Shallow TEM survey in field

WTEM-2Q mainframe

PTT-40 antenna and adaptor

# WTEM-2Q Shallow Transient Electromagnetic System

Application:

- Metal mine, coalmine
- Oil and gas field, geothermal field
- Hydrology and engineering geological prospecting

Main features:

- Transmitter and receiver in one unit, portable and easy operation.
- High reliability, low power consumption
- Remote control for operation
- High anti-interference performance
- Multiple channels, high measurement accuracy
- Wide depth range prospecting
- Short turn-off time

TEM requires a specialized transmitter to drive a time-varying current into a transmitter loop, usually an ungrounded loop of wire laid on the surface. The transmitter loop generates an EM wave that propagates into the subsurface. As the EM energy encounters different subsurface materials, it induces eddy currents that generate secondary EM fields. These secondary EM fields are picked up at the surface by a receiver loop or magnetic antenna and recorded as the induced energy diffuses into the earth. The rate of diffusion indicates the resistivity of the subsurface materials.

Receiver loop
Transmitter loop

induced eddy currents at progressively later times after turnoff
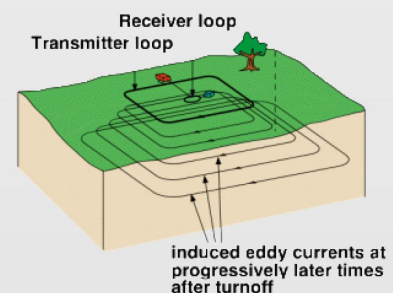
LANGEO CO., LTD

Email: sales@langeoinstrument.com
Web: www.langeoinstrument.com

Receiving

Number of channel	1
Pre-amplification gain	8, 32 times
Main amplification gain	1, 2, 4, 8, 16, 32, 64, 128 times
Band-pass	0~50k Hz (linear phased filter), full band-pass 0~400k Hz
Suppression	≥80dB
A/D	16bit
Min sampling interval	1μs
Crystal oscillation frequency error	≤5×10-9
Trace number	≤50
Stacking times	1~9999 time
Synchronization mode	cable synchronization; GPS synchronization
Power source	Built-in 12V rechargeable battery lasting for over 10 hours.
Pocket PC	pocket PC 2003 system, 320x240 true color, 64MB Flash Rom/ 64MB SDRAM, 64MB CF card, able to store over 100,000 groups of sampled data.
Ports	Bluetooth, infrared and serial

Transmitting

Transmitting voltage input	12V, 24V
Transmitting voltage	5.5V~ 8V (transmitting voltage input 12V), adjustable; or 5.5V~20V (transmitting voltage input 24V), adjustable
Transmitting current	≤10A
Current measurement precision	±1%
Power supply frequencies	4 Hz, 8 Hz, 16 Hz, 32 Hz
Transmitting waveform	+ON, OFF, -ON, OFF, equal width and dual polarity
Turn-off time range	1μs ~ 100.0μs
Turn-off time	≤2.5μs (when transmitting current is 3A), transmitting coil is single-turn 40m×40m
Transmitting coil	5m×5m single turn ~ 100m×100m single turn
Programmable damping resistance	50Ω ~ 1600Ω, 50Ω step programmable
Synchronization mode	external synchronization (cable)

Other

Battery recharging	charging voltage 12V, charging current ≤1.5A, for no more than 6 hours (automatically monitored)
Dimension	486mm×392mm×192 mm
Storage temperature	-20°C ~ +70°C
Weight	11.2kg
Working temperature	-10°C ~ +50°C