

# FD-2000 BATTERY FAULT DETECTOR



Since 1972, ALBER has been known as the industry leader in the design and manufacture of "Storage Battery Test Equipment." Today, through visionary technology, ALBER continues to set standards for new product development. Commonly referred to as "The Battery Test Experts," Alber, in addition to manufacturing, also provides technical training programs both publicly and privately.

## Features

- Open Circuit Detection
- Negative Ground Fault Detection
- Positive Ground Fault Detection
- Voltage Detection
- Local and Remote Alarm Reset
- Non-Intrusive Sensor
- SCADA Interface
- 2-1/2 Digit LED Display
- 0-199.9 Volt DC Range
- Single String Application
- Heavy Duty Enclosure
- 8-1/2"H x 4-1/2"D x 10"W
- 120 or 240VAC Powered



**Model FD-2000 Battery Fault Detector**

## System Description

High battery circuit resistance can lead to dangerous heating levels during a discharge, or even total failure of emergency power during an unplanned outage. An open circuit condition in a standby battery string will prevent the DC link from supplying power to critical loads. Prior to an open circuit condition, circuit resistance continually increases, causing a decrease in charging current. The charger maintains a constant system voltage, therefore loss of charging current has no effect on typical station voltage monitors. In addition, charging current is normally so small, relative to the system load, that there is little or no effect on current monitors. Consequently, open battery circuits often remain undiscovered until after the AC power source fails.

The Alber Model FD-2000 has been designed for use in utility or similar installations where ruggedness and ease of installation is of utmost importance. The fault detector will provide early detection of a high battery circuit resistance because it senses the AC component or ripple of the charge current. Experience has shown that the ripple component of the charge current decreases significantly with an increase in the conduction path resistance. Conventional battery alarms monitor the output voltage and load current of the battery charger, but can't detect a small reduction in the charge current that could signal a battery problem.

When an increase in battery circuit resistance or an open circuit causes charge current to fall below the threshold level, the detector will switch to the alarm state. Alarm contacts can then be fed into a SCADA or other Remote Monitoring System that will report the failing condition. In addition to open circuit conditions, the FD-2000 alarms on out of tolerance overall voltage conditions, both high and low, and also incorporates ground fault detection. Alarms are set up to "latch" locally until reset, and automatically clear when the alarm clears for remote alarm indication. When all parameters are in tolerance, the FD-2000 lights a green "NORMAL" LED.