

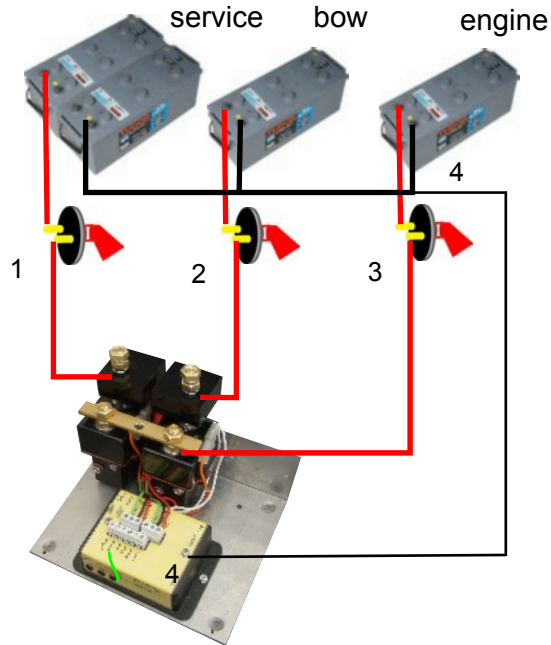
Mounting

Mount the VSR module to a flat surface in the same area as the battery isolator switches. This will give short charging cables with low volt drop.

Connecting up

Power connection are only required between the isolator switch and VSR module as shown at 1, 2, and 3 on diagram. Fuses should not be required as the main power fuse at the battery will provide protection, but check for any requirements for your country. Where long cables runs are used, or cables below the rating of the main fuses, local fuse protection should be used to provide cable protection, the contactors should normally have adequate power reserve.

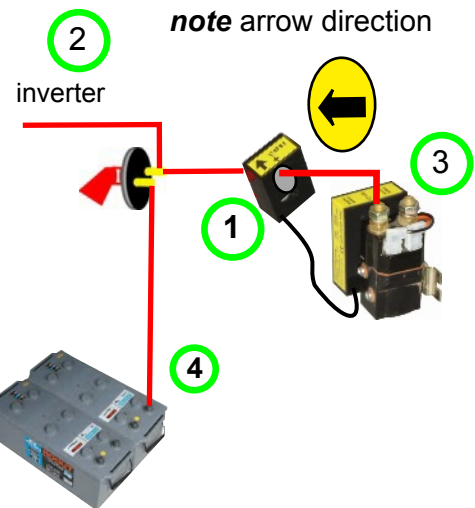
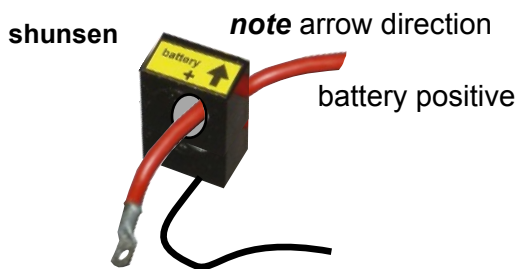
Negative connection is required for control systems, this should be 2.5 sq mm between negative terminal on control module and common battery negative. The control unit has internal PTC fuses (auto reset) that protect electronics and contactor coils, remote fuses are not required.



Shunsen mounting

The shunsen module is fitted by passing the power cable through the sensor ring, note the position of the arrow should point **to** the battery positive terminal.

Mount shunsen in position **1** between the VSR **3** and service battery **4** and inverter feed. **2**



Engine start / thruster interface

Modules are fitted with, or can be as a option, interface connection that monitors engine start or thruster use. This drops out the contactor if engaged due to bi-direction charge operation, isolating the charging system from high loads, low voltage and spikes to electronic equipment from the starter motor, or thruster use.

The system picks up a signal from the feed between to the starter motor solenoid to key switch, or bow / stern thruster control circuit. The thruster inter-face allows for both positive or negative control control signals

If the starter motor or thrusters do not have a suitable pick-up voltage, a remote current sensor can be fitted that monitors for high amperage and sends an appropriate signal. This also can be used should a inverter be retro-fitted, by monitoring it's use the charge circuit can be isolated to avoid high load being drawn from the engine battery and alternator, due to low service battery level. The contactors are rated to break at a amperage greater than their rated capacity, so check inverter load, where rating is exceeded look at fitting a chargeguard, or phone us for technical advise.

