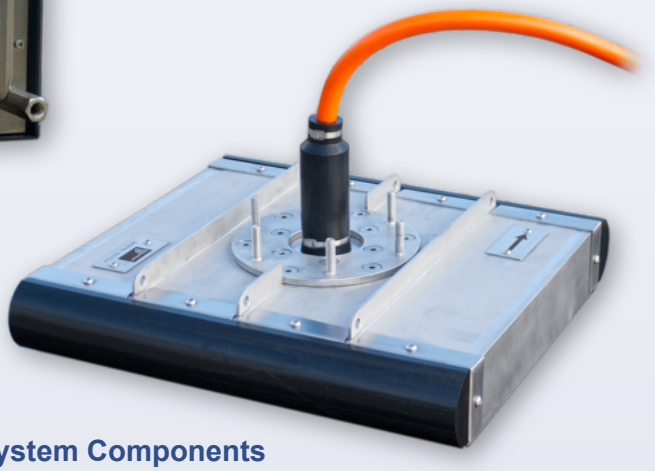
Innomar medium-usv

Parametric Sub-Bottom Profiler

A **NORBIT** Company





General & Applications

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

Performance

- Water depth range: 2–2,000 m
- Seabed penetration: up to 70 m (depending on seabed type and noise)
- Range resolution: up to 5 cm (depending on pulse settings)
- Depth accuracy: 2.5 cm + 0.05% water depth
- Motion compensation: Heave, Roll or Pitch (beam forming at transmit only; external sensor data required)

Transmitter

- Principle: parametric (nonlinear) acoustics
- Frequencies: 100 kHz (HF) / 4–15 kHz (LF)
- HF Source Level: c. 242 dB (rms) / 248 dB (peak)
- Beam width: c. 2° × 2.5° for all frequencies
- Pulse type: CW, Ricker, FM Chirp
- Pulse width: 0.07–1 ms (CW), 3.5 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 / weight c. 18 kg
- Transducer (no depth rating, w/o cable & fairings): dimensions W 39 cm × D 49 cm × H 11 cm / weight c. 34 kg (in air) / c. 19 kg (in water)
- Cable: 10 (7–15) m / c. 8 kg, moulded to transducer
- Fairings: W + 10 cm / c. 6 kg (in air) / c. 3 kg (water)
- External AC power adapter (100–240 V AC)
- System control PC (not included): MS Windows® based

Optional Features & Items

- Bulkhead connector at the transducer
- Transducer silencer kit with shock absorbers
- Transducer hull mounting frame with silencers
- SESWIN extended remote control

Power Supply Requirements

- 24 (20–30) V DC
- Power consumption: typ. 100 W / max. 300 W
- Power-on inrush current: c. 15 A

Software

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

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