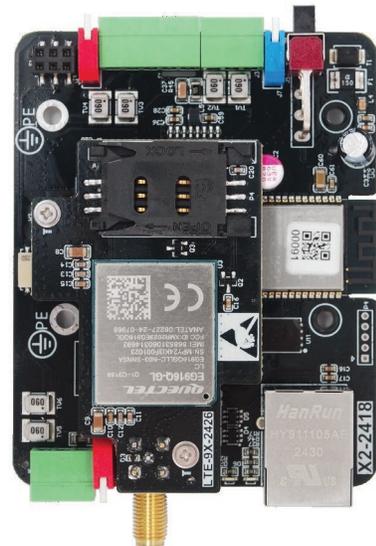
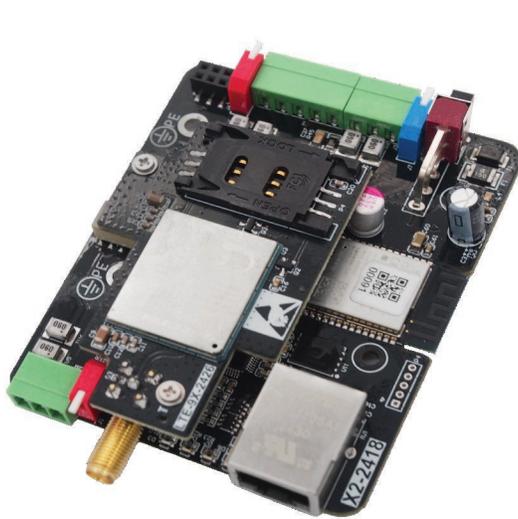


Commercial 1000VDC String Inverter Accessory

Solectria® ENC-G6

Quick Start Guide

Listing File Model: EWX2-S0



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1. Document Modification History

DATE	VERSION	SECTION	MODIFICATION	BY
2026 MAR 2	A		Creation of document. Watermark- DRAFT.	ECH

DRAFT

Before You Start



This manual contains important information regarding installation and safe operation of the ENC-G6 communications gateway device and is intended for qualified personnel only. Qualified personnel having training, knowledge and experience in:

- Installing electrical equipment and PV power systems (up to 1000VDC).
- Applying all local installation codes.
- Analyzing and eliminating the hazards involved in performing electrical work.
- Selecting and using Personal Protective Equipment (PPE).

Installation, commissioning, troubleshooting, and maintenance of the inverter must be done only by qualified personnel. Be sure to read this manual carefully before using the inverter.

Thank you for choosing a Yaskawa Solectria Solar.

If you encounter any problems during installation or operation of this unit, first check the user manual before contacting your local dealer or supplier. This user manual is applicable for the following model: **ENC-G6**. The term **inverters** mentioned in this manual reference the currently sold models of 1000Vdc commercial inverters, which are:

PVI25TL-480-R
PVI 25TL-208
PVI-36TL-480-V2
PVI 50TL-480
PVI-50TL-208
PVI 60TL-480
PVI-100TL-480

Please keep this user manual on hand for quick reference. Always check online for an updated version of this product manual. The contents of this document are subject to change without notice.

2. Important Safety Instructions

SAVE THESE INSTRUCTIONS

This manual contains important instructions for models:

ENC-G6

Please read this quick start guide carefully before installation of the inverter. Yaskawa Solectria Solar reserves the right to refuse warranty claims for equipment damage if the user fails to install the product according to the instructions in this manual. Failure to follow these instructions and other relevant safety procedures may result in voiding of the product warranty and/or damage to the inverter or other property.

2.1 Hazard Symbols



WARNING

Denotes a hazard. It calls attention to a procedure that, if not correctly performed or adhered to, could result in injury or loss of life. Do not proceed beyond a warning note until the indicated conditions are fully understood and met.



CAUTION

Denotes a hazard. It calls attention to a procedure that, if not correctly performed or adhered to, could result in damage or destruction of the product. Do not proceed beyond a caution sign until the indicated conditions are fully understood and met.



IMPORTANT

Denotes information about setting or configuration. It calls attention to the fact that failure to perform or follow a procedure correctly may result in the system not functioning properly.

2.2 General Safety Precautions

Before proceeding, read through the information in these instructions and recommendations and observe all precautions to prevent accidents.

The safety precautions provided in this document do not cover all safety precautions. Yaskawa Solectria Solar assumes no responsibility for the consequences of violating safety practices and design, production, and use standards.

 **WARNING**

When repairing or replacing inverter equipment, the instructions in the Inverter Installation & Operation Manual must be followed.

 **WARNING**

The inverter cover should be opened only after shutting off the DC and AC power disconnects of the inverter. Wait at least five minutes before opening the cover. Otherwise, there is a risk of electric shock from energy stored in the capacitors.

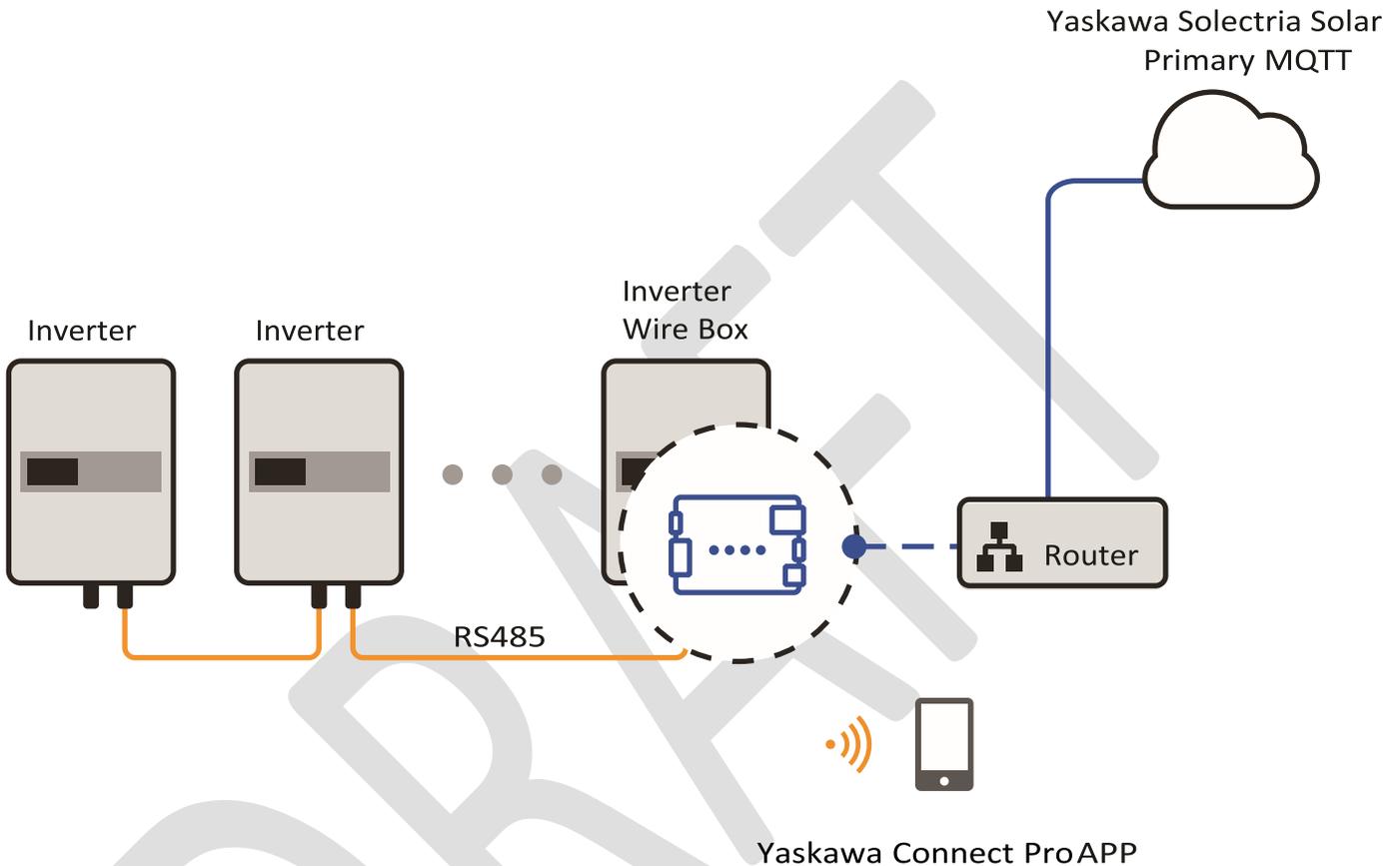
 **WARNING**

Opening the inverter and repairing or testing under power must be performed only by qualified service personnel.

