



TX90-PK

for TX90/T90 6kVA, 10kVA Models

Parallel System Installation Guide

Parallel System Installation Guide

Important Safety Instructions

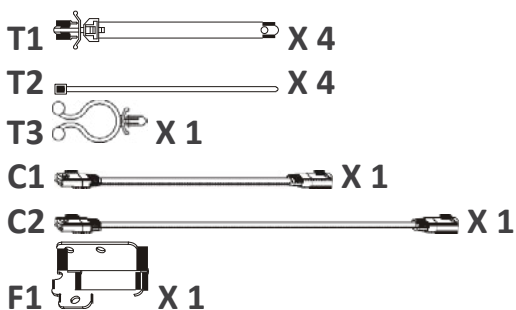
- A professional technician is required while installing those UPS.
- Read the Installation guide carefully before those UPS are installed, so as to avoid any potential installation procedure error occurred to cause injury in the personnel or damage in the UPS
- Because of “LITTLE LEAKAGE CURRENTS” generated by the EMI filter of the UPS, it is necessary to double ensure if the earth of the UPS is properly grounded before AC Mains is connected with.
- The parallel function of the UPS can only be enabled in Normal Mode.
- Before any parallel installation is proceeded, make sure the difference of the inverter voltage of each UPS in parallel at NO load shall be less than 1Vac. Please consult with authorized dealer if the voltages in difference are over 1Vac
- Make sure the RJ45 communicating wire is connected tightly during parallel mode; otherwise, it might cause outage or damage of both the UPSs and the output device.
- Only two terminal resistors on the rear panel of the two(2) or four(4) of the UPS in parallel shall be set at “On” position and the rest of them shall be set at “Off” position; otherwise, the parallel operation of those UPS might be abnormal or damaged.
- Make sure those UPS in parallel are with the same ratings and types. For instance, the UPS without galvanic transformer can not be in parallel with the UPS with galvanic transformer. While installing those UPS, please add a NFB(Non-fuse Breaker)at the input and output of each UPS to avoid any potential hazard when the UPS is in the maintenance mode.

Parallel System Installation Operation

Unpacking Parallel Kits

Check Accessories:

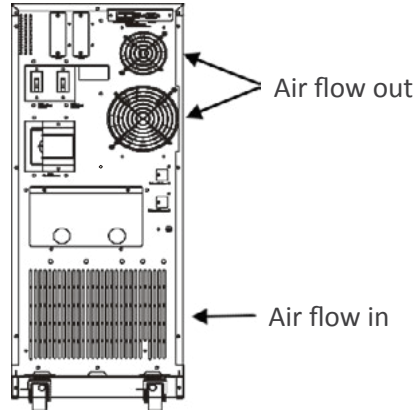
- set of RJ-45 communication wire for parallel system (C1, C2)
- set of Metal bracket(F1)
- set of cable ties(T1 or T2 and T3)



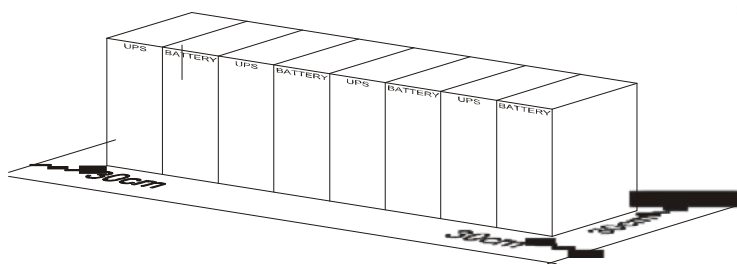
Selecting Installation Position

Air Flow Explanation for Tower and Convertible Types

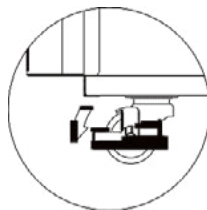
Normally, the design of the air flow of the UPS is to flow in from the bottom of the ventilation holes then flow out from the top of the ventilation holes as indicated below



Select an installation position with at least 30 cm around the UPS and Battery bank , where may provide a good ventilation condition as indicated below



