

3000W Series Sealed Battery Charger Specification

The LITIO.Store series of high frequency PWM chargers have a compact and sealed structure design, they are suitable for flooded lead acid batteries, sealed lead acid batteries and Lithium ion batteries. They are used to cycle charge or floating charge batteries in electric cars, sightseeing vehicles, patrol vehicles, fork lifts, communication, electric power, boats, Lawn-Mowers, Agriculture Equipment, etc.

Active PFC and LLC new technology guarantee a good Power Factor and a very high efficiency. The reliable hardware protections and Impeccable charging strategies ensure a safe charging process.

MODELS definition

Model Name	Rated Output Volt / Current	End of Charge Output Voltage (Vmax)	Battery Type
LSC3000-24100LI	24V/100A	29.4	Lithium NMC
LSC3000-24100LF	24V/100A	28.8	LiFePO4
LSC3000-24100LA	24V/100A	29.2	AGM, WET
LSC3000-4850LI	48V/50A	58.8	Lithium NMC
LSC3000-4850LF	48V/50A	57.6	LiFePO4
LSC3000-4850LA	48V/50A	58.4	AGM, WET

TECHNICAL specifications

- AC input voltage range: 180~264Vac; 50-60Hz
- AC input rated current: <15A @ 230VAC
- Power Factor > 0.99
- Efficiency: 93.5% typical
- Noise level < 45dB
- Protection Level: IP67
- EMC: QC/T 895-2011, EN 55014-1:2006/A2:2011, EN 61000-3-2:2014; EN 61000-3-3:2013
- Safety: GB 4706.18-2014; IEC 60335-2-29:2016
- Integrated die casting structure, pouring Sealed inside the charger, good performance in vibration, active heating dissipation, high reliability and long life time, it can be adopted in hostile environment.
- CAN bus with auxiliary 12Vdc supply, LED display on the top side
- Charging Interlock can prevent unsafe situations at vehicle movement during charging
The interlock is a contact that is closed when the charger is connected to the AC-mains
- Charging protection below 0 °C for Lithium (LI) Chargers
- Temperature compensation of Lead Acid (LA) chargers
- User can set actual charging current via BT app(can't change the battery type)



■ PROTECTION FUNCTIONS

Over current protection	Yes
AC Input under voltage protection	When AC voltage <150Vac, the charger will switch off
Output short circuit protection	Yes, will automatic resume after short is removed
Battery reversed protection	yes
No-load protection	yes
Over temperature	The charger must be able to operate up to 45°C and will de-rate the charge current linearly to 50% when reaching 60°C. When the case reaching >65°C the charger is allowed to stop, when the temperature falls, the charger automatically resumes. No defects at high temperatures
Temperature compensation	For the lead-acid charger the NTC is used for temperature compensation at -4mV/°C per 2V cell; the length of NTC cable is 1 meter. For the Lithium charger the external temperature sensor is used to prevent charging < 0 °C ambient temperature
Fan cooling	The Fan rotates at charging and stops after fully charged
Fully charged automatic disconnect	Only for Lithium version by internal relay
Fault LED indication	Yes, see chapter LED indicators

