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DC Voltage & Current Calibrator/Simulator Manual/Remotely Controlled

CE *Compliant*

Model 522

VOLTAGE MODE SPECIFICATIONS

Range	Full Scale	Resolution	Current	Zo
100mVdc	±111.1110mVdc	100nVdc	EMF	20 ohms
10Vdc	±11.11110Vdc	10μVdc	100mAdc	10 milliohms
100Vdc	±111.1110Vdc	100μVdc	100mAdc	10 milliohms

Crowbar – Indicates selected/programmed short of terminals.

Accuracy (Relative to N.I.S.T. Standards):

The Accuracy statement is based on the "Limit-of-Error" (or "worst-case") method. All other specifications noted hereafter, which affect accuracy, e.g., line, load, temperature*, drift changes are included in the accuracy statement.

±(0.002% of setting + 0.0005% of range + 2μV).

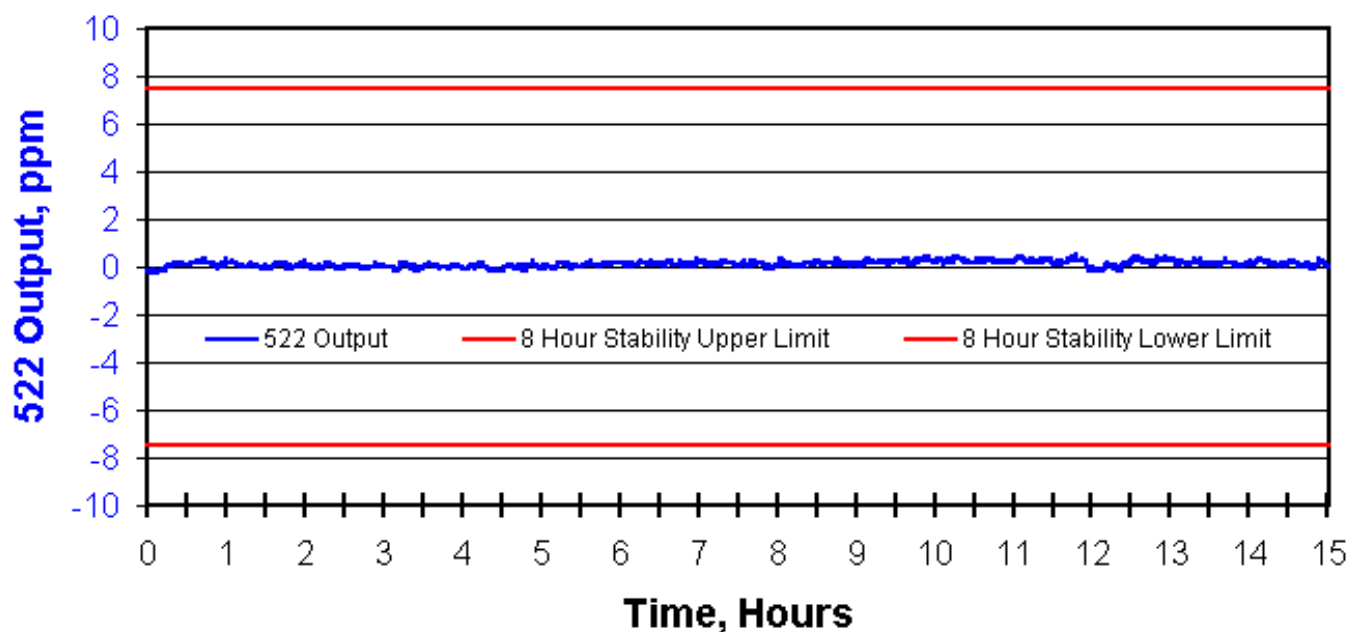
Stability: 8 to 24 hours, ±0.00075%; 90 days, ±0.001%; 1 year, ±0.0015%.

Line And Load Regulation: ±0.0005% from no load to full load and/or for a 10% line fluctuation.

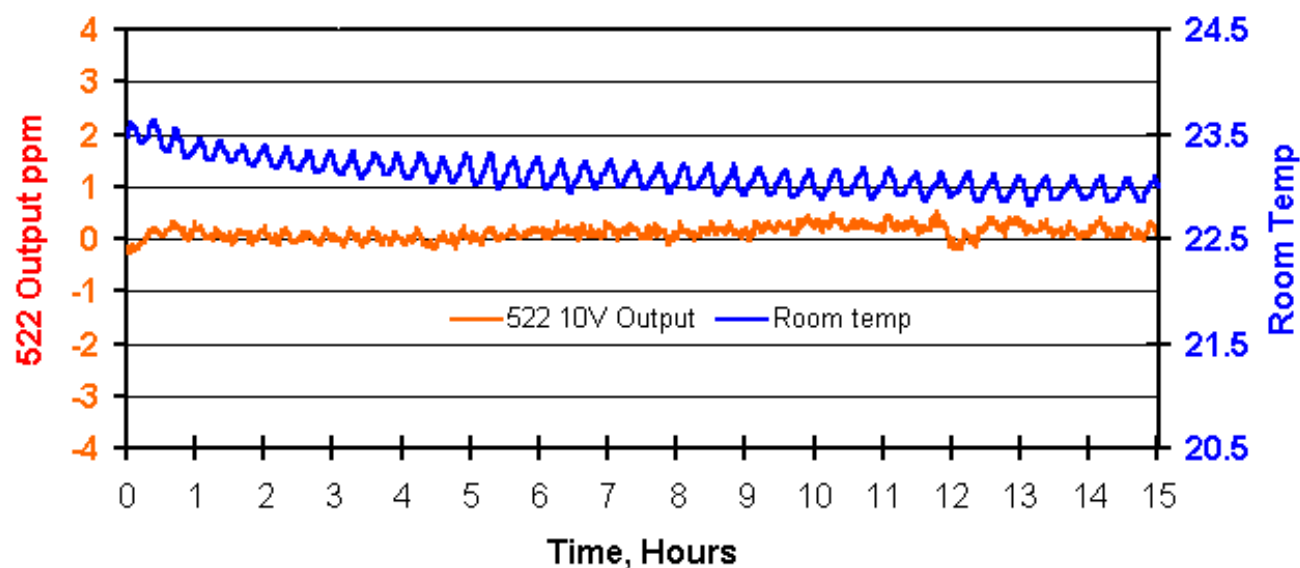
Noise And Ripple: The following specifications are furnished in detail so the user can have complete confidence in the results of their tests.

