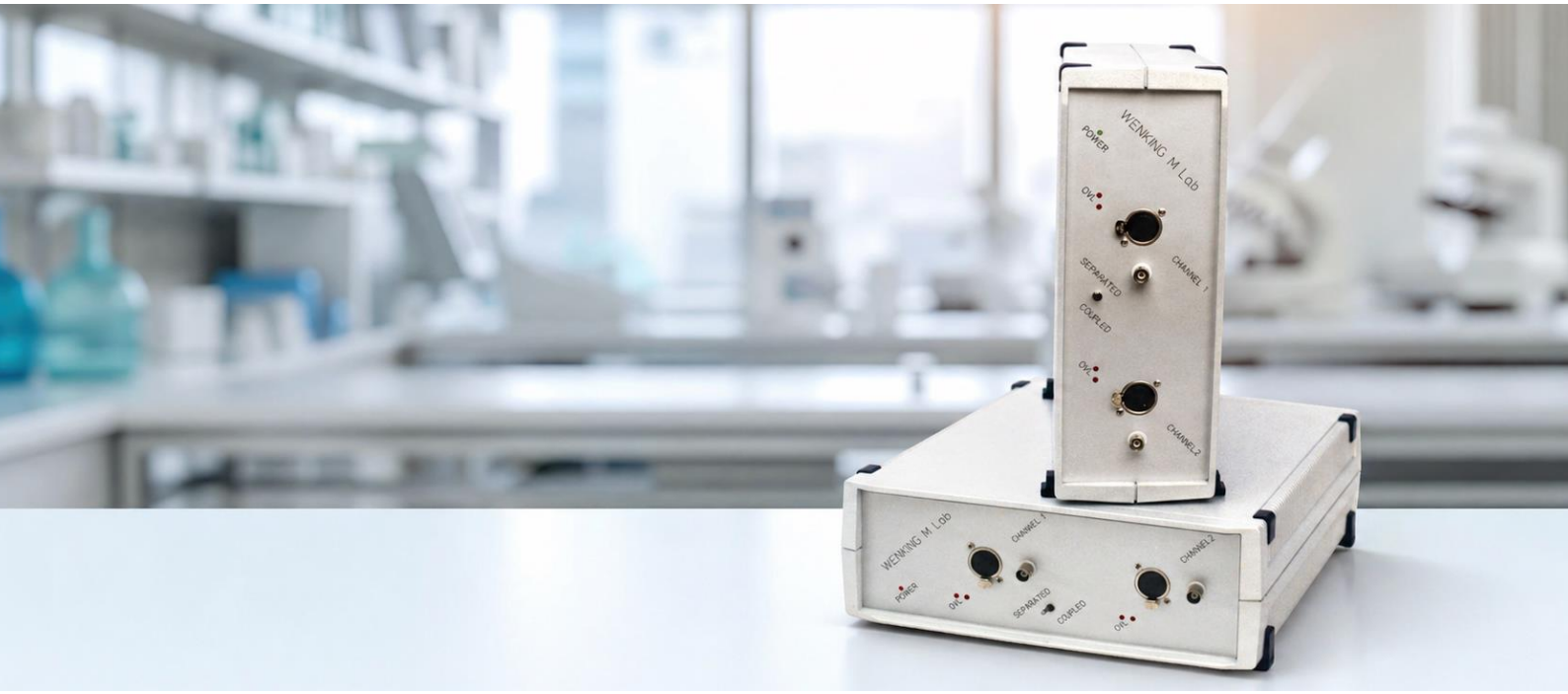
PSL Systemtechnik
Germany

THE ELECTROCHEMICAL SYSTEM STATION WITH TWO POTENTIOSTATS

Multi-channel Potentiostat MLab



MLab is a compact electrochemical system station with potentiostat and galvanostat functionality for research, development, and laboratory operation. The device combines two independently usable potentiostats in one system and supports applications in electrochemistry, corrosion testing, electroplating, battery research, and physical measurement technology.

Typical tasks include current density potential curves, corrosion evaluation, electroplating, charge and discharge cycles, and measurements over a wide current range.

Your benefits at a glance

- **Two potentiostats:** Two independent channels in one device.
- **Scalable:** Up to 20 MLab units on one PC.
- **Versatile:** Potentiostat, galvanostat, and function generator.
- **Precise:** millivolt-accurate control, current resolution down to 100 pA.
- **Bi-potentiostat capable:** Two working electrodes can be controlled in one cell.
- **PC-supported:** Programming, monitoring, and evaluation via software.

Operating principle

The two channels of the MLab can be operated separately for two measuring points or coupled. This allows two working electrodes in one common cell to be controlled independently, similar to bi-potentiostat applications.

An integrated microcomputer controls the function generator, operation modes, and current ranges. Measurement data are transmitted via the PC interface. Additional MLab units can be connected to form a multi-channel measuring system.

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FOR VERSATILE ELECTROCHEMICAL MEASUREMENT TASKS

Specification MLab

Potentiostats

	MLab 100	MLab 200	MLab 500
Max. current per channel	± 100 mA	± 200 mA	± 500 mA
Max. counter electrode voltage	± 20 V	± 18 V	± 15 V
Current resolution	100 pA	200 pA	500 pA
Channels in system housing	max. 10	max. 8	max. 8

Measurement and control

Current ranges	7
Input resistance	> 10^{12} Ω
Potential control range	± 2 V, optional ± 4 V
Drift	< 10-4/1000 h
Bias current	< 10 pA at 25 °C
Current to voltage conversion	0,2 % ± 1 LSB
Potential resolution	± 1 mV
A/D resolution	1 mV, 2 mV bei ± 4 V
D/A resolution	0.5 mV, 1 mV bei ± 4 V
ZRA measuring range	50 pA up to respective maximum current
Interfaces	1 × RS 232, 1 × RS 485
System expansion	up to 20 MLab units on one PC

Dimensions and power supply

Desktop version	290 x 110 x 310 mm
19“ system housing	6 HE × 380 mm depth
Power supply	115/230 V, 50/60 Hz
Output power	max. 10 W per channel

Options

- **Additional inputs:** Analog inputs, electrometer inputs, and Pt100 temperature input
- **Software:** Programming, monitoring, evaluation, and SCI integration of the options
- **Customized versions:** Current and voltage combinations according to application

Typical applications

- Current density potential curves and corrosion evaluation
- Electroplating and plating thickness measurement
- Charge and discharge cycles of accumulators
- Measurements with two working electrodes in one cell
- Characteristic curve measurements in electrochemical laboratories

We would be happy to advise you on the right configuration for your application.
Contact us directly or request a customized quote.

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