

HIGH VOLTAGE DIFFERENTIAL PROBE

CE

1025D 1400Vp-p/25MHz

1050D 7000Vp-p/50MHz

1100D 7000Vp-p/100MHz



INSTRUCTION MANUAL



TABLE OF CONTENTS

1025D

High Voltage Differential Probe

1. FEATURES	1
2. SPECIFICATIONS	1
3. PANEL DESCRIPTION	2
4. OPERATING ENVIRONMENTAL CONDITIONS	3
5. OPERATING PROCEDURE	3
6. MAINTENANCE	4
7. CLEANING	5
8. STORAGE	5
9. WARRANTY	5
10. REPAIR	5

1050D

High Voltage Differential Probe

1. FEATURES	8
2. SPECIFICATIONS	8
3. PANEL DESCRIPTION	9
4. OPERATING ENVIRONMENTAL CONDITIONS	10
5. OPERATING PROCEDURE	10
6. MAINTENANCE	11
7. CLEANING	12
8. STORAGE	12
9. WARRANTY	12
10. REPAIR	12

1100D

High Voltage Differential Probe

1. FEATURES	15
2. SPECIFICATIONS	15
3. PANEL DESCRIPTION	16
4. OPERATING ENVIRONMENTAL CONDITIONS	17
5. OPERATING PROCEDURE	17
6. MAINTENANCE	18
7. CLEANING	19
8. STORAGE	19
9. WARRANTY	19
10. REPAIR	19



● **Differential Voltage Probe,**

Read the instructions before using the instrument:

1. Must acquire a differential voltage probe & get the best service from instrument.
2. Read carefully the Instruction Manual.
3. Respect the safety precautions.

● **SAFETY PRECAUTIONS**

WARNING: Risk of Electric Shock,

1. Do not use the probe in damp environment or where there is risk of explosion.
2. Do not use the probe with its case open.
3. Disconnect the inputs and outputs of the probe before opening the case.
4. The probes are for indoor use only.

Respect the max input voltages:

1025D:

1. Max differential voltage: 1400V (DC + AC peak) or 450 Vrms
2. Max voltage between each input terminal and ground: 600 Vrms

1050D & 1100D:

1. Max differential voltage: 7000V (DC + AC peak) or 2200 Vrms
2. Max voltage between each input terminal and ground: 6500 Vrms

● **TO ORDER Differential Voltage Probe and Accessories:**

- An Insulated BNC/BNC lead, length 100cm.
- Supplied a Adapter preset 9 V DC (115 V or 230 V)
- 2 x high voltage IC clips
- 2 x Banana to Banana high voltage plug
- 2 x Alligator plug

1025D

High Voltage Differential Probe

1. FEATURES

- The 1025D differential probe provides a safety means for measuring differential voltage to all models of oscilloscopes.
- The 1025D converts the high differential voltage ($\leq 1400V_{\text{peak}}$) into a low voltage ($\leq 7.0V$, with reference to the earth) and display on the oscilloscopes.
- The 1025D is designed to operate with the $1M\Omega$ impedance oscilloscopes. When combine with the 50Ω load, the attenuation will be 2 times.

