

Calibration of 3700 series ELoad

Verification test requirements

Be sure that you perform the verification tests:

- Under the proper environmental conditions.
- After the specified warm-up period.
- Using the correct line voltage.
- Using the proper calibration equipment.

Environmental conditions

Conduct your performance verification procedures in a test environment that has:

- An ambient temperature of 18-28°C (65-82°F).
- A relative humidity of less than 80% unless otherwise noted.

Line power

The 3700 series e-load requires a line voltage of 110V/220V, $\pm 10\%$ and a line frequency of 50Hz to 60Hz.

Warm-up period

Allow the 3700 series e-load to warm up for at least 30 minutes before conducting the verification procedures.

Also, allow the test equipment to warm up for the minimum time specified by the manufacturer.

Recommended test equipment

- Fluke 341 Voltage Calibrator
- Keithley 2000, 6 1/2 digits multimeter
- Power Supply (8v, 0~30A)
- $0.1 \Omega \pm 0.01\%$ precision resistance

Calibration of Voltage

① Open the upper cover of the Electronic Load, make sure all the instruments have been warmed up for at least 30 minutes. Set the e-load to OFF state. Connect the e-load to Voltage Calibrator as Figure 1.

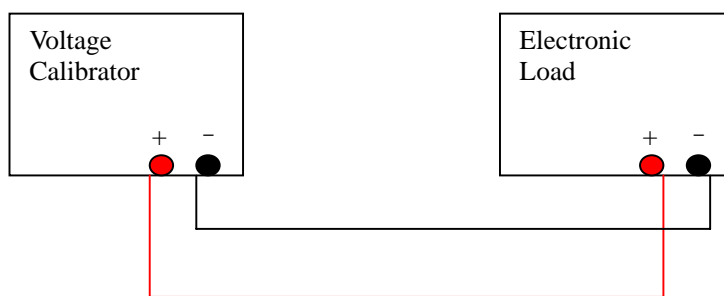


Figure 1.

② The PCB of e-load is shown as Figure 2. Set the output of the Fluke 341 to 35V, adjust VR2 on the board until the voltage value displayed on the Eload is $35.00V \pm 0.02\%$

③ Set the output of the Fluke 341 to 3.5V, adjust VR1 on the board until the voltage value displayed

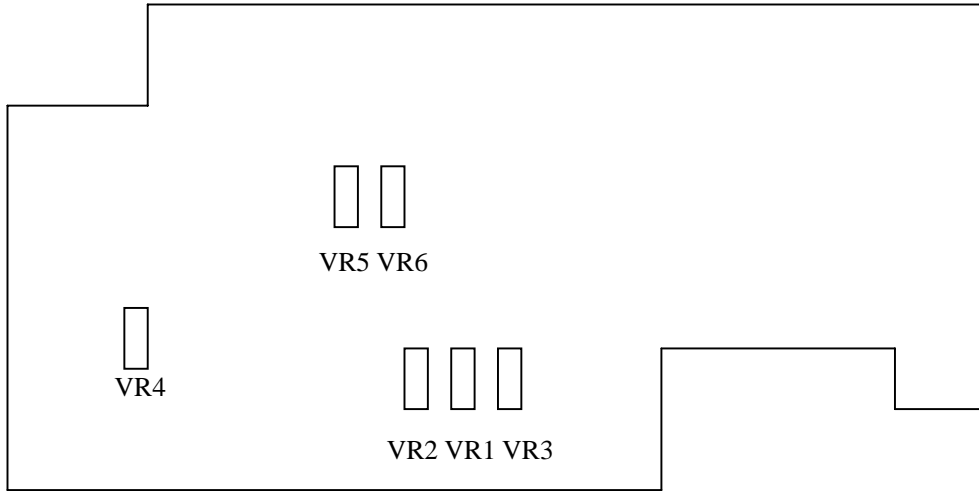


Figure 2.

on the Eload is $3.500V \pm 0.02\%$

④ Set the output of the Fluke 341 to 350V, adjust VR3 on the board until the voltage value displayed on the Eload is $350.00V \pm 0.02\%$

Calibration of Current

① Make the connection as Figure 3.

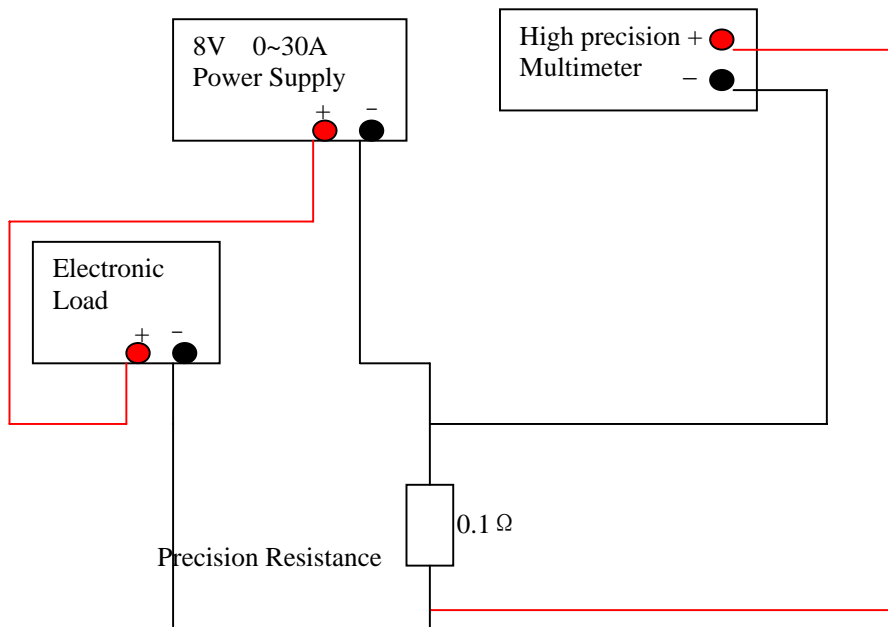


Figure 3.

② Set $I=0A$. Set Eload ON. Adjust VR4 on the board until the voltage value displayed on the Multimeter is between $0.01mV \sim 0.02mV$.

③Set $I=2A$. Set Eload ON. Adjust VR5 on the board until the voltage value displayed on the Multimeter is $0.2V \pm 0.02\%$

④Set $I=10A$. Set Eload ON. Adjust VR6 on the board until the voltage value displayed on the Multimeter is $1V \pm 0.02\%$