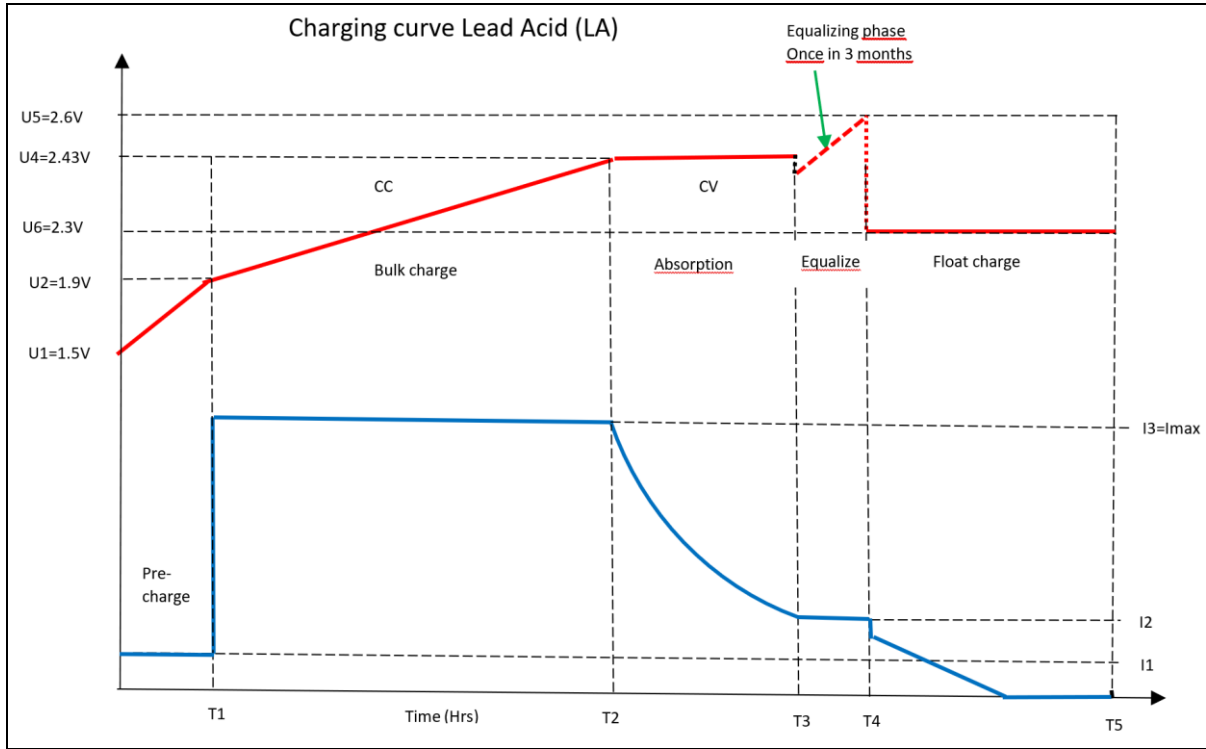
■ SAFETY AND ENVIRONMENT

Safety test AC to DC	≤20mA@2000Vac/1min
Safety test AC to CASE	≤20mA@2000Vac/1min
Safety test DC to CASE	≤20mA@1000Vac/1min
Insulation Resistance test	AC to CASE > 100MΩ/DC 500V
Working ambient temperature	-20 ...+45°C ; 45...60°C linear derating to 50%
Storage temperature	-40 ...+80°C
Humidity	20...90 % RH

