

## MULTI-CHANNEL DIGITAL RESISTIVITY METER

# McOHM Profiler-4



### <Abstract>

The McOHM Profiler-4 is the Multi-Channel Resistivity meter, for engineering purpose such as Land slide monitoring, liquefaction and environmental studies, underground water survey etc.

The system is incorporated with the electrode switching function for 32 electrodes, the 4 channel-receiver circuit with high resolution 24 bits Sigma-Delta A/D converter, the power supply circuit to inject 400V max. (800V peak-to-peak) /120mA. It's based on the Windows XP with color display, Hard disk drive, USB2.0 ports with higher quality and reliable field performance. Furthermore, monitoring and displaying of both the current waveform and the potential waveform is effective to control the quality of data.

### <Features>

- The electrode array of pole-pole, pole-dipole, dipole-dipole, Wenner-2D etc. for the measurement is available.
- 4-channel simultaneous measurement can shorten the data acquisition time at site.
- The system is expandable up to 288 electrodes with external scanners.
- Full-automatic measurement with the control program, automatic timed measurement by the internal clock.
- Plotting function of decay curve for pole-pole array is effective to control the quality of data at site.
- The measured data can be stored either in large capacity of internal hard disk, USB memory.
- Cost effective and downsized system with light in weight.

## <Specifications>

### McOHM Profiler-4 (Model-2140F)

#### ● Transmitter

Maximum output current : 2, 20, 60 and 120mA  
(constant current)  
Maximum output voltage : 400V (800V peak-to-peak)  
Cycle : 0.5, 1, 2, 4 and 8 seconds

#### ● Receiver

Number of input channels: 4 channels (independent)  
Input impedance : 10M $\Omega$   
A/D resolution : 24 bits  
Electrode array : any array  
Measurement mode: automatic, timed and manual measurement  
SP compensation : automatic compensation by D/A converter

#### ● Scanner

Internal scanner : 32 electrodes  
External scanner : Max. 256 electrodes every 64 channels, total 288 electrodes

#### ● System control

CPU : ULV Intel Celeron Processor 400MHz  
System memory : 256MB  
Interface : USB2.0 port x 2 at front (Port for USB memory and external keyboard)  
USB2.0 port x 1 at rear (Port for a mouse)  
PS/2 keyboard port  
Display : 10.4", XGA/TFT color LCD  
Recording Medium : SSD 32GB  
Display parameters : injected current, 4ch potential waveform, measured values, decay curve  
Power requirement : 10.5V to 13.5V DC  
Power consumption : 2.6A (standby), 9.6A (max)  
Dimensions : 330 x 2800 x 280 mm

### Scanner 64 (for expansion)

Number of electrodes : 64 electrodes  
Communication interface : RS-485  
Power requirement : 10.5V – 14VDC  
Power consumption : 1A (standby), 2A (max)  
Dimensions : 330 x 270 x 220 mm



## <Applications>

- 1) Long term monitoring of leakage at garbage disposal areas
- 2) Investigation of soil contamination by waste oil
- 3) Judgment of effectiveness of grouting
- 4) Research and studies of liquefaction
- 5) Investigations for dams and tunnels
- 6) Landslide monitoring
- 7) Ground water exploration

## <System diagram>