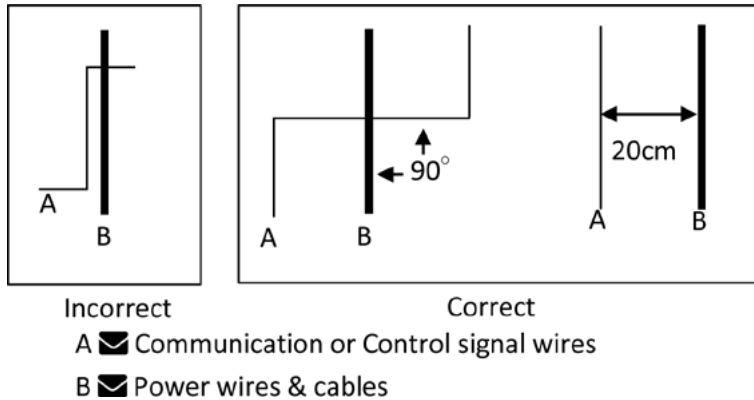
After the installation position of the UPS is properly arranged, Please lock the casters of the UPS firmly as indicated below



Installation Instruction

Make sure those wires & cables used in the input, output and battery are separately installed. Do not intercross or mix those wires & cables together to avoid from any unnecessary noise interference.

The communication connecting wires for parallel function and other wires for control signals, including RJ45, RS232, RS485, USB, EPO and Shutdown shall be kept away from those wires and cables. If there is no possibility to avoid such from happening, please put them at 90 degree or least distance 20cm as indicated below.



Because of “Little Leakage Currents” generated by the EMI filter of the UPS, it is necessary to double ensure if the earth of the UPS is properly grounded and the current leakage breaker is installed before AC Mains is connected with or the output device is connected to the UPS.

Please refer to the specs of input current, output current and recommended conductors listed as below:

AC input and output

Model	Maximum Current	Conductor Section
6KVA	33A	AWG #8
10KVA	54.3A	AWG #6

Battery input

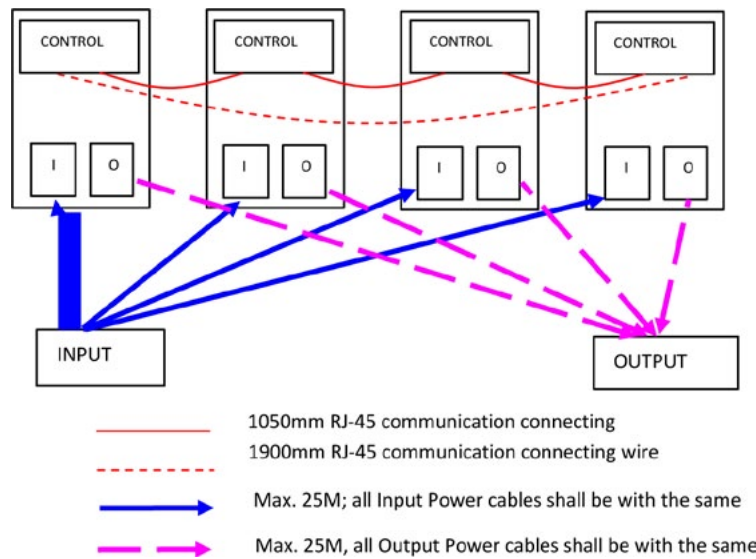
Model	Maximum Current	Conductor Section
6KVA	25A	AWG #10
10KVA	41A	AWG #10

Recommended Circuit Breaker installed in the input/output of the UPS shall be type “C” or “D” and their current ratings shall be as listed.

