

Sterling battery to battery digital charger

The Sterling battery to battery digital charger is a unique piece of equipment which represents a huge advance in the way that auxiliary batteries in vehicles and boats can be charged and maintained.

What does it do?

The best way to charge a battery is by using a 4-step battery charging curve which cannot be achieved from a standard alternator. This charger unit is simply attached to a standard engine starter battery. It then fools the alternator into working at its maximum ability in order to ensure that all its surplus power is utilised to charge the auxiliary battery bank. The system is designed to use only the surplus power and, at all times, ensures that the power required to run the primary system (the vehicle's or boat's engine system) is not affected. The surplus power is converted into a higher voltage and used to charge the secondary battery bank using a digitally controlled, programmable 4-step charging curve.

In a nutshell it charges your domestic battery system about 5 times faster than it would otherwise be charged and helps to ensure that the batteries are working to their maximum ability, enabling them to produce their full potential power. It also increases the life of the batteries by helping to de-sulphate them.

For best results, use open lead acid batteries, avoid gel, sealed and A.G.M. batteries. Even though open lead acid batteries are by far and away the best choice for fast charging and longer life using advanced charging units, sometimes there is no choice but to use gel or A.G.M. and the unit has the settings to enable these to be charged too.

Advantages of the unit:

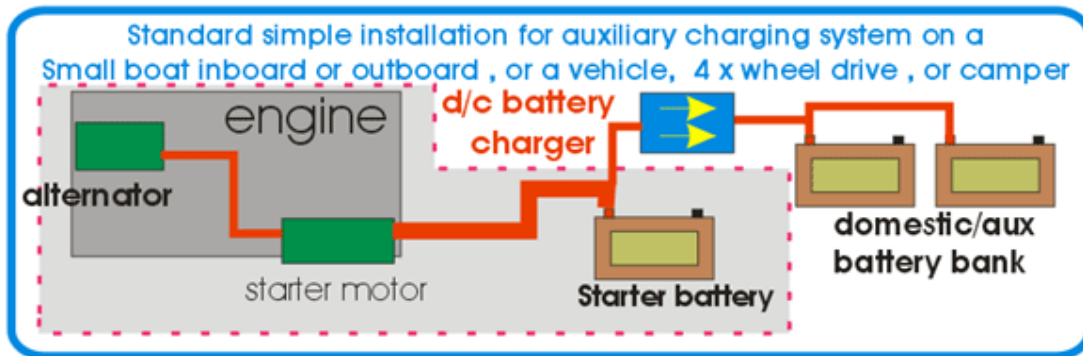
- 1) Installation: simply connect to your starter battery and to your domestic battery.
- 2) No direct connections to the standard engine alternator or to the outboard where used. Thus, on new installations, there is no extra wiring for a split charger system
- 3) Ensures the engine battery is properly maintained.
- 4) Multiple units can be used: for example, if you have a 60 amp alternator, and 3 battery banks (engine, domestic, and bow-thruster) then 2 of these can be used to run the bow-thruster and the domestic system. Their internal programs will adjust their charger patterns to accept the other unit, and ensure only the excess power is used and the primary system is not placed in jeopardy.
- 5) Ensures there is no voltage rise on the engine management system, ensuring no alarms or damage to the system.
- 6) No vehicle warranty issues as it is not connected to the main system.

How does it work?

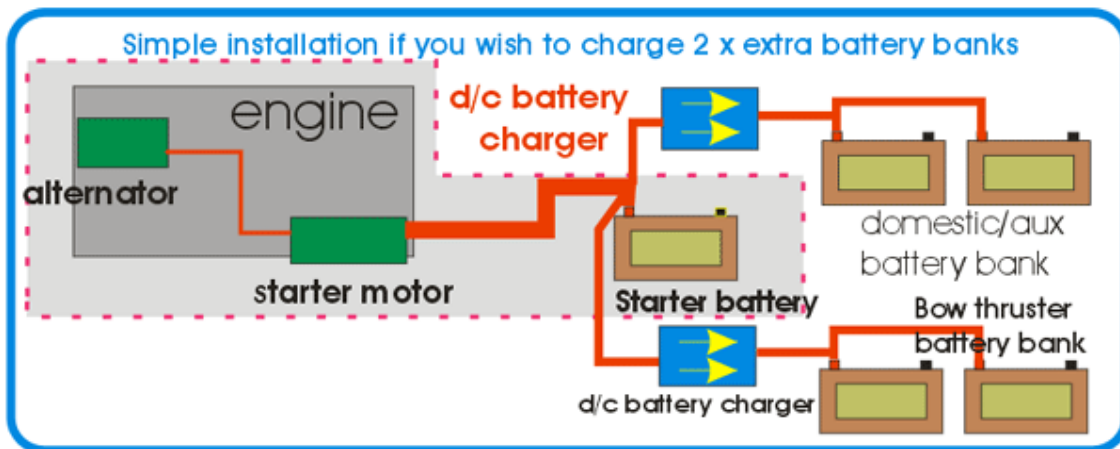
The unit monitors the engine's starter battery. It does nothing until the battery voltage exceeds 13 volts, then it waits for 2.5 minutes to ensure that some charge is replaced after the engine has started. It then pulls the engine battery down to no less than 13 volts. This enables the engine battery to still receive a charge and ensures the alternator works at its full potential. To further ensure the engine battery is OK, every 15 minutes the unit stops for 2.5 minutes and checks it.

The unit takes the 13 volts into the control box, then boosts this up to 14.8V (or what ever voltage the unit is set at) in order to fast charge the other battery or set of batteries. After a period of time (calculated by the software) when the auxiliary battery/batteries are full, the system will float the batteries at 14 volts, while still ensuring that the engine battery is in peak condition. It's a simple idea but its simplicity masks its complexity.

The dotted line shows the original system and how simple it is to connect the D.C. charger.



This is the most common and simplest installation. To connect the D.C. battery charger, all you do is connect one wire from the auxiliary battery bank to the unit and another from the unit to the starter battery. The starter battery stays between 13-14 volts (within its limits) and the domestic battery goes up to 14.4.-14.8 volts.



This option shows a situation on many boats or camper vehicles where there may be 3 x battery banks. Simply put 2 x d/c battery chargers on, and they will ensure both banks are catered for with no problem. The fact that one battery bank is further away than the other will make no difference.