

Solis Standard Operating Procedure

S6-EH1P6K-L-PRO Parallel Function Setup Guide version 1.2



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1. Overview

This standard operating procedure describes the settings required to be able to parallel up to 6x S6 EH1P hybrid inverters. These inverters are able to be paralleled in both single or three phase configurations. This document only describes the single-phase configuration but three phase is similar.

2. Single Phase Parallel Mode

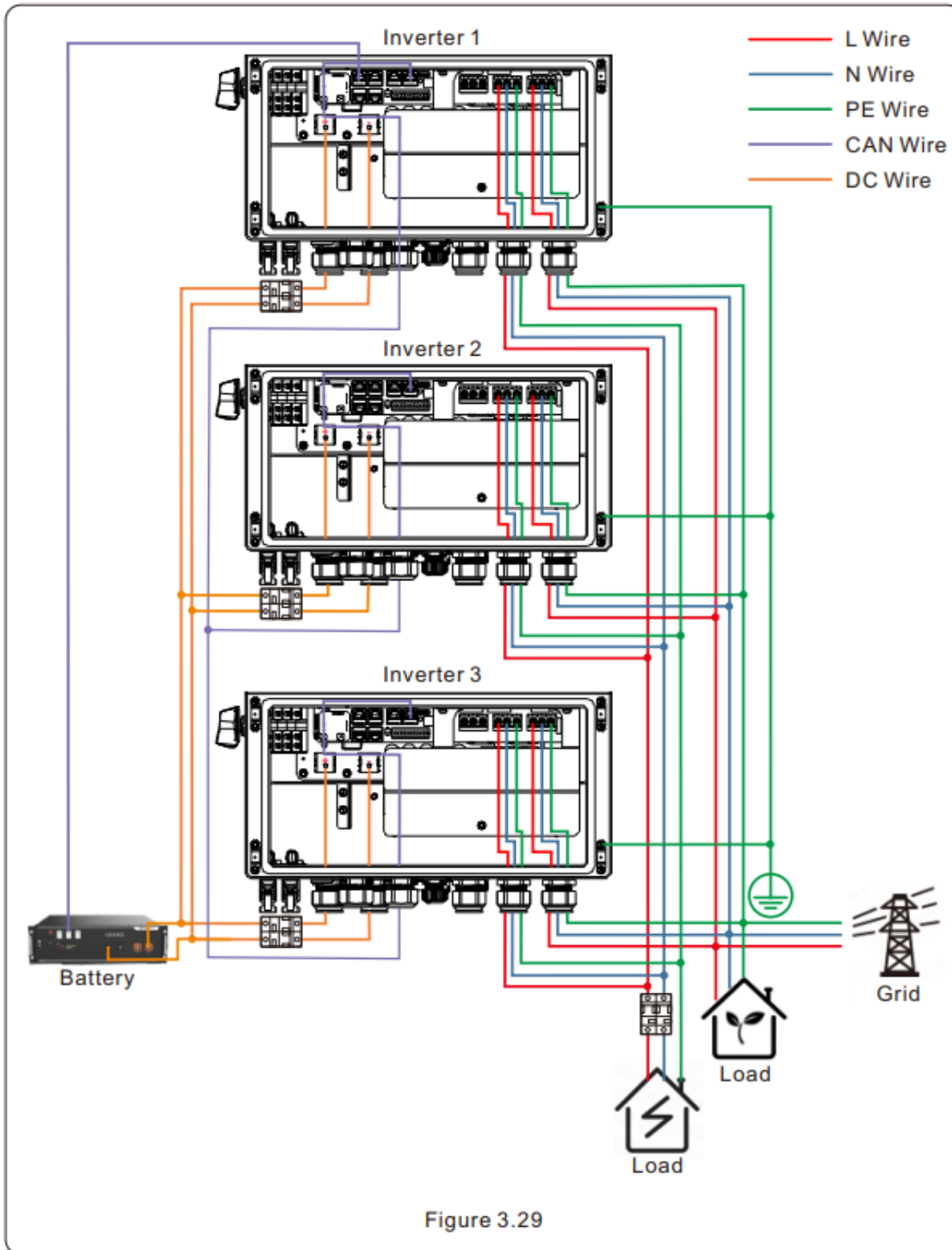


Figure 2.1-1 – Single Phase Parallel System Wiring Diagram

2.1. Parallel Terminal Connections

Up to 6 inverter units of the inverter can be connected in parallel. The inverters parallel communication P-A and P-B terminals should be connected in a daisy chain configuration as per the below diagram. The same communication config should also be used for **three-phase** setup.

E.g. Inverters Master P-A >> Slave 1 P-B || Slave 1 P-A >> Slave 2 P-B

NB. Standard CAT5/6 ethernet cable can be used.

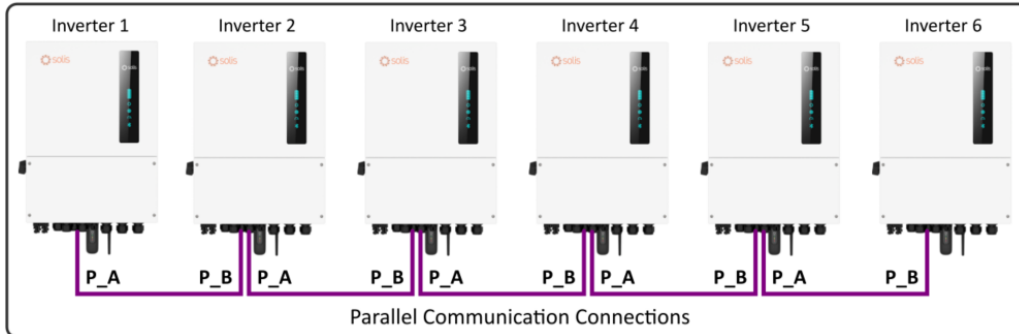


Figure 2.1-1 - P-A & P-B Master/Slave Wiring

The P-A and P-B communication cables are supplied with the inverter. Standard straight ethernet cables with RJ45 plugs can also be used for the parallel cables between the inverters.

