

Set for evaluation of soil stiffness and other parameters via geophysical methods

GNSS receiver (GPS system)

1. Multi-frequency GPS based GLONASS satellite tracking capability. GNSS channels support all GPS and GLONASS signals.
2. Long-range RTK positioning. Extended baseline range 40 km.
3. Supports GSM dial-up connections and NTRIP GPRS connections.
4. Connect to multiple Bluetooth® wireless peripherals for cable-free surveying.
5. Superior LED display panel.
6. Supports GPS L2C and GLONASS L1/L2 signals.
7. Continuous performance 8 working hours.
8. Complete protection against dust ingress, waterproof not worse than IP66.
9. NMEA Input/Output standard.
10. Data recording rate 20Hz.
11. GNSS receiver to offer complete compliance with the European Union's directive.
12. SDR, SSF or analogue data collection software. Data collection hardware.
13. Post-processing software (Complete Windows®-based software package for adjusting and analyzing GPS surveying data, completely compatible with proposed receiver).
14. Rugged, field-ready carrying case.
15. Possibility of positioning in urban areas and in areas with dense tree coverage. Convenient rover setup.

POSITIONING ACCURACY (not worse parameters as):

Static	H: 3.0mm + 0.5ppm V: 10.0mm + 1.0ppm
Rapid Static	H: 5.0mm + 1.0ppm V: 10.0mm + 1.0ppm
Kinematic, Stop-and-Go	H: 10.0mm + 1.0ppm V: 20.0mm + 1.0ppm
RTK	H: 10.0mm + 1.0ppm V: 15.0mm + 1.0ppm
WASS/EGNOS DGPS	H: <0.5m (CEP)
Stand-alone Position	H: 1.5m (CEP)
Latency	0.02s
RTK Initialization	3-10s

Earth resistance (Electronic tomography)

Measuring instrument:

- Electrode Capacity: 32 to 128;
- Output Current: 0.5 - 200mA;
- Output Voltage: 360V peak to peak;
- Cycle Time: 2.1, 4.2 & 8.4 sec. (Sounding);
- No. of Cycles: 1, 2, 4 & 16 (Sounding);
- Input Impedance: 22 MOhms;
- Measurement Range: 0.001 - 400 kOhms;
- Power Supply: Internal Rechargeable 12v DC.

Cables:

- 4 cables with 32 takeouts and 6 m intervals.

Electrodes:

- Not less 150 electrodes.

Radar System 2D/3D

1. Double Channel GPR:

- Number of channels: 2;
- Time range: user selected from 1 to 2000 ns with ≤ 1 ns step;
- Transmit rate: 115 KHz;
- Scan rate: not worse than 80 scans per second;
- Samples per scan: 512 x 16 bit;
- Input power: 10.5-13 V DC 0.4 A (belt-mounted rechargeable battery);
- Filters: user selected high pass filter from set: 0.00; 400; 800 Hz;
- Data transfer: through Ethernet to PC.

2. 900 MHz antenna unit, shielded, surface coupled, CE Certified:

- Resolution & depth: 0.2 x 3-5 m;
- Power: 0.35 A @ 12 V DC by cable from control unit;
- Transmitter output: ~ 400 V, voltage variation +/- 10%;

3. 500 MHz antenna unit, shielded, surface coupled, CE Certified:

- Resolution & depth: 0.5 x 7-10 m;
- Power: 0.35 A @ 12 V DC by cable from control unit;
- Transmitter output: ~ 400 V, voltage variation +/- 10%;

Magnetometer

1. Integrated GPS option (Internal / External GPS Options).
2. Expandable memory 32 Mbytes.
3. Programmable base station.
4. Rapid data transfer using advance software.
5. Portability characteristics (ruggedness, light weight and power consumption). Capable of withstanding temperature, humidity and terrain extremes.
6. Data dumping times: 115 kBaud.
7. Performance: sensitivity: $< 0.015 \text{ nT} / \sqrt{\text{Hz}}$; resolution: 0.01 nT; absolute accuracy: +/- 0.1 nT; gradient Tolerance: $> 10,000 \text{ nT/m}$; measurement step of samples: 60+, 5, 3, 2, 1, 0.5, 0.2 sec; operating temperature: -40C to +55C.
8. Operating Modes: Manual (coordinates, time, date and reading stored automatically at minimum 3 second interval); Base Station (time, date and reading stored at 3 to 60 second intervals); Remote Control (optional remote control using interface); Input / Output and 6-pin weatherproof connector.

Standard Components (GSM-19 console, software, batteries, harness, charger, sensor with cable, RS-232 cable, staff, instruction manual and shipping case).