

# 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



	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	0-30 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	30 1/2" (775 mm)	30 1/2" (775 mm)	43 1/2" (1105 mm)	7" (178 mm)	63" (1600 mm)
	Weight	30 lbs (14 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	36 lbs (16 kgs)	36 lbs (16 kgs)	50 lbs (23 kgs)	285 lbs (130 kgs)	

<b>CABLES INCLUDED</b>	Input Power 10' (3 m)	Metering Interconnect 25' (8 m)	Ground (2) 10' (3 m)
------------------------	-----------------------	---------------------------------	----------------------

## Voltage Measurement Functions / Frequency Range

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

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

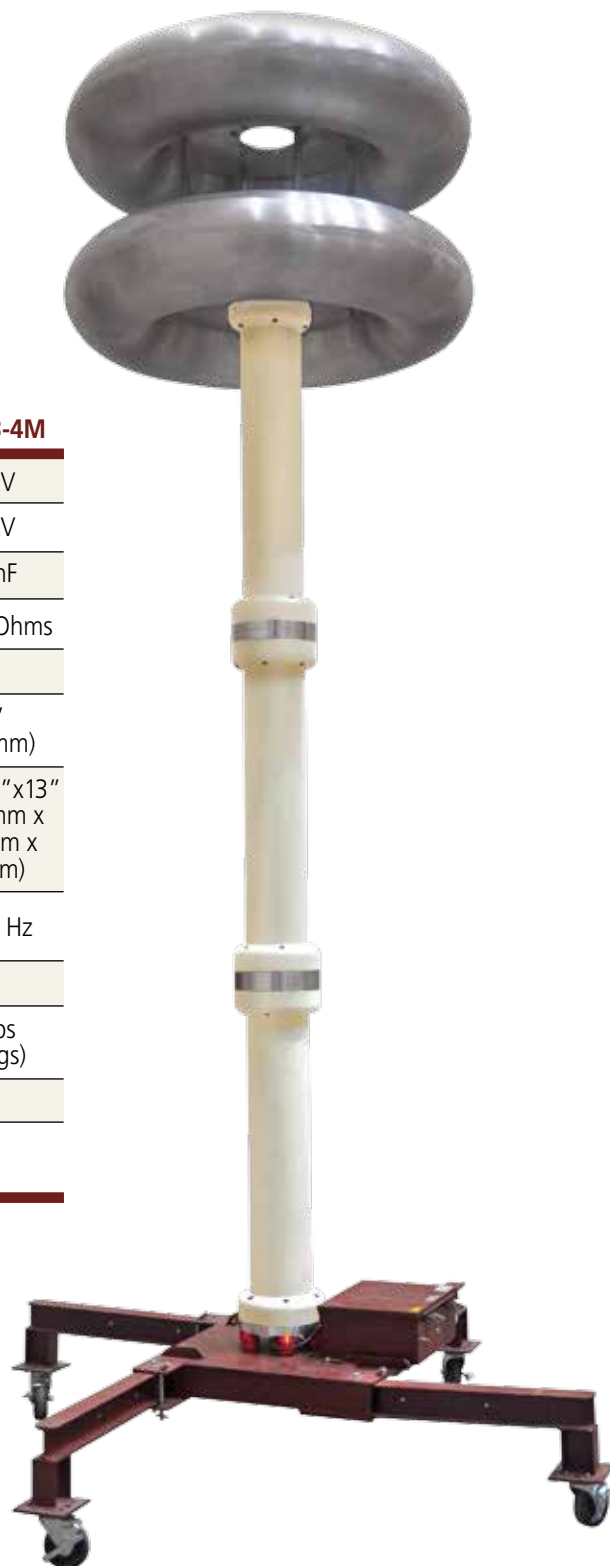
<b>Metering Head</b>	0.5% of reading from 10-100% of range
<b>Divider Ratio</b>	0.4%
<b>Overall</b>	0.75% of reading from 10-100% of range

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**



**PHENIX  
TECHNOLOGIES**

### WORLD HEADQUARTERS

#### Phenix Technologies, Inc.

75 Speicher Drive  
Accident, MD 21520 USA  
Ph: +1.301.746.8118  
Fx: +1.301.895.5570  
Info@phenixtech.com

### BRANCH OFFICES

#### Phenix Systems AG

Riehenstrasse 62A, 4058 Basel, Switzerland  
Ph: +41.61.383.2770, Info@phenixsystems.com

#### Phenix Asia

Zhong Cheng Rd, Sec 1, No 177, 2F, Taipei 11148 Taiwan  
Ph: +886.2.2835.9738, Fx: +886.2.2835.9879, Info@phenixasia.com

ISO  
9001:2008  
Compliant

