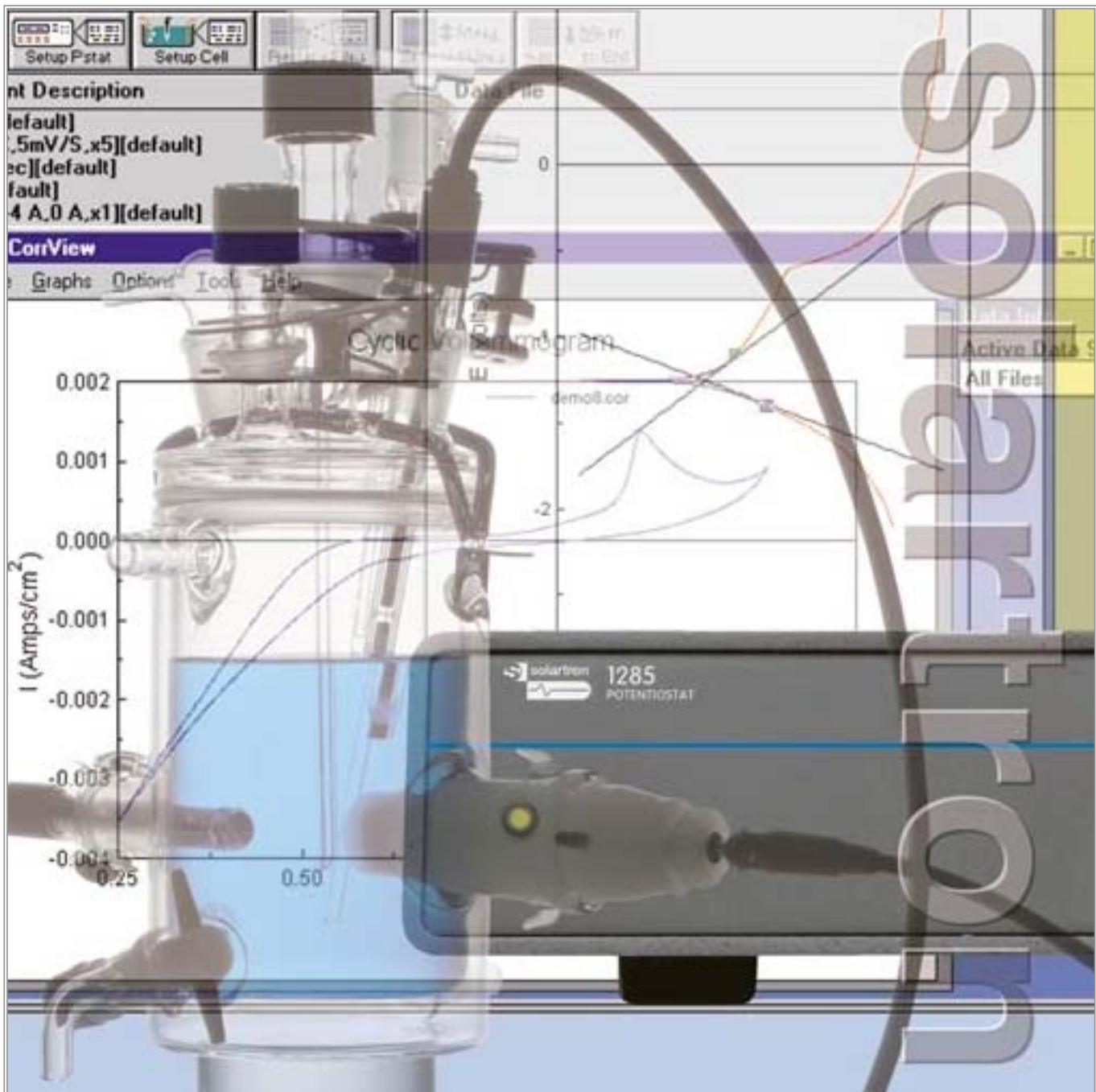




ELECTROCHEMISTRY

## 1285 Potentiostat



# The Solartron 1285 Potentiostat.

## A new standard in electrochemistry...

### Solartron 1285 Corrosion Test

In the world of electrochemical research, Solartron has established an unrivalled reputation for providing impedance measurement instruments of the highest quality and reliability. The introduction of the 1285 Potentiostat affords scientists specializing in dc electrochemistry the benefits of Solartron's superior technology in a comprehensive yet cost-effective package.

