BATTERY FUSE/FILTER ASSEMBLY

DESCRIPTION

The 1A7 Battery Fuse/Filter Assemble provides distribution, fusing, and filtering of system operating voltages derived from the battery. The Fuse/Filter assembly also contains the Low Battery Disconnect Relay and the Front Panel Battery Voltage Meter series dropping resistor.

DETAILED THEORY OF OPERATION

Battery voltage enters the Fuse/Filter Assembly on TB1-1. From here it fans out for routing in the Power Backup System. The Fused Batt (13.4V) line is fused by F1 and provides fused battery voltage to the Main Relay 1RY1 and the Disconnect Relay 1A7RY1.

R1 is the Front Panel Battery Voltage meter series dropping resistor.

The Battery 13.4V line is a direct connection from the battery to the Low Battery Disconnect circuits and the Low Battery Charge circuits. These lines are fused on their respective PCB's.

F2 fuses the Filt Batt (13.4V) line and all the 9.6 volt lines. Filtering is provided on this line by C1, C2, and L1. The Filt Batt (13.4V) line provides filtered power to the Main Relay driver transistor on the 1A1 board and to the Inverter driver transistors.

Filt Batt (13.4V) leaves the 1A7 board on TB3-1 for application to the 1A4 9.6 volt regulator. Regulated 9.6 volts from the 1A4 Regulator returns to the 1A7 board for distribution. 9.6 volts is a general operating voltage for most of the system circuits. These include Charger circuits, Timer circuits, and Inverter circuits. 9.6 volts is also applied to the contacts of RY1 Disconnect Relay.

Under normal conditions RY1 is energized and 9.6 volts is passed out on the Sw 9.6 volt line for application to the Timer Control circuits. If Battery voltage drops to 0% charge (11.5V), the Low Battery Disconnect circuits will de-energize RY1 and remove Sw. 9.6V from the Timer Control circuits. This will cause the Main Relay to de-energize disconnecting the battery from the Inverter and preventing further deep discharge if the battery.

D1 dampens the effects of inductive kickback when RY1 de-energizes.