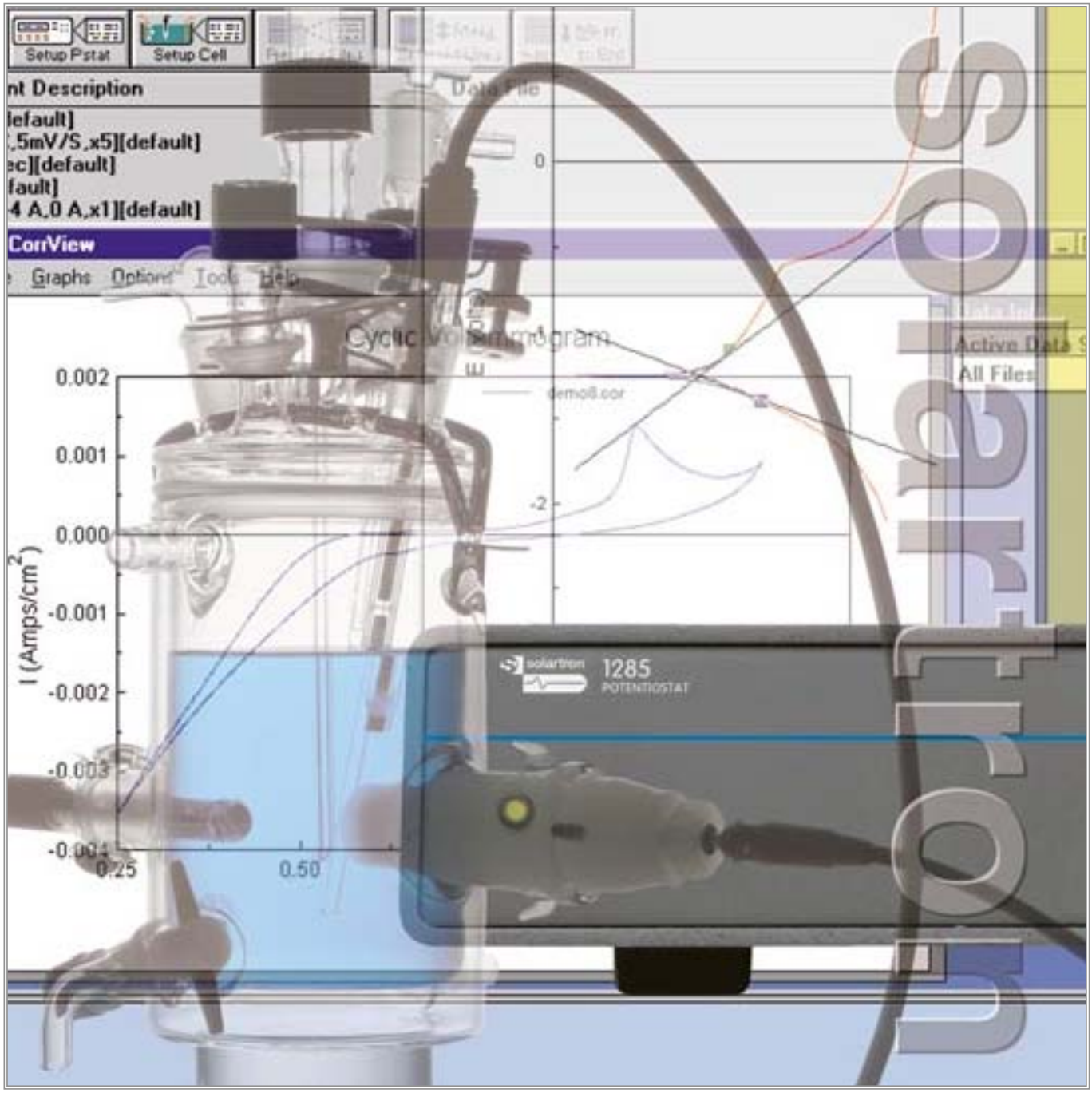
solartron analytical

ELECTROCHEMISTRY

1285 Potentiostat



The Solartron 1285 Potentiostat.
A new standard in electrochemistry...

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:

open circuit	galvanodynamic	potential stair-step
potentiostatic	cyclic voltammetry	galvanic square-wave
galvanostatic	potential square-wave	galvanic cycle
potentiodynamic	potential scan/hold	electrochemical noise

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.

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		10^5s
DC sweep: stepped ramp		
minimum step height		5µV/5pA
maximum step height		29V/4A
minimum step duration		10ms
maximum step duration		10^5s

IR Compensation and Real Part Correction for appropriate cells

a) Current interruption
b) Feedback compensation and real part correction

range	0 to 1000%R_S
resolution	1%R_S

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

...part of AMETEK® Advanced Measurement Technology

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