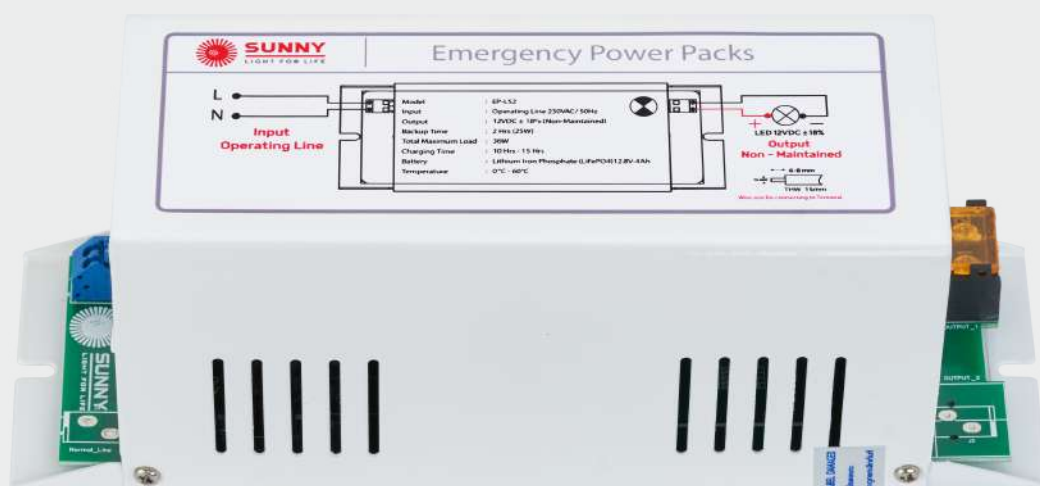


# USER MANUAL For Emergency Power Packs



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# Part 1

## Overview Emergency Power Packs

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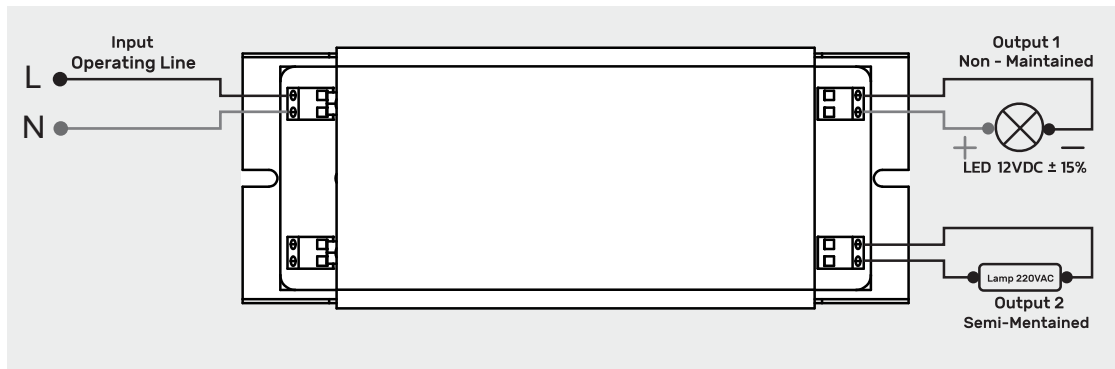
## 1.1 Features

The Emergency Power Packs is a compact backup power system designed for concealed installation under the ceiling. It is compatible with recessed or suspended light fixtures and has a key feature of supporting both 12VDC and 220VAC loads for AC bulbs. It allows switching control for on-off positions as needed (for EP-HS Series) and supports a single-channel 12VDC bulb load (for EP-LS Series). Additionally, it features a new innovative 3 Steps Charger system (Patent No. 15955) to help extend battery life.

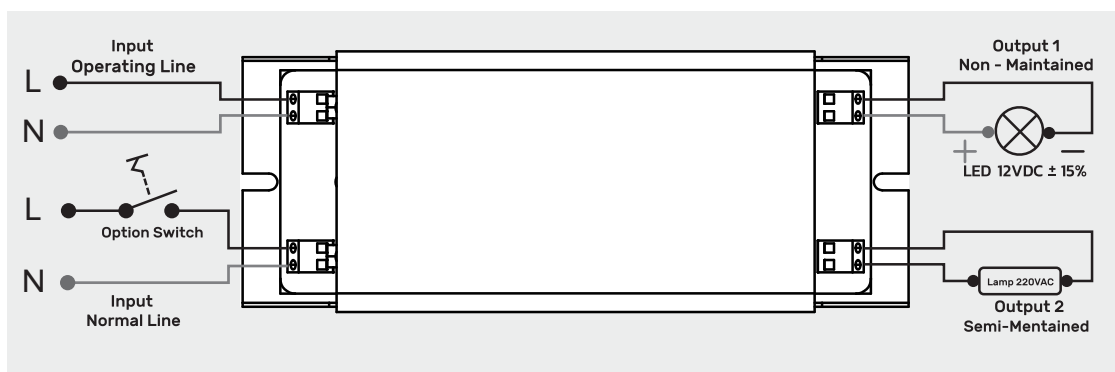
Emergency Power Packs has 3 function modes of operation.

