

USER MANUAL

Central Battery Systems | CCU 12V And CCU 24V Series



Figure **D**

Features

Central Battery Systems by CCU 12V And CCU 24V Series or the central control unit is used to detect any abnormalities of the main power distribution system. In case of error or emergency, the unit is designed to allow the emergency lighting system to bear large loads or larger loads than that the automatic emergency light (complete unit) can. The 12 VDC or 24 VDC unit is compatible with halogen lamp or MR16 LED lamp. The unit installation and usage are centrally controlled so that it supplies power to the lamp installed.

Technical Specifications

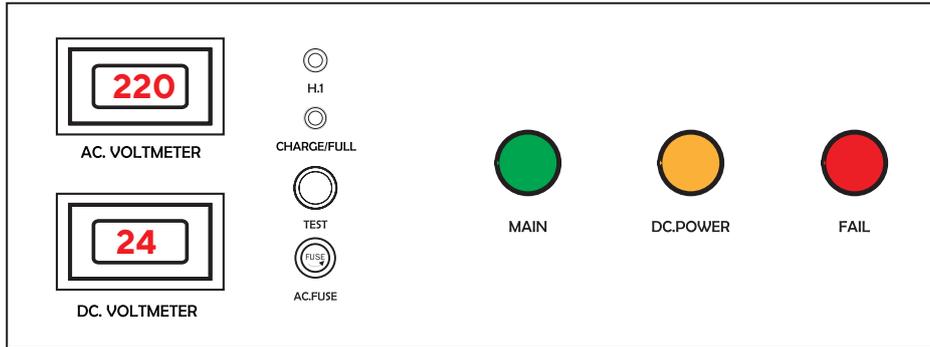
CCU 12V Series

		CCU12V Series					
Rated Capacity		620W	720W	1000W	1100W	1400W	1900W
Input	Voltage	220 Vac \pm 10%					
	Frequency	50Hz					
Output	Voltage	12VDC (Battery Moed)					
Battery		Sealed Lead-Acid Battery					
Battery Rated Voltage		12 V					
Charging Current		0-20A		0-35A		0-50A	
Protections		<ul style="list-style-type: none"> - AC, DC Fuse - AC Under Voltage Protection - Battery Low Voltage Cut-Off 					
Operate Temperature		+10°C To +40°C					
Size LxWxH (mm)		620 x 350 x 750			620 x 400 x 950		

CCU 24V Series

		CCU24V Series								
Rated Capacity		500W	600W	700W	950W	1100W	1200W	1440W	1900W	2200W
Input	Voltage	220 Vac \pm 10%								
	Frequency	50Hz								
Output	Voltage	24VDC (Battery Moed)								
Battery		Sealed Lead-Acid Battery								
Battery Rated Voltage		24 V								
Charging Current		0-15A			0-25A			0-35A		
Protections		<ul style="list-style-type: none"> - AC. Fuse - AC, DC Circuit Breaker - Output Circuit Breaker - AC. Input Over & Under Voltage Protection - Battery Low Voltage Cut-Off 								
Operate Of Temperature		+10°C To +40°C								
Size LxWxH (mm)		620 x 300 x 950				620 x 400 x 950				

