Insufficient voltage at remote end of centralized power supply

Overview

The most common solution to this problem is to enable the supply to measure the output voltage at the load instead of at the output terminals. This methodology is called “remote sense”. How does remote sense work?

An error in the DUT voltage measurement is due to the output current and the resistance of the leads used to connect the power supply or SMU to the load. This error can be calculated using the following equation: Local Sense Error (Volts) = Iout (Rlead1 + Rlead2) When the device is operating in. Remote feedback to differential amplifier compensates for Senior Applications Engineer parasitic-resistance voltage drop processors. As systems push tighter tolerances and higher currents, these drops become harder to ignore. Remote sense provides a straightforward way to correct them by letting. This simple, un-avoidable truth dictates that a power source's remote load voltage will be less than the source's output voltage. By default, the load operates in local sense, where feedback is internally connected to the load's input.

Article Content

Jul 26, 2025

Switching power supply output goes to zero when load is attached

If the controller chip can''t get enough supply through the aux winding then the charge stored by the 22u capacitor will be consumed by the controller chip quickly. So the voltage across the …

Dec 02, 2025

Improve Power Supply Performance and Safety Using Remote …

This Measurement Tip describes how to improve power supply performance and safety using remote sensing and remote inhibit.

Dec 22, 2025

Understanding remote sense in today''s power supplies

Remote sense provides a straightforward way to correct them by letting the supply monitor the voltage at the load itself and adjust its output accordingly. Understanding how this mechanism …

Sep 13, 2025

Local and Remote Sense

When the device is operating in Constant Voltage mode, local sense forces the requested voltage at the output terminals of the device. The actual voltage at the DUT terminals is lower than the requested …

Sep 24, 2025

How does a power supply output overvoltage protection work?

Probably the most common cause of an overvoltage condition is an operator adjusting the power supply output voltage too high. The remedy is to switch it off, turn the output adjustment …

Jun 27, 2025

Centralized Substation Protection and Control

At that time, telephone lines were used to transmit data from a number of electric power plants to a central office. It is likely this “supervisory” control was done to avoid having personnel stationed at …

Jul 06, 2025

3.5. Remote Sense Connection — MagnaDC SLx Series 0.013

The load stays in remote sense mode as long as the voltage difference between remote and local sense measurements is within ±5% of the MagnaDC power supply''s rated voltage. When the load fails to …

Jul 19, 2025

Remote sensing for power supplies

The available power planes can be used to reduce the DC voltage gradient to within regulation tolerance. The power plane helps with DC-regulation accuracy and improves system efficiency by …

Aug 06, 2025

Remote sense | Rohde & Schwarz

Remote sense enables power supplies to overcome voltage drop caused by the supply leads. Learn more about remote sense and other power supply operations.

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: https://www.professionistidelverde.it
Email: info@professionistidelverde.it
Phone: +49 176 4829 3715
Address: Friedrichstraße 123, 10117 Berlin, Germany

This document is for informational purposes only. Specifications subject to change without notice.