

# Parallel Board Installation Manual for RM60-200K V1.0



## **WARNING**

Although ups has been designed and manufactured to ensure personal safety, improper use also can result in electrical shock or fire. To ensure safety, observe the following precautions:

- Turn off and unplug the UPS before cleaning it.
- Clean the UPS with a dry cloth. Do not use liquid or aerosol cleaners.
- Never block or insert any objects into the ventilation holes or other openings of the UPS.
- Do not place the UPS power cord where it might be damaged.
- If fire, please use the dry powder fire extinguishers. If use liquid extinguisher, there may has get an electric shock risk.
- Before turn on ups, please check that whether the cable and the polarity of the batteries are correct.

## **Important Tips:**

**When need to replace board, please first turn off ups, and then disconnect the mains switch and battery switch (built-in battery, please unplug at least one battery cable), wait for 10 minutes.**

— **UPS parallel board installation**

1. If the ups have already installed parallel board, just ignore this step.
2. Prepare the following materials, jumper J7 and J8 is short circuit.

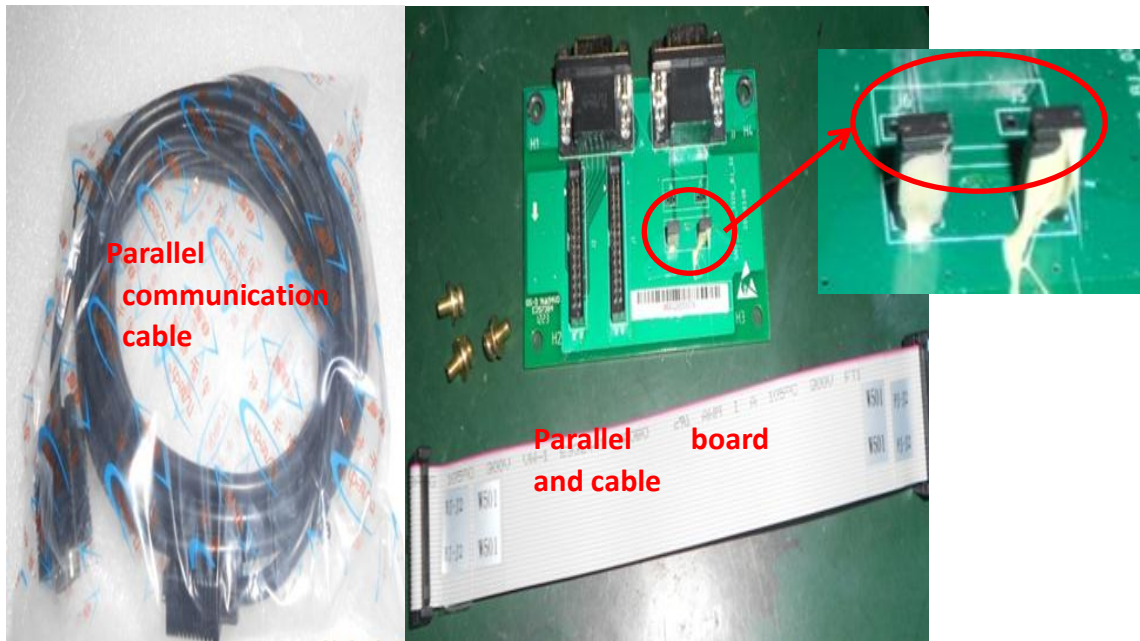


图 1.1 并机选件图

3. After install parallel board to the behind of bypass module, remove cable J1 of “SNT\_SCH\_3320\_ZJ” , and connect to J2 of parallel board, as is shown in fig 1.2.

