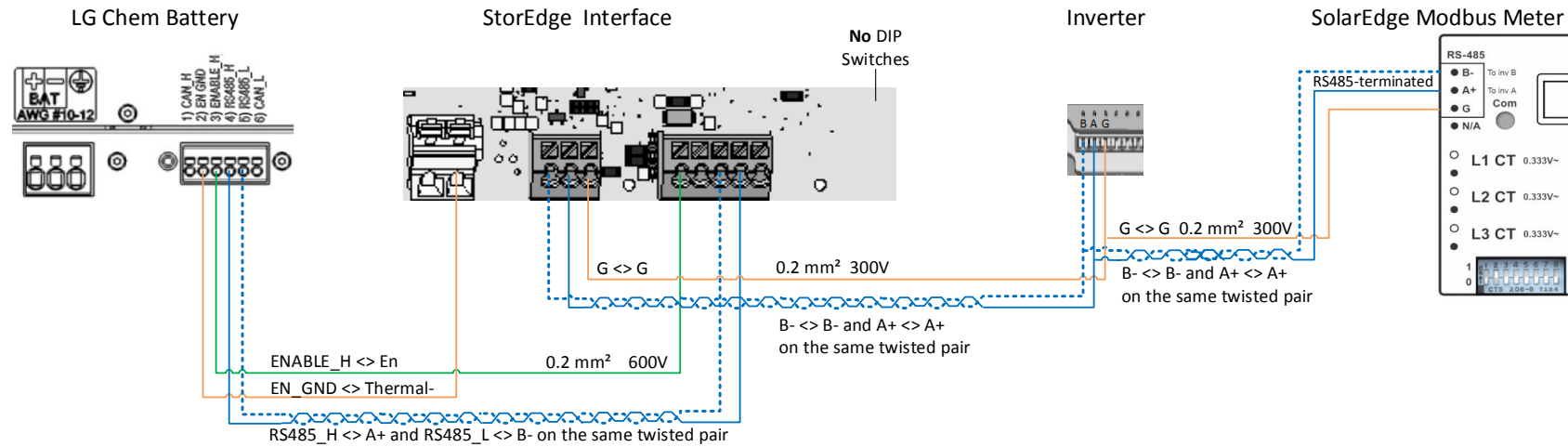


Figure 2: Connecting the LG Chem RESU7H/RESU10H to a StorEdge Interface with no DIP Switches, and SolarEdge Inverter and Meter

Connecting the LG Chem RESU7H/RESU10H to a StorEdge Interface with Two DIP Switches, and SolarEdge Inverter and Meter