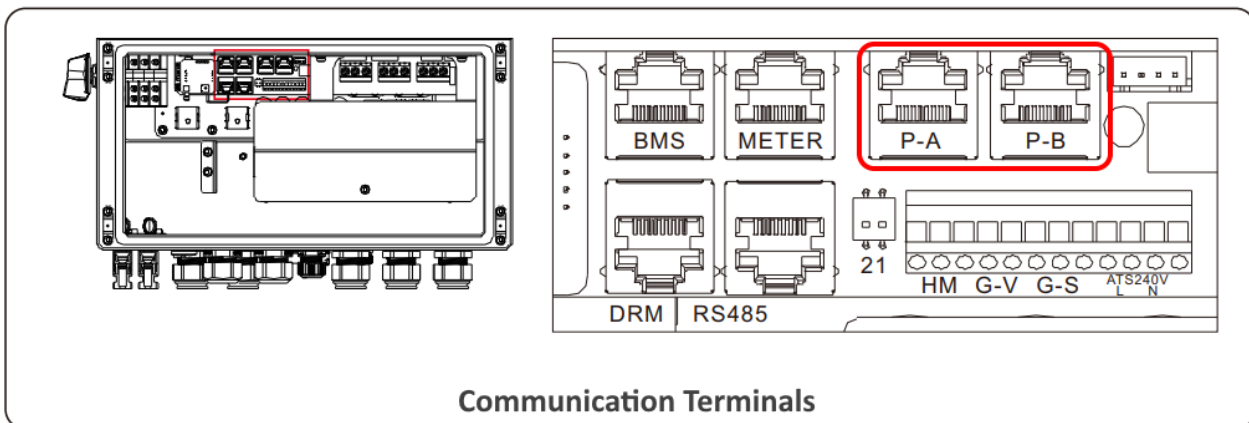
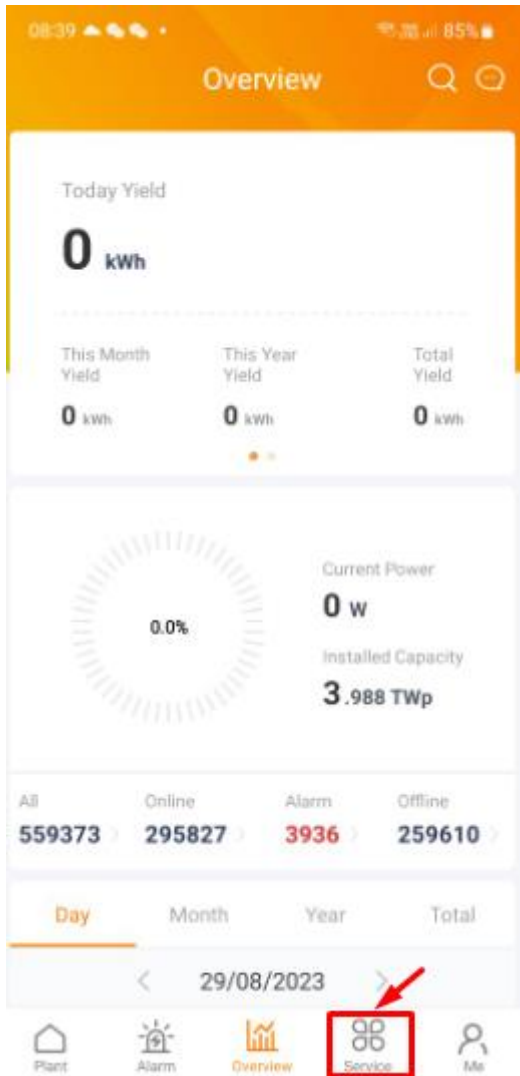


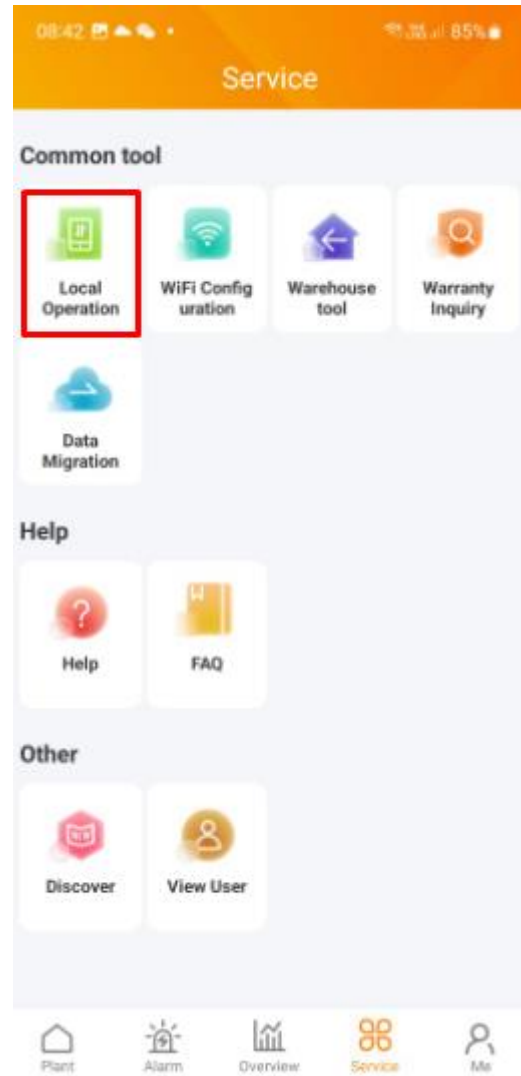
Figure 2.1-2 – P-A & P-B Communication terminals

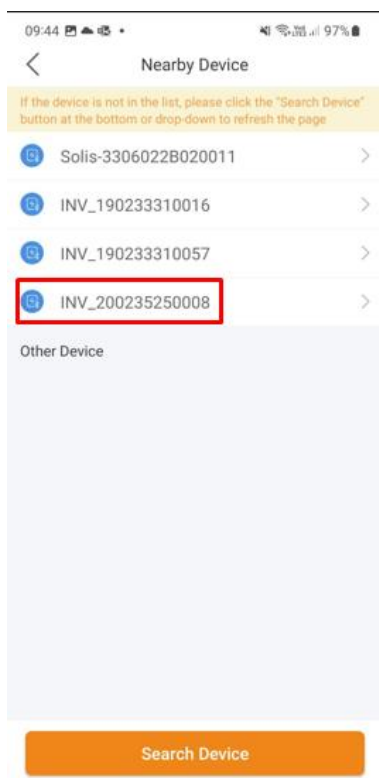
2.2. Connecting to the Inverter via Bluetooth

Step 1: Open Solis Cloud App and select the “Services” icon as per below.