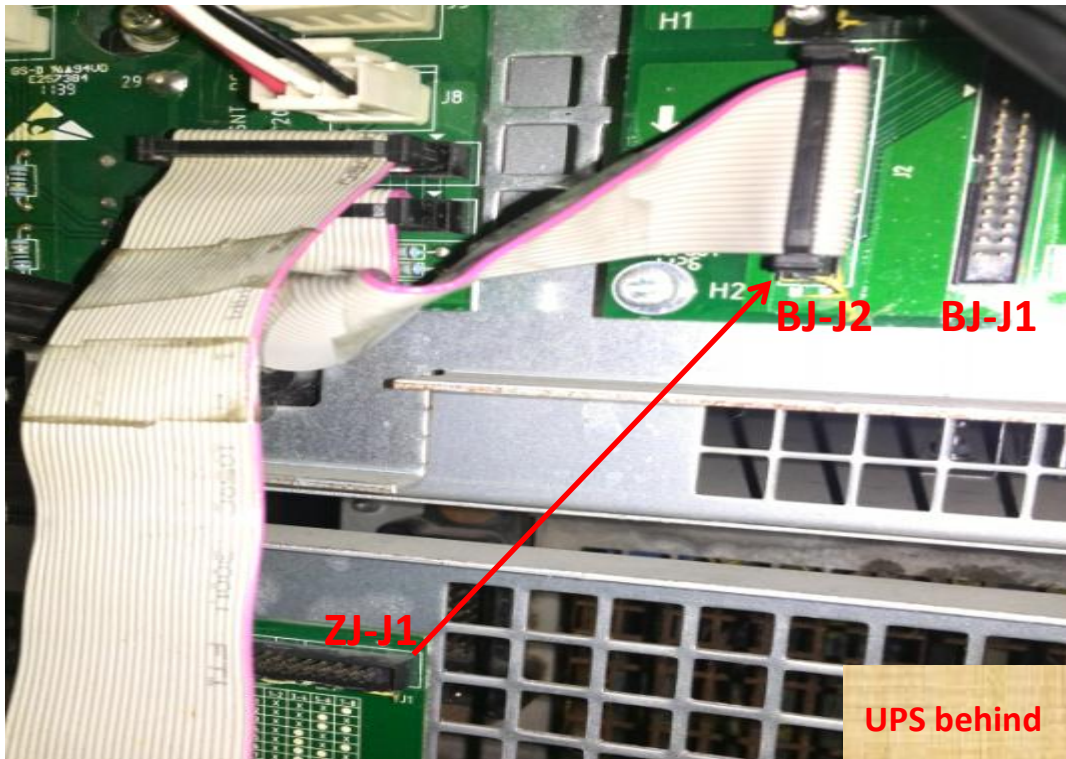


Fig 1.2 Parallel cable

4. Then use the preparative cable, and connect J1 of parallel board to ZJ-J1(previous step already have removed), as is shown in fig1.3. Now we can Install another UPS.

