

# Model MS1000

## LPR Corrosion Meter

The MS1000 is a hand-held, battery-powered corrosion meter. This versatile instrument measures the instantaneous corrosion rate and electrochemical current between the electrodes of any standard 2-electrode linear polarization resistance (LPR) probe.

Corrosion rate measurements are made using the linear polarization resistance technique. The instrument measures the current required to polarize the electrodes of a probe to a known potential. From the polarization potential and the measured current, polarization resistance can be calculated. Then, using Faraday's law, instantaneous corrosion rate is calculated from polarization resistance.



*Probe shown in photo not included with corrosion meter*

The MS1000 is designed to calculate the corrosion rate in mils per year (mpy) for carbon steel. Multiplication factors for several common alloys have been included on the front panel of the instrument for quick reference. Multiplication factors for other alloys can be easily calculated using the formulas supplied in the operation manual.

The MS1000 also offers a high precision zero resistance ammeter (ZRA) for measuring the electrochemical current between electrodes. This function may be used to measure the galvanic current between electrodes of dissimilar alloys.

The MS1000 has a simple function key interface, using a 4-key keypad and a 4-line LCD display. The instrument also offers low-battery detection and an auto-shutoff feature to conserve battery life.

## Technical Specifications

### Model

MS1000 - LPR Corrosion Meter (Ordering # IN1000)

### Physical Data

Instrument Weight: 0.84 lb. (0.38 Kg)  
Total Weight w/ Carrying Case and Accessories: 5.20 lb. (2.36 Kg)  
Instrument Dimensions: 7.63"H x 4.15"W x 1.3"D (19.38cm x 10.54cm x 3.30cm)  
Carrying Case Dimensions: 10"H x 11.75"W x 5.4"D (25.40cm x 29.85cm x 13.72cm)  
Operating Temperature: 32° to 122°F (0° to 50°C)  
Storage Temperature: -4° to 158°F (-20° to 70°C)

### Performance Data

Measurement Type: 2-Electrode LPR, Galvanic  
Range: 2-Electrode: 0-40 mpy Galvanic: 0-80  $\mu$ A  
Resolution: 2-Electrode: 0.02 mpy Galvanic: 0.04  $\mu$ A  
Cycle Time: Corrosion Rate: 60 sec ZRA: 30 sec

### Electrical Data

Power Requirements: One 9V Li-Ion Rechargeable Battery (see below)  
Maximum Probe Cable Distance: 2000 ft (609.6 m)

### Special Features

- Microprocessor-based electronics
- Function key interface using 4-key keypad and 4-line LCD display
- Low-battery detection
- Portable

### Accessory Items

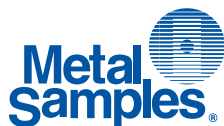
Carrying Case, 10' Probe Cable, Battery Charger, Lightweight Protective Case, Meter Prover, Operation Manual

### New Li-Ion Rechargeable Battery

Li-Ion battery charges faster & has a longer life than previous NiCad battery (400mAH as opposed to 120mAH.)

Li-Ion Charger features:

- Multi-voltage input for domestic & international use (100-240 VAC 50/60Hz)
- Automatic cut-off when battery is charged (to prevent over-charging)
- Red/Green LED's to indicate when battery is charging/full



#### **Metal Samples Company**

*A Division of Alabama Specialty Products, Inc.*

152 Metal Samples Rd., Munford, AL 36268 Phone: (256) 358-4202 Fax: (256) 358-4515

E-mail: [msc@alspi.com](mailto:msc@alspi.com) Internet: [www.metalsamples.com](http://www.metalsamples.com)

Houston Office: 6327 Teal Mist Lane, Fulshear, TX 77441 Phone: (832) 451-6825