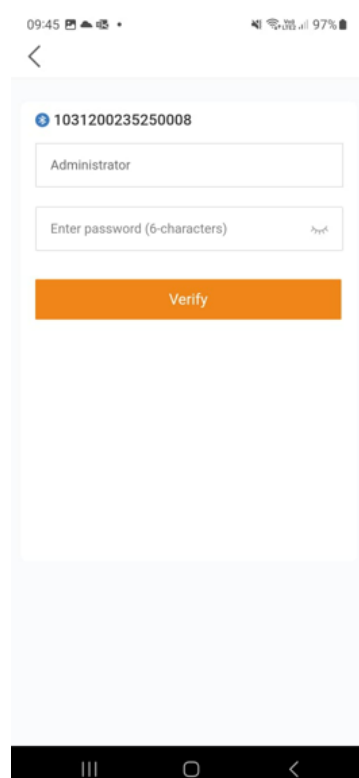


Step 2: Select the “Local Operations” menu



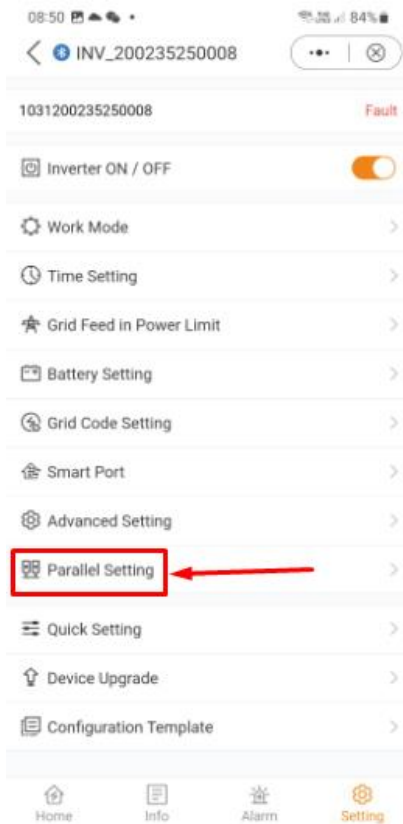
Step 4: Select “Connect with Bluetooth” option**Step 5:** Select the correct inverter serial number**Step 6:** Log into the inverter

NB. First time users must create a password

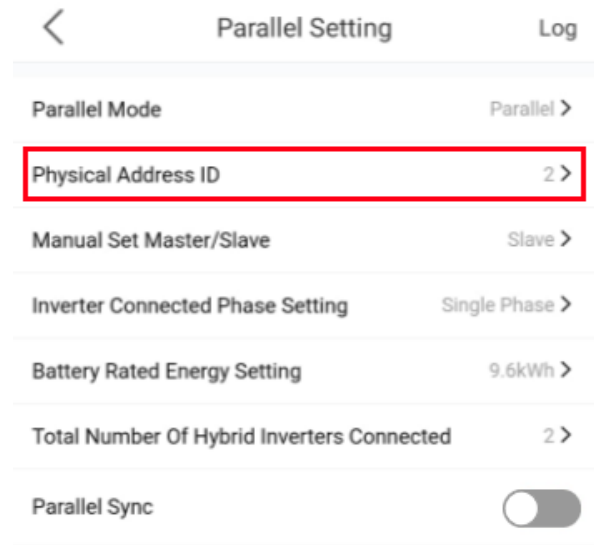


2.3. Slave Inverter Parallel Settings

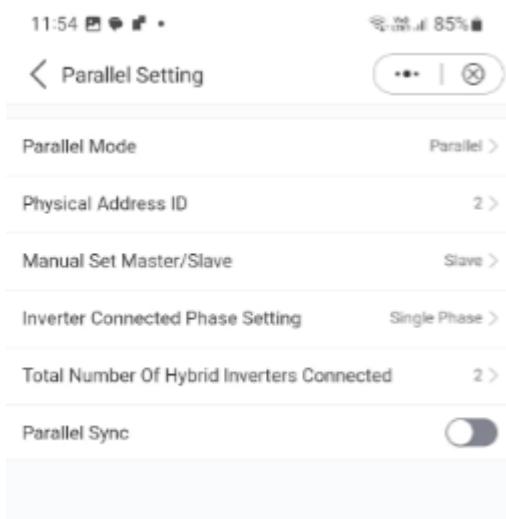
Step 1: Set Parallel Mode to “Parallel”



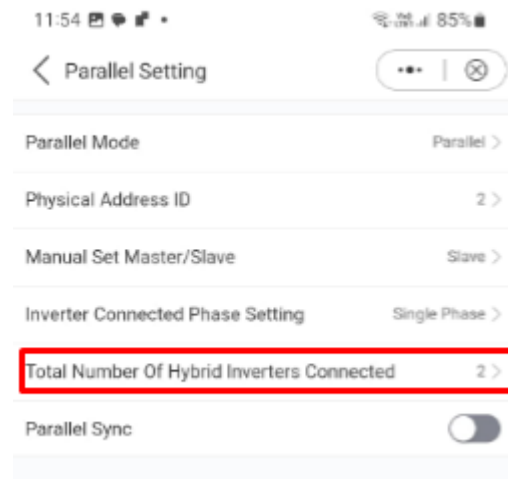
Step 2: Set “Physical Address ID” to next # sequence



Step 3: Set Manual Master/Slave to “Slave”



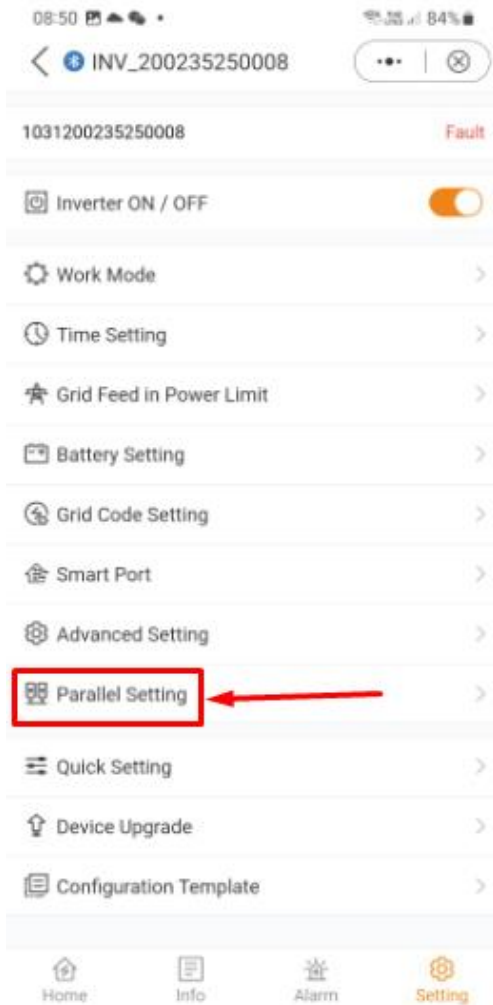
Step 4: Set the Total Number of inverters



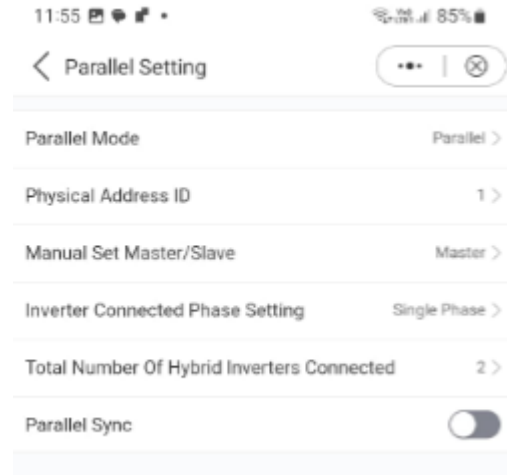
NB. These settings should be completed with “Parallel Sync” set to the “Off” position

