

HZHG -F High Voltage Divider



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HZHG-F-1.0 digital kilovoltmeter consists of a high stabilized resistive-capacitive type passive high-voltage divider and a precision digital voltmeter for measuring AC/DC high voltage on the site of electric power systems and in various high-voltage laboratories. Both of them with measuring cable, power supply cord, and operating manual are placed in a portable aluminium case for easy carrying and use.

I. Technical Specifications

Model	HZHG -F50	HZHG -F100	HZHG-F150	HZHG-F200	HZHG-F300
Measuring Range (kV)	AC 50kV	AC 100kV	AC 150kV	AC 200kV	AC 300kV
	DC 50kV	DC 100kV	DC 150kV	DC 200kV	DC 300kV
Measuring Accuracy	AC: $\leq 1.0\%$ DC: $\leq 0.5\%$				
Divider Impedance	240M Ω	400M Ω	600M Ω	800M Ω	1200M Ω
Divider Capacity	250pF	250pF	150pF	250pF	75pF
Voltage Ratio	3000 : 1	5000: 1	7500:1	10000: 1	15000: 1
Environment	-5~40℃ RH: $\leq 80\%$				

II. Working Principle

The AC/DC digital kilovolt metre is composed of two parts of a high voltage divider and a digital kilovolt metre. The high voltage divider is of a passive resistive-capacitive type, assembled from precision low temperature drift resistors and high quality condensers. Digital kilovolt meter consists of true RMS value circuit, peak values measuring circuit and digital voltmeter. Voltage divider is connected to digital kilovolt meter by a coaxial measuring cable. The high voltage is reduced to sample value by the voltage divider, and be fed to digital voltmeter. Through function selector, the voltmeter can display DC, AC effective(RMS) value, AC peak value, and AC peak/ $\sqrt{2}$ value with high measuring accuracy and convenience in use.

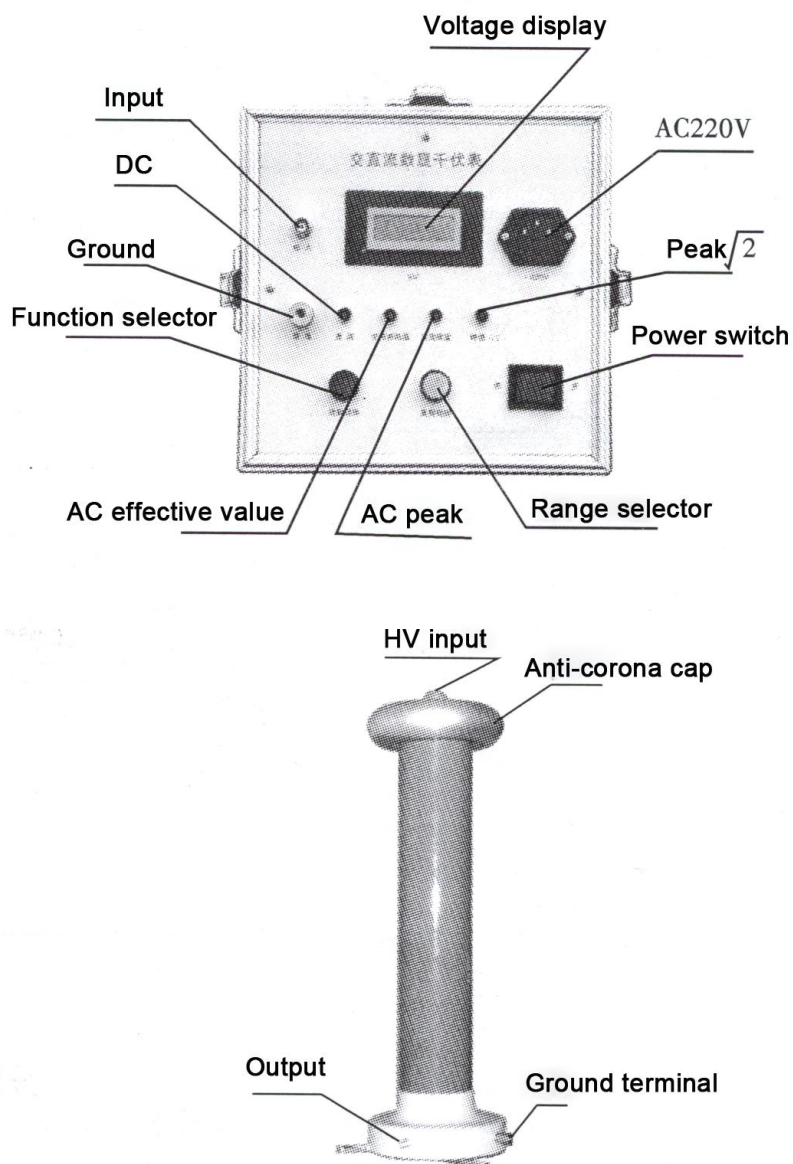


Fig.1 Schematic Diagram of AC/DC Digital Kilovolt meter

III.Working Conditions

- (1)Environment temperature: $-5^{\circ}\text{C}\sim 40^{\circ}\text{C}$
- (2)Relative humidity: $\leq 80\%$
- (3)Height above sea level: $\leq 1000\text{m}$
- (4)Without severe chemical deposits which may influence the surface insulation condition of high voltage divider.

IV.Preparation Before Test (Measurement)

(1) High voltage divider is arranged in a proper position. Be sure that, an adequate clearance should be kept to surrounding objects. The minimum clearance should not be less than the height of the volgate divider.

(2) Grounding connection: The ground terminals of voltage divider basement and of digital voltmeter should be reliably connected to ground by braided copper wire.

(3) Measuring signal connection: The supplied coaxial measuring cable is specially prepared for connecting from voltage signal output socket of divider bacement to the signal input socket of digital voltmeter. It should not be replaced by other coaxial cable or any connecting wire, because of capacitive match to the voltage divider.

(4) High voltage connection: The high voltage terminal to be measured is connected to the top connecting screw MIO of voltage divider by HV leads. Be sure that, an adequate angle of $75^{\circ}\sim 90^{\circ}$ between HV leads (inclined downward) and vertical axis of voltage divider should be kept during calibration and use for precise measurement.

V.Measuring Functions

Push the function selector key. Measuring function can be cyclically changed in order from DC, AC effective(RMS), AC peak, and $AC\ peak/\sqrt{2}$. The measured values can be directly read from the digital voltmeter.

- (1) DC: It measures average value of DC voltage with any ripple factor.
- (2) AC effective(RMS) value: It displays the true effective value of any AC voltage waveform. The frequency response is DC to 1kHz.
- (3) AC peak value: It displays the peak value of any voltage waveform.
- (4) Peak value/ $\sqrt{2}$: It displays the peak value/ $\sqrt{2}$ of any AC voltage waveform.

VI.Range Selector

Press the range selector to change the measuring range. In case of measured voltage less than 20kV, turn the range selector in lower range for higher measuring accuracy. When the measured voltage is higher than 20kV, turn the voltage selector in higher range.

VII.Packing List

No.	Item	Qty
1	High voltage divider	1
2	Digital kilovoltmeter	1
3	Coaxial measuring cable	1
4	Power line	1