

ZIVE Electrochemical Workstations

ZIVE MP5



Designing the Solution for Electrochemistry

Potentiostat/Galvanostat | Battery Cycler | Fuel Cell Test Station

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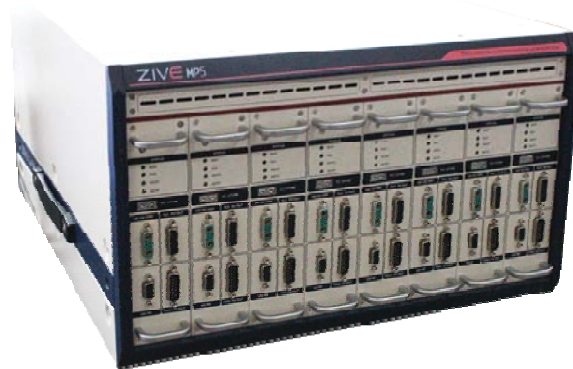
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ZIVE LAB

Features

ZIVE MP5

Outstanding High-Performance Multichannel Potentiostat/Galvanostat/FRA



ZIVE MP5

Features

ZIVE MP5

- 1MHz EIS capability potentiostat/galvanostat/impedance analyzer
- Compact size with full functions
- Wide current range(5A to 50pA) for various applications
- Supports fourteen(14) kind of EIS techniques
- Current interrupt IR measurement/IR compensation
- Pulse charge/discharge test available
- Bipolar pulse capability
- High speed data sampling time
 - 50usec/sample in burst mode
 - 1msec/sample in normal mode
 - 2usec/sample in fast sweep mode
- Internal 350,000 data point storage
- Free software package

Specification

ZIVE MP5

System	
Cell cable	1 meter shielded type(standard) working, reference, counter, working sense,
Control	DSP with FPGA
Calibration	Automatic
Data acquisition ADC DAC	2x16 bit ADCs(500kHz) for voltage, current 1x16bit ADCs(250kHz) for auxiliary reading 2x16bit DAC(50MHz) for bias & scan
Filter selection	4ea (5Hz, 1kHz, 500kHz, 5MHz)
Scan rate	0~200V/sec in common mode 0~5000V/sec in fast mode
Max. channel no.	32 channels via USB connection
Internal data memory	350,000 points

Specification

ZIVE MP5

Power Amplifier(CE)	
Power	50Watt (10V@5A)
Compliance voltage	$\pm 10V$
Max. current	$\pm 5A$
Control speed selection	8ea
Bandwidth	2MHz
Slew rate	10V/usec

Specification

ZIVE MP5

Potentiostat Mode (Voltage Control)	
Voltage Control	
Control voltage range	$\pm 10V, \pm 1V, \pm 100mV$
Voltage resolution	16 bit per each range
Voltage accuracy	$\pm 1mV, \pm 0.05\%$ of setting(gain x1)
Max. scan range	$\pm 10V$ vs. ref. E
Current Measurement	
Current range	12 ranges (auto/manual setting) 50pA~5A 50pA & 500pA with gain
Current resolution	16 bit 150uA, 15uA, 1.5uA, 150nA, 15nA, 1.5nA, 150pA, 15pA, 1.5pA, 150fA (15fA, 1.5fA with gain)
Current accuracy	$\pm 0.1\%$ f.s. $\pm 10pA$ (gain x1) $>500nA$ f.s.

Specification

ZIVE MP5

Galvanostat Mode (Current Control)	
Current Control	
Control current range	max. $\pm 5A$ \pm full scale depending on selected range
Current resolution	16 bit 150uA, 15uA, 1.5uA, 150nA, 15nA, 1.5nA, 150pA, 15pA, 1.5pA, 150fA (15fA, 1.5fA with gain)
Current accuracy	$\pm 0.1\%$ f.s. $\pm 10pA$ (gain x1) $> 500nA$ f.s.
Voltage Measurement	
Voltage range	10V, 1V, 100mV
Voltage resolution	16 bit 0.3mV, 30uV, 3uV
Voltage accuracy	$\pm 1mV \pm 0.05\%$ of reading (gain x1)

Specification

ZIVE MP5

EIS(Internal FRA) for System	
Frequency range	10uHz ~ 1MHz
Frequency accuracy	0.01%
Frequency resolution	5000/decade
Amplitude	0.1mV ~ 5V rms (potentiostatic) 0.1 ~ 70% f.s. (Galvanostatic)
Mode	Static EIS: Potentiostatic, Galvanostatic, Pseudogalvanostatic, OCP Dynamic EIS: Potentiodynamic, Galvanodynamic Fixed Frequency Impedance: Potentiostatic, Galvanostatic, Potentiodynamic, Galvanodynamic Multisine EIS: Potentiostatic, Galvanostatic Intermittent PEIS/GEIS