#### The complete solution

1285 combines Solartron measurement hardware with highly respected CorrWare for Windows™ software. In conjunction with a standard PC, a complete spectrum of dc measurement techniques can be applied with unprecedented ease:

Complex experiments can be set up, stored and repeated at the click of a mouse. Using the scanner facility, multiple sequences can be repeated indefinitely without further intervention. Data can be analyzed in a wide variety of display formats, and you can even calculate corrosion rates using automatic Tafel curve fit routines.

open circuit

potentiostatic

galvanostatic

potentiodynamic

galvanodynamic

cyclic voltammetry

potential square-wave

potential scan/hold

potential stair-step

galvanic square-wave

galvanic cycle

electrochemical noise



Simultaneous current and voltage measurement

Solartron's patented pulse width conversion technique gives the 1285's voltmeters unequalled accuracy, stability and linearity right across the range - perfect for work with low conductivity electrolytes, for example. In addition, unlike many potentiostats, the 1285 has two "5x9" digital voltmeters enabling true simultaneous current and voltage measurements to be made - essential for measuring electrochemical noise.

Floating 2, 3 or 4 terminal measurements

Use 2 terminals for general electrochemistry, 3 for corrosion investigation, or all 4 for measuring single battery cells or ion transport across membranes.

Whatever your application, for total floating flexibility - working on buried structures, pipelines, storage tanks or autoclaves, say - there's only one answer: the 1285.

Unrivalled resolution

With resolution down to 1µV for the reference electrode and 1pA for the working electrode, the Solartron 1285 outperforms all other potentiostats. It has to be the favourite for low signal applications such as coatings and inhibitors, and with ±14.5V polarization voltage and ±2A polarization current for the counter electrode, the 1285 is first choice for batteries and fuel cells.

No matter what your application, from now on there's only one potentiostat: the 1285 from Solartron.

## Specification

### Measurement Configuration

Cell connections 2,3 or 4 terminal, all floating  
Common-mode voltage, LO to EARTH (ground) 10V

### Working Electrode:

current measurement resistor (Rs) 0.1Ω through 1MΩ  
full-scale current ranges 200nA to 2A  
maximum resolution (5.5 digits) 1pA  
limits of error (5.5 digits) 0.1%rdg + 0.0025%f.s.

### Counter Electrode:

output voltage > ±20V, wrt LO  
current 2A, subject to thermal protection limits  
slew rate >10V per µs (potentiostatic control)  
output short-circuit protected

### Reference Electrodes:

full-scale voltage ranges ±14.5V, 2V, 200mV  
input impedance >10GΩ  
current <1nA  
common-mode rejection 70dB  
maximum resolution (5.5 digits) 1µV  
limits of error (null in use) (5.5 digits) 0.05%rdg + 0.0025%f.s.

### Polarization

#### DC polarization

voltage range ±14.5V  
limits of error V<3.2V 0.2%±200µV  
V>3.2V 0.2%±2mV  
maximum resolution 100µV  
current range ±2A  
limit of error 0.2%±0.1% of range  
maximum resolution 100pA

#### DC sweep: analog ramp

ramp rate (voltage) 6mV/min to 6000V/min  
minimum segment duration 10ms  
maximum segment duration 10<sup>5</sup>s

#### DC sweep: stepped ramp

minimum step height 5µV/5pA  
maximum step height 29V/4A  
minimum step duration 10ms  
maximum step duration 10<sup>5</sup>s

### IR Compensation and Real Part Correction for appropriate cells

- Current interruption
- Feedback compensation and real part correction
 

range	0 to 1000%R <sub>S</sub>
resolution	1%R <sub>S</sub>



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analytical



## General Specification



Power supply, switch selectable	90-110V, 108-132V, 198-242V 216-264V, 48 to 65Hz
Consumption	150VA
Temperature	
operating	0 to 50°C (32 to 122°F)
storage	-30 to 70°C (-22 to 158°F)
specification limits	10 to 30°C (50 to 86°F)
Humidity, non condensing	95% @40°C
Safety	
complies with	IEC 1010
EMC	
complies with	EN50081-1 & EN50082-1
Dimensions	
height	108mm (4.25ins)
width	432mm (17ins)
depth	472mm (18.5ins)
weight	11kg (24lbs)



Solartron has been a market leader in supplying precision measurement solutions for research and manufacturing in the oil, gas, power, aerospace and process industries for over 50 years.

## Ordering Information



1285 Potentiostat

Accessories included:  
test components  
user guide  
power cord  
spare fuses  
4 leads, 1m long, BNC to 4mm

Options  
servicing manual (12856005)  
rack-mount ears (12862010X)  
slide-mount bars (12862022A)



Solartron Analytical's Quality System is approved to BS EN ISO 9001:2008



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