

# Golden Hours Company Limited



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# OUR PRODUCTS SUPPLY

## ► PQWT PRODUCTS



# PRODUCTS SUMMARY

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PWQT-TC Mapping With One Button Water Detector

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PQWT-S Underground Water Detector

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PQWT-M Mobile Water Detector

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Underground Pipe Leak Detector

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Borehole Inspection Camera

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Leakage Automatic Aanalyzer

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Dam Piping Leak Detector

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# Mapping With One Button Water Dtector& Mine Locator

PQWT-TC150



PQWT-TC300



PQWT-TC500



PQWT-TC700



Mapping With One Button Water Dtector& Mine Locator

Model No.	Depth	Accuracy	Channel	Frequency	LCD
PQWT-TC150	150 Meters	0.001mv	4	Single, Triple and 33 Frequency	Industrial 7-inch HD Touch Screen
PQWT-TC300	300 Meters	0.001mv	6	Single, Triple and 40 Frequency	Industrial 7-inch HD Touch Screen
PQWT-TC500	500 Meters	0.001mv	8	Single, Triple and 56 Frequency	Industrial 7-inch HD Touch Screen
PQWT-TC700	600 Meters	0.001mv	8	Single, Triple and 68 Frequency	800x480 Touch Screen
PQWT-TC900	1200 Meters	0.001mv	8	Single, Triple and 68 Frequency	800x480 Touch Screen
PQWT-TC1200	1500Meters	0.001mv	8	Single, Triple and 98 Custom Frequency	800x480 Touch Screen

# Mapping With One Button Water Detector & Mine Locator

1. Fast measurement speed, high efficiency, easy to carry, simple operation, high accuracy, strong ability of anti-interference
2. Automatic drawing the curve graph, the geological profile map, no need to transfer measured data from the instrument to computer for drawing map, made the operation simpler and more convenient.
3. Automatic measurement and storage of data, automatically draw the curve. There is no need to record data.
4. Data will not be lost after shutdown, can store max 999 measured curve data, can store 999 point data each line.
5. Super Anti-interference Ability  
Strengthening the use of technology to suppress signal interference, highlight the desired signal, the duplex frequency notch filter, multiple anti-jamming design, digital filtering, combined with the traditional multi-filter filters, even in cities, or other external electrical interferential workspace, but also be a good consistency observed abnormal curve.
6. Can automatically display or export data files, graphs, profile map.
4. Using rechargeable battery-powered, up to 12 hours or more long standby time.



# PQWT-S WATER DETECTOR

PQWT-S150



PQWT-S300



PQWT-S500



## Underground Water Detector & Mine Locator Technical Parameters

Model No.	Depth	Accuracy	Channel	Frequency	LCD
PQWT-S150	150 Meters	0.001mV	4	Single, triple and 36 frequency.	Industrial 7-inch HD touch screen
PQWT-S300	150 Meters 300 Meters	0.001mV	6	Single, triple and 36 frequency for 150m, 40 frequency for 300m.	Industrial 7-inch HD touch screen
PQWT-S500	150 Meters 300 Meters 500Meters	0.001mv	8	Single, triple and 36 frequency for 150m, 40 frequency for 300m, 56 frequency for 500m.	Industrial 7-inch HD touch screen

# PQWT-S WATER DETECTOR

## 1. High Speed and High Efficiency

Complete the acquisition of a measuring point using less than 30 seconds.

## 2. Easy to Carry

The weight of whole set is not more than 4 kg, easy to carry.

## 3. Good Accuracy, High Accuracy

Resolution is up to 0.001mV, the accuracy rate is more than 95% in a large number of field testing.

## 4. Simple Operation

Fully automated, high-speed CPU conducting voltage compensation automatically, automatic gain adjustment, automatic filtering and signal enhancement, automatic data processing and storage. 1-2 person can operate it. Manage the instrument operation in 10 minutes, for personnel without any experience can be completed training within 2 hours.

## 5. Anti-interference Ability

Strengthening the use of technology to suppress signal interference, highlight the desired signal, the duplex frequency notch filter, multiple anti-jamming design, digital filtering, combined with the traditional multi-filter filters, even in cities, or other external electrical interferential workspace, but also be a good consistency observed abnormal curve.

