User's Guide
TESTEC High Voltage Probe TT-HVP 40

Warning This high voltage probe is designed to prevent accidental shock to the operator when properly used. This operating note must be read and understood prior to using the probe. Improper procedures or incorrect analysis of the measurement situation can result in serious shock.

General Information

The Testec High Voltage Probe TT HVP 40 is an accessory to be used with analog or digital multimeters having an input resistance of 10 M Ω (± 1 %). The Testec Model TT-HVP 40 is a 1000:1 divider which extends a voltmeter's measurement capability to 40 kV dc/ 28 kV rms ac.

Specifications

Maximum Input Voltage CAT I
DC Voltage: 40kV
AC Voltage: (0 to 300 Hz) 28 kV RMS

Accuracy
DC volts: ± 2 % (1 kV to 20 kV)
± 3 % (20 kV to 40 kV)

Temperature Coefficient
Less than 200ppm/°C

Division Ratio Accuracy
1000:1 ± 1 % when terminated in 10 MΩ
2000:1 ± 6 % when terminated in 1 MΩ

Other Characteristics

Input Resistance
1000 MΩ

Cable Length:
1 meter

Altitude:
Up to 4.6000 meters (15.000 ft)

Accuracy
AC Volts: 5 % at 60 Hz

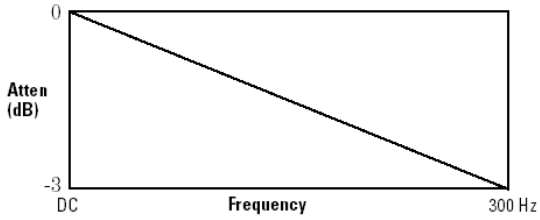
Operating Temperature
0 °C to +50 °C

Storage Temperature:
-20 °C to +70 °C

Humidity
Up to 80 % relative humidity at +40 °C

AC output derates with frequency to -3db at 300 Hz. The graph at the right shows typical AC accuracy.

Actual AC accuracy varies with the amount of shunted input capacitance.



Safety Precautions

- This high voltage probe must only be used by personnel who are trained, experienced, or otherwise qualified to recognize hazardous situations and who are trained in the safety precautions that are 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 effect the safety of the measurement situation.
- It is advisable to turn the high voltage source off before connecting or disconnecting the probe.
- The probe body should be kept clean and free of any conductive contamination. Refer to the section on cleaning.

Operation

- Connect the plugs to the volts [Hi] and com [Lo] terminals of your voltmeter
- Select the desired voltage function and range; do not use autoranging
- Whenever possible, turn the high voltage source off before making any connections
- Connect the divider probe common lead (alligator clip) to a good earth ground or reliable chassis ground

Warning

- Do not attempt to take measurements from sources where the chassis or return lead is not grounded
- The ground lead is critical to the safe operation of the probe. Failure to make this connection when making high voltage measurements may result in personal injury or damage to the probe or voltmeter. This connection must always be made BEFORE the probe tip comes in contact with the high voltage and must not be removed until the probe tip has been removed from the high voltage source.
- Do not connect the ground clip lead to the high voltage source for any reason.
- Before turning the high voltage on, make sure that no part of your body is in contact with the device under test.
- Measure the voltage remembering that the voltage being measured is 1000 times greater than the voltmeter reading.
- Turn the high voltage off.
- Disconnect the probe tip from the high voltage source BEFORE removing the ground clip lead.

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 be submerged at any time.
- Dry the probe thoroughly before attempting to make voltage measurements.
- Do not subject the probe to solvents or solvent fumes as these can cause deterioration of the probe body and cables.

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