Innomar standard-usv

Parametric Sub-Bottom Profiler

A **NORBIT** Company





General & Applications

- First / latest product generation: 2020 / 2024
- Small boats and vehicles
- Integration into USV and ASV of all scales
- Remotely controlled and automomous operation

Performance

- Water depth range: 0.5–500 m
- Seabed penetration: up to 50 m (depending on seabed type and noise)
- Range resolution: up to 5 cm (depending on pulse settings)
- Depth accuracy: 2.5 cm + 0.06% water depth
- Motion compensation: Heave and Roll (±16°) (beam forming at transmit only; external sensor data required)

Transmitter

- Principle: parametric (nonlinear) acoustics
- Frequencies: 100 kHz (HF) / 4–15 kHz (LF)
- Primary Source Level: >240 dB//µPa re 1m
- Acoustic Power: c. 3.5 kW
- Beam width: c. 4° (±2°) for all frequencies
- Pulse type: CW, Ricker, FM Chirp
- Pulse width: 0.07–1 ms (CW), 1.5 ms (chirp)
- Pulse rate: up to 40 Hz, multi-ping mode

Data Acquisition

- Digital, 2 channels (LF and HF, "SES3" format)
- Sample rate c. 100 kHz @ 24 bit; resolution <1 cm
- LF sub-bottom data: raw (full-waveform)
- HF data: processed (envelope)

System Components

- Deck unit (transceiver electronics, IP20): Housing 19 inch / 4 U, rack-mountable W 45 cm × D 36 cm × H 18 cm / c. 16 kg
- Transducer (no depth rating): W 34 cm × D 26 cm × H 8 cm / c. 9 kg (w/o cable) cable length 7–15 m, moulded to transducer
- External AC power adapter (100–240 V AC)
- System control PC (not included): MS Windows® based

Optional Features

- Water-proof transducer cable inline connection
- Transducer mounting kit with shock absorbers
- SESWIN extended remote-control

Power Supply Requirements

- 24 V (20–30 V) DC
- Power consumption: typ. 80 W / max. 200 W
- Power-on inrush current: max. 15 A

Software

- SESWIN data acquisition software
- SES-Convert SEG-Y/XTF data export
- SES-NetView remote display
- ISE post-processing software (optional)

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