Manuals+ — User Manuals Simplified.

MPP Solar LVX6048WP Parallel Installation Guide

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Contents

Introduction

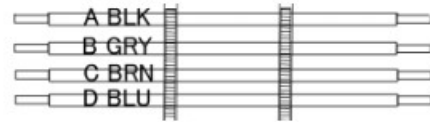This inverter can be used in parallel with maximum 6 units. The supported maximum output power is 36KW/36KVA.

Parallel cable

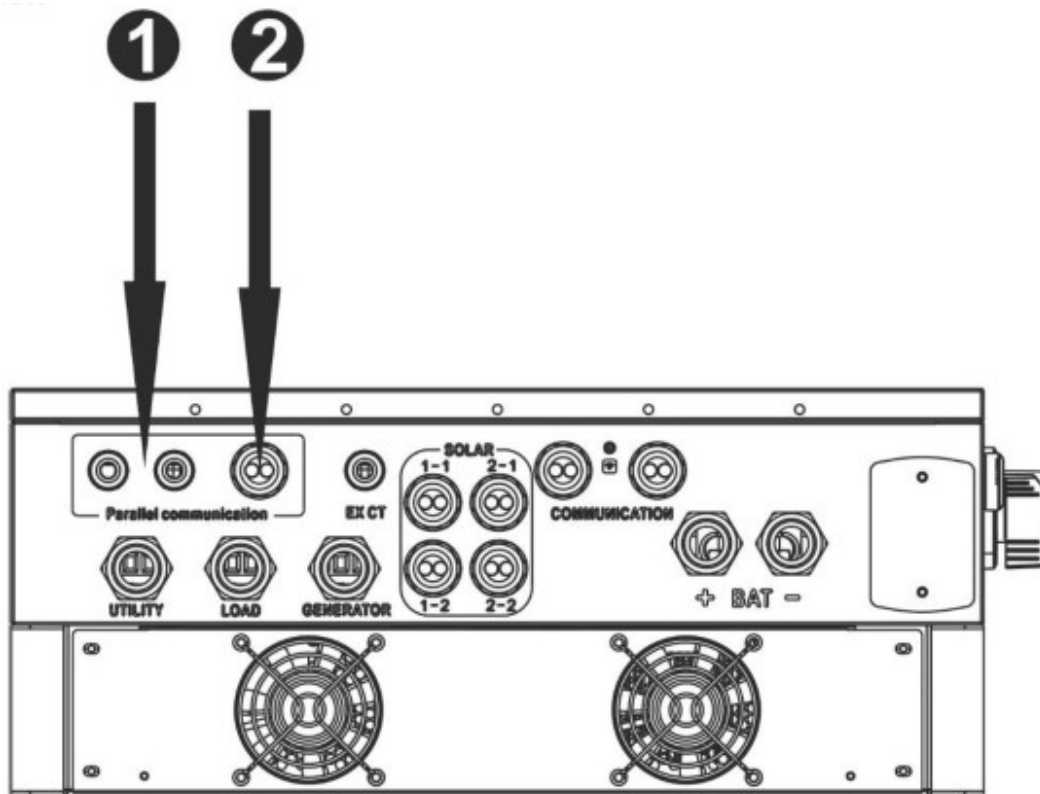You will find the following items in the package:
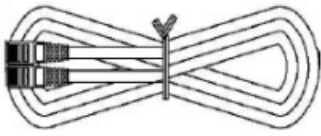
Parallel communication cable
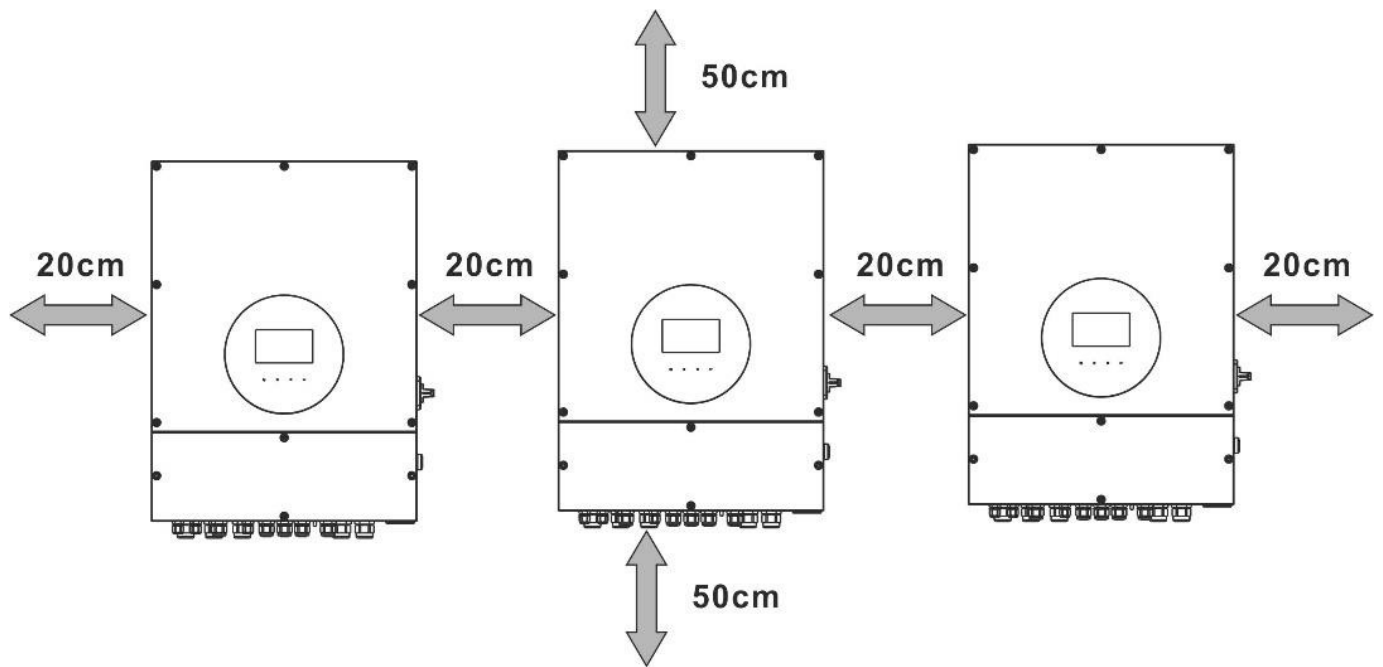