## 6. Flexible Electrode Layout

The instrument uses coarse, fine easy measuring electrode coarse and fine of two studies, which saves a lot of time, they can get high-precision data. You can use the bipolar profile, sounding poles, circular cross-section, multi-frequency sounding, multi-frequency cross-section measurements and other cloth extremely efficient exploration of different geological objects and solve different geological problems, convenience of explanation. The maximum benefit analysis trends, depth and thickness of groundwater.



# PQWT-M Mobile Water Detector

PQWT-M100



PQWT-M200



PQWT-M400



## Underground Water Detector & Mine Locator Technical Parameters

Model No.	Depth	Accuracy	Channel	Frequency	Display
PQWT-M100	100 Meters	0.001mV	4	triple and 30 frequency.	LED indicator, connect mobile wifi and install APP in mobile
PQWT-M200	200 Meters	0.001mV	6	triple and 36 frequency	LED indicator, connect mobile wifi and install APP in mobile
PQWT-M400	400Meters	0.001mv	8	triple and 48frequency	LED indicator, connect mobile wifi and install APP in mobile



# PQWT-M Mobile Water Detector

1. No need to register, it is ready to use
2. No network required, no traffic required
3. Automatically draw geological sections
4. Suitable for all terrain exploration
5. Expert remote assistance to fix the well position
6. Inexperienced person operate it by five minutes

# APPLICATION OF UNDERGROUND WATER & MINE DETECTOR



Find Water



Mine Detection



Cavity Exploration



Engineering Exploration



Archaeology



Geothermal Prospecting



# Underground Pipe Leak Detector

PQWT-CL200



PQWT-CL500



PQWT-CL300



PQWT-CL600



PQWT-CL400



Model No.	Depth	Frequency Range	Audio Amplifier Gain	Operation Mode	LCD Size	Live Recording	Stand-by Time
PQWT-CL200	2 Meters	1-5000HZ	Adjustable Within The Class of 100	Spectrum Analysis Filtering Analysis Location Mode Long-Term Mode	7-inch HD Digital Color LCD Touch Screen	The number and time of recordings is unlimited	10 Hours
PQWT-CL300	3 Meters	1-6000HZ					
PQWT-CL400	4Meters	1-7000HZ					
PQWT-CL500	5Meters	1-8000HZ					
PQWT-CL600	6 Meters	1-9000HZ					

# FEATURES OF UNDERGROUND PIPE LEAK DETECTOR

1. The use of latest digital signal processing chip and a digital filter chip, 16M cache controller integrated, more responsive. In particular, it can filter with the interference of environmental noise, screening out the leakage noise, allowing the operator to lock leakage points quickly.
2. 7-inch high-definition digital color LCD touch screen with a resolution of 800 \* 480, can provide 12 display pages, can show the measurement parameters more clearly and intuitively, and full touch screen design, simple operation.
3. Each has 1 ~ 5000Hz, 6000Hz, 7000Hz, 8000Hz, 9000Hz, 50 ~ 5000Hz frequency range, can be displayed the distribution of the noise signal at each frequency in real time.
4. Sensor is built-in preamp circuit, using a rubber ring seal and cushion, and the application of professional acoustic methods, making the ability to capture the noise is higher than similar products.
5. Adopt latest noise detecting element, sounds clear.
6. Automatic drawing continuous noise curve ( Location Mode) within a certain time, so that the leakage point position is determined more quickly.
7. Using a large capacity battery, can work for more than ten hours , and can be removed charging and online charging.
8. Super anti-jamming circuit design, digital signal and analog signal effectively isolate and eliminate the noise generated by the digital circuit .



# BOREHOLE INSPECTION CAMERA

## Technical Parameters

Host Machine

Winding car with Cable and camera



Model No.	Depth	Measure ment Accuracy	Operating Ambient Temperat ure	LCD Size	Relati ve Humi dity	Power Supply	Stand -by Time
PQWT-K1	150M	0.001mV	10 °C ~ +60 °C	7-inch high- definition LCD screen	≤ 85%	DC14.8V Recharge able Battery	6- 7Hour s
PQWT-K2	300M	0.001mV					
PQWT-K3	400M	0.001mV					

# INTRODUCTION OF BOREHOLE INSPECTION CAMERA

PQWT-K series well borehole inspection camera is designed specially for inspecting the inside condition of underground mine wells and water wells.