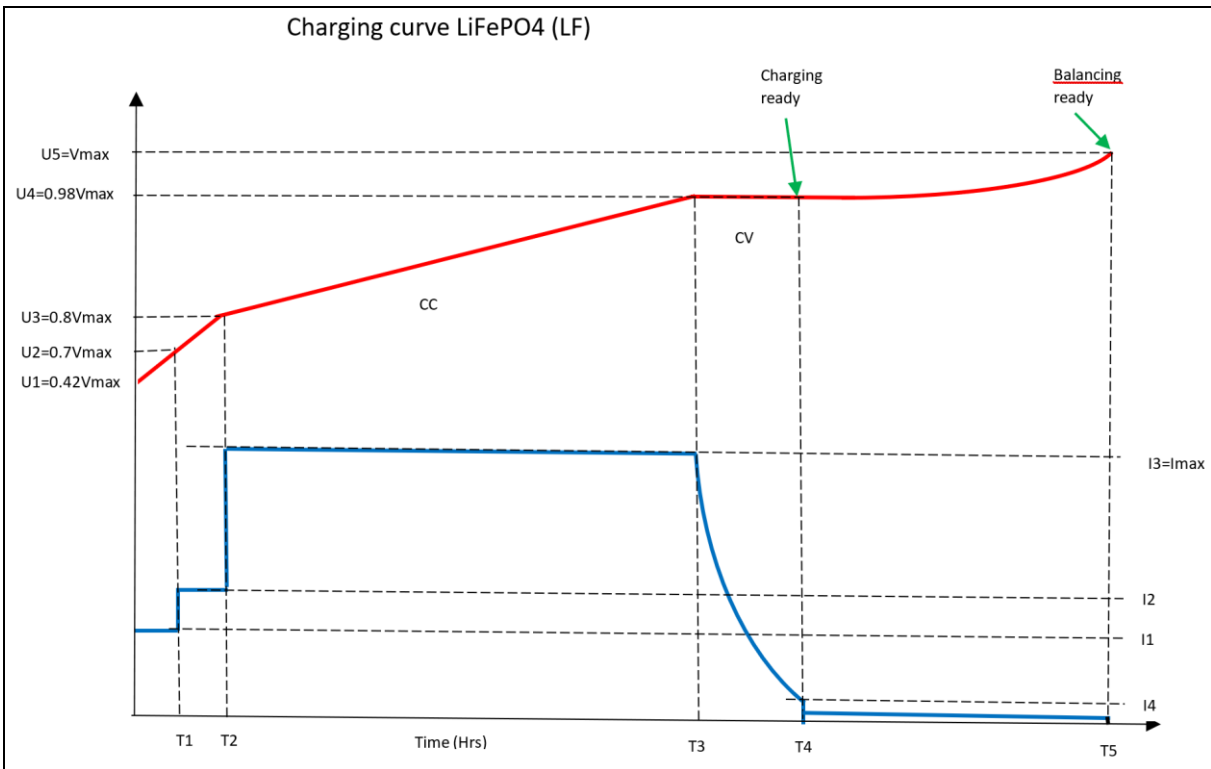
■ LED INDICATORS

LED Indication Label	For LI Battery 	For LA Battery 
Battery Capacity Status	In Charging: Red light flashes Fully Charged: Green light is glowing	Red LED flash per second, to show capacity < 80% Yellow LED flash per second, to show capacity > 80% Green LED flash per second, to show capacity = 100%
Non Load Status	R,G,R,G,R,G	
Fault Status(“-“: means pause)	Over-volt/current protection: flash R, G, R, -, -, - Ambient temperature too high or low: flash R,G,R,G, -, - Over temperature: flash G,R,-,-,- Output under-voltage: flash R,G,-,-,- Input AC voltage abnormal: flash R,G,R,G,R,- Other faults: flash G,R,G,-,-	
Fully charged	Green LED light	