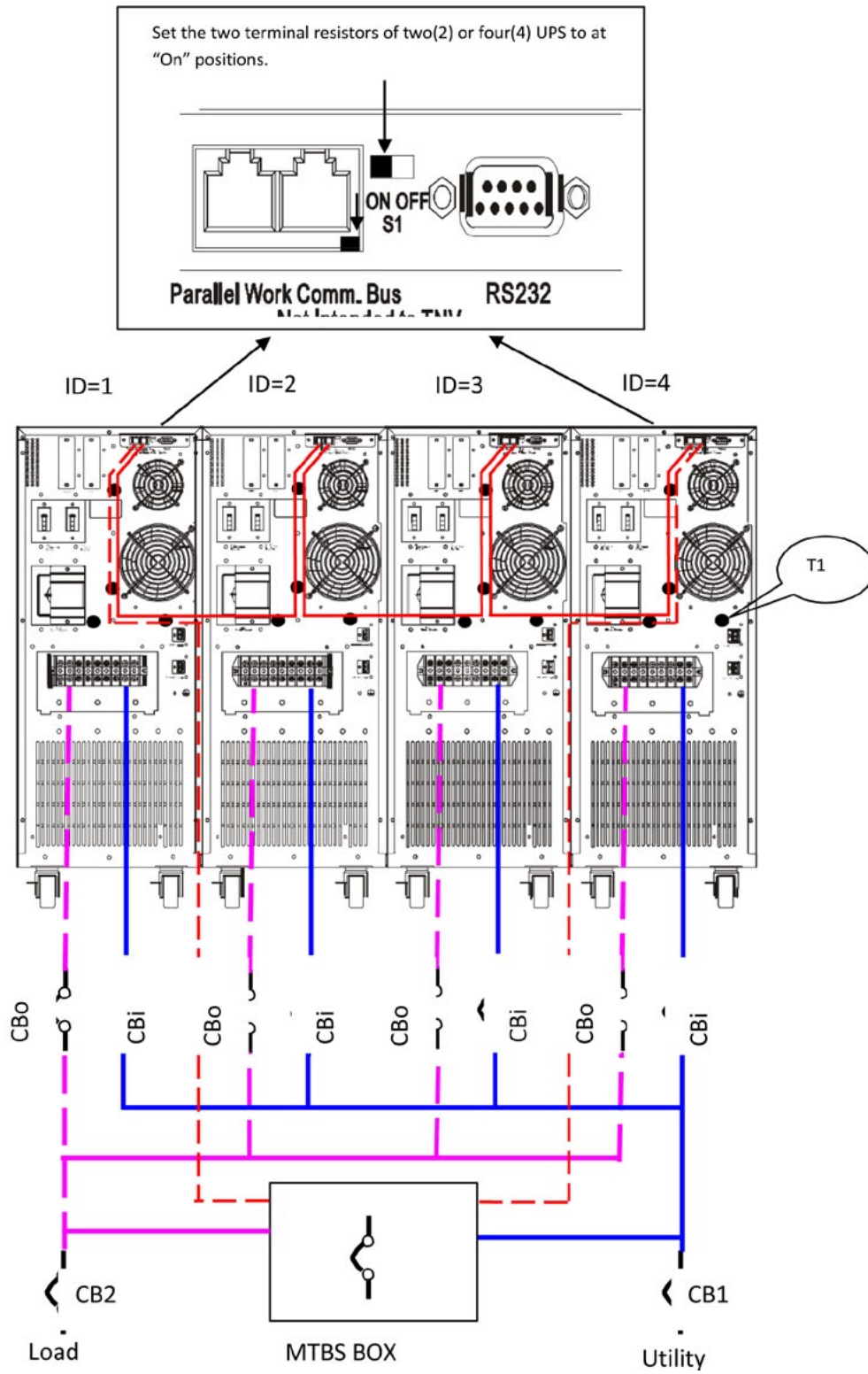
Model	Input	Output
6KVA	40A	30A
10KVA	63A	63A