This instrument is mainly used in detecting formation structure in the hole, fracture and karst status in the well bore stratum, distinguishing fracture and breakage, determining the position of karst and monitoring the hole condition for a long time, can detect vertical hole, horizontal hole and any angle hole, and can record the damage and breakage of drilling casing pipe and drilling casing pipe wall of deep well in real time. The clear image(video) will be directly output to the LCD screen by a special cable.

PQWT-K series well borehole inspection camera is widely used in the repair of mine well, coal mine well, water wells and oil mine wells, the salvage of garbage fell in wells, also can detect the location of drilling accuracy, detection casing corrosion characteristics, can accurately check the casing corrosion, A direct reflection of the casing corrosion of the shape, degree of corrosion, in geological reconnaissance, it is used to identify the geological structure, construction check the quality of concrete placement

# FEATURES OF BOREHOLE INSPECTION CAMERA

1. Real-time transmission of high-definition screen, automatic video recording of the video observation system

2. Fill-in system for users to choose, to cope with different circumstances of the underground environment.

3. Precision to the depth of the millimeter detector.

4. Removable camera, easy to carry.

5. Just need connecting three pcs of aviation plug before operation, easy to operate.

6. The use of large-capacity battery-powered, no need external power supply, fully charged use of time up to 6-7 hours. The instrument can also be used as an external power supply when charging.

7. Using imported IP68 waterproof plug, can work underwater for a long time without leaking.

# LEAKAGE AUTOMATIC ANALYSER

PQWT-CL900



## Technical Parameters

Model No.	Depth	Amplification Gain	Frequency Binning	Working Mode	LCD	PS
PQWT-CL900	8M	100 gain adjustment, 100volume adjustment, and 8 signal multiples adjustment	144 adjustable frequency ranges, and 21 center frequency analyzes	Spectrum analysis mode, filter analysis mode, automatic analysis mode	7-inch high-definition digital touch color LCD screen	DC 7.4V 5000mA rechargeable battery



# INTRODUCTION OF LEAKAGE AUTOMATIC ANALYSER

Leakage automatic analyser is a fully automatic leak detector, which overcomes the single leak detector is easy to exist due to the pipeline of liquid, gas flow rate pressure changes caused by miscarriage of justice problems. The method comprises the following steps: arranging a group of samplers in a linear array or a matrix mode in a leak detecting area of the pipeline; setting the working mode of the host machine in the wireless mode, then instructing the sampler in the group to collect data at the same time, and according to the number of samplers were stored in each sampler sampling data, by comparing the sampling of the sampled data synchronization to determine the location of leaks.



# FEATURES OF LEAKAGE AUTOMATIC ANALYSER

1. Using the latest foreign digital signal processing chip and digital filter chip, controller integrated 16M cache, the response is more sensitive.

2. 7Inch HD digital touch-screen color LCD screen, resolution 800 \* 480, full touch design, simple operation.

3. The 9 sensors using wireless module to send signals, no wiring, transmission distance of 1,000 meters. And 9 sensors can be measured at the same time, so that the measurement range greatly increased, saving the the time to find the leaking water.

4. Users can adjust the frequency within 70HZ-9000HZ range.

5. In the 70HZ-9000HZ range, real-time display of the noise signal at the distribution of the frequency.

6. Sensor within pre-amplifier circuit, using the rubber ring sealing and cushioning, and the application of professional acoustic methods, making the ability to capture noise than similar products.

7. Large volume battery can keep working more than 10 hours.

8. Super anti-interference circuit design, the digital signal and analog signals were effectively isolated, eliminating the noise generated by the digital circuit.