Link start, single engine / twin engine

single engine depending on the display supplied the link start start button may be pre-installed, if not the remote water protected button must be fitted in a suitable position and wired back the the two 0.25" spade terminals. Pressing the button will link batteries for approximately 2 minutes.

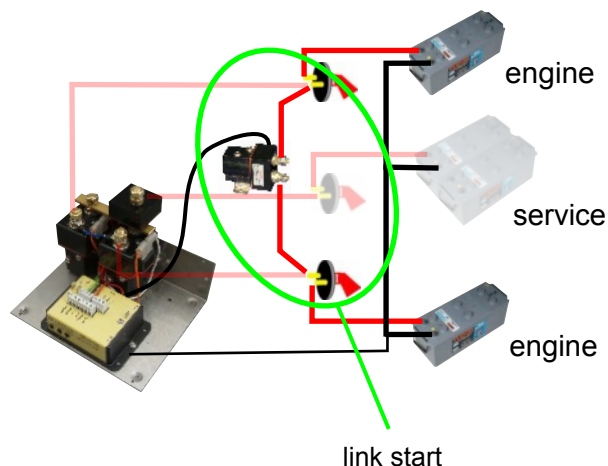
twin engine installation use a separate link start contactor, this links engine start batteries only, avoiding spikes and volt drop to electronics connected to the service bank during engine starting. If the contactor is not pre-installed, it should be connected between the two engine isolators with suitable rated cable, the coil of the contactor is then connected to the terminal block on the control module.

Twin engine external link start

The external link start contactor is connected between the battery isolators, making the connecting cable length a minimum, reducing both cost and volt drop.

This system is also used were the charge cables to the split charge module are to small for the starter motor current.

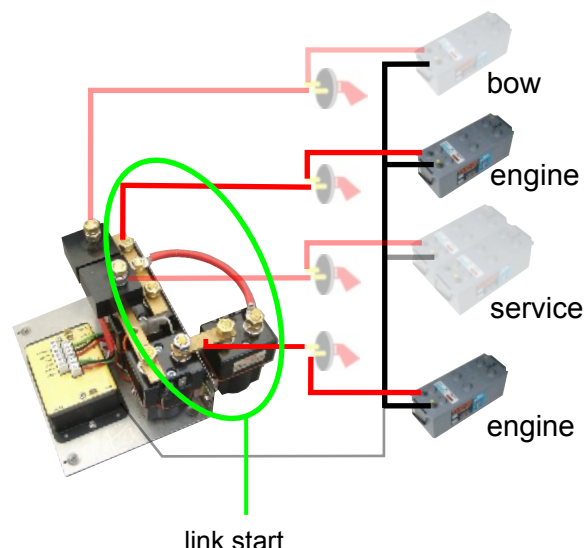
Control connection is a 2 core cable between contactor an split charge control module.



Twin engine, internal link start

The internal link start contactor is pre-wired between the input feeds from engine battery isolators. Control of the link contactor is also pre-wired, making this a very simple installation.

The critical point with this system is that all power cables are of a rating suitable for the starter motor load.



emergency link starting

Emergency link start allows an engine with low battery capacity to link to another battery bank to improve or provide starting. The one problem using the service battery is low voltage from starter motor power draw, and the spikes generated by the starter motor. This can have serious problems with electronic equipment and system memory.

With twin engine installation that use two engine battery banks, by linking these for emergency starting a clean power supply is maintained for the service power supply.

Start the good engine, press the link button to close the link contactor for 2 minutes, allowing the engine with the low battery to start from the other battery bank. Coil power supply is optimised by drawing power from all battery banks available.

adjustment

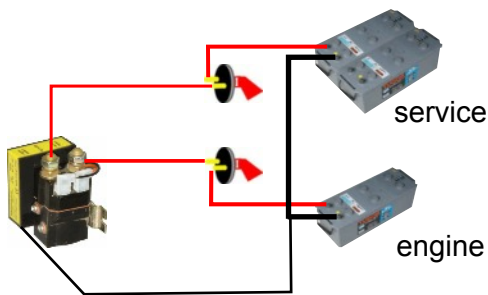
VSR both the voltage that the contactor is engaged and the drop out voltage can be adjusted from factory setting, see paperwork that was supplied with the unit.

Shunsen module can be adjusted for both high amperage trip and low current rest values, again this may vary with module, check paperwork with unit or contact **Powercentre** technical.

