

Integrated Prototype Resistive Load Test (7/19/2023)

Firmware Rev: 4

Purpose: This is a rerun of the resistive load test with all the electronics integrated into the prototype. The resistive load test verifies the control system can control a constant current without connecting a battery load.

Description: The charger is set to resistive load test mode. This allows the set point of the charger to be selected from three options. Each option is tested into a 250Ω resistive load. The current sensor measured ADC code is recorded and the current is also measured with a hall effect multimeter.

Results:

ADC Code Set Point	Current Set Point (A)(1)	Measured ADC Code	Measured Current (A)	Calculated Voltage (V)(2)
120	0.983	119	0.96	240
100	0.816	101	0.83	207.5
75	0.606	73	0.65	162.5

(1) The current set point is computed using the current sensor transfer function.

(2) The voltage is calculated by multiplying the measured current by 250Ω .

Analysis: As was previously observed, the measured current seems to be closer to the set point for the higher voltage conditions.