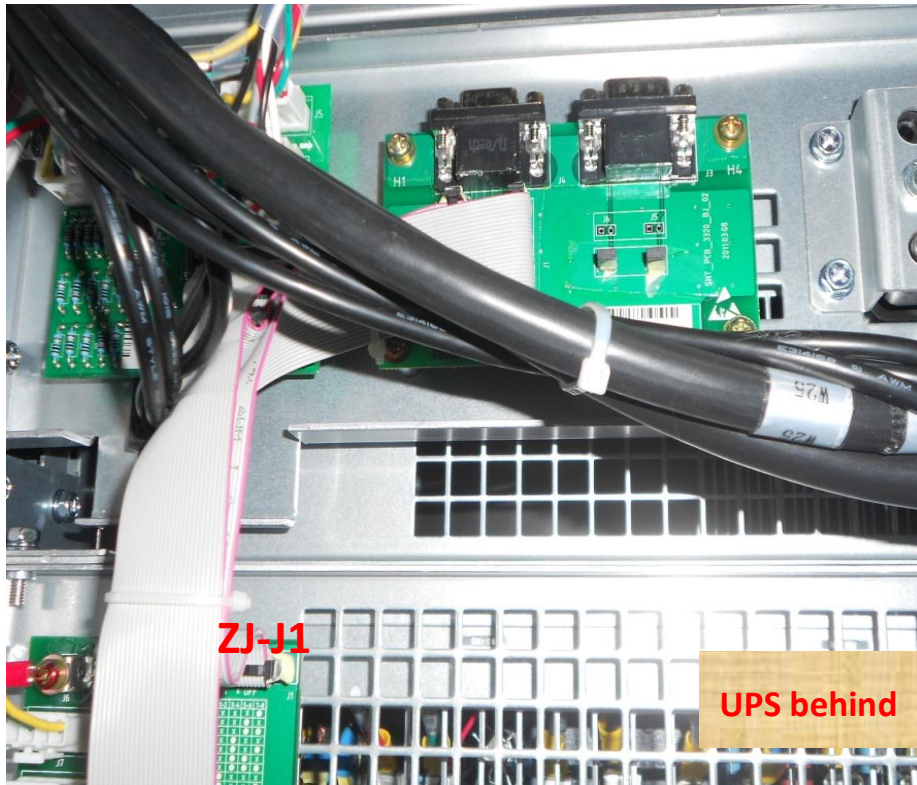


Fig 1.3 parallel cable

## Parallel UPS input/output cable installation

1. Parallel system power cable connection, as fig2.1:

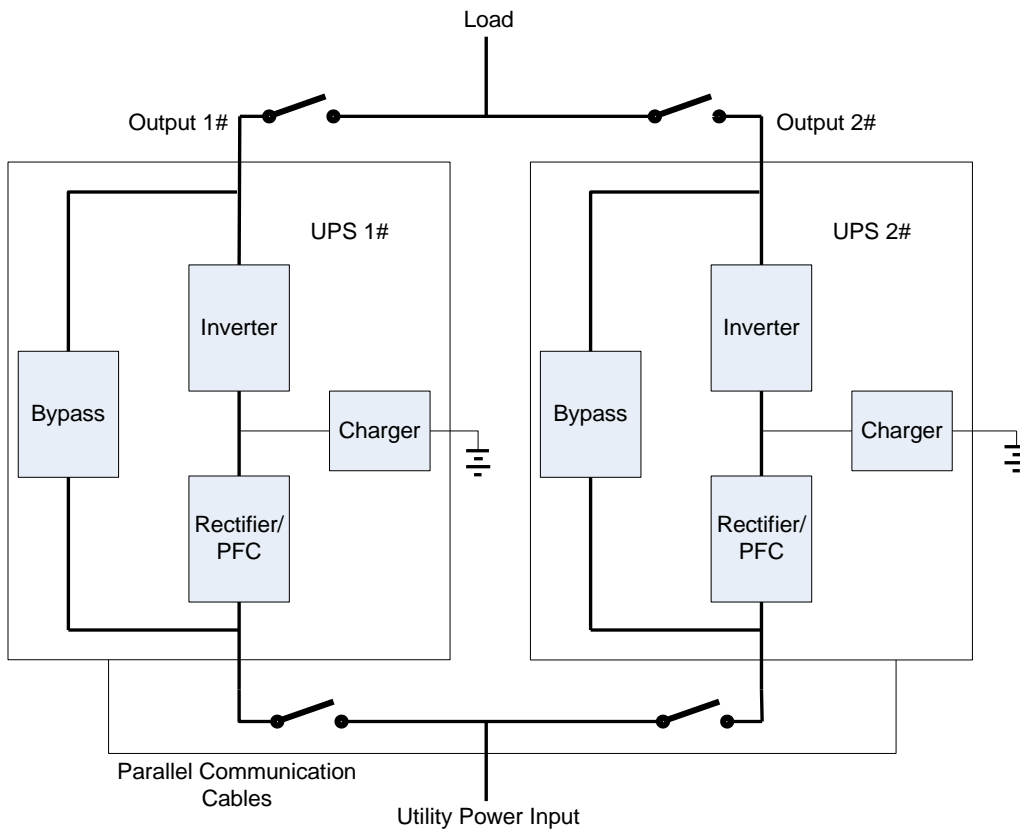


Fig2.1 Parallel system power cable connection

**NOTES:**

※※ Input phase of parallel UPS must be same, Main Input A(UPS 1) same as Main Input A(UPS2), other phase also be same.

