

Specifications of Compact Modular potentiostat/galvanostat

Compact Modular potentiostat/galvanostat supplied with cell cable, usb cable, NOVA Windows based software, license with getting started manual

Hardware specifications

Maximum Compliance Voltage: ± 20 Volts at ± 400 mA Maximum Output Voltage: ± 10 Volts
 Measured Voltage Resolution: $3\mu\text{V}$ Maximum output current: ± 400 mA at ± 20 Volts
 Compliance Voltage Measured current resolution at 10nA range: 30 fA Potentiostat bandwidth
 (at 1 kOhm, 1mA): 1 MHz Potentiostat rise/fall time (1 V step, 10-90%): 100 GOhm // 8 pF
 Input bias current @25°C: 4 MHz A/D converter: 16 bit gains of 1, 10,100; D/A converter: 16
 bit 4 ch. External input/output signals: 1; Digital I/O lines: 12

Software: NOVA is a comprehensive software package for the control of Electro-chemical Workstation, Data Acquisition, storage and data analysis Autolab 101 with NOVA software can perform following measurements Voltammetric analysis: Sampled DC, Normal pulse, Differential pulse, Differential normal pulse, Square wave Control of Hg drop electrode, Cyclic and linear sweep Quotation for Metrohm Autolab Electrochemical System with impedance voltammetry, Staircase cyclic and linear sweep voltammetry, True linear scan cyclic voltammetry, High-speed linear scan cyclic voltammetry (last two modes require optional Scan 250 and ADC 10M modules)

Chrono methods: Chrono methods ($\Delta t > 1$ ms), Chrono methods high speed ($\Delta t > 100$ ns) (requires optional ADC 10M Module) Recurrent pulsing methods Tools and accessories: Manual control of Autolab, iRcompensation, Rotating disc electrode (RDE) control Repeat loops, Cut-offs, Open circuit potential (OCP) measurements, Analog input and output, Digital DIO (TTL) triggering, Additional signals (Delta frequency, bipotentiostat, Fiber Optic Spectrophotometer, ...), Import/export ASCII, GPES, FRA Application development tools: LabView drivers and ready-to-use Vis, Generic interface for .Net applications FRA module and software for EIS measurements

Electrochemical impedance spectroscopy (EIS) is a powerful technique for the characterization of electrochemical systems. It has widespread use in a large number of applications. The Autolab users can perform EIS measurements with the FRA32M module in potentiostatic and galvanostatic control, over a wide frequency range of 10 μHz to 1 MHz. In addition to the classical EIS, the NOVA software also allows the users to modulate other outside signals such as rotation speed of a rotating disk electrode or the intensity of a light source to perform Electrohydrodynamic or Photomodulated impedance spectroscopy. The FRA32M module comes with a powerful fit and simulation software for the analysis of impedance data Application areas: Analytical electrochemistry, Battery, fuel cells and super-capacitor, Biotechnology, Chemical Mechanical Polishing (CMP), Coatings research (organic and inorganic), Conducting polymers and membranes, Corrosion prevention/control, Dielectric materials, Electrocatalysis, Electrodeposition, Materials analysis and testing, Nanotechnology, Semiconductor, Sensor development Frequency range 10 μHz - 32 MHz, Frequency range in 10 μHz - 1 MHz combination with PGSTAT FRA module and software for EIS measurements Electrochemical impedance spectroscopy (EIS) is a powerful technique for the characterization of electrochemical systems. It has widespread use in a large number of applications. The Autolab users can perform EIS measurements with the FRA32M module in potentiostatic and galvanostatic control, over a wide frequency range of 10 μHz to 1 MHz. In addition to the classical EIS, the NOVA software also allows the users to modulate other outside signals such as rotation speed of a rotating disk electrode or the intensity of a light source to perform Electrohydrodynamic or Photomodulated impedance spectroscopy. The module comes with a powerful fit and simulation software for the analysis of impedance data Application areas: Analytical electrochemistry, Battery, fuel cells and super-capacitor, Biotechnology, Chemical

Mechanical Polishing (CMP), Coatings research (organic and inorganic), Conducting polymers and membranes, Corrosion prevention/control, Dielectric materials, Electrocatalysis, Electrodeposition, Materials analysis and testing, Nanotechnology, Semiconductor, Sensor development Frequency range 10 μ Hz - 32 MHz, Frequency range in 10 μ Hz - 1 MHz combination with PGSTAT Frequency resolution 0.003%, Input range \pm 10 V, Signal types 1 sine, 5 sine, 15 sine, Input channels E and i from the potentiostat/galvanostat or X and Y external signals, AC amplitude 0.2 mV to 0.35 V rms in potentiostatic mode, 2 mV to 3.5 V rms (optional) 0.0002 - 0.35 times current range in galvanostatic mode. Data presentation: Nyquist, Bode, Admittance, Dielectric, Mott-Schottky, Data analysis: Fit and Simulation, Find circle, Element subtraction, Kramers-Kronig,