

## 8-STAGE 6AMP SMART BATTERY CHARGER SP61080 BY SP TOOLS



SKU	Option	Part #	Price
8717936		SP61080	\$222

Model	
SKU	8717936
Part Number	SP61080
Barcode	9330514061350
Brand	SP Tools
Packaging + Shipping	
Shipping Weight (Gross)	1.48 kg

Current Output: 6 Amp

Output Voltage (Nom): 12 Volt

Battery Type Supported: Gel/Calcium/Lead Acid - AGM

Charge Stages: 8 Stages

### Features:

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).

WARNING: Batteries contain corrosive liquid. Always wear approved gloves and goggles when handling batteries or battery acid. If battery acid contacts skin, wash off immediately and contact a doctor for further advice.

**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'



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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 **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.