3. System Design

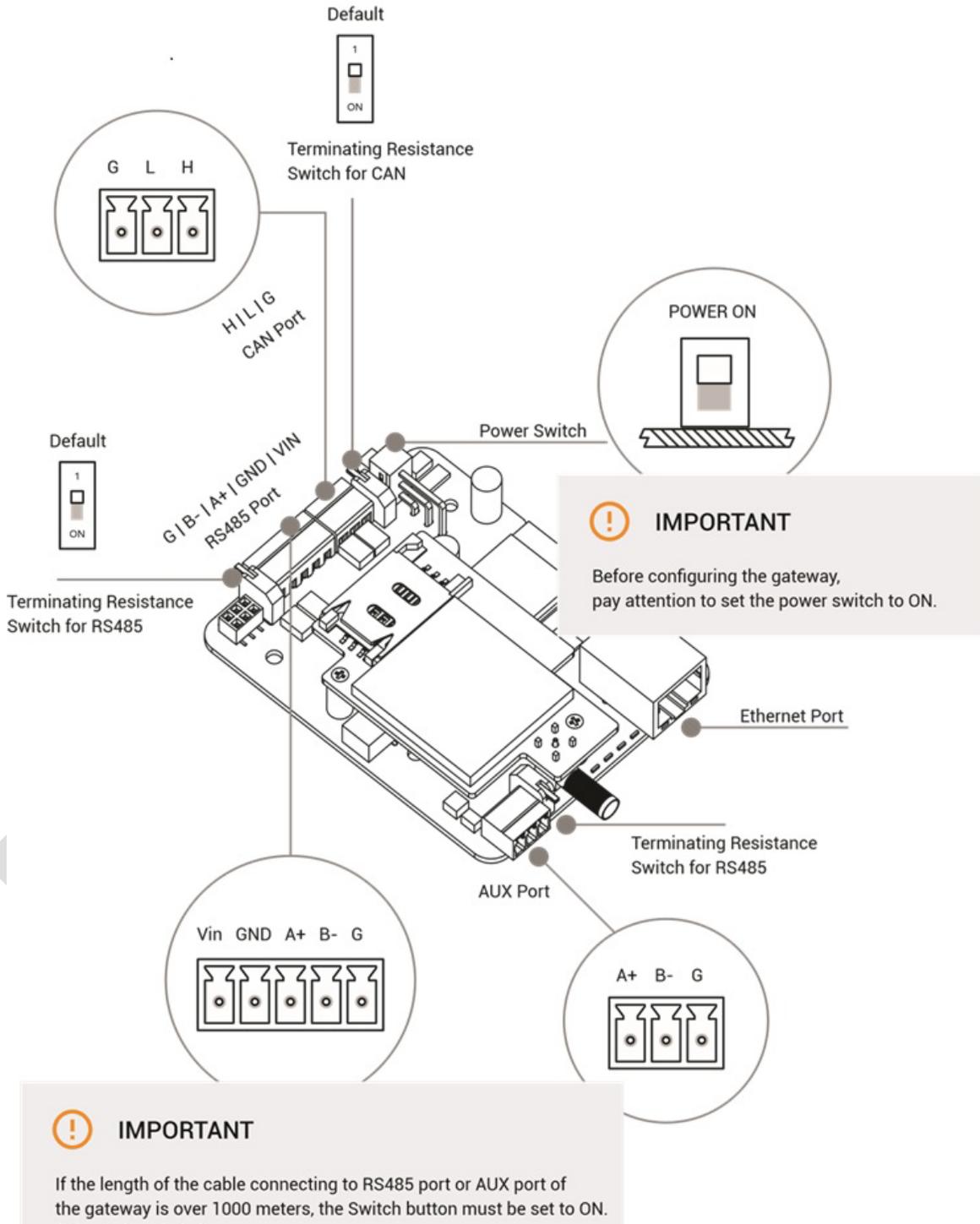
3.1 Daisy Chain

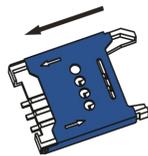
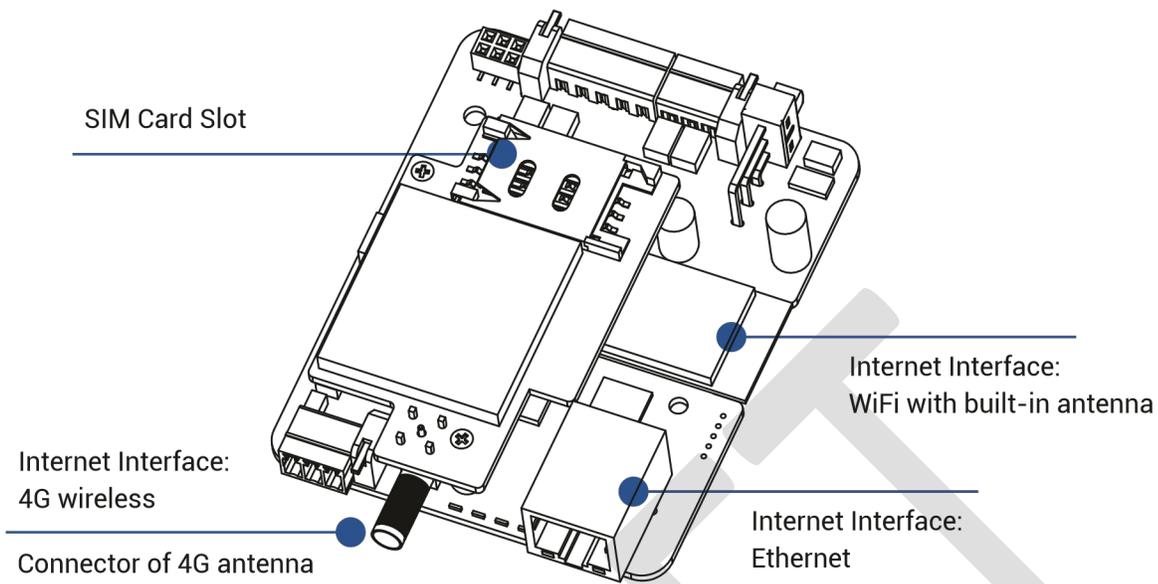
For this configuration, the ENC-G6 gateway is installed in the inverter wirebox with no external power source required. For mounting information, please reference the inverter’s Installation and Operations manual.



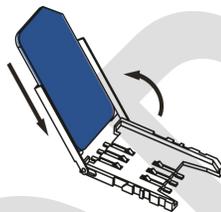
When the inverters are monitored via the ENC-G6 Gateway, a unique RS485 address for each inverter must be assigned using the HMI (eg. The inverter LCD screen or Yaskawa Connect Pro app). Refer to the specific inverter Installation and Operations manual for instructions on setting and assigning the RS485 Modbus address. The ENC-G6 Gateway can support a maximum of up to 32 hardware (No MLPE) or devices connected to the daisy chain network.

3.2 ENC-G6 Gateway Interfaces





1) Push in the direction shown to unlock the flap



2) Open the flap

Then, insert the SIM card into the flap along the slot in the flap. Fold the flap and SIM card into place on the SIM card holder



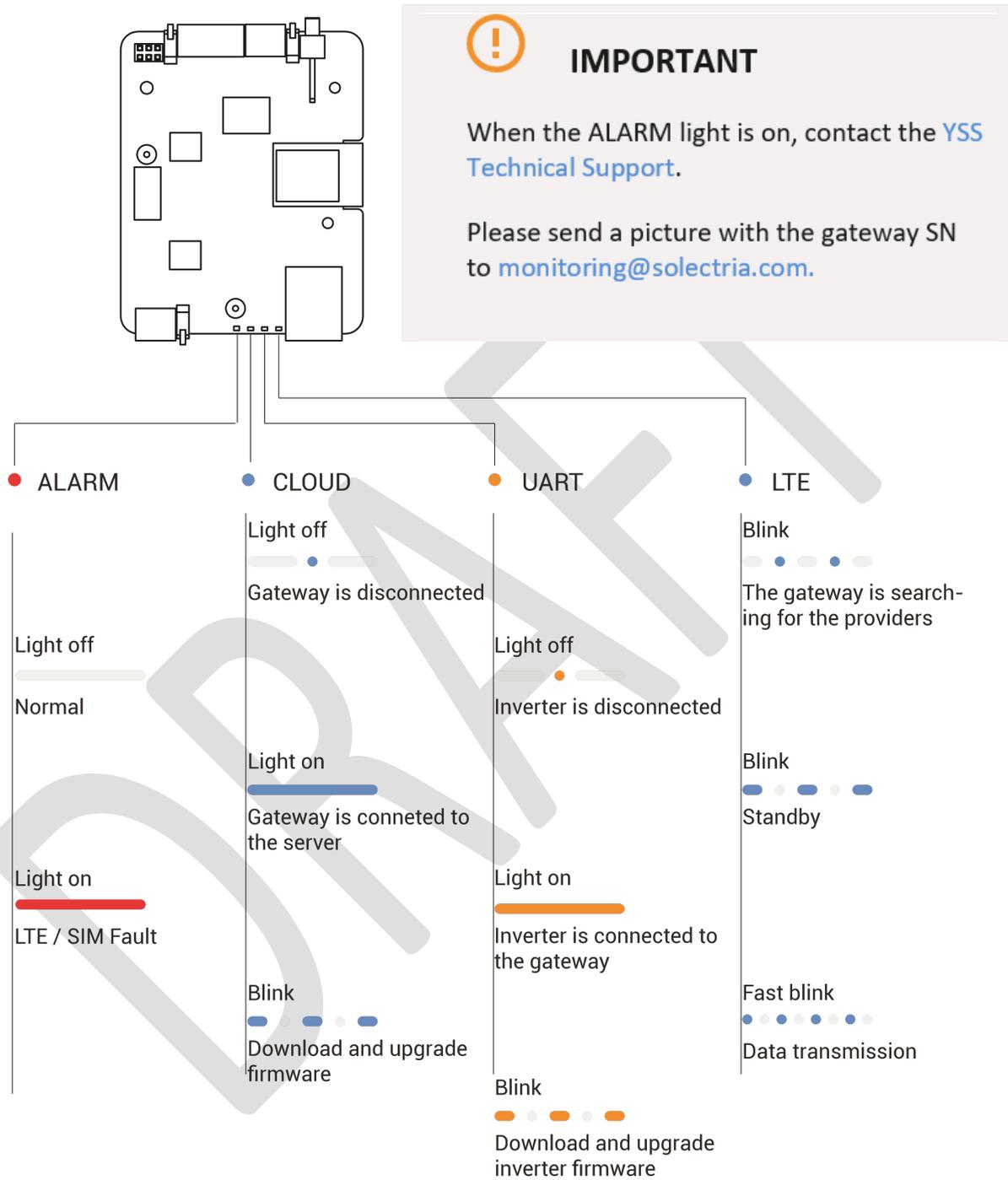
3) Push in the direction shown to lock the flap



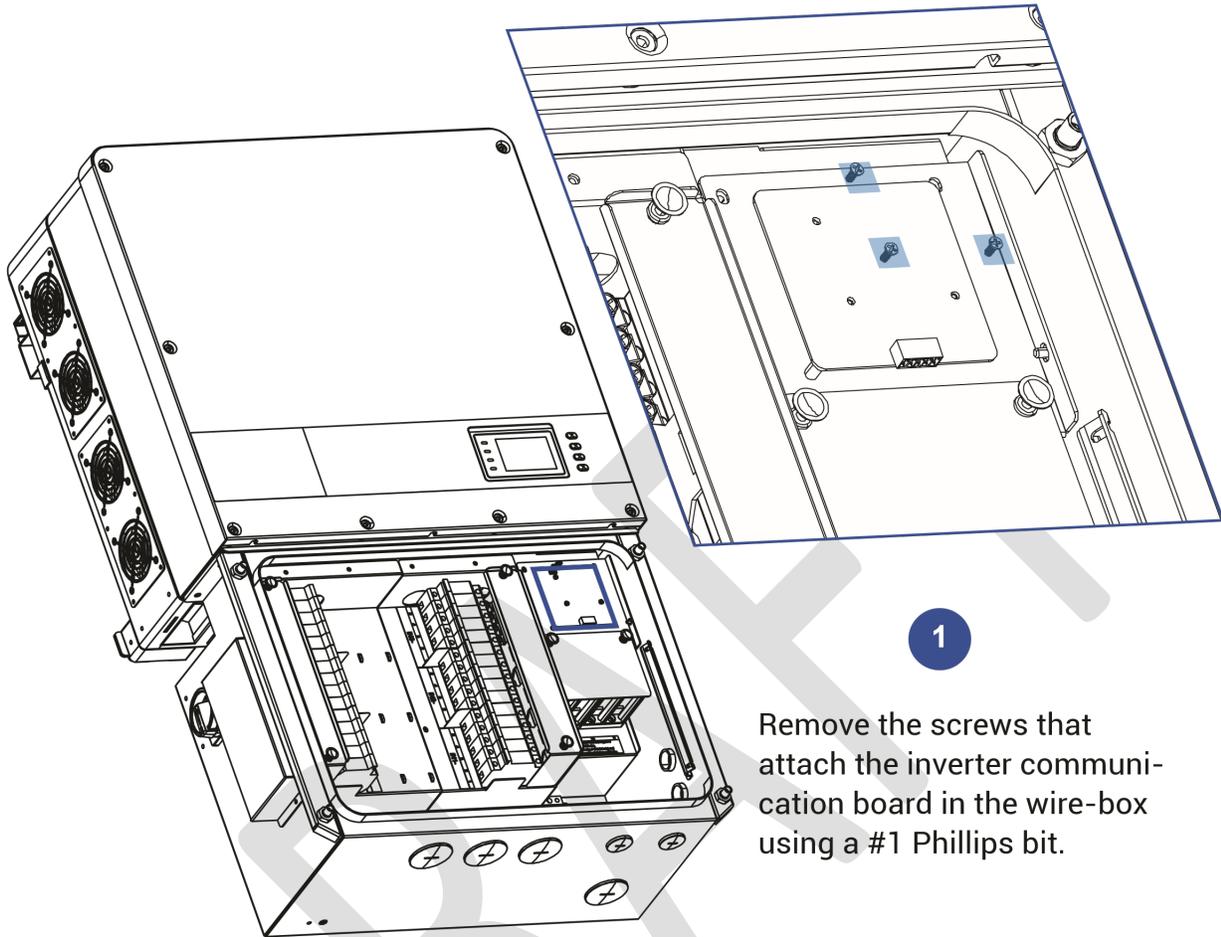
IMPORTANT

The [ENC-C510](#) and [ENC-C532](#) SIM cards can operate in multiple carrier environments. In North America it supports AT&T, T-Mobile, and Verizon at the same time. After the gateway is powered on and works normally, it will select and connect to the provider network with the strongest or most stable signal.

3.3 ENC-G6 LED indicators

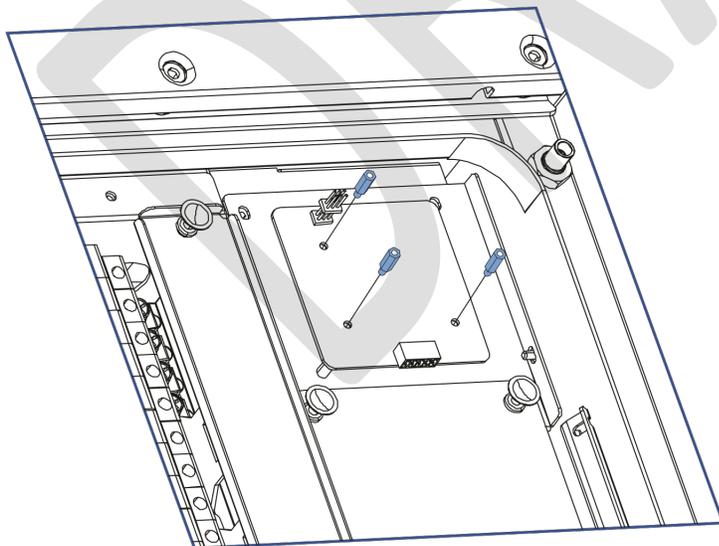


3.4 Installation of the ENC-G6 gateway inside a Solectria commercial 1000Vdc inverter



1

Remove the screws that attach the inverter communication board in the wire-box using a #1 Phillips bit.