Specification

ZIVE MP5

Electrometer

Max. input voltage	$\pm 10V$
Input impedance	$2 \times 10^{13} \Omega \parallel 4.5pF$
Bandwidth	$> 22MHz$
CMRR	$> 114dB$

Interface for System

Auxiliary port	
Auxiliary voltage input(3channel)	3 analog input: $\pm 10V$
Auxiliary voltage output	1 analog output : $\pm 10V$
Zero resistance ammeter	5nA ~ 5A
DI/DO port	DO: 3 DI: 2
External booster interface	Via booster I/F cable
Peripheral communication	I2C
Signal Generator output	1 analog output for FRA
Temperature input	K type thermocouple (default: max. 250°C)

Specification

ZIVE MP5

Software

Max. step per experiment	1000
Shutdown safety limits	voltage, current, temperature, etc.
Max. sampling rate	20kHz(50usec) in burst mode 500kHz(2usec) in fast sweep mode
Max. sampling time	unlimited
Sampling condition	Time, dV/dt, dI/dt, temperature, etc.

Main System

PC communication	USB 2.0 high speed
Line voltage	100~240VAC, 50/60Hz, 1Amp
Power adapter	24V, 2.5Amp
Size / Weight (8channel)	448.7x277x535.4mm(WxDxH) / 29kg
Max. output power	60Watt/channel

Specification

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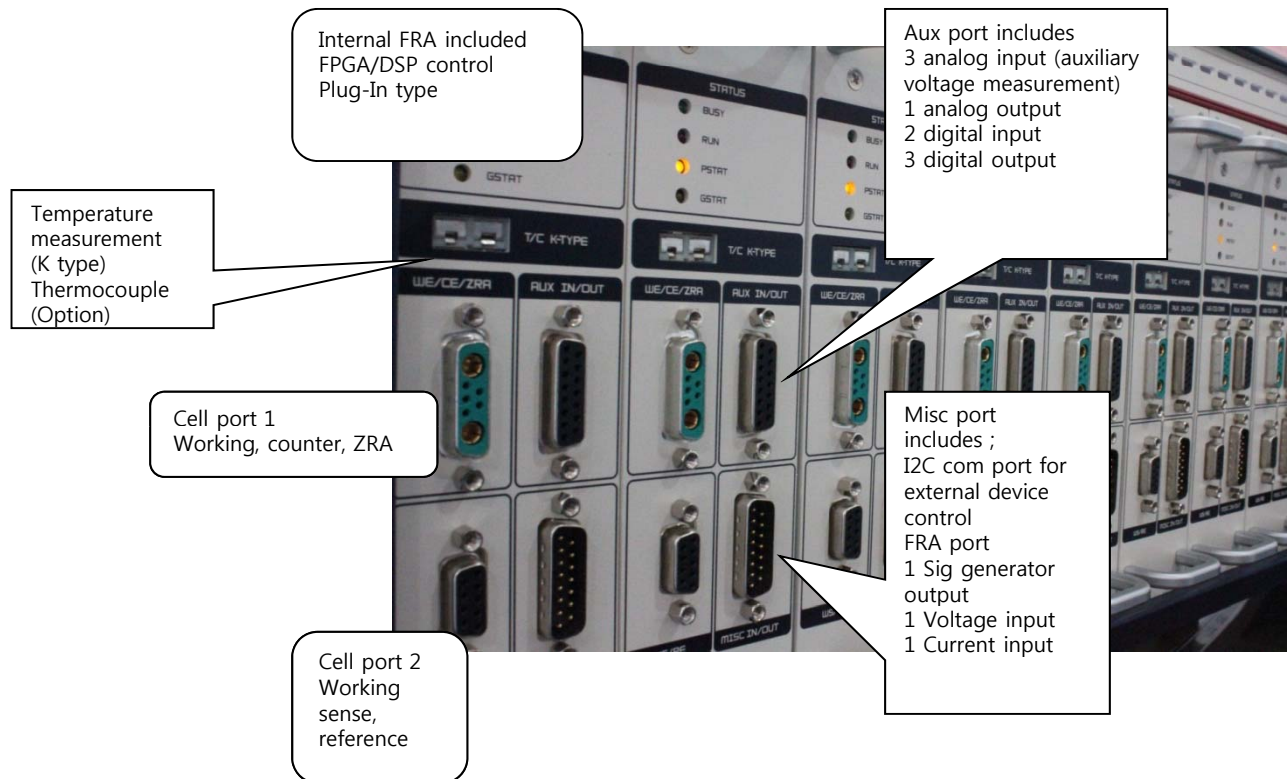
PC Requirement