2.4. Master Inverter Parallel Settings

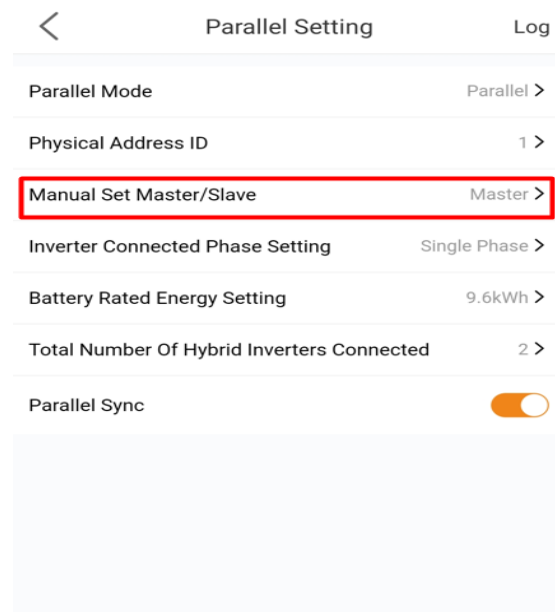
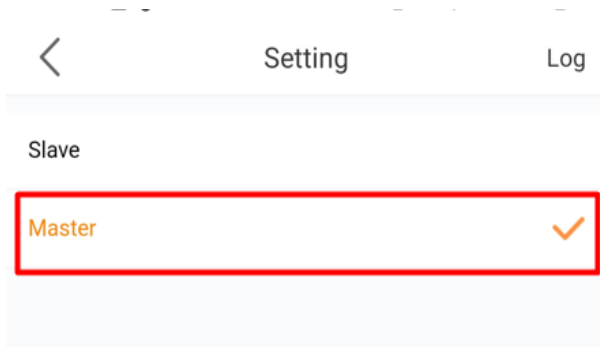
Step 1: Select “Parallel Setting” menu



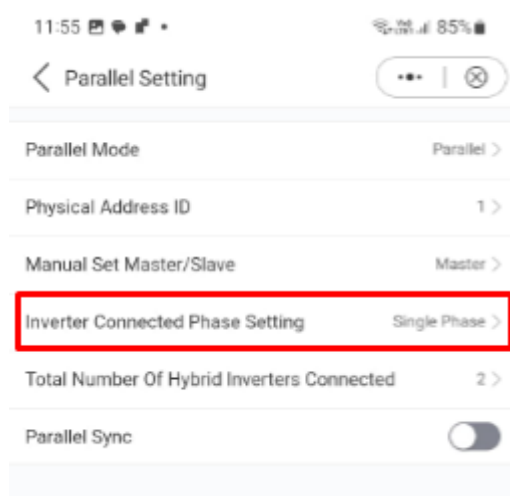
Step 2: Select “Parallel” from the Parallel Mode menu



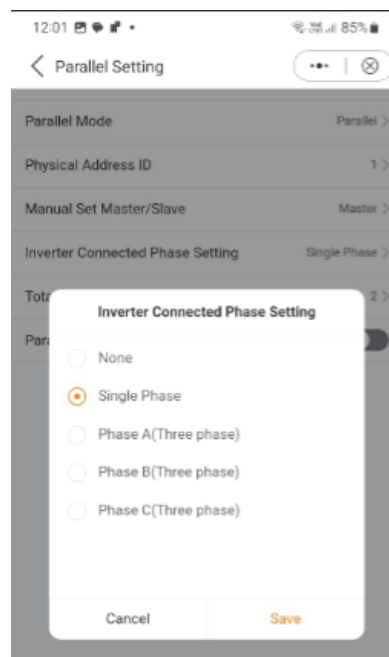
Step 3: Select “Master” at Manual Set Master/Slave & Ensure master is selected



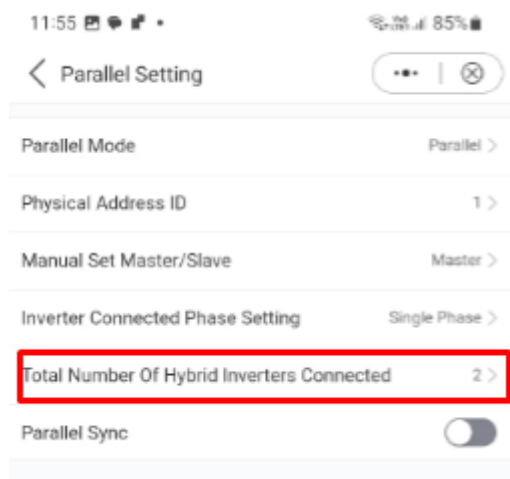
Step 5: Select the “Connected Inverter Phase Setting” menu



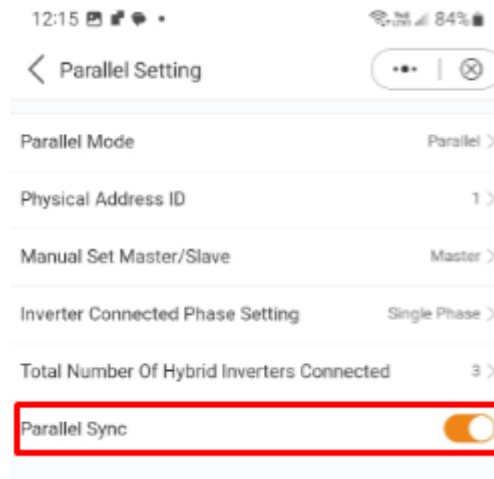
Step 6: Select “Single Phase” from the menu



Step 7 : Enter the total number of paralleled inverters



Step 8 : Turn on “Parallel Sync”