2

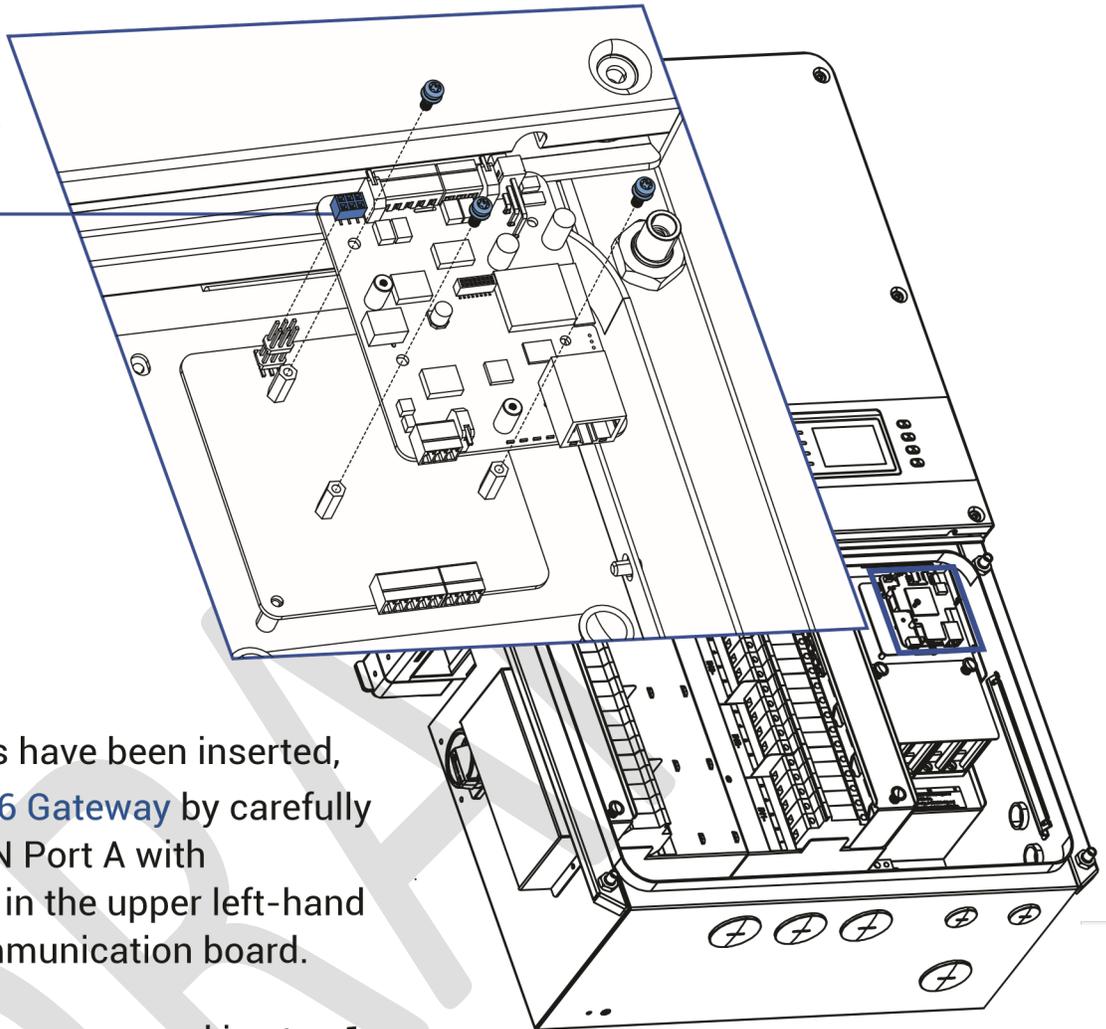
Replace the screws with the standoffs included in the accessories kit.

Repeat this process for each of the (3) screws and standoffs while keeping the communication board in place.

Torque standoffs to 7 in-lbs using a 3/16" socket hex driver.

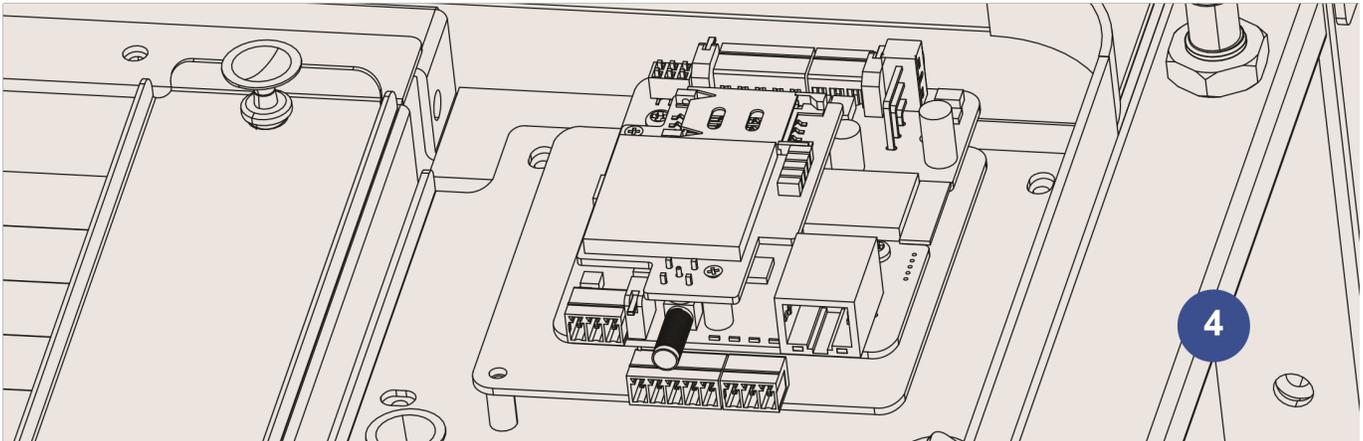
6-PIN Port A: Internal Wire-Box Installation

3



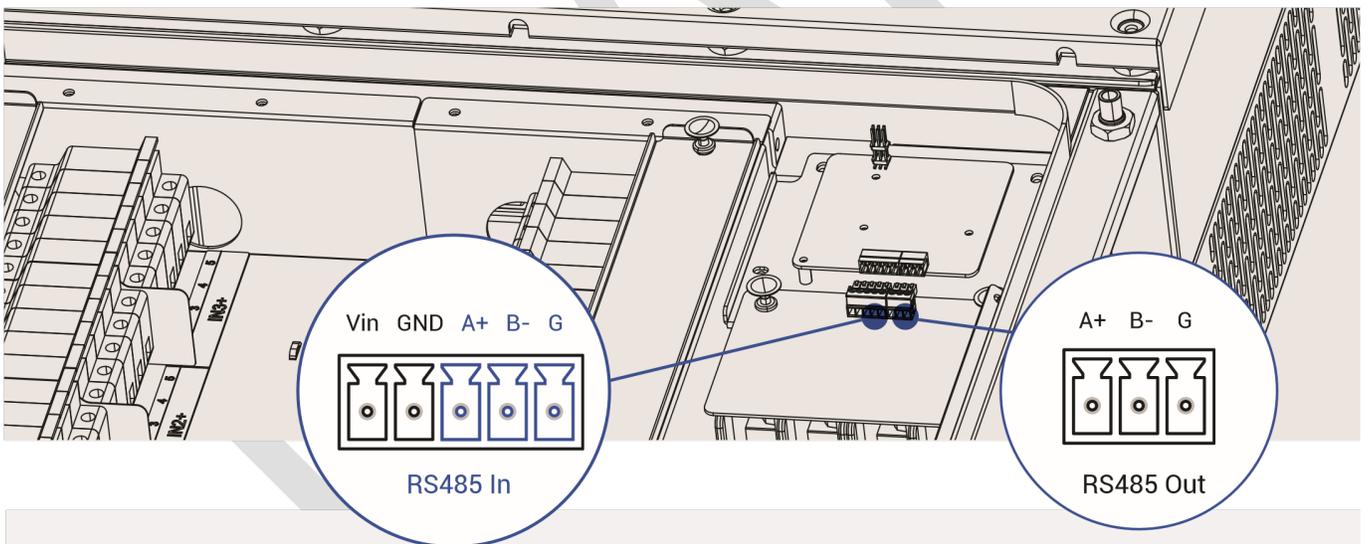
After all standoffs have been inserted, install the **ENC-G6 Gateway** by carefully aligning the 6-PIN Port A with the 6-PIN header in the upper left-hand corner of the communication board.

Install the (3) screws removed in step 1 into the standoffs to secure the **ENC-G6 Gateway** in place and torque to 7 in-lbs using a #1 Phillips bit.



ENC-G6 Gateway uses a two-wire Modbus RS485 multipoint serial line system. Shielded, twisted pair, 22 AWG, stranded cable such as Belden 3106A is recommended for the daisy chain.

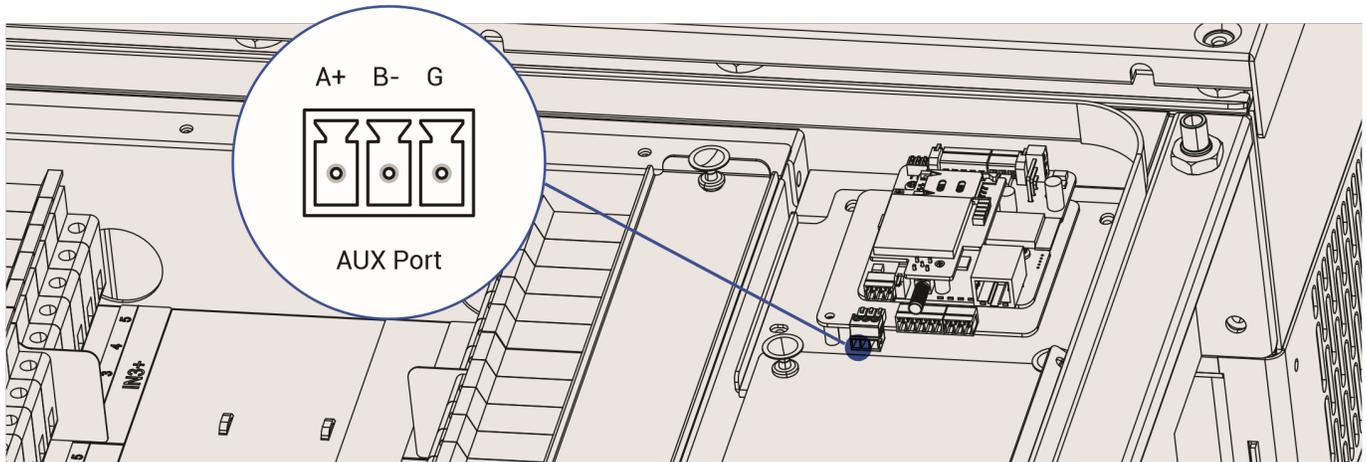
Once pins A+, B-, and G in the Connector are connected, then insert the Connector into the terminal block in the port on the bottom of the inverter communication board (behind the ENC-G6 Gateway as shown below).