1. NON-MAINTAINED (Providing emergency lighting only when the AC line lights are off.)
2. SEMI-MAINTAINED (Controlled by switch, lights automatically on when power is off)
3. MAINTAINED (Providing lighting constantly throughout the period when the AC line lights are in the normal status and when the AC Line lights are off.)

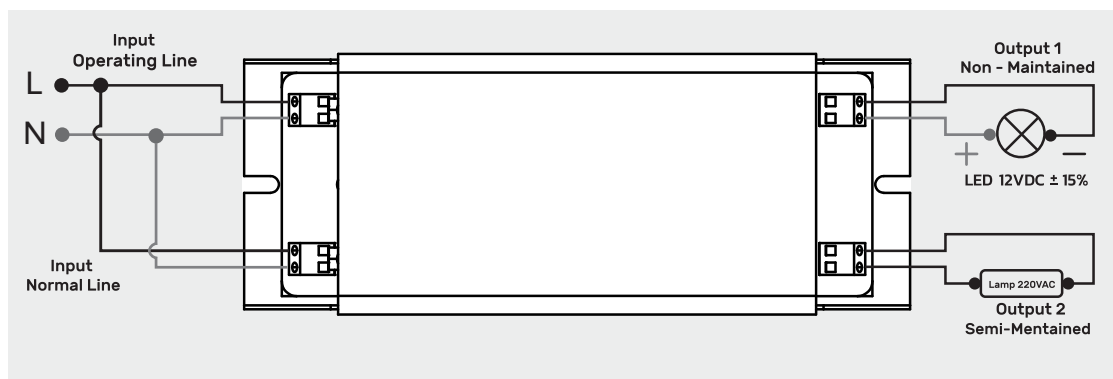
**NON-MAINTAINED (Providing emergency lighting only when the AC line lights are off.)**



**Semi-Maintained (Controlled by switch, lights automatically on when power is off)**



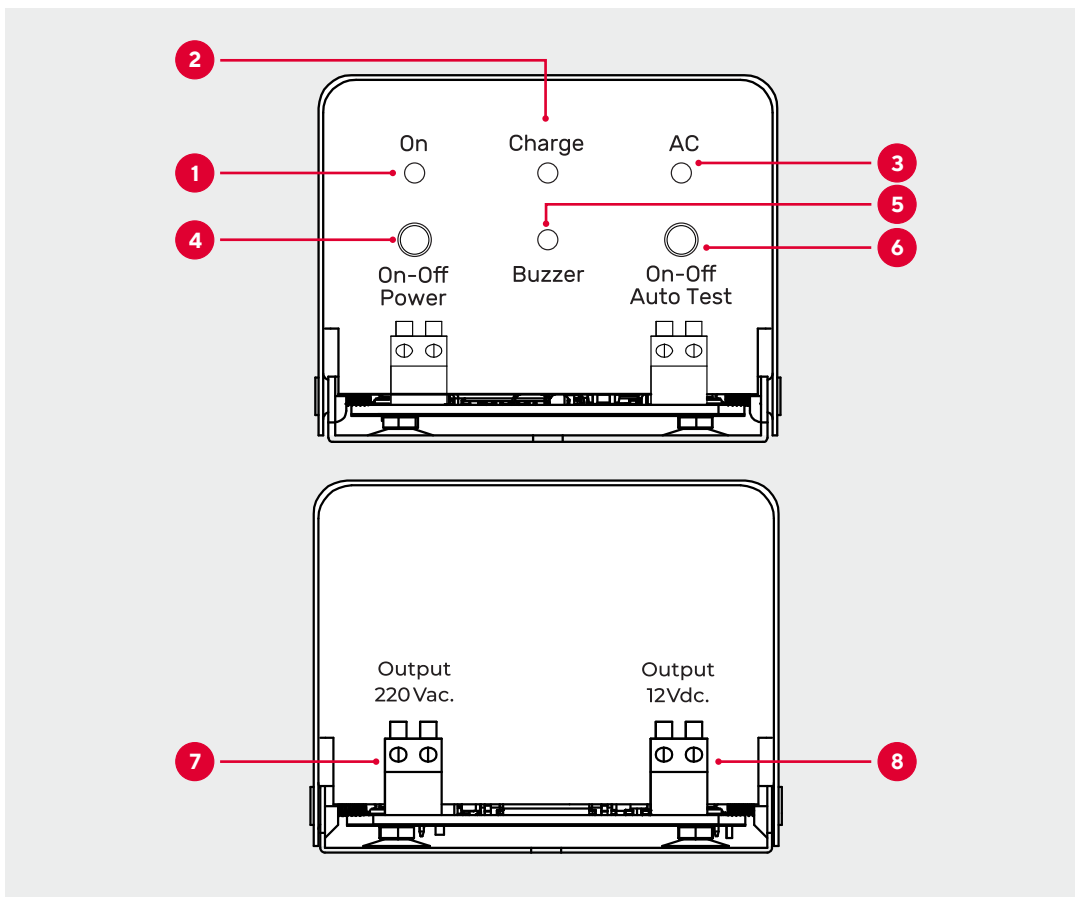
**MAINTAINED** (Providing lighting constantly throughout the period when the AC line lights are in the normal status and when the AC Line lights are off.)