3. Three Phase Parallel Mode

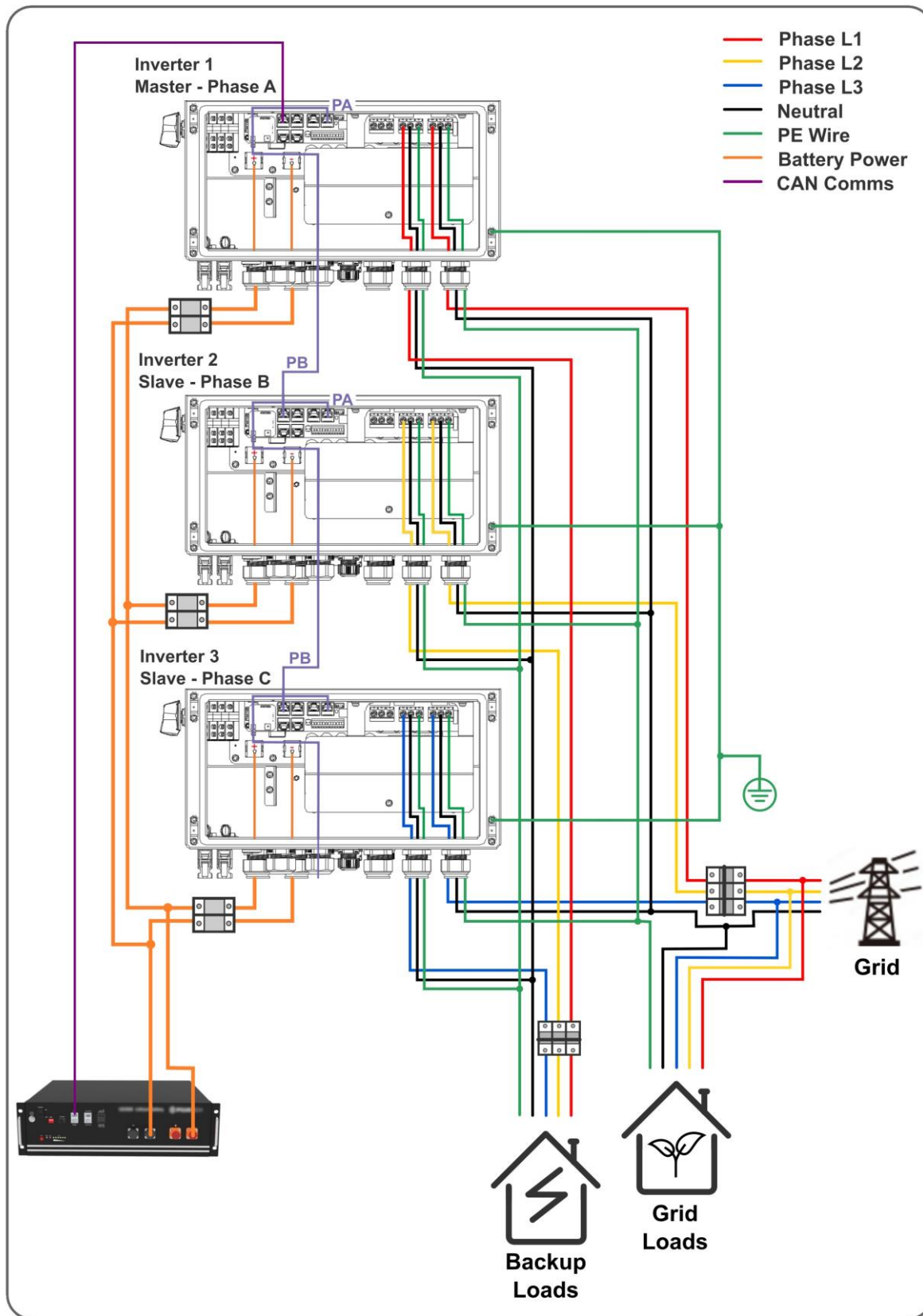


Figure 2.4-1: Three Phase Parallel Line Diagram

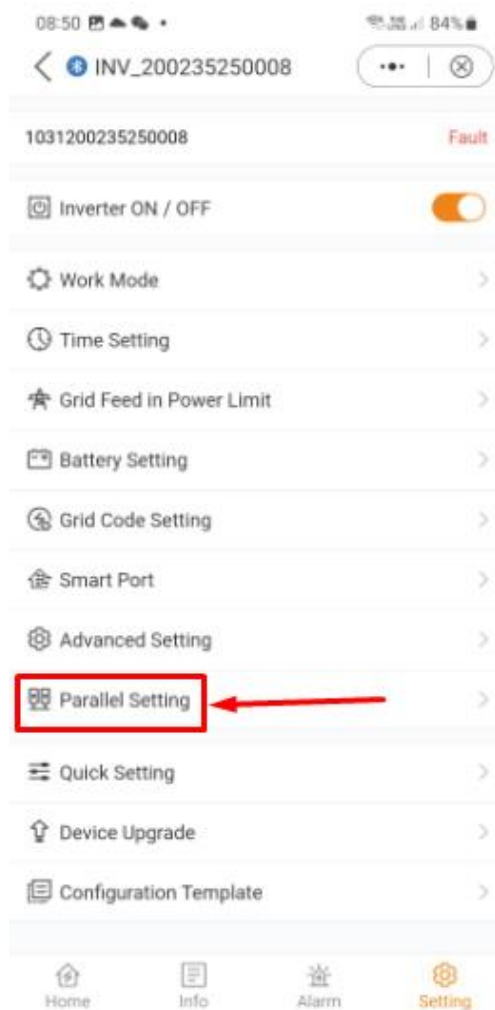
3.1. Communication Wiring

The PA and PB parallel communication wiring should be completed as per the description in section 2.1 for single phase systems. You can also see figure 2.4-1 above.

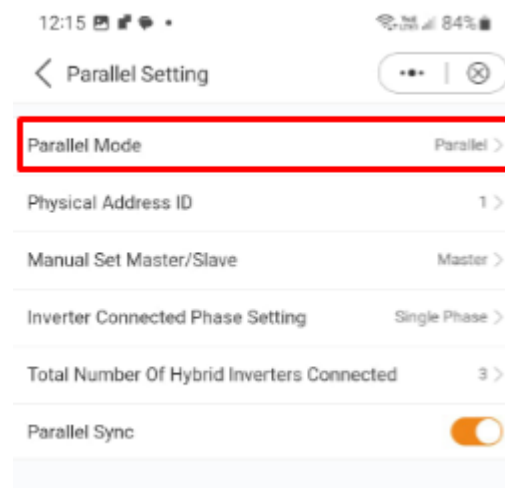
3.2. Master Inverter Settings

The settings for a 3-phase system are the same as per the single-phase system in section 2 except for the steps below in selecting the 3 individual phases for each inverter.

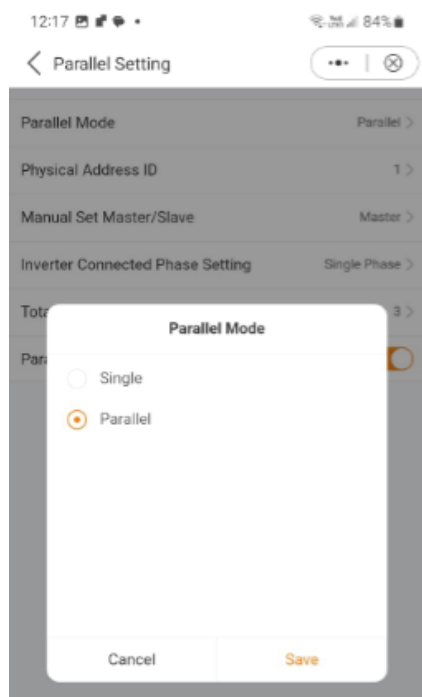
Step 1: Select the Parallel settings menu item



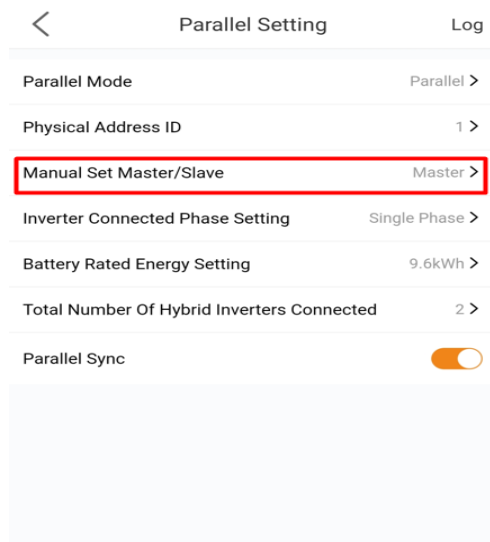
Step 2: Select Parallel Mode menu item.