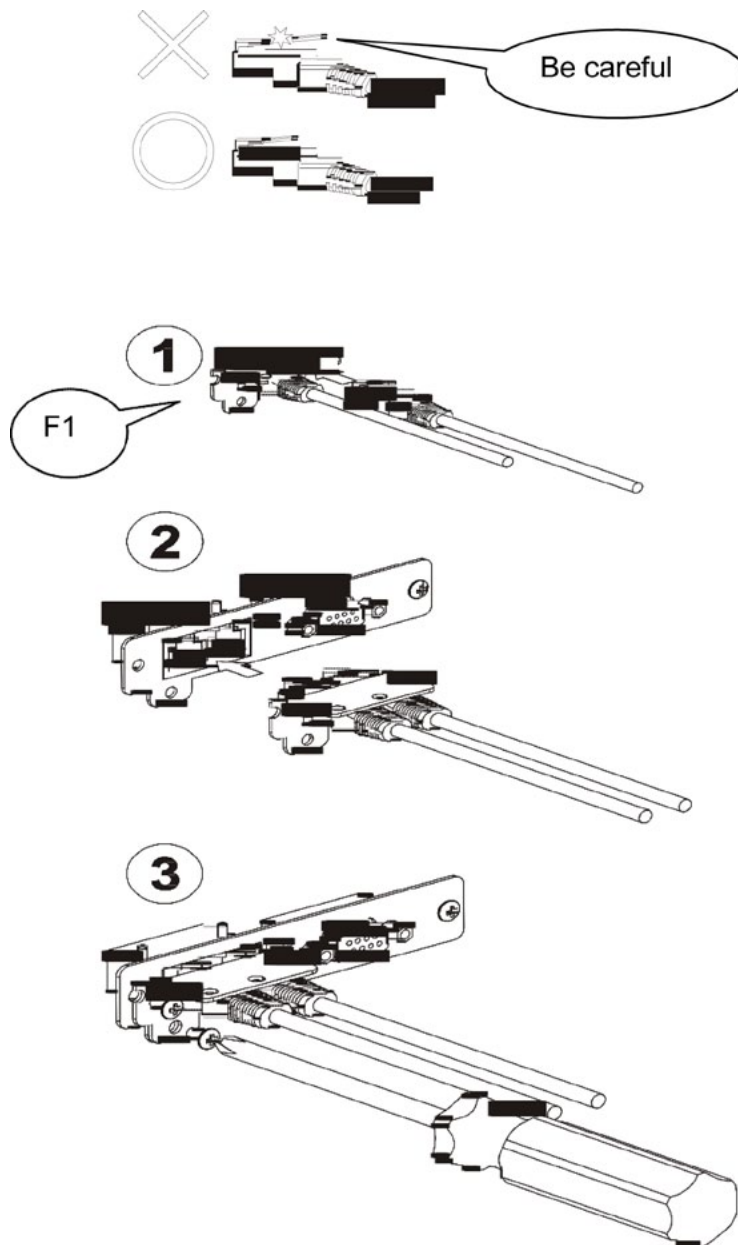
Start-up Operation Procedure

The maximum length of the communication connecting wires shall be less than 7M. It shall be connected as a "Ring" loop as indicated below.



- Arrange the power cables and wires as well as the control signal wires, then make sure all the circuit breaker at input & output ends are set at "Off" position.
- For maintenance purpose, you are recommended to purchase a MTBS box.
- Set two terminal resistors of two of four UPS at "On" position
- Turn on the input breaker (CB1 and CBi) of the Utility, all the parameters of those UPS in parallel shall be set the same, then set the parallel mode as well as the IDs of the UPS.
- Reset all UPS and make sure them at "OFF" status.
- If there is the MTBS box installed, make sure the switch is on "Bypass" position. Check to see if the UPS is on Bypass mode with output voltage available.
- Turn on the output device (CB2) and the output device is supplied by the MTBS Box.
- Turn on the output breaker of those UPS (CBo) and turn the switch of the MTBS Box at "UPS" position. The output device is supplied by the UPS Bypass loop.
- Turn on those UPS individually and make sure those UPS are in Inverter mode.
- Your installation operation is complete.





Maintenance Operation Procedure

- Please refer to the user manual of the UPS to make all UPS switch to bypass supply mode.
- Please switch MTBS BOX to BYPASS position first. And then switch off all output breakers (CBo).
- Now the load is supplied through MTBS BOX from Bypass.
- Please make sure the UPS which needs to be maintained is completely shutdown first. And then switch off the output breakers(CBo) and input breakers(CBi). Now you can maintain them.
- Please make sure the load is supplied from the UPS now.
- The maintenance work is finished.