CHARGING CURVE FOR LA AGM BATTERY



CHARGING CURVE FOR LiFePO4 BATTERY

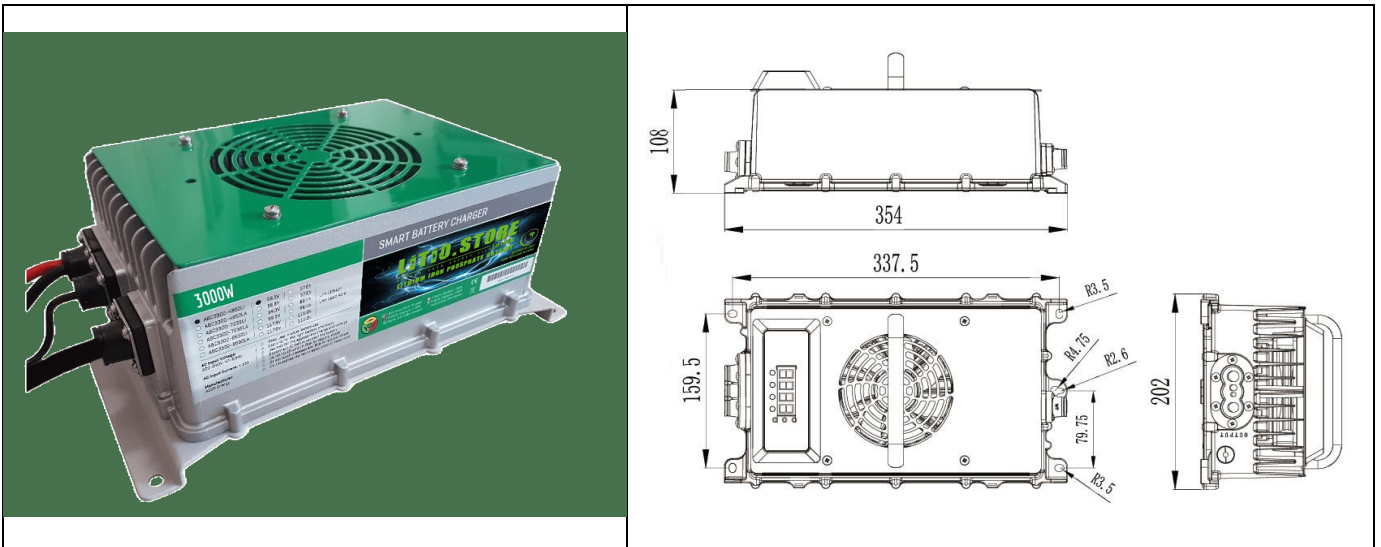


■ GENERAL specifications

- **Dimensions:** 354x202x108mm
- **N.W / G.W:** 8.3kg / 9kg
- **Input :** Black AC cable with EU-plug, wire length 2m, cross-section 2.5mm²
- **Output:** Grey SB175 connector with heat shrinkable tube at end, 2 wires with separated wave tube close to charger terminal.
- **Installation Type:** Portable or On-board usage, it has a FAN cover plate on the top side to protect the FAN and a blank aluminum bottom bracket with installation holes.
- **Accessories:** Handgrip + 2 screws in separate bag
- **Warranty:** 2 Years
- **Package:** One 3-layer carton box with EPE foam protection, on carton outside has a carton label, the content of Carton label include Model, Max. Charging voltage, Charging current and Series number with 1D Bar-code (The Series number with 1D Bar-code must match the inside product).
See label example:



■ MECHANICAL dimensions



■ Display

Display functions:

Charge Voltage (V), Charge current (A), Charge time (hrs), Charged capacity (Ah)

Set functions:

Set: Set the charging current

Start: Start the charging process

Stop: Stop the charging process

■ USER instructions and warnings

- Read these instructions and warnings before use.
