5. Operation Steps

1) Power the probe: Power the probe with standard adapter;
2) Connect to oscilloscope: Connect the BNC end of the probe to oscilloscope channel (make sure the oscilloscope is grounded);
3) Select Range: Select appropriate voltage range according to the signal;
4) Connect the DUT: Use clips or hooks to connect the DUT. For reducing interference, twist the red and black input leads into a pair prior.If an over-voltage alarm occurs, disconnect the power supply and the circuit immediately;
5) Set on the oscilloscope: Set input impedance to 50Ω, adjust the channel attenuation ratio.

*Note: Try not to use extension leads when measuring, it could bring more noise floor. If must use the extension leads, please twist the leads together to reduce noise, and the input frequency should not exceed 5MHz. If it exceeds 5MHz, the output will have a certain error.

6. Warranty

1) Micsig warrants the main body of this differential probe for 1 year.
During the warranty period, Micsig will be responsible for free maintenance for any failure caused by the quality of the product under normal use.
2) Under the following circumstances, Micsig will refuse to provide maintenance services or charge for a fee:
a. No packaging or anti-counterfeiting label.
b. Anti-counterfeit label has been altered or blurred beyond recognition.
c. Unauthorized disassembly, such as: changing wires, dismantling internal components, etc.
d. No sales voucher or the content of sales voucher does not match the product.

7. Safety Precautions

1) Non-professionals do not open the product casing;
2) Do not use while case is open;
3) Do not touch any bare metal while testing;
4) Disconnect the power supply and circuit immediately when over range;
5) Do not use in flammable and explosive environments;

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Quick Guide

High Voltage Differential Probe DP series

Bandwidth: 300MHz / 500MHz

1. Overview

The Micsig DP Series High-Voltage Differential Probes offer selectable bandwidths ranging from 100MHz to 500MHz, with a maximum differential input voltage of 7000Vpk.A standard BNC interface ensures compatibility with all major oscilloscope brands. Built-in metal shielding enhances anti-interference performance. With a compact 2cm-thin design, the probes save workspace and feature one-click auto-zero for quick setup. Additional functions include overload protection alarms and power-off memory for seamless operation.

An ultra-low noise floor (as low as 5mVrms) and dual-range design optimize the signal-to-noise ratio across different voltage levels. A high-impedance input and low input capacitance minimize loading effects, delivering ±2% measurement accuracy and excellent common-mode rejection (CMRR).

The 5MHz bandwidth limit reduces high-frequency noise for accurate, high-speed differential voltage measurements. Ideal for EV power systems, solar inverters, switching power supplies, and floating or isolated high-voltage signal testing.