Current sharing wires

Overview

1. Current sharing port

2. Parallel communication port

Mounting the Unit

When installing multiple units, please follow below chart.

NOTE: For proper air circulation to dissipate heat, it's necessary to allow a clearance of approx. 20 cm to the side and approx. 50 cm above and below the unit. Be sure to install each unit in the same level.

Wiring Connection

The cable size of each inverter is shown as below:
Recommended battery cable and terminal size for each inverter:

Ring terminal:
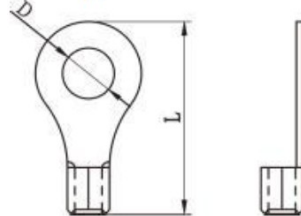
| Wire Size | Rin Terminal | | | Torque value |
| | Cable mm2 | Dimensions | | |
		D (mm)	L (mm)	
2	34.	8.	43.	7~12 Nm

WARNING: Be sure the length of all battery cables is the same. Otherwise, there will be voltage difference between inverter and battery to cause parallel inverters not working.
Recommended AC input and output cable size for each inverter:

AWG no.	Conductor cross section	Torque
10~8 AWG	5.5~10 mm 2	1.4~1.6Nm

You need to connect the cables of each inverter together. Take the battery cables for example. You need to use a connector or bus-bar as a joint to connect the battery cables together, and then connect to the battery terminal.

The cable size used from joint to battery should be X times cable size in the tables above. "X" indicates the number of inverters connected in parallel. Regarding cable size of AC input and output, please also follow the same principle.

CAUTION!! Please install a breaker at the battery side. This will ensure the inverter can be securely disconnected during maintenance and fully protected from overcurrent of battery.

Recommended breaker specification of battery for each inverter:
One unit*
200A/60VDC

*If you want to use only one breaker at the battery side for the whole system, the rating of the breaker should be X times current of one unit. "X" indicates the number of inverters connected in parallel.

