

⇒ Description

Coulometry is a direct method of measurement with the potential of being primary. The presented equipment consisting of Current Source, Indication Unit and optional Valve Unit offers effective means to set up a high-precision coulometric system. The structured SCPI compatible command language and the MENU oriented access to all functions and the large LCD ensures user-friendly operation and system integration.

Current Source

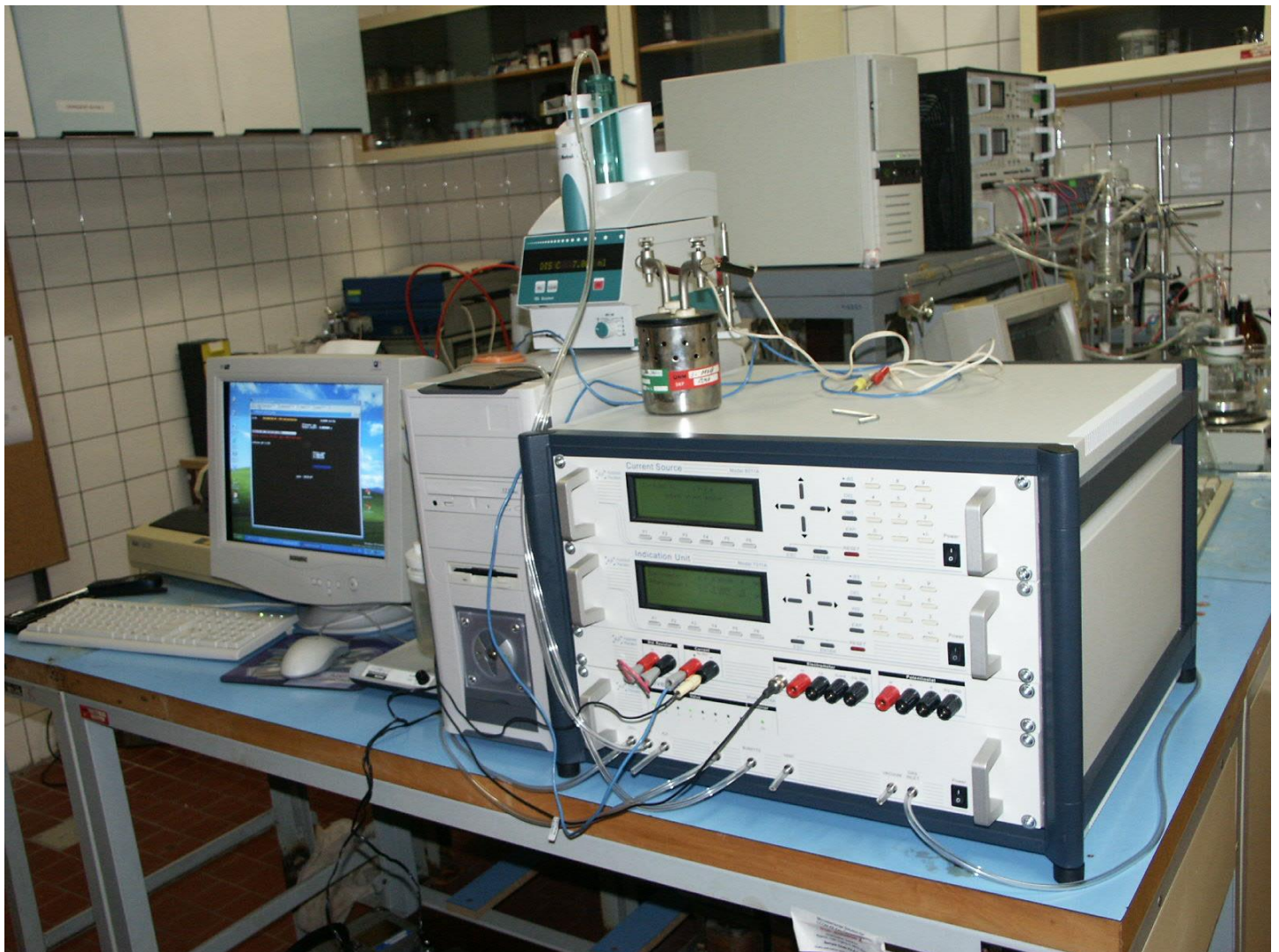
The precision Current Source with exceptional stability equipped with integrated precision timer is capable to generate electric current with precision timing up to 100.000.000 seconds with 1 μ s resolution.

Indication Unit

The microprocessor controlled Indication Unit serves for both potentiometric and amperometric end-point detection with superior resolution and stability.

Valve Unit

This optional unit is equipped with 8 built-in valves. The unit enables any user defined setting of valves and state of electrical power output. The power output serves as power supply for magnetic stirrer. The unit is programmed with ASCII commands via RS-232 interface.



High Precision Coulometry Equipment

⇒ Technical Specification

Current Source		
Maximum Output Voltage		> 100 V
Maximum Output Current		500 mA (optional 1 A)
Current Resolution		1 μ A
Current Accuracy		20 ppm + 2 μ A
Current Stability	24 hours	10 ppm + 1 μ A
	1 year	20 ppm + 2 μ A
Current Noise (peak-to-peak)		5 ppm + 0.5 μ A
Timing Accuracy		0.1 ppm + 1 μ s
Dimensions		19" Rack System, 2U high
Weight (approx.)		15 kg
Power Requirements		230 V - 20 %
Power Consumption		max. 300 W
Communication Interface		RS-232 with SCPI compatible programming protocol

Indication Unit		
Potentiometric part (fully floating):		
Voltage Range		-2 to 2 V
Voltage Resolution		0.01 mV
Voltage Noise (peak-to-peak)		0.02 mV
Input Resistance		> 10 ¹² Ohm
Input Current		< 0.5 pA
Electrode Socket		BNC and banana plugs
Amperometric part (fully floating) in 3-electrode operation:		
Potential Range		-2 to 2 V
Potential Driving Voltage		-10 to 10 V
Potential Resolution		0.1 mV
Potential Stability		0.1 mV
Max. Current		\pm 0.2 mA
Resolution		50 ppm + 0.2 nA
Dimensions		19" Rack System, 2U high
Weight (approx.)		8 kg
Power Requirements		230 V - 20 %
Power Consumption		max. 30 W
Communication Interface		RS-232 with SCPI compatible programming protocol

Valve Unit		
Mains		AC 230 V
Number of Controlled Valves		8 mutually independent
Power Output		1 x 100 VA
Communication Interface		RS-232 with ASCII programming protocol

Optional Accessories		
<ul style="list-style-type: none"> • Cabinet 19" with front connector panel • Burette and other accessories (<i>piston burette, exchange unit with 20 ml glass cylinder incl. reagent bottle, magnetic stirrer with magnetic stirring bars, two coulometric cells for acid-base titrations and for other titrations, other small accessories like tubing, tubing connectors etc.</i>) • Control PC with communication controllers • Control and evaluation software 		