Uninterruptible Power Supply (UPS)

EBOPS Vision

Model : SSW 24-4ND

1) Block Diagram

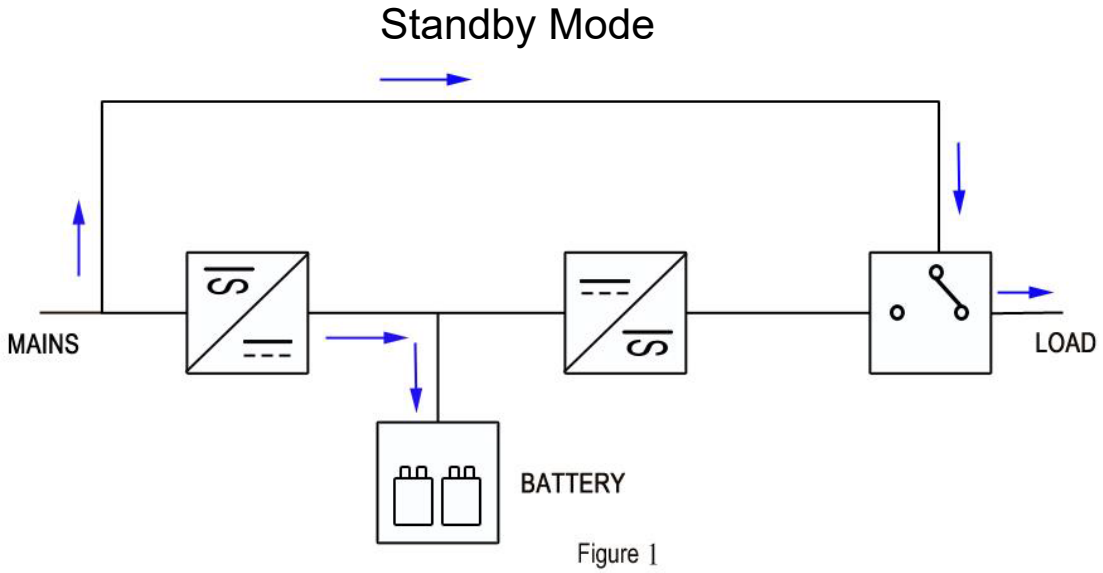


Figure 1

UPS consists of a rectifier, a set of batteries, and an inverter. It enables the batteries to be charged through the rectifier and, at the same time, provides supply to the load during normal conditions. (Figure 1)

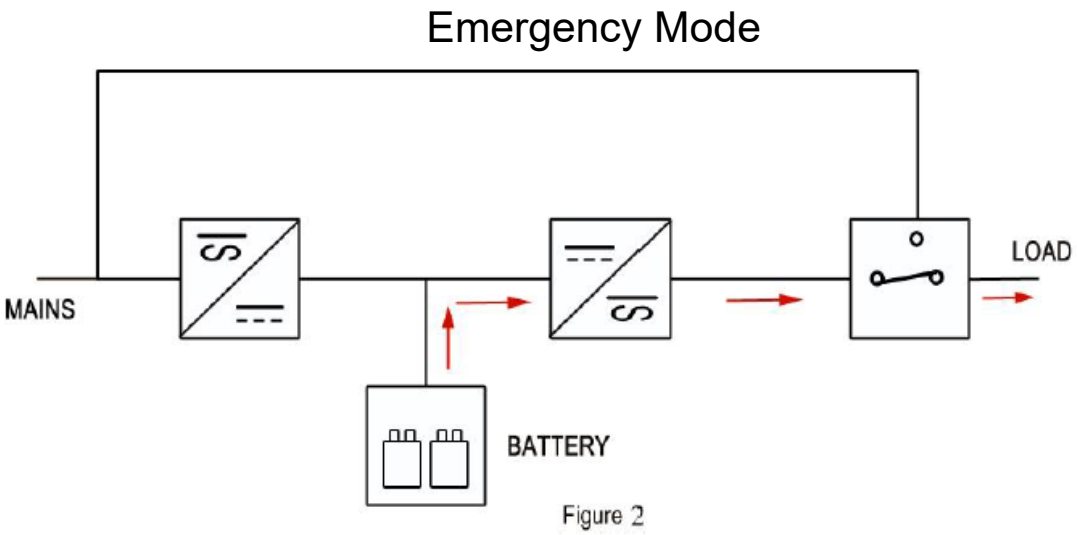


Figure 2

The battery will restore its energy in the form of DC currents to the inverter, and the inverter will supply AC currents to the load when the mains fails (Figure 2).