## 1.2 Technical Specifications

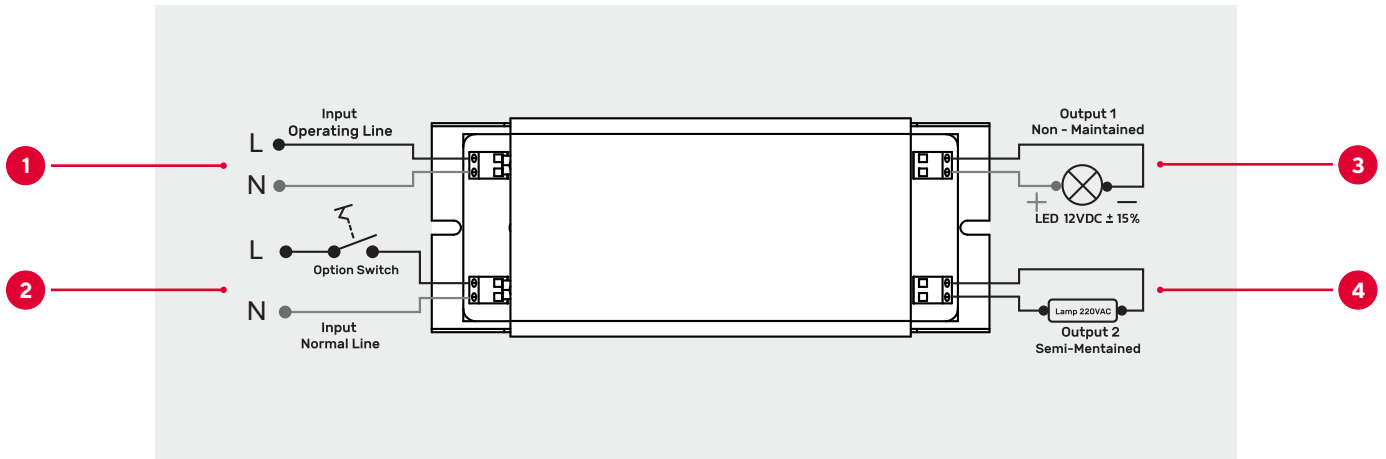
Model	EP-LS Series	EP-HS Series
Mode Of Operation	Non - Maintained	Non - Maintained / Semi- Maintained / Maintained
Operation Temperature	0 - 40°C	
Input Voltage	- Operating Line 220-240VAC / 50Hz	- Operating Line 220-240VAC / 50Hz - Normal Line 220-240VAC / 50Hz
Battery Type / Capacity	Lithium Iron Phosphate (LiFePO4) 12.8V - 4Ah	
Protection Features	- AC, DC Fuse - Surge Protection	
Testing System	Auto Test	
Output Voltage	- Output 1 Load 12VDC ± 18% (Non - Maintained)	- Output 1 Load 12VDC ± 15% (Non - Maintained) - Output 2 Load 220VAC (Semi - Maintained)
Backup Time	- >2.0hrs. @ Maximum Load 25W 12V	- >2.0hrs. @ Maximum Load 25W 12V - >2.0hrs. @ Maximum Load 20W 220VAC
Total Maximum Load	36W	
Charging Period	10 - 15 Hrs.	
Housing	Electro-galvanized steel sheet 1mm. thick with epoxy powder coating	
Dimensions (LxWxH)	220 x 70 x 73mm.	
Weight (Kg)	1.29	1.30
Degree of Protection	IP20	
Mounting	Ceiling Concealed	

## 1.3 Indicators



No.	Symbol	Description
1	LED On	Indicate that the unit is operational
2	LED Charge	Indicate that the battery is being charged
3	LED AC	Indicate that the unit is receiving a power supply
4	Switch On-Off Power	Used to turn the unit on or off
5	Buzzer	Sound Indicator
6	Switch On-Off Auto Test	Used to turn the auto-test on or off
7	Output 220VAC	Terminal Output 220VAC
8	Output 12VDC	Terminal Output 12VDC

## 1.4 Electrical Connector



No.	Symbol	Description
1	Input Operating Line	Power connection point to the device, electrical voltage of 220-240VAC.
2	Input Normal Line	Power connection point to the device, electrical voltage of 220-240VAC controlled through a switch.
3	Output Non-Maintained	Load connection point, electrical voltage of 12VDC.
4	Output Semi-Maintained	Load connection point, electrical voltage of 220-240VAC controlled through a switch.