Indicators

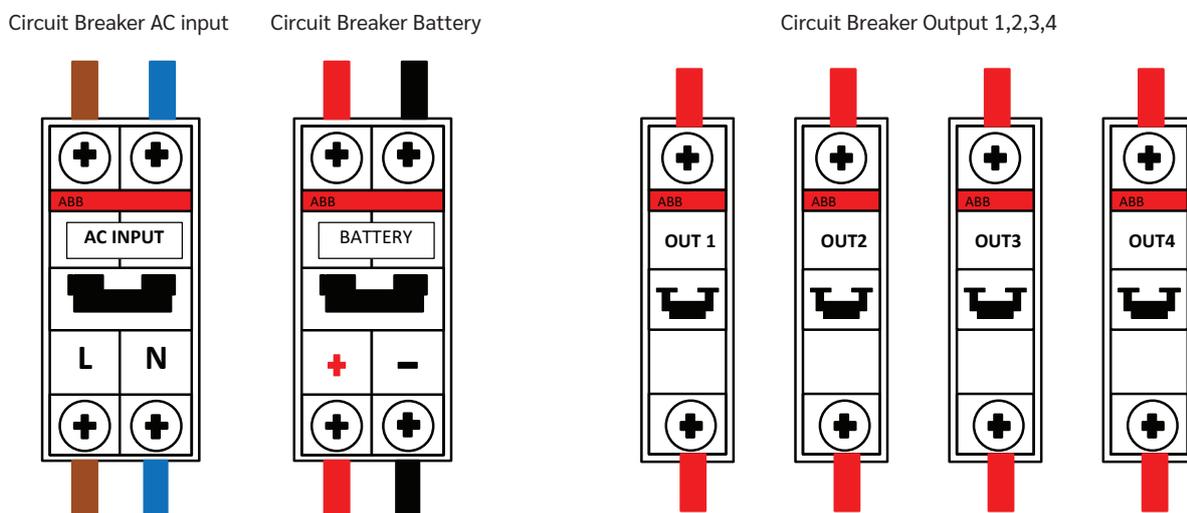


- AC. VOLTMETER ▶ Indicating the input voltage.
- DC. VOLTMETER ▶ Indicating the battery voltage.
- LED H1 ▶ Indicating the status of the input under voltage or over voltage.
- LED Charge/Full ▶ Indicating charging status.
- SWITCH TEST ▶ For testing the device's availability (during normal circumstance)
- AC. FUSE ▶ Short-circuit protection of AC input.
- LED MAIN ▶ Indicating the status of the input voltage of 220VAC.
- LED DC.POWER ▶ Indicating the status of the output voltage.
- LED FAIL ▶ Indicating the failure status of the control unit.

Installation and Operation

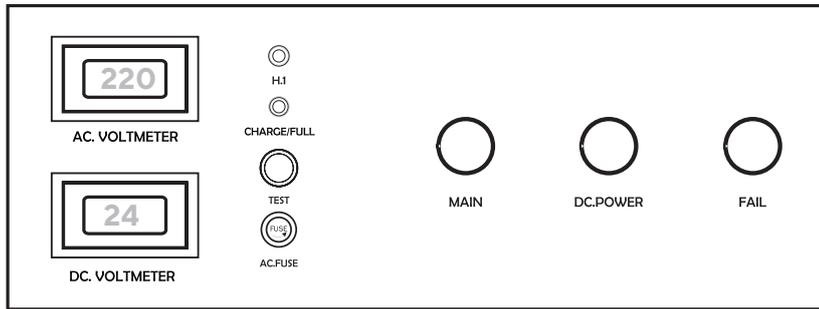
1. The inverter must be installed on the floor. Check the installation to make sure the unit is properly secured to prevent possible accidents.
2. The inverter should be installed indoors away from direct sunlight and rain or moisture.
3. Position to connect Circuit Breaker Battery, Circuit Breaker Ac input, and Circuit Breaker Output 1,2,3,4

Illustration for number 3



4. Shut off every Circuit Breaker for preparing to connect AC Input, Load Output and Battery.

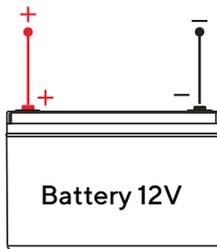
Figure showing the indications at the front of the unit



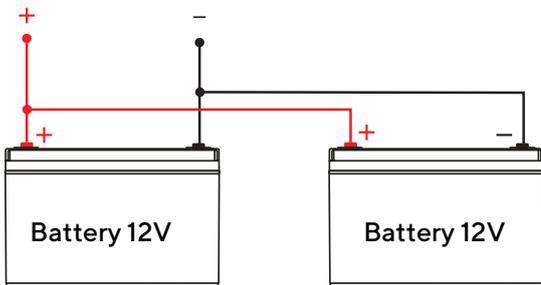
5. Connect the cables securely to the battery terminals to prevent damage (for models that does not come with the battery preconnected). Connect the cables as shown in the wiring diagram for the battery for model CCU12 VDC and CCU24 VDC. Connect the positive (+) and negative (-) cables correctly.