When the AC mains resumes, the batteries will be recharged immediately through the electrical change over contact. The mains will supply to the loads as shown in (Figure 1).

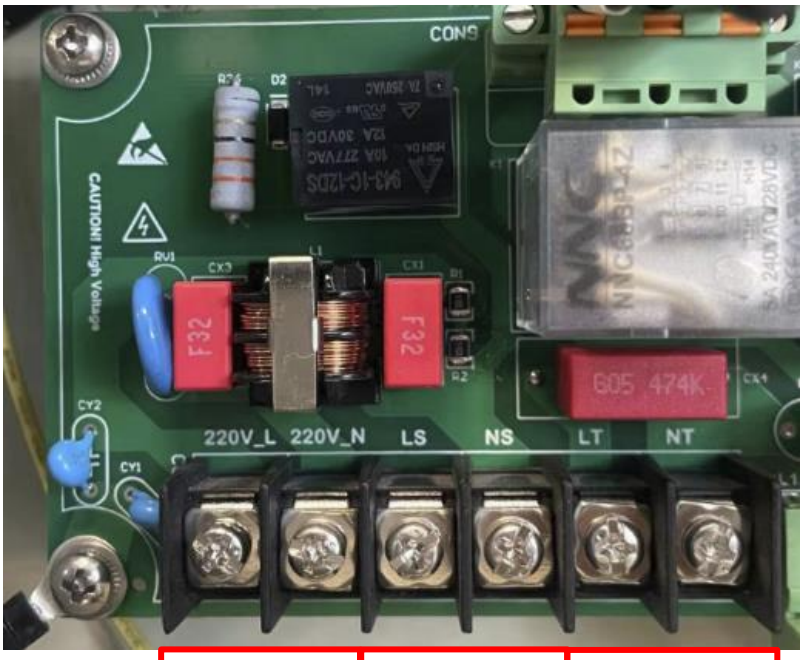
2) Wiring connection

The wire connection of AC supplies, load, and battery to the terminal block are shown as below:

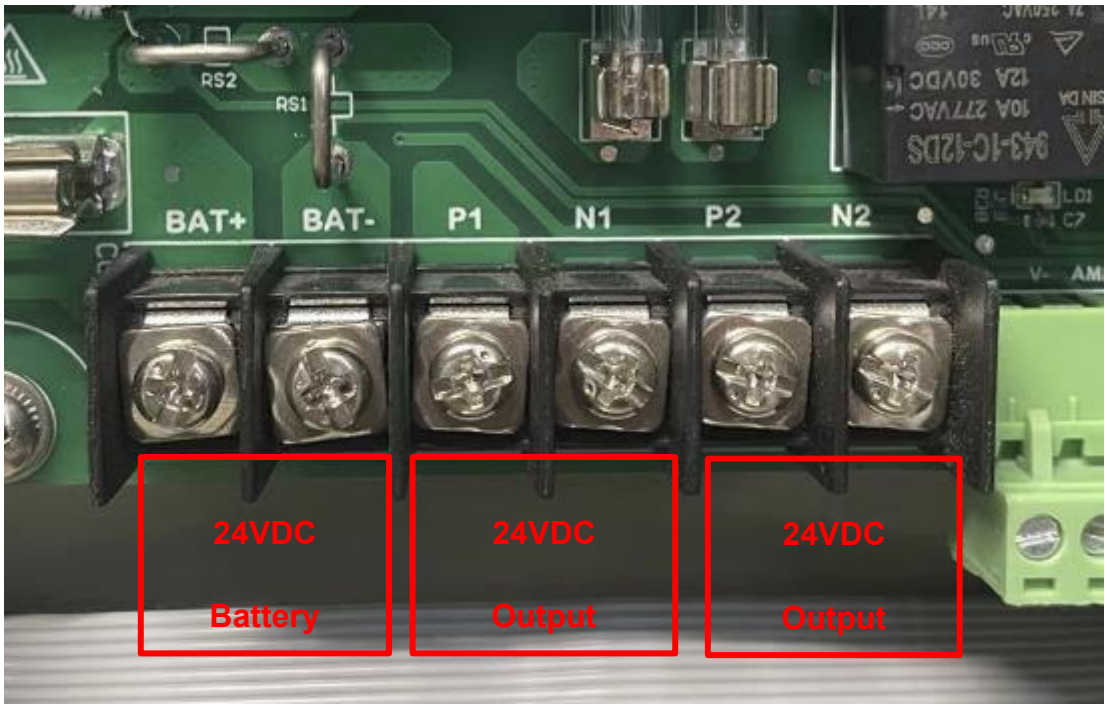
Terminals	Connection	Cable size (sq.mm)
220V_L	Mains line wire	>1.5
220V_N	Mains neutral wire	>1.5
E	Earth wire	>2.5
LS/LT	Loads line wire	>1.5
NS/NT	Loads neutral wire	>1.5
BAT+	Battery positive	>4.0
BAT-	Battery negative	>4.0
P1/P2	DC loads positive	>1.5
N1/N2	DC loads negative	>1.5

