

Quick Start Guide for DC352

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Demo board DC352 is a dual output multiphase power supply. It provides up to 52A current at the main output to power a CPU core and 15A current at the auxiliary output to power I/O or memory. It utilizes one LTC1629 and half of the LTC1628-sync to configure 3-phase operation for the main output, and half of the LTC1628-sync for a single phase auxiliary output. The clock of the auxiliary output is interleaved 30 degrees or 60 degrees from the other 3 channels of the main output.

Specs

- V_{IN} : 12V typical
- Output 1: 1.6V at $52A_{MAX}$
- Output 2: 2.5V at $15A_{MAX}$
- Air flow: >100LFM for continuous full load operation

Quick start guide

Refer to Figure 1 for proper measurement equipment setup and follow this procedure:

1. Connect the input power source to J4 (V_{in+}) and J5 (V_{in-}) using wires capable of handling 15A current.
2. Connect the main load ($\leq 52A$) to J3 (V_{o1-}) and J2 (V_{o1+}) using wires with a 60A current rating. Connect the auxiliary load ($\leq 15A$) to J6 (V_{o2+}) and J7 (V_{o2-}) using wires with a 15A current rating. If the circuit is to be tested with the constant current mode electronic load, both loads should be preset at low value, say 1A, to start the circuit. Otherwise, the I-V characteristics of the electronic load will interact with the foldback current limiting function of the control IC.
3. Turn on the input power supply and then bring the loads up to the max ratings after the output voltages reach the steady state values.

4. Load transient test for main output (this demo board has a built-in dynamic load test circuit for the main output). This circuit is capable of implementing a 0A to 52A load step.

The step amplitude, up slope and down slope can be adjusted by R39, R45 and R38, respectively. The step load current and output voltage may be measured from BNC connectors J1 and J8, respectively. The following procedure is recommended for the load transient test:

- a. After the output voltage reaches the steady state, set the DC output current to the lower level of the load step.
- b. Apply $\pm 12\text{V}$ power to the +12V (E7), PGND (E9) and -12V (E8) terminals and open jumper JP4.
- c. Adjust R39, R45 and R38 to program the step amplitude, up-slope and down-slope of load step, respectively.

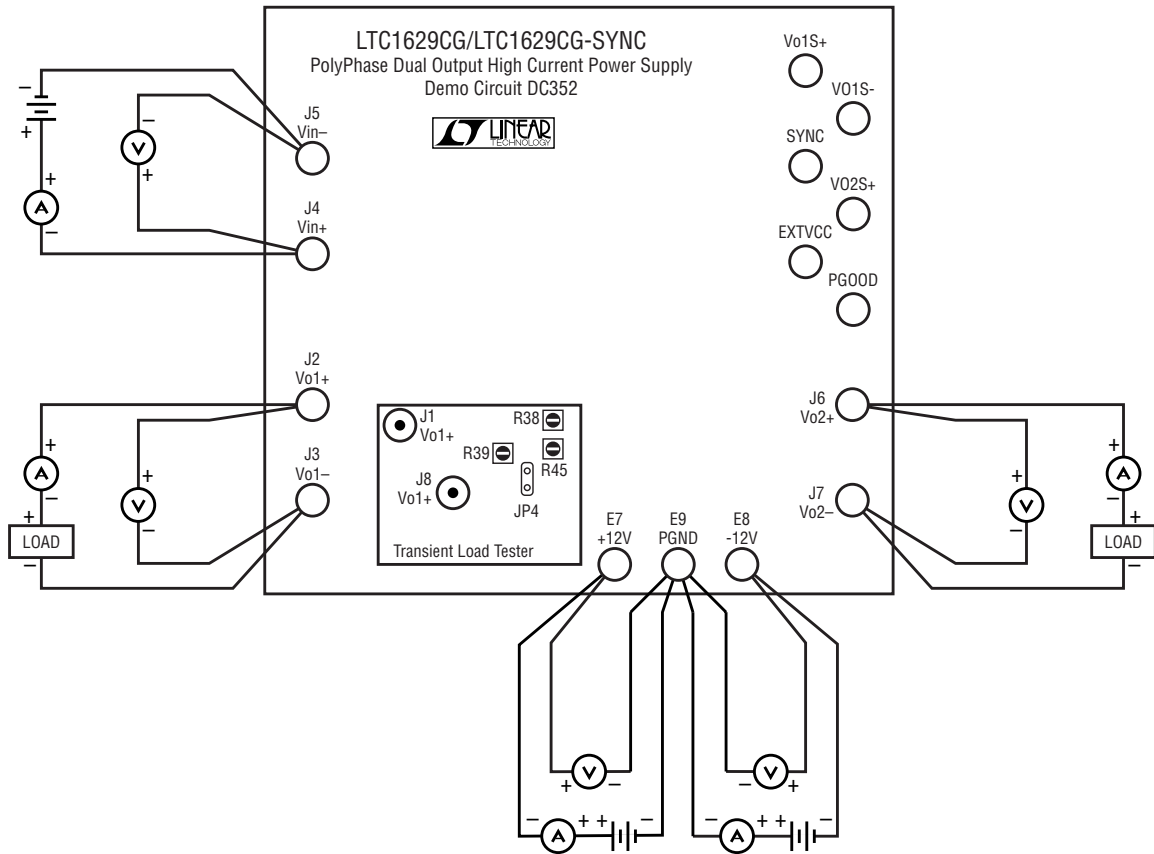


Figure 1. Proper Measurement Equipment Setup