

Clariscan



KONGSBERG



High-performance Domed Sonar 975-21250000

Kongsberg Discovery's innovation in domed-sonar technology combines a wide-bandwidth composite transducer with a patented acoustic lens to provide unprecedented image clarity from a domed sonar head. The result is Clariscan - a high-performance, multi-frequency imaging sonar.

The problem

Oil-filled domes were introduced to provide protection and eliminate flooding on traditional exposed transducer shafts.

This innovation solved flooding issues but introduced beam defocusing in two conditions: warm & shallow, and cold & deep. The beam defocusing effect becomes more extreme in warm, shallow water as temperature increases and in cold, deep water as depth increases.

Our solution

We have designed an acoustic lens that maintains beam focus through operational temperature and depth changes, significantly improving sonar performance and resulting in images that are much sharper.

The Clariscan acoustic lens behaves like an optical contact lens, correcting refraction caused by oil in the dome.

Performance where you need it

The Clariscan has a depth rating of 4000 m and is part of Kongsberg Discovery's 1171 series of sonar heads. It has been optimized to meet the requirements of deep-ocean applications. These sonar heads provide the highest level of image quality.

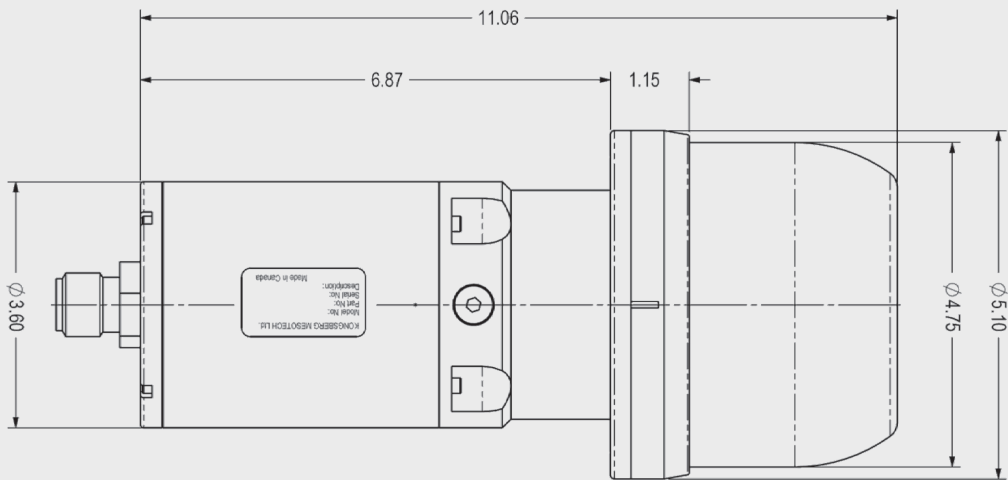
The telemetry is RS485 and RS232 compatible and is automatically sensed and configured at startup. The sonar head is configured and controlled using the MS1000 Software.

FEATURES

- Depth rating: 4000 m
- Robust design
- New acoustic lens technology
- Improved image resolution and sharpness
- Improved operating range and frequency

APPLICATIONS

- Target detection
- Infrastructure inspection
- Search and recovery
- Site inspection



Technical specifications

Clariscan Sonar 975-21250000

Performance

Tunable in 5-kHz steps from 300-600 kHz (excluding 570-580 kHz, which is blocked from use) and 605-1200 kHz in both CW and LFM modes.

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|----------------------------------|---|
| Preset frequencies / beam widths | 330 kHz / 2.7°x26°, 450 kHz / 2.2°x19°, 600 kHz / 1.6°x16°, 675 kHz / 1.4°x36°, 800 kHz / 1.2°x31°, 900 kHz / 1.0°x25°, 1000 kHz / 0.9°x22°, 1100 kHz / 0.8°x20° |
| Maximum range | 300 m @ 330 kHz, 100 m @ 675 kHz, 50 m 1000 kHz |
| Minimum range | 0.5 m |
| Range resolution | ≥3.75 mm (variable, determined by transmit-pulse width) |
| Sample options | 238, 476, 952, 1904 (Low Resolution, High Resolution, Zoom x 2, Zoom x 4) |
| Sampling resolution | 0.26 mm (0.5 m range @1904 samples), 21 mm (10 m range @ 476 samples) |
| Typical scan speed | 3.7 sec/360° @ 5 m and 1.8° step size (@ 460 kbps) |
| Nominal scan speed | 34 sec/360° @ 100 m and 1.8° step size (@ 460 kbps) |
| Scan angle | 360° continuous (user adjustable for limited sector scans) |
| Step size | 0.45° - 7.2° (user selectable) |
| Transmit pulse widths | 5 μs to 1000 μs (auto selected for optimized operation) |
| Receive bandwidth | Based on 'Wide' setting: 493 kHz (0.5 m range), 109 kHz (10 m range) |
| Telemetry | RS485 or RS232 asynchronous serial data |
| Downlink / uplink | 9600 bps to 921 kbps |

Fixed telemetry is user selected for compatibility with other serial communication equipment. Optimized telemetry is auto set to highest rate allowed by the quality of the telemetry link.

Physical / Environmental

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|-----------------------|--|
| Power requirement | 22-26 VDC @ ≤ 0.8 A |
| Operating temperature | -1° C to +40° C |
| Storage temperature | -1° C to +40° C |
| Operating depth | 4,000 m |
| Connector | Burton 5507-1508 |
| Materials | Aluminum 6061-T6, 300 Series S.S., Urethane |
| Finish | Anodized, Black/Blue MIL-A-8625 type II |
| Diameter | 5.1 in / 130 mm |
| Length | 11.06 in / 281 mm (excluding connector) |
| Weight in air | 9.0 lb / 4.1 kg |
| Weight in seawater | 3.9 lb / 1.8 kg |
| Coupling Capacitance | 32 nf (case to common) |

Specifications subject to change without any further notice.