# DAM PIPING LEAK DETECTOR



## Technical Parameters

Model No.	Depth	Measurement Accuracy	Operating Temperature	LCD Size	Working Temperature	Power Supply
PQWT-G50	50M	0.1mV	-10 °C ~ +60 °C	7-inch LCD Screen	-10°C~50°C	DC 7.2V5000mAh Rechargeable battery, 4W
PQWT-G100	100M	0.1mV	-10 °C ~ +60 °C	7-inch LCD Screen	-10°C~50°C	DC 7.2V5000mAh Rechargeable battery, 4W
PQWT-G150	150M	0.1mV	-10 °C ~ +60 °C	7-inch LCD Screen	-10°C~50°C	DC 7.2V5000mAh Rechargeable battery, 4W



# INTRODUCTION OF DAM PIPING LEAK DETECTOR

PQWT-G Series dam piping leak detector is a lightweight and highly efficient dam piping leak detection instrument. Detecting dam leak by measuring the frequency of the natural electric field and analyzing the resistivity changes inside the dam. Can find the leaking point of the piping of the dam, nest point leakage, bedrock foundation leakage, hollow, dynamic soil, ants and other caves, dams and other engineering disasters have a very good detection effect.





# FEATURES OF DAM PIPING LEAK DETECTOR

## 1. easy to carry

Use of the earth natural electromagnetic field as a signal source, does not require heavy manual power source part, the whole set of not more than 3 kilograms of weight, easy to carry and use.

## 2. simple operation

Instrument by the highspeed CPU full automatic control, 10 minutes to learn the operation of the instrument, for no exploration experience of personnel can complete the relevant training in half an hour.

## 3. high accuracy

The high performance amplifier and high performance AD converter, FFT digital filtering technology, the measurement accuracy is up to 0.1mV, obtaining stability comparable with traditional artificial field method instrument in extensive field testing.

## 4. strong anti-interference ability

Advanced anti-interference technology, multi frequency and anti-jamming design, through digital processing equipment, even in the city, electrical interference or other external interference of the work area, also can be observed contour profile measurement repeatability.

# OUR PRODUCTS SUPPLY

## ► OYO PRODUCTS



## Electric Method



Product name	Model	Purpose of Use
<b>NEW</b> McOHM Profiler-8i	MODEL-2160	Resistivity Image Profiling
<b>NEW</b> McOHM EL3i	Model-2171	Vertical Electric Sounding & Borehole Logging of Resistivity-SP, Temperature & Caliper (by individual probe)

## Borehole Logging



Product name	Model	Purpose of Use
<b>NEW</b> Geologger-GWS 3i & GW Combination Probe	Model-3633 & Model-3493	Borehole Logging of Resistivity, SP & Natural Gamma by one probe
► Power winch 3895	Model-3895	Logging Winch in combination with Logging Equipments
► McSEIS-PS & Borehole Pick	Model-1108 & Model-3315	Borehole PS Logging

## Seismic Method



Product name	Model	Purpose of Use
<b>NEW</b> McSEIS-AT (3ch)	Model-1135	Passive wave survey (3 channels)
▶ McSEIS-MT NEO	Model-1134	Microtremor
▶ McSEIS-SW	Model-1109	Seismic Refraction & Seismic Surface Wave
▶ Handy Seis PS-1 NEO	Model-1818	Simple Seismic Survey

## Laboratory Test



Product name	Model	Purpose of Use
<b>NEW</b> Sonic Viewer 2i	Model-5261	Ultrasonic Velocitymeter for PS Velocity Measurement of Rock Specimen
▶ Point Load Tester	Model-4326	Rock Strength Test



## In-situ Test



Product name	Model	Purpose of Use
<b>NEW</b> Elast Logger-3i & Elastmeter Digital Sonde	Model-4301 & Model-4302	Digital unit for the borehole pressuremeter test of high pressure type (for Rock)
▶ Elast Recorder & Elastmeter HQ Sonde	Model-4023 & Model-4180	Analog unit for the borehole pressuremeter test of high pressure type (for Rock)
▶ Elastmeter Sonde 4 inch	Model-4203	Sonde for 4 inch borehole
▶ LLT-M	Model-4189	Borehole Pressuremeter Test of Low Pressure Type (for Soil)
▶ Auto LLT2	-	Automatic unit for the borehole pressuremeter test of Low Pressure type (for soil)
▶ Soil Strength Probe	Model-4940	Soil Strength Test

# Remote Monitoring



Product name	Model	Purpose of Use
► Integral Water Level Meter	Model-4770	Remote monitoring of water level and temperature with ALL-in-one system

