

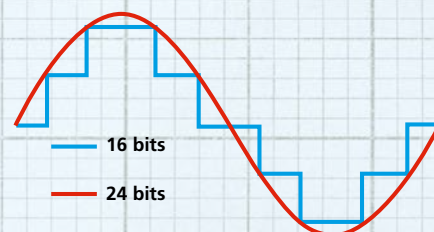
Ivium Technologies

has raised the bar to 24 bits

**24
BITS!**



IviumStat.h
the high resolution
potentiostat



Potential, Current and EIS
measurements, at 24 bits

**256x better resolution than
16 bit instruments**

**Fast: 24 real bits at
100kHz acquisition rate**

Why we need more bits:

- TO MEASURE SMALL SIGNALS ON WIDE RANGE SETTING
 - Larger dynamic range without range switching
- WHEN RANGE SWITCHING IS UNDESIRABLE
 - Switching creates discontinuities / noise
 - Switching between ranges is (too) slow
 - Small signals on top of large background signals
- FOR HIGHER ACCURACY
 - Better linearity
 - Lower quantization errors



innovative solutions for electrochemical research

SYSTEM PERFORMANCE

Current compliance	±5A
Maximum output Voltage	±10V
4 Electrodes	WE, CE, RE, S
Potentiostat Bandwidth	>8 MHz for small signals, 300kHz for large signals
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	±10V, with 0.02mV resolution (20 bit)
Applied potential accuracy	0.2%, or 1mV
Current ranges	±10nA to ±10A in 10 steps
High sensitivity current ranges	±1pA, ±10pA, ±100pA, ±1nA
Measured current resolution	0.00006% 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	±1mV, ±10mV, ±100mV, ±1V, ±10V,
Measured potential resolution	0.00001% of potential range, minimum 0.15nV
Measured potential accuracy	0.2%, or 1mV

IMPEDANCE ANALYSER

Frequency range	10µHz to 8MHz
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 5A

ELECTROMETER

Input impedance	>1000Gohm // <8pF
Input bias current	<10pA
Bandwidth	>16MHz

SPECIAL FUNCTIONS

Ohmic drop compensation	2 V/current range, 16 bits resolution
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PERIPHERAL CONNECTIONS

8 Analog in, and 2 analog out	0V to +4V, 16 bits resolution
2 Digital inputs, 3 Digital outputs	0V to +5V
I-out, and E-out	Analog monitor for cell current and potential
AC-out	±0.5V sinewave 10µHz-8MHz with variable attenuation
Channel-X, and Channel-Y inputs	±4V: to record impedance from peripheral devices



AVAILABLE POWER CONFIGURATIONS

±10V @ ±10A
±20V @ ±5A
±50V @ ±2A
±12V @ ±100A
±100V @ ±600mA



THE NETHERLANDS:

Ivium Technologies B.V.
De Zaaie 11
5612 AJ Eindhoven
The Netherlands

tel. +31 40 2390600
fax. +31 40 2390601
e-mail info@ivium.eu
www.ivium.com

U.S.A.:

Ivium Technologies USA
961687 Gateway Blvd., Suite 201D
Fernandina Beach, FL 32034

phone: 800-303-3885 (toll free) /
904-310-9060 (office)
fax: 904-310-9068
e-mail pete@ivium.us
www.ivium.com

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