## Part 2

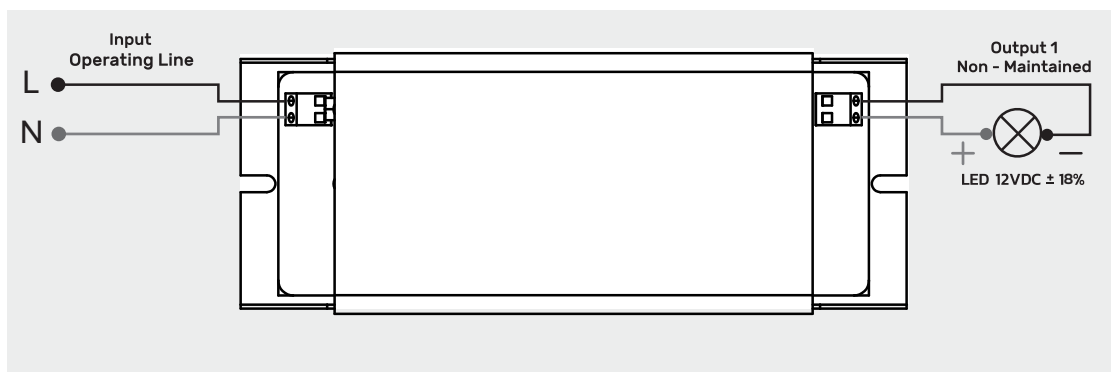
# Connection and Usage

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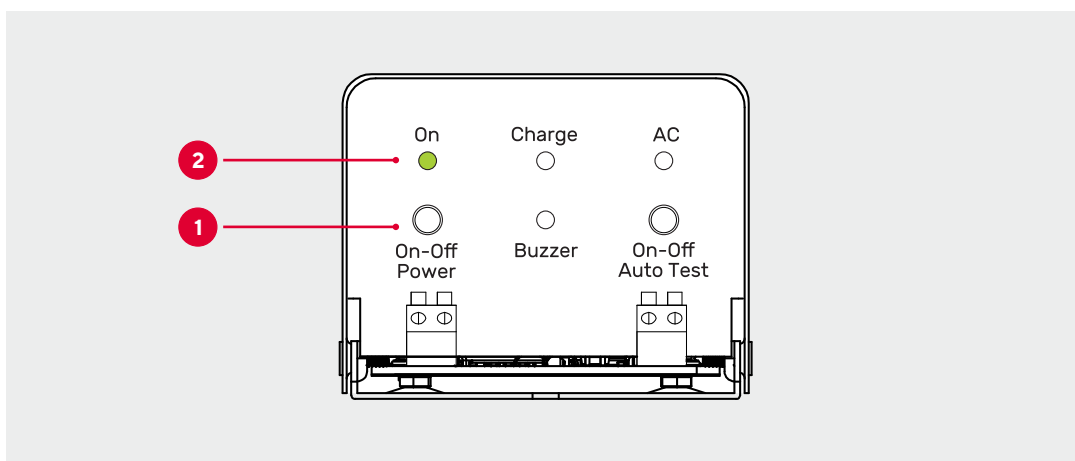
## 2.1 Connection and Usage for EP-LS Series

The Emergency Power Pack EP-LS Series operates in a Non-Maintained mode, providing power to the emergency light bulb only during a power outage.