Diagram showing how to correctly connect the battery

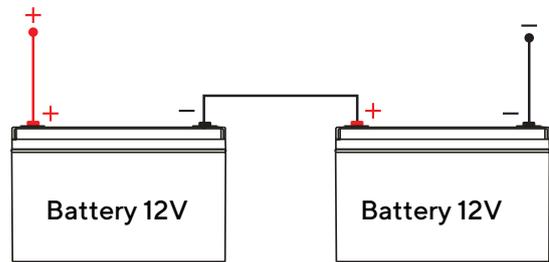
Connecting a 12 Volt battery.



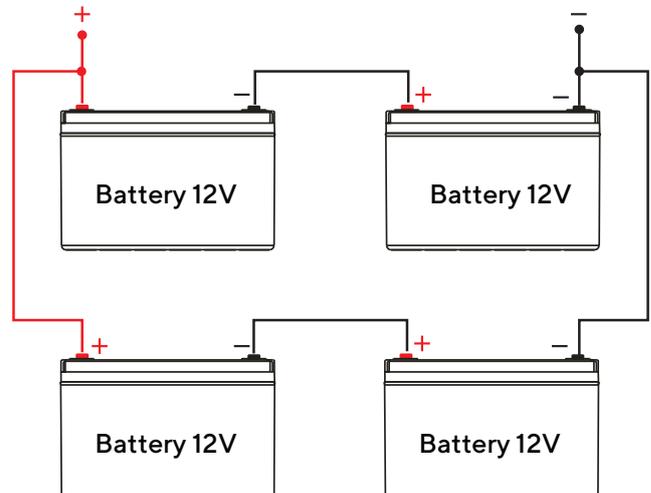
Connection for increasing the capacity of a 12 Volt battery.



Connecting a 24 Volt battery.



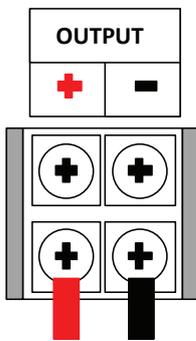
Connection for increasing the capacity of a 24 Volt battery.



6. Connect the load to the terminal output of the central battery system. Check the short circuit of the load and the total wattage of each CCU 12V and CCU24V for how many outputs are there, then the output should be properly connected with the Load Output inside the cabinet at the power connector of the output of CCU 12 and CCU24 by connecting the wires must be corrected by connecting the red positive light to the positive (+) at the positive electrode (+) and the black positive light to the negative (-) at the negative electrode (-). Connecting the output wires, each model may have more than 1 point, at most 4 output points, each output current should not be more than 50 Amp for general products and check the internal order that the wiring point fasten firmly, is not lose or has scraps, must not be in the cabinet, may cause a short circuit.

Diagram showing how to connect the load to the Output terminal

Method 1, connection for 1 Output.



Method 2, connection for 2 Output.

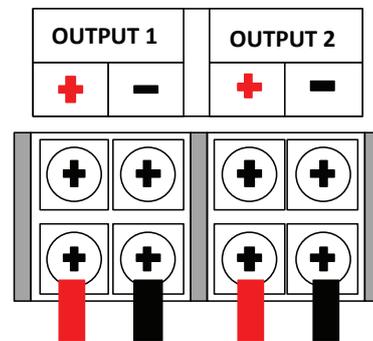
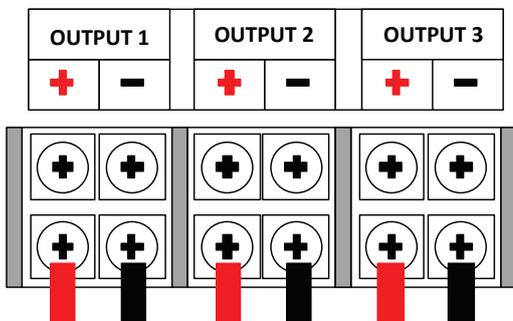
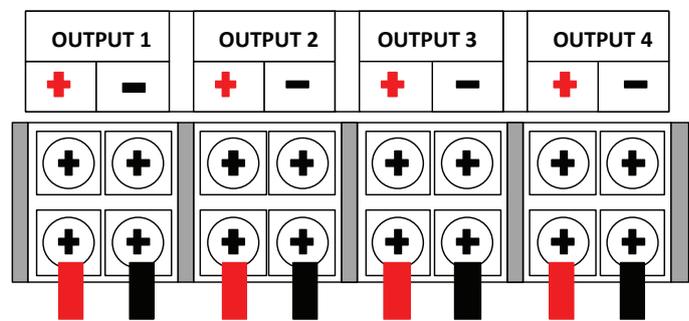


