



ADF26 Series

High Voltage Isolating Probes

Instruction Manual



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Please read the instruction manual carefully to avoid injury and prevent damage to this product.

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Preface

At first, thank you very much for using our product ADF26 series high voltage isolating probes. This instruction manual includes safety summary, brief introduction, main specifications and operating basics etc. Please read the manual carefully prior to use the product.

Warranty

Tpi warrants that this product will be free from defects in materials and workmanship for a period of one (1) year from the date of shipment. If any such product proves defective during this warranty period, Tpi, at its option, either will repair the defective product without charge for parts and labor, or will provide a replacement in exchange for the defective product. Parts, modules and replacement products used by Tpi for warranty work may be new or reconditioned to like new performance.

All replaced parts, modules and products become the property of Tpi. This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate maintenance and care.

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Table of contents

1. Safety Summary	4
2. Brief Introduction.....	5
3. Main Specification.....	6
4. Unpacking and Preparation for Use.....	8
5. General View of Product.	9
6. General View of Accessories	10
7. Operating Basics	11

1. Safety Summary

Please Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it.

Use proper AC adapter. Use only the AC adapter specified for this product.

Connect and disconnect properly. Connect the probe output to the measurement instrument before connecting the probe to the circuit under test. Disconnect the probe input from the circuit under test before disconnecting the probe from the measurement instrument.

Do not connect or disconnect probes while they are connected to a voltage source.

Ground the product. This product is indirectly grounded through the grounding conductor of the mainframe power cord. To avoid electric shock, the grounding conductor must be connected to earth ground.

Before making connections to the input or output terminals of the product, ensure that the product is properly grounded.

Do not operate without covers. Do not operate this product with covers or panels removed.

Power disconnect. The power cord disconnects the product from the power source. Do not block the power cord; it must remain accessible to the user at all times.

Do not operate in an explosive atmosphere. Do not operate in wet/damp conditions.

2. Brief introduction

ADF26 series high voltage isolating probe applies differential input mode. It is used at the location need to measure high voltage or isolate from ground usually.

ADF26 series high voltage isolating probe supplies two attenuation ranges 1/50 and 1/500 to be selected. The Maximum measurable differential voltage are 130V (DC + peak AC) and 1300V (DC + peak AC) accordingly.

ADF26 series high voltage isolating probe has over range alarm function. It indicates with a red LED.

ADF26 series high voltage isolating probe is small and robust. It has very high stability, reliability and accuracy.

It may be used at the following location

usually: Measure without connect to ground

Measure a high voltage or strong electricity Switch-mode power supplies design

Power convert design

AC inverter and UPS

Transducer design

Electronic ballast design

Electromotor drive

design CRT display

design

Electric and electronic experiment

3. Main Specifications

Main specifications			
Specifications	ADF26	ADF26A	ADF26C
Bandwidth (-3dB)	25MHz	25MHz	70MHz
Rise time	14ns	14ns	5ns
Accuracy	$\pm 2\%$		
Output voltage	$\pm 1.4V$	$\pm 2.8V$	$\pm 2.8V$
Offset zero	$\pm 5mV$		
Attenuation	50X, 500X	50X, 500X	200X, 2000X
Maximum measurable differential voltage	50X: 70Vp 500X: 700Vp	50X: 140Vp 500X: 1400Vp	200X: 560Vp 2000X: 5600Vp
Maximum input voltage to earth	600Vrms CAT III 1000Vrms CAT II	600Vrms CAT III 1000Vrms CAT II	1000Vrms CAT III 2300Vrms CAT I
Input impedance	4M Ω /7pF each input to ground 8M Ω /3.5pF between two inputs	4M Ω /7pF each input to ground 8M Ω /3.5pF between two inputs	16M Ω /4pF each input to ground 32M Ω /2pF between two inputs

CMRR	DC: >80dB		
	100Hz: >60dB		
	1MHz: >50dB		
Noise	1.5mVrms	1.5mVrms	1.5mVrms
Output impedance	50Ω		
Power	USB 5V/2A adapter		

Typical mechanical specification	
Input cable length	45cm
Output cable length	1m
Alligator clips	106*43*16mm
Pincer clips	152*50*13mm
Probe body	176*65*25mm
Weight (probe only)	216g
Environment Specification	
Operating temperature	0~40℃
Storing temperature	-10~45℃
Operating humidity	85%RH
Storing humidity	90%RH
Operating altitude	3000m
Storing altitude	12000m

4. Unpacking and Preparation for Use

4-1 Unpacking

This product has been checked and tested for the quality before it comes out of the factory. Please check if there is damage during the transportation when unpacking. If there is, please inform the transportation company and the local agent immediately.

