

AC/DC Kilovoltmeters and Dividers



Testing Applications

- Units can be used for calibration and general high voltage measurements
- Traceable calibration to NIST, USA
- Voltage divider can also be used with other measuring devices such as an oscilloscope or multimeter.
- Resistive-Capacitive voltage divider
- Complies with IEEE Std 4 and IEC 60060-2

- **Precise and reliable**
- **Battery or line powered**
- **50 kV – 300 kV models standard, higher voltages are available upon request**
- **ISO17025 calibration** upon request



KVM50A

KVM200A

KVM300A



| | MODEL | KVM50A | KVM100A | KVM200A | KVM300A | |
|---------------------|---------------------|--|------------------|-------------------|-------------------|------------------|
| SPECIFICATIONS | INPUT POWER | 100-240 VAC, 0.4 A, 47-63 Hz, Single Phase | | | | |
| | BATTERY POWER | 9.6 V, Ni-MH, 3200 mA hr | | | | |
| | INPUT CHARGING JACK | +15 VDC, 1.5 A | | | | |
| | RESOLUTION | RANGE | RANGE | RANGE | RANGE | |
| | 1 VOLT | 0-20 kV | 0-20 kV | 0-20 kV | n/a | |
| | 10 VOLT | 0-50 kV | 0-100 kV | 0-200 kV | 0-30 kV | |
| | 100 VOLT | n/a | n/a | n/a | 0-300 kV | |
| | HIGH VOLTAGE INPUT | | | | | |
| | LOW RANGE | 0-20 kV AC/DC | 0-20 kV AC/DC | 0-20 kV AC/DC | 0-30 kV AC/DC | |
| | HIGH RANGE | 0-50 kV AC/DC | 0-100 kV AC/DC | 0-200 kV AC/DC | 0-300 kV AC/DC | |
| | PEAK AC | 0-71 kV | 0-141 kV | 0-200 kV | 0-424 kV | |
| | DIVIDER IMPEDANCE | | | | | |
| | RESISTANCE | 300 M Ohms | 380 M Ohms | 760 M Ohms | 1200 M Ohms | |
| | CAPACITANCE | 15 pF | 200 pF | 100 pF | 200 pF | |
| RATIO | 10,000:1 | 10,000:1 | 10,000:1 | 10,000:1 | | |
| DIMENSIONS & WEIGHT | | | | | Controls | HV Divider |
| | Length | 9 1/2" (241 mm) | 9 1/2" (241 mm) | 9 1/2" (241 mm) | 14" (356 mm) | 26" (660 mm) |
| | Width | 9 1/2" (241 mm) | 9 1/2" (241 mm) | 9 1/2" (241 mm) | 12" (305 mm) | 26" (660 mm) |
| | Height | 34 1/2" (876 mm) | 34 1/2" (876 mm) | 43 1/2" (1105 mm) | 7" (178 mm) | 63" (1600 mm) |
| | Weight | 26 lbs (12 kgs) | 30 lbs (14 kgs) | 43 lbs (20 kgs) | 11 lbs (5 kgs) | 100 lbs (45 kgs) |
| SHIPPING SIZE | Length | 14" (356 mm) | 14" (356 mm) | 14" (356 mm) | 29" (737 mm) | |
| | Width | 14" (356 mm) | 14" (356 mm) | 14" (356 mm) | 36" (914 mm) | |
| | Height | 36" (914 mm) | 36" (914 mm) | 50" (1270 mm) | 76" (1930 mm) | |
| | Weight | 32 lbs (15 kgs) | 36 lbs (16 kgs) | 50 lbs (23 kgs) | 285 lbs (130 kgs) | |

| | | | |
|------------------------|-----------------------|---------------------------------|----------------------|
| CABLES INCLUDED | Input Power 10' (3 m) | Metering Interconnect 25' (8 m) | Ground (2) 10' (3 m) |
|------------------------|-----------------------|---------------------------------|----------------------|

Voltage Measurement Functions / Frequency Range

| | |
|---------------------------------------|--|
| AC AVERAGE | Average Value of the Rectified AC Voltage (Equivalent to RMS Value divided by 1.11 for a Pure Sinusoid) |
| AC RMS | True RMS Value of the AC Voltage |
| AC PEAK | Average of the Positive and Negative Peak Voltage Values |
| AC PEAK /$\sqrt{2}$ | Average of the Positive and Negative Peak Voltage Values, divided by $\sqrt{2}$ (Equivalent to RMS Value for a Pure Sinusoid) |
| DC AVERAGE | Average Value of the DC Voltage |
| DC PEAK | Peak Value of the DC Voltage |
| DC RIPPLE | Average of the Positive and Negative Peak Values of the Filtered Ripple Voltage |

Uncertainty (Based on k=2, Confidence Interval of 95%)

| | |
|----------------------|--|
| Metering Head | 0.5% of reading from 10-100% of range |
| Divider Ratio | 0.4% |
| Overall | 0.75% of reading from 10-100% of range |