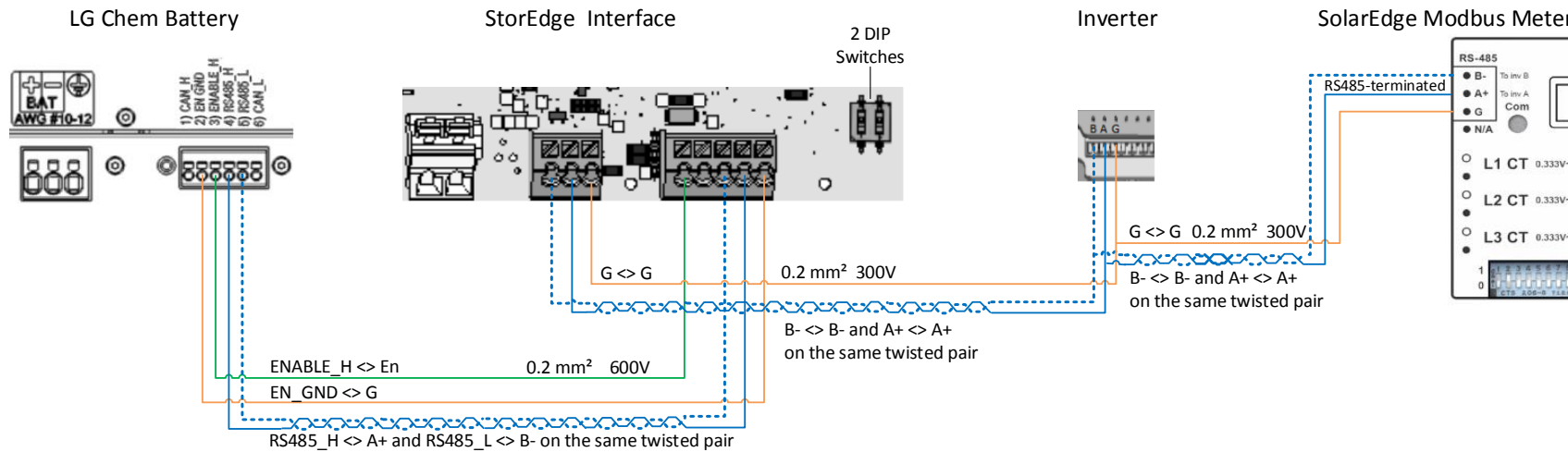
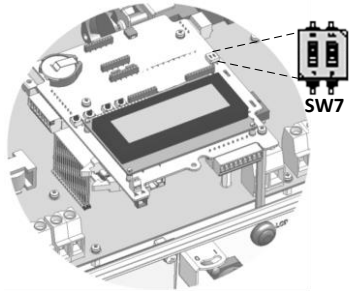
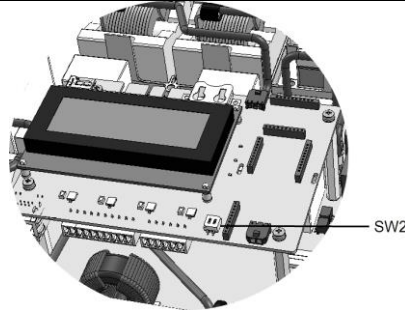
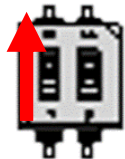
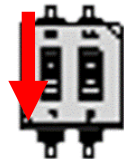
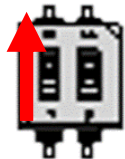
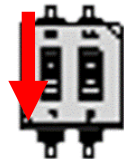
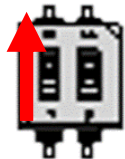
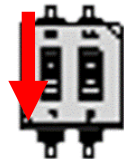


Figure 3: Connecting the LG Chem RESU7H/RESU10H to a StorEdge Interface with Two DIP Switches, and SolarEdge Inverter and Meter

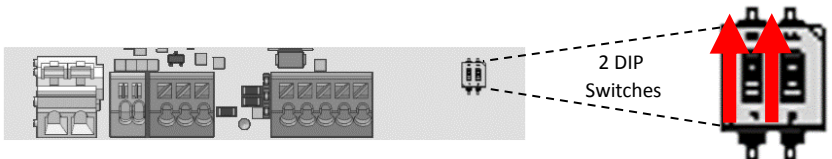
Switch Settings

Setting the DIP Switches on the Inverter Communication Board

<p>SolarEdge Inverter Set DIP switch SW7</p> 	<p>HD-Wave Inverter Set DIP switch SW2</p> 		
<p>RS485-1</p> <p>For RS485-1 connections, use DIP Switch 1 (leftmost):</p> <ul style="list-style-type: none"> * ON (up): Terminated (no meter installed) * OFF (down): Not terminated (meter is installed) 			
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; text-align: center; border: none;"> <p>Terminated - ON</p>  </td> <td style="width: 50%; text-align: center; border: none;"> <p>Not terminated - OFF</p>  </td> </tr> </table>		<p>Terminated - ON</p> 	<p>Not terminated - OFF</p> 
<p>Terminated - ON</p> 	<p>Not terminated - OFF</p> 		

Setting the DIP Switches on the StorEdge Interface Main Board

The following table is relevant only for StorEdge Interface main boards with two DIP switches.

	
DIP Switch 1 (leftmost)	DIP Switch 2 (rightmost)
ON (up)	ON (up)



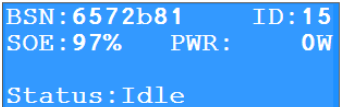
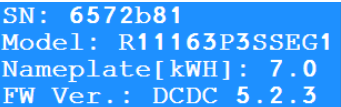
Post Installation Verification and Configuration

Follow the checklist below to verify that the system is properly connected and configured. The checklist is suitable for a backup system with a single SolarEdge Inverter, a StorEdge Interface unit, a single LG Chem battery, and a single SolarEdge Electricity Meter installed at the grid connection point.

