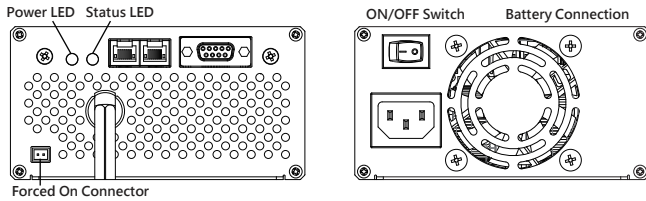


### ►► Features

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 accidently 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.  
Connctor 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

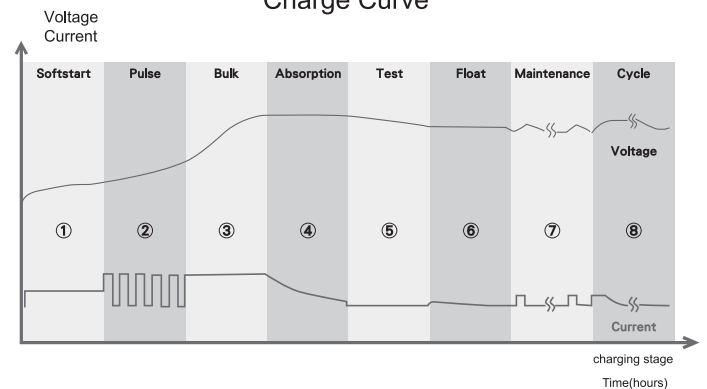
No.	Problem	Solution
1	Power LED does not light on when properly connected	Check if AC plug is well-connected or if there is no power in AC socket Check if 'ON/OFF Switch' is in the ON position
2	Status LED does not light on when properly connected	Check if output connector and battery are well-connected 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. Soft start: Tests if the battery can accept charge, charging will commence if battery is okay.
2. Pulse: Pulsing current removes sulphates from the battery plates and restores battery efficiency and capacity.
3. Bulk Charge: Charging with maximum constant current until approximately 80% of capacity.
4. Absorption: Charging with constant voltage and declining current to equalize and maximize up the battery capacity.
5. Test: Tests if the battery can hold charge. If the battery voltage drops below 12.3V within 2 minutes, battery is faulty.
6. Float: Keep the battery voltage at maximum level by providing a constant voltage charge.
7. Maintenance: Battery maintenance mode active when the battery voltage is lower than 12.6V, the charger will begin maintenance charging automatically.
8. Cycle Recharge: A continuation of the Maintenance mode that monitors battery voltage and will gently pulse current and increase voltage. It will charge automatically every 15 days.

Charge Curve



### ► Specification

Model No		LFP-4815A
Output (Charging Mode)	Charge Voltage	57.6V
	Charge Current Range	15A
	Rated Maximum Power	864W
	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 disconnects or shorts
	Over Temperature	Derating current by MCU, if internal temperature is too high; turn off charger and indicator error LED on.
	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 RED.
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	RS232	Standard
	Can Bus	Standard
Others	MTBF	150k hours min.MIL-HDBK-217F(25°C)
	Type of Batteries	Lead-acid Battery
	Dimension(L*W*H)mm	307*129*74 mm
	Package(L*W*H)	374*200*82 mm
	Weight(N.W.)	2.4 kgs
Remark	1.All specification measured at nominal 230Vac input and 25°C ambient.	