

Product Overview 2005

Economical Potentiostats

MP 04 T Mini - potentiostat Wenking MP 04 T, max. current **400 mA**, max. voltage **25 V**, output power **10 W**, slew rate 10 V / μ s, 1 control input, floating current output, control range ± 10 V external, rise time constant (closed loop, ohmic load) 1 μ s typ., dimensions 245 x 120 x 240 mm (W x H x D), weight 1.8 kg.



MP 04 E Mini - potentiostat Wenking MP 04 T, max. current **200 mA**, max. voltage **25 V**, output power **10 W**, other properties see MP 04 T.

KP 3A5V Small powerful potentiostat/galvanostat designed for battery testing and electrochemical preparation, max. current **2.5 A**, max. voltage **5 V**, output power **12 W**, slew rate 1 V / μ s, 1 control input, current monitor output, control range ± 10 V external, rise time constant (closed loop, ohmic load) 1 μ s typ., dimensions 105 x 140 x 160 mm (W x H x D), weight 3 kg.



Easy operation. Small, but powerful instrument for student's labs:

TG 97 Economical potentiostat / galvanostat, current ranges 10 μ A to 1 A in 6 decades, current nA, max. output voltage ± 24 V, max. output current ± 1 A, slew rate 5 V / μ s, 1 control input, dimensions 245 x 120 x 240 mm (W x H x D), weight 3,5 kg.



Precision Laboratory Potentiostats

LPG 03 Low noise precision potentiostat/galvanostat Wenking LPG 03, 8 current ranges 100 nA to 1 A, resolution < 10 pA, max. output voltage ± 35 V, max. current ± 1.1 A, output power 25 W, slew rate 5 V / μ s, 2 superimposing control inputs, IR-drop compensation input, recorder output current 2 V fsd (optionally 10 V), analogue current meter, 4 1/2 - digit LCD potential meter, front panel 19" 3 HE. dimensions 540 x 155 x 380 mm, weight 12 kg.
 Option: Control Interface PC-P for PC controlled operation.



Specialists for Battery Research, Fuel Cells and Galvanics

HP 96 Re - designed '99 Fast high power laboratory potentiostat / galvanostat Wenking HP 96, current ranges 100 μ A to 10 A, current recording threshold < 100 nA, max. output voltage selectable by switch ± 40 V / ± 20 V, max. current ± 5.5 A or ± 10 A, respectively, output power **200 W**, internal control source ± 4 V, slew rate **10 V / μ s**, housing 550 x 198 x 380 mm (W x H x D), weight 19 kg.
 Option: Interface PC-H for remote control by PC.



HP 96-20 High current laboratory potentiostat / galvanostat Wenking HP 96-20, current ranges 200 μ A to **20 A**, current recording threshold < 100 nA, max. output voltage ± 12 V, max. output current ± 25 A, output power 200 W, other features see HP 96. Option: Interface PC-H for remote control by PC.

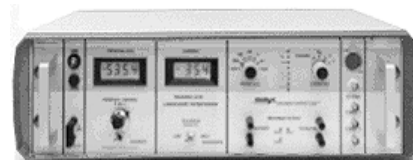
HP 99-50 High current laboratory potentiostat Wenking HP 99-50, current ranges 50 mA to 50 A, max. output voltage ± 8 V, max. output current ± 50 A, output power **320 W**, slew rate 1 V / μ s, 2 control inputs, current recorder output 2 V. Interface PC-H for remote control included.

19" 8 HU panel, housing 550 x 400 x 380 mm (w x h x d), weight 35 kg.



LB 96 H

Precision **high-voltage** laboratory **potentiostat / galvanostat** Wenking LB 96 H, current ranges 100 μ A to 100 mA, current recording threshold < 10 nA, max. output voltage \pm 190 V, max. output current \pm 120 mA, max. output power 20 W, slew rate 5 V / μ s, 2 superimposing control inputs, current output 2 V (full range), 3 1/2 digit current meter, 3 3/4 -digit potential meter. Dimensions 540 x 155 x 380 mm (W x H x D), weight 10 kg.



Potentiostat - Scan Generator Units

PGS 95

Precision - laboratory **potentiostat / galvanostat** Wenking PGS 95 with built - in scan generator, current ranges 20 μ A to 2 A, current resolution < 2 nA, max. output voltage \pm 30 V, max. current \pm 2 A, max. output power 50 W, simple change from potentiostatic to galvanostatic mode by switch, slew rate 5 V / μ s, 2 superimposing control inputs, analogue meter for current, 3 3/4 digit LCD potential meter. Scan generator: voltage slopes 0.001 mV / s to 5 V / s, control range \pm 10 V. ramp reversal controllable by current or potential threshold setting.