Recommended battery capacity

Inverter parallel numbers	2	3	4	5	6
Battery Capacity	400AH	600AH	800AH	1000AH	1200AH

CAUTION! Please follow the battery charging current and voltage from battery spec to choose the suitable battery. The wrong charging parameters will reduce the battery lifecycle sharply.

Approximate back-up time table

| Load (W)	Backup Time @ 48Vdc 400Ah (min)	Backup Time @ 48Vdc 600Ah (min)	Backup Time @ 48Vdc 800Ah (min)	Backup Time @ 48Vdc 1000 Ah (min)	Backup Time @ 48Vdc 1200 Ah (min)
12000	90	140	180	240	280
18000	60	90	120	160	180
24000	40	70	90	120	140
30000	35	55	75	90	110
36000	30	50	60	80	100

PV Connection
Please refer to user manual of single unit for PV Connection.
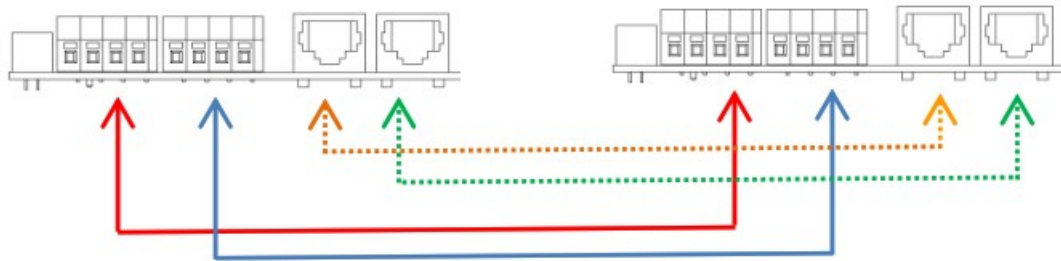**CAUTION:** Each inverter should connect to PV modules separately.
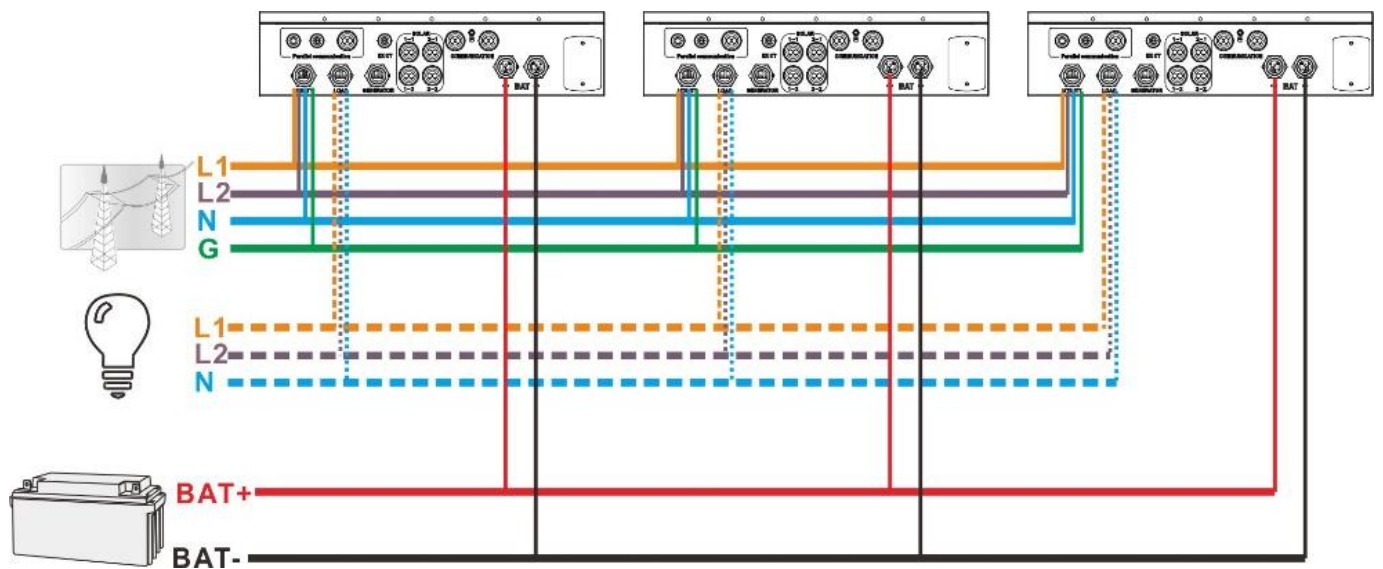
Inverters Configuration