! IMPORTANT

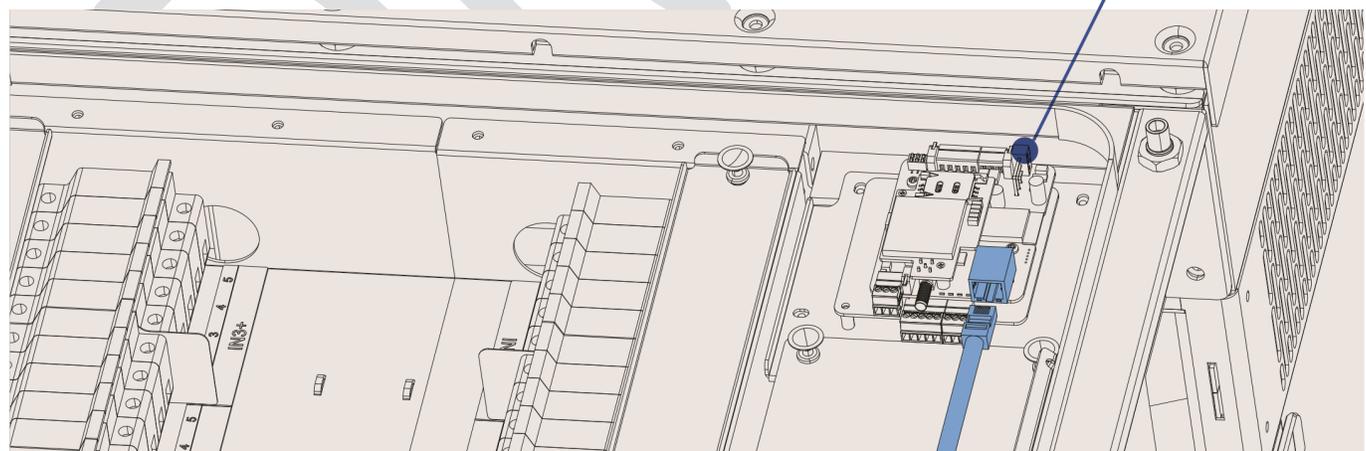
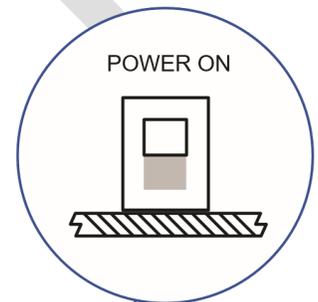
Use the Connector supplied in the inverter accessories kit to connect to the RS485 daisy chain via the inverter communication board. This may be a 5-PIN, 6-PIN, or 8-PIN Connector depending on the inverter model.

If applicable, connect the 3rd Party Datalogger to the AUX port in the bottom left-hand corner of the **ENC-G6 Gateway** using the 3-PIN Connector provided in the accessories kit.



! IMPORTANT

Ensure the Gateway Power Switch is set to ON and confirm the indicators are in normal state (see Section 2.2), then close the inverter wire-box.





IMPORTANT

If the gateway is connected to the Internet via Ethernet / WiFi, please set up the firewall in the LAN.

The following TCP ports must NOT be blocked for OUTBOUND access. If so, configure firewall rule exceptions.

TCP 1884 with s3-solectria.site2.cloud (IP 47.254.52.209)

TCP 443 with destination solrenview.com (IP 209.160.64.80)

3.4.1 4G Cellular Antenna Installation

Pass the SMA end of the coaxial antenna cable through the disassembled cable gland parts in sequence, then tighten the cable glands again.

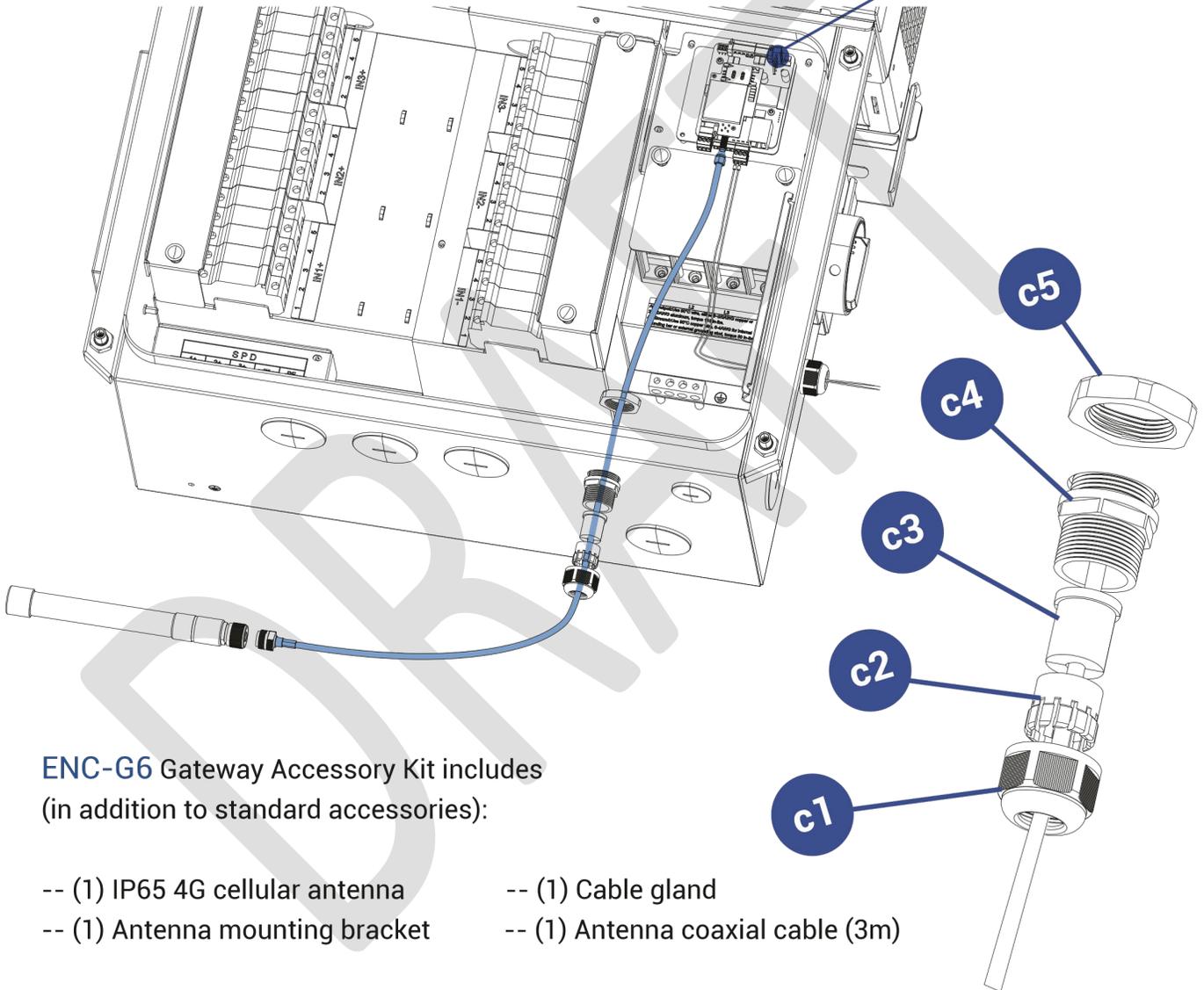
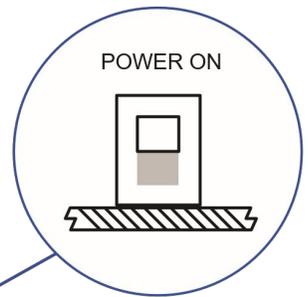
Screw one end of the antenna cable into the cable connector of the gateway (applicable to [ENC-G6](#) model only).

Mount the 4G antenna as high as possible on a metallic structure.



IMPORTANT

Ensure the Gateway Power Switch is set to ON and an LED indicator is ON before closing the inverter wire-box enclosure.

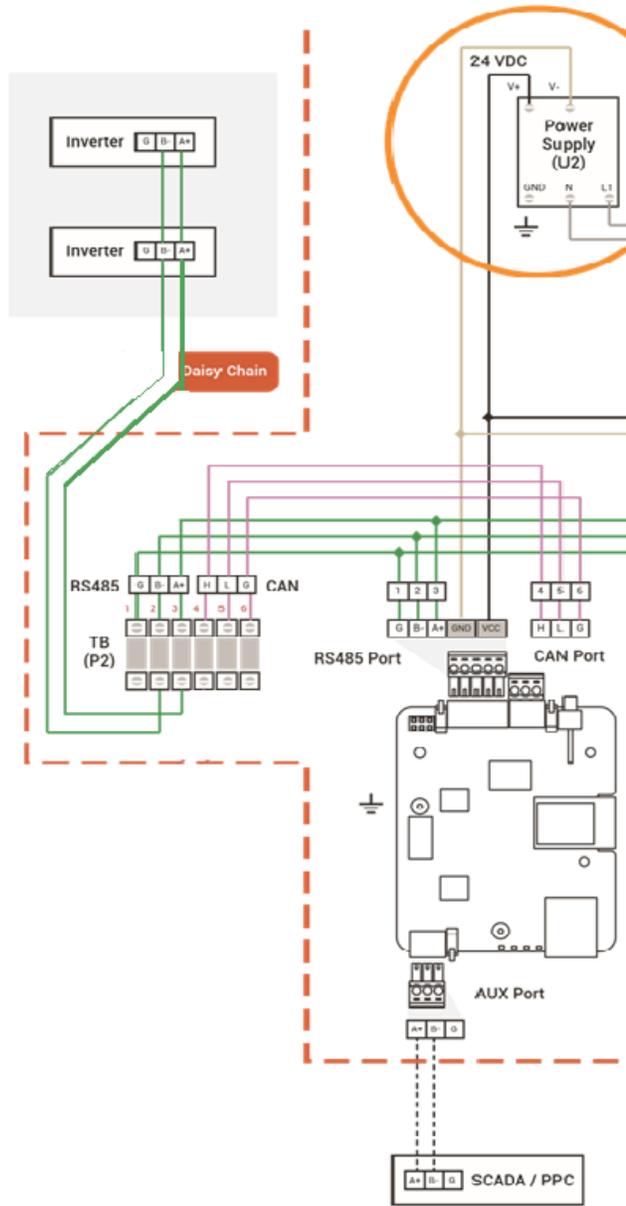


ENC-G6 Gateway Accessory Kit includes
(in addition to standard accessories):

- (1) IP65 4G cellular antenna
- (1) Cable gland
- (1) Antenna mounting bracket
- (1) Antenna coaxial cable (3m)

3.5 Installation of the ENC-G6 gateway outside a Solectria commercial 1000Vdc inverter

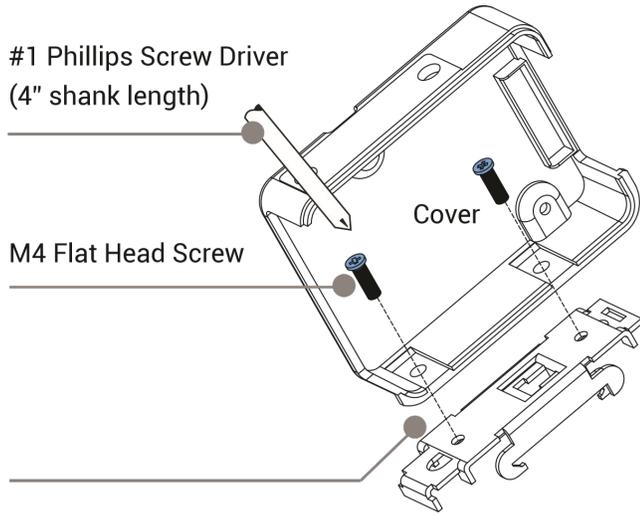
3.5.1 Single line diagram of networking diagram



When testing the gateway on a desktop, have a 9-25Vdc (5W) AC/DC power supply available.

Check that the RS485 cable on the inverter daisy chain is properly connected.