Dimensions 540 x 155 x 380 mm (W x H x D), weight 12 kg. **Option: PC- control interface** (see PC-G)

POS 2

Scanning potentiostat / galvanostat Wenking POS 2 with **built - in ramp generator** MVS 98, 8 current ranges **100 nA to 1 A**, resolution 100 pA, power stages 25V / 1 A, optionally also 50 V or 75 V. Dimensions 550 x 198 x 380 mm (W x H x D), weight 18 kg.



PC-P

Control interface for POS 2, controls current ranges, scan functions, potentiostatic mode, CE operation.

Controlling more than one working electrode

M Lab

Fully Interfaced 2 - Channel Potentiostat / Galvanostat

2 complete potentiostats / galvanostats in one housing form a small electrochemical workstation for various applications like corrosion measurements, battery cycling, chemical analysis or sensor development. Up to 20 M Labs can be linked together for **multi - channel tasks**. The software comprises task control tables, autoranging sweep control, independent channel operation and recording, Tafel line evaluation, charge integration. Interface: 1 x RS 232, 1 x RS 485. Housing: 250 x 280 x 100 mm.

Options: additional A/D inputs, monitor outputs. Extended software see software **SCI**

M Lab 100: \pm 100 mA, \pm 20 V

M Lab 200: \pm 200 mA, \pm 14 V



RDP 98

Ring - Disk potentiostat, basing on the exceptional data of our POS 2, for advanced applications. Controls two working electrodes potentiostatically, galvanostatically or mixed mode (max. power 25 W (ring) or 10 W (disk), respectively.). Housing 550 x 198 x 380 mm



MCP 94

Multi - channel-micro - potentiostat Wenking MCP 94 for application in biochemistry, pharmacy and food industry, up to 6 current sinks with independent potential control of the working electrodes (also to be used with ring-disk-electrodes). Max. current 5 mA or 50 mA (optionally), resolution < 1 pA, output voltage \pm 10 V, slew rate 1 μ s / V. Dimensions 540 x 155 x 380 mm, weight 6 to 8 kg. Due to its modular structure, this potentiostat can be delivered in many different configurations, see data sheet MCP.



Signal Generators

MVS 98 Precision analogue scan generator Wenking MVS 98 developed especially for electrochemical applications with respect to range and precision. Functions: single ramp, triangle, periodic triangle. Trigger input TTL (5 V) level. Scan rates ranging from 0.002 mV/ s to 500 V / s. Scan range max. ± 5 V, offset max. ± 5 V, precisely set by 10 - turn dials and coarse range switches. Other scan rates optionally available. Dimensions 245 x 120 x 240 mm (W x H x D), weight 2,5 kg.



DPC 72 Double-pulse generator Wenking DPC 72, pulse width 1 ms to 100 s, pulse height ± 1 V to 10 V in 4 coarse steps, 10 - turn attenuation dial for precise voltage setting of offset and pulse heights. Signal rise time < 10 μ s. 19" 3 HU panel, housing 540 x 155 x 380 mm, weight 7 kg.

Integrators

EVI 95 Voltage integrator Wenking EVI 95 for coulometric applications, 4 - digit electronic counters, separate for positive and negative voltages, ranges 1 Vs to 1 kVs per count, max. input voltage 100 V, integrator resolution 1% per digit of the counter. dimensions 245 x 120 x 240 mm (W x H x D), weight 10 kg



Potential Meters

PPM 98 Fast potential meter Wenking PPM 98, high impedance input, especially designed for dynamic electrochemical measurements. Input impedance > 10^{12} Ohms, signal rise time 1 μ s, noise referred to input < 30 μ V rms, potential range 0.1 mV to ± 12 V, safe-guarded inputs, overload protected, low leakage input stage, input either floating or grounded. Analogue output impedance 100 Ω . Housing 165 x 160 x 105 mm, weight 1.2 kg.



MPS 98 Multi-channel potential meter system Wenking MPS 98, ultra-high input resistance 10^{15} Ohms, especially designed for measurements in low conductive electrolytes. Up to 40 potential channels are scanned, the sensor heads can be distributed remote from the scanner unit (up to 100 m distance). built-in interface RS 232 and IEEE 488. Housing 550 x 160 x 480 mm (Scanner and power source unit),

PS 98 Ultra-high input resistance potential sensor head 10^{15} Ohms for MPS 98. Dimensions 200 mm x 40 mm (L x dia) , weight 200 g.



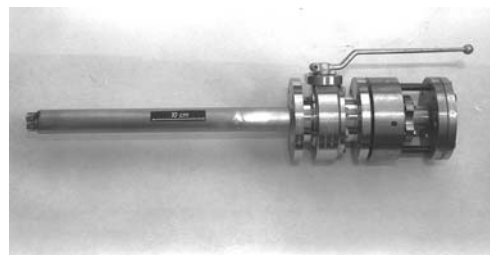
Current Sinks

CS 2 Multi - channel current sink for multichannel applications. Up to 20 channels. sink capacity 5 mA/channel or optionally 50 mA/channel..