Packing list:

High voltage isolating probe	1pcs
Instruction manual	1pcs
AC adapter	1pcs
Red alligator clip	1pcs
Black alligator clip	1pcs
Red pincer clip	1pcs
Black pincer clip	1pcs

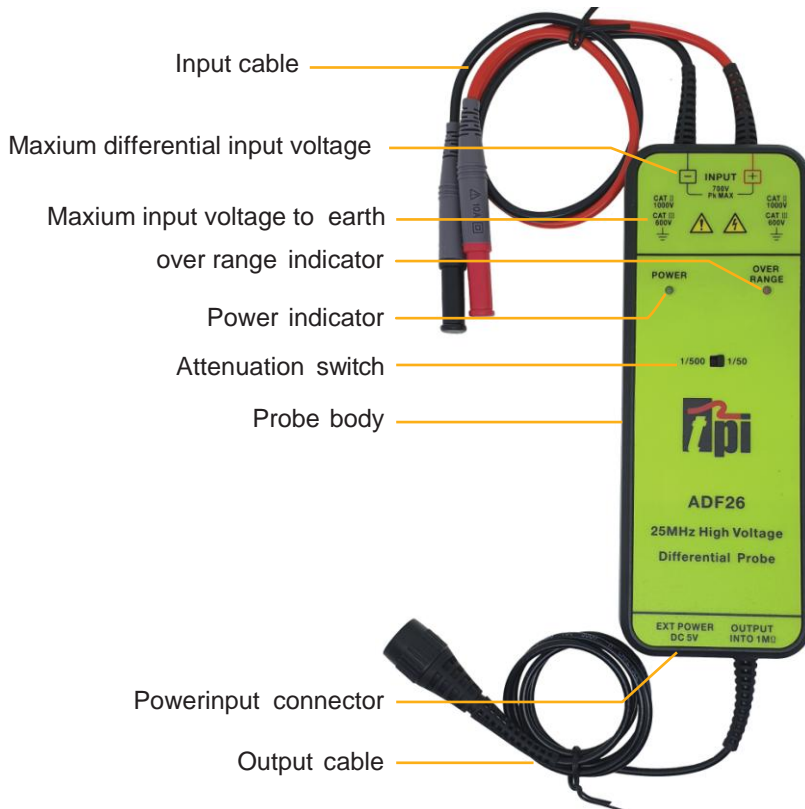
4-2 Preparation for use

Please check the line voltage prior to connect the AC adapter to the electric outlet. The line voltage should be coincident the following list. If the incorrect line voltage is used, it will damage the product and the AC adapter.

AC adapter input voltage	Frequency
AC100V~240V	50~60Hz

Warning: Use only the AC adapter specified for this product to avoid injury and prevent damage to this product.

5. General View of Product



6. General View of Accessories

ADF26 series high voltage isolating probe includes following accessories: An AC adapter, a couple of alligator clips and a couple of pincer clips.

1. AC adapter



2. Alligator clips



3. Pincer clips



7. Operating Basics

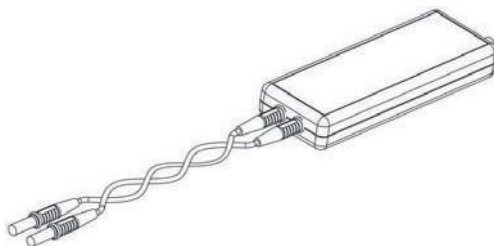
ADF26 series high voltage isolating probe is very convenient to operate. But we suggest every new user should read the manual perfectly prior to begin operating.

7-1 Operation steps

- a. Check and affirm the AC adapter input voltage is correct prior to use.
- b. Guesstimate the voltage to measure and set the correct attenuation switch. If the input voltage is over range, perhaps it will damage the probe.
- c. Connect the BNC output terminal to oscilloscope or other measuring instrument. Connect the input cables to the adapt clips well.
- d. Connect the AC adapter output to probe power input connector. The green POWER indicator lights.
- e. Select adapt attenuation range according to measured voltage. When the measured voltage is over range, the red OVER RANGE indicator lights, the attenuation should increase or disconnect the power and the input measured voltage.
- f. Set the measuring oscilloscope or other instrument sensitivity according to displayed altitude of signal.
- g. Connect the adapt clips to input cables.
- h. Connect the clips to measured targets to start measuring. The probe body should be far from high voltage pulse circuits to reduce the noise or errors.
- i. When the test is finished, disconnect the power at first, then disconnect input from measured target, disconnect the output BNC terminal from the oscilloscope or other measuring instrument at last.

7-2 Attention to use:

- a. Twisting the input leads as following helps to cancel noise that is induced into the input leads and to improve the high frequency response of the inputs.



- b. Do not extend input cables if not necessary, this will lead to more noise. If it is necessary to extend input cables, the extend cables length should be same. And the measured signal frequency should be lower than 10MHz. Otherwise the errors will be larger.
- c. The probe and measuring instrument should warm up for 20 minutes if want to get high accuracy measuring result.

7-3 Troubleshooting

The Power LED does not remain lit	Check that the AC adapter is plugged in and functional.
The measured waveform can't be displayed right and stability	Check that the probe accessories that you are using are fully mated. Check the probe connection on your circuit. Perform a functional check on the probe. Change a different channel on the oscilloscope or change a different oscilloscope.

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