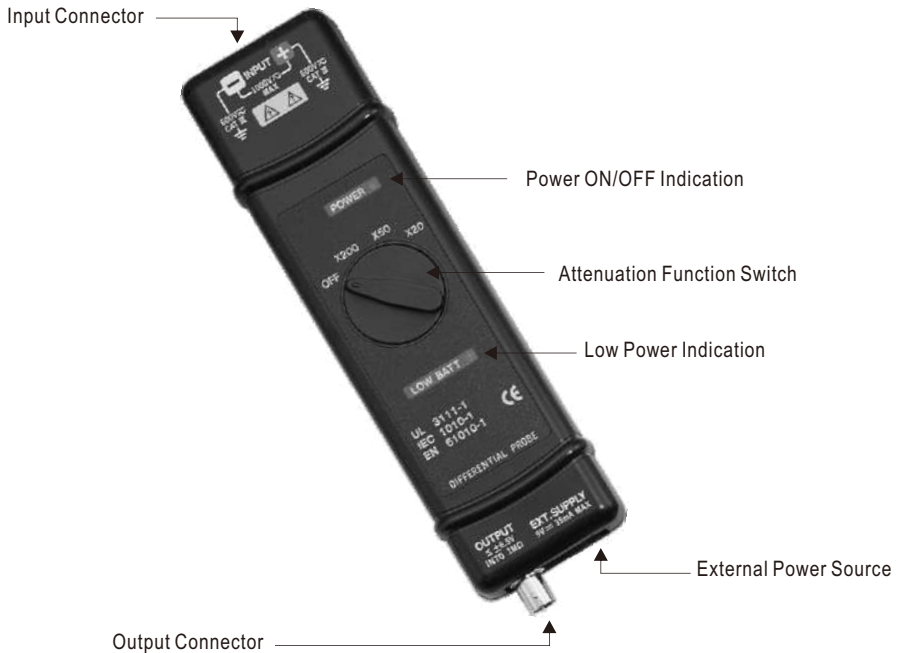
NOTE: If you connect 1025D to the DMM without PL-10, the accuracy will be higher than 10%.

2. SPECIFICATIONS

- (1) Bandwidth: DC - to 25 MHz (-3 dB)
- (2) Attenuation: x 20, x 50, or x 200
- (3) Accuracy: +/- 2%
- (4) Voltage Input Ranges (DC + AC peak to peak)
 - $\leq 140 V_{\text{p-p}}$ for x 20, (i.e about 45 Vrms or DC)
 - $\leq 350 V_{\text{p-p}}$ for x 50, (i.e about 110 Vrms or DC)
 - $\leq 1400 V_{\text{p-p}}$ for x 200, (i.e about 450 Vrms or DC)
- (5) Permitted Max Input Voltage
 - Max differential voltage: 1400 V (DC + AC peak to peak) or 450Vrms
 - Max voltage between each input terminal and ground: 600 Vrms

- (6) Input Impedance:
 Differential: $4\text{ M}\Omega / 1.2\text{ pF}$
 Between terminals and ground: $2\text{ M}\Omega / 2.3\text{ pF}$
- (7) Output: $\leq \pm 7.0\text{ V}$
- (8) Output Impedance: $50\ \Omega$
- (9) Rise Time: 14 ns
- (10) Rejection Rate on Common Mode:
 60 Hz: $> 80\text{ dB}$; 100 Hz: $> 60\text{ dB}$; 1 MHz: $> 50\text{ dB}$
- (11) Power Supply: Only External 9 V DC power supply .
- (12) Consumption: $< 300\text{ mA max}$

3. PANEL DESCRIPTION



4. OPERATING ENVIRONMENTAL CONDITIONS

	Reference	Use	Storage
Temperature	+20°C ... +30°C	0°C ... +50°C	-30°C ... +70°C
Relative Humidity	≤ 70 % RH	10 % ... 85 % RH	10 % ... 90 % RH

(1) Dimensions and Weight:

195 x 55 x 30 mm; 250g

(2) Electrical Safety to IEC 1010-1

- Dual Insulation
- Installation Category III
- Degree of Pollution 2
- Rated Voltage or Max Line-Earth: 600 Vrms

(3) CE Mark

Conforms to EN 50081-1 and 50082-1 standards

(4) Indoor use only.

5. OPERATING PROCEDURE

- Connect the leads to the input and place the wire-grip on the circuit to be tested.
- Connect the probe to the oscilloscope with the insulated BNC/BNC lead.
- Adjust the vertical zero adjustment of the oscilloscope if necessary.
- Select the attenuation ratio* and the vertical deviation of the oscilloscope in accordance with the conversion table below.
- NB: The POWER light must come on.

The conversion table gives the real vertical deviation.

