

### Also of interest to you

Near field probe set sniffer DC to 9 GHz with EMC Preamplifier PBS2 allows straightforward pinpointing and measurement of interference sources in electronic component groups as well as execution and monitoring of generic EMC measurement.

For information please visit:

[www.aaronia.com](http://www.aaronia.com)



## Active differential probe

### ADP1

Please read the following manual carefully before using your measurement device. This manual contains Important information on how to properly operate this unit.



## Table of Contents

1.	<b>SAFETY GUIDELINES</b>	2
1.1.	<b>Maintenance</b>	3
1.2.	<b>Cleaning</b>	3
1.3.	<b>Warranty</b>	3
1.4.	<b>Operating environmental conditions</b>	4
2.	<b>FEATURES</b>	4
3.	<b>SPECIFICATIONS</b>	5
4.	<b>OPERATING PROCEDURE</b>	6

## 4. Operating procedure

Connect the probe to the spectrum analyzer or oscilloscope with a suitable cable.

Adjust the vertical zero adjustment of the oscilloscope if necessary.

Select the attenuation ratio and the vertical deviation of the analyzer / oscilloscope in accordance with the conversion table below.

Note: The power must be **on**

Attenuation Ration	X1000	X100
Voltage INPUT RANGE (DC+AC Peak)	1400v	140v

**Attention: The real vertical deviation is equal to the attenuation ratio multiplied by the range of vertical deviation selected on the oscilloscope. It will be double in the case of a 50Ω load.**



### 3. Specifications

<b>Bandwidth</b>	DC – 40 MHz
<b>Attenuation</b>	X1000 X100
<b>Accuracy</b>	+/- 1%
<b>Input Voltage range</b>	DC + AC Peak to Peak $\leq 140V$ for x10, (about 50V RMS or DC) $\leq 1400V$ for x100, (about 500V RMS or DC)
<b>Permitted max input voltage</b>	Max differential voltage: 1400V (DC+AC PEAK TO PEAK) Max voltage between each input terminal and ground: 1400V RMS
<b>Input Impedance</b>	Differential: 54M $\Omega$ /1.2pF Between terminal and ground: 27M $\Omega$ /2.3pF
<b>Output voltage:</b>	$\leq 14V$
<b>Output impedance:</b>	50 $\Omega$
<b>Rise time</b>	7ns for x1000 14ns for x100
<b>Rejection rate on common mode:</b>	60Hz: > 80dB; 100Hz: > 60dB; 1MHz: > 50dB
<b>Power supply</b>	Only External 9V DC power supply or internal AA Batteries
<b>Consumption</b>	35mA max (0.4 Watt)
<b>Dimensions and weight</b>	69x26x165mm; 500g
<b>Electrical safety to</b>	(1) IEC 1010-1
<b>Installation</b>	category III
<b>Related voltage or max line-earth</b>	6500V RMS
<b>Insulation</b>	Dual
<b>Degree of Pollution</b>	2
<b>CE</b>	EN50081-1 and 50082-1

### 1. Safety Guidelines

In the event of any damages resulting from failure to follow these operating instructions the claim under guarantee is discharged. We accept no liability for consequential damages.

In the event of property and personal damages resulting from improper handling or failure to follow safety advice, we accept no liability.

For reasons of safety and admissibility (CE) the unauthorized conversion and/or alteration of the product is not permitted.

In order to avoid any damage, please read this user manual carefully before starting to use the device.

The commissioning should only be performed by qualified and instructed personnel.

Never expose the device to water. Never use it outdoors while it is raining. Otherwise the sensitive electronics could be damaged.

Avoid to high temperatures. Do not leave the device on a heating, in direct sunlight or in your car.

The device is maintenance-free. Only clean it externally with a damp cloth.

Even though the device is well secured through the use of counter-sunk screws, it should still not be reachable by children as it could easily be diverted from its intended use.

Consider the regulations for prevention of industrial accidents for electrical installations and equipment, by government safety organization in industrial facilities.

In schools, educational establishments, hobby and self-help workshops the operation of this product must be supervised by trained personnel.

### 1.1. Maintenance

For maintenance, only use specified spare parts. The manufacturer cannot be held responsible for any accident arising following a repair made other than it's after sales service or approved repairs.

### 1.2. Cleaning

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

### 1.3. Warranty

Unless notified to the country, 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 on further than the repair of our faulty equipment, carriage paid to our workshops.

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

### 1.4. 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

## 2. Features

The ADP1 differential probe provides a safety means for measuring differential voltage to all models of oscilloscopes. It can convert the high differential voltage ( $\leq 1400\text{Vp-p}$ ) into a low voltage ( $\leq 14\text{V}$ ) and display on the oscilloscope. Its bandwidth is up to 40MHz, which is ideal for big power testing, development and maintain.

The ADP1 is designed to operate with the 1M $\Omega$  impedance oscilloscopes. When combine with the 50 $\Omega$  load, the attenuation will be 2 times.