Cautions : Ensure power supply at the input MCB and maintenance switch is switched off before making any connections.

Observe correct polarity of battery terminals. Batteries are connected in series (24V system)



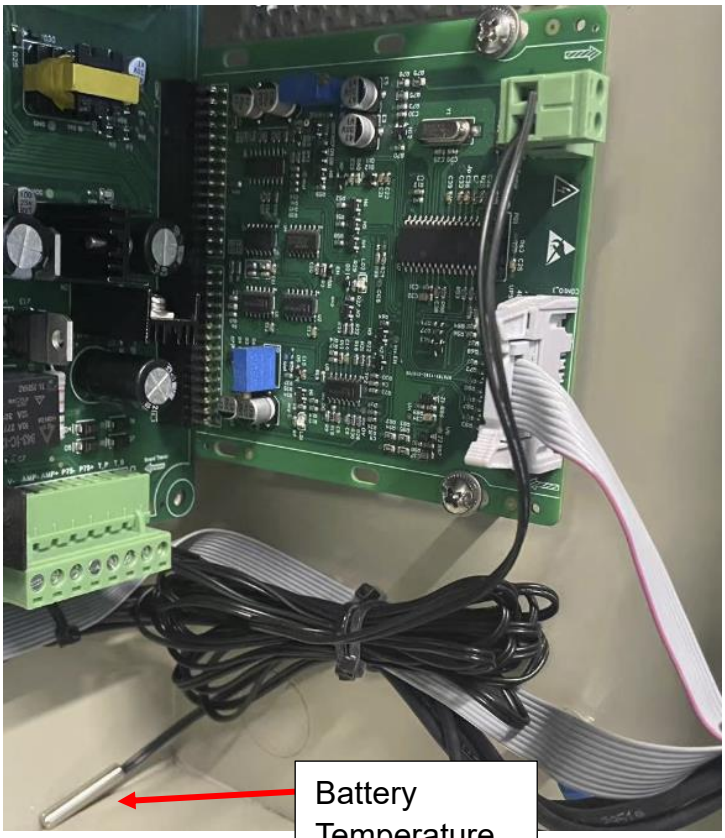
220VAC Input	MAX 120W Load	MAX 120W Load



3) Definitions of Control Port Terminals

Volt+,	to TMS02 card
Volt-	
AMP+	
, AMP-	
P75+,	To elevator control system
P75-	
T_P	NC(Auxiliary power)
T_S	NC(Auxiliary power)
+5V if emergency operating successes	
0V if emergency operating fails	

4) Battery Temperature Sensor



4.1 Purpose

The battery temperature sensor can detect the temperature of the battery casing in real time. If the battery temperature exceeds the maximum threshold during the float charging, the UPS charging voltage will be reduced to compensate for the temperature increase.

4.2 Installation

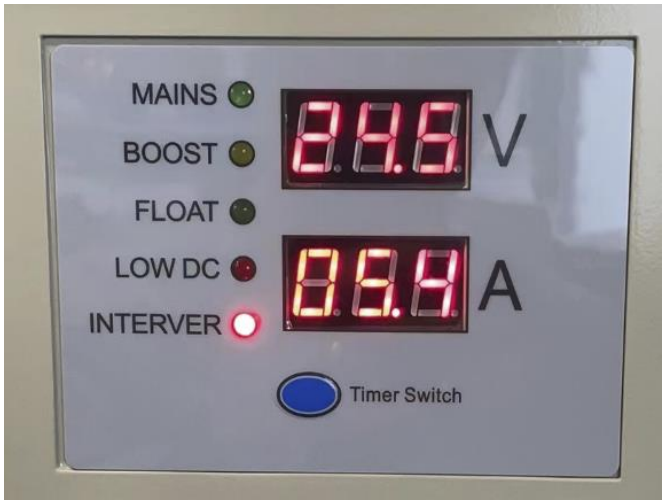
It is necessary to tape the metal probe of the battery temperature sensor onto the side of the battery casing.