Attenuation	X 200	X 50	X 20
Voltage Input Range (DC+AC Peak)	1400Vp-p (±700VDC)	350Vp-p (±175VDC)	140Vp-p (±70VDC)

Vertical Deviation on the Oscilloscope in V/div	Real Deviation In V/div		
	x 200	x 50	x 20
1	200	50	20
0.5	100	25	10
0.2	40	10	4
0.1	20	5	2
50 m	10	2.5	1
20 m	4	1	0.4
10 m	2	0.5	0.2
5 m	1	0.25	0.1
2 m	0.4	0.1	40 m

[N.B]

The real vertical deviation in V/div is equal to the attenuation factor multiplied by the range of vertical deviation selected on the oscilloscope. It will be doubled in the case of use of a 50 Ω load.

Example:

With the probe on factor x 200, the oscilloscope on 0.5 V/div, the real vertical deviation is $200 \times 0.5 = 100$ V/div.

With a 50Ω load on the input of the oscilloscope the deviation becomes 200 V/div.

6. MAINTENANCE

For maintenance, only use specified spare parts.

The manufacturer can not be held responsible for any accident arising following a repair made other than its after sales service or approved repairers.

7. CLEANING

This probe does not require any particular cleaning. If necessary, clean the case with a cloth slightly moistened with soapy water.

8. STORAGE

If the probe is not use more than 60 days, please store the probe in a dehumidified environment to keep dry.

9. WARRANTY

Unless notified to the contrary, our instruments are guaranteed against any manufacturing defect or material defect. They do not bear the specification known as the safety specification. Our guarantee, which may not under any circumstances exceed the amount of the invoiced price, goes no further than the repair of our faulty equipment, carriage paid to our workshops.

It is applicable for normal use of our instruments, and does not apply to damage or destruction caused, notably by error in mounting, mechanical accident, faulty maintenance, defective use, overload or exceed voltage.

Our responsibility being strictly limited to the pure and simple replacement of the faculty parts of our equipment, the buyer expressly renounces any attempt to find us responsible for damages or losses caused directly or indirectly.

Our guarantee is applicable for twelve (12) months after the date at which the equipment is made available. The repair, modification or replacement of a part during the guarantee period will not result in this guarantee being extended.

10. REPAIR

Maintenance, repairs under or out of guarantee. Please return the product to your distributor.

1050D

High Voltage Differential Probe

1. FEATURES

- The 1050D differential probe provides a safety means for measuring differential voltage to all models of oscilloscopes.
- The 1050D converts the high differential voltage ($\leq 7000V_{peak}$) into a low voltage ($\leq 7.0V$, with reference to the earth) and display on the oscilloscopes.
- The 1050D is designed to operate with the $1M\Omega$ impedance oscilloscopes. When combine with the 50Ω load, the attenuation will be 2 times.

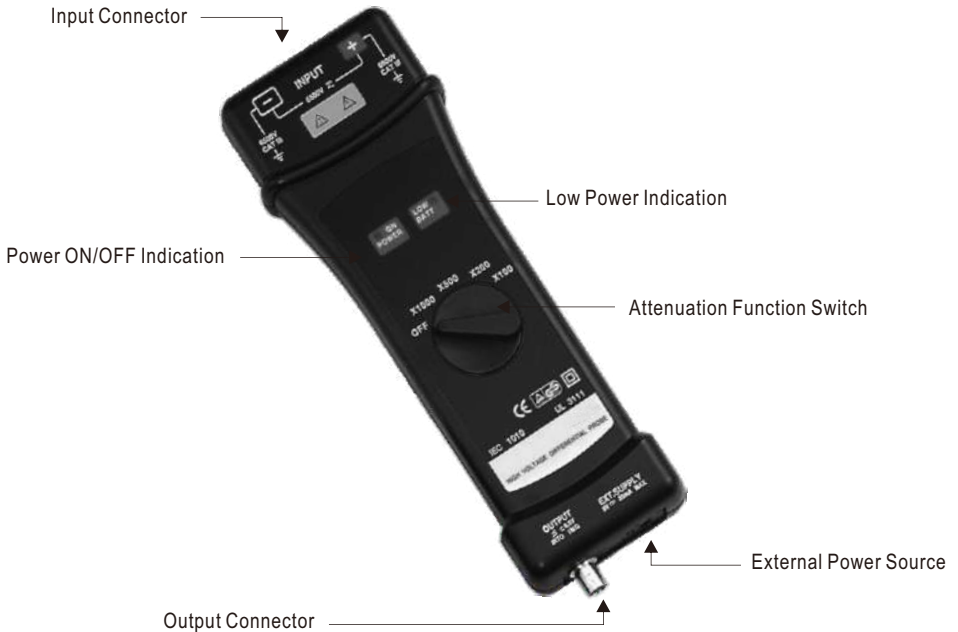
NOTE: If you connect 1050D to the DMM without PL-10, the accuracy will be higher than 10%.

