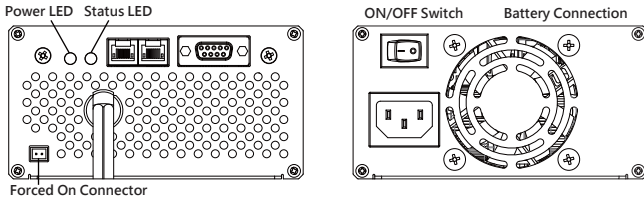


#### ▶▶ Features

1. Adopts the most advanced Switching-Mode control technology.
2. Meets International Energy Efficiency and the efficiency can up to 91%@230VAC).
3. Design, Develop and Made in Taiwan.
4. Forced On Charging Mode: The BMS of Lithium Battery will cut off the output when it is low voltage, over current or short circuit. To solve this situation, you could use this mode.
5. Smart Charging Mode: Increase the battery efficiency and extend the service life effectively.
6. Detecting Battery Status.
7. Over-temperature Protection: When temperature is exceeded, it will lower down the output to protect the charger.
8. Reverse Polarity Protection: If the battery clamps are wrongly connected, it will ensure the battery and charger will not damage.
9. Spark Protection: When battery clamps connect with the battery or touch together, there will be no spark.
10. Disconnecting Protection: When charger and clamps are accidentally disconnecting, the charger will back to standby mode automatically.

#### ▶▶ How to use



1. Connect the AC plug and turn the 'ON/OFF Switch' to ON and check if the Power LED is light.
2. Connect the output connector with battery and check if Status LED turns to Red. (Battery is charging).
3. When charging is completed, the Status LED will turn to green and cut off the output.
4. Connector Short Circuit: Use Forced On Charging Mode and it will back to Normal Charging after 60 seconds.  
Connector Open Circuit: Do not use Forced On Charging Mode.

#### ▶▶ LED Indicator

Power LED (RED)	
Light On	Connect with AC Power
Status LED (RED and GREEN)	
RED Light On	Charging
RED Light Flash	Battery or Charger is faulty
GREEN Light On	Charging is completed

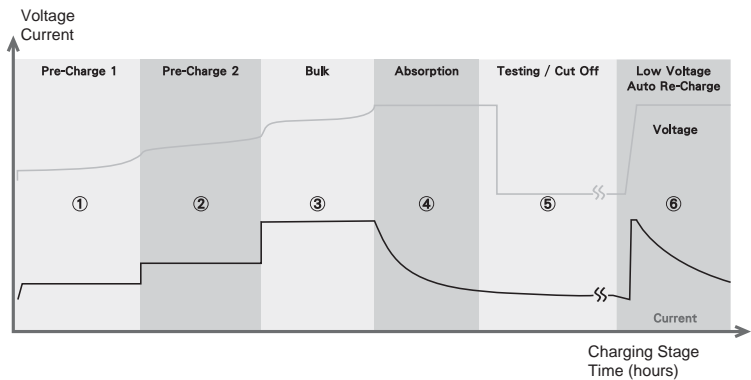
#### ▶▶ Troubleshooting

No.	Problem	Solution
1	Power LED does not light on when properly connected	Check if AC plug is well-connected or if there is no power in AC socket Check if 'ON/OFF Switch' is in the ON position
2	Status LED does not light on when properly connected	Check if output connector and battery are well-connected Check if connection is correctly, do not reverse polarity Check if battery voltage is within operating range
3	Status LED is flashing after charging	Please turn 'ON/OFF Switch' to off and turn on again. If the Status LED is still flashing, then the charger should be faulty.

※ If there is still problem happens, please contact with original purchaser.

#### ▶▶ Charging Curve

1. Pre-Charge 1: This stage activates only if the battery is severely discharged and help to protect and recondition the cells against the damage.
2. Pre-Charge 2: Soft start, moderately charging in the beginning to avoid the peak current damages the cells.
3. Bulk: Charging with maximum current, the current is fixed according to the maximum capability of the charger.
4. Absorption: Charging with constant voltage and declining current to equalize and maximize up the battery capacity.
5. Testing / Cut Off: Test if the battery is in good condition.
6. Low Voltage Auto Re-Charge: Re-charge automatically if it detects the voltage is dropped off.



#### ► Specification

Model No		LFP-4815M (13 Cells)	LFP-4815M (14 Cells)
Output (Charging Mode)	Charge Voltage	54.6V	58.8V
	Charge Current Range	15A	
	Rated Maximum Power	819W	880W
	Efficiency	> 91% @ 230Vac (Typical)	
Input	Input Voltage range	100 ~ 240Vac	
	Input Frequency Range	47 ~ 63Hz	
	Input Current Rating	10A /115V AC 5A / 230V AC	
	Power Factor	0.99 @ 115V AC / 0.95 @230V AC	
Protections	Disconnect	YES, No Charge and sparks when battery disconnect or short	
	Over Temperature	Derating current by MCU, if internal temperature is too high; turn off charger and status LED flash.	
	Over Voltage	Shut down output.	
	Polarity Reverse	YES, No Charge.	
	Short Circuit	YES, No Charge.	
	Wrong Battery Protection	YES. (No Charge When Battery Voltage < 30V or > 59V)	
Environment	Operating Temperature	-20 ~ 40°C.	
	Operating Humidity	10 ~ 95%RH.	
	Vibration	10~500HZ,2G/P-P,3 axes,15min sweep without malfunction.	
	Shock	20G/Package	
LED Status Indicator	Power on LED Sign	The Red LED is fixed lighting.	
	Full Charged Sign	The Bi-LED bright Green.	
	Charging Sign	The Bi-LED bright RED.	
	Fault LED Sign	The Bi-LED is flashing bright.	
Safety & EMC	Safety Standards	compliance to IEC60335-2-29	
	Withstand Voltage	Meet I/P-O/P : 3 K VAC I/P-FG : 1.5KVAC O/P-FG : 0.5KVAC	
	Isolation Resistance	Meet I/P-O/P,I/P-FG,O/P-FG : 100M ohms / 500VDC at 25°C.	
	EMI Conduction & Radiation	EN55022	
	Harmonic Current	Compliance to EN61000-3-2	
	EMS Immunity	Compliance to EN61000-4-2,3,4,5,6,8,11 Light industry level,criteria A	
Communcation	Forced on	"Open" : Normally works. "Short" : To turn on output for one minute.	
	RS232	Standard	
	Can Bus	Standard	
Others	MTBF	150k hours min.MIL-HDBK-217F(25°C)	
	Type of Batteries	LiFePO4 Battery/Lithium ion Battery	
	Dimension(L*W*H)mm	307*129*74 mm	
	Packing(L*W*H)Carton	374*200*82 mm	
	Weight(N.W.)	2.4kg	
Remark	1.All specification measured at nominal 230Vac input and 25°C ambient.		