# Deformation Measurement

## Sensor



Product name	Model	Purpose of Use
► Digital Q-Tilt 6000 Probe & Handy Logger Digital Q-Tilt	Model-4480 & Model-4470	Manual monitoring of underground deformation

# Water Level/Quality Measurement

## Standalone with data logger



Product name	Model	Purpose of Use
▶ S&DL mini	Model-4800	Monitoring water level and temperature with ALL-in-one compact data logger
▶ S&DL Water Level and pH Meter	Model-4665	Monitoring water level and pH
▶ S&DL Water Level and Conductivity Meter	Model-4631	Monitoring water level and conductivity
▶ S&DL Water Level Meter	Model-4677	Monitoring water level and temperature

# OUR PRODUCTS SUPPLY

## ► IRIS PRODUCTS





Specifically designed for very shallow, **high resolution resistivity** sounding and profiling, the Kid is the most **compact** of the Syscal range whilst retaining the well-known reliability and measurement accuracy of its counter parts.

The Kid has one measurement channel and a **switch24 box** for undertaking Electrical Resistivity Tomography (ERT) measurements. ERT quadrupole sequences are automatically computed by the instrument for the most common electrode arrays based off of the number of electrodes, electrode interval and depth levels. For more unconventional applications, the user can manually define the quadrupole geometry.

Easy-to-use, automatic, field proof, the Syscal Kid is ideal for archaeological, geological mapping and civil engineering applications.



## Characteristics

### Transmitter

Voltage:	0 - 400 Vpp
Current:	0 - 500 mA
Power:	Auto controled Internal 25W DC/DC converter
Battery:	internal battery or external 12V

### Receiver

Pulse duration:	0.5s, 1s, 2s
Channels:	1 channel 24 switches
Input Impedance:	22 MOhms
Input Voltage:	2.5V, automatic gain, input protection 200V
Resolution / Accuracy:	1 $\mu$ V / 0.2%
Readings:	Resistivity, Self potentiel, Induced polarisation, Quality control
Noise Rejection:	power line rejection, SP linear drift correction.
Storage:	1400 readings, stored on solid state memory

### Dimensions

( L x W x H )	23x18x23cm Fiber glass casing, weather proof,
weight:	4.7Kg with internal RX, TX batteries
Operating Temp.:	-10 to +50°C

## Applications

### Water ressources

- Locate conductive fault in fractured acquifere
- Assess water table characteristics
- Characterize salt water wedge extension in groundwater

### Environment

- Detect leaks and monitor degradation in waste disposal
- Locate and image buried structures

The **Syscal Junior** is an all-purpose resistivity imaging and sounding system for environmental applications. The system can be supplied as a standard imaging system capable of recording two measurements simultaneously. The second recording channel significantly improves data acquisition time when the instrument is fitted with internal switching board for **24 (Switch-24) 48 (Switch-48) or 72 (Switch-72) electrodes** for Electrical Resistivity Tomography (ERT).

The output current is automatically adjusted (automatic ranging) to optimize 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 800Vpp**, the Syscal Junior is suitable for most near surface geophysical prospection applications, such as pollution monitoring, salinity control, depth-to-rock determination, weathered bedrock imaging and shallow groundwater exploration (depth and thickness of aquifers). In high resistance environment, it may be necessary to use the Syscal R1 plus.



## Applications

### Water ressources

- **Locate conductive fault in fractured acquifere**
- **Assess water table characteristics**
- **Characterize salt water wedge extension in groundwater**

### Environment

- **Monitor pollution**
- **Detect leaks and monitor degradation in waste disposal**
- **Locate and image buried structures**

### Natural hazard

- **Detect and characterize cavities**
- **Assess landslide extension and volume**
- **Detect and locate clayey layers for geotechnical application**

### Transmitter

<b>Voltage:</b>	0 - 800 Vpp
<b>Current:</b>	0 - 1250 mA
<b>Power:</b>	Auto controlled Internal 100W DC/DC converter
<b>Battery:</b>	internal battery or external 12V