SINGLE ENGINE BATTERY BANK LAYOUT OPTIONS

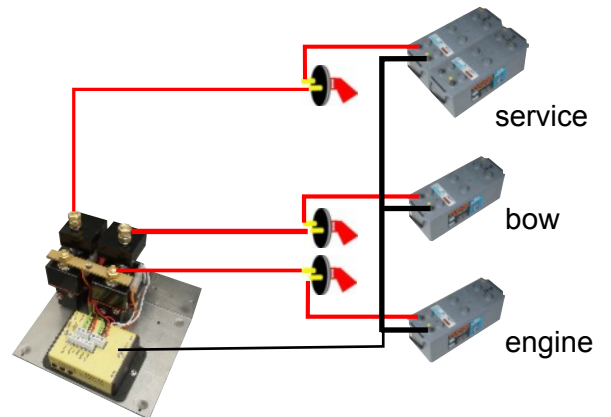
P2000

Single engine, two battery banks



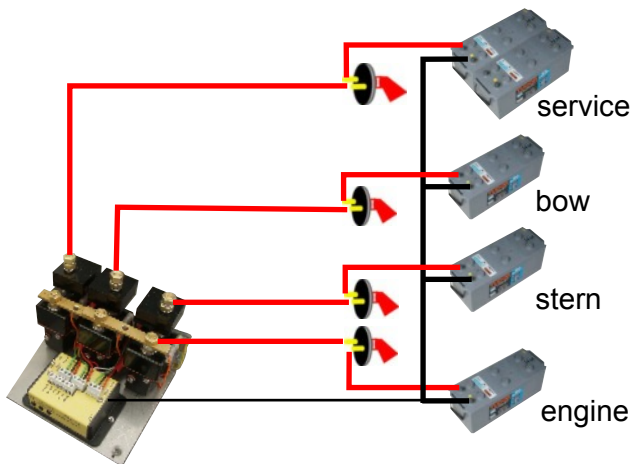
P2100

Single engine, three battery banks



P2200

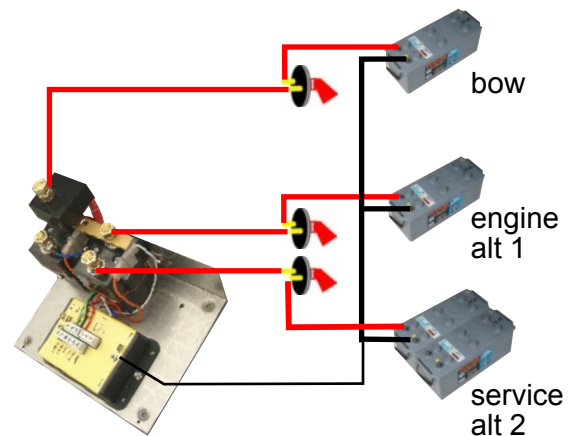
Single engine, four battery banks



P2600

Single engine, two alternators three battery banks

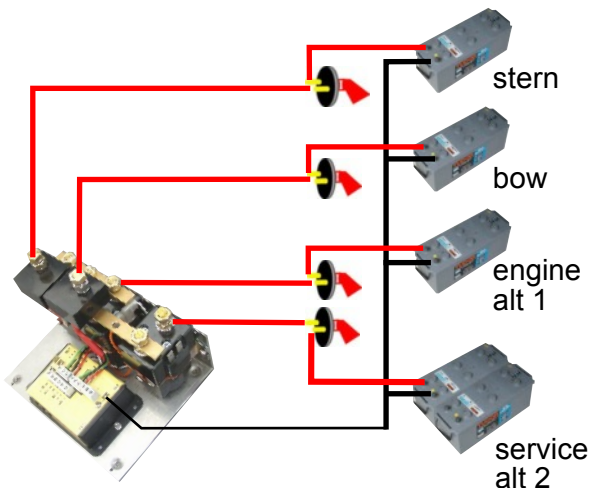
Alternator 1 wired to engine battery,
Alternator 2 wired to service battery bank



P2700

Single engine, two alternators four battery banks

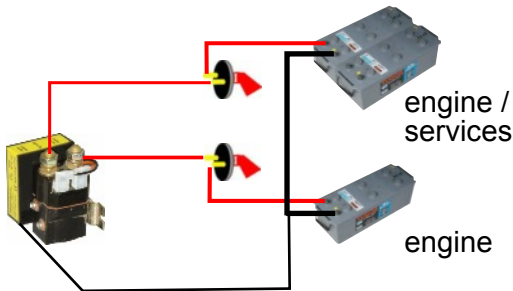
Alternator 1 wired to engine battery.
Alternator 2 wired to service battery bank



