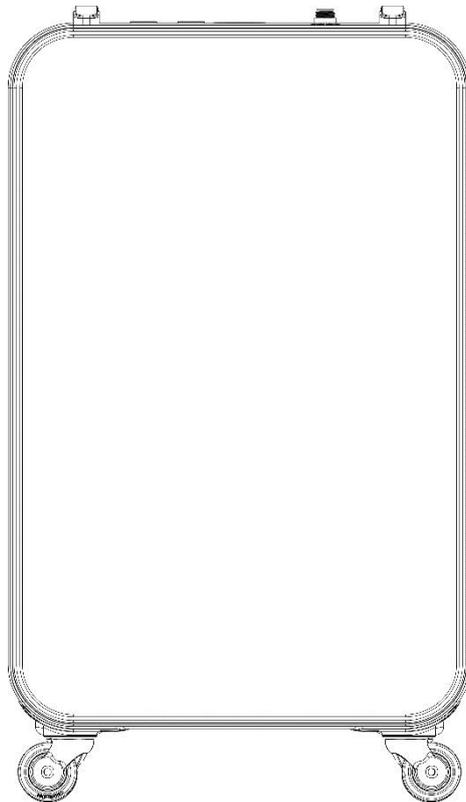




EMERGY 3000

User Manual



Please read this User Manual first before Operating the System.

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1. About this Manual

This User Manual is for use with EMERGY 3000 . User must refer to the User Manual before using to avoid abnormal situations.

1.1 Additional Information

- (1) The information in this document is subject to change without notice.
- (2) Specification of the product can be changed without any notice to customers for the system improvement.
- (3) All rights reserved. Reproduction, adaptation, or translation of this document without prior written permission is prohibited, except as allowed under the copyright laws.

1.2 Symbol Used

Symbols	Meaning	Description
	DANGER	Beware dangerous voltage.
	WARNING	It calls attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, could result in personal injury.
	CAUTION	It calls attention to an operating procedure, or the like, which, if not correctly performed or adhered to, could result in damage to or destruction of part or all of the products.

2. Product Overview

EMERGY 3000 is All-in-One Energy Storage System that integrate Li-Ion Battery System, Battery Management System, AC charger, Photovoltaic (PV) charger, DC to AC inverter, System Control into the compact & portable suitcase.

2.1 Appearance and Functions

Figure 1 illustrates the appearance and key external parts in EMERGY 3000 . The functions of each key parts are highlighted in Table 1.