Diagram showing how to connect the load to the Output terminal

Method 3, connection for 3 Output.

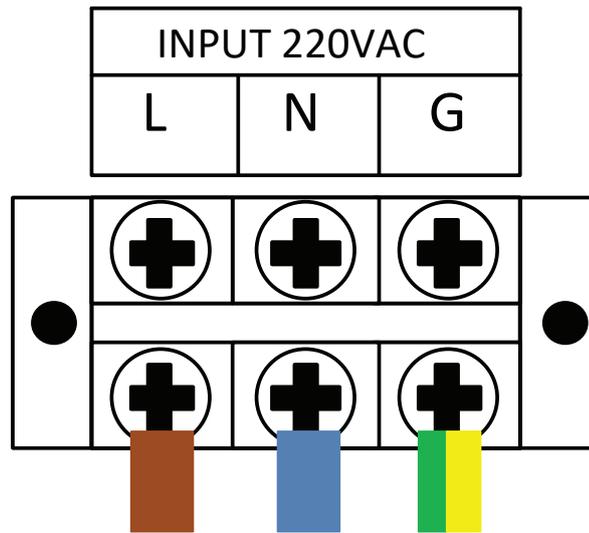


Method 4, connection for 4 Output.



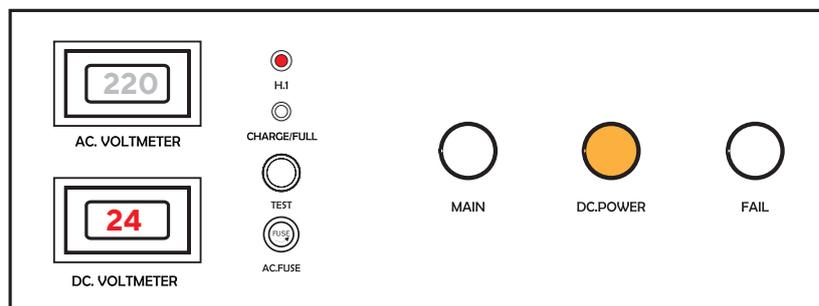
7. Connect the AC.Input cable to the Input 220 VAC terminal inside the unit. The Line cable should be connected to the L terminal, Neutral cable to the N terminal and Ground cable to the G terminal. All cable connections should be secured and no foreign objects should be in the unit that could cause a short-circuit.

Diagram showing how to connect the AC.Input cable to the terminal



8. Test the battery power input into the unit by setting the DC Circuit Breaker to ON, the indicators on the unit should show the following.

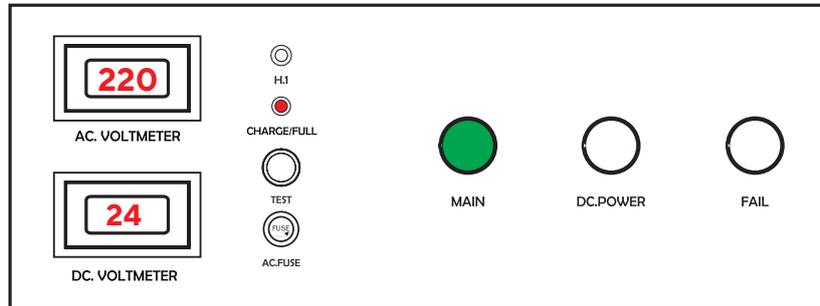
Figure showing the indications at the front of the unit