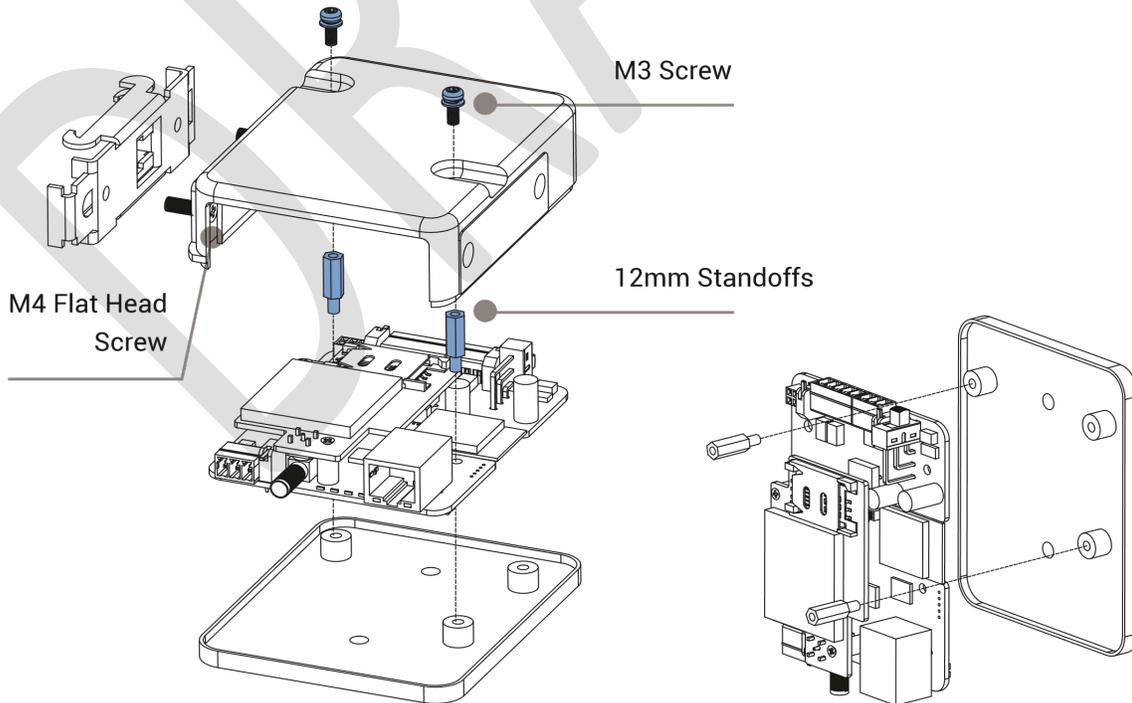
3.5.2 Installing ENC-G6 with included DIN rail housing (side mounting)

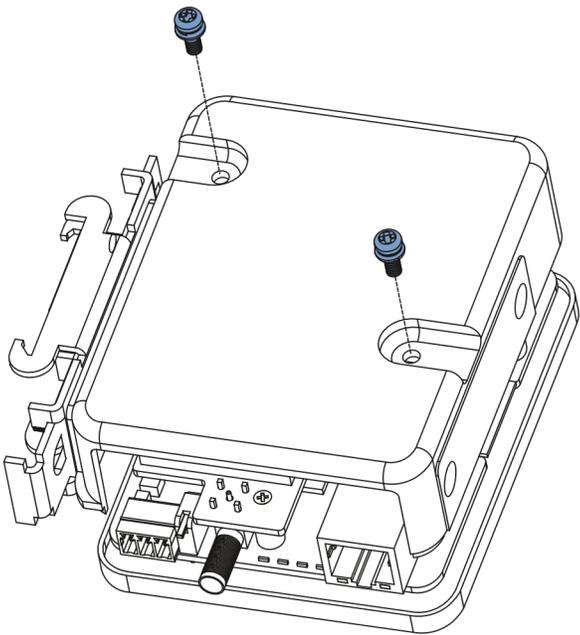


1) Use a screwdriver to insert and secure the DIN rail clip and the upper cover of the housing together with M4 flat head screws.

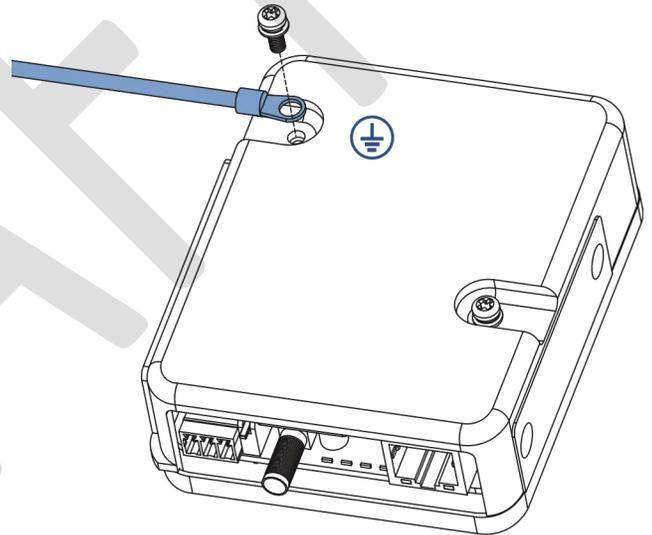
2) Install the [ENC-G6 Gateway](#) onto the base of the housing and tighten it at the positions shown in the figure below with the standoffs provided in the accessories kit.

Torque to 7 in-lbs using 3/16" socket hex driver.

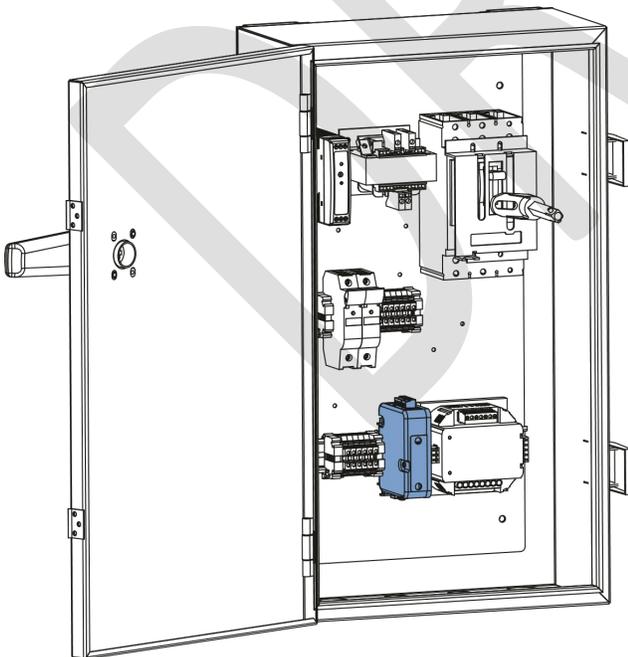




3) Align and close the upper and lower housings according to the positions of the screw holes, and use a #1 Phillips screwdriver to fasten the two parts together with M3 screws.

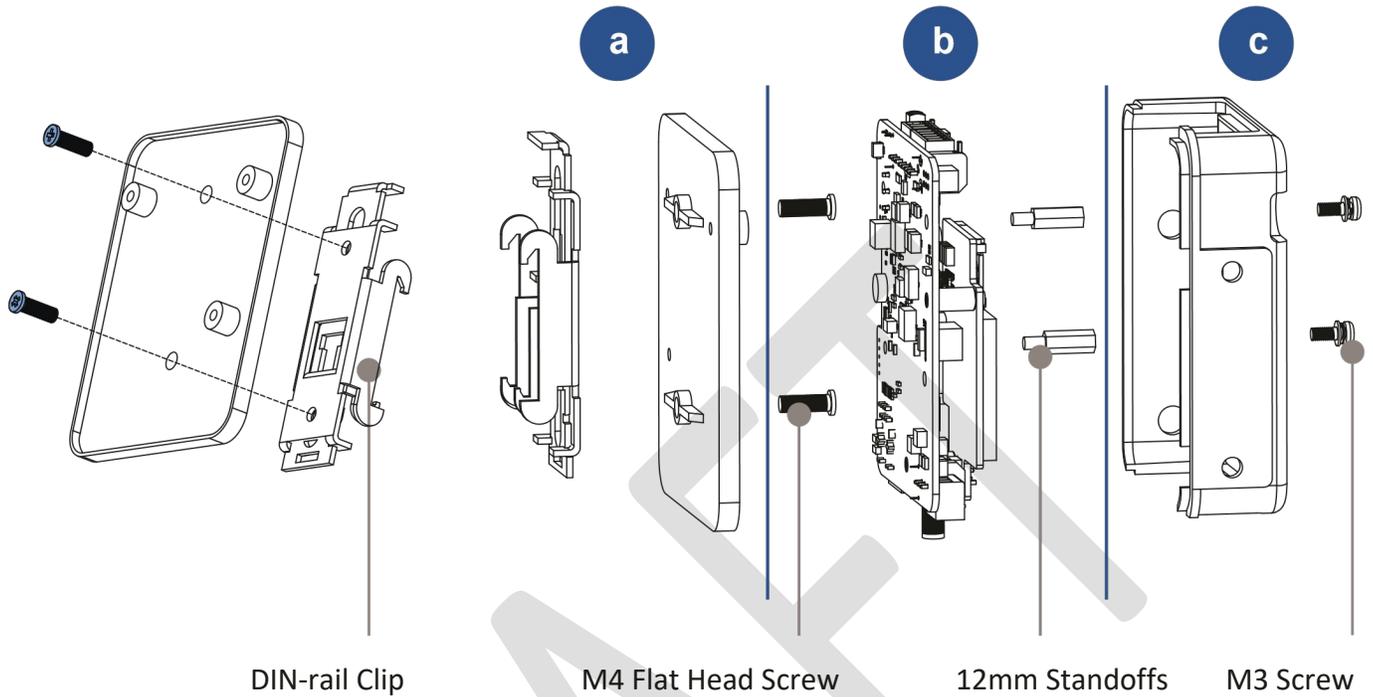


4) To ground the ENC-G6 Gateway once installed in the DIN rail enclosure, clamp the ground wire into the screw at the position shown in the figure to the right.

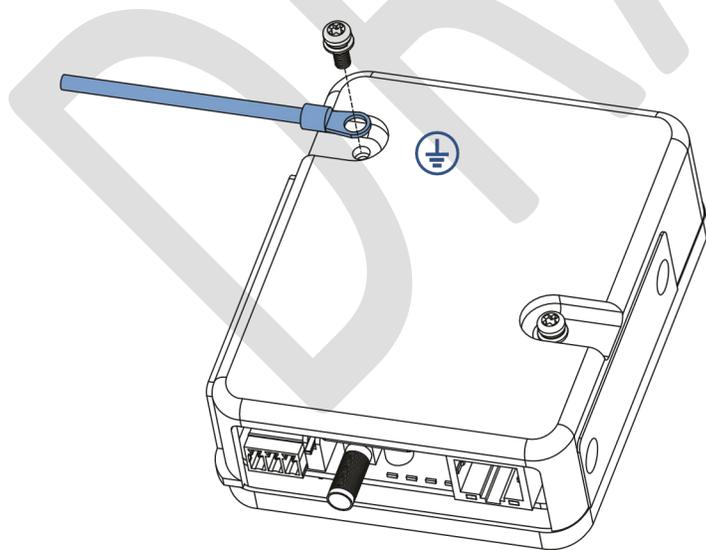


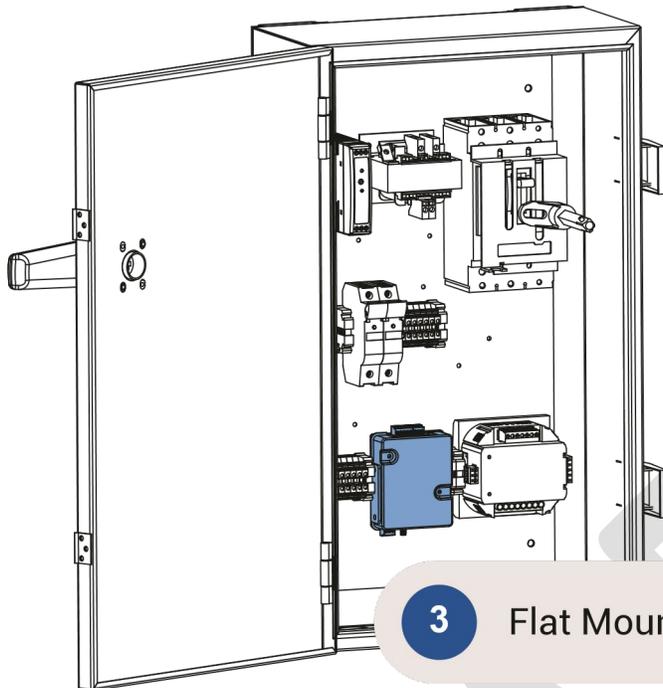
5) Mount the housing within the DAS box using the DIN rail clip.