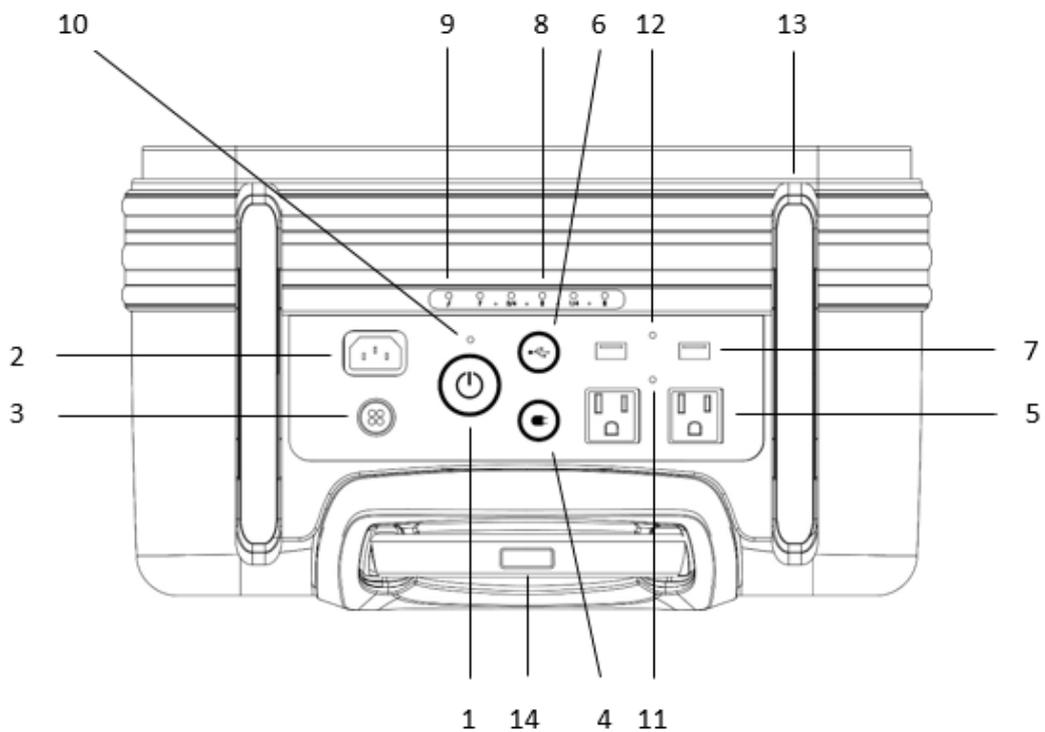


Figure 1. Control Panel

Table 1. Key External Parts and Functions

Item	Name	Function	Notes
1	MSW (MAIN CONTROL SW)	Switch ON/OFF the system	Hard press MSW to toggle system ON/OFF.
2	AC INLET	AC Input connection	(Please see paragraph 3.2.1)
3	PV INLET	AC Input connection	(Please see paragraph 3.2.2)
4	AC OUT SW	Switch ON/OFF AC output	Hard press AC OUT SW to toggle AC output ON/OFF.
5	AC OUT	AC output(s)	AC socket(s) varies with country.
6	DC OUT SW	Switch ON/OFF DC output	Hard press DC OUT SW to toggle DC output ON/OFF.
7	5V USB OUT	USB Power Sources	Total current rated at 2A .
8	GAUGE INDICATOR	Display State Of Charge (SOC) of Li-Ion batteries	(Please see Table 2)
9	CHARGING INDICATOR	Indicate charging state of the battery	With a lightening mark under CHARGING INDICATOR . (Please see Table 3)
10	SYSTEM INDICATOR	System status indication	Light up when power is present.
11	AC OUT INDICATOR	AC output power indication	Light up when AC power is present.
12	DC OUT INDICATOR	DC output power indication	Light up when DC power is present.
13	LIFT HANDLE	For Lifting EMERGY 3000 .	
14	PULL HANDLE	For pulling/ pushing the system while on wheels.	Not for lifting EMERGY 3000 .



DO NOT use **PULL HANDLE**, but **LIFT HANDLE** to lift up EMERGY 3000 to avoid damage to the system.

2.2 Gauge/Charging Indicators and Alarm

2.2.1 Gauge Indicator

The State Of Charge (SOC) or remaining capacity of the battery is illustrated thru five (3 green, 1 orange, 1 red) LED indicators on its face panel. From right to left each additional indicator corresponds to about 20% additional battery capacity as illustrated in Table 2.

Table 2. Gauge Indicators

Status		Meaning
 F 3/4 H 1/4 E	5 LEDs On (GGWOR)	SOC > 80%
 F 3/4 H 1/4 E	4 LEDs On (GGOR)	SOC between 60-80%
 F 3/4 H 1/4 E	3 LEDs On (GOR)	SOC between 40-60%
 F 3/4 H 1/4 E	2 LEDs On (OR)	SOC between 20-40%
 F 3/4 H 1/4 E	1 LED On (R)	SOC between 10-20% (Charge Soon)
 F 3/4 H 1/4 E	1 LED blinking (R)	SOC between 0-10% (Charge Immediately)
 F 3/4 H 1/4 E	All LEDs Off	MSW is off or battery fully drained.

2.2.2 Charging Indicator

CHARGING INDICATOR is used to indicate the stage of charging to the battery as illustrated in Table 3.

Table 3. Charging Indicator

Status		Meaning
	Stay On	Charging
	Blinking	<ol style="list-style-type: none">1. Close to fully charged.2. Blinking happens if charging current is less than 2A.3. When closing to fully charged, it is normal whether CHARGER INDICATOR is blinking or not.
	Off	Five GAUGE INDICATORS are all on and CHARGING INDICATOR is off if the system is fully charged.

2.2.3 Alarm

When the remaining battery capacity drops below 15%, an alarm sound- a periodical short buzz will be initiated to inform user that the battery may run out of energies soon. It should be recharged as soon as possible to avoid damage batteries.

3. System Operations

3.1 Turning On/Off System

To turn on the system, firmly press **MSW** (Main Control Switch) for a light click. **SYSTEM INDICATOR** and **GAUGE INDICATOR** should light up after about 10 seconds delay. This delay is normal and should not be alarmed.

To turn off the system, press **MSW** again. All indicating lights will be off. Slight delay in **AC OUT INDICATOR** is normal when **AC OUT** is not or lightly loaded. Pressing **MSW** will toggle the system status.

3.2 Charging System

3.2.1 AC Charging

To perform system charging via AC power source, the following steps are to be followed.