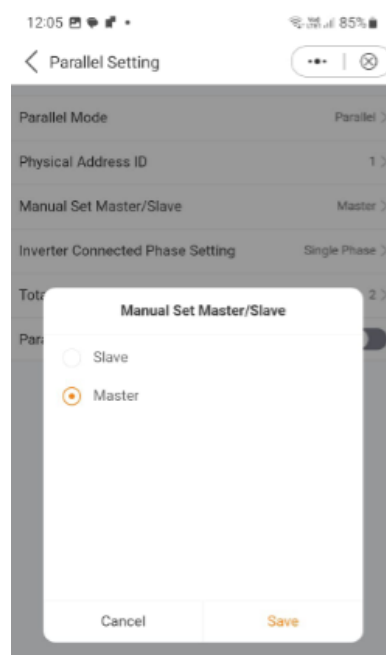
Step3: Select the **“Parallel”** function from the menu and then tap on **“Save”**



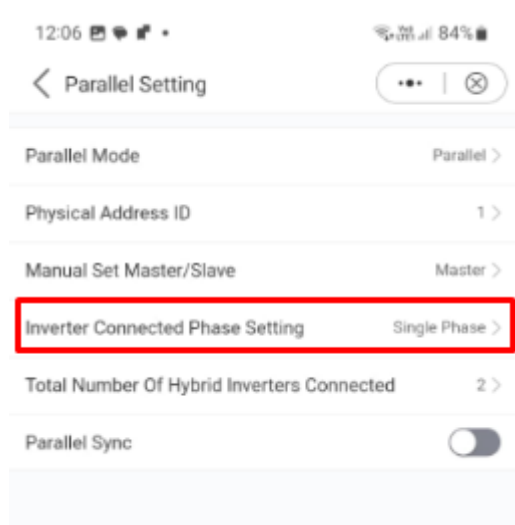
Step 4: Select the **“Manual Set Master/Slave”** menu



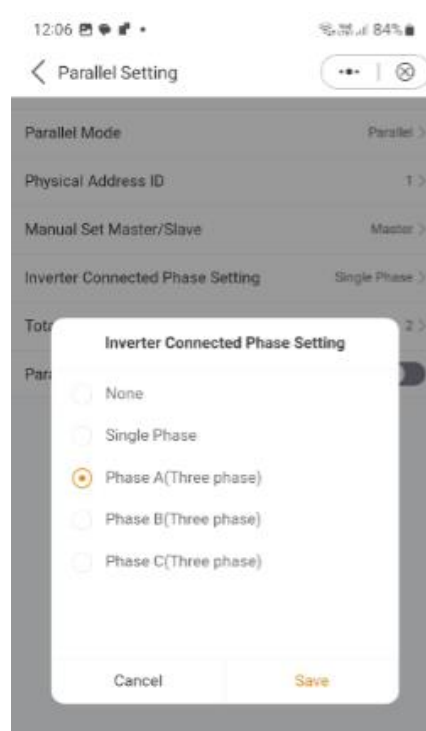
Step 5: Select **“Master”** menu item to set the master inverter and tap on **“Save”**



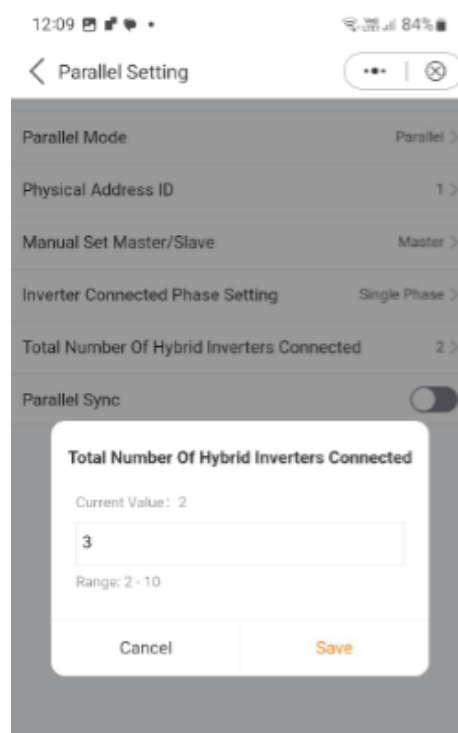
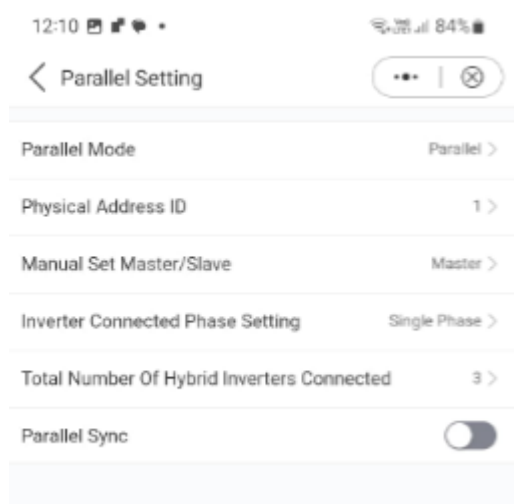
Step 6: Select the “Inverter Connected Phase Setting” menu item



Step 7: Select the “Phase A(Three Phase)” menu item and tap on “Save”

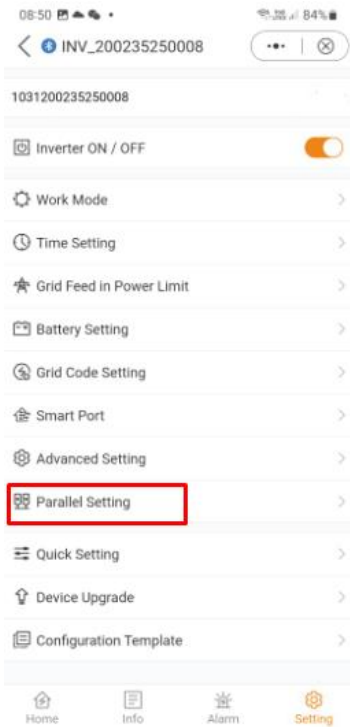


Step 9: Open the “Total Number of ... Inverters” menu item. Enter the number of inverters in the system, this value should be at least 3. Tap on “Save”