Two inverters in parallel:
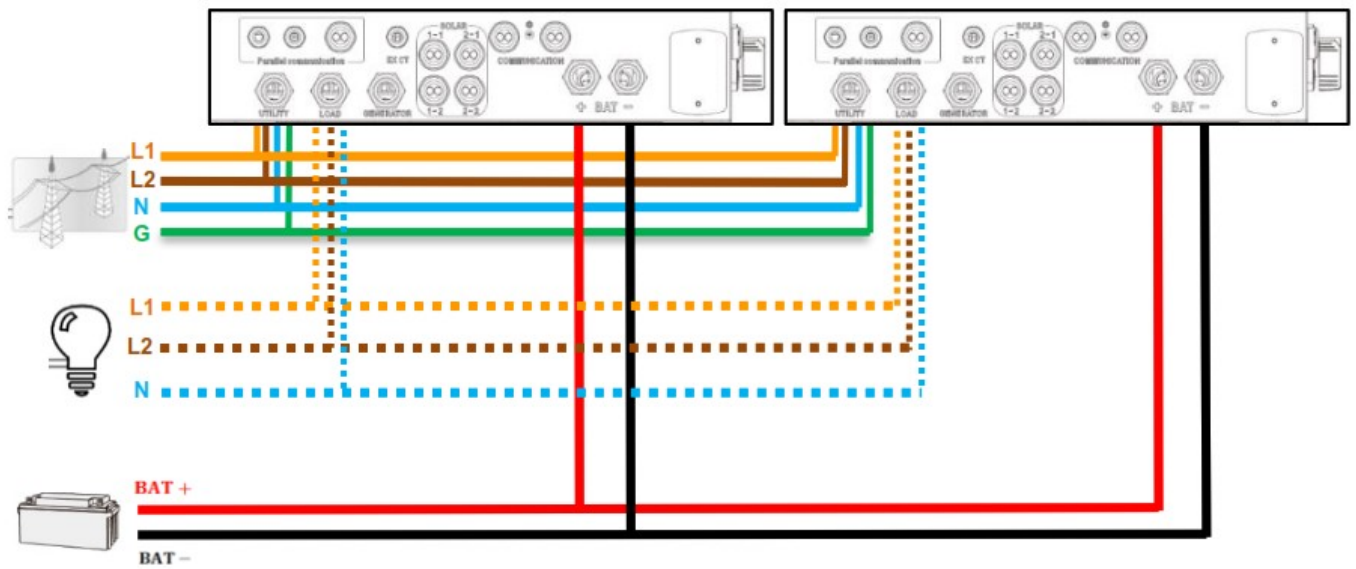
Power Connection