2. SPECIFICATIONS

- (1) Bandwidth: DC - to 50 MHz (-3 dB)
- (2) Attenuation: x 100, x 200, x 500, x 1000
- (3) Accuracy: +/- 2%
- (4) Voltage Input Ranges (DC + AC peak to peak)
 - $\leq 700 V_{p-p}$ for x 100, (i.e about 230 Vrms or DC)
 - $\leq 1400 V_{p-p}$ for x 200, (i.e about 460 Vrms or DC)
 - $\leq 3500 V_{p-p}$ for x 500, (i.e about 1140 Vrms or DC)
 - $\leq 7000 V_{p-p}$ for x 1000, (i.e about 2300 Vrms or DC)
- (5) Permitted Max Input Voltage
 - Max differential voltage: 7000 V (DC + AC peak to peak)
 - Max voltage between each input terminal and ground: 6500 Vrms

- (6) Input Impedance:
 Differential: $16\text{ M}\Omega / 1\text{ pF}$
 Between terminals and ground: $8\text{ M}\Omega / 2\text{ pF}$
- (7) Output: $\leq \pm 7.0\text{ V}$
- (8) Output Impedance: $50\ \Omega$
- (9) Rise Time: 7 ns
- (10) Rejection Rate on Common Mode:
 60 Hz: $> 80\text{ dB}$; 100 Hz: $> 60\text{ dB}$; 1 MHz: $> 50\text{ dB}$
- (11) Power Supply: Only External 9 V DC power supply .
- (12) Consumption: $< 300\text{ mA max}$

3. PANEL DESCRIPTION



4. OPERATING ENVIRONMENTAL CONDITIONS

	Reference	Use	Storage
Temperature	+20°C ... +30°C	0°C ... +50°C	-30°C ... +70°C
Relative Humidity	≤ 70 % RH	10 % ... 85 % RH	10 % ... 90 % RH

(1) Dimensions and Weight:

240 x 80 x 30 mm; 280g

(2) Electrical Safety to IEC 1010-1

- Dual Insulation
- Installation Category III
- Degree of Pollution 2
- Rated Voltage or Max Line-Earth: 6500 Vrms

(3) CE Mark

Conforms to EN 50081-1 and 50082-1 standards

(4) Indoor use only.

5. OPERATING PROCEDURE

- Connect the leads to the input and place the wire-grip on the circuit to be tested.
- Connect the probe to the oscilloscope with the insulated BNC/BNC lead.
- Adjust the vertical zero adjustment of the oscilloscope if necessary.
- Select the attenuation ratio* and the vertical deviation of the oscilloscope in accordance with the conversion table below.
- NB: The POWER light must come on.

The conversion table gives the real vertical deviation.

Attenuation	X 1000	X 500	X 200	X 100
Voltage Input Range (DC+AC Peak)	7000Vp-p (±3500VDC)	3500Vp-p (±1750VDC)	1400Vp-p (±700VDC)	700Vp-p (±350VDC)

Vertical Deviation on the Oscilloscope in V/div	Real Deviation In V/div			
	x 1000	x 500	x 200	x 100
1	1000	500	200	100
0.5	500	250	100	50
0.2	200	100	40	20
0.1	100	50	2	10
50 m	50	25	10	5
20 m	20	10	4	2
10 m	10	5	2	1
5 m	5	2.5	1	0.5
2 m	2	1	0.4	0.2

[N.B]

The real vertical deviation in V/div is equal to the attenuation factor multiplied by the range of vertical deviation selected on the oscilloscope. It will be doubled in the case of use of a 50 Ω load.

