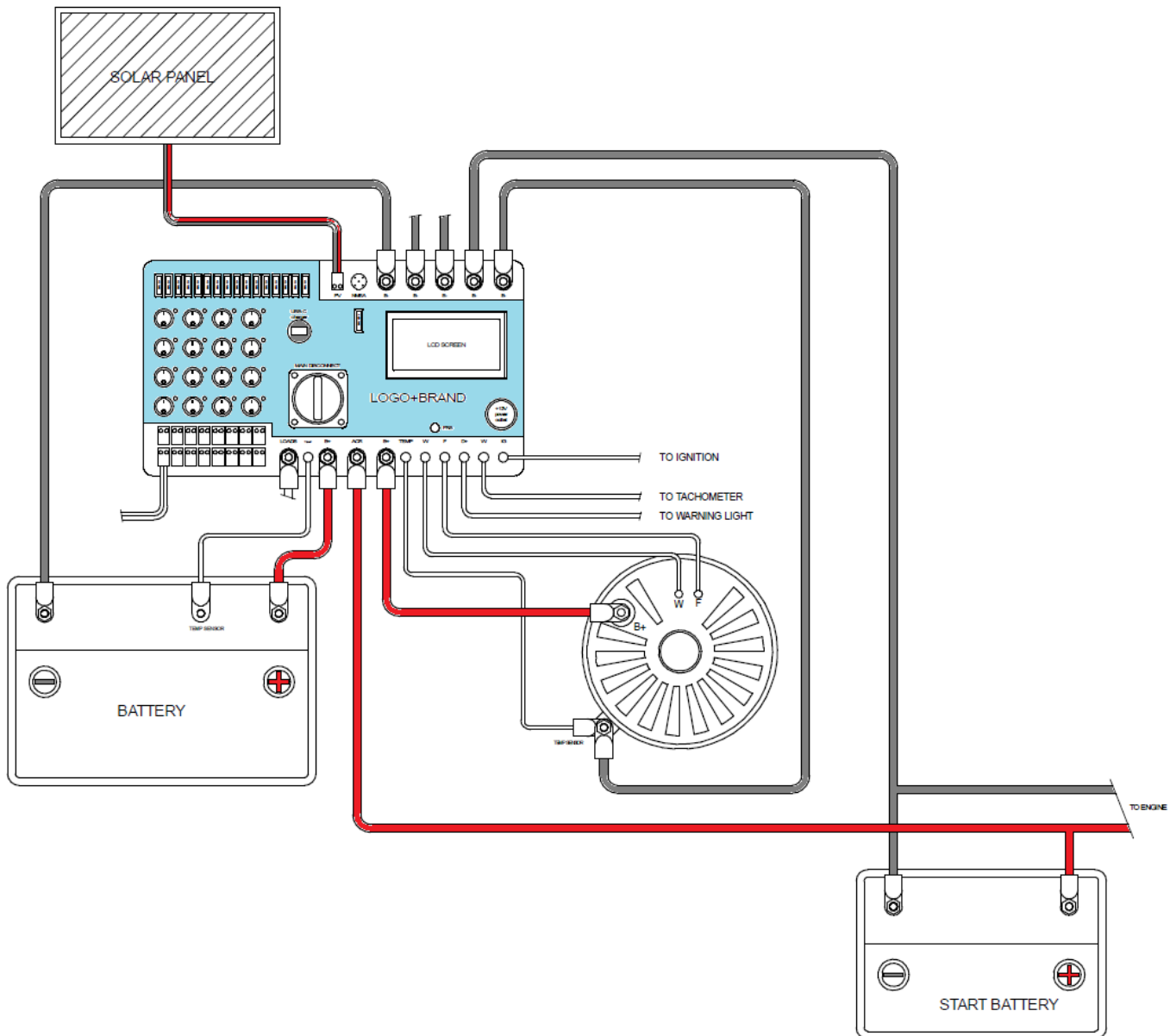


Designed to provide a single device solution to the complexities of today's boating needs; the SBC manages multiple power source inputs and distribution while optimizing the regulation of the alternator to various battery types.