- AC. VOLTMETER ▶ The indicator is not showing.
- DC. VOLTMETER ▶ Indicating the battery voltage.
- LED H1 ▶ The indicator showing that the unit is using the power from battery should be on.
- LED Charge/Full ▶ The indicator is not showing.
- LED MAIN ▶ The indicator is not showing.
- LED DC.POWER ▶ The indicator showing that the unit is using the power from battery should be on.
- LED FAIL ▶ The indicator is not showing.

9. Provide the unit with a 220VAC current by setting the AC Input Circuit Breaker to ON, the indicators on the unit should show the following.

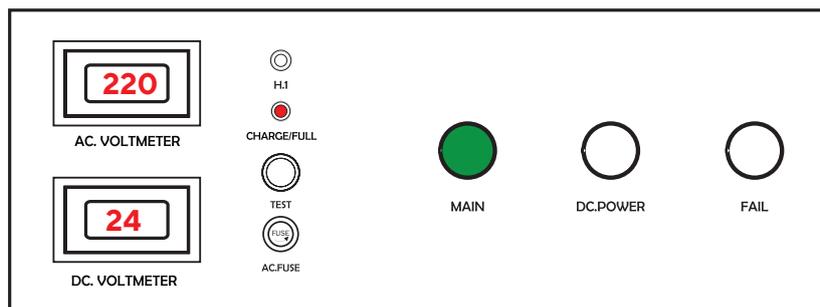
Figure showing the indications at the front of the unit



- AC. VOLTMETER** ▶ Shows the current level at the Input to be about 220VAC.
- DC. VOLTMETER** ▶ Indicating the battery voltage.
- LED H1** ▶ The indicator is not showing.
- LED Charge/Full** ▶ The indicator showing that the battery is charging should be on.
- LED MAIN** ▶ The indicator showing that the unit is receiving a 220VAC current should be on.
- LED DC.POWER** ▶ The indicator is not showing.
- LED FAIL** ▶ The indicator is not showing.

10. Setting the AC Input Circuit Breaker to ON.

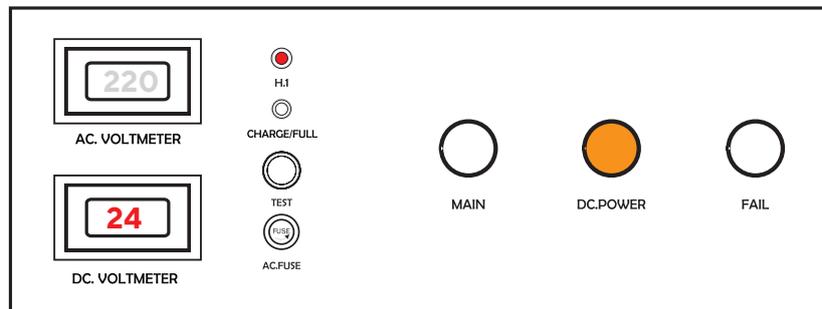
Figure showing the indications at the front of the unit



- AC. VOLTMETER** ▶ Shows the current level at the Input to be about 220VAC.
- DC. VOLTMETER** ▶ Indicating the battery voltage.
- LED H1** ▶ The indicator is not showing.
- LED Charge/Full** ▶ The indicator showing that the battery is charging should be on.
- LED MAIN** ▶ The indicator showing that the unit is receiving a 220VAC current should be on.
- LED DC.POWER** ▶ The indicator is not showing.
- LED FAIL** ▶ The indicator is not showing.

11. Set the AC Input Circuit Breaker to Off to simulate the power outage status. The unit will display the status as follows.

