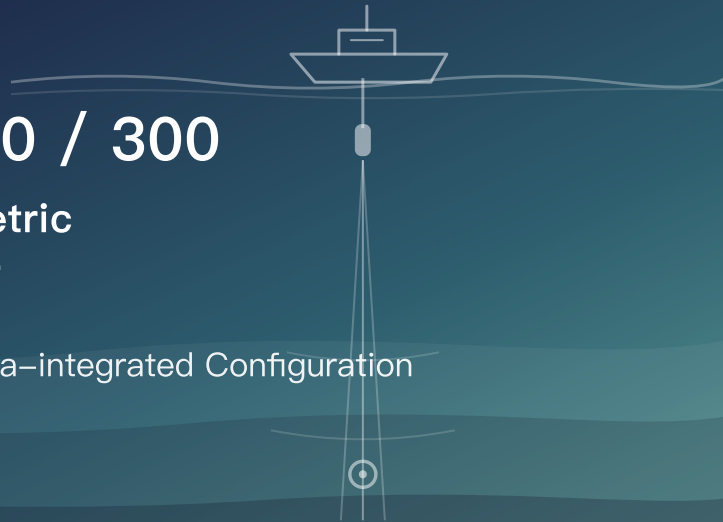




GeoScope 200 / 300

Submersible Parametric Sub-bottom Profiler

GeoScope Series · Subsea-integrated Configuration



Description

GeoScope 200 / 300 is the submersible member of the GeoScope series manufactured by Ocean Physics. The processing electronics are built into the pressure housing of the transducer, leaving a single slim cable to the surface — no deck space is taken and no separate topside processing unit is required.

The higher primary frequency options of 200 kHz and 300 kHz buy finer resolution and a narrower beam. **Range resolution reaches 4 cm at a primary beamwidth of about 3 degrees, which suits very shallow water, siltation layers and fine structures;** optional harmonic bathymetry reaches 1.25 cm (200) and 0.8 cm (300).

Power consumption stays below 35 W on 24 VDC, with Ethernet communication and direct PC control. The titanium pressure housing is rated for 300 m (stainless steel optional). SPAS acquisition and LayerData Pro post-processing are supplied as standard, compatible with SonarWiz.

Application

- ▶ Geological and geophysical investigation
- ▶ Sedimental survey and analysis for dredging projects
- ▶ Routing survey and cable-laying
- ▶ Marine mineral investigation
- ▶ Sub-bottom searching of cables, obstacles and boulders, etc.
- ▶ Underwater archaeological survey of shipwrecks, relics and geological subsidence, etc.

Features

- ▶ **Electronics subsea, not on deck**
Processing is built into the transducer housing and reaches the PC through one slim cable — no deck box, no payload bay taken.
- ▶ **Under 35 W**
About a quarter of the split-unit class, leaving endurance to battery-powered unmanned platforms.
- ▶ **One head, many platforms**
Titanium housing rated for 300 m — USV pole mounting and ROV / AUV integration share the same product.
- ▶ **Small frontal area, steadier survey**
The one-piece cylinder (Ø165 / Ø120 mm) reduces flow disturbance for high-speed towing and small platform installation.

