Ginlong Solis WiFi

Inverter summary

Inverter Manufacturer	Ginlong
Inverter Model	All Solis models
Inverter Size	All sizes
Ginlong WiFi data logging stick	Must be purchased with all models
SPLASH Monitoring STREAMbox	NOT required

List of parts required for connection of inverter to SPLASH Monitoring

To enable you to connect the above inverter to SPLASH Monitoring you will NOT need a SPLASH Monitoring STREAMbox, but you will need to have purchased a Ginlong WiFi data logging stick with the inverter.

Part description	Part number
Inverter Make / Model	As above
SPLASH Monitoring STREAMbox	Not needed
Connection cable STREAMbox to inverter	N/A
Connection cable STREAMbox to clients router or LAN	N/A
Ginlong WiFi data logging stick	Mandatory – supplied by your Ginlong agent
Internet connected WiFi router	Mandatory – supplied by your ISP

Setting Up Your WiFi data logging stick

Before you start you will need the following information:

- Your wireless router's SSID and PSK password. On domestic routers these are usually found on a lable on the underside of the router.

- The remote server domain name and port number. These should have been given to you by the inverter supplier.

The WiFi stick has a wireless Access Point built into it which you can access using your smart phone or a wireless laptop. You should refer to the Ginlong documentation delivered with the WiFi stick, but here is a summary of how to set it up to transmit data to SPLASH Monitoring:

We will assume you are using a smart phone to set up the WiFi stick initially.

1. Connect the WiFi stick to the inverter and power it up. The WiFi stick will only work when DC power is flowing to the inverter.

2. Using your smart phone's WiFi settings button, scan for local wireless networks and connect to the network with the SSID corresponding to the serial number on the WiFi stick. No password required.

3. Open the web browser on your phone and enter 10.10.100.254 into the "search or type url" box.

4. Log on to the inverter using the default username and password: admin / admin.

5. You should be presented with the inverter's status web page. Click on the "wizard" link and work your way through setting up the connection to your own WiFi router.

6. Hints: passwords are case sensitive; click on the "show password" check box; select "enable" to obtain IP address automatically; leave "enhaced security" settigs at default.

7. Upon completion the inverter should restart automatically. After about 1 minute reconnect your phone to the inverter's SSID, as at step 2 above, and reenter 10.10.100.254 into your phone's web browser, as at step 3 above.

8. After logging on (admin/admin) you should be presented with the inverter's status page, and this time under "Wireless STA mode" you should see your router's SSID and the IP address allocated to the inverter – take note of this IP address. If you don't see your router's details you will need to start again from step 2 above.

9. NOTE: We found that if the inverter has been previously configured you will need to first click on the "reset" link on the inverter's status page. Wait a minute and start again from step 2 above. This doesn't appear to be documented elsewhere.

10. It's now much easier to make the rest of the configuration changes using a computer attached to your wireless router: On your PC's web browser enter the IP address from step 8 above into the url. You should be presented with the inverter's status page.

11. Click on the "Advanced" link, then click on "Remote server".

12. Enter the domain name and port number from your inverter supplier into the table alongside "Server B". then click "Test". If all is well you should get a tick under the status column. If you get a cross, then check the domain name is entered accurately. If the cross persists see Trouble Shooting below.

13. Click "save" then click "restart". After about a minute refresh the web page and log in again using the default admin/admin username/password.

14. To improve security you should change the inverter's password by clicking on "Advanced", then "Access point", and under "Security setting" enter a new password for the admin user, then click "save".

15. We recommend leaving the remaining settings on this page at their default values.

16. Go back to the status page and click on "Remote server information" and check that both server A and server B are both "pingable".

17. This concludes the inverter setup. You should now log into www.splashmonitoring.com and check that your system is set up and it is receiving data from your inverter. Note the inverter sends its data once every ten minutes, so there will often be a significant difference between "Local time" and "Sample time" on the mobile display.

Trouble Shooting:

"No Stream Found" on the SM Web site:
This is because the web site hasn't received any data from the Solis Relay Server, or Inverter.

- Solis inverters will not respond if there is no DC power from the PV panels, so you will not receive any data at night and the sample time will be the last time data was received. If you are sure the inverter is generating and still no data is displayed please contact your inverter supplier in the first instance.

- Allow at least 10 minutes after powering up the inverter before starting your diagnostic checks.

- Using your web browser log onto the inverter as described in the setting up section above, click on "Remote server information" and make sure Server B is "pingable". If not, check the server's domain name is accurate.

- If Server B is not "pingable", start up a DOS screen or CMD prompt on your Windows PC and enter "ping 'domain.name' (where 'domain.name' is the name from your inverter supplier). If the domain name is correct and the Solis Relay Server is responding you should get a reply, if you get a "no response" or similar message, contact your inverter supplier.

- If Server B is "pingable" make sure you have set the port correctly in the inverter's "Advanced" settings.

- If you can't log onto the inverter from your PC you will need to use your smart phone to connect to the inverter's Access Point as described at step 2 of the Setting Up section above. Check the wireless settings and make sure the inverter has acquired an IP address from your router (under "Wireless STA mode").

- One of the most common issues we encounter is the site's network firewall not allowing outbound traffic. This is rarely an issue with domestic routers, but very common in managed commercial networks. If your network is managed, or you have firewall rules set on your router, you must configure the router/firewall to allow outbound access to the domain name and port specified by your inverter supplier.

Inverter Status Codes:

The status code reported by the inverter has the following meanings:

0	Operation OK, or Stop Run, or Generating (depending on inverter type and application)
1	Operation OK, or Open Run, or Generating
2	Sunlight or Wind Low (ie. Low DC voltage)
3	Inverter is initializing
4	Control Stop

4112	Grid Over Voltage
4113	Grid Under Voltage
4114	Grid Over Frequency
4115	Grid Under Frequency
4116	Grid Impedance Over
4117	No Grid
4118	Grid Unbalanced
4119	Grid Frequency Fluctuation
4120	Grid Over Current

4128	DC Over Voltage
4129	DC Bus Over Voltage
4130	DC Bus Unbalance
4131	DC Bus Under Voltage
4132	DC Bus 2 Unbalanced
4133	DC(Channel A) Over Current
4134	DC(Channel B) Over Current
4135	DC Over Current

4144	Short Circuit Protection
4145	Initial Protection
4146	Temperature Protection
4147	Ground Fault
4148	Leakage Current Protection
4149	Relay Protection
4150	DSP_B Protection
4151	DC Injection Protection
4152	12V Under Voltage Faulty
4153	Leakage Current Protection
4154	AFCI Check Fault
4155	AFCI Fault

Reason Codes:

Reason 1	GVFaultValue		Volts
Reason 2	GFFaultValue		Hz
Reason 3	GZFaultValue		Ω
Reason 4	TmpFaultValue		Degree C
Reason 5	PVFaultValue		Volts
Reason 6	GFCIFaultValue		Amps