Communication Connection
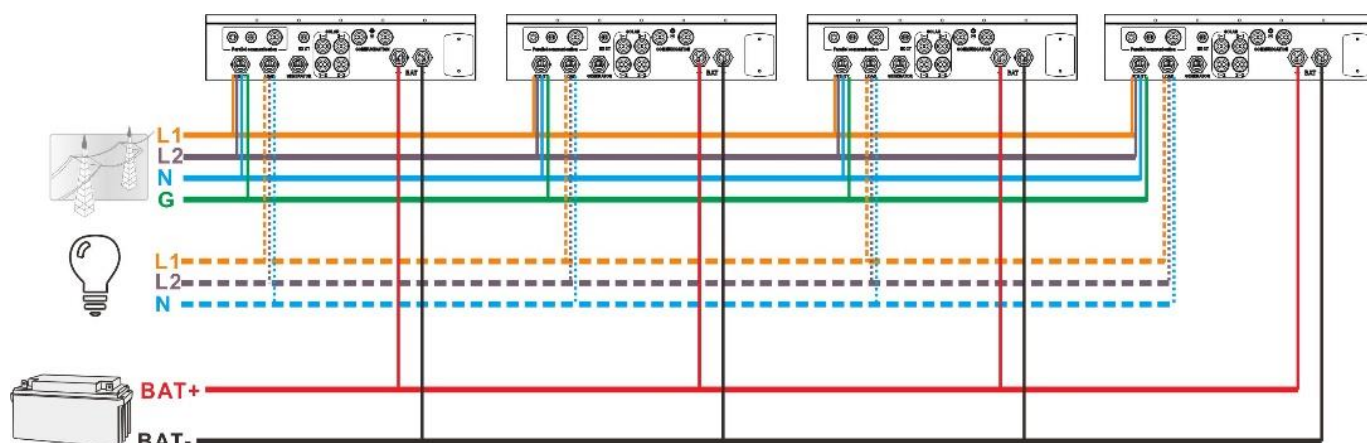

Three inverters in parallel:
Power Connection

Communication Connection

Four inverters in parallel:
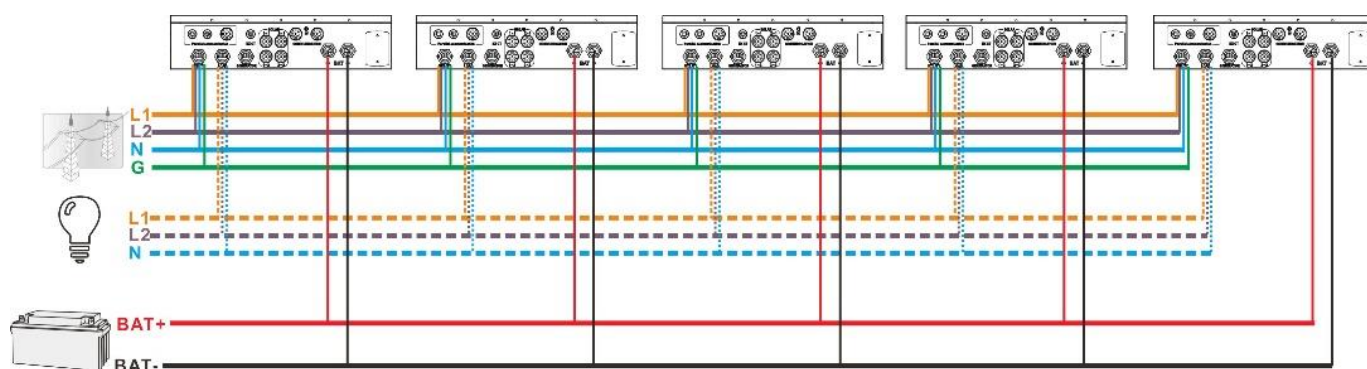**Power Connection**
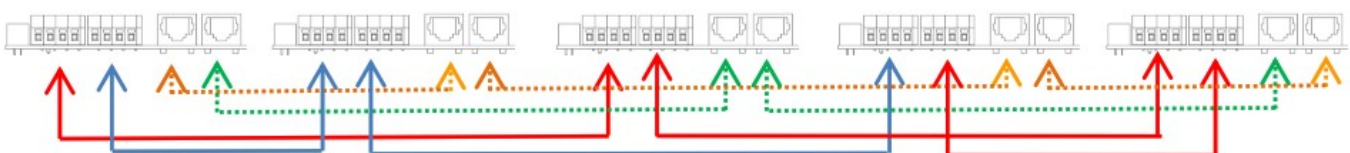

Communication Connection

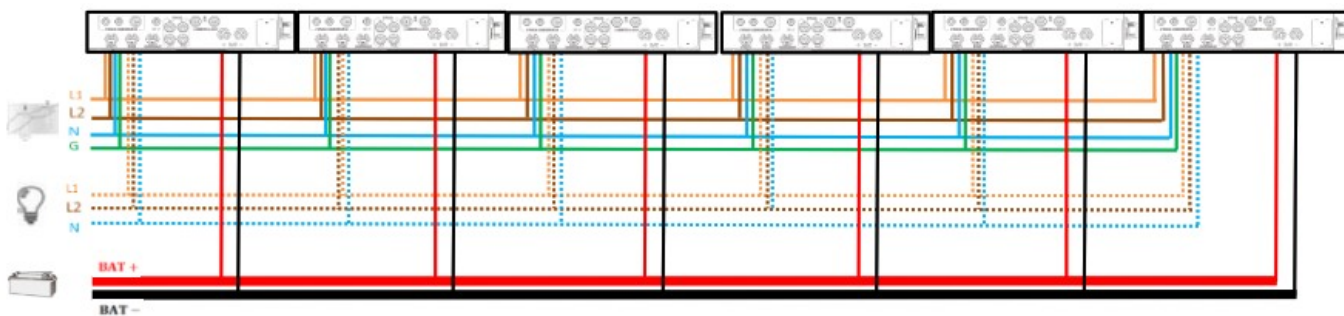Five inverters in parallel:
Power Connection

