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Syscal Pro Data Sheet

The Syscal Pro is an all-in-one multinode resistivity imaging system for environmental and engineering geophysical studies. It features internal switching board for 48 (Switch-48) up to 120 (Switch-120) electrodes, 10 of which can be addressed simultaneously depending on the array type being used, and an internal 250W power source.



Syscal Pro setup, including external Tx battery.

For optimal measurement quality, the system automatically adjusts the output current (automatic ranging) to maximize input voltage values. It is designed to autonomously execute pre-defined resistivity surveys with roll-along functionality. Two heavy-duty seismic cables, each with 24 (or 36) electrode take-outs, connect to the resistivity meter and are available with standard 5 or 10 m electrode spacings. Custom cable configurations can also be assembled for specialized arrays or non-standard applications.

Measurement sequences can be configured through the instrument interface or via the PC software package Electre Pro. Electre Pro enables operators to develop and interrogate 2D, 3D, downhole and roll long sequences prior to heading into the field, helping to minimise potential data collection errors.

Compact, easy-to-use and field proof, the Syscal Pro measures both resistivity and chargeability (IP). It is ideal for environmental and civil engineering applications such as pollution monitoring and mapping, salinity control, depth-to-rock determination and weathered bedrock mapping. It can also be used for shallow groundwater exploration (depth

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and thickness of aquifers).

With the Syscal Pro, resistivity surveys can be performed very efficiently with one operator only, as surveys can be conducted in a fraction of the time it takes to acquire data with single channel instruments, you can afford to stack a greater number of times or increase the polarising and measuring time, or acquire more than one array type and combine them in data processing stage. All these help you acquire better quality field data.

The well-known reliability and accuracy of the Syscal range of resistivity meters will also mean extra value both for the contractor and the results end-user.

Product Dimensions

Physical	Dimensions (L x W x H)	Weight
(instrument only)	31cm x 23cm x 36cm	13kg

Technical Specifications

Voltage:	Up to 800V in switch mode and 1000V in manual mode
Current:	2.5A
Power:	250W off 12V battery.
Pulse Duration:	0.2s, 0.5s, 1s, 2s, 4s, or 8s
Channels:	10 recording channels
Input Impedance:	100Mohm
Max Voltage (across recording channels):	15V
Protection:	Up to 1000V
Accuracy:	0.2%
Resolution:	1 microV
Readings:	Current, Voltage, standard deviation and 20 IP windows (pre-set or selectable)
Stacking:	User selectable stack threshold based off measurement standard deviation.
Noise Rejection Routines:	50 & 60Hz noise rejection. SP linear drift correction.
Memory:	21,000 readings, stored on solid state memory
GPS:	NMEA GGA sentence via RS232
Temperature:	-20 to +70ºC

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Videos

Contact Resistance checks before an ERT survey
https://www.youtube.com/watch?v=VC-mEJQr3uU

Connecting Electrodes to an Electrical Resistivity Tomography system
https://www.youtube.com/watch?v=9C0Y2HF0xWU

Cable care for Electrical Resistivity Systems
https://www.youtube.com/watch?v=46OsR49IQU4

WennerSequence
https://www.youtube.com/watch?v=c5GgA2rk_ko

DipDipSequence
https://www.youtube.com/watch?v=LLmtb6hlo2k

AutoSequence
https://www.youtube.com/watch?v=QL5yFudmauE

UniqueElectrodes
https://www.youtube.com/watch?v=hieXclPq7yc

RollSequence
https://www.youtube.com/watch?v=T24KKYRWPOM

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