- The Charger must be used within Operating Ambient Temperature range -20~60°C and humidity of < 90%
- Do not place the charger outside, but always in a space that has some protection from outside weather influences
- When the charger is installed, a minimum of 20 mm space all around the charger is needed.
- Do not place the charger in a small not vented space; the charger will run hot.
- The Charger must be yearly maintained, the air-flow slot which under the green plate must not be blocked, all dust and dirt substances must be cleaned.
Check if the fan is operating properly during charging
- Make sure the wires are placed in such a way that they cannot be damaged easily.
- If the charger is used for electric vehicles like cars or boats, the interlock connection can be used to prevent the propulsion motor from starting during charge
- The Lithium Battery must have a BMS protection with balancing the cells
- The Lithium version of the charger will not charge below 0 °C.
- Place the NTC temperature sensor close to the battery
- Never charge dead or damaged batteries
- Do not attempt to disassemble the charger

■ Relationship charging current and AC input power

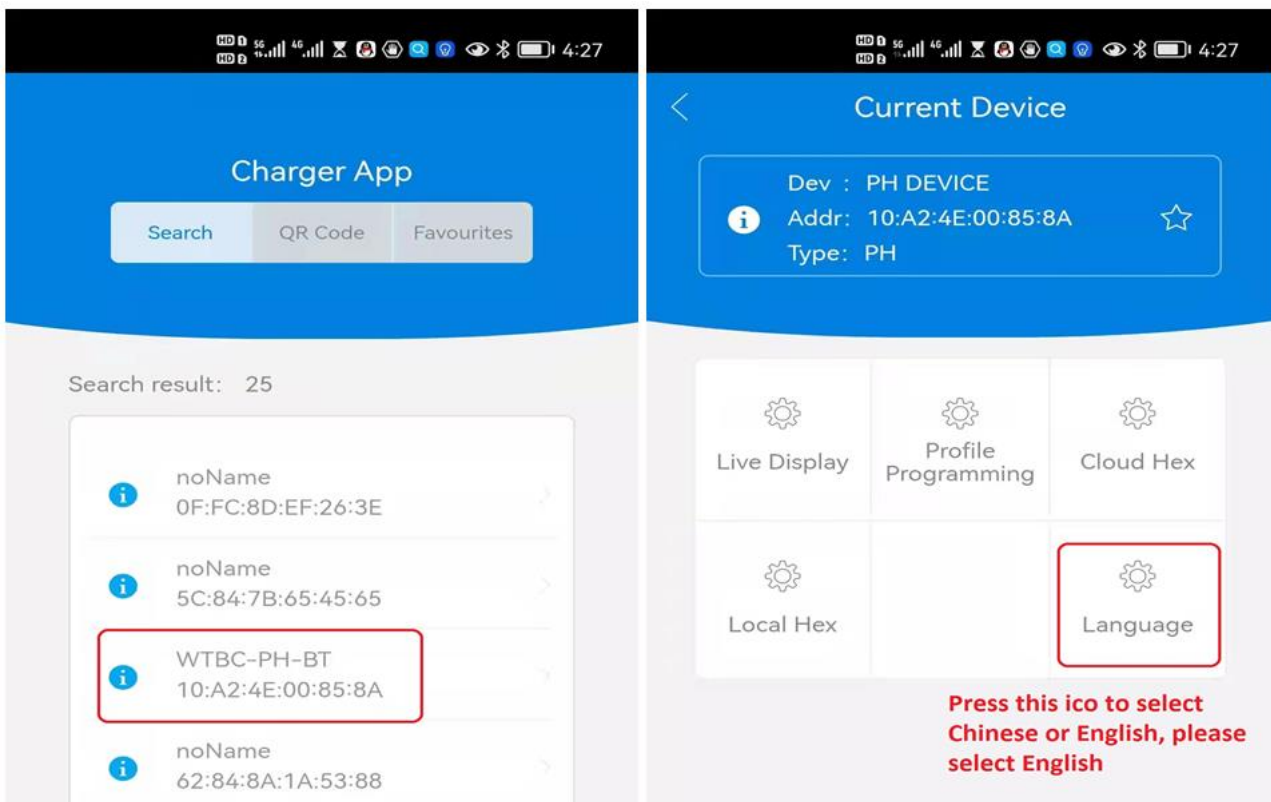
It is possible to adjust the charging current using the APP of the charger.

