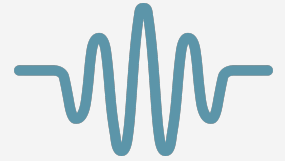


Omniscan3D

Datasheet



From **\$7,490** - Capture real-time 3D point cloud imagery to transform complex underwater environments into actionable spatial insight.

The Omniscan 3D 450 SS introduces a new level of underwater perception, delivering dense, real-time 3D point cloud imagery in a compact, modular sonar system. Designed for ROVs, AUVs, and USVs, it enables operators to visualize underwater structures, terrain, and targets with true spatial awareness—transforming complex acoustic returns into intuitive 3D data.

With 3D performance traditionally reserved for significantly larger and more expensive systems, the Omniscan 3D 450 SS makes high-density 3D underwater imaging more accessible than ever.

Omniscan 3D— Transform underwater complexity into clear 3D insight for precision and spatial clarity.

Product Strengths

- Real-Time Perception
- High-Density Point Cloud Imaging
- Instant Situational Awareness
- Longer Range Scanning
- Compact, Vehicle-Ready Design



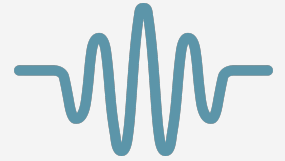
To Learn More

Cerulean Sonar

www.ceruleansonar.com

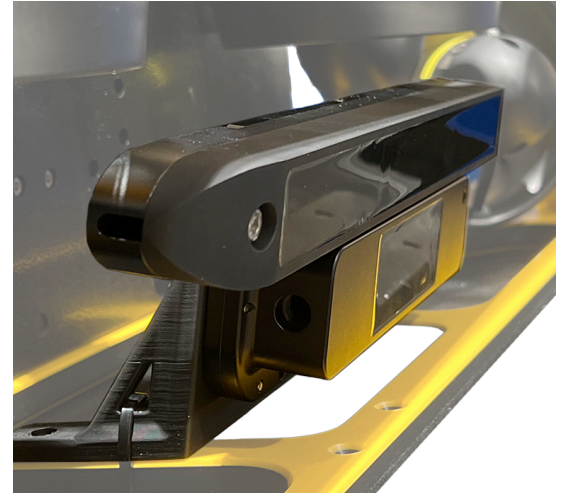
Omniscan3D

Datasheet



Attributes	OS3D 450 SS
Frequency (nominal)	450 kHz
Side scan beam width (2 way)	0.5 deg
Point cloud along track beam width (1 way TX beam)	0.8 deg
Cross track angle resolution (source)	< 1 deg (angle of arrival)
Cross Track (vertical) beam width (each side)	TX: 90 deg (nominal @-10dB)
Max range 2D side scan	150m slant range per side
Max range 3D point cloud	100m slant range per side
Range Resolution	1/1000th of range settings
Number of RX array elements	16
Maximum ping rate	20 Hz
Point cloud data	angle, time of flight, relative amplitude
IMU sensors	pitch and roll
Timing synchronization	direct sync to ntp server
Power	10-30V, 15 watts max (pinging)
Data interface	100BaseT Ethernet (Ethernet switch required)
PCBA housing	separate PCBA must be housed in vehicle water tight enclosure
Electrical connection	TX PCBA has a 3-position transducer interface, a 4-pin JST for the Ethernet interface, and a 2-pin JST for the power. RX Receiver has a single cable w/4 pin JST for Ethernet data + 2 wires for power and ground
Recommended mounting angle	20-30 degrees downward from horizontal
Max operating depth	300m
Weight in air	881g
Weight in water	350g

Subject to change. See our website for the most current information.



Real-time 3D perception for confident inspection, even in zero visibility.

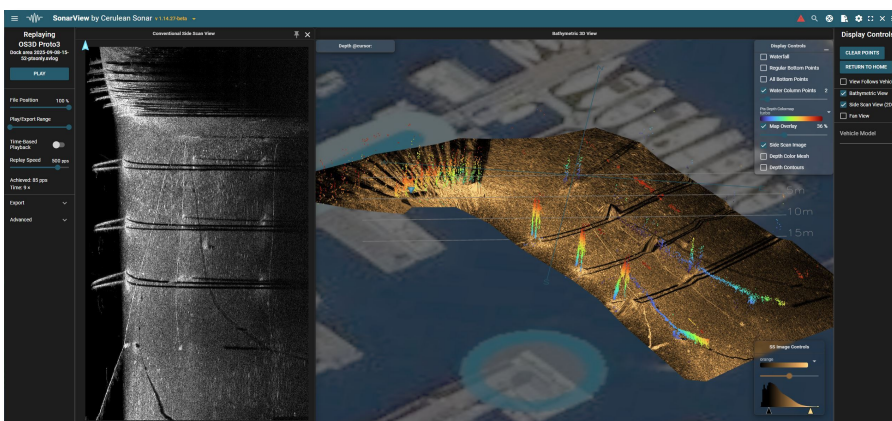
To generate dense, real-time 3D models of pipelines, risers, and subsea structures. Detect free spans, burial changes, deformation, and structural damage with measurable geometry — not just acoustic shadows.

Dredging & Seabed Monitoring.

Track dredging progress and monitor seabed morphology with dense 3D reconstruction. Detect slopes, sediment buildup, and excavation boundaries in real time for better operational control.

Environmental & Habitat Survey - Capture True Underwater Structure.

Generate detailed 3D models of reefs, riverbeds, and submerged habitats, combining geometry and acoustic texture to document environments where optical mapping isn't possible.



Cerulean Sonar

www.ceruleansonar.com