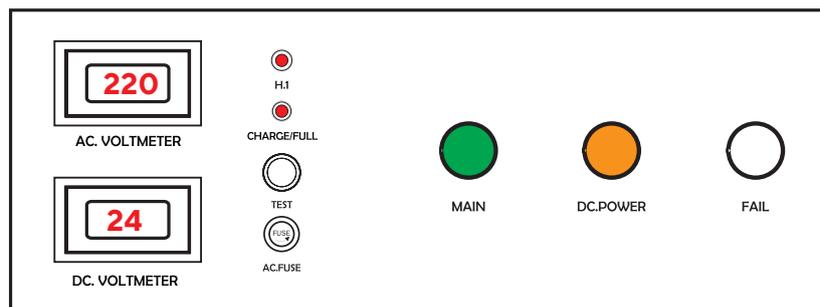
Figure showing the indications at the front of the unit



- AC. VOLTMETER** ▶ The indicator is not showing.
- DC. VOLTMETER** ▶ Indicating the battery voltage.
- LED H1** ▶ The indicator showing that the unit is using the power from battery should be on.
- LED Charge/Full** ▶ The indicator is not showing.
- LED MAIN** ▶ The indicator is not showing.
- LED DC.POWER** ▶ The indicator showing that the unit is using the power from battery should be on.
- LED FAIL** ▶ The indicator is not showing.

12. Set the AC Input circuit breaker to On to test the unit by pressing the TEST switch.

Figure showing the indications at the front of the unit



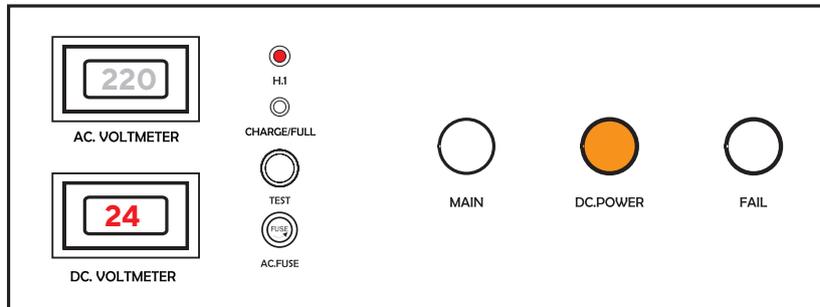
- AC. VOLTMETER** ▶ Shows the current level at the Input to be about 220VAC.
- DC. VOLTMETER** ▶ Indicating the battery voltage.
- LED H1** ▶ The indicator showing that the unit is using the power from battery should be on.
- LED Charge/Full** ▶ The indicator is not showing.
- LED MAIN** ▶ The indicator showing that the unit is receiving a 220VAC current should be on.
- LED DC.POWER** ▶ The indicator showing that the unit is using the power from battery should be on.
- LED FAIL** ▶ The indicator is not showing.

Note : While pressing the TEST switch, AC. VOLTMETER and LED MAIN light will turn off for 5 seconds.

Malfunction indicator of AC Input (LED H.1)

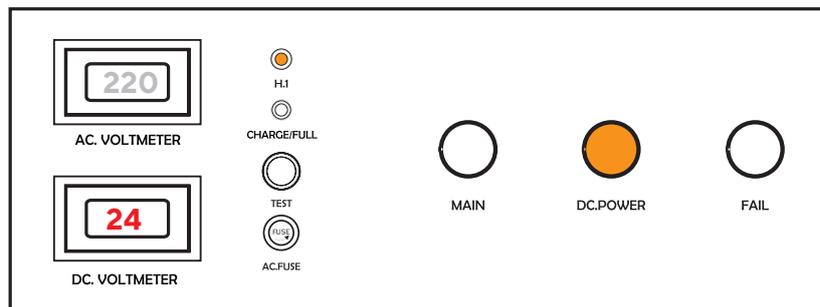
1. Under Volt is AC INPUT status, power supply of 0-160VAC. The LED H.1 will turn on to indicate with red light.