Operating system	Windows XP SP3/7/8/10 (32bit/64bit OS)
PC specification	Pentium4, RAM 1GB or higher
Display	1600x900 high color or higher
USB	High speed 2.0

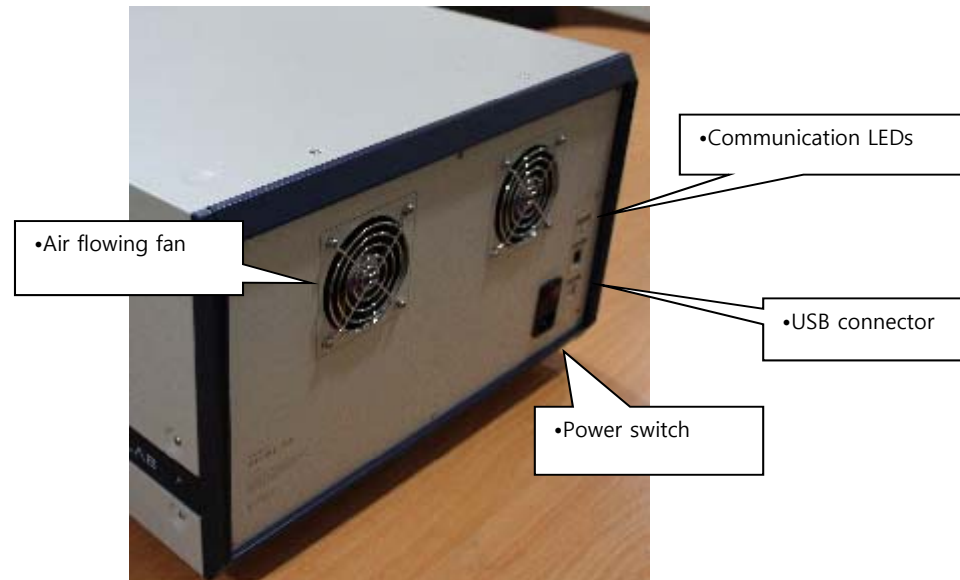
General

Dummy cell	One external dummy cell included
Impedance data analysis software	ZMAN™ software
DC data analysis software	IVMAN™ software

Appearance Front View

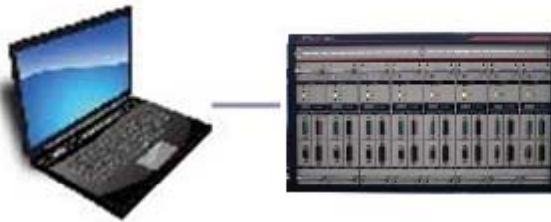


Appearance Rear View



System Configuration

Single Multichannel System



Multichannel System 1



System setup with multiple ZIVE MP5s
Connecting by USB hub

Multichannel System 2



- System setup with one or more ZIVE product family
- Connecting by USB hub

When communication fails...

- When communication error occurs between ZIVE MP5 and PC, the data will be stored on the device memory.



- The data will be transferred to the PC after PC is restored.

Strong Point (Hardware)

- Wide current range
 - : Max. 5 Amp
 - : Suitable for various application
- 3 measurement/control voltage range & 12 measurement/control current range
- Independent operation by DSP with FPGA
- Built-in FRA
 - : Impedance measurements available
 - : No other device is needed.
- Compact size and light weight
 - : Small footprint
- Big instrument internal memory capacity
 - : 350,000 data point can be stored.
- Three auxiliary voltage measurement available
- Temperature measurement available
- Auxiliary voltage output
- DI/DO ports