This makes it possible to reduce the AC input current, so the user can limit the input current below the fused value of the wall outlet.

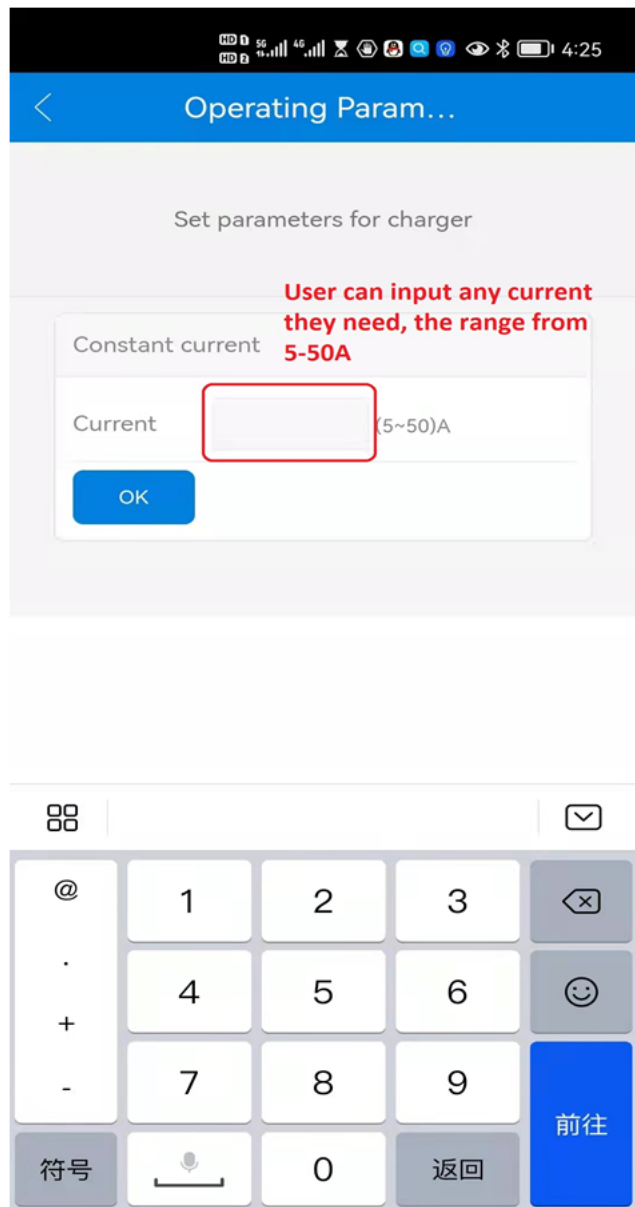
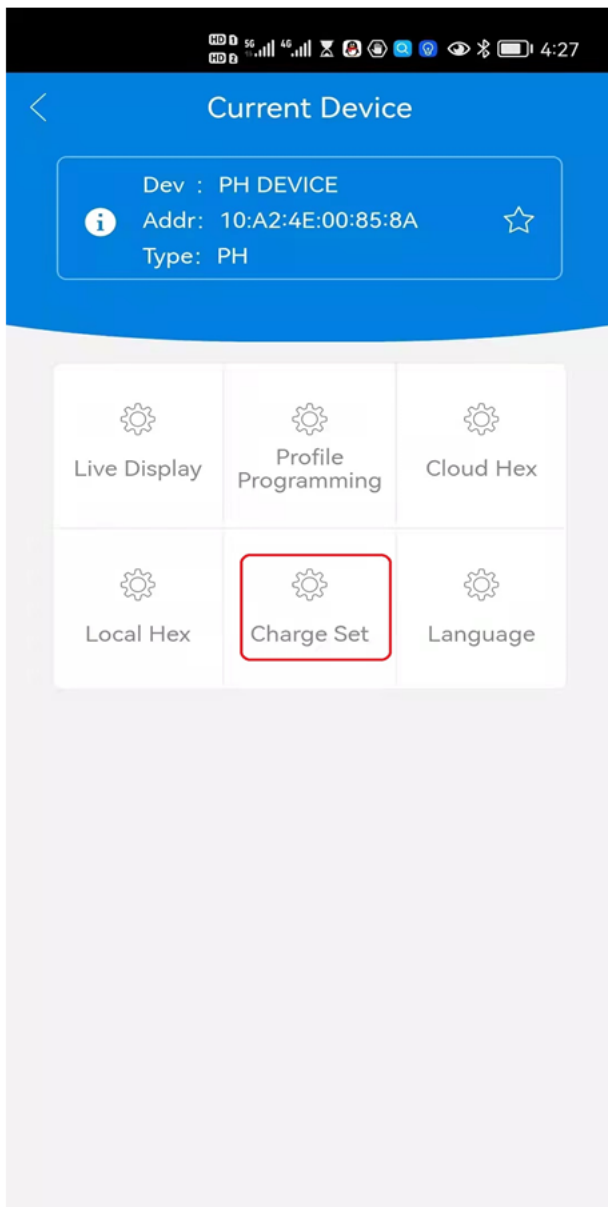
Laadstroom	AC Power	AC current	Wall outlet fuse
Standby mode 0A	10W	0.25A	6, 10, 16A
Charging with 5A	320W	1.42A	6, 10, 16A
Charging with 10A	595W	2.59A	6, 10, 16A
Charging with 15A	873W	3.78A	6, 10, 16A
Charging with 20A	1061W	5.04A	6, 10, 16A
Charging with 25A	1451W	6.30A	6, 10, 16A
Charging with 30A	1744W	7.61A	10, 16A
Charging with 35A	2040W	9.03A	10, 16A
Charging with 40A	2340W	10.43A	10, 16A
Charging with 45A	2642W	11.84A	16A
Charging with 50A	2951W	13.24A	16A

■ BlueTooth Remote Control Operation Instruction ABC3000

- a. Download APP '[BT app1.2.17.apk](#)', install on the mobilephone, will be shown below
- b. Open Blue tooth on mobile phone, power on the Charger, can find the charger (for example: [WTBV-PH-BT](#)) and connect it, when press, it will show '[Current Device](#)' interface, press red circle 'Language' ico to select English.



- c. When press any ico of current device interface, will pop up a login window, Login with an account and password, the memorized account and password is:
Account: DGDS
Password: 123456
- d. After login, the Current Device interface will show an icon 'Charge Set', see red circled '[Charge Set](#)' in the Current Device interface. After press 'Charge Set', it will show a window – Operating parameters Set. The user can input any current in the range of 5~50A according to actual requirement, then press 'OK' to confirm.



- Programming a different charge profile

It is also possible to use this APP to program a different charge profile in the charger, e.g. change a lithium curve to a lead-acid charge curve.

This can only be done by the manufacturer or distributor.