4.3 Testing

The metal probe of the battery temperature sensor can be brought close to the heat source. When the sensor temperature increases, float charging voltage should be reduced.

5) Timer Setting

Upon clicking the button Timer Switch, the LED panel will display the voltage and current for 4 hours.

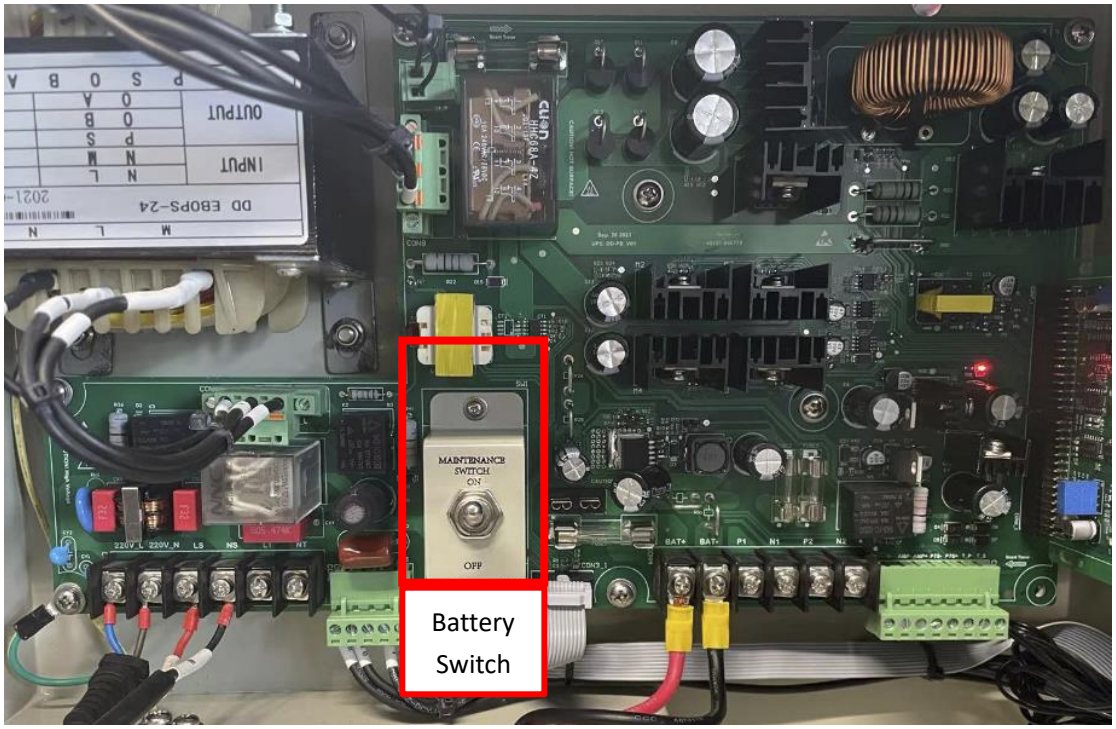


6) Definitions of MCB

The Input MCB is installed on the left side of the door panel and will input 230VAC to the UPS.

The Output MCB is installed on the right side of the door panel and will output 230VAC to the load.

The battery switch (maintenance switch) is used to isolate the AC supply from the rectifier and also to cut off the DC supply to the inverter during maintenance. This battery switch must be turned off when the battery is replacing. Likewise it is also recommended to turn off all UPS circuit breakers.



7) Use environment

Item	Range
Operating temperature	-10℃~60℃
Ambient humidity	20%~90% (non-condensing)
Storage temperature	-25℃~55℃

8) Start up with AC present

Procedures for start up :

1、Switch on the AC supply at the AC distribution panel

2、Switch on the Battery Switch and the following can be observed :

