



Available from:

BATTERY CHARGERS

CHARGING STAGES:

Stage 1 – “Desulphation”

In this initial start-up stage, a high frequency voltage pulse (0.5 sec) assists in “waking up” a deeply discharged battery. This method of pulse charging can also help to reduce build-up of sulphate crystals that may have formed on the battery plates during the time it was discharged. Pulse of 500ms on & 800MS off at 50% of maximum current output for 3 minutes, if the voltage of the battery is > 4 Volts, then the charger progresses to the next stage.

Stage 2 – “Soft Start”

After the battery is connected, most conventional “Smart” Battery Chargers will immediately apply a high charging voltage and current output. This creates a large amount of gas and heat from the battery and when the consistency of the battery electrolyte / state of cell charge is uneven - (from time to time the consistency of the battery electrolyte can be uneven from daily use) - a full load charging characteristic can result in a period of potentially damaging overcharging.

The Soft Start function eliminates this situation by starting the charging process slowly and softly, battery electrolyte and cell charge is able to even out, before receiving the main bulk charge. This significantly improves the battery charging capability and reception.

Stage 3 – “Bulk”

This is the main hard charging stage, where the charger will operate at the maximum rated current output, until the battery reaches a pre-set voltage determined by the battery type selection. Charging time period is determined by the capacity and charge state of the battery.

Stage 4 – “Absorption”

After the Bulk stage, the charger will automatically begin to reduce its current output depending on the charge acceptance of the battery, while maintaining a constant voltage (determined by the battery type selection - 14.3V GEL / 14.8V Lead Acid, AGM / 15.6V Calcium). When the current reduces to a predetermined threshold level charging will automatically halt, allowing the analysis stage to be performed

Stage 5 - “Analysis” (Testing the battery while charging)

After the Absorption charging state, the battery charger will start the “Analysis” stage and will stop charging the battery for 1 minute. At this point, if the battery voltage is sensed at below 12.6V, the battery alarm and faulty battery indicators and alarm will sound. If the battery voltage is equal to or above 12.6V, the next Boost stage will start.

Stage 6 – “Boost”

After successfully analysing the battery condition, the charger will enter the Boost charge stage, which will charge at a slightly higher voltage ensuring the battery attains a 100% full charge. The current output is limited at 25% of the maximum rated charger output. When the current drops to the pre-set level or a maximum of 15 minutes is reached the charger will enter the last float charge stage.

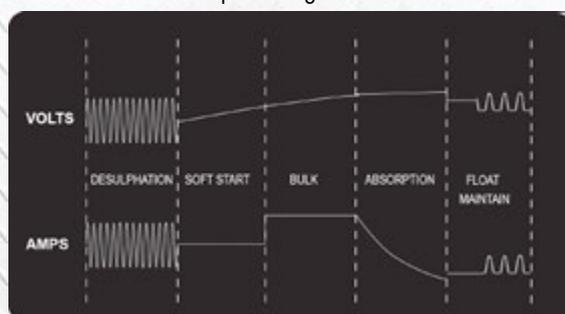
Stage 7 – “Float”

When the charger has finished the Boost stage the Float stage will set its output voltage at 13.3V Gel, 13.7 Lead Acid / AGM or 13.8V Calcium when the charging current gets to <1.2A or a maximum time of 2 hours is reached then the charger will progress to the next stage.

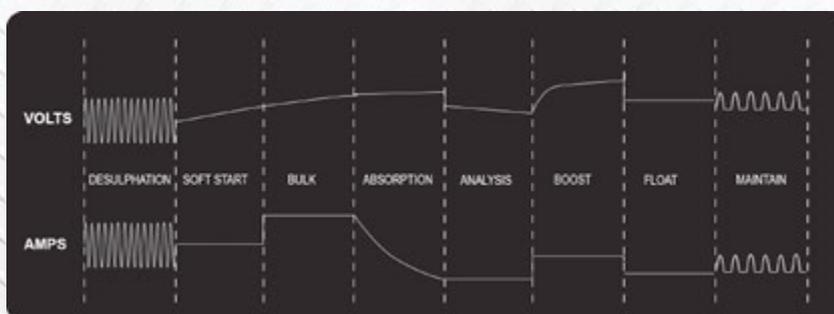
If a load is applied and the battery voltage drops to < 12.4 Volts the charger will return and restart from the Absorption stage.

Stage 8 – “Maintain”

This final stage regulates the fully charged battery. A small pulse charge is applied at 1Hz at a voltage of 13.3V to maintain the battery at its fully charged state and ready to be used at any time. If a load is applied to the battery and the battery voltage drops below 12.4 volts, the charger will restart from the Absorption stage.



5 STAGE SMART CHARGING



8 STAGE SMART CHARGING

BATTERY CHARGER RANGE

Adapters & Connectors Included

All in a convenient carry case

Portable Power Supply - Jump Starter

- 12v 500amp jump start (Petrol engines up to 5L, Diesel up to 3L)
- Mobile phones (5v - USB)
- Laptop power source (12, 15, 19v)
- Cycle lifetime: More than 1000 times
- More compact design
- Lithium Polymer Battery:
 - Holds charge longer

SP61070



LITHIUM POLYMER BATTERY

Jump Start Port
Detachable Mini-clamp
Included

12v Universal Output

5v USB Output

Lighted Capacity Indicators

19v Laptop Output

Hi-power LED Light



Smart Battery Chargers

- Built-in microchip charging control and monitoring system.
- Zero volt minimum start – can charge a completely flat battery.
- Optimally designed charging cycle designed for Lead Acid / AGM, Gel, & Calcium, starting and deep cycle batteries.
- Automatic adjustment of charging voltages according to environmental temperature.
- Overcharge protection, protecting the battery from damage due to overcharging.
- Reverse polarity, short circuit, overload and high temperature protection.
- LED display percentage of battery charge, larger
- Battery Testing function while charging (faulty batteries cause the full battery bar display to flash).

5 Stage 4 Amp Smart Charger

- Current Output: 4 Amp
- Output Voltage (Nom): 12 Volt
- Battery Type Supported: Gel/Calcium/Lead Acid - AGM
- Charge Stages: 5 Stages

SP61076



8 Stage 6 Amp Smart Charger

- Current Output: 6 Amp
- Output Voltage (Nom): 12 Volt
- Battery Type Supported: Gel/Calcium/Lead Acid - AGM
- Charge Stages: 8 Stages

SP61080



8 Stage 10 Amp Smart Charger

- Current Output: 10 Amp
- Output Voltage (Nom): 12 Volt
- Battery Type Supported: Gel/Calcium/Lead Acid - AGM
- Charge Stages: 8 Stages

SP61082



8 Stage 20 Amp Smart Charger

- Current Output: 20 Amp
- Output Voltage (Nom): 12 Volt
- Battery Type Supported: Gel/Calcium/Lead Acid - AGM
- Charge Stages: 8 Stages

SP61085



8 Stage 40 Amp Smart Charger

- Current Output: 40 Amp
- Output Voltage (Nom): 12 Volt
- Battery Type Supported: Gel/Calcium/Lead Acid - AGM
- Charge Stages: 8 Stages

SP61087



8 Stage 10 Amp MULTI VOLT Smart Charger

- Current Output: 10 Amp
- Output Voltage (Nom): 6 Volt, 12 Volt & 24 Volt
- Battery Type Supported: Gel/Calcium/Lead Acid - AGM
- Charge Stages: 8 Stages

SP61090