The SBC replaces several stand-alone components such as;

- Electrical Distribution panel -- 16 fused circuits
- Main disconnect switch – integrated into the panel
- Solar Controller—dedicated input
- NMEA connection port
- LDC interface screen
- Remote regulator
- Multi-port power output – USB and automotive style “Power Port”

Connection diagram:

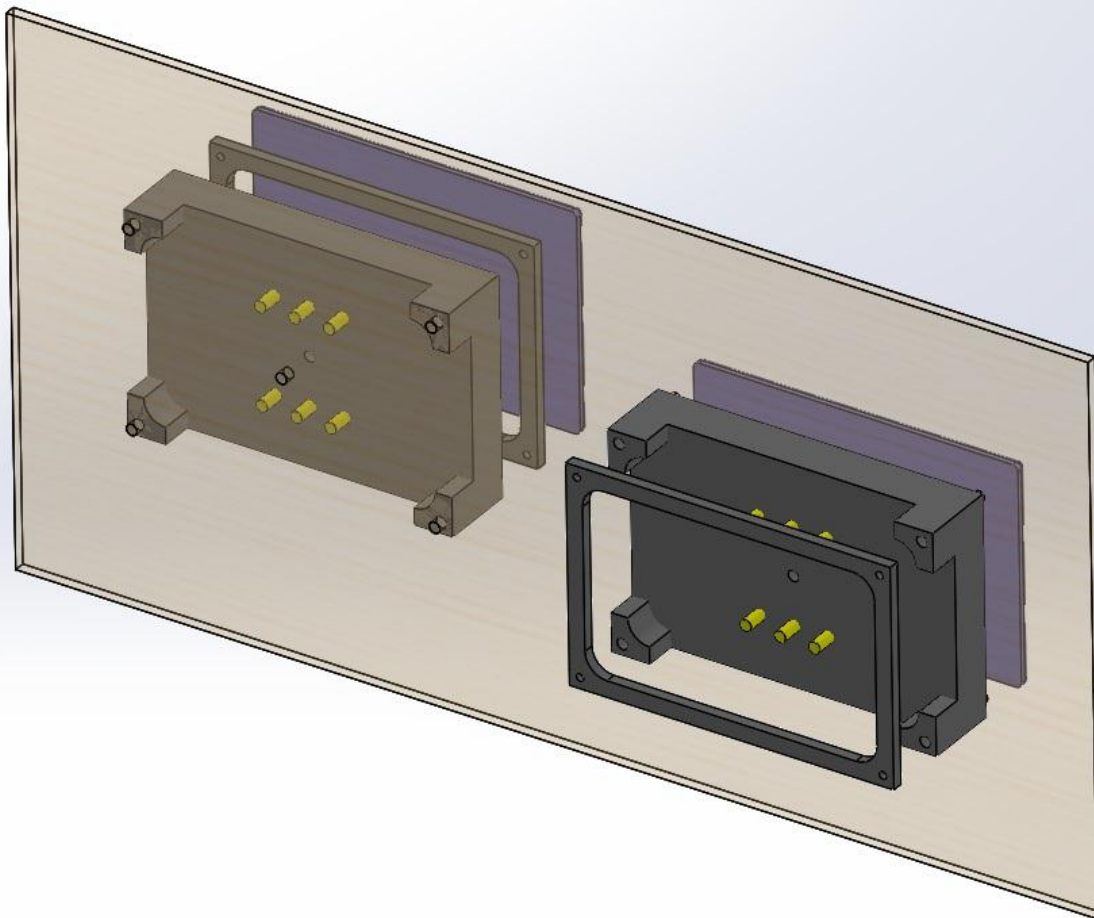


Proposed Controller features:

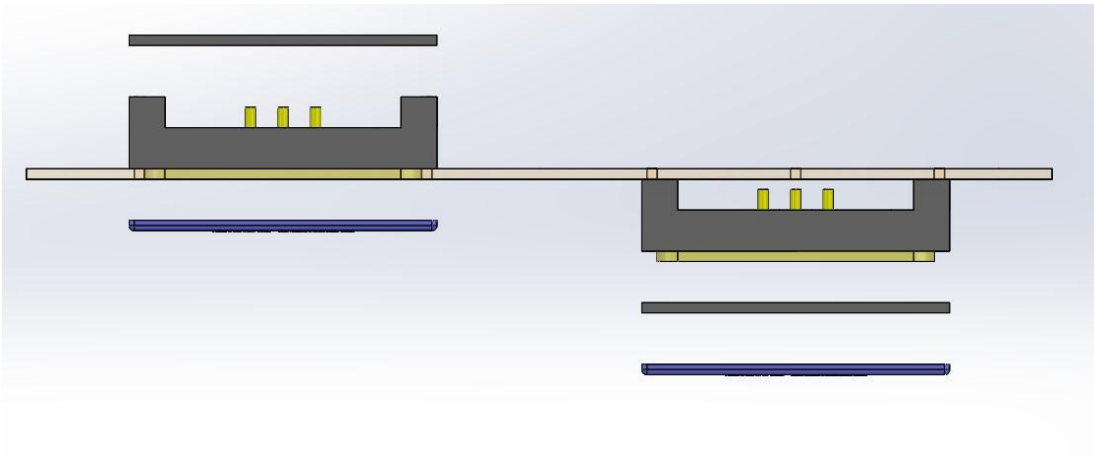
Feature Group	Feature	Description
Power distribution	Current Rating	The device is designed to handle both 12V and 24V systems with auto-detection. It is rated for currents not exceeding 250A through any connection at any time. All handled with copper bars 6mm or ¼" thick.
	Manual main disconnect	Engages the house battery. If the engine is connected to the start battery then it still can be used. Disables all system for storage or service.
	Automatic charging relay	Charges the start battery from either solar or alternator(s) when the system voltage is above the FLA set points. Current cannot flow from the start battery back to the system.
	Switch panel	Bank of 30 rocker switches with LED indication of power/blown fuses. Switches and their respective deckles are illuminated to be seen in the dark. Contact terminals are screws M4 or #10. Each switch can handle up to 30A. Fuses are ATC style. 4 out of the 30 switches are coupled with relays and can be activated programmatically depending on system's conditions: scheduled tasks, surplus of solar energy, etc.
	Power outlet	Cigarette lighter outlet for up to 10A. Works only for 12V systems.
	Spare load outputs	2 sets of M8 or 5/16" power post for spare powerful loads; one for an inverter, another for something else. Up to 250A.
Charging	Solar Regulator	Can handle solar panels up to 40V and 10A. This is approximately 1.5 square meters of surface area. 2 sets of M6 or ¼" power post connections to connect to up to two panels of the same type.
	Alternator Regulator	Can handle both high output and conventional alternators with available FIELD input (without internal regulator). Supports up to 2 alternators on the same engine. Alternator(s) must be of same voltage as the battery voltage. • P or N type of field coil • RPM sense • Current sense • Alternator temperature sense • Outputs to tachometer and warning light • Supports all battery chemistries; 3 charging stages: warm-up, bulk, and float • Field reduction switch • Field limitations based on current, engine RPM, alternator temperature
	USB Charger	Up to 1A USB-C type charger connector.
Interface features	LCD screen	Alfa-numeric, monochrome, illuminated, no touch screen
	Wi-Fi	Works in access point or station mode. No special software or drivers required. System status can be seen on any device running an internet browser.
	Remote support	Via internet
	Diagnostics and setup	Via USB interface and PC software
	NMEA-200 or CAN bus	SBC is a device on the network, or it can supply the power the boat's NMEA network. This is hardware selectable with an ATC fuse.
	Measurements	Current sensing on all charge sources and battery, voltage measurement at all contact points, temperature measurements for the alternator(s) and house battery.
	Mounting	Mounted on a flat surface with all the wiring going into an opening beneath the enclosure, or panel-mounted with all the wiring behind the panel.

Enclosure view and mounting arrangements:

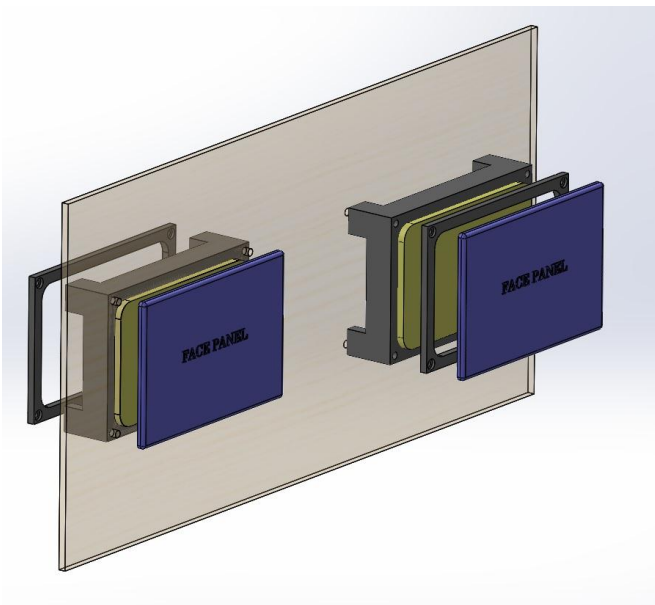
SBC has 3 parts to it: main enclosure, removable face panel, and spacer. The face panel quick-latches to the enclosure. Spacer goes to the back of the stack if the device is flash mounted with the panel's surface, or it goes in between the face panel and the enclosure if the device is mounted proud of the panel. The current posts are highlighted in yellow. The power and signal wires can enter the connection area from any direction.



Top view



Front view at the panel



Summary:

The SBC integrates several charge-control devices into a single convenient easy to install package. Providing electrical system control, safety and confidence while allowing a full user control and system status reporting. The SBC is an “all in one” solution to charge system complexities.

Safe power when you need it!