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ABEM Terraloc Pro 2

SEISMIC SOLUTIONS

Flexible seismograph for any application

ABEM

Flexible seismograph for any application

The new ABEM Terraloc Pro 2 is a versatile, next generation seismograph that inherited all the smart features of its predecessor and now offers a new, more responsive and simplified user interface, as well as an improved battery solution.

Seismic solutions are typically used in civil engineering and infrastructure work to determine the properties of the subsurface of the earth, including depth to bedrock, bedrock quality, soil stability studies, finding fractures and weak zones, and geological mapping. ABEM Terraloc Pro 2 can be configured for all of these applications, and more.

Typically, the seismograph is triggered by ground vibrations created by a controlled energy source. By recording the time it takes for the seismic waves to reach geophones connected to the seismograph, it is possible to estimate the depth and properties of subsurface features.

Development of the new ABEM Terraloc Pro 2 has focused on creating an enhanced user experience. The process to setup measurements has been greatly improved for field crews by offering a wizard mode, keeping the number of steps and settings needed to be configured to a bare minimum.

A new power supply solution has been implemented to ensure stable operation even if the external batteries are of poor quality. The previous NiMH internal battery has been replaced with two new internal batteries using modern Li-Ion technology.

Features

- Compact and rugged standalone seismograph
- 1D, 2D and 3D measurements
- 12, 24 or 48 measurement channels
- Built-in quad-core computer
- Graphical user interface with a wizard mode
- WiFi, Ethernet and USB connectivity
- New power supply solution

Advantages

- Easy to operate in the field, built for the toughest conditions
- Perform any kind of seismic survey
- Designed for outstanding data quality
- Increased computing power
- Quick and easy setup, even for non-experts
- Modern connectivity for easy data transfer
- Stable operation regardless of internal or external batteries are used

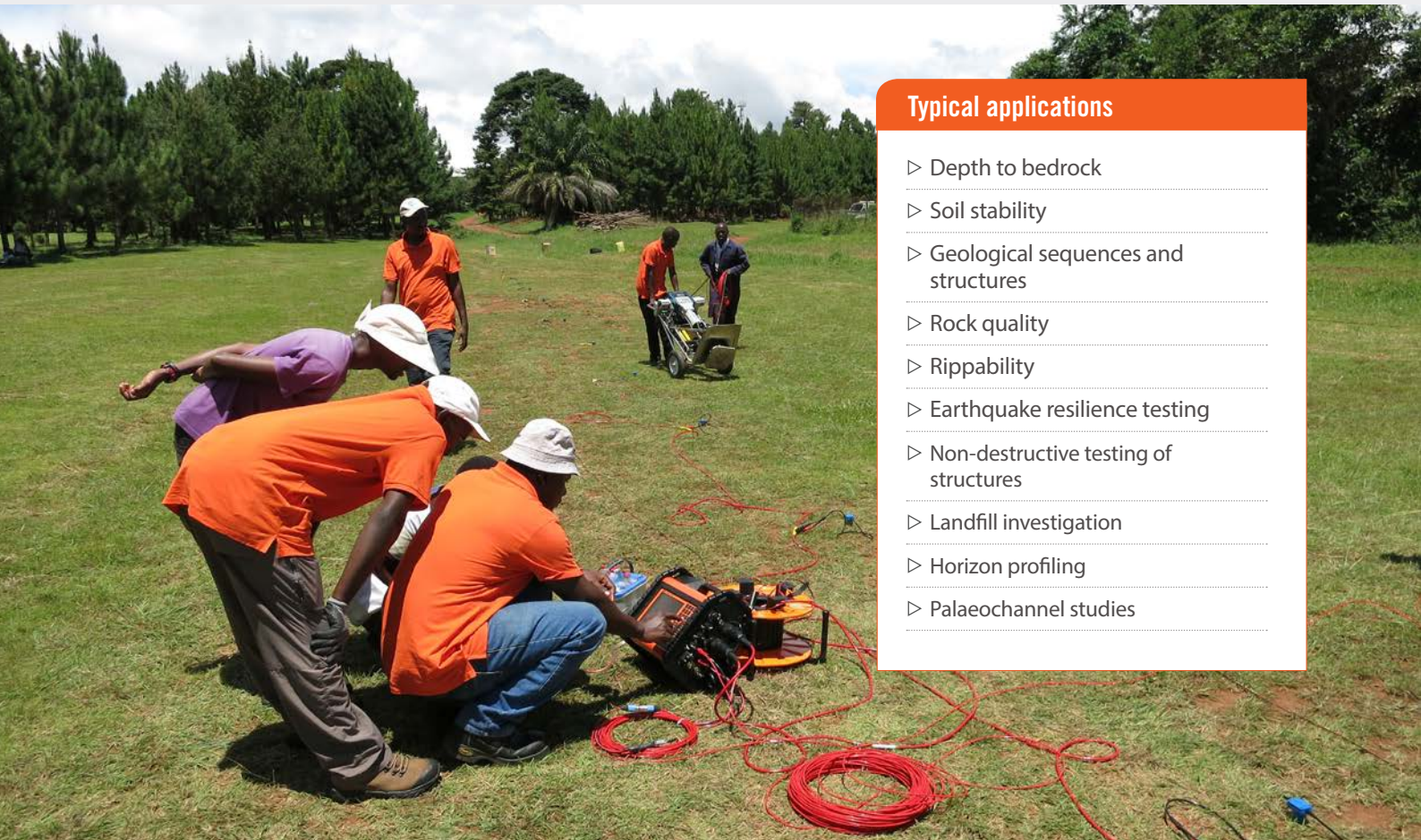
ABEM Terraloc Pro 2

ABEM Terraloc Pro 2 is a standalone system and comes with built-in computer, data storage, measurement channels and user interface. Measurements are conducted via a userfriendly graphical interface. The system is enclosed in a rugged and robust aluminum casing meeting IEC IP66 classifications, allowing measurements to be made in all situations and environments.