For other system configurations, follow the steps in the StorEdge Installation Guide supplied with the StorEdge Interface.

Step	Verification Action	Checked		
1	Installation and Wiring			
	1.1	Verify the distance between components complies with the distances detailed in the supplied installation guide.	<input type="checkbox"/>	
	1.2	Take a photograph of the battery connection area and send to SolarEdge support (useful for future debugging if necessary.)	<input type="checkbox"/>	
	1.3	Take a photograph of the connection area of the StorEdge Interface and send it to SolarEdge support.	<input type="checkbox"/>	
	1.4	Take a photograph of the installation and send it to SolarEdge support.	<input type="checkbox"/>	
	1.5	Verify that the battery splash cover is closed.	<input type="checkbox"/>	
	1.6	Verify that the backed-up loads panel is wired (relevant for backup systems only).	<input type="checkbox"/>	
	1.7	Verify that the StorEdge Interface's DIP switches are configured as shown on page 4.	<input type="checkbox"/>	
	1.8	Verify that all DC, communication and AC cabling connections are completed as follows:		
		1.8.1	Check AC wiring and circuit breaker.	<input type="checkbox"/>
		1.8.2	Check string DC input voltage. Expect 1V per optimizer in the string.	<input type="checkbox"/>
		1.8.3	Verify that grounding is properly connected in the battery, interface and inverter.	<input type="checkbox"/>
		1.8.4	Check the DC wiring to the battery, according to the wiring diagram you selected from the table on page 2. Check the connections and verify that all are securely connected.	<input type="checkbox"/>
		1.8.5	Check connections to the battery and the switch setup as described earlier in this document.	<input type="checkbox"/>
		1.8.6	Check connections to the meter. If no meter is connected, the inverter's RS485 bus must be terminated using the DIP switches (see page 4).	<input type="checkbox"/>
1.8.7	Check connection to the Internet with one of the following options: Ethernet, Cellular, ZigBee Module. The connection status displayed should be S_OK.	<input type="checkbox"/>		

2	Activation and Firmware Upgrade			
	2.1	Turn the inverter ON/OFF switch to OFF and make sure it's OFF during the entire upgrade process.	<input type="checkbox"/>	
	2.2	LG Chem Battery: Switch both Auxiliary power supply and Circuit breaker switch ON.	<input type="checkbox"/>	
	2.3	Turn the AC to the inverter OFF.	<input type="checkbox"/>	
	2.4	Verify that the serial number on the activation card supplied with the inverter matches the serial number of the inverter.	<input type="checkbox"/>	
	2.5	Insert the activation card to the designated slot located on the inverter communication board.	<input type="checkbox"/>	
	2.6	Turn ON the AC to the inverter to start activation.	<input type="checkbox"/>	
	2.7	Wait until the LCD indicates that the inverter activation process is completed.	<input type="checkbox"/>	
	2.8	Turn the AC to the inverter OFF.	<input type="checkbox"/>	
	2.9	Remove the activation card from the inverter.	<input type="checkbox"/>	
	2.10	Download the latest firmware version available at: https://www.solaredge.com/storedge/firmware to a microSD card.	<input type="checkbox"/>	
	2.11	Insert the microSD card with the upgrade file to the designated slot located on the inverter communication board.	<input type="checkbox"/>	
	2.12	Turn the AC to the inverter ON.	<input type="checkbox"/>	
2.13	Wait until the LCD indicates that the file was uploaded to the inverter and the battery.	<input type="checkbox"/>		
3	RS485 Configuration Verification (for one battery and one Export + Import meter)			
	3.1	Switch the inverter ON/OFF switch to OFF.	<input type="checkbox"/>	
	3.2	Devices		
	3.2.1	Enter Setup mode and select Communication > RS485-1 Conf > Multi Devices	<input type="checkbox"/>	
	3.3	Meter		
	3.3.1	Select Communication > RS485-1 > Meter 2 > Meter ID: 2, Device Type <MTR>, Protocol <WN>, CT Rating (check CT label), Device ID <2>, Meter Function (E+I).	<input type="checkbox"/>	
	3.3.2	Verify Device Type > Revenue Meter	<input type="checkbox"/>	
	3.3.3	Verify Protocol > Meter	<input type="checkbox"/>	
	3.3.4	Verify that the CT value matches the value that appears on the CT label: CT Rating > <xxxxA>.	<input type="checkbox"/>	
	3.3.5	If CT resets to 0, check the communication with the meter.	<input type="checkbox"/>	
	3.4	Battery		
	3.4.1	Select Communication > RS485-1 > Battery 1 > Protocol (LG) Select Communication > RS485-1 > Battery 1 > Battery ID (15)	> Device Type <BAT> Protocol <LG> Device ID <15> Battery Info<Test>	<input type="checkbox"/>
	3.5	Optional: RS485 Expansion Kit		
3.5.1	For a system with multiple inverters that has a single RS485 bus only, install and configure an RS485 Expansion Kit. Refer to the RS485 Expansion Kit Installation Guide. http://www.solaredge.com/files/pdfs/RS485_expansion_kit_installation_guide.pdf	<input type="checkbox"/>		