Technical Specifications of GeoScope 200 / 300

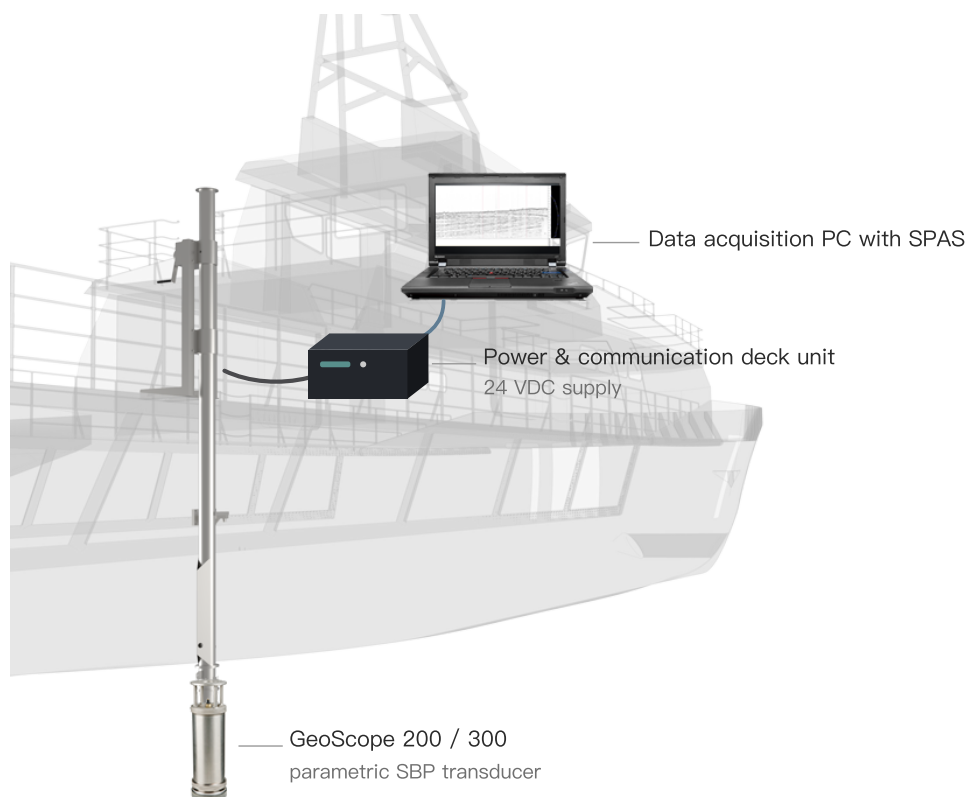
Technical Specifications	GeoScope 200	GeoScope 300
Primary Frequency	180 – 220 kHz	270 – 330 kHz
Secondary Frequency	10 – 35 kHz	20 – 40 kHz
Pulse Length	0.05 – 0.5 ms	
Pulse Type	CW, Chirp optional	
Ping Rate	up to 7 pings/s	
Beamwidth @ Primary Frequency	3.0 ± 0.2 deg	2.9 ± 0.2 deg
Beamwidth @ Secondary Frequency	3.4 – 4 deg	3.2 – 3.8 deg
Source Level @ Primary Frequency	≥236 dB/μPa@1m 200 kHz	≥236 dB/μPa@1m 300 kHz
Source Level @ Secondary Frequency	≥194 dB/μPa@1m 20 kHz	≥194 dB/μPa@1m 30 kHz
Dynamic Range	≥110 dB	
Range Resolution	≤4 cm	
Sediment Penetration	≤25 m	≤15 m
Operating Range	≤100 m	≤50 m
Heave/Roll/Pitch Compensation	heave, subject to external sensor data	
Bathymetry Resolution (optional)	1.25 cm	0.8 cm
Physical Specifications	GeoScope 200	GeoScope 300
Power Consumption	less than 35 W	
Power Supply	24 VDC or 220 VAC to 24 VDC	
Communication	Ethernet, RS485 to USB, PC control	
Dimension and Weight of Transducer	415 mm × Ø165 mm, 9 kg	415 mm × Ø120 mm, 8 kg
Materials of Housing	titanium or stainless steel optional, rated 300 m	
Data Acquisition and Post-processing Software	SPAS acquisition and LayerData Pro post-processing as standard; compatible with SonarWiz	

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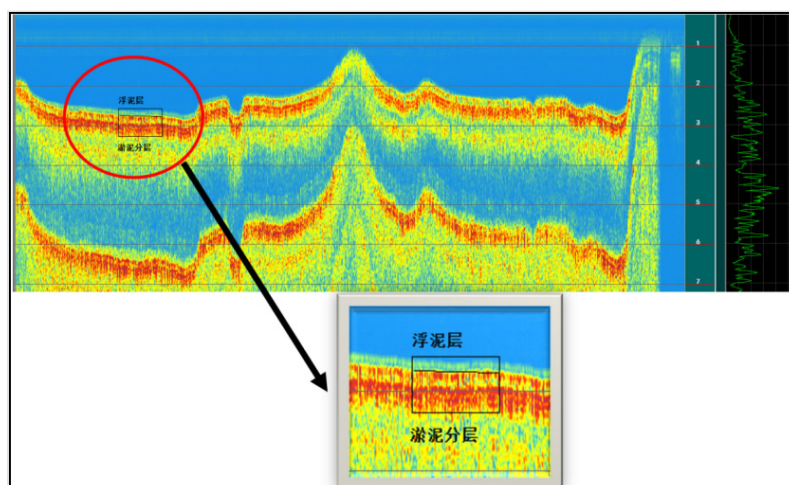
The datasheet may be changed without notification.

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System Scheme of GeoScope 200 / 300



Data Examples by GeoScope 200 / 300



Fluid Mud and Silt Stratification Survey