DCM Firmware Release Notes

Version 2.50

- The Temperature Enable line is now inactive after getting a temperature reading.

- The cool down time for an Average test is now 11 minutes.

- Intertier tests are now averaged eight times instead of five.

- A calibration constant is now available for each voltage mode of 2V, 4V, 8V and 12V. This simplifies production by not having to calibrate to order. The five calibration constants are stored in EEPROM and are updated only after receiving a command to set calibration. These constants are only for backup. Resending calibration constants after upgrading firmware is not needed.

Version 2.41

- Extend the cool down time to 10 minutes.

Version 2.39a0

- Qualify alarm with five consecutive readings. Add an alarm counter for each parameter.

Version 2.38

- Cool down time between DCM during resistance test is now 10 minutes (was 5 minutes) when set to averaging mode.

Version 2.37

- Dipswitch 2, position 8 will now make firmware run from PROM (Clear Flash).

- Implement software data protection for Flash chip to protect against corrupted code.

- Multi board hardware EE2 chip select is pinged as if new board EE2 watch dog timer. On some boards this causes diagnostics and check settings to not operate. After this symptom happens firmware cannot be upgraded. Flash chip must manually be changed with programmed one of previous version.

- Correct Float current polarity bit.

Version 2.33

- Fixed intercell resistance readings returning a value too high.

Version 2.31

- Function for averaging intertiers during a resistance test is controlled by position 4 of the DIP switch.

- No longer get invalid readings for intercell or intertier readings.

- Added support for new External Load Module for UL certification. Position 6 of the DIP switch should be ON for new board.

- Corrected some timing issues that dealt with some differences in hardware components.

- Add intertier voltage to cell voltage when Monitor Load Control is doing a load test.

- Added support for new DCM processor for UL certification. This included the following:

    a - Automatic selection of gain circuits for specific cell voltages.
    b - Support 16 bit serial EEPROM
    c - Poll LED to identify when DCM is being addressed.
    d - Support float current transducers.

Version 2.28

- Implemented new communications protocol between Controller and DCM's. This will improve the reliability of the communications.

- Some DCM's would not report resistance values during an automatic timed test. This is now resolved.

- Added a five minute cool down time after doing average test and intercell test. On large systems, this allowed the load module to cool down during resistance test.

Version 2.18 and 2.17

- When making intercell measurements, the readings are now averaged to compensate for noisy systems.

Version 2.16

- Never released.

Version 2.15

- The second alarm on each DCM can now be reset properly.

- Cells that now have an intertier assigned will process the alarm properly.

- Activate alarm relay on both multiplexer boards during a resistance test. This relay is used to isolate power and ground to the temperature probe.

- Improved performance of external load module.

- DCM's now support intercell readings. The DIP switch on the DCM must be configured properly. This switch will be set from the factory.

DCM Switch 2/2 = Gain Control
Closed = Old DCM or new DCM w/dual readings.
IC = hi gain
IT = low gain
Gain resistors installed are the same as old DCM configurations.
Open = New DCM with single readings only.
IT (R test) = High Gain
IT (Discharge) = Low Gain

DCM Switch 2/3 = Single/Dual Mode
Closed = Single
Subtract IT during resistance test and add IT voltage during discharge.
Intertier assignment remains as independent channels:
IT 1-5 = IC channel 25 - 29
IT 6-10 = IC channel 55 - 59

Open = Dual
No adding or subtracting of intertiers.
Intertier assignment is intercell channel adjacent to cell that has intertier assigned.

- Up to 10 intertier alarm thresholds can now be set. Previously only one could be set.

- The % of warning for resistance alarms is now functioning.

- Cell voltage and OV discharge thresholds now work for detecting problem discharges.