Step 1: Turn on the system by pressing **MSW**.

Step 2: Connect power cord (IEC320 type) to **AC INLET**, as illustrated in Figure 2.



Figure 2. AC charging

When EMERGENCY 3000 is charging, **CHARGING INDICATOR** will light up **CHARGING INDICATOR** will turn off automatically when charging is terminated. The charging time for EMERGENCY 3000 is around 4-5 hours for a full charge cycle (from empty to full).



The input source should comply with the input range (100-120Vac or 220-240Vac) as indicated on **AC INLET**.

3.2.2 PV Charging

To perform system charging via PV power source, the following steps are to be followed.

Step 1: Connect PV charging cable adaptor to **PV INLET** first, as illustrated in Figure 3.

Step 2: Connect MC4 connectors from the cable adaptor to MC4 connectors from PV panels. Use Y Type MC4 connectors (not provided) for multiple PV panel branches.

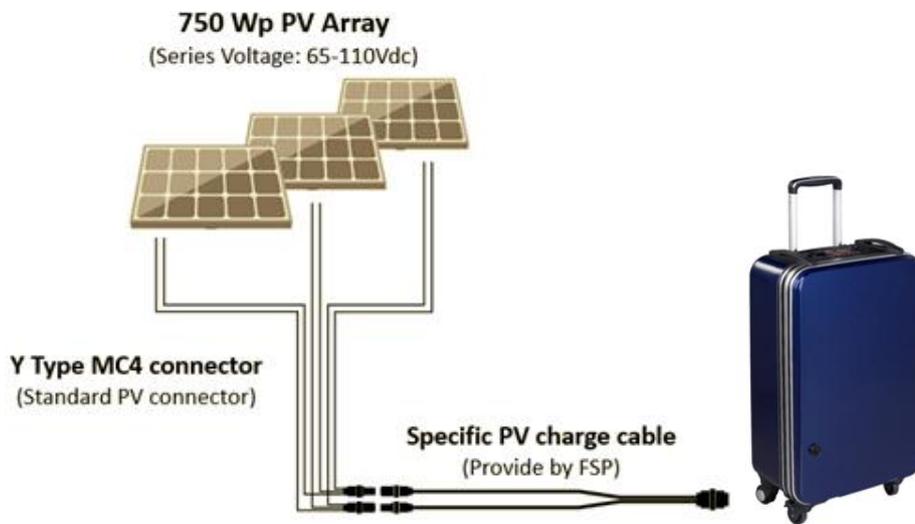


Figure 3. PV charging

Step 3: Turn on the system by pressing **MSW**.

When EMERGY 3000 is charging by PV power, **CHARGING INDICATOR** will light up. **CHARGING INDICATOR** will turn off automatically when charging is terminated.

EMERGY 3000 would take about 5-8 hours for a full charger cycle (from empty to full) when PV power is greater than 650Wp and it is optimal solar radiation.



Failure to connect the cable adaptor first may cause unexpected electrical shock from exposed connector pins in the adaptor before follow-up step.

Proper PV configuration should be used to ensure suitable input voltage range for PV charger of EMERGY 3000 (refer to product specifications). Excessive voltage level (>200V) may result in damage to PV charger.

3.3 System Outputs

3.3.1 AC Output

AC outlet(s) of EMERGY 3000 provided is (are) also compatible with local electrical plugs. To utilize AC output, the following steps are to be followed.

Step 1: Turn on the system by pressing **MSW**.

Step 2: Turn on AC output(s) by pressing **AC OUT SW**. **AC OUT INDICATOR** will turn on.

Step 3: Connect power cord of apparatus, equipment or appliance to **AC OUT** (AC outlet).

To discontinue using AC output, simply remove power cord of load unit from **AC OUT** or turn off AC output by pressing **AC OUT SW** again. **AC OUT INDICATOR** will turn off.



The voltage and frequency range of the apparatus, equipment or appliance should comply with the output voltage and frequency range of EMERGY 3000 to avoid under-performance or damage to the load unit.

3.3.2 DC (USB) Output

DC (USB) output is turned on when **MSW** and **DC OUT SW** are switched on. When **DC OUT SW** is turned off, DC output is also turned off. A total of 2A current is available for the two USB outlets.

3.4 Physical Positioning

EMERGY 3000 is designed to operate in an upright position as illustrated in Figure 4. Stable footing should be provided when using the system. It is also highly recommended that the two braking mechanisms be engaged to avoid possible skidding especially when the ground is inclined.



Figure 4. Physical Operating Position



Operations under other positions will add to thermal stresses on the system and reduce system operating time.

