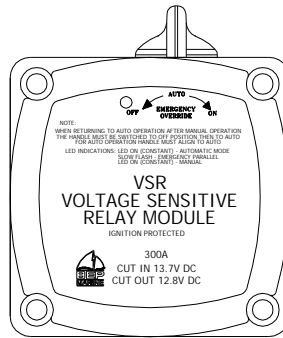




710-300A VOLTAGE SENSITIVE RELAY

OWNERS INSTRUCTION MANUAL



The 710-300A VSR allows isolation of a second battery and electronics from harmful engine starting spikes, while allowing two or more batteries to be charged at the same time.

The relay stays open when the engine is first started and remains open during initial charging until the start battery has reached a preset voltage (13.7V/27.4V). The relay then closes, allowing the two batteries to be charged together. When the engine is stopped, the voltage returns to normal levels, which allows the relay to open again, separating the start battery, eliminating the possibility of discharging the wrong battery. The 710-300A also has the additional feature of being able to be used as a paralleling solenoid for emergency starting. This can be operated through a button on the dash and will instigate for a preset time of 10 minutes. Once this 10 minutes has passed, if the voltage is up high enough for the VSR to operate, it will stay engaged. If not it will disengage.

The 710-300A VSR can also be used as a emergency parallel only (see back page for details).

The 710-300A VSR has a manual over-ride so it can be set to manual (On-Off) or automatic operation mode.

FEATURES

- Dimensions: 102mm x 102mm x 105H

- On-Off Manual over-ride function.

- 710-300A-12V for 12 volt systems, 710-300A-24V for 24 volt systems

- 3 Amp momentary draw to operate.

- Indicator light for functions.

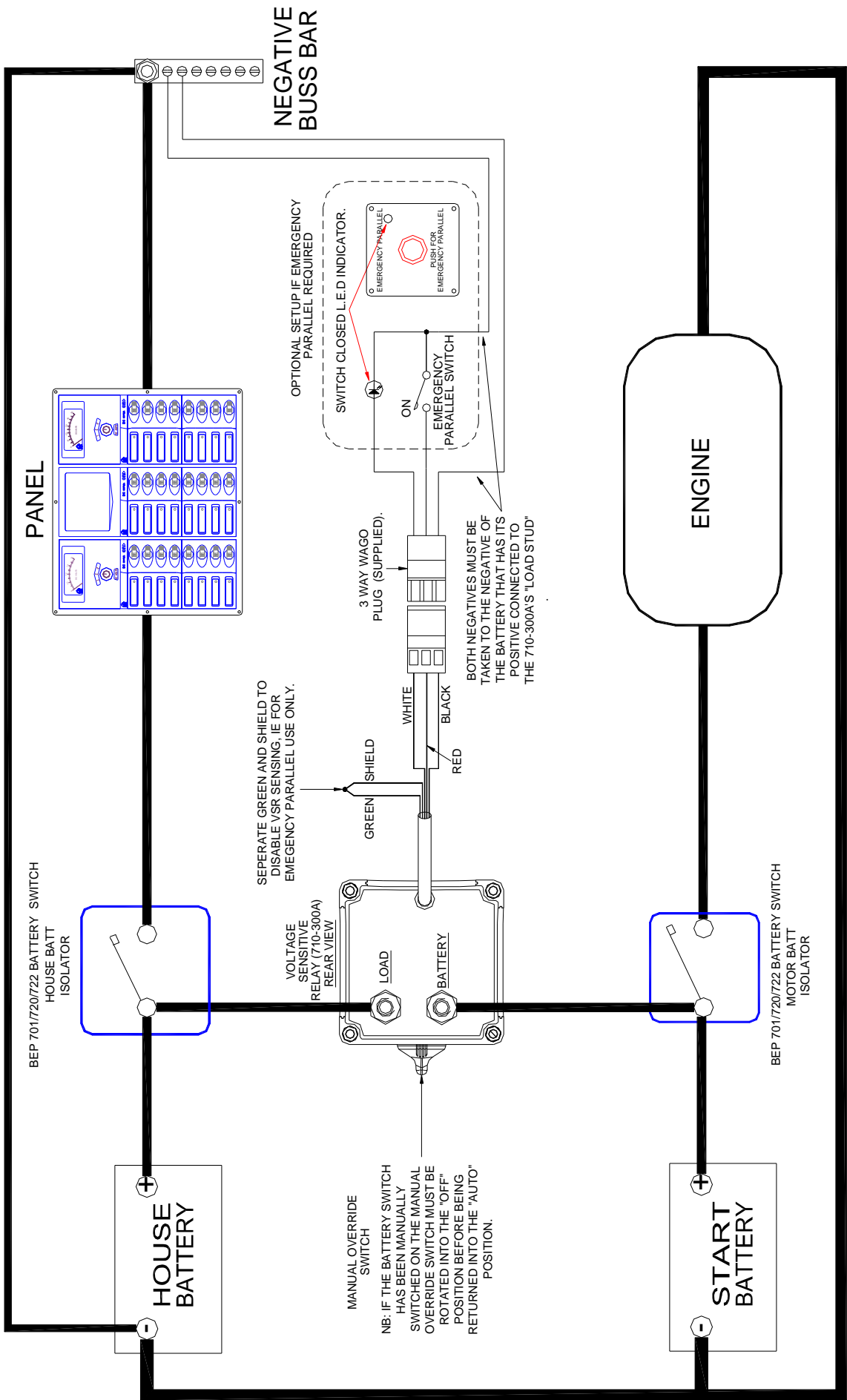
- 300 Amps continuous rating.