※※ Same phase of output power cable must be shorted together, then connect to load. UPS 1(Output A) short connect to UPS 2(Output A), other phase also be same. UPS 1(Output N) short connects to UPS 2(Output N).

※※ Parallel system can use battery bank individual.

Parallel system also can use shared battery bank, as fig2.2:

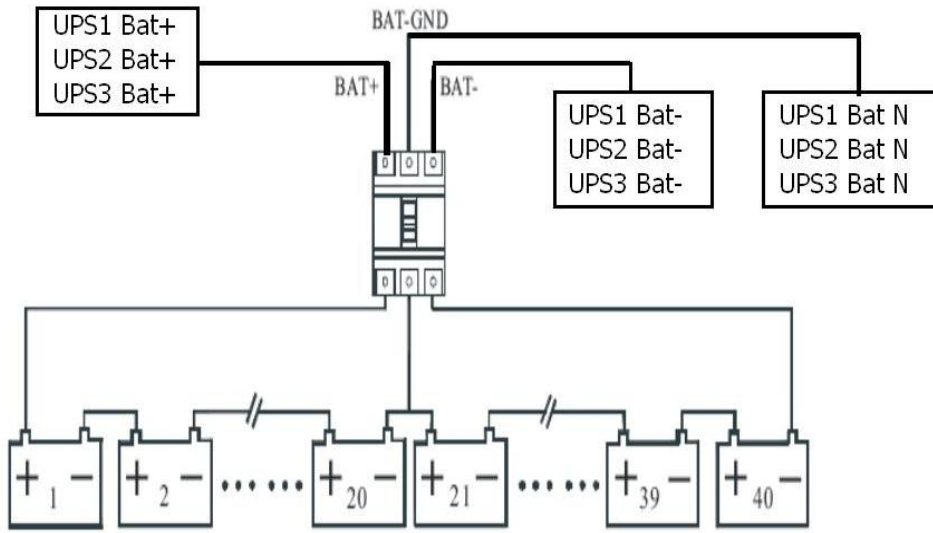


Fig2.2 Battery connection

2. The parallel control cables are designed to be shielded and double insulated, and are connected between the UPS rack modules to form a loop as shown below. The parallel signal board BJ is installed in the bypass power unit. This close loop connection ensures the reliability of the parallel system control, as fig 2.3.