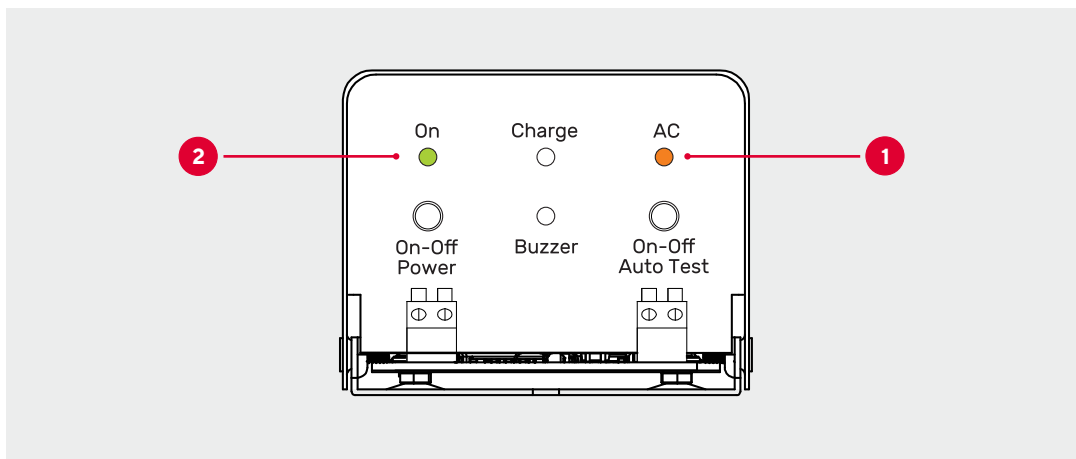
### Steps

- 1.) Connect the INPUT power cable to the main power of the system, and connect the light bulb (ensure to cut off electrical current before connecting to prevent electrical shock).
- 2.) Press the "On-Off Power" switch **1** on the device, LED bulb 'On' **2** will flash green once, indicating that the device is in a ready-to-use state. Securely install the device to prevent accidents due to falling, ensuring the safety of users and the product itself.

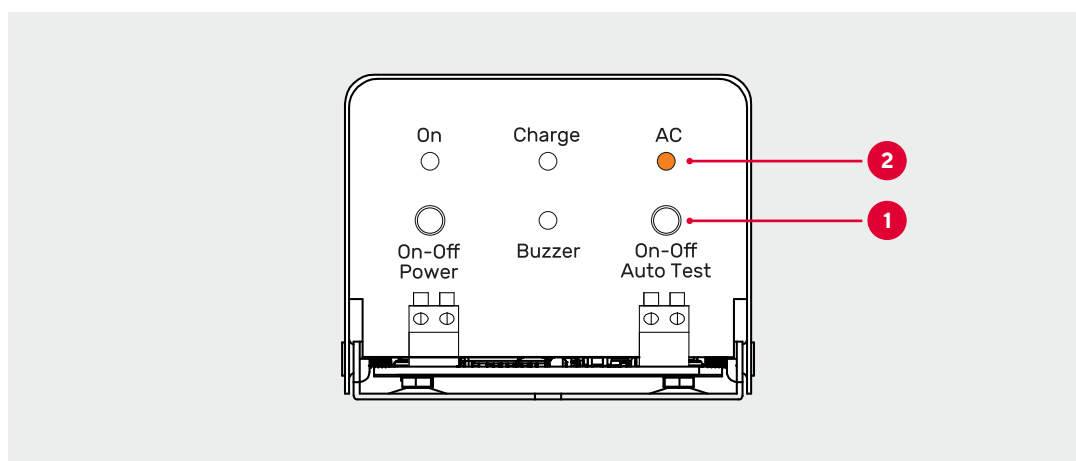


- 3.) Supply electrical voltage of 220-240VAC/50Hz to the device. The device starts operating as it functions with AC Start.

- 4.) Observe the 'AC' LED **1** glowing orange, indicating the presence of voltage to the device, and the 'On' LED **2** glowing green, indicating that the system is ready to operate.



- 5.) Test the operation by cutting off the electrical current on the Input side (Operating Line). The emergency backup power system will automatically activate, and when AC returns to normal, the device will use power from the battery for an additional 3-5 seconds before the emergency backup power system turns off.
- 6.) If you want to activate the Auto Test, press the 'On-Off Auto Test' switch. **1** When the system is turned on, the 'AC' LED **2** will flash, indicating that the device is set to perform the Auto Test every 30 days. The Auto Test duration is 30 minutes.



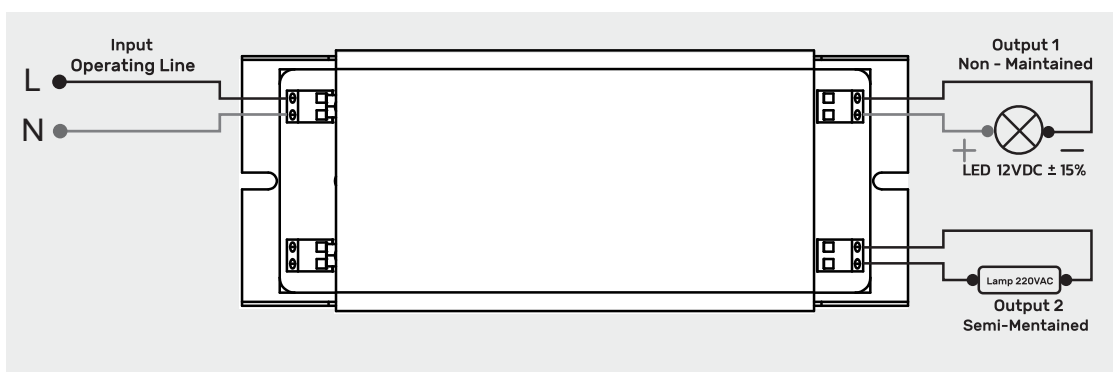
### **Warning**

- 1.) When connecting the power cable to the device, always cut off the electrical current before each connection to prevent electrical shock.
- 2.) Choose an appropriate wire size for the terminal.
- 3.) Do not connect power cables with reversed polarity between Input and Output.
- 4.) If the device is not yet ready for use, do not press the 'On' switch because the device will draw power from the battery. Leaving it untouched for an extended period may lead to the battery running out of charge and not receiving a recharge, potentially causing damage or deterioration to the battery before its intended lifespan.