Range	0.1-100Hz	0.1-30kHz	0.1-100kHz
100mV	<4μV	<6μV	<6μV
10V	<5μV	<15μV	<20μV
100V	<50μV	<100μV	<100μV

Typical 522 15 Hour Stability Test



Typical 522 10V Output & Room Temp VS Time



CURRENT MODE SPECIFICATIONS

Range	Full Scale	Resolution	Voltage Compliance
10mAdc	±11.11110mAdc	10nAdc	100V (max.)
100mAdc	±111.1110mAdc	100nAdc	100V (max.)

Accuracy: $\pm(0.005\% \text{ of setting} + 200\text{nA})$.

Stability: 8hrs, $\pm 0.00075\%$; 24 hrs, $\pm 0.001\%$; 90 days, $\pm 0.0015\%$; One Year, $\pm 0.002\%$.

Line and Load Regulation: $\pm 0.0005\%$ from short circuit to full compliance and/or for a 10% line fluctuation.

GENERAL SPECIFICATIONS

Switching And Settling Times: Step changes, 5 milliseconds; range changes, 300 milliseconds.

Isolation:

Power transformer-to-analog output, $2.5 \times 10^4 \text{M ohms}$, 300pF

Control logic-to-analog output, optically isolated, 10^9 ohms , 130pF, 500Vdc.

Temperature:

Calibration: $23^\circ\text{C} \pm 1^\circ\text{C}$

Ambient (limit-of-error), 20°C to 30°C

Operating Limit: -10°C to 50°C

Storage: -40°C to 85°C .

Temperature Coefficient: Ambient temperature, $\pm 0.0005\%/^\circ\text{C}$; operating limit, $\pm 0.001\%/^\circ\text{C}$.

Protection: Voltage mode, short-circuit and over-load protected. Current mode, open circuit protected.

Indication by display message. Automatic recovery.

MECHANICAL SPECIFICATIONS

Power Requirements: 50 watts; 115 or 230V ac $\pm 10\%$, 50Hz-60Hz.

Dimensions: 19" (48.3cm) wide, 3.5" (8.9cm) high, 18" (45.8cm) deep.

Weight: 14.7 lbs. (6.7kg) net; 23 lbs. (10.5kg) shipping.

TERMINALS

Output Terminals are mounted on both the front and rear panels. Both terminal sets are configured for remote sensing of the output as follows:

High Output and High Sense low Output and Low Sense Case Ground.

Rear Connector is mil. spec. type and is the primary location for the calibration/certification procedure. The mate is supplied with new instruments.

Front Terminals are five-way binding posts. Mating connectors/cables are NOT supplied.

PROGRAMMING

Local (Manual): All functions can be controlled from the front panel.

Remote Control Included: IEEE-488.1 interface. The bus address is displayed on the front panel display and is selective via a dip-switch.

National Lab-Windows™: Drivers available on request.

Programming of the Model 522 is compatible to programs written for the Krohn-Hite Models EDC520 (A series) and the EDC521.

OTHER FEATURES

True Bipolar Operation

"Crowbar" Setting: A Zero Reference. This is in addition to the usual active output zero.

Alphanumeric Display

Output Connectors: Monitor Terminals on the front panel. Mil-Spec output connector on the rear panel. No terminal switching required when changing ranges.

GENERAL INFORMATION

Mounting: Rack mounting flanges are standard with all instruments at no charge.

Bench mounting with removable tilt bale and feet.

Certification: A Certificate of Compliance is issued with each new instrument to certify the calibration and traceability to N.I.S.T.

Warranty: ONE FULL YEAR warranty on parts and labor includes specifications and performance.

OPTIONS

$\pm 1.0\text{Vdc}$ Range, Part No. RA-7: Resolution, $1\mu\text{V}$; output current, 100mA; accuracy, $\pm(0.002\%$ of setting + 0.0015% of range + $3\mu\text{V}$).

Extended 1 Year Warranty: Part No. EW522.

Lab Windows™ and Lab View™ drivers are available for direct downloading from National Instruments at www.natinst.com.

Note: Drivers for Krohn-Hite Models EDC521 and EDC522 are listed under "520A".

Specifications and prices are subject to change without notice.

*** The limit-of-error applies over the standard ambient operating temperature.**