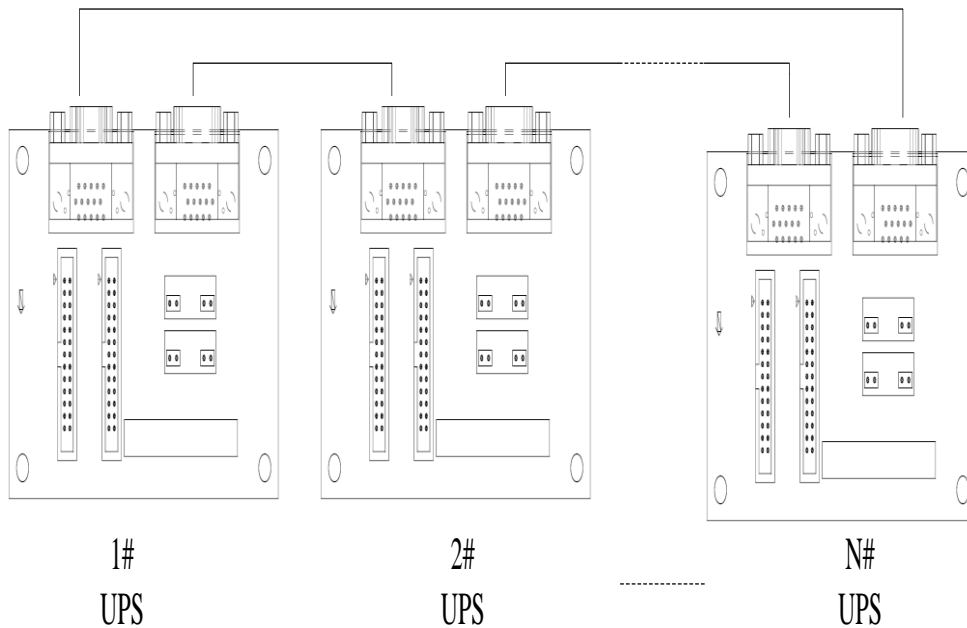


Fig 2.3 parallel communication cable



### ☰ UPS parallel settings modification (Pull out all module)

1. If parallel board has been installed before delivery, UPS parallel settings would already be modified. We just skip parameters modification steps.
2. Pull out all module, only turn on one UPS (close switch Q1 and Q3), UPS will run in bypass mode. By monitoring software, we can change system mode. UPS number:2, the UPS 1 ID: 0, the UPS 2 ID: 1, click “set”

