Boost your potential...

solartron
analytical

Power Boosters

Solartron's range of power boosters, in combination with single or multi-channel potentiostats, enables high performance electrochemical tests to be run on a wide range of energy storage devices and electrochemical cells.

Applications include:

▶ Development of energy sources for laptop PCs, mobile phones and power tools.

▶ Fuel cell and supercapacitor research for electric vehicle or standby power.

▶ Battery research including the new generation 42V lead acid automotive batteries.

▶ Electrochemical etching and electroplating.

High performance...
These power boosters are designed to operate with Solartron single and multi-channel potentiostats.

▶ Floating design - enables tests on grounded cells

▶ Simultaneous DC and impedance tests on short stack fuel cells and individual cells within the stack (depending on potentiostat capability)

▶ Choice of models with up to 50V / 25A range

▶ 100kHz impedance measurement bandwidth for SOFC and other high frequency applications

▶ Automatically controlled by the potentiostat

For DC tests...
An extensive range of DC techniques are available for use with these boosters:

▶ potentiostatic / galvanostatic

▶ cyclic voltammetry

▶ ohmic drop

▶ high-speed voltage / current pulse techniques (e.g. for testing GSM mobile phone and satellite communication energy storage devices)

For impedance...
The following impedance analysis techniques are available depending on the chosen configuration of potentiostat and FRA:

▶ Swept sine analysis - for ultimate accuracy and repeatability

▶ Multi-sine / Fast Fourier Transform (FFT) - for fast impedance analysis

▶ Harmonic analysis - for optimisation of stimulus levels and detection of noise and interference

The frequency range of the power booster is 10µHz to 100kHz allowing a wide range of energy storage devices to be characterized over their full frequency range.

Software
These power boosters are fully integrated with the full range of Solartron single and multi-channel software packages. All scaling factors and control issues are taken care of by the software.

Choice of models:

Boost 12V20A	+12V / -3V, ±20A
Boost 24V10A	+24V / -3V, ±10A
Boost 50V5A	+50V / -3V, ±5A
Boost 50V25A	+50V / -3V, 0 to -25A *

(* discharge mode only, for fuel cell tests, maximum power 125W)

Specification
Voltage Drive

Maximum voltage	Depends on booster model
Voltage scaling	x10
Voltage ranges	Selected by potentiostat
Voltage accuracy	±0.1% of full scale

Voltage Monitor

Scaling	1/10 of Cell Voltage
Range	0 to +5V
	Corresponds to 0 to +50V

Current Drive

Maximum current	Depends on booster model
Current scaling	x1000
Current ranges	Selected by potentiostat
Current accuracy	±0.1% of full scale

Current Monitor

Scaling	1/1000 of Cell Current
Range	0 to ±25mA
	Corresponds to 0 to ±25A

Cell Connections

Drive	2 x 4mm banana plug
Sense	2 x 4mm banana plug

Potentiostat Connections (included)

Cable set for	1287, 1285, 1280
Cable set for	1470, 1480, CellTest system

Front Panel Controls

Stop button	Mechanical latching

Impedance measurement accuracy

Note: 1V ac excitation, except at lower impedance levels where the excitation is reduced to maintain the current limit.

General

Power consumption	500VA
Supply (single phase)	47-63Hz
	90V to 264V
Dimensions (w x h x d)	8.25in (210mm),
	10in (254mm),
	17.75in (451mm)
Weight	13.5kg (30lbs)
Safety complies with	EN61010-1: 2001 /
	IEC61010-1: 2001
EMC complies with	EN61326-1: +A1 +A2
	IEC61326-1: +A1 +A2

Solartron CellTest is a trademark of Lloyd Instruments Ltd.

Please see our website for a complete list of our global offices and authorized agents

Solartron Analytical
Europe
Unit B1, Armstrong Mall, Southwood Business Park,
Farnborough, Hampshire GU14 0NR UK
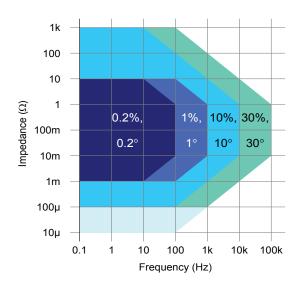Telephone +44 (0) 1252 556800 Fax +44 (0) 1252 556899

USA
801 South Illinois Avenue, Oak Ridge, TN 37831-0895
Telephone: 1-865-425-1360. Fax: 1-865-481-2410

Email: solartron.info@ametek.com
www.solartronanalytical.com

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