3.5 Apparatus/Equipment/Appliances

3.5.1 Compatibility

Although EMERGY 3000 is designed to operate with most household apparatus/equipment/appliances, certain loads that require heavy surge current may not operate properly.

A list of apparatus/equipment/appliances that are compatible or incompatible with EMERGY 3000 are shown in Table 4.

Table 4. Loads Supports

Operate	Not Operate
(1) Consumer electronics Mobile phones, tablets, NBs, PCs, monitors, projectors, desk-top printer/copier, shredder, etc.	Air conditioners, microwave ovens, office printers/copiers, coffee makers, vacuum cleaners, industrial motors, etc.
(2) Household appliances Rice cookers, TVs, refrigerators, hair dryers, lamps/lights (fluorescent, LED), fans, induction ranges, irons, dish washers, hair dryer, toasters, heater, etc.	
(3) Industrial equipment Oscilloscopes, electrical drills/screw drivers, soldering irons, etc.	

3.5.2 Running Time

Estimated run time for a fully charged EMERGY 3000 is shown in Table 5.

Table 5. EMERGY 3000 Run Times for Select Loads

Electrical Equipment		Power Consumption	DP1715JDF Running Time	DP2615 Running Time
Lighting	Camping Lantern	5W	306.0 hours	468.0 hours
	LED Lighting	10W	153.0 hours	234.0 hours
	LED Searchlight	30W	51.0 hours	78.0 hours
	Fluorescent Lamp	36W	42.5 hours	65.0 hours
Home Appliance	Radio	10W	153.0 hours	234.0 hours
	Electric Fan	66W	23.2 hours	35.5 hours
	Refrigerator	130W	11.8 hours	18.0 hours
	42" LCD TV	200W	7.7 hours	11.7 hours
	Sound System	200W	7.7 hours	11.7 hours
	Toasters	600W	2.6 hours	3.9 hours
	Electric Pot	800W	1.9 hours	2.9 hours
	Heater	1,000W	1.5 hours	2.3 hours
	Induction Cooker	1,200W	1.3 hours	2.0 hours
3C	Smart Phone	2W	765.0 hours	1,170.0 hours
	Tablet	20W	76.5 hours	117.0 hours
	Note Book	40W	38.3 hours	58.5 hours
	Projector	200W	7.7 hours	11.7 hours
	Desktop PC & Monitor	310W	4.9 hours	7.5 hours
	Laser Printer	500W	3.1 hours	4.7 hours

4. Transportation

EMERGY 3000 is designed with a **PULL HANDLE** and a **LIFT HANDLE** for easy transportations. The correct ways for moving and carrying EMERGY 3000 are illustrated in Figure 5.

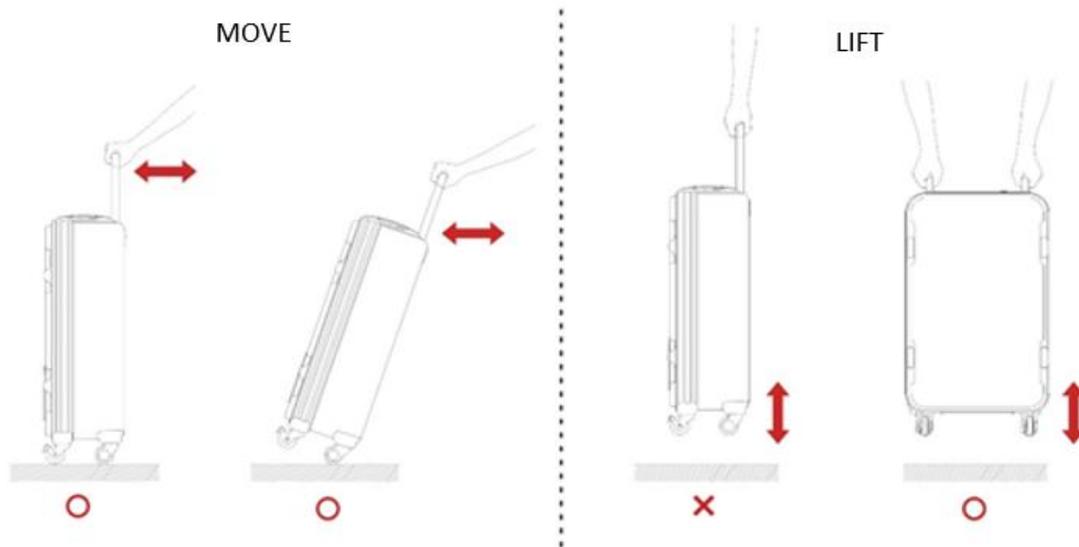


Figure 5. Moving and Lifting EMERGY 3000

Locking mechanisms are provided in the two front wheels of EMERGY 3000 . Figure 6 illustrates how to engage or dis-engage the locking mechanism.