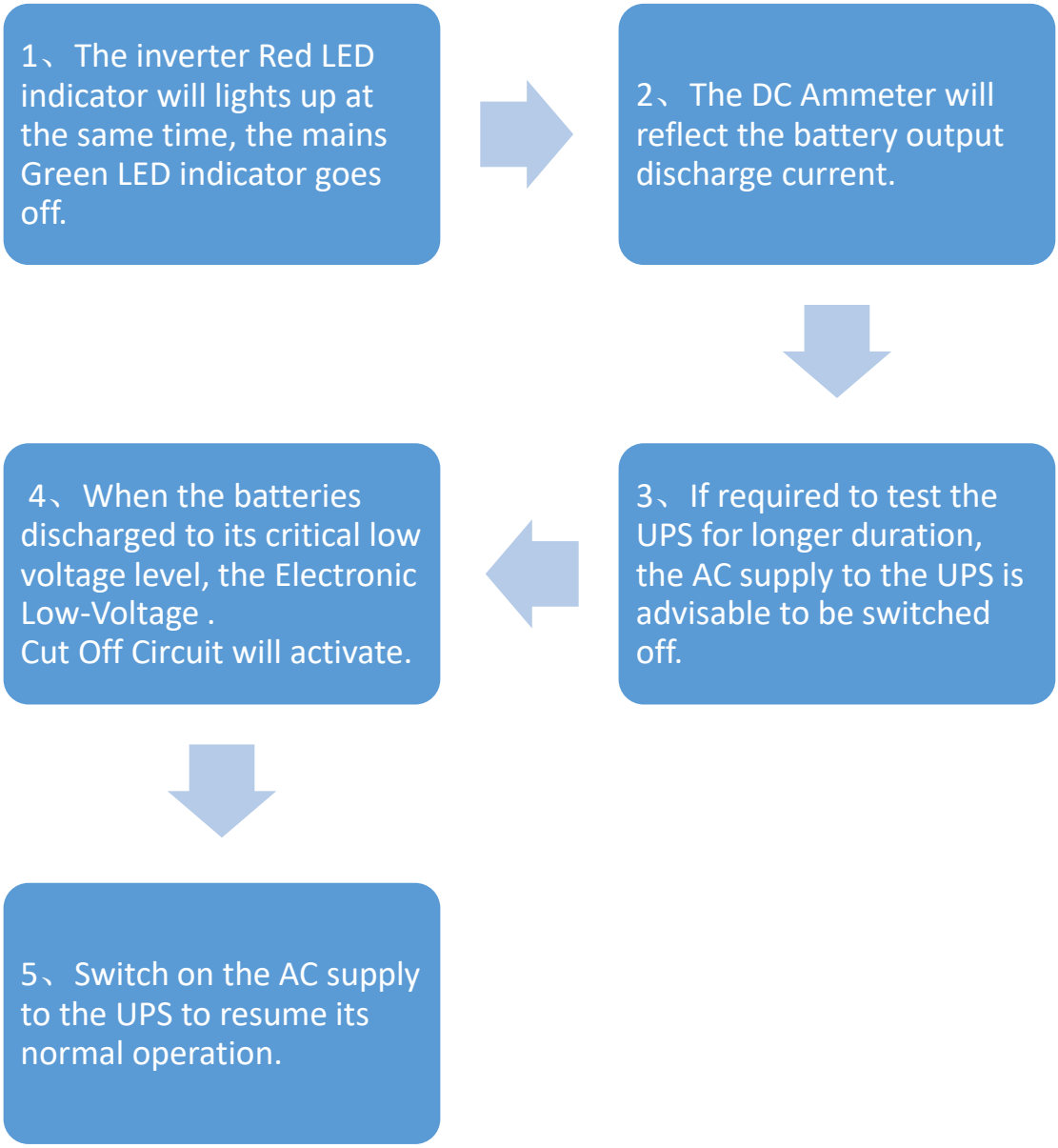
a) The DC Voltmeter will indicate the battery terminal voltage.
b) The "MAINS ON" LED indicator on the panel lights up.
c) The DC Ammeter will reflect to the battery charge current.

3、Switch the "OUTPUT ON / OFF" MCB on the panel to the position "ON".

4、To ensure the UPS to operate as per specification, the batteries must be charged for not less than 24 hours.

9) Simulation of mains failure

Simulation of mains failure by Switch off input MCB



9) Battery Installation and Wiring

9.1 Ensure the INPUT MCB and OUTPUT MCB on the UPS door panel and the MAINTENANCE SWITCH on the PCB card must be at off position .

9.2 The positive and negative wires of the battery are installed on the BATT+ and BATT- of the PCB card respectively.

9.3 Connect the battery cables one by one and confirm the positive and negative polarity of the battery. (Figure 1)

9.4 Arrange the battery cable and push the battery into the cabinet battery compartment.(Figure 2)

9.5 Battery installation and wiring completed.

Note: Before turning on OUTPUT MCB, must ensure the AC load is not short circuited or overloaded (more than 120W)

Figure 1

Figure 2