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Syscal Junior Data Sheet

The Syscal Jr is an all-purpose resistivity imaging and sounding system for environmental applications. The system can be supplied as a standard sounding system capable of recording two measurements simultaneously, perfect for performing offset Wenner sounding arrays. The second recording channel significantly improves data acquisition time when the instrument is fitted with internal switching board for 48 (Switch-48) or 72 (Switch-72) electrodes for Electrical Resistivity Tomography (ERT).



Syscal Junior console (image Courtesy of Iris Instruments)

The output current is automatically adjusted (automatic ranging) to optimise the input voltage values and ensure the best measurement quality. The system is designed to automatically perform pre-defined sets of resistivity measurements with roll-along capability.

Compact, easy-to-use and field proof, the Syscal Jr Switch measures both resistivity and chargeability (IP). With a maximum power output of 100W at 400V the Syscal Jr is suitable for most near surface geophysical prospection applications, such as pollution monitoring and mapping, salinity control, depth-to-rock determination and weathered bedrock mapping. In high resistance environments it may be necessary to use the Syscal Jr's bigger bother the Syscal Pro.

Product Dimensions

Physical	Dimensions (L x W x H)	Weight
(instrument only)	31cm x 21cm x 21cm	10kg

Technical Specifications

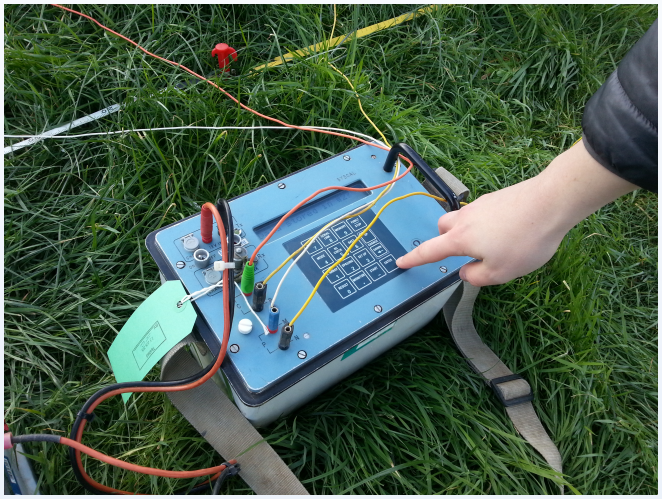
Voltage:	Up to 400V

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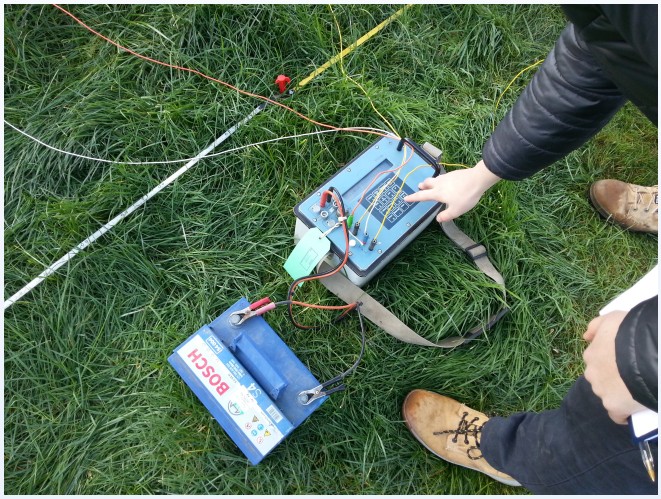
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Current:	1.250A
Power:	100W off 12V battery
Pulse Duration:	0.25s, 0.5s, 1s, 2s, 4s, or 8s
Channels:	2 recording channels
Input Impedance:	100Mohm
Max Voltage (across recording channels):	15V
Protection:	Up to 1000V
Accuracy:	0.5%
Resolution:	1 microV
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.
Temperature:	-20 to +70ºC

Gallery



Preforming a simple sounding using the Syscal Junior resistivity meter.



In high resistive lithology with large electrode separations it may be nessissary to use an external transmitter battery to support long injection periods.

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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

UniqueElectrodes
https://www.youtube.com/watch?v=hieXcIPq7yc

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

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

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

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