

The Second Best Voltage Standard in the world* – Beuning Labs model Z10



FEATURES –

The RMS short-term noise of the 10.0V output is 10 times less than existing Solid-State Voltage standards. Stability over an hour is 0.002ppm, typically it is less than 0.001ppm.

Long-term drift is better than current Zener standards. A Digital gain stage compensates for the output voltage divider drift. An array of four high quality zeners are averaged and used to determine the output voltage.

An output reversing switch and a low output resistance isolates the wiring as an error source. The low output impedance minimizes the voltage shift caused by charge injection from Digital Voltmeters.

Get the most performance from your Josephson Junction Array with 10 times better voltage transfers. The stability of this unit allows the Josephson Junction Array performance to be brought closer to your calibration lab.

All voltage determining components are in a dry oven.

The Temperature, humidity and altitude affects are less than 0.01ppm under normal laboratory conditions.

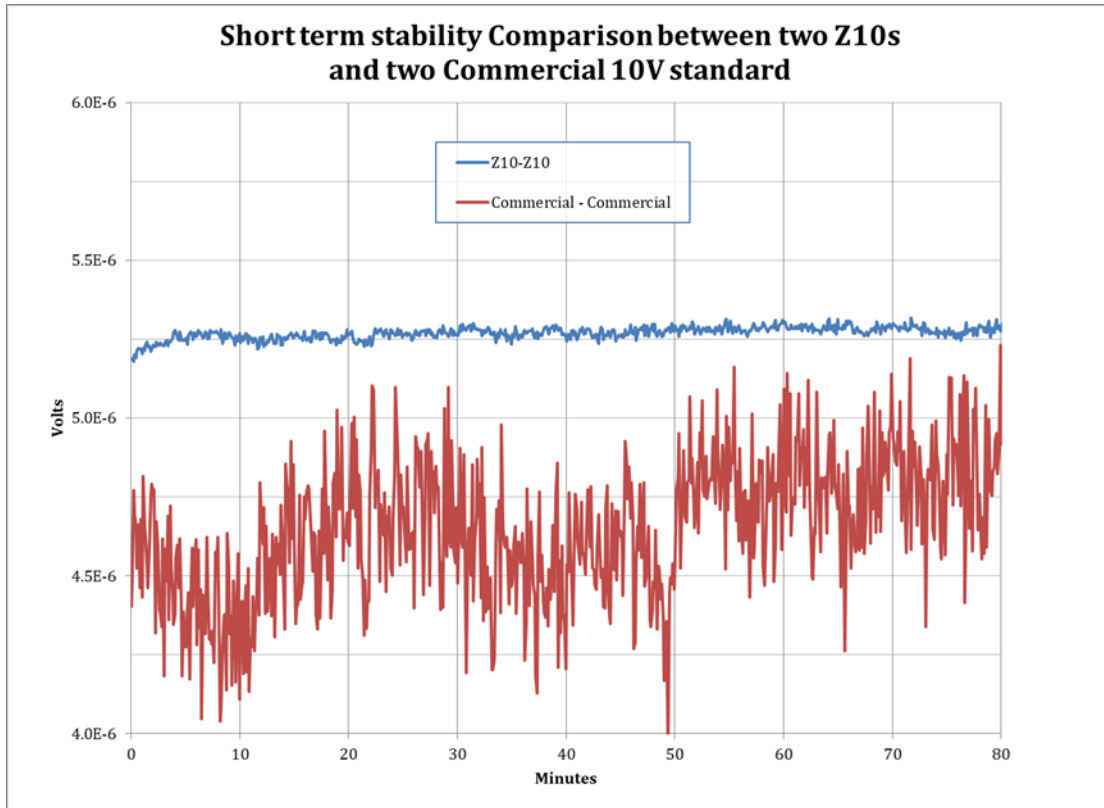
The internal batteries will allow for 4 days of transportation.

Cost, contact factory

**The Best Voltage standard is of course a Josephson Junction Array operating at 4K.*

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ALL SPECIFICATIONS ARE PRELIMINARY AND SUBJECT TO CHANGE. Rev H, July 2024



Specifications –

Outputs –

10.0V

Driven Resistive divider

1V, 0.1V, 10mV, 1mV

Output resistance <0.001 ohm

Protected from 1100V 100ma external source.

Output Noise –

0.01 Hz to 1 Hz

Less than 0.005 ppm RMS

With 100 second averaging there is less than 10 nV RMS noise on the output.

Battery –

14 AH 24V, 10 hour normal operation

24 hour recharge time

4 day transport power

Output Stability –

10.0 V output

90 day, 1 ppm, Actual TBD

1 year, less than 2 ppm, Actual TBD

Interface –

5-way Copper binding posts –

Mil Spec circular connector

Voltage stability from resistive divider better than 20ppm / year

Physical Characteristics

Size - 9"x17"x24"

19" Rack Mountable

Weight - 50lbs

Power 120 VAC or 240 VAC

50 W, 50-60 Hz

Output Drive Capability

10.0V

Maximum current 20ma

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