

## SONEIL

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# SPECIFICATIONS - Li3407SR CHARGER

## Totally Automatic Switch-Mode Battery Chargers

### "Suitable for Li Ion and Li Polymer Batteries"

**Summary:**    **33.6V, 3.5A Constant Current (For 5 LiIon or LiPo cells)**  
(Equivalent to 7A tapered charger in charging time)

- Automatic Cut-off and then true Float. Can be left connected indefinitely without harming the battery.
- **Input Universal (90VAC~264VAC)** - Suitable everywhere in the world.
- Many advance features described in this spec.
- **Very small size and very lightweight**

### Explanation of the Features:

The advance technology of the OEM Battery Chargers supplied by Soneil is fundamentally different from other battery chargers. The conventional linear battery charger is an electrical device whereas the Li3407SR is a lightweight sophisticated electronic device.

#### 1.    **Switch-Mode Technology:**

Soneil's Battery Charger transforms the input into charger output using high Most of the battery chargers use linear technology, which convert the 115 VAC or 230VAC to 24 VDC at 60 Hz. This requires a large transformer, which has the disadvantage of lower efficiency resulting in higher heat generation, larger size and weight.

Soneil's Battery Charger transforms the 90VAC~264VAC into 24 VDC at 100,000 Hz (1667 times faster than conventional charger) which requires a much smaller transformer and this results in a unit of smaller size, low weight and improved efficiency.

The Li3407SR uses sophisticated electronic circuitry with microchips. All present day computers use switch-mode technology.

2. **International Safety Approvals & Listing:**

CE

3. **Input Requirements:**

- a) **Universal** 100~240VAC (Range 90VAC~264VAC). No switch to change AC voltage.
- b) 47 - 63 Hz

Input AC tolerance +/- 20%. This means 2409SR will operate satisfactorily in areas where the input voltage is low.

This charger is also **suitable for every part of the world.** where the AC is 100VAC (Japan), 115VAC (USA), 230VAC (Europe) or 240VAC (UK).

4. **Output:**

6 Amps Constant Current @ 21 Volts DC  
(Equivalent to 10-12 Amps tapered in charging time)

- a) Line Regulation @ Full Load 2%
- b) Load Regulation 3%

c) **Ripple Voltage:** Very low

The peak-to-peak ripple voltage into a resistive load is less than 200mV for the output voltage above 21 VDC.

## 5. **Charging Cycle:**

If the LED is ON (Orange or Green), it shows that input power is ON.

The charging curve is attached. The explanation of the charging cycle is as following.

Stages	Condition	Mode*	Current	Voltage	LED Indication
Stage 1	Constant Current mode	CC mode	3.5A	to 33.6V	Orange
Stage 2	Constant Voltage mode	CV mode	Reduces from 3.5A***	Holds at 33.6V	Green

\* CC mode = Constant current charge

\* CV mode = Constant voltage charge

\*\*\* See Stage 3 description below

### **Stage 1: Constant Current Mode (CC): LED Orange**

The charger changes to constant current 3.5A. When the battery voltage reaches up to 33.6V, the charging stage changes from CC (Constant Current) to CV (Constant Voltage) mode.

### **Stage 2: Constant Voltage Mode (CV): LED Orange**

*In this stage the voltage of each cell in the battery is equalized.* The charger holds the battery at 33.6V and the current slowly reduces.

## 6. **Two colors in one LED:**

LED shows the charging status. The LED ON shows presence of input power. The bicolour LED shows Orange when charging and changes to Green when the battery is fully charged. The charger will continue to provide very small current to cover internal losses and will maintain the battery at full charge.

## 7. **Reliability:**

### a) **Mean Time between failures (MTBF):**

30,000 power-on-hours (POH) or greater. This translates into 10 years of everyday operation of 8 hours.

- b) **Burn-in**: All chargers are burned in at an average DC load of 6 Amps.
8. **Size**: **Very Small** Length - 6.9" (174 mm)  
Width - 3.4" ( 86 mm)  
Height - 2.3" ( 57 mm)
- Very Light Weight** 1.10 lbs (500 grams)

Very nice looking **plastic case with black finish**.

Ref: Spec Li3407SR Charger .112206