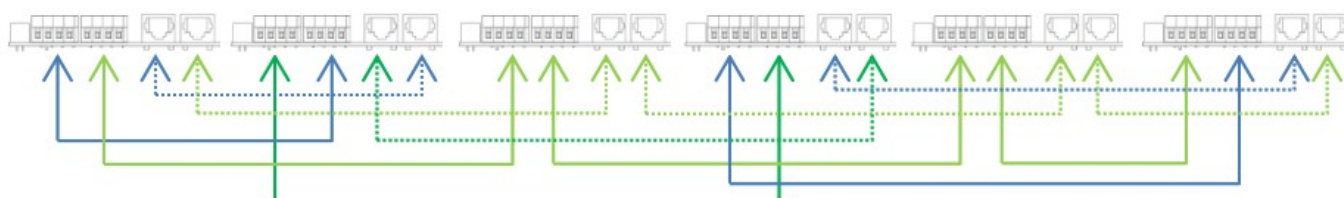**Communication Connection**

Six inverters in parallel:
Power Connection

Communication Connection

Setting and LCD Display Setting Program:

The parallel function setting is only available in Solar Power or Solar Power Pro software.
Please install software in your PC first.
For setting, you can set the inverter one by one through USB port.

- Use USB to synchronize the parameters:

  Parallel for output: Enable/Disable

Fault code display:

| Fault Code	Fault Event	Icon on
60	Power feedback protection	F60 FAULT
61	Relay board driver loss	F61 FAULT
62	Relay board communication loss	F62 FAULT
71	Firmware version inconsistent	F71 FAULT
72	Current sharing fault	F72 FAULT
80	CAN fault	F80 FAULT
81	Host loss	F81 FAULT
82	Synchronization loss	F82 FAULT

Commissioning

Step 1: Check the following requirements before commissioning:
• Make sure all wires correctly connected.
• Ensure all breakers in Line wires of load side are open and each Neutral wire of each unit is connected together.
Step 2: Turn on each unit and set "enable parallel for output" on Solar Power or Solar Power Pro. And then, shut down all units.
Step 3: Turn on each unit.
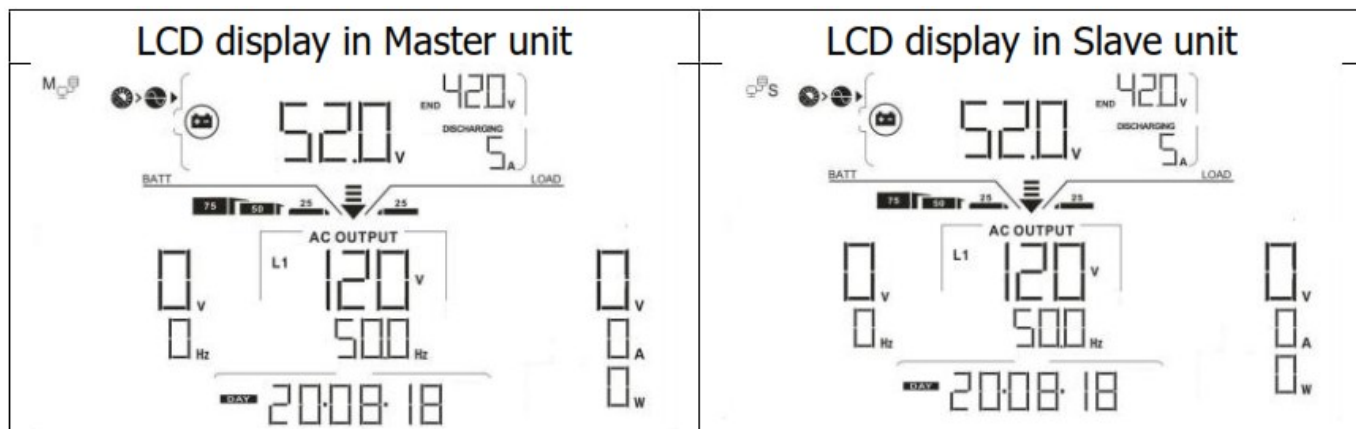
NOTE: Master and slave units are randomly defined. Warning 02 is AC GRID voltage low.