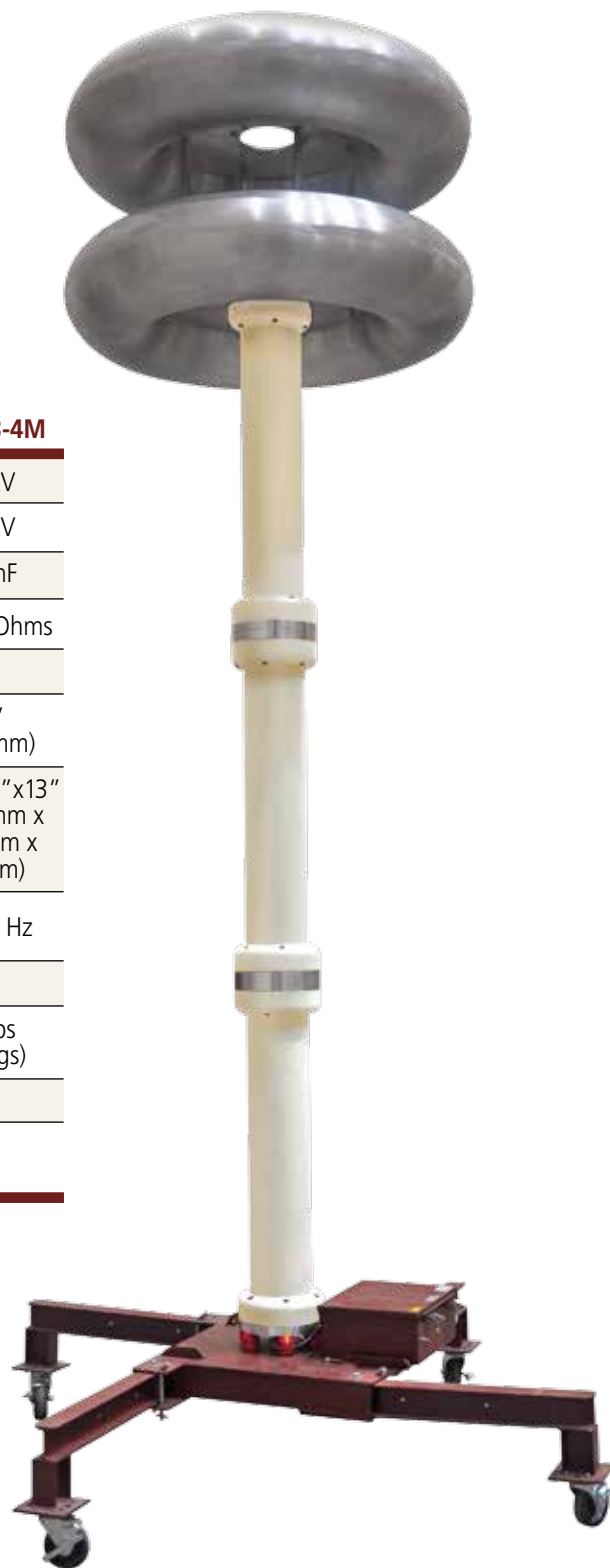
NOTE: Above specified uncertainties are valid for AC and Ripple voltage measurement functions in the range of 20-1000Hz.



Precision Modular Divider for on-site or lab use

Designed to be easily disassembled and transported and still offer excellent stability and low ratio error. The largest single piece is less than 900 mm (37") long and less than 35 kgs (80 lbs). This divider can be used as the primary calibration standard to calibrate precision ultra-high voltage AC /DC measurement systems on-site. Transportation boxes are available as an option. Other ratios are available upon request.

| MODEL | DVD233-1M | DVD467-2M | DVD700-3M | DVD933-4M |
|---------------------------|---|---|---|---|
| AC Rating | 166 kV | 334 kV | 500 kV | 668 kV |
| DC Rating | 233 kV | 467 kV | 700 kV | 933 kV |
| Capacitance | 1 nF | 0.5 nF | 0.33 nF | 0.25 nF |
| Resistance | 667 M Ohms | 1333 M Ohms | 2000 M Ohms | 2666 M Ohms |
| Divider Ratio | per customer requirement, consult factory | | | |
| Height with Base | 72" (1829 mm) | 107" (2718 mm) | 141" (3581 mm) | 177" (4496 mm) |
| Base Dimensions | 70" x 70" x 13" (1780 mm x 1780 mm x 330 mm) | 70" x 70" x 13" (1780 mm x 1780 mm x 330 mm) | 70" x 70" x 13" (1780 mm x 1780 mm x 330 mm) | 100" x 100" x 13" (2540 mm x 2540 mm x 330 mm) |
| AC Frequency Range | 20-300 Hz | 20-300 Hz | 20-300 Hz | 20-300 Hz |
| Response Time | consult factory | | | |
| Weight | 215 lbs (98 kgs) | 295 lbs (134 kgs) | 375 lbs (170 kgs) | 455 lbs (206 kgs) |
| Ratio Error DC | consult factory | | | |
| Ratio Error AC (50/60 Hz) | consult factory | | | |



Design Features

- Units include a high voltage divider, metering section, and interconnect cables which are stored in a compact, durable case
- Line power indicator lamp
- Low battery indicator lamp
- 4 ½ digit LCD display
- Low and High range voltage selector
- Ni-MH (Nickel-Metal Hydride) battery pack

Environmental Operating Conditions

- 0-40°C, indoor/outdoor in fair weather
- Humidity <95% non-condensing
- Altitude <3300 ft (1000 meters)
- Storage 0-55°C, indoor dry conditions

Options

- DVD100, 100 kV AC/DC Divider 10,000:1 ratio
- DVD200, 200 kV AC/DC Divider 10,000:1 ratio
- DVD300, 300 kV AC/DC Divider 10,000:1 ratio
- KVM Metering Head, requires 10,000:1 ratio Divider
- 19" Rack Mount version of Metering Head
- ISO17025 calibration



**Metering Head for
Models KVM50A, KVM100A and KVM200A**



Metering Head for Model KVM300A



19" Rack Mount Metering Head



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