# VSR - VOLATGE SENSITIVE RELAY

**Model: 161059**

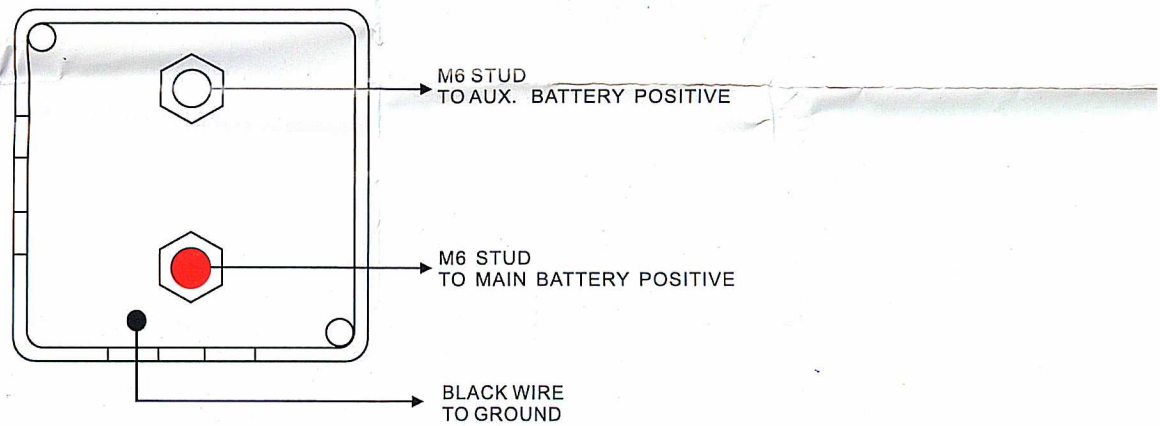
- Dual battery charging made easy
- Protects electronics on house battery circuit from engine start up spikes
- Fully automatic

SPECIFICATIONS:
Continuous: 140Amps
Voltage system: 12VDC
Sense: dual
Engages: 13.3VDC
Disengages: 12.8VDC

VSR Operation:
The Voltage Sensitive Relay (VSR) allows two batteries to be charged at the same time. When the engine is started and either battery reaches 13.3 volts, the VSR engages, allowing two battery banks (start and house) to be charged simultaneously. When voltage of both batteries drops below 12.8 volts (eg. the engine is stopped), the VSR disengages, separating the batteries. This system eliminates the possibility of draining the wrong battery and protects sensitive electronic equipment powered from the house battery from harmful engine start up spikes.

How the VSR works:
Once one battery's voltage rise to above 13.3VDC, the VSR switches to charge both batteries in parallel, when both of the batteries' voltage drops below 12.8VDC, the VSR disengages. Disengagement can occur at idle (low amps out due to slow speed of alternator) or if the house battery is at a low charge. An increase of the engine's RPM will increase the alternator output and hold up the voltage.

Wiring:



# VSR - VOLATGE SENSITIVE RELAY

**Model: 161060**

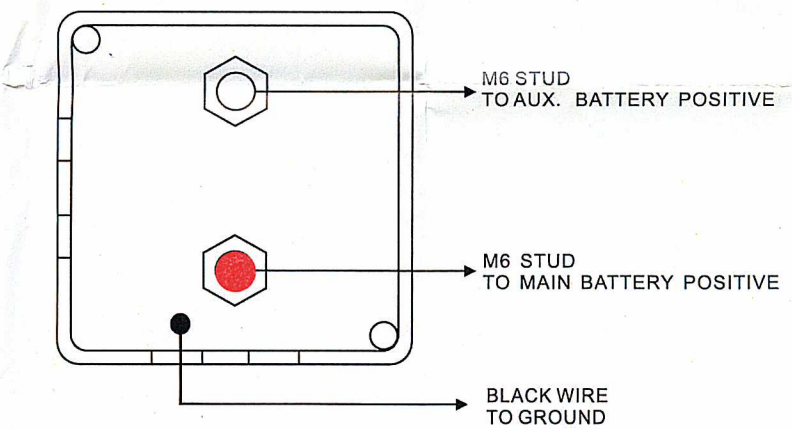
- Dual battery charging made easy
- Protects electronics on house battery circuit from engine start up spikes
- Fully automatic

