

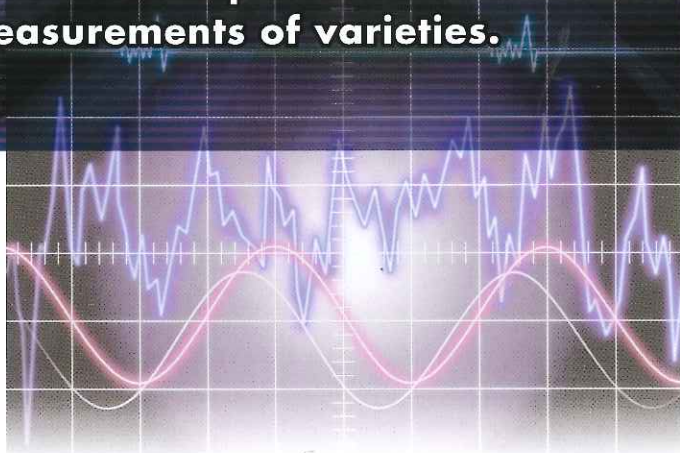
Automatic Polarization System

HSV-110

Cyclic Voltammetry
Linear Sweep Voltammetry
Chrono-Potentiometry
Chrono-Amperometry



HSV-110 is a compact and high performance potentiostat / galvanostat which is equipped with a LCD monitor and includes data memory function. HSV-110 can perform electrochemical measurements of varieties.



■ Features

1. 7 basic measurement techniques are available : Cyclic Voltammetry, Linear Sweep Voltammetry, Single step Chrono-Amperometry, Single step Chrono-Potentiometry, Double step Chrono-Amperometry, Double step Chrono-Potentiometry, Rest Potential Measurement.
2. Color LCD displays measurement waveform , so HSV-110 is available in stand-alone mode.
3. Measured data can be saved in USB memory.
4. Measurement condition can be changed even during the measurement.
Preliminary test can be done easily.
5. Digital filter reduces the noise.
6. It connects with PC via Ethernet and remote control operation is also possible. (option)

■ Basic running mode

Category	method	Waveform
Sweep technique		
The basic factor of electrochemical reaction such as oxidation reaction potential and reaction rate can be measured by sweeping the potential at any speed and calculating current response.	CV (Cyclic Voltammetry)	
	LSV (Linear Sweep Voltammetry)	
Step technique		
The basic factor of electrochemical reaction such as diffusion coefficient can be measured by applying the potential or current step and calculating current or potential response pattern.	CA (Double Step Chrono-Amperometry)	
	CP (Single Step Chrono-Potentiometry)	
	CA (Single Step Chrono-Amperometry)	
	CP (Double Step Chrono-Potentiometry)	
Others		
	Rest Potential Measurement : Continuous measurement of rest potential	
	Diagnostic Check : Diagnostic check with dummy load (by CV measurement)	
	Reading point data : display the measured data value pointed by cursor	

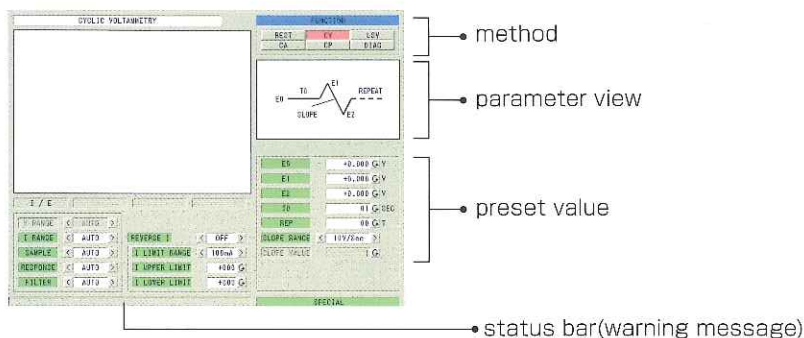
Measurement condition setup

[parameter view]

Setting screen of selected each operation mode are displayed. And using parameter model measurement conditions can be selected.

[parameter check]

Measurement conditions are checked. And warning message is displayed on status bar if set parameters are out of range.



Remote control / analysis Software(Optional)

[network configuration]

HSV-110 has to be connected to PC by Ethernet cable (peer to peer, 1 : 1) when remote control / analysis software will be used.

[Remote control]

In addition to the basic functions of the HSV-110 stand-alone mode, remote control software also has extended functions.

extended functions of remote control mode

Data file operation	Measured data of stand-alone mode can be uploaded to the PC.
	Measured data file can be saved and used for analysis.
	Saved data can be loaded and used previous setting condition.
Relative potential selection	Potential can be set relatively to the reference potential.

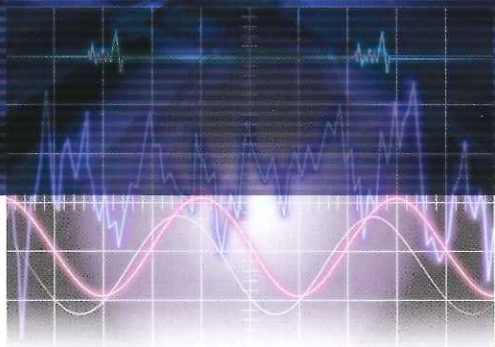
[Data Analysis]

Measured data can be analyzed in various ways by Data Analysis software. Analyzed data is available for windows applications and you can easily make the report.

Data loading	Saved measurement data file and analyzed data file are available.
	Data file in text format is also available.
Smoothing	Moving average transformation.
Zoom in/Zoom out	Zoom in and out arbitrary area of displayed graph.
Display pointed data	Display measured value by pointing arbitrary point on measured data.
Base line draw/erase	Base line for various analyses can be drawn on a measurement graph.
Reference line draw/erase	Reference line can be drawn on a measurement graph and used as help for analysis.
Coulomb value calculation	Calculate coulomb value of selected area.
Peak value calculation	Display peak point data of selected area.
E 1/2 calculation	Half weve potential is calculated using anode peak and cathode peak of CV data.
Measurement length	ΔX , ΔY is calculated by display line between two points with selected data.

[Data Analysis window]





■ Specifications

Potentiostat	
Maximum Output Voltage	±12V
Maximum Current	±100mA
Current ranges	100mA, 10mA, 1mA, 100μA, 10μA, 1μA, 100nA, 10nA, AUTO (8 ranges and auto range)
Control potential	0 ~ ±6V (setting resolution : 1mv)

Function generator	
Slope sweep rate	10V/sec ~ 1mV/min (7 ranges)
Cycle number of CV	1 ~ 99cycles and continuous
Step time setting range	1msec ~ 999.9min (sec/min : two ranges)

Data measurement	
Potential measurement accuracy	± 0.2 % of reading ± 1 mV
Current measurement accuracy	100mA ~ 10μA range : ± 0.5 % of reading ± 0.2 % of Full Scale Range 1μA ~ 10nA range : ± 2 % of reading ± 2 % of Full Scale Range
Data sampling interval	20μs ~ 1min (8 ranges and Auto range)

Monitor / record / output	
Measurement monitor display	6.5 inch color LCD
Memory output	USB memory available
Connection to remote control PC	Ethernet, OS : Windows Vista Business, WindowsXP professional

Others	
Dimensions	260×165×313mm
Weight	5.0kg
Power	AC100 ~ 240V 0.6A

Contents are subject to change without notice

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