TWIN ENGINE BATTERY BANK LAYOUT OPTIONS

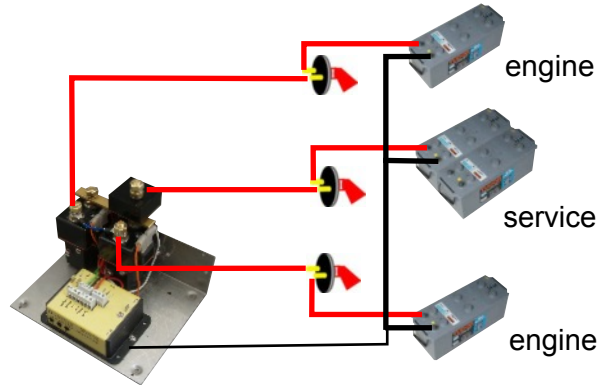
P2300

twin engines, two battery banks



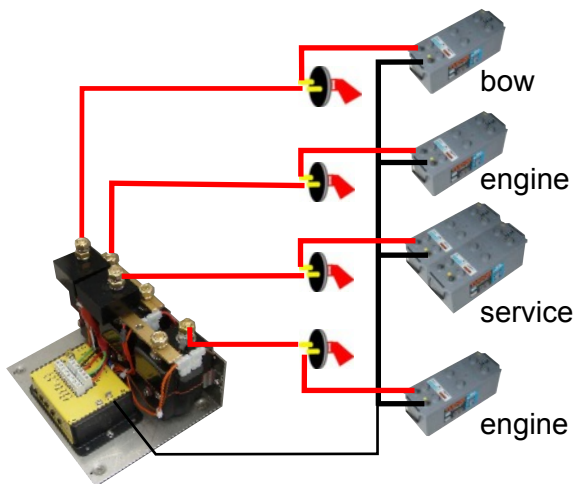
P2400

Twin engines, three battery banks



P2500

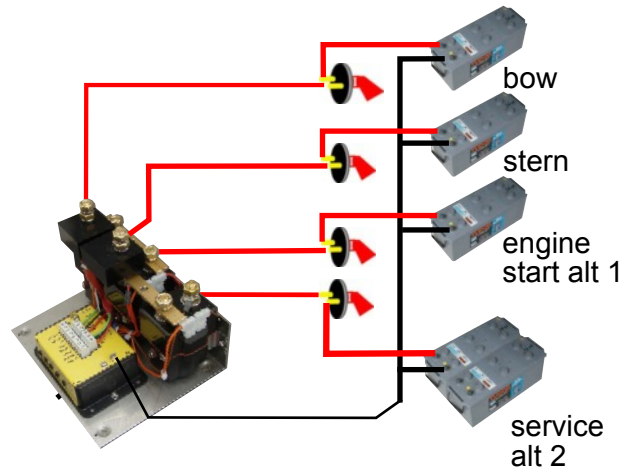
Twin engines, four battery banks



P2830

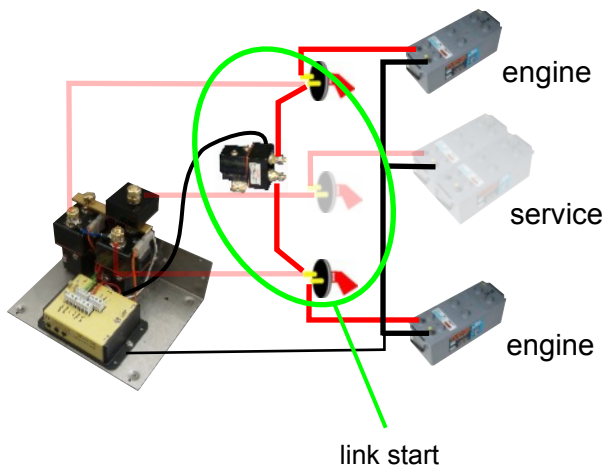
Twin engine, start, service, bow, stern battery

Both engines start from start battery bank, port alternator wired to start battery, starboard alternator wired to service battery bank.



P2xxx-01

Twin engine external link start



P2xxx-02

Twin engine, internal link start