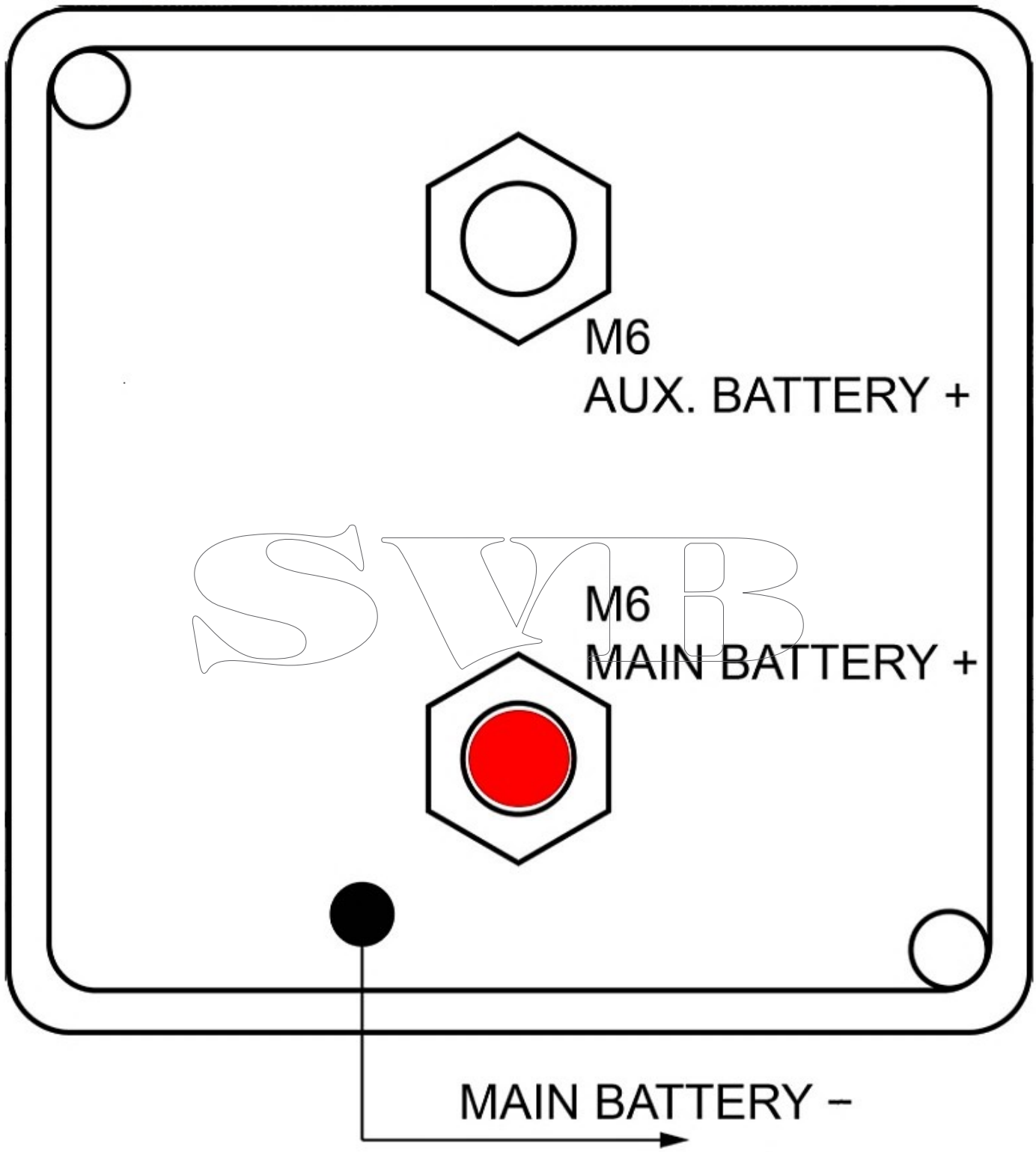
SPECIFICATIONS:
Continuous: 140Amps
Voltage system: 24VDC
Sense: dual
Engages: 26.6VDC
Disengages: 25.6VDC

VSR Operation:
The Voltage Sensitive Relay (VSR) allows two batteries to be charged at the same time. When the engine is started and either battery reaches 26.6 volts, the VSR engages, allowing two battery banks (start and house) to be charged simultaneously. When voltage of both batteries drops below 25.6 volts (eg. the engine is stopped), the VSR disengages, separating the batteries. This system eliminates the possibility of draining the wrong battery and protects sensitive electronic equipment powered from the house battery from harmful engine start up spikes.

How the VSR works:
Once one battery's voltage rise to above 26.6VDC, the VSR switches to charge both batteries in parallel, when both of the batteries' voltage drops below 25.6VDC, the VSR disengages. Disengagement can occur at idle (low amps out due to slow speed of alternator) or if the house battery is at a low charge. An increase of the engine's RPM will increase the alternator output and hold up the voltage.

Wiring:






**48402/48403 CAR GO Laderelais VSR, 140 A**