

900W Series IP67 Sealed Battery Charger Specification

Powercell IP67 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, AGV, 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.

Embedded max 5 kinds of charging curve can be changed over by IR remote controller.

MODEL LIST

Model Name	Nominal Output Voltage (V)	Max Charging Current (A)	Battery Type
LF292300-IP67	29,2	30	> PB : Sealed Lead-Acid (AGM or GEL) > FLA: Flooded Lead-Acid (Wet) > LI: Lithium Cobalt Oxide(LiCoO2) - Lithium Nickel Manganese Cobalt Oxide (LiNiMnCoO2) - Lithium Nickel Cobalt Aluminum Oxide (LiNiCoAlO2) - Lithium Manganese Oxide (LiMn2O4)(3.60-3.70V nominal; range 3.0-4.2V/cell) > LF: Lithium Iron Phosphate(LiFePO4)(3.20, 3.30V nominal range 2.5-3.65V/cell) > LTO: Lithium Titanate (Li2TiO3)(2.40V nominal; range 1.8-2.85V/cell)
LI294300-IP67	29,4	30	

KEY FEATURES

- AC input voltage range: 85~265Vac; 45-65Hz
- AC input rated current: <9.8A@100VAC, 4.5A @ 220VAC
- Power Factor > 0.99
- Efficiency: 87% @100VAC, 92% @ 220VAC
- Noise level < 45dB
- Protection Level: IP67
- CAN bus with auxiliary 12Vdc supply, can extend three colored LEDs
- Charging protection below 0 °C for Lithium (LI) Chargers
- Temperature compensation of Lead Acid (LA) chargers
- 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.
- IR Remote Control inner charging curve firmware can only as an option



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 de-rating to 50%
Storage temperature	-40 ...+80°C
Humidity	20...90 % RH

LED INDICATORS

LED Indication Label	For LI Battery	For SLA 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

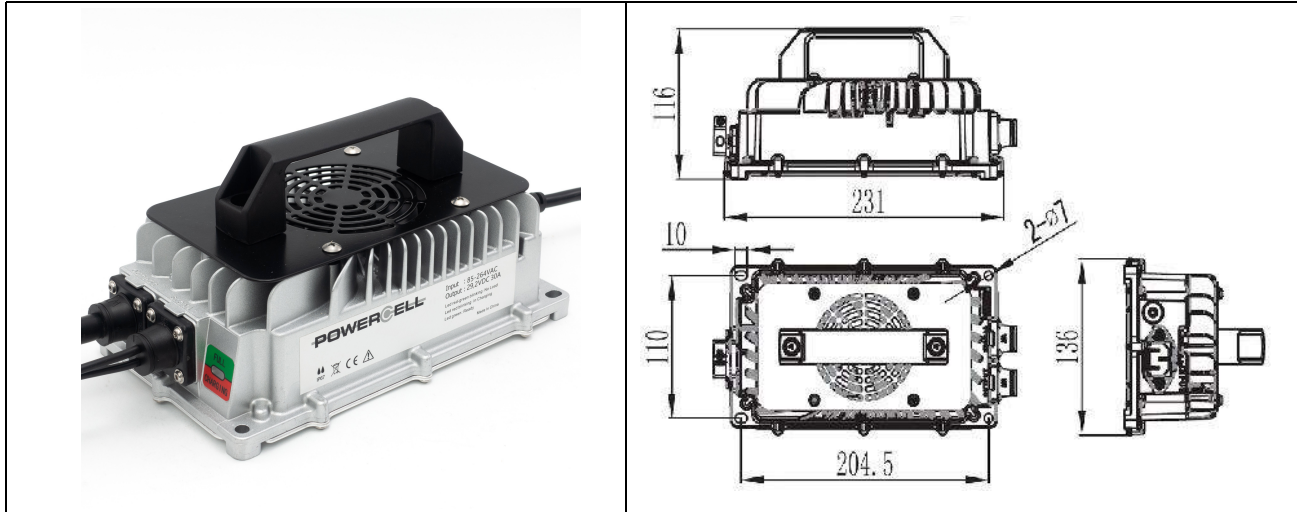
COMMON FAULT AND SOLUTIONS

LED Indication Status (“-“: means pause)	Fault Indication	Solution
R,G,R,G,R,G	Non Load connection	Check the connection between charger and battery, whether B+,B- polarity reversed, whether battery voltage lower than start voltage
R, G, R, -, -, -	Over Voltage/Current	If restart the charger still can't fix, the charger failed, return to repair
R,G,R,G, -, -	Environmental Temp over-heat or too low	Check whether temperature around the charger too high, whether the FAN rotate normally, whether the heat emission slots under the FAN cover blocked, whether environment ventilation isn't good, check the temperature sensor probe...etc
G,R,-,-,-	Charger over-heat	Check the temperature as upon
R,G,-,-,-	Output under-voltage	If restart the charger still can't fix, the charger failed, return to repair
R,G,R,G,R,-	Input AC voltage abnormal	Check Input AC voltage need charger spec, also check AC plug connection
G,R,G,-,-,-	When one of upon 5 faults repeat 5 times, the LED shows status	Unplug the AC power and re-power on the charger, to see which fault item match, fix it accordingly.

GENERAL

Dimension(mm)	231x136x116
N.W(kg)	2.8
G.W(kg)	3.6
Input	1.5 m2 AC cable with customized AC plug
Output	4 m2 with Grey SB50 or customized connector
Installation Type	Portable with Handle bar or On-board installation, FAN cover plate to protect FAN
Warranty (Year)	2

DIMENSIONS



USER ATTENTION

- Read these instructions and warnings before use.
- The Charger must be used within Operating Ambient Temperature range $-20\sim 60^{\circ}\text{C}$ 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