

LDM/GEOTECTION TECHNICAL SPECIFICATIONS:

Measurement modes	Apparent resistivity, resistance, self-potential, contact resistance, transmitter current and voltage, receiver voltage, weather (in/out temp, rain, wind, humidity)
Measurement range (input voltage)	+/- 10 volt
Measurement resolution	16-bit (305 microvolts per +/- 10 volt full scale range) to (6.1 microvolts per +/- 0.2 volt full scale range)
Precision	0.05% in the range from 10 Ω to 0.01 Ω , 0.025% in the range from 0.1 Ω to 0.01 Ω
Resistance resolution	77 $\mu\Omega$ @ 4A to 1.5 $\mu\Omega$ @ 4A
Output current intensity	1 milliamp - 8000 milliamp
Output voltage	120 volts (optional 240 volt upgrade)
Input channels	180 base simultaneous receiver channels (not multiplexed)
Multiplexor	Expandable multiplexing in groups of 60 sensors
Input gain ranging	Automatic or manual
Input impedance	>10 M Ohm.
Frequency	0.05 to 5 Hz
Duty Cycle	10 to 90 percent
Pulses per Measurement	Programmable from 1 to 1,000.
Measurement Time	Simultaneous 180 Channel Pole-Pole measurement sequence in ~15 minutes
Array Type	Measured pole-pole, calculated any dipole-dipole, Wenner, or custom designed 4-pole combinations.
Sampling Window	Operator adjustable
Filters (Noise suppression)	Analog (hardware) 10 Hz low pass or 1 kHz low pass Digital (software) user selectable
Fault / Alarm Detection	Detects AC power fail, user selected disconnect (override), open circuit (wire) detection, over temperature, under temperature, system start, system stop, overvoltage, trailer entry alarm, lightning proximity notification Programmable email and text notifications
Serviceability	Modular design can be serviced with single philips head screwdriver
Safety	Emergency stop in and outside, manual lockout to support lock-out & tag-out protocols
Error analysis	Point-to-Point error and Pulse-to-Pulse error
Power line noise suppression	50 and 60 Hz (see filters)
Total accuracy	< 0.2% hardware with software calibration on NIST traceable calibration test box
System calibration	Externally calibrated using NIST traceable calibration box
Operating system	Windows 7
Data storage	Redundant enterprise grade laptop hard drives SQL Database storage ASCII CSV summary files Binary full waveform files
Data display	Numeric and graphical, full waveform, web based visualization software
Remote Control	Full control via remote login including system calibration

Data Processing	Automatic detection of anomalous voltage conditions indicative of leaks. Leak rate estimation. Leak potential indication.
Memory capacity	Limited to hard drive size
Data transmission	USB, Wireless Network (LAN), Internet, 2-way Satellite optional
Quality Assurance	NQA-1 since 2004
Electrical Safety	UL Listed/NEC compliant, plug and cord design for maintenance safety
Housing	System housed in portable trailer equipped with climate controls, uninterruptable power supply, weather monitoring, and wireless communications
Display	22" and 37" 1080p displays
Input Power	240 volt 50 amp
Operating temperature	Climate controlled trailer