- 1500 Amps for 10 seconds.

- Ignition protected.

WIRING

FIG 1



OPERATION

AUTOMATIC

For automatic mode the manual knob must be in the automatic position. In “automatic” mode the VSR is self-regulating. When the start battery reaches and maintains 13.7 volts (27.4V) for 5 seconds ie under charging conditions, the relay closes and allows the second battery to charge in parallel with the start battery. When the engine is running and the start battery falls below 12.8 volts (25.6V) for 10 seconds, due to a heavy load winch/bow thruster etc or the charge source is removed (ie engine/alternator is stopped), the relay opens once again isolating the batteries.

MANUAL

When either manual position has been selected both automatic (VSR) and remote switching functions are disabled

OFF: When the VSR is manually switched to the off position (see DIAG 1) the house and start batteries are electrically isolated from each other.

ON: When the VSR is manually switched to the on position (see DIAG 1) the house and engine batteries are paralleled (will act as one large battery bank ie charge/discharge together).

NOTE:

IF UNIT HAS BEEN MANUALLY SWITCHED ON, SWITCH THE MANUAL KNOB INTO THE OFF POSITION BEFORE RETURNING IT TO THE “AUTO” POSITION.

EMERGENCY PARALLEL (REMOTE PARALLEL)

When the emergency parallel switch is pressed the contacts in the VSR will close, paralleling the house batteries to the flattened engine batteries. This will enable the engine to be started using the extra capacity from the house batteries. (it is recommended that any sensitive electronics be turned off during emergency parallel starting). The batteries will remain paralleled for 10 minutes after which time the VSR will resume normal operation.

LED INDICATIONS

LED ON (constant): The VSR is on (automatic mode, contacts closed).

LED OFF: The VSR is in manual on (contacts closed) or off (contacts open).

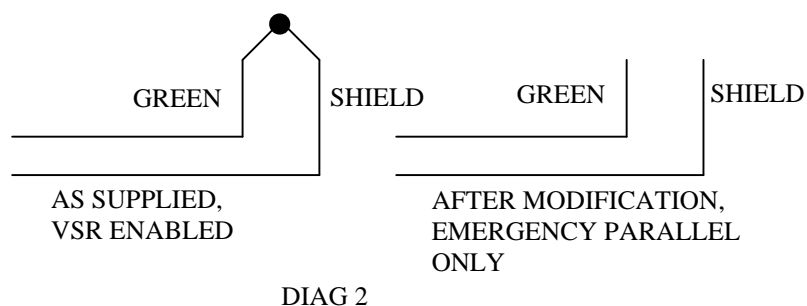
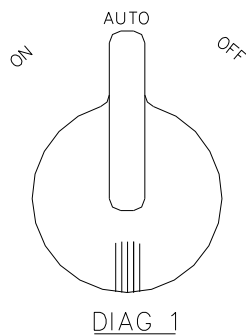
FLASHING: The emergency parallel function has been activated by the remote switch (contacts closed, house and start batteries paralleled). The VSR will stay in this state for ten minutes then return to normal VSR mode.

EMERGENCY PARALLEL SWITCHING

For the emergency parallel to work the emergency parallel button must be a momentary type. Refer to FIG 1 for wiring instructions

EMERGENCY PARALLEL OPERATION ONLY

To use the VSR as an emergency parallel switch only, separate the green and shielded wires (see DIAG 2). Ensure that any exposed wires are sealed and insulated afterwards.



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