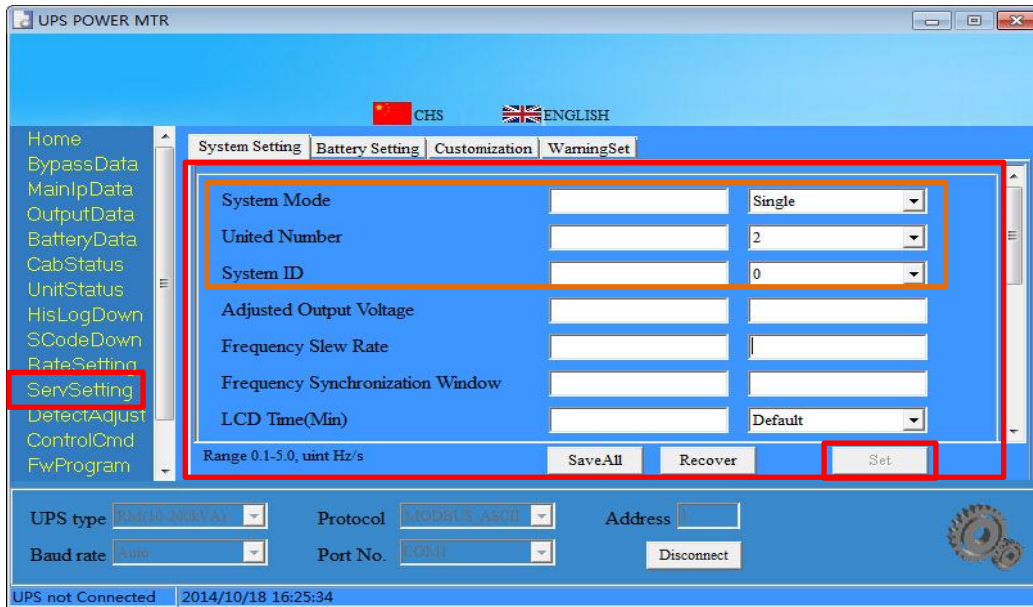


Fig3.1 Parallel UPS settings

3. Restart this UPS to check settings. Panel show as fig3.2. Then turn OFF this UPS.

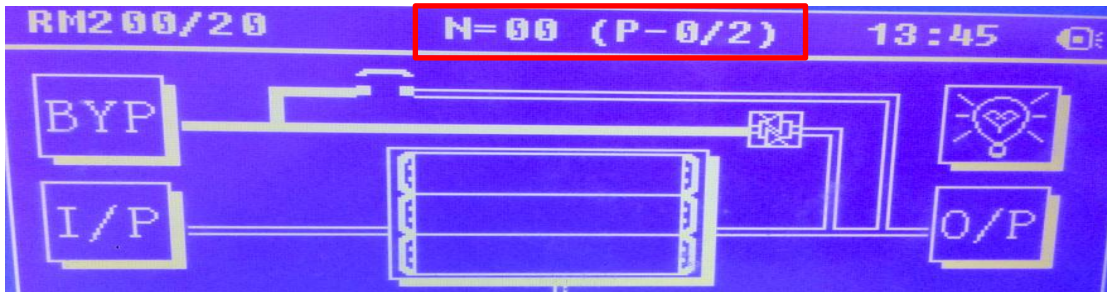


Fig3.2 Parallel system UPS1

4. Then modify UPS 2, Panel show as fig3.2. Then turn OFF this UPS.

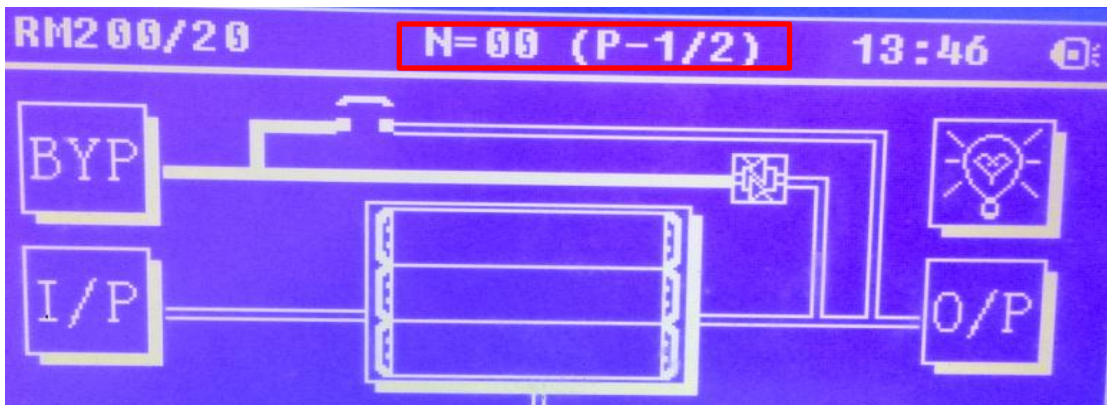


Fig3.3 Parallel system UPS2

**NOTES:**

- ※※ Each time only modify one UPS, and then turn off UPS
- ※※ All parallel parameters should be same except system ID, if not , please contact UPS engineer.

**四 Parallel system test**

**4.1 single ups test**

Check input/output, battery cable again.

- a) First pull out all module, and then close UPS 1 Main input and Output switch, check the output voltage
- b) Turn off UPS, and pull in all modules, turn on UPS again, check the output voltage.
- c) Close battery switch, check the charging voltage and current;
- d) Manual turn UPS to bypass mode on the panel. Then manual quit bypass mode.
- e) Turn off utility of UPS input, UPS will run in battery mode;
- f) Click “EPO”; turn off UPS 1, then test UPS 2.

**4.2 Parallel test**

- a) Pull out all modules, and turn on both UPS, UPS run in bypass mode. If ups show parallel cable error. Please check the parallel cable.
- b) Turn off both UPS, and pull in all modules.
- c) Close Main input and output of UPS 1, UPS 1 will run in normal mode, then turn on UPS2. Both UPS will run in normal mode.
- d) Manual turn UPS to bypass mode on the panel, both UPS will turn into bypass mode synchronous. Then manual quit bypass mode.
- e) Close battery switch, check the charging voltage and current;
- f) Turn off utility of both UPS input, UPS will run in battery mode;

**Notes:**

- ※※ In the process of test, please make sure that same phase of output power cable always be shorted together.