3.5.3 Installing ENC-G6 with included DIN rail housing (flat mounting)



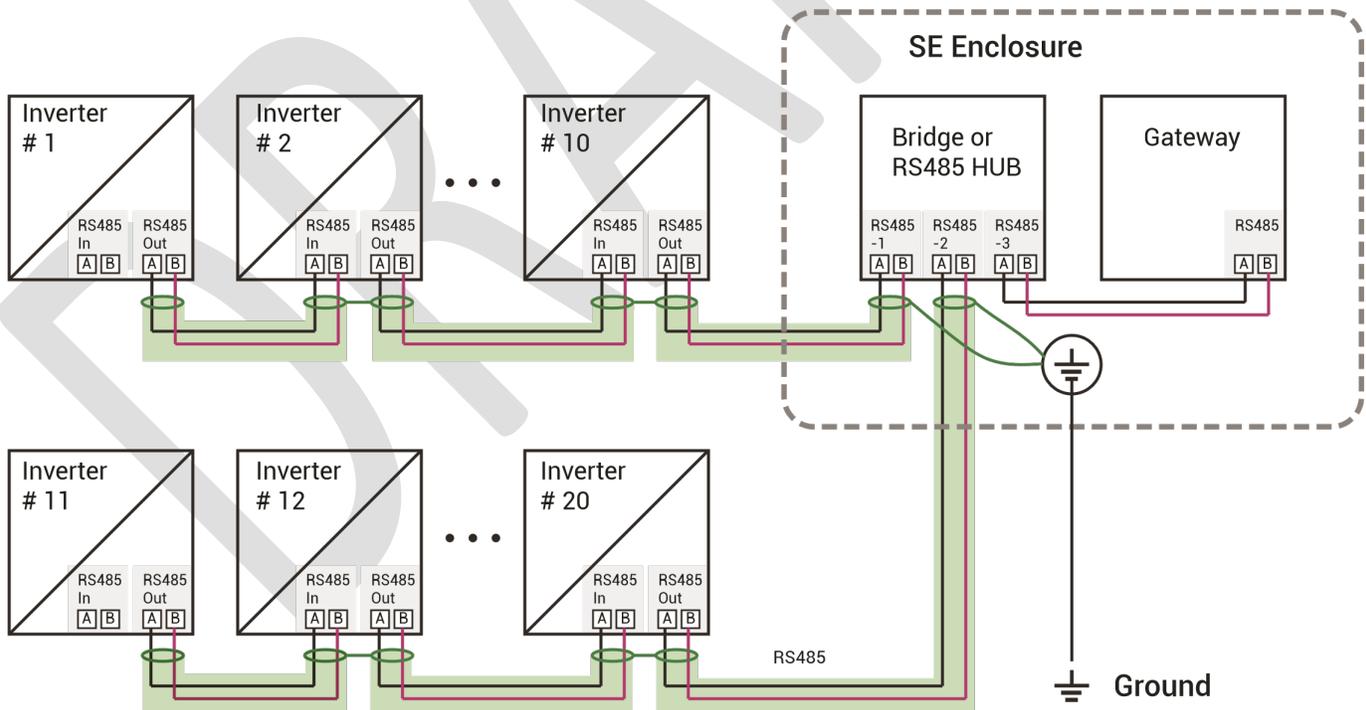
- 1) Put the parts in position in the order of a, b, c, and tighten the corresponding screws and standoffs.
Torque to 7 in-lbs using 3/16" socket hex driver.





3) Mount the housing within the DAS box using the DIN rail clip.

3.6 RS485 Shielding



When connecting inverters together through RS485 cables, if the RS485 cables contain shielding layers, the shielding layers should be connected as a whole and then connected to the ground.

If the distance between the two ends of a daisy chain exceeds 1000 meters (or 3281 ft) or there is a small amount of noise, terminating resistors should be installed at both ends of the daisy chain.

3.7 Setting the Modbus ID of the inverters

Set the Modbus ID of the inverters one by one via the LCD panel. Please ensure that the ID numbers are unique per inverter.

4. Setting up the ENC-G6 Gateway

4.1 Download the Yaskawa Connect Pro app

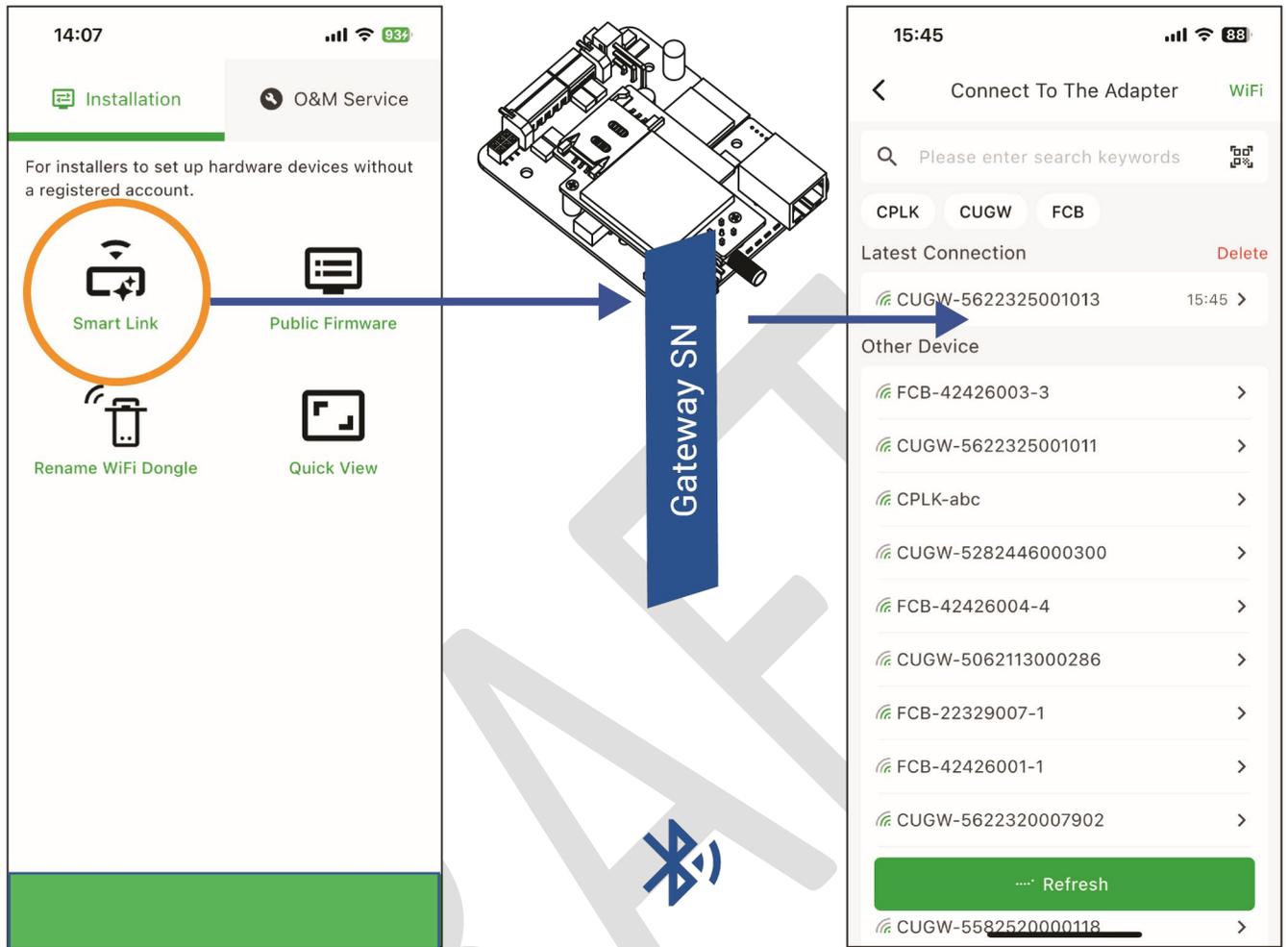


Scan the QR-code to download the Yaskawa Connect Pro app on an internet connected Android or Apple iOS or search for “[Yaskawa Connect Pro](#)” in Apple Store and Google Play.

The Android/iPhone user interface may look slightly different but the setup procedure will be the same as shown.

4.2 Starting up in the GUI

No account registration is required to set up the gateway and other hardware using the APP. “[Smart Link](#)” identifies different scenarios for the gateway and connected hardware, providing accurate next step setup interactions.



! **IMPORTANT**

The phone's location and BLE features must be enabled and authorized for use by the APP.



IMPORTANT

If there is a **“Connection failure”** error message when connecting a phone to the ENC-G6 gateway via Bluetooth, check the following:

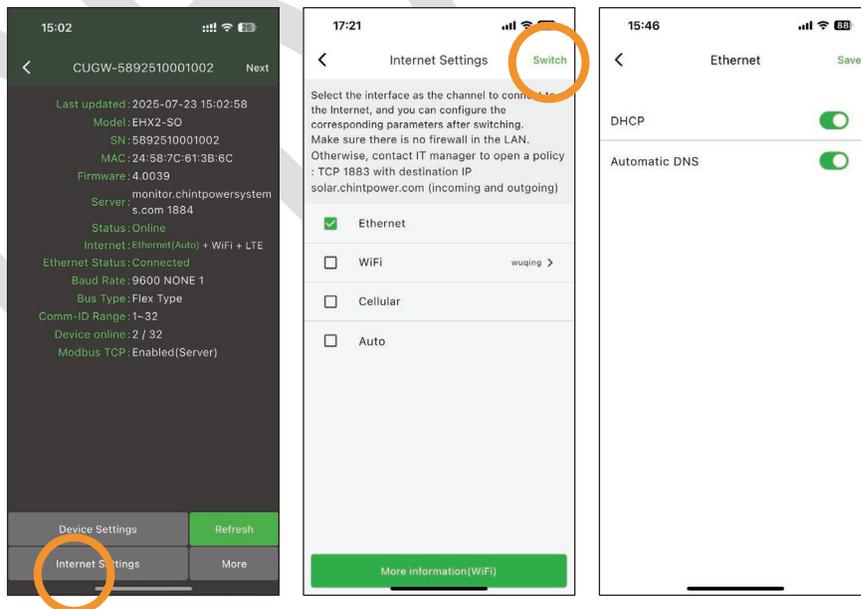
1. Distance of the phone to the gateway: Bring the phone closer.
2. Another phone has been connected to the gateway and is communicating normally.
3. Android 14 (or older versions) may have issues communicating with the gateway and will need to upgrade the gateway to the latest version.

If there is a **“The gateway must be upgraded with firmware to work properly, please wait for about 5 minutes”** error:

1. Unknown communication error, update the firmware.

4.3 Connecting the ENC-G6 Gateway to the Internet (via Ethernet)

It is important to ensure that the RJ45 ports on both ends of the Ethernet cable are made with the same wire sequence. (568A/B are both viable options.)



Confirm the LAN network information with the site’s IT manager. The gateway is assigned an Ethernet IP address. All necessary information is shown in the example below:

IP Address : 192.168.10.10

Subnet Mask : 255.255.255.0

Gateway IP : 192.168.10.1

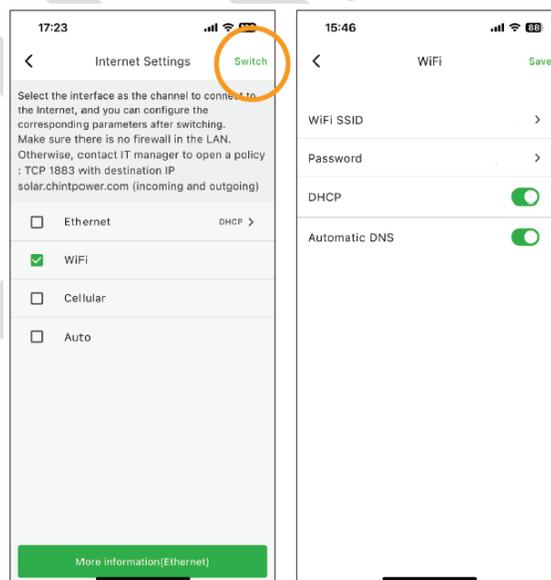
If you keep the default DNS setting “Auto” in the APP, but the gateway cannot connect to the Internet please deselect “Auto” and manually enter the following DNS address:

DNS : 8.8.8.8

4.4 Connecting the ENC-G6 to the Internet (via WiFi)

Caution : The gateway does not support 5Ghz WIFI routers, as well as WiFi users who need to open a browser and redirect to an account-verified router.

If the user cannot judge the network status of the WLAN router, the user can configure the WiFi hotspot of the mobile phone to the gateway for reference.



Confirm the LAN network information with an IT manager.