Figure showing the indications at the front of the unit



2. Over Volt is AC Input status, power supply over 270VAC. The LED H.1 will turn on to indicate with orange light.

Figure showing the indications at the front of the unit



Testing the unit's operation

1. To test the operation of the unit, user can switch the AC Input circuit breaker to "OFF" position, the unit will immediately supply voltage to emergency light.
2. To stop testing the operation of the unit, user can switch the AC Input circuit breaker to "ON" position, the unit will turn off and return to ready mode.

Maintenance

1. Every 1 month, to test the Backup power supply system, user can switch the AC input circuit breaker to "OFF" position for 30 minutes, then switch the AC input circuit breaker back to "ON" position.
2. Every 6 months, to test the Backup power supply system, user can switch the AC input circuit breaker to "OFF" position for 60 minutes, then switch the AC input circuit breaker back to "ON" position.

Initial Trouble Shooting

Cause	Problem	What to do
- 220 VAC light not getting to the unit.	<ul style="list-style-type: none"> - The power socket might not have any power. - Circuit Breaker Main is turn off or in the OFF position. - Fuse AC. Input is in unavailable condition. 	<ul style="list-style-type: none"> - Check to make sure that the power socket of the home or building is providing a 220 VAC current. - Check to make sure that the Circuit Breaker Main is in the ON position. - Contact customer service.
- The Backup power supply of the unit has failed .	<ul style="list-style-type: none"> - Circuit Breaker Battery is turn off or in the OFF position. - Circuit Breaker Output Battery is turn off or in the OFF position. 	<ul style="list-style-type: none"> - Check to make sure that the Circuit Breaker Battery is in the ON position. - Check to make sure that the Circuit Breaker Output is in the ON position.
- Emergency light only turns on for a short time after the power went out.	<ul style="list-style-type: none"> - The battery is not fully charged. - The battery has degraded. 	<ul style="list-style-type: none"> - Fully charge the battery. - Contact customer service to replace the battery.
- The unit shows failure status.	- Circuit Breaker Output Battery is turn off or in the OFF position.	- Check the load connection.

Important Note on Using the Unit

1. Please read the manual carefully before installation and operation.
2. Installation area should be good ventilation.
3. Do not connect the battery in reverse polarity.
4. Check the power load before installing the unit.
5. Do not use with the power load when it is in an unstable condition.
6. The power load must be an emergency light only. Do not use with the other power load that is not approved by the manufacturer.
7. The unit should be stored in temperatures under 25 Degree Celsius and the battery should be charged every 1 month to maintain its operational life.

Terms for Warranty and Service

1. The product will only be under warranty if the customer fills in the “warranty card” and return the “return part” to the company within 7 days of purchasing the product. If this is not done within the specified time, then the warranty will be considered void.
2. The warranty only covers the unit’s internal parts for the duration specified by the company counting from the date of purchase.
3. Please show the warranty card every time when contacting our service department or the dealer you purchased the unit from.
4. The warranty will be considered void in the following cases.
 - The unit has been used outside of its intended use specified in the manual.
 - The unit has been used with equipment that does not meet the specifications specified within the manual.
 - The unit has been damaged from impact, for example parts are dented, scratched missing or distorted.
 - The unit has been modified or repaired by people not officially certified by our company.
 - The Sticker Warranty Void has been removed or torn.
 - The unit is damaged from negligence or incompetent use, for example, the battery is swollen, the battery has been overcharged, the battery has been damaged from quick charging, the battery has been short-circuited, the battery’s charge has been completely drained.
 - The unit has been stored improperly, for example, it was exposed to moisture causing rust and damage to the internal circuitry.
 - Damage was caused by a malfunction in the AC power supply.
 - Damage from natural disaster such as fire, moisture, submersion in liquids, chemical damage or from unavoidable circumstances.
 - Damage from animals or insects.

Note : Please read the manual carefully before installation and operation to understand how to properly operate the unit.

For any further questions about your product
please feel free to contact SUNNY’s customer
service department.
Tel. (+66) 02-948-4450-2
E-mail: service@sunnyemergencylight.com

IsOn Import-Export Co., Ltd.

2915-2917 Ladprao Road, Klongjan,
Bangkapi, Bangkok 10240



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