Step 4: Switch on all AC breakers of Line wires in AC input. It's better to have all inverters connected to utility at the same time. If not, it will display fault 82 in the slave inverters. However, these inverters will automatically restart. If detecting AC connection, they will work normally.
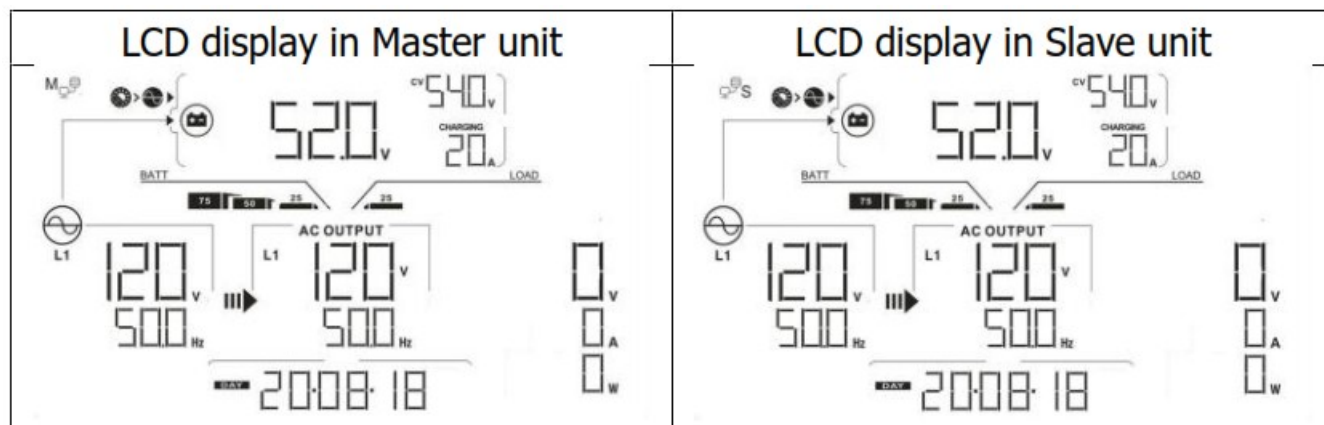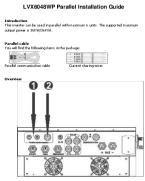

Step 5: If there is no more fault alarm, the parallel system is completely installed.
Step 6: Please switch on all breakers of Line wires in load side. This system will start to provide power to the load.

Trouble shooting

Situation		Solution
Fault Code	Fault Event Description	
60	Current feedback into the inverter is detected.	1.Restart the inverter. 2.Check if L1/L2/N cables are not connected with wrong sequence in all inverters. 3.Make sure the sharing cables are connected to all inverters. 4.If the problem remains, please contact your installer.
61	Relay board driver loss	1.Disconnect all of power source. 2.Only connect AC input and press Enter key to let it working in bypass mode. 3.Check if the problem happens again or not and report the result to your installer.
62	Relay board communication loss	
71	The firmware version of each inverter is not the same.	1.Update all inverter firmware to the same version. 2.After updating, if the problem still remains, please contact your installer.
72	The output current of each inverter is different.	1.Check if sharing cables are connected well and restart the inverter. 2.If the problem remains, please contact your installer.
80	CAN data loss	1.Check if communication cables are connected well and restart the inverter. 2.If the problem remains, please contact your installer.
81	Host data loss	
82	Synchronization data loss	

Documents / Resources

MPP Solar LVX6048WP Parallel [pdf] Installation Guide
LVX6048WP Parallel, LVX6048WP, Parallel