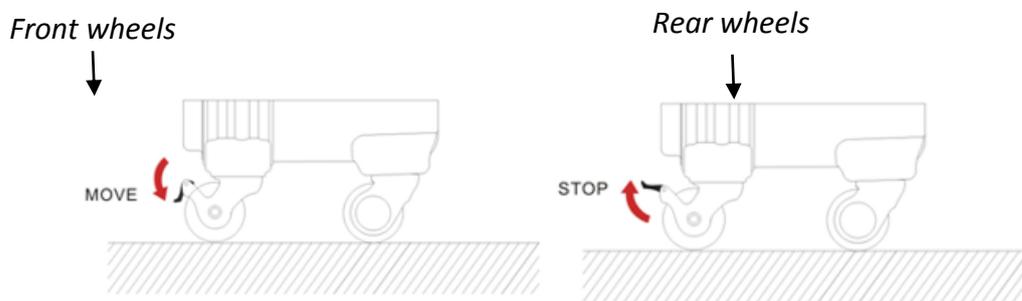


Figure 6. Wheel Locking Mechanism

When transporting the system in a vehicle, EMERGY 3000 should be laid flat on **HEAT SINK** side, as illustrated in Figure 7.



Figure 7. Physical Positioning for Transportation in a Vehicle

5. Storage

It is highly recommended that EMERGY 3000 is turned off (**MSW** off) when it is not in use to conserve the battery energies. Failure to do so may deplete the battery energies prematurely and reduce system's availability.

In extreme case, the battery may be over-discharged rendering expensive replacement of the battery. The following practices should be exercised when storing EMERGY 3000 .

- (1) Charge EMERGY 3000 to 50%-70% capacity. (For short term storage while preparing for usage, charge the system to full capacity.)
- (2) Turn off **MSW**. All panel lights should be off.
- (3) Place the system in solid footing to avoid skidding or falling. Engage the locking mechanism in the front wheels.
- (4) Store EMERGY 3000 in a cool, dry, airy place and away from fire or heat sources.

6. In Case of Emergency

In the case of unlikely situation when smokes rise from the system, under the premise of no immediate danger, the following actions can be taken to reduce possible damages.



Evacuate the premises immediately if imminent danger is sensed.

- (1) Avoid inhaling the smokes from the system.
- (2) Hard press **MSW** to shut the system off.
- (3) Unplug input cables followed by output cables.
- (4) Move the system to an open area.
- (5) If fire results, use sand or dry-powder/ CO₂ extinguisher to extinguish fire.

7. Maintenance

Regular maintenance of EMERGY 3000 is not necessary except maintaining sufficient charge state of the batteries to avoid possible over-discharge during storage especially after usage. The appearance and surface can be cleaned with a damped cloth with water.



DO NOT attempt to repair EMERGY 3000 yourself. All units should be returned to authorized vendor or repair center for repair. Unauthorized opening of the system case will void product warranty and may expose the user to dangerous high voltage.



DO NOT spray water directly onto the system to clean the unit. Water sips thru connector openings on the face panel and the power inlets may accumulate inside the system and cause damages.

For outdoor applications connector plugs (provided with the system) should be used to cover the unused inlets and outlets to prevent unexpected rain which may cause water sipping into the system. Remove the system from the rain immediately.

8. Warranty

EMERGY 3000 is warranted against defects in material and workmanship for a period of one (DP2615 Model) or two (DP1715JDF Model) years after purchase to the original owner. It is at the Manufacturer's sole discretion whether to repair or to replace system assembly part(s) found to be defective.

Transportation to the service center or the factory is the responsibility of the purchaser.

This warranty is void for products repaired or altered by the customer or any unauthorized person or entity.

This warranty also does not cover damages caused by improper use, accidents, and natural disasters.

WARRANTY CARD

Product Name: EMERGY 3000

Date of Purchase: _____

Purchase From: _____

Name: _____

Address: _____

City / State / Zip: _____

Phone: _____

E-mail: _____

Please keep this warranty card for future reference.

Contact Information:

FSP USA

Add: 14284 Albers Way, Chino, California

Tel: (909)606-0960

E-mail: info@fspgroupusa.com

Web: www.fspgroupusa.com

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