If you keep the default DHCP setting “Auto” in the APP, but the gateway cannot connect to the Internet. Please cancel “Auto” and manually enter the IP address information as shown in the example below:

IP Address : 192.168.10.10
Subnet Mask : 255.255.255.0
Gateway IP : 192.168.10.1

4.5 Connecting the ENC-G6 to the Internet (via Cellular)

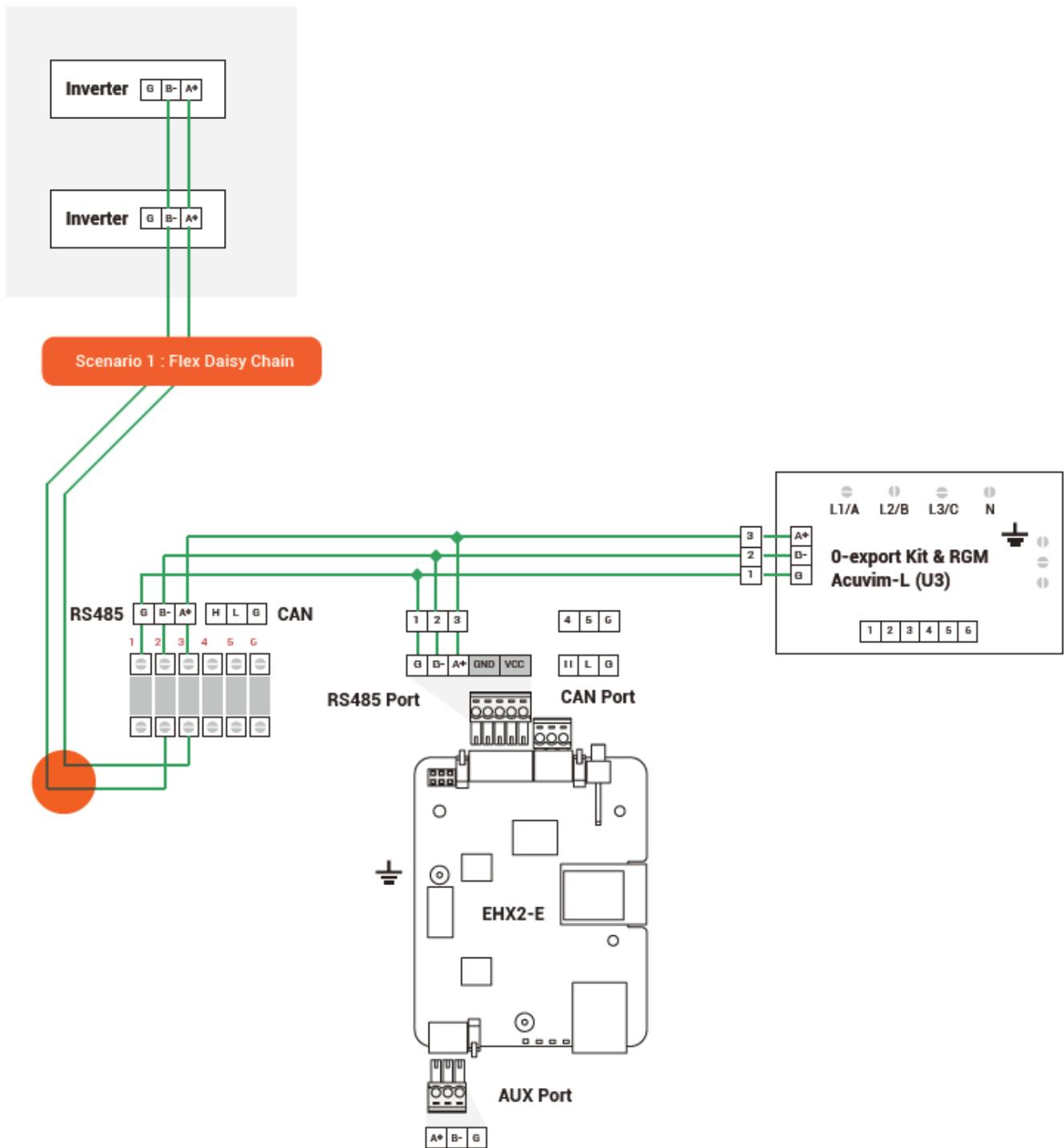
Changing the connection will cause the gateway to reboot and it will take about 1~5 minutes for the 4G to connect to the Internet properly.

The gateway connects to the Internet via 4G and can still connect to the Modbus TCP client via WiFi/Ethernet at the same time.

If there are issues connecting the ENC-G6 to the internet, please take a screenshot of the App GUI and send the picture to the Yaskawa Solectria Solar Technical Support Team at monitoring@solectria.com

4.6 Detecting the Inverter Daisy Chain

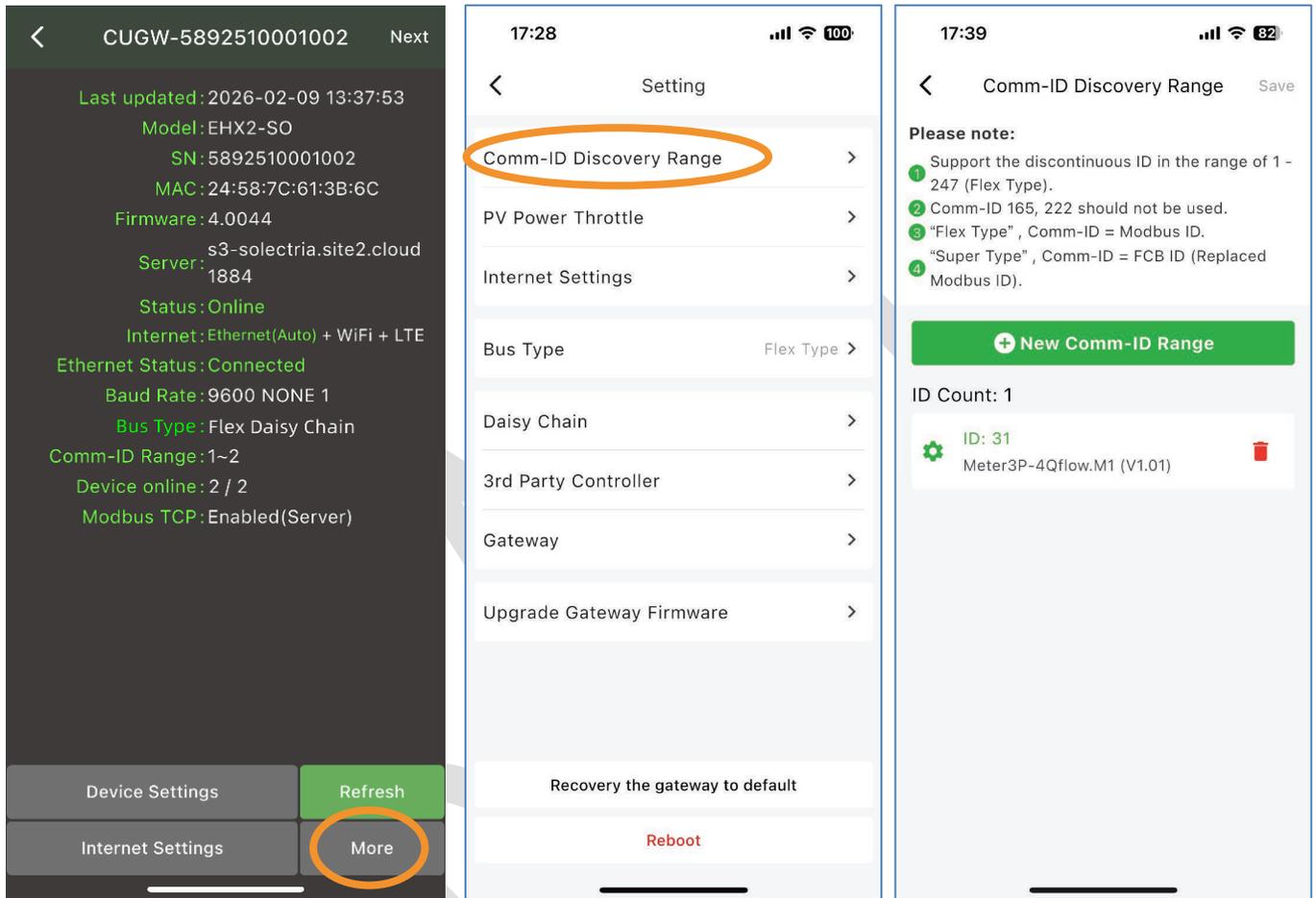
Each inverter connected to the daisy chain must be set with a unique Modbus ID via the LCD panel. Set the inverter’s baud rate on the LCD panel as well. Alternatively, connect the inverter’s BLE dongle via the app and set the inverter’s Modbus ID via the app.



Scenario 1 : Flex Daisy Chain

Set the discovery logic for different Modbus ID (Comm-ID) segments for the gateway via the app. The gateway is able to automatically discover the different hardware connected.

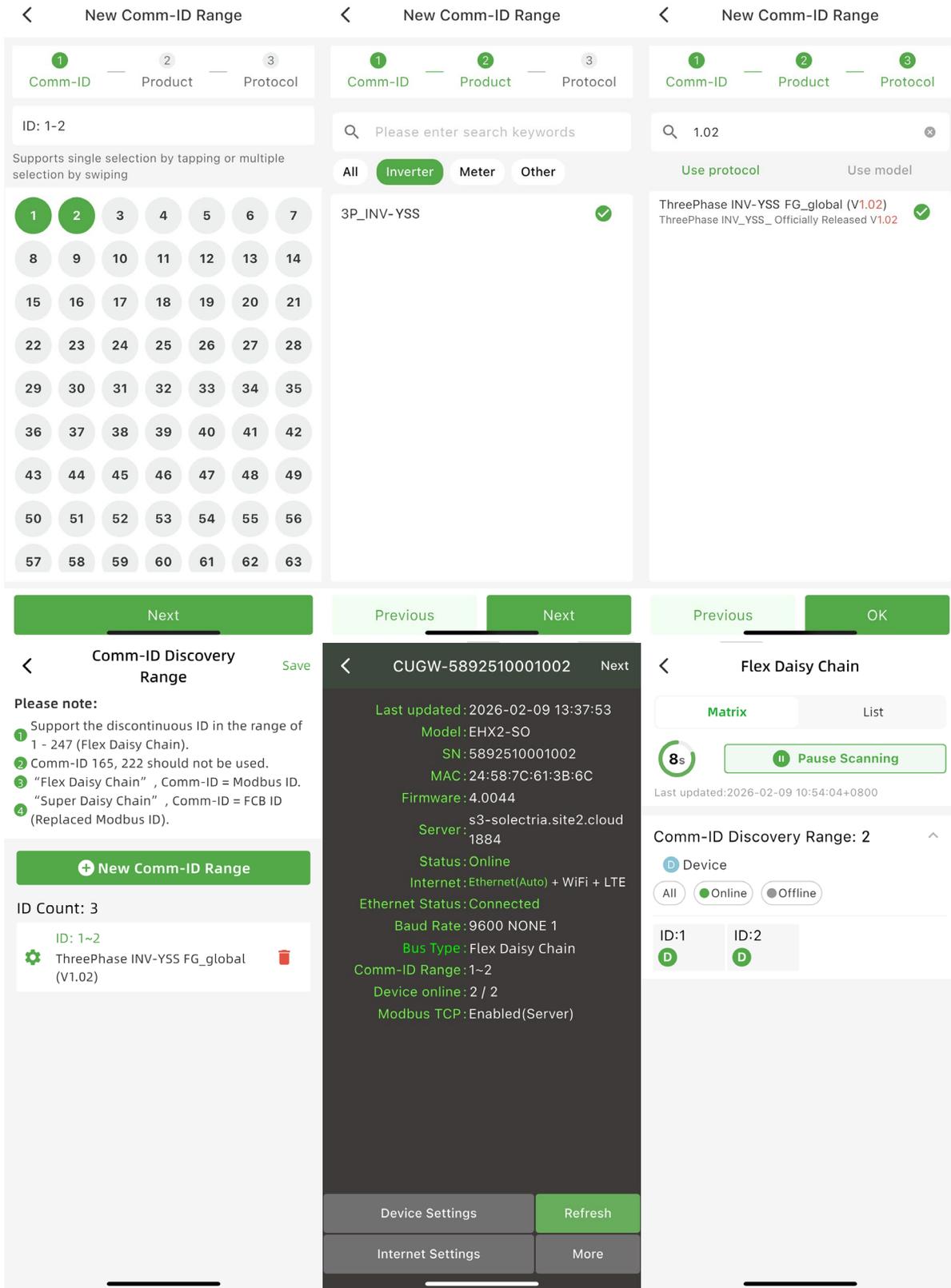
Set the discovery logic for different Modbus ID (Comm-ID) segments for the gateway via the APP. The gateway is able to automatically discover the different hardware connected. Selecting More on the bottom menu bar will pull up the Setting menu.



