
HPB4010 High Voltage Probe

HPB4010 高压探头



User Manual

使用说明书

Content

HPB4010 High Voltage Probe	1
Specifications	1
Safety Precautions.....	2
Operation	2
Warning.....	2
Cleaning.....	3
HPB4010 高压探头	4
规格.....	4
安全使用说明.....	5
操作方法.....	5
注意事项.....	5
清洁.....	5

HPB4010 High Voltage Probe

Specifications

Max. Working Voltage	DC: 0~10KV DC AC: pulse \cong 20KV peak to peak AC: sine wave \cong 7KV rms	
Single / Noise	DC \cong 60dB(1KHz), \cong 50dB(1MHz)	
Bandwidth	DC~40MHz(-3dB)	
Division Ratio	1 : 1000	
Rise Time	\cong 8.8ns	
Input Resistance	100M Ω \pm 5%	
Input Capacitance	3.0PF \pm 0.5PF	
Compensation Range	5PF~50PF	
Cable Length	2.0 meter(\pm 0.2M)	
Temperature Coefficient	\cong 200PPM/ $^{\circ}$ C	
Accuracy	DC	\pm 2% (DC to 10KV) \pm 3% (>10KV)
	AC	\pm 3%(1KHz/1KV/1KHz RMS) -3dB: 0~ 40MHz
Safety App.	CE	
Operating Temperature	0 ~ 50 $^{\circ}$ C	
Storage Temperature	-20 ~ +70 $^{\circ}$ C	
Weight / Volume	250g / ϕ 75 x 340 mmL.	

Safety Precautions

This high voltage probe must only be by personnel who are trained, experienced, or otherwise qualified to recognize hazardous situations and who trained in the safety precautions that necessary to avoid possible injury when using such a device.

Do not work alone when working with high voltage circuits. For your own safety, inspect the probes for cracks and frayed or broken leads before each use. If defects are noted, DO NOT USE the probe. Hands, shoes, floor and work bench must be dry. Avoid making measurements under humid, damp or other environmental conditions that might affect the safety of the measurement situation.

If possible, always turn the high voltage source off before connection or disconnection the probe. The probe body should be kept clean and free of any conductive contamination.

Operation

Connect the divider probe common lead(alligator clip) to a good earth ground or reliable ground. Connect the BNC connector to the BNC input of your oscilloscope. Select the desired range of your oscilloscope. Whenever possible, turn the high voltage source off before making any connections.

When the measuring voltage are DC 8 KV up, or AC 5KVrms up or AC peak 20KV up, do not exceed 60 second and break off 5 minute at least.

Warning

Do not attempt at take measurements from sources when the chassis or return lead is not ground.

This ground connection is critical to the safety operation of the probe. Failure to make this connection may result in personal injury or damage to the probe or voltmeter. This connection must be made before the probe tip comes into contact with the high voltage and must not be removed until after the probe tip has been removed.

Do not connect the ground clip to the high voltage source or the probe tip to the ground for any reason.

BEFORE turning the high voltage on, make sure that no part of your body is in contact with the device. Remembering that the voltage being measured is 1000 times greater than the voltmeter reading.

When the measuring voltage are DC 8 to 10KV, or AC rms 5 to 7KV or AC peak 15 to 20KV, do not exceed 60 seconds on each measurement. Otherwise will caused to the probe over heat or damage. Disconnect the probe tip from the high voltage source BEFORE removing the ground clip lead.

High Voltage:

If the equipment is used in a manner not specified by the manufacture, the protection provided by the equipment may be impaired.

Cleaning

Clean only the exterior probe body and cables. Use a soft cotton cloth lightly moistened with a mild solution of detergent and water. Do not allow any portion of the probe to submerged at any time.

Dry the probe thoroughly before attempting to make voltage measurement. Do not subject the probe to solvents or solvent fumes as these can case deterioration of the probe body and cables.

Note:

When the measuring Voltage are under the following voltage.

Do not exceed 60sec on each measurement.

DC: 8~10KV

AC RMS: 5~7KV

AC PEAK: 15~20KV

Symbols on the product:

These symbols may appears on prod. Attention refer to operation instructions.

HPB4010 高压探头

规格

最大量测电压	DC:0~10KV AC:≤7KV rms ⚠ 注意! 请依照标题(4)注意事项之第4点说明	
信号/噪声	DC≥60dB(1KHz), ≥50dB(1MHz)	
带宽	DC~40MHz (-3dB)	
衰减比	1:1000	
上升时间	≤8.8ns	
输入阻抗	100MΩ ±1%	
输入电容	3.0PF ±0.5PF	
补偿电容	5PF~50PF	
缆线长度	2.0meter (±0.2M)	
温度系数	≤200PPM/°C	
准确度	DC	±2% (DC to 10KV) ±3% (10KV 以上)
	AC	±3% (1KHz/1KV) -3dB 40MHz
符合安规	CE	
操作环境温度	0~50°C	
储存环境温度	-20~+70°C	
重量/体积	250g/Φ75×340 mm 长	

安全使用说明

本高压测试棒仅供已经训练过并有经验的人员或合格的工程师使用。

1. 在操作高压测试时请勿单独一人作业。
2. 在使用前请先检查测试棒是否有损坏，或者缆线是否有破损等。
3. 在工作时双手以及鞋子、地板等须保持干燥，以免发生触电危险。
4. 在连接完成以前，请先将高压电源闭；欲停止使用前，亦请先关闭电源。

操作方法

1. 先将接地线连接在良好的接地点上。
2. 将BNC探头连接在示波器的输入端上。
3. 设定示波器所需要的档位。

 注意！在上述连接完成前，请勿开启高压电源。

开启示波器，待示波器稳定后，连接欲测试的点并开启高压电源。

注意事项

1. 在接地线尚未正确接好以前切勿进行量测动作。
2. 不论在任何情况下，皆不得将地线连接到高压电源，或将测试棒尖端接地。
3. 在打开高压电源之前，请先、确认身体的任何部位皆未接触到此高压部位。
4. 在量测DC10KV以上或AC7KV以上时，请勿连续超过1分钟，以免过热影响量测之准确度，期间需等待散热约5分钟后，再进行量测。
5. 在移除接地之前，请确认测试棒之尖端以远离高压电源。

清洁

1. 清洁高压棒本体时，请用柔软的湿布擦拭，请勿将高压棒浸入水中。
2. 在量测前请确实擦干高压棒，并保持测试棒干燥。
3. 请勿用任何有机溶剂擦拭清理高压棒。