**±5 Amp@10 Volt
Operation**

FRA Function

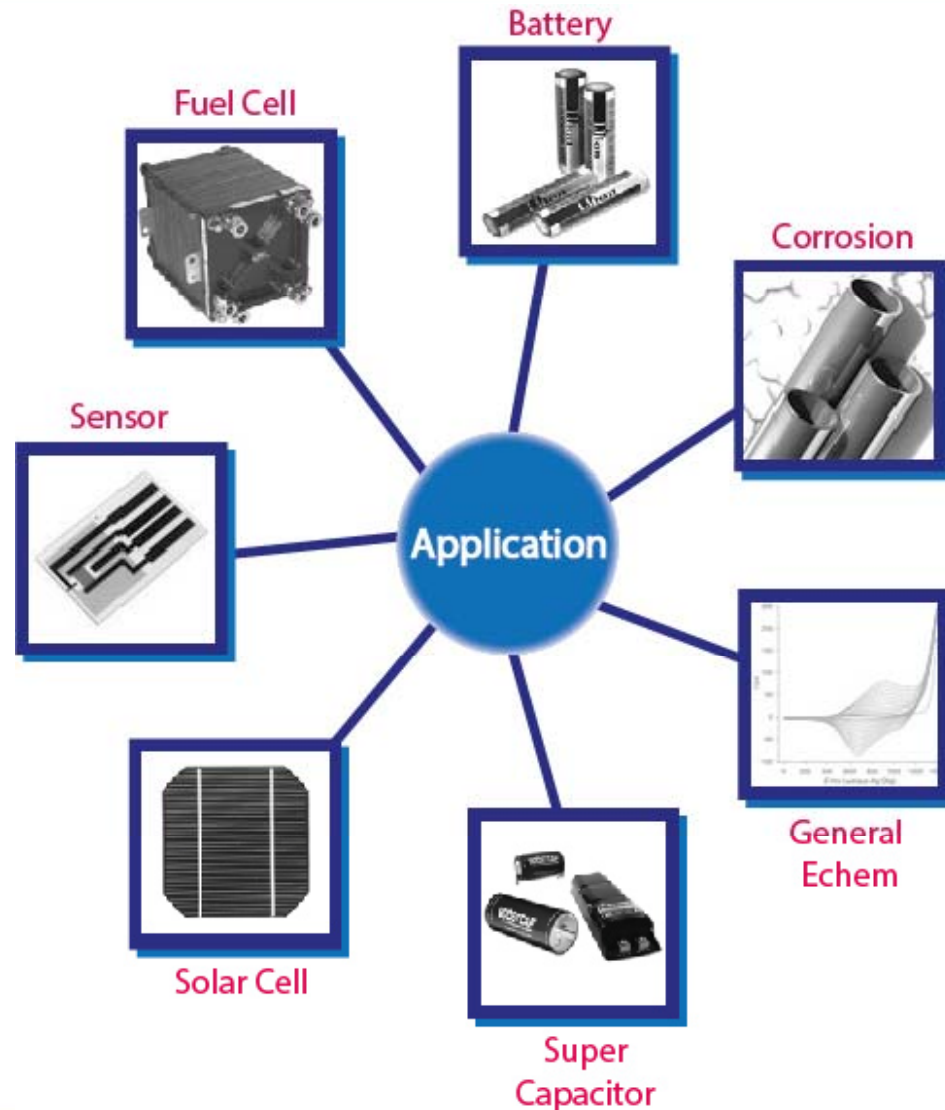
- FRA function is to control external electronic load or potentiostat for EIS measurement

Step	CONTROL	CONFIGURATION			INITIAL		MIDDLE	FINAL		BIAS / STEP		SCANRATE / AMPLITUDE	DENSITY	V LIMIT / WAIT TIME	ITERATION
		TYPE	MODE	RANGE	REF.	VALUE		REF.	VALUE	REF.	VALUE				
1	FRA	GSTAT	LOG	SKIP		0.0000e+0	0.0000e+0		0.0000e+0		0.0000e+0	0		0	

- FRA potentiostatic EIS
- FRA galvanostatic EIS
- FRA potentiostatic HFR
- FRA galvanostatic HFR



Applicable Field Market For the Product



- **Other Application**
 - Coating evaluation
 - Heavy metal detection
 - Semiconductor
 - EDLC
 - Membrane
 - Bioelectrochemistry
 - Material testing etc.

Ordering Guide

- Zive MP5
 - Comes with following items as standard
 - a) Dummy cell, 1ea
 - b) Power cord, 1ea
 - c) USB cable, 1ea
 - d) Install CD, 1ea
- Software Package
 - EIS software package (EIS)
 - Energy software package (BAT)
 - Corrosion software package (COR)
 - Electrochemical analysis software package (EAS)-
 - FRA function for external load's or external potentiostat's EIS

← Standard System

- Cell cable with alligator clips, 1ea
- K type thermocouple
- Aux cable, ZRA cable, and FRA cable
- Optional Booster I/F Cable, 1.5m

← Optional Items

Contact Information



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Thank you !