### Receiver

<b>Pulse duration:</b>	250ms, 500ms, 1s, 2s, 4s, or 8s
<b>Channels:</b>	2 channels, 24/48/72 switch
<b>Input Impedance:</b>	100 MOhms
<b>Input Voltage:</b>	15V, automatic gain, input protection 1000V
<b>Resolution / Accuracy:</b>	1 $\mu$ V / 0.2%

**Readings:** Resistivity, Self potentiel, Induced polarisation ( Up to 20 windows), Quality control, and optional full waveform

**Noise Rejection:** power line rejection, SP linear drift correction.

**Storage:** 44800 readings, stored on solid state memory

### Dimensions

**( L x W x H )** 31x23x31cm height depends on switch, Fiber glass casing, weather proof,

**weight:** 11Kg with internal RX, TX batteries

**Operating Temp.:** -20 to +70°C

The **SYSCAL R1 Plus** resistivity meter is specifically designed for medium-depth exploration. It combines a power source, transmitter up to a **200W** or **1200Vpp** output voltage, and a 2 channels receiver in a single unit; its compactness makes it an effective tool for intensive resistivity surveys.

The different switching cards allow to work with **24 (Switch-24) up to 72 (Switch-72) electrodes**. For imaging applications, Iris Instruments proposes different standard heavy-duty multi-core cables (5 traces – 10m, 10 traces – 5m and 10 traces – 10m). Customized cables may also be assembled for special arrays or non-standard applications.

Measurement sequences can be configured through the instrument interface or via the PC software Electre Pro (provided with the Syscal). Electre Pro enables operators to develop and interrogate 2D, 3D, downhole and roll long sequences prior to heading into the field, helping to minimize potential data collection errors. The measured data can be downloaded and processed before inversion via the PC software (Prosys II, provided with the Syscal).

The **measurement is fully automatic**, controlled by a microprocessor: automatic self-potential correction, automatic ranging, digital stacking for signal enhancement, error display in case of procedure troubles. The internal memory can store full information on intensity, voltage, resistivity, IP Chargeability, geometrical parameters and station number. A serial link permits transfer of the data to a microcomputer for plotting and interpretation of the data.

It can be used for civil engineering, groundwater and environmental projects, to solve problems such as depth-to-bedrock determination, localization of weathered bedrock, clay-gravel determination, measurement of depth and thickness of aquifers, salinity control, pollution monitoring, etc.

This versatile device is designed to work in a large number of configurations (SP measurements, sounding, profiling, 2D, roll-along, 3D and 4D monitoring surveys, etc.). The well-known reliability and accuracy of the Syscal range of resistivity meters will also mean extra value for both the contractor and the results end-user.



## Applications

### Water ressources

- **Locate conductive fault in fractured acquifere**
- **Assess water table characteristics**
- **Characterize salt water wedge extension in groundwater**

### Environment

- **Monitor pollution**
- **Detect leaks and monitor degradation in waste disposal**
- **Locate and image buried structures**

### Natural hazard

- **Detect and characterize cavities**
- **Assess landslide extension and volume**
- **Detect and locate clayey layers for geotechnical application**

### Transmitter

<b>Voltage:</b>	0 - 1200 Vpp
<b>Current:</b>	0 - 2500 mA
<b>Power:</b>	Auto controlled Internal 200W DC/DC converter
<b>Battery:</b>	internal battery or external 12V

### Receiver

<b>Pulse duration:</b>	250ms, 500ms, 1s, 2s, 4s, or 8s
<b>Channels:</b>	2 channels, 24/48/72 switches
<b>Input Impedance:</b>	100 MOhms
<b>Input Voltage:</b>	15V, automatic gain, input protection 1000V
<b>Resolution / Accuracy:</b>	1 $\mu$ V / 0.2%
<b>Readings:</b>	Resistivity, self-potential, induced polarisation (up to 20 windows), quality control and optional full waveform
<b>Storage:</b>	44800 readings, stored on solid state memory
<b>Noise Rejection:</b>	power line rejection, SP linear drift correction.

### Dimensions

<b>( L x W x H )</b>	31x21x21cm height depends on switch, Fiber glass casing, weather proof
<b>weight:</b>	10-12.5 Kg with internal RX & TX batteries
<b>Operating Temp.:</b>	-20 to +70°C



The **Syscal Pro** is an all-in-one **multinode resistivity and induce polarization** imaging system for environmental and engineering geophysical studies. The Syscal Pro gathers a 10 channels receiver and a **250W, 2000Vpp internal transmitter** which make it the more powerful system of the Syscal range. This system allows to perform up to 10 measurements at a time and its switching board allow to work for **48 (Switch-48) up to 120 (Switch-120) electrodes**.