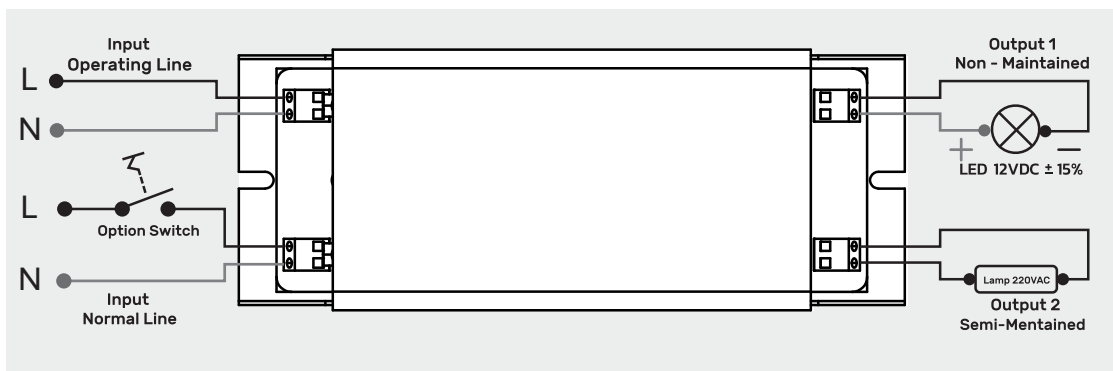
## 2.2 Connection and Usage for EP-HS Series

The Emergency Power Packs EP-HS Series can operate in three modes: Non-Maintained, Semi-Maintained, and Maintained.

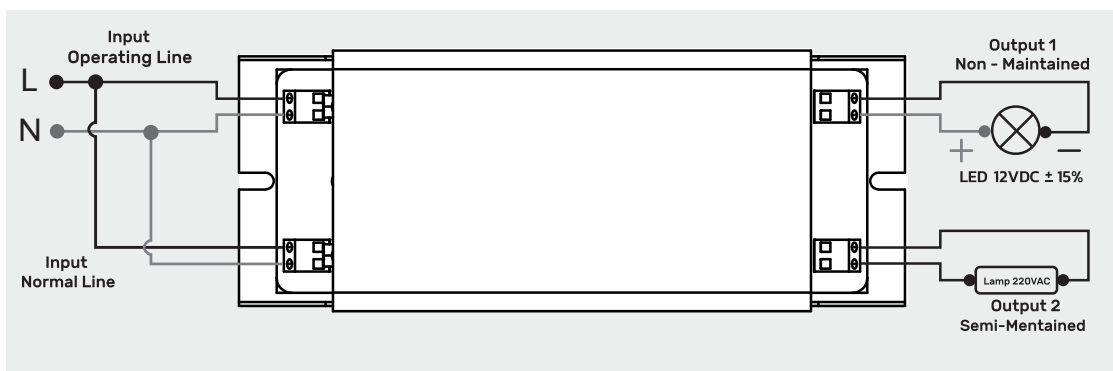
### Operation in Non-Maintained mode



### Operation in Semi-Maintained mode



### Operation in Maintained mode

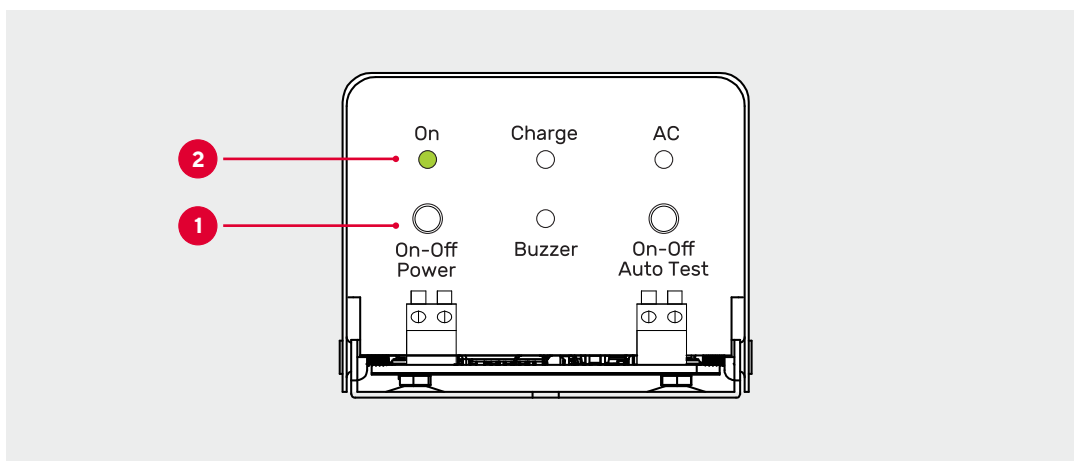


### Initial Steps of Operation

1.) Connect the INPUT power cable to the main power of the system, and connect the light bulb (ensure to cut off electrical current before connecting to prevent electrical shock).