Example:

With the probe on factor x 200, the oscilloscope on 0.5 V/div, the real vertical deviation is $200 \times 0.5 = 100$ V/div.

With a 50Ω load on the input of the oscilloscope the deviation becomes 200 V/div.

6. MAINTENANCE

For maintenance, only use specified spare parts.

The manufacturer can not be held responsible for any accident arising following a repair made other than its after sales service or approved repairers.

7. CLEANING

This probe does not require any particular cleaning. If necessary, clean the case with a cloth slightly moistened with soapy water.

8. STORAGE

If the probe is not use more than 60 days, please store the probe in a dehumidified environment to keep dry.

9. WARRANTY

Unless notified to the contrary, our instruments are guaranteed against any manufacturing defect or material defect. They do not bear the specification known as the safety specification. Our guarantee, which may not under any circumstances exceed the amount of the invoiced price, goes no further than the repair of our faulty equipment, carriage paid to our workshops.

It is applicable for normal use of our instruments, and does not apply to damage or destruction caused, notably by error in mounting, mechanical accident, faulty maintenance, defective use, overload or exceed voltage.

Our responsibility being strictly limited to the pure and simple replacement of the faculty parts of our equipment, the buyer expressly renounces any attempt to find us responsible for damages or losses caused directly or indirectly.

Our guarantee is applicable for twelve (12) months after the date at which the equipment is made available. The repair, modification or replacement of a part during the guarantee period will not result in this guarantee being extended.

10. REPAIR

Maintenance, repairs under or out of guarantee. Please return the product to your distributor.

11. ACCESSORIES

- ADP-110V or ADP-220V: AC Adapter.
- BP-250: BNC Plug to BNC Plug; 50 Ω Resistance, RG58C UL, Length 100cm.
- BP-276N: Alligator Clip, UL 1000V CAT II, 10A.
(Red x 1pc , Black x 1pc)
- BP-266: HV IC Clip, MAX. 6500V(DC+ACp-p).
(Red x 1pc , Black x 1pc)
- BP-366: HV Banana Plug to Banana Plug Silicon Wire, 18AWG, UL 20KV, Length 60cm.(Red x 1pc , Black x 1pc)
- Instruction Manual(TINSE0004S4).

1100D

High Voltage Differential Probe

1. FEATURES

- The 1100D differential probe provides a safety means for measuring differential voltage to all models of oscilloscopes.
- The 1100D converts the high differential voltage ($\leq 7000V_{\text{peak}}$) into a low voltage ($\leq 7.0V$, with reference to the earth) and display on the oscilloscopes.
- The 1100D is designed to operate with the $1M\Omega$ impedance oscilloscopes. When combine with the 50Ω load, the attenuation will be 2 times.

NOTE: If you connect 1100D to the DMM without PL-10, the accuracy will be higher than 10%.

2. SPECIFICATIONS

- (1) Bandwidth: DC - to 100 MHz (-3 dB)
- (2) Attenuation: x 100, x 200, x 500, x1000
- (3) Accuracy: +/- 2%
- (4) Voltage Input Ranges (DC + AC peak to peak)
 - $\leq 700 V_{\text{p-p}}$ for x 100, (i.e about 230 Vrms or DC)
 - $\leq 1400 V_{\text{p-p}}$ for x 200, (i.e about 460 Vrms or DC)
 - $\leq 3500 V_{\text{p-p}}$ for x 500, (i.e about 1140 Vrms or DC)
 - $\leq 7000 V_{\text{p-p}}$ for x 1000, (i.e about 2300 Vrms or DC)
- (5) Permitted Max Input Voltage
 - Max differential voltage: 7000 V (DC + AC peak to peak)
 - Max voltage between each input terminal and ground: 6500 Vrms

