Potentiostat ECi-200

Data Acquisition		
DAQ Card	6361	6212
AI Resolution	16bit	16bit
AI Sampling rate(samples per second) Single Channel ADC Multiplexing of up to 16 channels	 2M 1M	 400k 400k
AO Resolution	16bit	16bit
AO Sampling rate (samples per second)	2.86M	250k
Power Amplifier		
Voltage Compliance	±15V	
Current Compliance	±200mA; ±500mA	
Bandwidth	Max 3MHz	
Stability Settings	8 settings: 3MHz, 300kHz, 30kHz, …,	
Slew Rate	>15V per µs typical (no load)	
Rise Time (-1.0V to +1.0V)	<350 ns (no load)	
Voltage Control (potentiostat mode & Cell mode)		
Applied Voltage Range	±5V, ±10V	
Applied Voltage Resolution	for ±5V signal = 150µV for ±10V signal = 300µV	
Applied Voltage Accuracy	±0.2% of value ±2mV	
Maximum Scan Rate	50 V/s	
Maximum Scan Range	±10V / 300µV (16bit)	
Current Control (galvanostat mode)		
Applied Current Range	±5x full scale (depends on range selected) ±200mA; ±500mA	
Applied Current Resolution	±1/32,000 x 5 x full scale	
Applied Current Accuracy	±0.2% of reading, ±0.2% of range	
Max. Current Range/Resolution	±2A / 600µA	
Min. Current Range/Resolution	±1nA / 15pA	

Electrometer	
Max. Input Range	±10V
Bandwidth	≥1MHz (3dB)
Input Impedance	$\geq 10^{12}$ Ω in parallel with ≤5pF (typical)
Leakage Current	≤5pA at less than 25°C
CMRR	60 dB at 100kHz (typical)
Voltage Measurement	
Voltage Range	±200mV, ±1V, ±2V, ±5V, ±10V (Autoselection)
Resolution	16Bit
Voltage Accuracy	±0.2% of reading, ±2mV
Current Measurement	
Current Modes	Set maximum output current: 4 modes: 1A, 10mA, 100uA, 1uA
Current Ranges	4 ranges: Current mode x Range Setting Changing the current range does not affect the IR-compensation. 1A mode: 1A (200/500mA max.) to 1mA 10mA mode: 10mA (50mA max.) to 10uA 100uA mode:100uA (500uA max.) to 100nA 1uA mode: 1uA (5uA max.) to 1nA
Current Resolution	16bit
Current Accuracy (DC)	20 nA to 2A: ±0.2% of reading, ±0.2% of range 100pA: <0.5% ±20pA
Bandwidth	1MHz
Bandwidth limit filter	Software based
Impedance (EIS)	
Mode	Potentiostat/Galvanostatic/Cell
Frequency Ranges	10µHz to 1 MHz / 10µHz to 100 kHz (based on DAQ card)
Minimum AC Voltage Amplitude	0.1mV RMS
Sweep	Linear or Logarithmic
iR Compensation	
Positive Feedback	Yes, analogue

Interfaces	
Analog Voltage Output (included as standard)	±10V range, max ±10mA, output impedance 1kΩ BNC connector (for stirrers, rotating disk electrode etc.)
Digital inputs (optional)	4 TTL logic inputs: Low(0-1V), High(3-30V).
Digital Outputs (optional)	4 Output Switch. Rating: Low(0 V), High(3-30V)
Auxiliary Voltage/Current Input for multi electrode measurements. (Optional)	Voltage: 8 signals vs sense or 4 signals measured differentially. ±10V range. Current input: 8 signals. ±5mA
Thermometer: RTD(Pt100) Driver	Current source for driving a RTD Pt100 Temperature range: -50 to 400°C
PC / Software	
Communications Interface	Universal Serial Bus (USB)
Operating System	Windows® XP, Vista, 7 and 8,10 (64-bit & 32-bit)
PC Specification (minimum)	Pentium® 4 (1GHz) / 2 GB memory High Data rates may require additional Memory
Software	EC4™u suite(EC4™DAQ and EC4™View) National Instruments® LabVIEW® 2013 Runtime-Engine

General	
Power	250VA Max. Voltage range 90Vac to 250Vac, 50-60Hz
Dimensions(W x D x H)	appr. 250 x 320 x 100mm
Weight	appr. 6kg
Operating Temperature Range	10°C to 50°C
Humidity	Maximum 80% non-condensing
Temperature (specified)	25°C
Internal Dummy Cell	No
CE marking	Yes Compliance with the following regulations: 2004/108/EC (EMC) 2002/95/EEC (RoHS)