- Input Operation Line directly connected from the main power system of the building.
- Input Normal Line connected through a switch for control via the switch (in the case of Semi-Maintained operation).
- Input Normal Line connected in conjunction with the Operation Line (in the case of Maintained operation).
- Input Normal Line for Main-Maintained operation.
- Output 1 for Non-Maintained operation supports 12VDC light bulb.
- Output 2 for Semi-Maintained operation supports 220VAC light bulb.

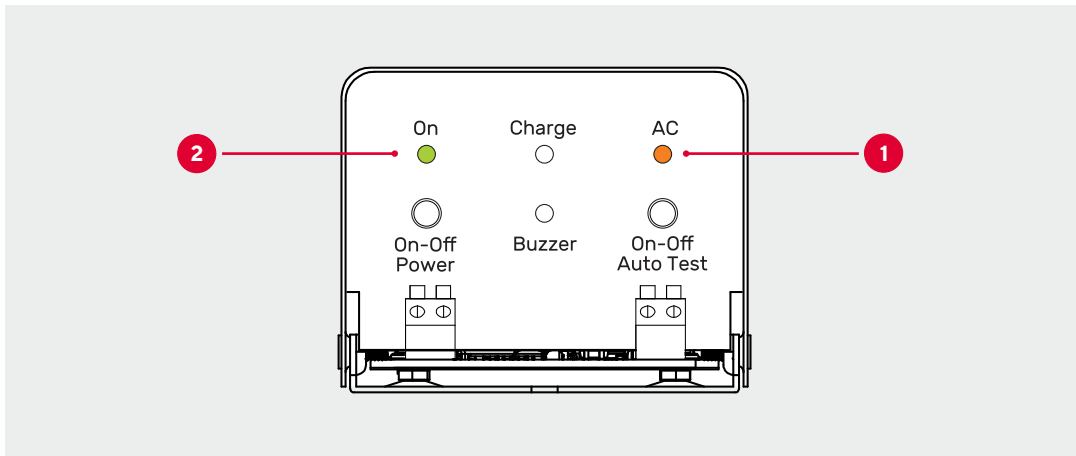
2.) Press the 'On-Off Power' switch **1** on the device; the 'On' LED **2** will flash green once, indicating that the device is ready for use.



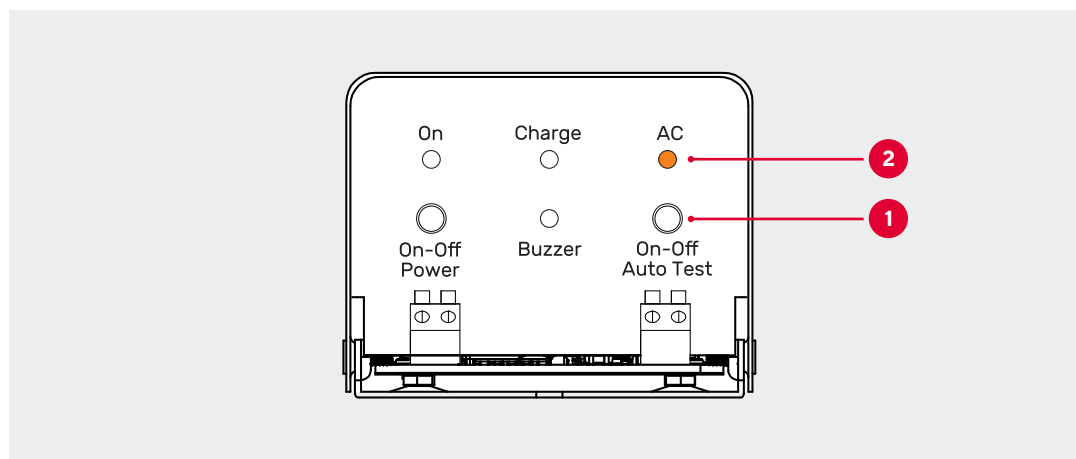
3.) Securely install the device to prevent accidents due to falling, ensuring the safety of users and the product itself.

4.) Supply electrical voltage of 220-240VAC/50Hz to the device. The device starts operating as it functions with AC Start.

