

4600A Precision High Voltage Meter



The Ultimate Tool for Fast and Accurate HV Measurement

HV Standards Lab in a Box

When it comes to making precise high voltage measurements, there is nothing faster or easier than the Vitrek 4600A. With its unrivaled accuracy and direct reading capability, the 4600A sets the performance standard for precision high voltage measurement. For quick and accurate calibration of hipot testers (dielectric strength testers) and other high voltage sources, the 4600A can't be beat. Whether you are making direct or alternating high voltage measurements, the 4600A is uniquely equipped for the job. For rock solid DC performance, the 4600A's multi-slope integrating analog to digital converter provides fast, stable readings even in the presence of noise and ripple. For AC

voltage measurement, the unit's true RMS AC converter offers accurate, reliable data with either sine or highly distorted waveforms. The 4600A is equipped with two voltage scales, so you can cover a broader span of voltages and select the ideal range for optimum performance.

Superior Performance by Design

Measurement integrity is our bottom line - whether you are on a production line manufacturing high voltage medical imaging equipment, in a national laboratory conducting ground breaking research or in the cal lab certifying test equipment, it is essential to choose your tools carefully. Take the Vitrek 4600A, for instance. This rugged, compact instrument is equally at home in the lab or in the field. Underneath its attractive, high impact, injection molded enclosure, lies a steel Faraday cage - to guard against the introduction of uncertainties due to stray EMF'S, which are often present in high voltage applications.

The modular construction of the 4600A probe features a removable probe tip which can be replaced with a variety of

- Precise HV measurement up to 20kV, 35kV or 70kV
- Ideal for calibrating hipot testers, HV power supplies, insulation testers, HV transformers and more
- High accuracy DC and true RMS AC capability
- Compact, rugged, lightweight - benchtop/portable enclosure
- Modular probe tip accepts a variety of test lead terminations
- Multi-slope integration provides fast, precise, stable readings with outstanding noise rejection
- Large, bright, easy to read 20,000 count LED display
- Two HV measurement ranges provide optimum performance over a broad range of voltages
- CE mark certified to EN61010
- Three year extended warranty



From the top down, the new modular 20kV, 35kV and 70kV probes offer a 62% reduction in dielectric mass - to provide enhanced AC performance



WORLD LEADERS IN HIGH VOLTAGE TECHNOLOGYSM

available HV leads to provide the ideal connection for your application. The high impedance attenuator design of the 4600A balances offsetting power and voltage coefficients to deliver lab grade performance in a benchtop package. The 4600A attenuator also features a patented non-inductive design to minimize field effects and provide enhanced AC performance. For people on the go - the 4600A is available with a handy battery pack and carrying handle option.

For systems applications the 4600A is available with rack mount adaptor and rear panel inputs.

The Vitrek 4600A is not only built tough, it is built to last - and it is backed by our extended three year warranty. Designed and manufactured right here in the USA, the 4600A is supported by the best customer service team in the northern hemisphere. Isn't it about time to put Vitrek's legendary reputation for quality and reliability to work for your team?



Removable probe tip can be replaced with one of three standard test leads to provide the perfect contact for your high voltage measurement application.

4600A Performance Specifications

DC Voltage Measurement

Range Table:

Model	Ranges
Standard 4600A	2kV, 20kV
4600A with KV-35	2kV, 35kV
4600A with KV-70	20kV, 70kV

Resolution: 100mV on 2kV, 1V on 20kV
10V on 35kV and 70kV ranges

Accuracy: (1 year from date of calibration at 23°C ± 3°C)
±0.04% of reading ±0.02% of range

Temperature Coefficient: ±0.005% of reading per °C
from 10 to 20°C and 26 to 40°C

Voltage Coefficient: ±0.1ppm/V

Maximum Inputs:

(HV probe tip) ±20kVDC standard unit, ±35kVDC
with option KV-35, ±70kVDC with option KV-70,
(common terminal) 500 VDCmax

AC Voltage Measurement (True RMS)

Range Table:

Model	Ranges
Standard 4600A	2kV, 20kV
4600A with KV-35	2kV, 35kV
4600A with KV-70	20kV, 70kV

Resolution: 100mV on 2kV, 1V on 20kV
10V on 35kV and 70kV ranges

Accuracy: (1 year from date of calibration at 23°C ± 3°C)
2kV range 20 to 100Hz ±0.07% of reading ±0.1% of range
100 to 400Hz ±0.04% of reading ±0.2% of range
20kV range 20 to 100Hz ±0.04% of reading ±0.2% of range
35kV range 50 to 60Hz ±0.05% of reading ±0.2% of range
70kV range 50 to 60Hz ±0.05% of reading ±0.2% of range

Temperature Coefficient: ±0.01% of reading per °C
from 10 to 20°C and 26 to 40°C

Voltage Coefficient: ±0.2ppm/V

Maximum Inputs:

(at HV probe tip) 20kV peak AC
(15kVRMS sine) standard unit, 30kV peak AC
(20kVRMS sine) with option KV-35, 50kV peak AC
(35kVRMS sine) with option KV-70, (at common
terminal) 500 volts peak AC

General Specifications

Display Resolution: 4 1/2 digits (19,999 count)

Input Impedance: 200MΩ, 400MΩ with KV-70

Reading Rate: 300 milliseconds

NMR: 50db at 50 or 60Hz

CMRR: 50db

Operating Temperature: 10 to 40°C

Humidity: 85% RH

Safety: CE mark certified to EN61010

Power: 115/230VAC ±10%, 50/60Hz, 10VA maximum

Dimensions: 292mmW x 203mmD x 83mmH
(11.5"W x 8"D x 3"H)

Probe Dimensions:

Model	Length Overall	Creepage Distance
Standard 20kV Probe	406mm (16")	280mm (11")
Option KV-35 Probe	457mm (18")	380mm (15")
Option KV-70 Probe	508mm (20")	482mm (19")

Weight: 2.5kg (5.5 lbs) Net, 5kg (11 lbs) Shipping

Accessories

High voltage probe with removable probe tip and 6 ft.
shielded lead, common input test lead, power cord,

operating manual, NIST traceable - ANCI/NCSL Z540
certificate of calibration, TL-463 high voltage test lead kit
which consists of three 18" HV leads. Each interchangeable
lead plugs into the HV probe tip. The other end of each lead
is terminated with a ring lug (7mm, #8 ID), banana plug and
an alligator clip respectively.

Warranty

3 year extended warranty with no charge registration
and annual factory calibration, one year warranty
standard

Options

KV-35 Extends measurement capability by substituting
2kV & 35kV ranges in lieu of standard 2kV & 20kV
ranges.

KV-70 Extends measurement capability by substituting
20kV & 70kV ranges in lieu of standard 2kV & 20kV
ranges.

BPH-46 Battery pack and carrying handle option. The
internal 6V gel cell provides 6 hours of typical battery life
and a 12 hour re-charge time from built-in charger. The
carrying handle also doubles as an adjustable tilt ball for
the perfect viewing angle.

RM-46 Rack Adaptor 2U (3.5") x 19" rack panel with
support tray.

RPT-46 Rear panel common and HV probe input
terminals

Ordering Information

4600A Precision High Voltage Meter

KV-35 35kVDC/30kV Peak AC Range Option

KV-70 70kVDC/50kV Peak AC Range Option

TL-463 3 Piece HV Lead Set

BPH-46 Battery Pack / Carry Handle Option

RM-46 Rack Mount Kit

RPT-46 Rear Panel Input Terminals

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