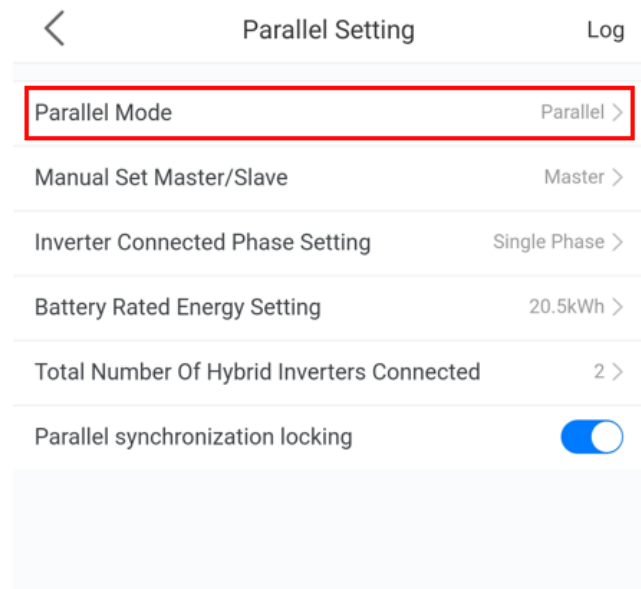


3.3. Settings on the Slave Inverters

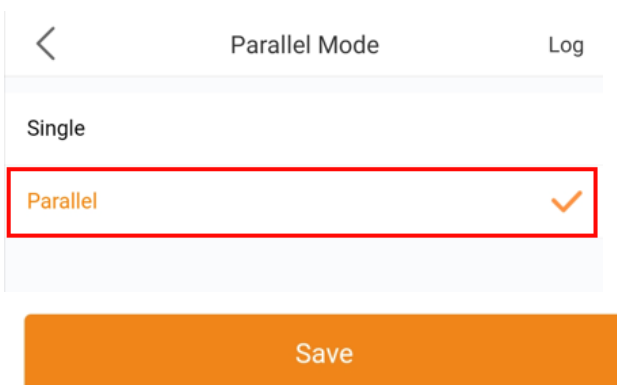
Step 1: Select the Parallel settings menu item



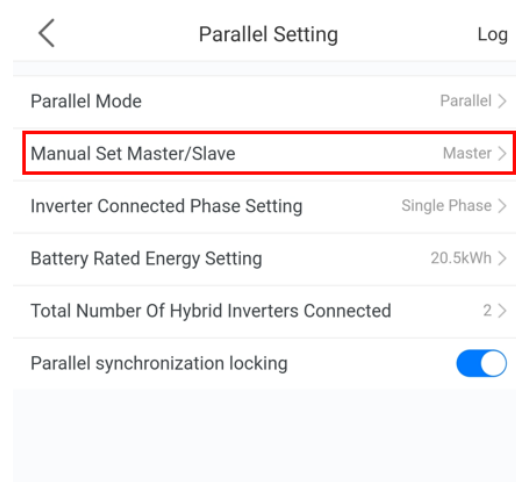
Step 2: Select Parallel Mode menu item.



Step 3: Select the “Parallel” function from the menu on each slave inverter and then tap on “Save”.
Repeat the step for each Slave Inverter in the system.

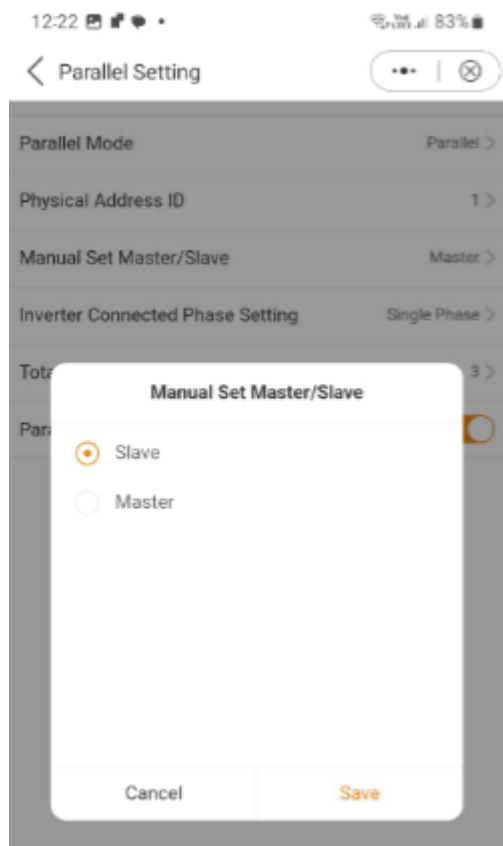


Step 4: Select the “Manual Set Master/Slave” menu

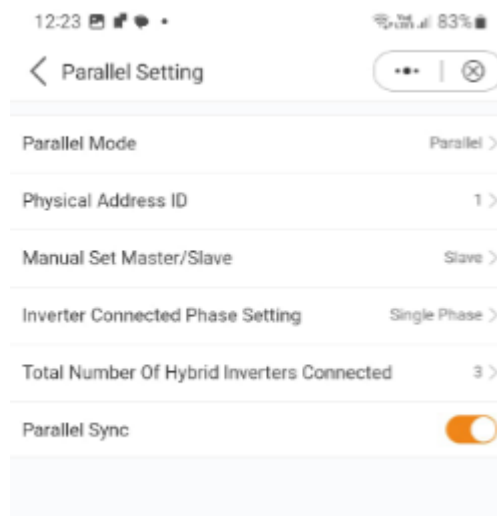


Step 5: Select “Slave” menu item to set slave for each inverter in the system and tap on “Save”

Repeat the step for each Slave Inverter in the system.