Corrosion Monitoring

NDU 6 The noise measurement system NDU, designed for industrial application, combines different methods: It measures both current noise and potential noise as well as DC potentials and galvanic short-circuit currents between similar electrodes. In addition, the NDU determines the polarisation resistance. So, corrosion can be detected with high reliability. The user will not be bothered with details: A set of thresholds - to be set accordingly to the individual environment - are supervised by a personal computer: The screen shows clearly whether the object runs well or suffers from corrosion.

The NDU sensor flange can carry a set of different alloys. So, it is a valuable instrument to determine which alloy is best fitted for a certain environment. Last not least: NDU can be delivered explosion - proof.



Cells, Electrodes

ZELLEDN Standard cell w. plane sleeve 0.5 l, PTFE - lid with sleeves 4 x NS 13, 2 x NS 23, 1 x NS 29, lid fits 0.5 l - cells, too. Including 4 NS / GL- thread sockets (NS23, NS19, 2xNS13) and adapter for 3-axially adjustable Haber-Luggin-capillary.

AVESTA AVESTA - cell for flat specimens, 1 cm², incl. stainless steel cell stand, cell with heating jacket for use with thermostats, peristaltic pump, platinum-counter electrode, reference electrode, (AgCl), reference electrode container, Haber-Luggin - capillary and reflow - condenser.

We manufacture cells according to your requirements

DISKFIX Working electrode fixture for plane electrodes, surface area 1 cm² up to 8 cm², easy change of electrodes made of sheet material, T_{max} = 70°C.

TIPFIX Working electrode fixture TipFix for irregularly shaped electrodes, crevice-free fixture of specimens by contact tips, T max 120 °C.

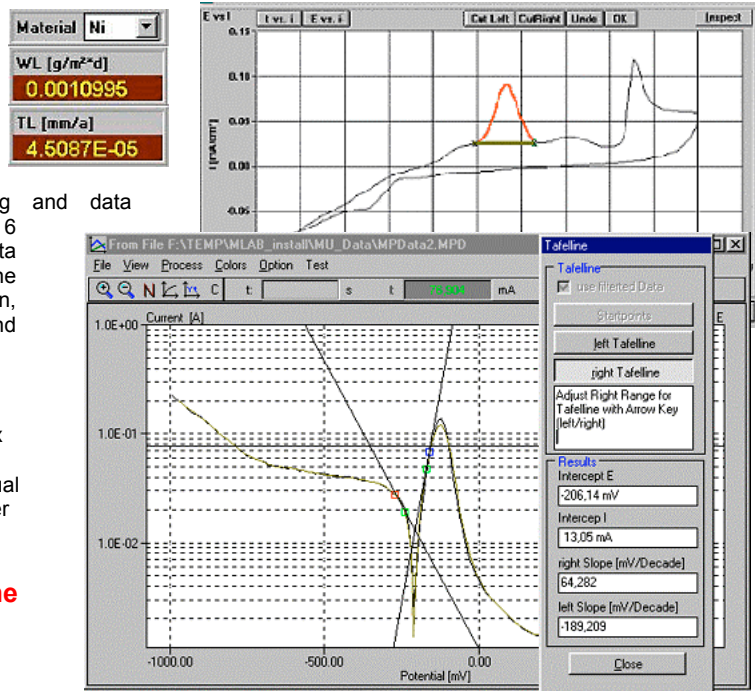
RDE Rotating disk electrode for ambitious research tasks, high - precision gear, exactly controlled speed up to 7500 rpm. Quick - change electrodes, complete with cell and speed control unit.

We supply a wide range of counter electrodes and reference electrodes. Please ask for our special cell programme.



Software

CPCDA2 Testpoint - based software for control, measurement and evaluation of electrochemical measurements, requires MS - Windows™, supports our interfaces. CPC manages potentiostat control, data recording and data evaluation. Features: Up to 6 measurement channels, fast data access up to 300000 data points/s. The evaluation allows differentiation, integration, Tafel slope evaluation and other helpful routines.



SCI Extended software for M Lab. Complex programmed sequences, "if-then" - structured work sheets, pseudo - manual operation of single channels while other channels do programmed tasks.

Call us for free demo - CD, or download the demo programme from our site:

<http://www.bank-ic.de>

Other Instrumentation

MolyTester Hand - held tester for semi - quantitative analysis of stainless steels, nickel - base alloys and monel. The portalyser is most convenient for quick, non - destructive determination of alloys both in-shop and outdoor.



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