- 5.) Observe the 'AC' LED **1** glowing orange, indicating the presence of voltage into the device, and the 'On' LED **2** glowing green, indicating that the system is ready to operate. When the AC power goes out, the emergency backup power system will activate automatically.



- 6.) If you want to activate the Auto Test, press the 'On-Off Auto Test' switch. **1** When the system is turned on, the 'AC' LED **2** will flash, indicating that the device is set to perform the Auto Test every 30 days. The Auto Test duration is 30 minutes.



### Warning

- 1.) When connecting the power cable to the device, always cut off the electrical current before each connection to prevent electrical shock.
- 2.) Choose an appropriate wire size for the terminal.
- 3.) Do not connect power cables with reversed polarity between Input and Output.
- 4.) If the device is not yet ready for use, do not press the 'On' switch because the device will draw power from the battery. Leaving it untouched for an extended period may lead to the battery running out of charge and not receiving a recharge, potentially causing damage or deterioration to the battery before its intended lifespan.

## Part 3

# Maintenance



### 3.1 Device Maintenance

- 1.) The unit has an Automatic testing system, automatically enabling 30 minute test every 30 days. If your unit does not have a self-test system you should manually test the unit once a month for 30 minutes to make sure the unit is fully operational and to help extend the life of the battery.

### 3.2 Initial Trouble Shooting

Cause	Problem	What to do
- Power not getting to the unit after plugging in. The LED AC light does not turn on.	- The power socket might not have any power. - The plug or socket is loose. - The AC fuse is blown.	- Check the 220-240VAC power supply. - Check the plug and socket. - Contact customer service.
- Emergency light does not turn on after the power went out.	- The ON switch was not pressed - The lamp is faulty - The circuit's wiring is loose. - The DC fuse is blown.	- Press the ON switch - Contact customer service. - Check the unit's circuit connections - Contact customer service.
- Emergency light only turns on for a short time after the power went out.	- The battery is not fully charged. - The battery is past its operational lifetime or has deteriorated	- Plug the unit in to charge the battery for about 10 - 15 hours. - Contact customer service to replace the battery

### 3.3 Important Note on Using the Unit

- 1.) The unit should be installed indoors away from direct sunlight and rain or moisture.
- 2.) Always press the "ON" switch every time after installation to turn on the unit.
- 3.) When the unit is not in use always turn it off by pressing the "OFF" switch.
- 4.) The unit should be stored in temperatures under 25 Degree Celsius and the battery should be charged every 3 months to maintain its operational life.
- 5.) Please always read the manual carefully prior to operating the unit for the safest and most effective use of the product.
- 6.) Choose power cables suitable for the terminal input and output.
- 7.) Prohibit connecting loads to the neutral in Output 230VAC; it must be left free to operate.

## Part 4

# Terms for Warranty and Service

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## 4.1 Terms for Warranty and Service

1. The Warranty will only be covered if the customer fills in the “warranty registration form” and mail the return part back to the company within 7 days from the day of purchase. If this is not carried out the warranty will be considered void.
2. The warranty only covers the unit’s internal parts. The conditions and durations for the warranty of each part is as specified and the duration of the warranty is calculated from the date of purchase.
3. Please show your warranty card every time you contact our service center or the dealer you purchased the product from.
4. Products that fall into the following category are considered not covered by the warranty.
  - 4.1 The product was used in a way not specified in the manual.
  - 4.2 The product was used with accessories not meeting the required specifications specified in the manual.
  - 4.3 The product seems to have been damaged from being dropped or from strong impact, for example, the parts are loose, dented, scrapped or misshapen.
  - 4.4 The product has been repaired or modified by personnel not authorized by our company.
  - 4.5 The Warranty Void sticker is torn or removed.
  - 4.6 The product is damaged from careless use or incorrect maintenance, for example, the battery is swollen from overcharging, quick charging was used on the battery, the battery terminals have been short-circuited, the unit was used until the battery was completely discharged and not recharged immediately, the product was stored for long periods until the Battery Checker warning activates and still it is not plugged-in to charge or taking the battery to normal temperature conditions and not recharging it every 1 month.
  - 4.7 The product was stored in an unsuitable environment, for example, a location with moisture or water vapor.
  - 4.8 The product was supplied with a faulty AC power supply such as electrical overvoltage, electrical current surges, or lightning strikes entering the AC power line.
  - 4.9 Damages from natural causes such as fire, being summered in fluids, humidity, chemicals or force majeure.
  - 4.10 Damages from insects or animals.

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

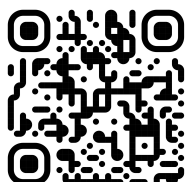
## Contact us

### **ISON IMPORT-EXPORT CO., LTD.**

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

phone 02 378 1034-5

fax 02 370 1672



[www.sunnyemergencylight.com](http://www.sunnyemergencylight.com)