CompactStat™

24 BIT INSTRUMENT

Portable USB powered potentiostat/galvanostat/ZRA with integrated impedance analyser

The CompactStat can be operated via the USB port of a laptop or PC without additional power supply. With its small footprint (<600 gram) and low power consumption, the CompactStat provides a truly mobile electrochemical measurement station. Among its many applications are corrosion, analytical, nano, bio, and battery/fuel cell testing.

THE COMPACTSTAT IS AVAILABLE IN 4 POWER CONFIGURATIONS

- ± 30mA @ ±10V
- ± 800mA @ ±10V*
- ± 250mA @ ±20V*
- ± 30mA / ±100V*

*) With internal power booster.

EXPANDABILITY

The CompactStat is fully compatible with all options and modules, including: integrated Bipotentiostat and True Linear Scan, the MultiWE32, ModuLight, multiplexer, FastScan, etc.

LOW NOISE AND GALVANIC ISOLATION

The CompactStat is electrically isolated from power lines and PC. It has a superior noise immunity and is capable of determining very small signals, required in nanotechnology applications. Additionally, the instrument can be applied in situations where the sample must be disconnected from a common ground (floating).

COMPLETE SOLUTION

The CompactStat offers a complete package. The hardware includes a built-in high-performance Frequency Response Analyser and all the standard electrochemical techniques. Complete measurement and dataprocessing software is included.

AUTOMATION

Multiple analog and digital input and output ports are available that can be used to monitor and control peripheral equipment. The software integrates this functionality.

System Performance	**Standard (30mA / 10V)**
Current compliance	±30mA
Maximum output voltage	±10V
4 electrodes	WE, CE, RE, S
Potentiostat bandwidth	>3MHz
Stability settings	High Speed, Standard, and High Stability
Programmable response filter	1MHz, 100kHz, 10kHz, 1kHz, 10Hz
Signal acquisition	Dual channel 24 bit ADC, 100,000 samples/s
Potentiostat	
Applied potential range	±4V, 0.01mV resolution (20bits)/±10V, 0.02mV resolution
Applied potential accuracy	0.2% or 1mV
Current ranges	±10nA to ±1A in 9 decades
High sensitivity current ranges	±1pA, ±10pA, ±100pA, ±1nA
Measured current resolution	0.00001% of current range, minimum 0.6aA
Measured current accuracy	0.2%
Galvanostat	
Applied current resolution	0.00013% of applied current range
Applied current accuracy	0.2%
Potential ranges	±0.4mV, ±4mV, ±40mV, ±0.4V, ±4V, ±10V
Measured potential resolution	0.00001% of potential range, minimum 0.05nV
Measured potential accuracy	0.2% or 1mV
Impedance analyser	
Frequency range	10µHz to 3MHz
Amplitude	0.015mV to 1.0V, or 0.03% to 100% of current range
DC offset	16 bit DC offset subtraction, and 2 DC-decoupling filters
Dynamic range	0.05nV to 10V, and 0.2aA to 30mA
Electrometer	
Input impedance	>1000Gohm //<8pF
Input bias current	<10pA
Bandwidth	>16MHz
Special functions	
Ohmic drop compensation	2V/current range, 16 bit resolution
Safety features	Automatic disconnect on internal/external limits
Peripheral connections	
8 analog in, and 2 analog out	0 to +4V, 16 bit resolution
2 digital inputs, and 3 digital outputs	0 to +5V
I-out and E-out	Analog monitor for cell current and potential
AC-out	±0.5V sinewave 10µHz-3MHz with variable attenuation
Channel-X and Channel-Y inputs	±4V: to record impedance from peripheral devices
Environment	
Power requirements on USB power	Standard 5V, 500mA
External adapter	100-240V, 45-65Hz, 500mA
Interfacing	USB
Size	w x d x h = 12 x 26 x 2.5cm
Weight	0.6kg
PC requirements	Windows XP/7/8/10, with free USB port

CompactStat.h with booster*	**h10800**	**h20250**	**h10030**
System performance	**800mA/10V**	**250mA/20V**	**30mA/100V**
Current compliance	±800mA	±250mA	±30mA
Maximum output voltage	±10V	±20V	±100V
Additional applied range	-	±20V, 0.04mV resolution	±100V, 0.2mV resolution
Additional measured range	-	±20V	±100V
Power requirements (adapter powered only)	100-240V, 50-60Hz, 700mA	100-240V, 50-60Hz, 700mA	100-240V, 50-60Hz, 700mA
Weight	0.7kg	0.7kg	0.7kg

*All other specs same as standard model.