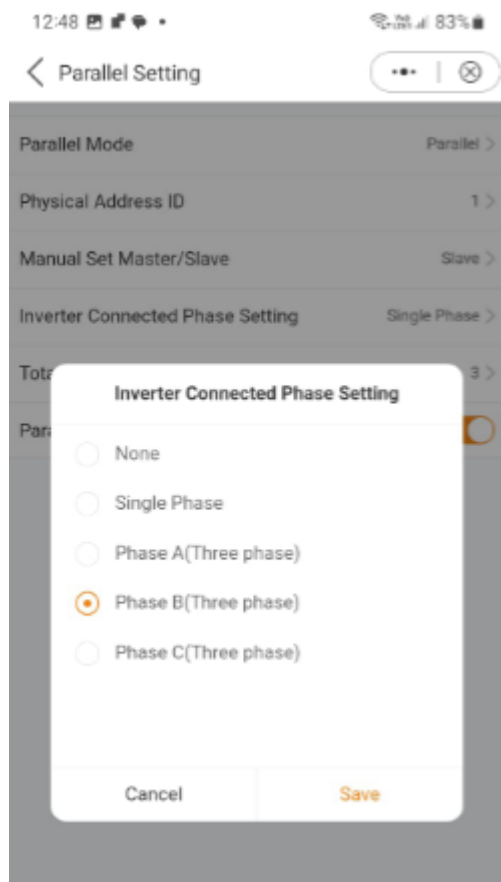


Step 6: Select the “Inverter Connected Phase Setting” menu item



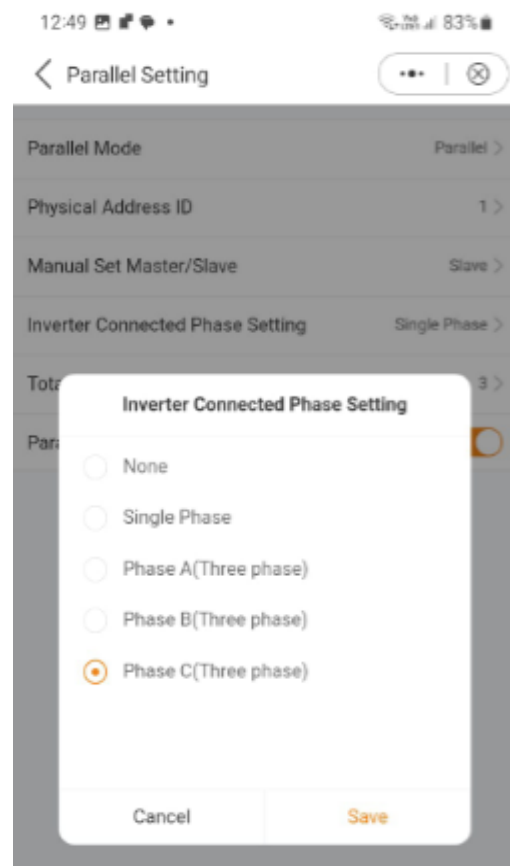
Step 7: Select the “Phase B(Three Phase)” menu item on the L2 slave inverter and tap on “Save”.

Ensure the inverter is set to slave mode as per step 5



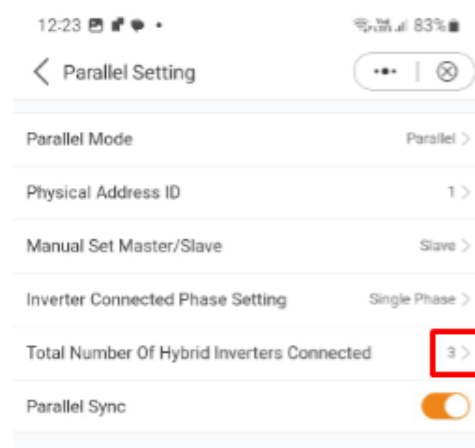
Step 8: Select the “Phase C(Three Phase)” menu item on the L3 slave inverter and tap on “Save”.

Ensure the inverter is set to slave mode as per step 5



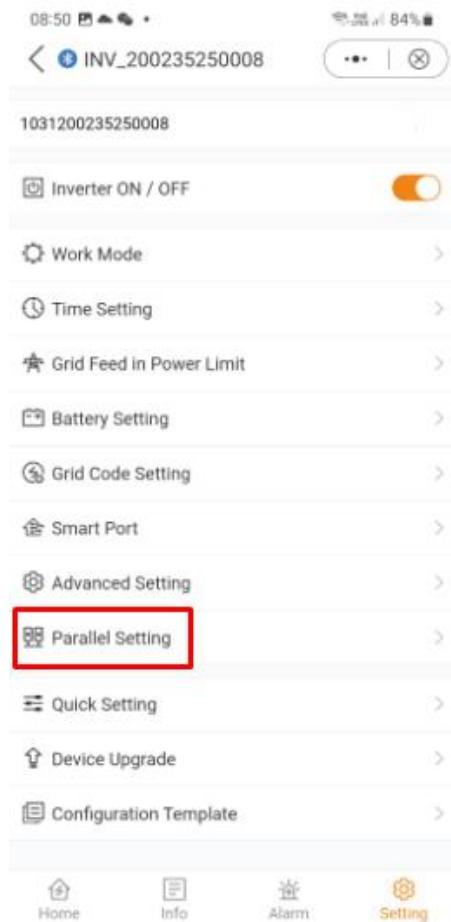
Step 9: Open the “Total Number of ... Inverters” menu item. Enter the number of inverters in the system, this value should be at least 3. Tap on “Save”

Repeat the step for each Slave Inverter in the system.



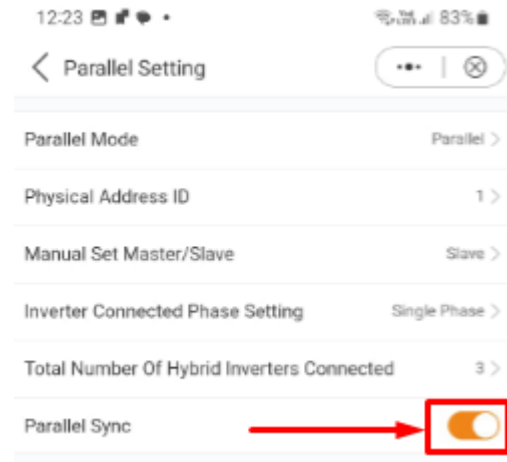
3.4. Enable Parallel Synchronization on Master

Step 1: Once all the settings are complete on all the Master and Slave inverters, log back on to the master inverter and open the **“Parallel Settings”** menu item



Step 2: Enable the **Parallel Synchronization** switch on the master inverter.

From here on any settings changed on the master will be filtered through to all the slave inverters.



4. Setting the Parallel Dip Switches

Before starting and running a single or 3 phase parallel system ensure that both parallel dip switches 1 & 2 marked in figure 3.4-1 below are both set to the **“ON”** position.

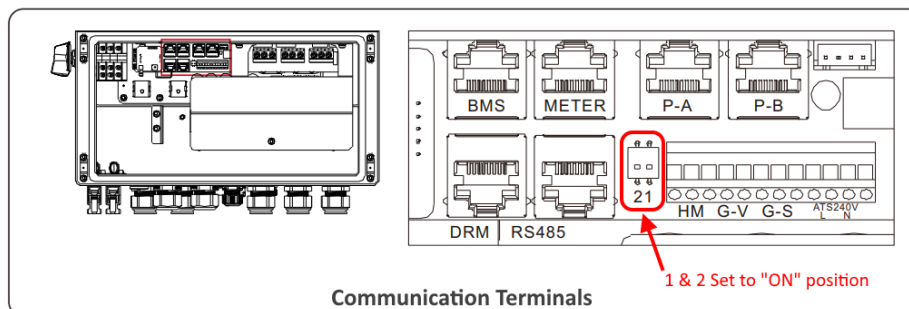


Figure 3.4-1 - Parallel DIP Switches