The input current can be automatically adjusted (Vp request option) to ensure a minimum voltage level on all the reception channels and therefore a good measurement quality. This versatile device is designed to work in a large number of configuration (4 to 13 electrodes for manual measurement, **SP measurements, sounding, profiling, 2D, roll-along, 3D and 4D monitoring surveys**, etc.).



## Applications

- Water ressources**
  - Locate conductive fault in fractured acquifere
  - Assess water table characteristics
  - Characterize salt water wedge extension in groundwater
- Environment**
  - Monitor pollution
  - Detect leaks and monitor degradation in waste disposal
  - Locate and image buried structures
- Natural hazard**
  - Detect and characterize cavities
  - Assess landslide extension and volume
  - Detect and locate clayey layers for geotechnical application

Transmitter	
Voltage:	0 - 2000 Vpp
Current:	0 - 2500 mA
Power:	Auto controlled Internal 250W DC/DC converter, and 1200W with external AC/DC
Battery:	internal battery or external 12V
Receiver	
Pulse duration:	250ms, 500ms, 1s, 2s, 4s, or 8s
Channels:	10 true differential inputs, 48/72/96/120 switches
Input Impedance:	100 MOhms
Input Voltage:	15V, automatic gain, input protection 1000V
Resolution / Accuracy:	1 $\mu$ V / 0.2%
GPS:	GPS input for coordinates and synchronisation
Readings:	Resistivity, self-potential, induced polarisation (up to 20 windows), quality control and optional full waveform
Noise Rejection:	power line rejection, SP linear drift correction.
Storage:	44800 readings, up to 8 hours full waveform, stored on solid state memory
Dimensions	
( L x W x H )	31x23x31cm height depends on switch, Fiber glass casing, weather proof
weight:	11Kg with internal RX & TX batteries



The **Syscal R2** unit is a high-power system designed for DC electrical surveys applied to groundwater exploration, environmental studies, civil engineering, structural geology investigation and mineral exploration.

This system uses an external DC source for the injection:



- A 250W DCDC converter supplied by a 12V battery
- A 1200W AC/DC converter supplied by a standard motor generator.

The Syscal R2 **combined with the 1200W** converter is therefore particularly adapted to reach high depth for groundwater exploration. It can be used with an external Switch Pro box.

It can be used for civil engineering, groundwater and environmental projects, to solve problems such as depth-to-bedrock determination, localization of weathered bedrock. Its power makes it adapted to detect fault in fractured bedrock aquifers and to explore groundwater aquifers (depth and thickness).



## Characteristics

### Transmitter

<b>Voltage:</b>	0 - 1600 Vpp
<b>Current:</b>	0 - 2500 mA
<b>Power:</b>	External 250W DC/DC converter, and 1200W with external AC/DC
<b>Battery:</b>	internal battery

### Receiver

<b>Pulse duration:</b>	250ms, 500ms, 1s, 2s, 4s, or 8s
<b>Channels:</b>	2 channels
<b>Input Impedance:</b>	100 MOhms
<b>Input Voltage:</b>	15V, automatic gain, input protection 1000V
<b>Resolution / Accuracy:</b>	1 $\mu$ V / 0.2%
<b>Readings:</b>	Resistivity, Self potentiel, Induced polarisation ( Up to 20 windows), Quality control, and optional full waveform
<b>Noise Rejection:</b>	power line rejection, SP linear drift correction.
<b>Storage:</b>	44800 readings, up to 8 hours full waveform , stored on solid state memory
<b>Dimensions</b>	
<b>( L x W x H )</b>	31x21x21cm Fiber glass casing, weather proof,
<b>weight:</b>	5.2Kg with internal battery
<b>Operating Temp.:</b>	-20 to +70°C



Battery Tester



Electrode Tester



SD Card Reader



WiConnect



Switch Pro



Security Pack



Test Box



Pro Tester



Accessories

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