30 MHz, High-Voltage Differential Probes, cTUVus Listed

CT4447 Series



Features:

- *Bandwidths to 30 MHz*
- *Up to 1,400 V differential (DC + AC Peak)*
- *1,000 V CAT III rated*
- *cTUVus safety certified*
- *Voltage over range indicator*
- *Switchable attenuation*
- *Multiple power options - batteries, oscilloscope, or mains*
- *Insulated BNC interface*
- *Protective rubber boot*
- *Two-year warranty*

Description:

Oscilloscope users are often faced with the need to make measurements between two voltages, both of which are not at earth ground. Differential probes are designed to allow earth grounded oscilloscopes to make safe, accurate floating measurement between these two points. The CT4447 Series probes convert these floating signals to low-voltage ground-referenced signals that can be displayed safely on any ground-referenced oscilloscope.

Compatible with oscilloscopes (with 1 MΩ input) from all major manufacturers, the probes can be powered by batteries (included), a universal mains adapter (included), or by the oscilloscope, if USB equipped.

The probe series is cTUVus certified to IEC 61010-031: 2015, for user safety and confidence.

Applications:

- *Precision power semiconductors*
- *Switchable power supply design*
- *Floating measurements*
- *Power converter measurements*
- *Precision motor drive measurements*

Models:

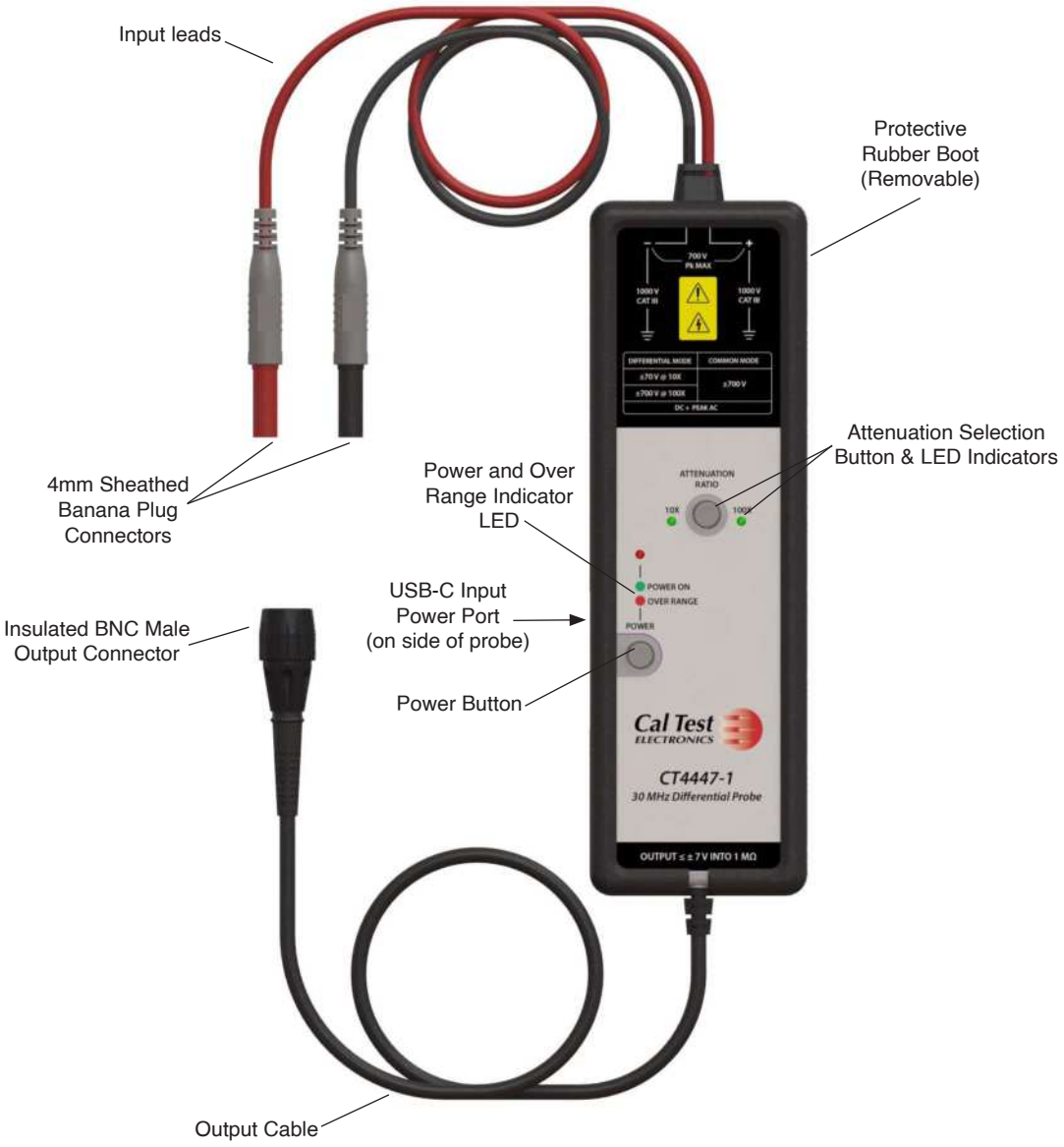
CT4447-1

30 MHz, 700V, 10x/100x

CT4447-2

30 MHz, 1.4kV, 20x/200x

Diagram



Mechanical Specifications (same for both versions)

Parameter	Characteristic
Input Leads Length (each)	55 cm ±3 cm
BNC Cable Length	95 cm ±3 cm
Dimension (L x W x H)	220 mm, 68 mm, 28 mm (with protective rubber boot)
Weight	488 g (1.08 lb) (with batteries and protective rubber boot)
USB Type C Cable Length	100 cm ±3 cm

Electrical Specifications (Not Warranted)

Parameter	CT4447-1	CT4447-2
Bandwidth (-3 dB)	30 MHz	30 MHz
Gain Accuracy	±2%	±2%
Attenuation Ratio	10x / 100x	20x / 200x
Rise Time	14 ns	14 ns
Absolute Maximum Rated Input Voltage (each side to ground)	1000 V CAT III	1000 V CAT III
Maximum Differential Input Voltage (DC + AC Peak)	±70 V at 10x ±700 V at 100x	±140 V at 20x ±1400 V at 200x
Maximum Common Mode Input Voltage (DC + AC Peak)	±70 V at 10x ±700 V at 100x	±140 V at 20x ±1400 V at 200x
Input Impedance	5 MΩ, 2 pF (each side to ground)	5 MΩ, 2 pF (each side to ground)
Output Voltage	±7 V (driving 1 MΩ load)	±7 V (driving 1 MΩ load)
Offset (typical)	±20 mV	±20 mV
Noise (typical)	0.7 mVrms	0.7 mVrms
CMRR (typical)	50 Hz: -72 dB 20 kHz: -66 dB 200 kHz: -56 dB	50 Hz: -72 dB 20 kHz: -66 dB 200 kHz: -56 dB
Power Requirements	4 x AA batteries or USB-C cable	4 x AA batteries or USB-C cable
Mains Adapter (N.A. Plugs)	Input:100-240 V AC, 0.35 A Output: 5 V DC, 1 A	Input:100-240 V AC, 0.35 A Output: 5 V DC, 1 A

Environmental Specifications (same for both versions)

Parameter	Characteristic
Operating Temperature	-10°C to 40°C (14°F to 104°F)
Storage Temperature	-30°C to 70°C (-22°F to 158°F)
Humidity	≤ 80% RH @ 25°C to 35°C (77°F to 95°F)
Altitude	Operating: 2000 m Non-operating: 15000 m
Pollution Degree	P2

Included Accessories:

- *CT4386: Insulated Sprung Hook Probes, 1000V CAT III, 20 A, Pair (B/R)*
- *CT4447-0: Protective Rubber Boot, Black*
- *CT4473-100: USB Power Cord, 1 meter, USB-A to USB-C*
- *CT4471: Power Adapter, NA Plug to USB Jack*
- *CT4472: EU Plug Convertor, NA to EU Plug*



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Specifications and appearance subject to change without notice

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