4	RS485 Connection Verification			
	Press the inverter external LCD light button to display the status screens one after the other until a screen like the following is displayed:			
	4.1	Check the RS485 communication status: * Verify that the number under Prot displays the number of configured devices. * Verify that the number under ## displays the number of communicating devices.		<input type="checkbox"/>
	4.2	Check the meter(s): In the meter(s) status screen, check that the status is OK. If “Comm. Error” appears, refer to the troubleshooting section in the supplied installation guide.		<input type="checkbox"/>
4.3	Check meter AC and CT connections including CT direction: Connect the meter to power supply. Check the LEDs: when configured as export/import meter: green=import, red=export.		<input type="checkbox"/>	
5	Check Battery Connection			
5.1	Scroll through the menus until you reach the battery status screen. Check the battery information: BSN (battery serial number), ID (15 for LG), SOE (battery capacity in percentage), PWR (charge/discharge power), Total (total discharged energy) and the State (Charging/Discharging, Idle, Init or Fault).		<input type="checkbox"/>	
6	Battery Firmware Version Check			
6.1	Switch OFF the inverter and wait 3 minutes.		<input type="checkbox"/>	
6.2	Select Communication > RS485-1 > Battery 1 > Battery Info		<input type="checkbox"/>	
7	Setup StorEdge Operating Mode			
7.1	Turn ON the inverter.		<input type="checkbox"/>	
7.2	Use the status screens to check charge or discharge according to the current condition.		<input type="checkbox"/>	
7.3	Set up the operating mode according to one of the following options:			
	Maximize Self Consumption			
	7.3.1	Select Power Control > Energy Manager > Energy Control > Max self-Consume	<input type="checkbox"/>	
7.3.2	Charge/Discharge Profile Programming			
	7.3.2	Select Power Control > Energy Manager > Energy Control > Time of Use	<input type="checkbox"/>	

Support and Contact Information

If you have technical queries concerning our products, please contact us:

Australia (+61)	1800 465 567	support@solaredge.net.au
APAC (Asia Pacific) (+972)	073 2403118	support-asia@solaredge.com
China (+86)	21 6212 5536	support_china@solaredge.com
France and Belgium (+33)	0800 917 410	support@solaredge.fr
DACH and Rest of Europe (+49)	089 454 59730	support@solaredge.de
Italy (+39)	0422 053700	support@solaredge.it
Japan (+81)	03 5530 9360	support@solaredge.jp
Netherlands (+31)	0800 0221 089	support@solaredge.nl
New Zealand (+64)	0800 144 875	support@solaredge.net.au
United Kingdom (+44)	0800 028 1183	support-uk@solaredge.com
US & Canada (+1)	510 498 3200	ussupport@solaredge.com
Greece (+30)	00800 125574	
Middle East & Africa (+972)	073 2403118	
South Africa (+27)	0800 982 659	support@solaredge.com
Turkey(+972)	073 240 3118	
Worldwide (+972)	073 240 3118	

Before contact, make sure to have the following information at hand:

- Inverter and power optimizer model numbers
- Serial number of the product in question
- The error indicated on the inverter screen or on the SolarEdge monitoring portal, if there is such an indication.
- System configuration information, including the type and number of modules connected and the number and length of strings.
- The communication method to the SolarEdge monitoring portal, if the site is connected
- Inverter software version as appears in the ID status screen.