Each inverter needs to be set up with initialization parameters through the LCD panel, for example:

- Modbus ID and baud rate
- Grid regulations

Quick Start Guide SOLECTRIA® ENC-G6



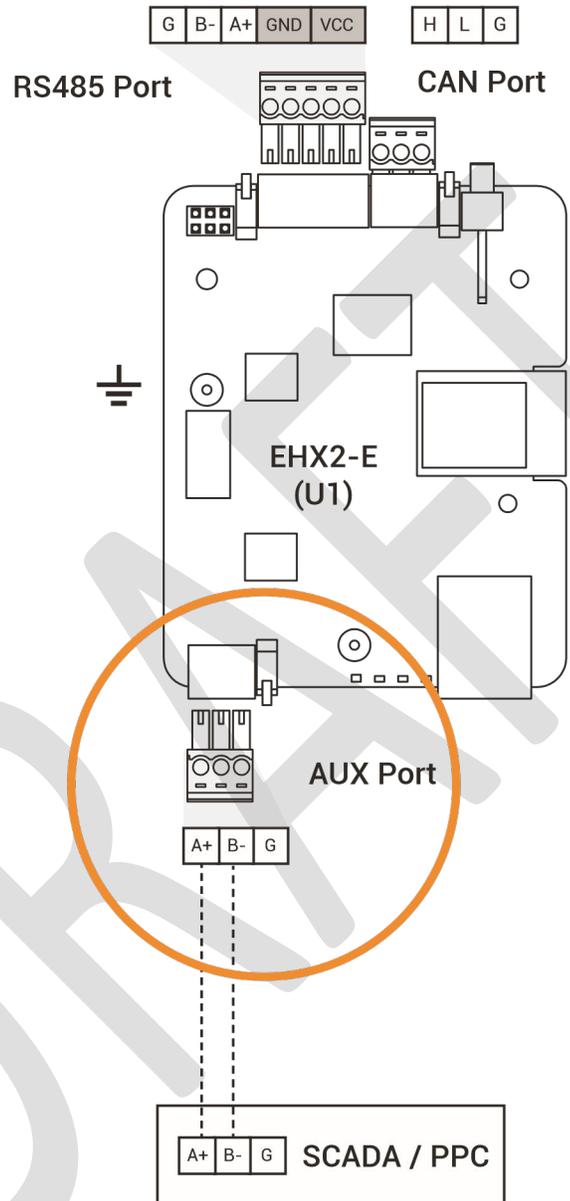
4.7 **Verify that the Inverter is Set Up**

After the inverter is powered up and also the communication of Daisy Chain is normal, you can see all the hardware is discovered by the gateway through the APP. Confirm the model and status of the listed inverter and click on the specific inverter to further view the inverter's operating data.

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5. Connection from SCADA/Plant Controllers

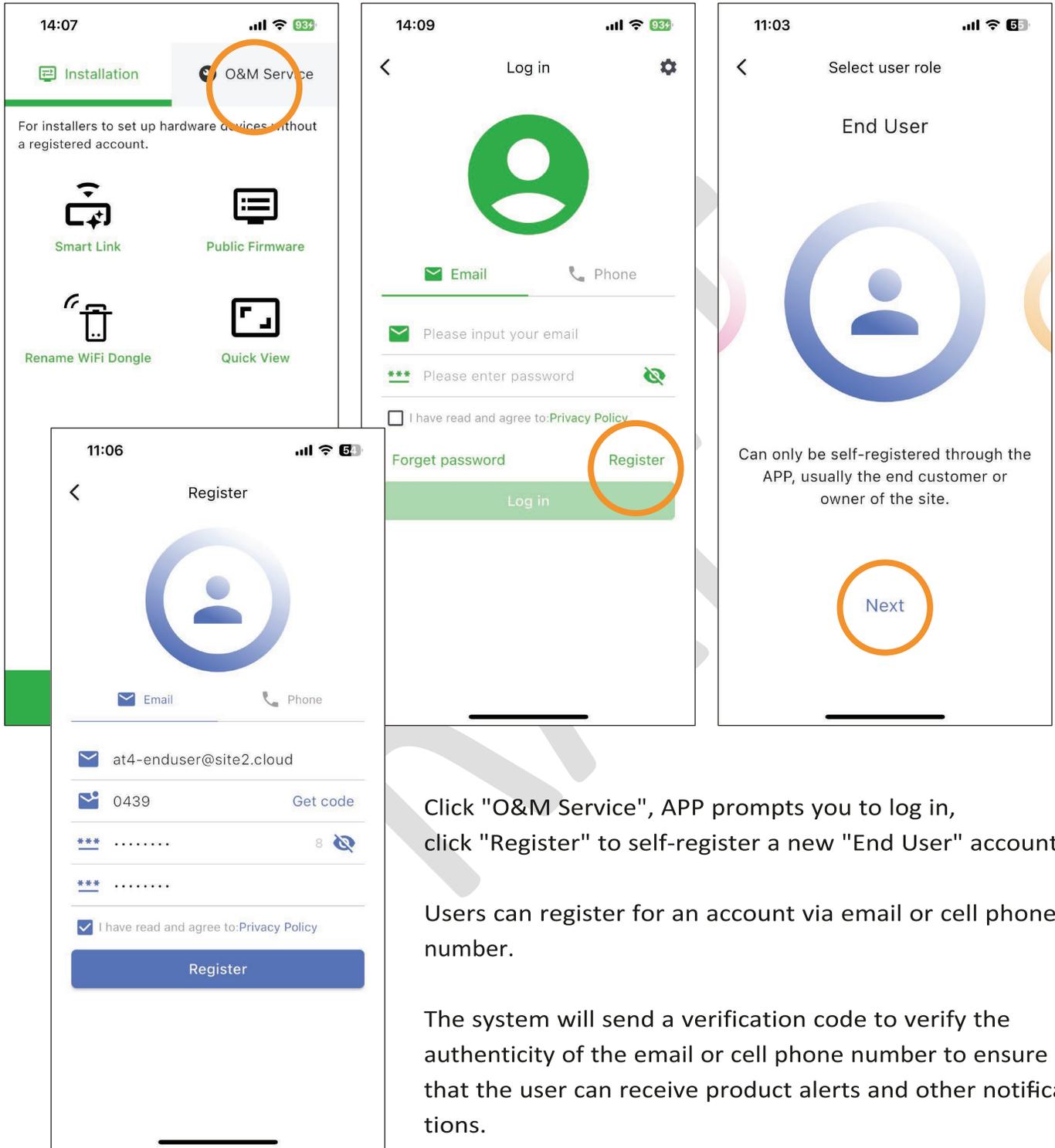
5.1 SCADA/PPC direct read/write to inverter daisy chain via AUX Port



The RS485 port of the SCADA controller is connected to the AUX port of the gateway.

SCADA is able to read and write to the appropriate hardware on the Daisy Chain according to the original register definitions of the target hardware.

6. Register as an "End User" on the Yaskawa Connect Pro app.



Click "O&M Service", APP prompts you to log in, click "Register" to self-register a new "End User" account.

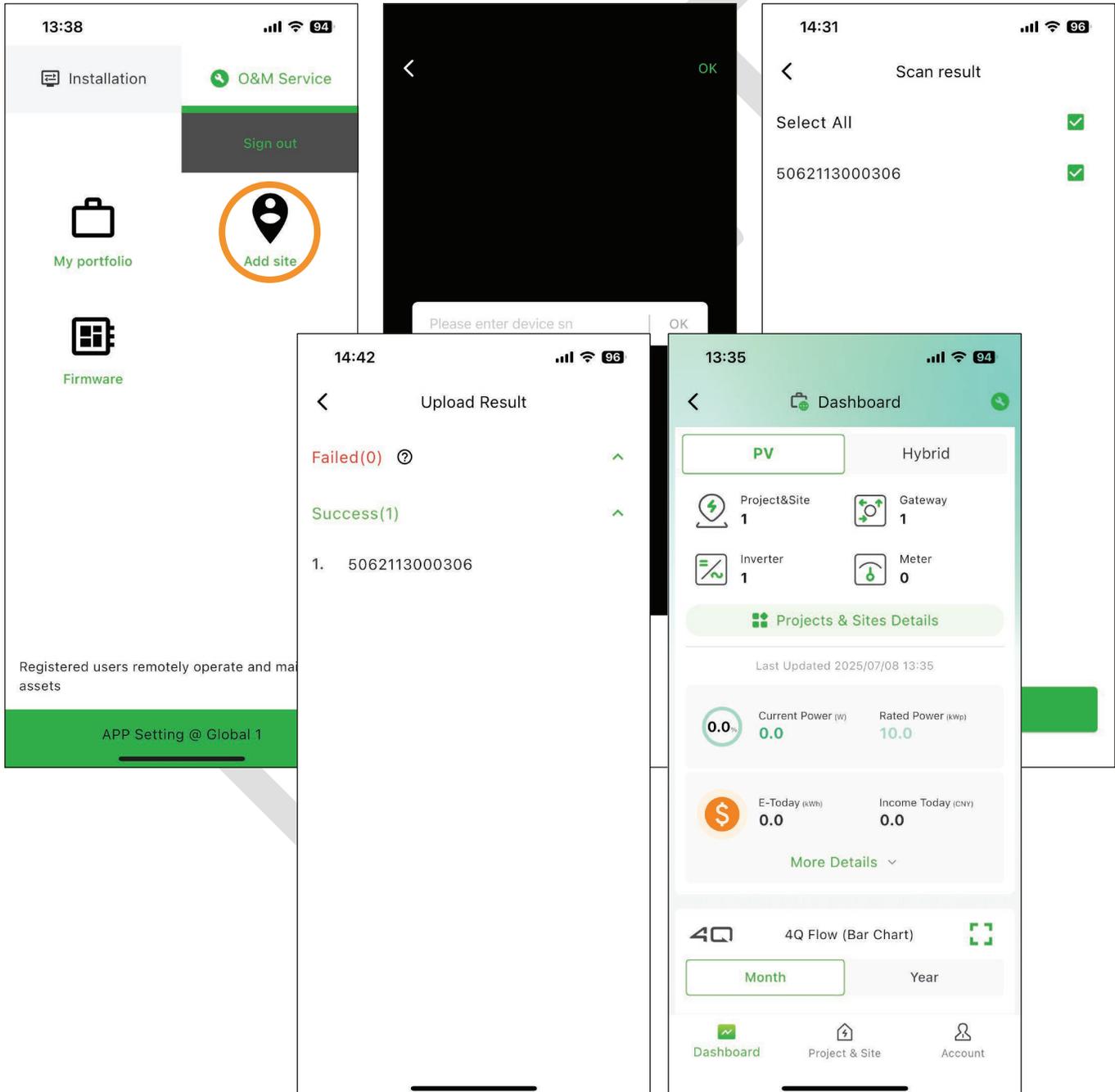
Users can register for an account via email or cell phone number.

The system will send a verification code to verify the authenticity of the email or cell phone number to ensure that the user can receive product alerts and other notifications.

IMPORTANT

 **IMPORTANT:** If a user registers an account with a cell phone number, the system automatically generates an account in the form of an email address phone@superkwh.site. Use the temporary password of 123456@A to log in to the Web console.

7. Bind the ENC-G6 gateway to your account via the Yaskawa Connect Pro app



After logging in "End User", click "Add Site", and then input the gateway SN.

APP will prompt successful binding, or prompt that the current gateway has been bound by other users and other exceptions.

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8. Appendix

8.1 Datasheet

For the most up to date official datasheet, please visit www.solectria.com.

8.2 Contact Information

Telephone	978.683.9700
Technical Support	978.683.9700 extension 2
Sales Support	sales@solectria.com
Website	www.solectria.com

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