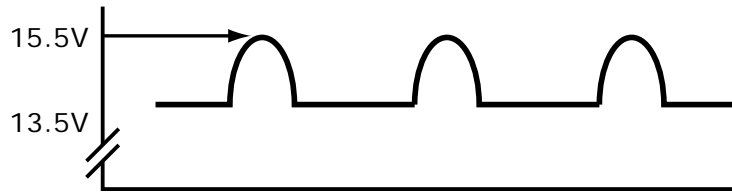


Application Brief - The 120 Amp SI ACR Handles "Noisy" Charger Output

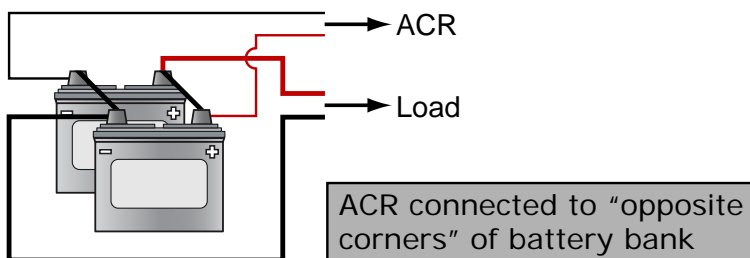
The primary function of an automatic charging relay (ACR) is to combine battery banks so that they can share the output of a single charger. Some chargers, especially chargers incorporated into inverter units, charge with a pulsing current. This pulsing current output can interfere with some ACR voltage sensing circuits. The peaks may be perceived as a higher voltage level, perhaps an over-voltage condition, and cause the ACR to disconnect battery banks, or to rapidly cycle ON and OFF.

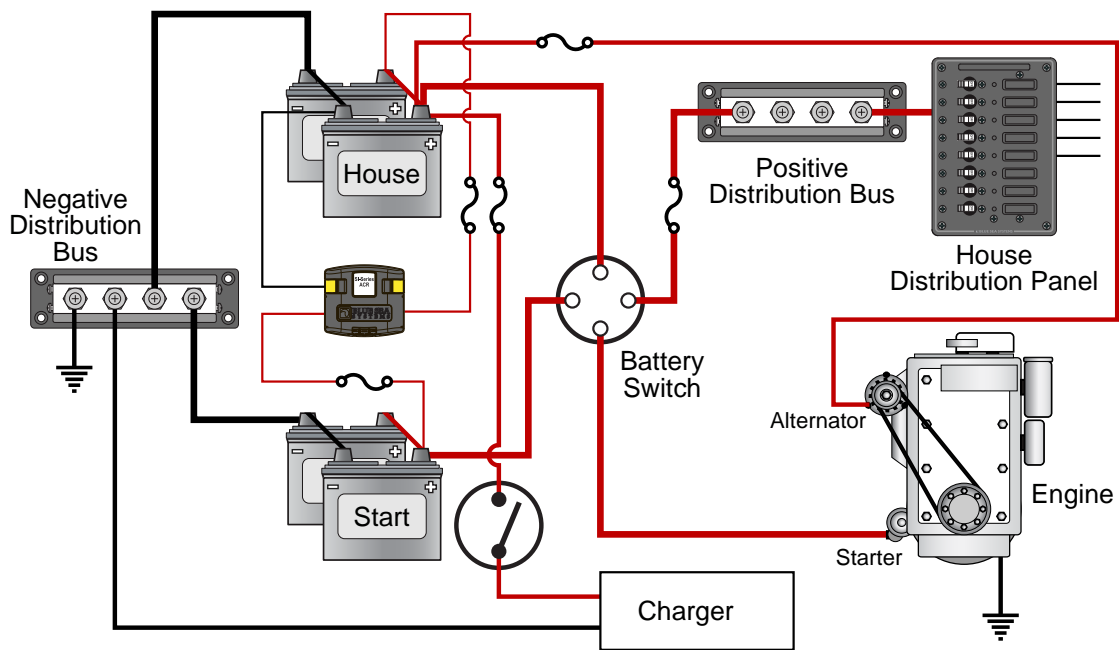


Charger Output

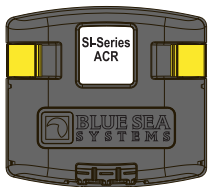
The sensing system in the Blue Sea Systems' 120 Amp SI ACR, part number 7610, is designed to tolerate a high level of noise (including pulsing charger output). It has built-in filtering circuitry that smoothes the charger output, thereby mitigating the pulsing effect.

The way in which any ACR is wired into the boat's circuit can affect its functioning. Even though the 120 Amp SI ACR filters noisy charger output, the noise problem can be further mitigated by connecting the ACR through its own wiring to the battery banks, avoiding shared wire with the charger. ACRs generally perform better when connected directly to the battery banks rather than out at battery switches with a network of wiring shared with chargers or alternators. Furthermore, it helps to connect the ACR to "opposite corners" of the battery bank.





Wiring Diagram



[Click here to read a press release on the 120 Amp SI ACR \(77.4kb - PDF file\).](#)