PalmSens
Compact Electrochemical Interfaces

Differential Electrometer Amplifier

For measuring high-ohmic external voltages using:
PalmSens 3 / 4
Or
EmStat3 Blue / EmStat3+ Blue

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 a low input voltage range of -1 to +1 V can be ordered.

Available Gain Configurations

The PalmSens DEA is available with the following potential ranges:

Potential range	Order code	*Resolution on EmStat series*	*Resolution on PalmSens3*	*Resolution on PalmSens4*
±10 V (default)	DEA.10	*2.4 mV*	*0.152 mV*	*0.038 mV*
±5 V	DEA.05	*1.2 mV*	*0.076 mV*	*0.019 mV*
±1 V	DEA.01	*0.24 mV*	*0.015 mV*	*0.004 mV*

Other potential range configurations are available on request

Compatibel 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

Techniques as a function of time:

- Chronoamperometry CA
- Chronopotentiometry CP
- Open Circuit Potentiometry OCP

System Specifications

General

▪ input voltage range	model	DEA.10	DEA.05	DEA.01
		±10 V	±5 V	±1 V
▪ input voltage difference without damage:	±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:	±4 pA			

Resolution

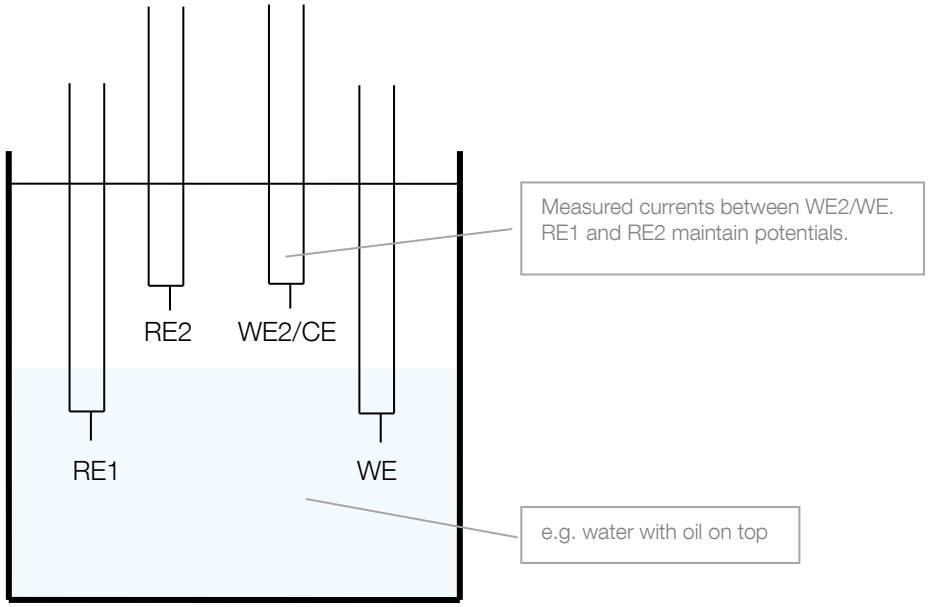
Potential range	model	Resolution on EmStat series	Resolution on PalmSens3	Resolution on PalmSens4
±10 V	DEA.10	2.4 mV	0.152 mV	0.038 mV
±5 V	DEA.05	1.2 mV	0.076 mV	0.019 mV
±1 V	DEA.01	0.24 mV	0.015 mV	0.004 mV

Connections

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

Using the DEA as Additional Reference Electrode

By connecting the RE from PalmSens or EmStat Blue to the differential output (diff. output) of the DEA module, the V+ and V- of the DEA can be used for two reference electrodes:



Please don't hesitate to contact PalmSens for more details:
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