

PI Filter Constant Current Resistive Load Test (5/19/2023)

Test Firmware Rev: 2

Purpose: This is another attempt to quantify the control capabilities of the generator without connecting a battery pack.

Description: A 250 ohm resistive load is connected across the output of the generator. The current set point of the generator is varied, and the voltage across the load is measured and used to calculate the real output current.

Results:

The load resistance was measured to be 249Ω.

Setpoint	Theoretical Set Point Current (A)	Measured Voltage (V)
75	0.61	155.1
90	0.73	165.4
100	0.81	197.6
110	0.9	220.2
120	0.98	242

Calculated Current (A)	Error (%)	Notes
0.62	1.64	Clear Oscillation Observed
0.66	9.59	Clear Oscillation Observed
0.79	2.47	
0.88	2.22	
0.97	1.02	

Analysis: As has previously been observed, the higher current set points seem to regulate better.