

GeoPulse Compact OTS

Side-Mounted Sub-Bottom Profiler for Shallow Water Operation



OVERVIEW

The GeoPulse Compact OTS is an advanced high-performance sub-bottom profiler designed for rapid deployment and ease of use.

Lightweight and robust with low power consumption, the system contains a newly designed transducer and hydrophone which is combined with state-of-the-art, adjacent transmit and receive electronics to outperform any other system in the same size and weight class.

The GeoPulse Compact OTS is designed for use in shallow water and can work at depths less than 1 m by receiving on the hydrophone while the transducer is active.

The system is shipped with the latest version of Chesapeake SonarWiz© software, for control, visualisation and data processing.

The GeoPulse Compact OTS is also available as a towed version with up to 500 m of tow cable.

KEY FEATURES

- Lightweight and rugged design
- Wide frequency range
- Output power up to 1 kW
- Low power: 10 - 30 VDC (30 W)
- Operates down to 100 m+
- Penetration up to 80 m
- Resolution as small as 6 cm

APPLICATIONS

- Pipeline detection
- Geological surveys
- Dredging surveys
- Environmental surveys
- Buried object detection

Interface Box (Model GP01)

Mechanical	Anodised aluminium case
Physical	Dimensions: 268 mm (D) x 350 mm (W) x 103 mm (H) (excluding connectors) Weight: 7 kg
Environmental	10 % - 95 % RH, non-condensing 0 °C – 40 °C (operation), -20 °C – 75 °C (storage) IP66 rated (including mating connectors), IP66 rated connector covers supplied
Connectors	Power in, deck/tow cable, 3 x Serial PPS input, external trigger input
Indicators	Power in, HV, Time sync, Sonar link
Power	Power Input: 10 VDC – 34 VDC (24 VDC nominal recommended) Reverse polarity and overvoltage protected Power: 30 W typical plus transmitter power Transmitter power usage: 1 W – 35 W
AC Input	Mains Adaptor Supplied. Input: 90 VAC – 305 VAC, 47 Hz – 63 Hz Output: 24 VDC nominal, 120 W capable Short circuit & over-current protected. IP65 rated
Serial	3 x RS232 with overvoltage protection Range of baud rates selectable
PPS	TTL level, protected, edge selectable

Acquisition Software

Type	SonarWiz fully featured SBP with control interface (locked for use with GeoPulse Compact)
Features	Control of all system parameters Full range of processing tools Data export in industry standard formats 1 year of maintenance included

Towfish (Model GP06)

Mechanical	Anodised aluminium/acetal construction, fibreglass shell covers. All parts 1000 m depth rated
Physical:	Dimensions: 900 mm (L) x 300 mm (W) x 280 mm (H) (exc. connectors) Weight: 24 kg

TRANSMIT

Output Power	1 kW peak (adjustable as % of full scale)
Waveforms	Pinger: Frequency and cycles select: 1 – 32 cycles (in 1 cycle steps). 4 – 15 kHz (in 0.1 kHz steps). Ricker: Spread spectrum (select by highest frequency component). 4kHz – 15 kHz (in 0.1 kHz steps) Chirp: Range of sweeps available with 5, 10 or 15 kHz bandwidth, 8, 16 or 32 ms length, using frequencies between 1.5 kHz – 18 kHz
Rep Rate	Up to 20 PPS (waveform dependent)

ACOUSTIC

Source Level	Source Level Up to 196 dB ± 3 dB re 1 µPa @ 1 m
Beamwidth	Along track (hydrophone Rx): (two way) 35° at 5 kHz, 18° at 10 kHz, 12° at 15 kHz Along Track (Transducer Rx): 45° at 5 kHz, 25° at 10 kHz, 35° at 15 kHz
Resolution	Resolution 6 cm (using 15 kHz “Chirp” sweep)
Penetration	Penetration Up to 80 m (fine clay), up to 20 m (sand)

RECEIVE

Acquisition	Dual channel, 800 kHz front end sampling, 50/100 kHz sample output, 24 bit
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Specifications subject to change without notice. E&OE