Three different configurations of ABEM Terraloc Pro 2 are available, having 12, 24 and 48 channels. If more channels are needed, several units can be interlinked. ABEM Terraloc Pro 2 can be paired with almost any seismic accessory allowing fully customized solutions to meet every need.

A wide range of high quality cables for land, marine and borehole measurements together with geophones suitable for any type of seismic method are available. Different types of trigger solutions and energy sources can be supplied.

The new ABEM Terraloc Pro 2 system has a built-in quad-core computer that runs a stable Linux operating system, and is equipped with connectivity including GPS, WiFi, Ethernet and USB. For diagnostic purposes, service or upgrades the ABEM support team can remotely connect to the instrument, regardless of location.



Typical applications

- ▷ Depth to bedrock
- ▷ Soil stability
- ▷ Geological sequences and structures
- ▷ Rock quality
- ▷ Rippability
- ▷ Earthquake resilience testing
- ▷ Non-destructive testing of structures
- ▷ Landfill investigation
- ▷ Horizon profiling
- ▷ Palaeochannel studies

ABEM Terraloc Pro 2

Evolution reaches new levels of perfection

ABEM has been developing seismographs for over 30 years and are still pushing the boundaries of achievement with each new development. ABEM Terraloc Pro 2 is the latest in a great line of near surface seismographs, succeeding innovations like the Terraloc Mk2, Mk3, Mk6, Mk8 and Pro. With superior specifications and a long list of available accessories the possibilities are almost endless. Whether it is cross-hole testing, MASW, reflection, or a marine refraction survey; ABEM Terraloc Pro 2 is a great companion. The graphical user interface comes with a wizard mode, making it quick and easy to set up the instrument for a survey. For the advanced user, it is still possible to configure and tweak all parameters. Matched with powerful data processing software, the raw data can be converted to a model so that the user can easily interpret and understand the end results.

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***Guideline Geo** is a world-leader in geophysics and geo-technology offering sensors, software, services and support necessary to map and visualize the subsurface. Guideline Geo operates in four international market areas: Infrastructure – examination at start-up and maintenance of infrastructure, Environment – survey of environmental risks and geological hazards, Water – mapping and survey of water supplies and Minerals – efficient exploration. Our offices and regional partners serve clients in 121 countries. The Guideline Geo AB share (GGEO) is listed on NGM Equity.*

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ABEM Terraloc Pro 2

SEISMIC SOLUTIONS

Well-rounded seismograph for any application

ABEM Terraloc Pro 2 is a versatile seismograph designed for a wide range of applications including; geological mapping, determining depth to bedrock, bedrock quality, soil stability and finding fractures and weak zones.

General

Power	2x 11.25 V, 6.4 Ah internal Li-Ion power pack 10-28 VDC external power
Power consumption	30/60 W (idle/acquisition)
Ambient temp	-20 °C to +55 °C (operating)
Ambient temp	-30 °C to +70 °C (storage)
Casing	Rugged aluminum alloy, meets IEC IP66
Weight,24 channels	10 kg
Weight, 48 channels	11 kg
Dimensions	39x21x32 cm (WxLxH)
Connectors	12 channels: 1x NK-27 24 channels: 2x NK-27 48 channels: 2x KPT 55

Receiver

Number of channels	12, 24 and 48
Additional channels	Easily obtained by linking two or more units together
Up-hole channels	Yes, 2 additional independent
Sampling rate	100 Hz - 50 kHz (20 µs - 10 ms) (user selectable)
Record length	Up to 480 000 samples /ch. equivalent to: 5,1 ms - 80 min (user selectable)
Pre-trig record	0-100 % of record length (user selectable)
Delay time	Up to 2 minutes (user selectable)
Stacking	32 bits, up to 999 impacts (user selectable)
Unstack	Remove last shot from stack (user selectable)
Trigger inputs	Trigger coil, make/break, geophone and TTL
A/D converter resolution	24 bits
Dynamic range	(theoretical/measured) 144 dB / >120 dB
Input voltage range	0.5 Vpp, 5 Vpp, 12.5 Vpp (selectable)
Input gain	0 dB, 12 dB, 24 dB, 36 dB, 48 dB (selectable)
Input impedance	3 kOhm, 20 kOhm, 20 MOhm (selectable)
Frequency range	DC to 20 kHz
Total harmonic distortion	0.0005 %
Crosstalk	-120 dB
Noise monitor	Amplitude
Anti-alias filters	Set automatically based on sampling rate

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Post recording features

Digital filters	Band-pass, low-pass, high-pass, band-reject and remove DC offset
Spectrum analysis	Any single trace, FFT analysis
Velocity analysis	On-screen analysis of refractor velocity
First arrivals picking	Automatic or manual
	Times can be saved with record
Pre-stack correlation	Yes, cross-correlation with reference or any other channel

Integrated Field PC

Processor	Low power Intel Atom with 4 cores of 1.9 GHz
Operating system	Linux Ubuntu
Internal RAM	4 GB
Hard disk capacity	100 GB or greater
Display	8,4“ Active TFT LCD, full colour, daylight visible, resolution of 800x600
I/O port	3xUSB 2.0 ports
Network interfaces	1x Gigabit Ethernet
WLAN interface	IEEE 802.11 a/b/g, built-in antenna

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