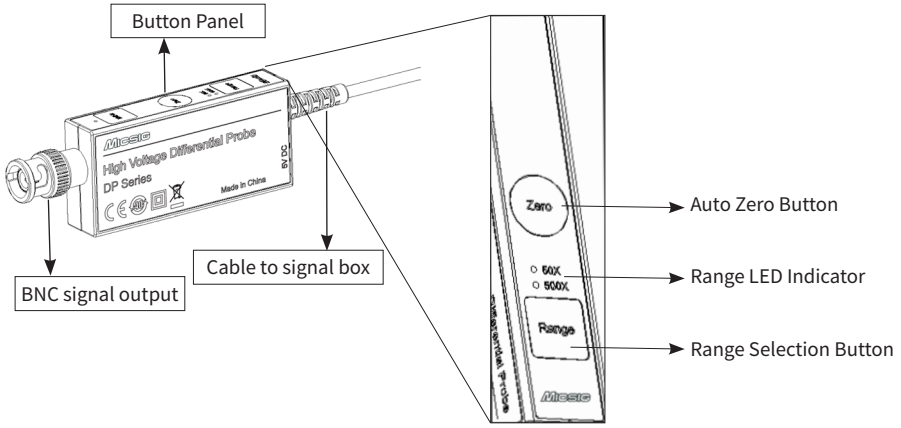
2. Characteristics

Model	DP703	DP705	DP1503	DP1505	DP3003	DP3005
Bandwidth	300MHz	500MHz	300MHz	500MHz	300MHz	500MHz
Rise time	⩽ 1.2ns	⩽ 0.7ns	⩽ 1.2ns	⩽ 0.7ns	⩽ 1.2ns	⩽ 0.7ns
Attenuation	20X / 200X		50X / 500X		100X / 1000X	
Accuracy	±2%		±2%		±2%	
Max. input Differential Voltage (DC+AC PK)	70V（20X） 700V（200X）		150V（50X） 1500V（500X）		300V（100X） 3000V（1000X）	
Max. Voltage to ground	600V (CAT I) 450V (CAT II)		1000V (CAT II) 600V (CAT III)		1000V (CAT II) 600V (CAT III)	
Noise	Full Bandwidth: 20X: ⩽ 125mVrms 200X: ⩽ 140mVrms		Full Bandwidth: 50X: ⩽ 250mVrms 500X: ⩽ 300mVrms		Full Bandwidth: 100X: ⩽ 500mVrms 1000X: ⩽ 600mVrms	
CMRR	DC：>-80dB 100kHz: >-60dB 20MHz: >-40dB		DC：>-80dB 100kHz: >-60dB 20MHz: >-40dB		DC：>-80dB 100kHz: >-60dB 20MHz: >-40dB	
Delay time	10.83ns (20X) 11.56ns (200X)		11ns (50X) 9.8ns (500X)		10.83ns (100X) 10.93ns (1000X)	
Input impedance	4MΩ/1.175pF(differential) 2MΩ/2.35pF(each input to ground)		20MΩ/1.175pF(differential) 10MΩ/2.35pF(each input to ground)		20MΩ/1.175pF(differential) 10MΩ/2.35pF(each input to ground)	
Output voltage	⩽ 3.5V		⩽ 3V		⩽ 3V	
Output impedance	50Ω					
Power supply	DC 5V					
Overrange	LED flashes, Buzzer beeps					
Dimensions	Control module: L*W*H: 91 *33 *15 /mm Signal box: L*W*H：100 * 36 * 20 /mm					
Cable length	Approx. 28 cm (Input); Approx. 135cm (Output)					
Temperature	Operating: 0°C ~ 40 °C Non-operating: -30 °C ~ 70 °C					
Humidity	Operating: 5 ~ 85% RH (0°C ~ 40 °C) Non-operating: 5% ~ 85% RH (⩽ 40 °C) ; 5% ~ 45% RH (40 °C ~70 °C)					
Implementation standard	Q/MKX001-2023					
LVD standard	EN 61010-1:2010; EN IEC 61010-2-030:2021; EN 61010-031:2015+A1:2021+A11:2021					
EMC standard	EN IEC 61326-1:2021; EN IEC 61326-2-1:2021; EN61000-3-2:2019+A1:2021; EN61000-3-3:2013+A1:2019+A2:2021					

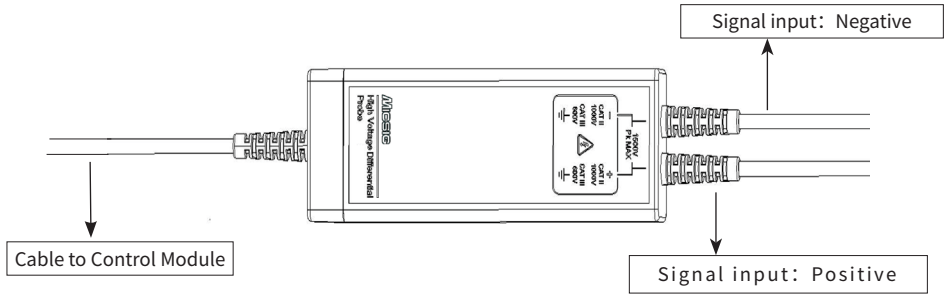
3. Appearance

DP differential probe mainly consists of control module and signal box.

Control Module



Signal Box



4. Precautions

1) The bandwidth of the oscilloscope should be no less than the bandwidth of the probe, channel input impedance should be 50Ω.
2) Calibrate the probe before use:
Short-circuit the input ends, power on, press “Zero” button, 5MHz LED light flashes, after hearing a “Di” sound, means calibration succeeded; if hearing “Di Di Di” sound, means calibration failed, needs to be calibrated again;
3) Recommend to use after 10 mins warm-up to get more accurate result.
4) When Range LED indicator flashes and beeps rapidly, indicating Overvoltage warning, please switch to higher range.