- (6) Input Impedance:
 Differential: $16\text{ M}\Omega / 1.2\text{ pF}$
 Between terminals and ground: $8\text{ M}\Omega / 2.3\text{ pF}$
- (7) Output: $\leq \pm 7.0\text{ V}$
- (8) Output Impedance: $50\ \Omega$
- (9) Rise Time: 3.5 ns
- (10) Rejection Rate on Common Mode:
 60 Hz: $> 80\text{ dB}$; 100 Hz: $> 60\text{ dB}$; 1 MHz: $> 50\text{ dB}$
- (11) Power Supply: Only External 9 V DC power supply .
- (12) Consumption: $< 300\text{ mA max}$

3. PANEL DESCRIPTION



4. OPERATING ENVIRONMENTAL CONDITIONS

	Reference	Use	Storage
Temperature	+20°C ... +30°C	0°C ... +50°C	-30°C ... +70°C
Relative Humidity	≤ 70 % RH	10 % ... 85 % RH	10 % ... 90 % RH

(1) Dimensions and Weight:

240 x 80 x 30 mm; 280g

(2) Electrical Safety to IEC 1010-1

- Dual Insulation
- Installation Category III
- Degree of Pollution 2
- Rated Voltage or Max Line-Earth: 6500 Vrms

(3) CE Mark

Conforms to EN 50081-1 and 50082-1 standards

(4) Indoor use only.

5. OPERATING PROCEDURE

- Connect the leads to the input and place the wire-grip on the circuit to be tested.
- Connect the probe to the oscilloscope with the insulated BNC/BNC lead.
- Adjust the vertical zero adjustment of the oscilloscope if necessary.
- Select the attenuation ratio* and the vertical deviation of the oscilloscope in accordance with the conversion table below.
- NB: The POWER light must come on.

The conversion table gives the real vertical deviation.

Attenuation	X 1000	X 500	X 200	X 100
Voltage Input Range (DC+AC Peak)	7000Vp-p (±3500VDC)	3500Vp-p (±1750VDC)	1400Vp-p (±700VDC)	700Vp-p (±350VDC)

Vertical Deviation on the Oscilloscope in V/div	Real Deviation In V/div			
	x 1000	x 500	x 200	x 100
1	1000	500	200	100
0.5	500	250	100	50
0.2	200	100	40	20
0.1	100	50	2	10
50 m	50	25	10	5
20 m	20	10	4	2
10 m	10	5	2	1
5 m	5	2.5	1	0.5
2 m	2	1	0.4	0.2

[N.B]

The real vertical deviation in V/div is equal to the attenuation factor multiplied by the range of vertical deviation selected on the oscilloscope. It will be doubled in the case of use of a 50 Ω load.

Example:

With the probe on factor x 200, the oscilloscope on 0.5 V/div, the real vertical deviation is 200 x 0.5 = 100 V/div.

With a 50Ω load on the input of the oscilloscope the deviation becomes 200 V/div.

6. MAINTENANCE

For maintenance, only use specified spare parts.

The manufacturer can not be held responsible for any accident arising following a repair made other than its after sales service or approved repairers.

7. CLEANING

This probe does not require any particular cleaning. If necessary, clean the case with a cloth slightly moistened with soapy water.

8. STORAGE

If the probe is not use more than 60 days, please store the probe in a dehumidified environment to keep dry.

9. WARRANTY

Unless notified to the contrary, our instruments are guaranteed against any manufacturing defect or material defect. They do not bear the specification known as the safety specification. Our guarantee, which may not under any circumstances exceed the amount of the invoiced price, goes no further than the repair of our faulty equipment, carriage paid to our workshops.

It is applicable for normal use of our instruments, and does not apply to damage or destruction caused, notably by error in mounting, mechanical accident, faulty maintenance, defective use, overload or exceed voltage.

Our responsibility being strictly limited to the pure and simple replacement of the faculty parts of our equipment, the buyer expressly renounces any attempt to find us responsible for damages or losses caused directly or indirectly.

Our guarantee is applicable for twelve (12) months after the date at which the equipment is made available. The repair, modification or replacement of a part during the guarantee period will not result in this guarantee being extended.

10. REPAIR

Maintenance, repairs under or out of guarantee. Please return the product to your distributor.