

D5718 Microcontrolled Battery impedance multimonitor

The D5718 battery impedance monitor measures the impedance and voltage of a battery connected to an SCR type battery charger by periodically applying a low frequency, precisely controlled current load to the battery and determining the battery impedance as an equivalent source resistance. The impedance of a battery can be used as an indication of the integrity of the battery and associated wiring and fusing.

The D5718 monitor also measures battery high and battery low voltages to provide a complete battery monitor on a single circuit board.

General description.

The D5718 multimonitor comprises a single open printed circuit board of dimensions 100mm x 160mm, with a standard "Eurocard" layout. The monitor comprises the following major elements:

- A. Precision DC current sink. This current sink draws a constant current from the battery and charger, essentially independent of battery voltage.
- B. Microprocessor controlled comparator and sample and hold. The voltage from the battery during test and non test intervals is compared in a digital sample and hold circuit. The difference between the two voltages is used to calculate the low frequency battery impedance.
- C. Alarm output leds and indicator lamps. The D5718 provides local and remote LED drivers for Battery High, Battery Low, Power ON, Battery Test ON, Discharge test ON and Battery Test fail.
- D. Remote alarm contact. The D5718 has a single 'C' form changeover contact to provide an alarm relay indicator for remote monitoring.

Features

The D5718 monitor can be used to check battery impedance for battery banks ranging from 24V and up to 120V nominal. When the battery impedance is checked the pulse of current cause the output voltage to fall. The amount of fall of voltage is directly proportional to the impedance of the DC source. As the battery is

The D5718 impedance monitor can be retrofitted in a charger with the optional mounting kit and wiring assembly, or it can provided loose.

Battery chargers and Switchgear trippers

usually the lowest impedance the alarm is set to trip for changes in this value. In addition, open circuits in battery wiring or fusing are detected by the greater voltage deviation that occurs in this case.

Installation tips

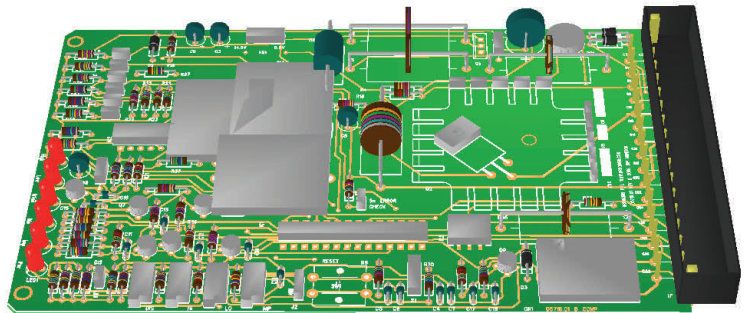
The performance of the monitor is affected by charger capacitance and response rate. While most SCR controlled chargers will be suitable the rapid response of some SMPS type chargers may reduce the monitor sensitivity.

Similarly, the maximum capacitance of other connected circuits should be less than 33000uF at 120V

Application notes are available on request to the factory.

Standard Features

- Test battery impedance 0.5ohm—5ohm.
- Battery low voltage alarm
- Battery high voltage alarm
- Digital operation
- Programmable test times
- Adjustable alarm sensitivity
- Available in wide voltage range
- Detect battery open circuits in fuses and wiring.



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