

## Differential Electrometer Amplifier

for measuring high-ohmic external voltages



## Differential Electrometer Amplifier

The PalmSens Differential Electrometer Amplifier (DEA) is a general-purpose input amplifier. The DEA can be used as a floating voltage amplifier with differential input and single output to the auxiliary port of PalmSens.

### Gain Configurations

The DEA allows simultaneous recording of a high-ohmic external (floating) voltage difference.

For low voltage measurements like a pH meter use an input voltage range of -1 to +1 V.

### Available Gain Configurations

The PalmSens DEA is available with the following potential ranges:

Potential range	Order code	Resolution EmStat-series	Resolution PalmSens3	Resolution PalmSens4	Resolution Nexus
$\pm 10$ V	DEA.10	2.4 mV	0.152 mV	0.509 mV	0.509 mV
$\pm 5$ V	DEA.05	1.2 mV	0.076 mV	0.254 mV	0.254 mV
$\pm 1$ V	DEA.01	0.24 mV	0.015 mV	0.051 mV	0.051 mV

Other potential range configurations are available on request.

### Compatible Measurement Techniques

The DEA can be used with PSTrace and MultiTrace; our standard software for Windows. The following techniques are supported for measurements using the DEA:

#### Voltammetric techniques

- Linear Sweep Voltammetry LSV
- Cyclic Voltammetry CV

#### Amperometric techniques

- Chronoamperometry CA
- MultiStep Amperometry MA

#### Galvanostatic techniques

- Linear Sweep Potentiometry LSP
- MultiStep Potentiometry MP
- Chronopotentiometry CP
- Open Circuit Potentiometry OCP

#### Impedimetric techniques

- Potentiostatic/Galvanostatic Impedance spectroscopy at fixed frequency or frequency scan vs  
    ○ fixed potential or fixed current  
    ○ scanning potential or scanning current  
    ○ time EIS/GEIS

## System Specifications

General			
input voltage range	DEA.10 $\pm 10$ V	DEA.05 $\pm 5$ V	DEA.01 $\pm 1$ V
input voltage difference without damage	$\pm 40$ V		
input impedance	1000 GOhm // 5 pF		
max. input offset	3 mV (1 mV typical for PalmSens4)		
linearity error	max. 0.3%		
max. bias current	$\pm 4$ pA		

Connections	
V+ and V- input	LEMO plug with 2 mm stackable pin connectors
differential output	2 mm female banana plug
interface	D-Sub (15 pin)

➤ See for more information:  
[www.palmsens.com/differential-electrometer-amplifier](http://www.palmsens.com/differential-electrometer-amplifier)

PalmSens BV has more than 50 distributors around the world.  
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