



KONGSBERG

# 4000 m Multi-Frequency Imaging Sonar Head with Composite Transducer & Acoustic Lens

## P/N 975-21210000

The 4000 m 1171 series of sonar heads has been optimized to meet the requirements of deep-ocean applications. These sonar heads provide the highest level of image quality. The wide-band composite transducer is protected within an oil-filled, pressure-compensating dome. The transducer features a patented<sup>1</sup> salt water-filled acoustic lens that maintains beam focus throughout the entire temperature and depth operating range. 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.

Frequency Range:	Tunable in 5 kHz steps from 300 – 600 kHz <sup>2</sup> and 605 - 1200 kHz in both CW and LFM modes
Preset Frequencies:	330 kHz 450 kHz 600 kHz 675 kHz 800 kHz 900 kHz 1000 kHz 1100 kHz
Beam Widths:	2.7° x 26° 2.2° x 19° 1.6° x 16° 1.4° x 36° 1.2° x 31° 1.0° x 25° 0.9° x 22° 0.8° x 20°
Maximum Ranges:	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)
Range Sample Options:	238, 476, 952, 1904 (Low Resolution, High Resolution, Zoomx2, Zoomx4)
Sampling Resolution:	0.26 mm (0.5 m range @ 1904 samples), 21 mm (10 m range @ 476 samples)
Scan Speed:	Typical: 3.7 sec/360° @ 5 m and 1.8° step size (@ 460 kbps) Nominal: 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:	5µs to 1000µs (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
	Fixed Downlink: 9600 bps to 921 kbps (user selected for compatibility with other serial communication equipment) Uplink: same speed as downlink
	Optimized Downlink: 9600 bps to 921 kbps (auto set to highest rate allowed by the quality of the telemetry link) Uplink: same speed as downlink
Power Requirement:	22 - 26 VDC @ ≤ 0.8A
Temperature Range:	-10° to +40°C operating, -30° to +40°C storage
Operating Depth:	4000 m
Connector:	Seacon CS-MSAJ-5-BCR
Materials:	Aluminum 6061-T6, 300-Series S.S., Urethane
Finish:	Anodized, Black/Blue MIL-A-8625 type II
Dimensions:	Diameter: 5.1 in/130 mm Length: 11.5 in/292 mm (excluding connector)
Weight	In Air: 9.0 lb/4.1 kg In Seawater: 3.9 lb/1.8 kg

<sup>1</sup> US Patent 8,879,360 B2

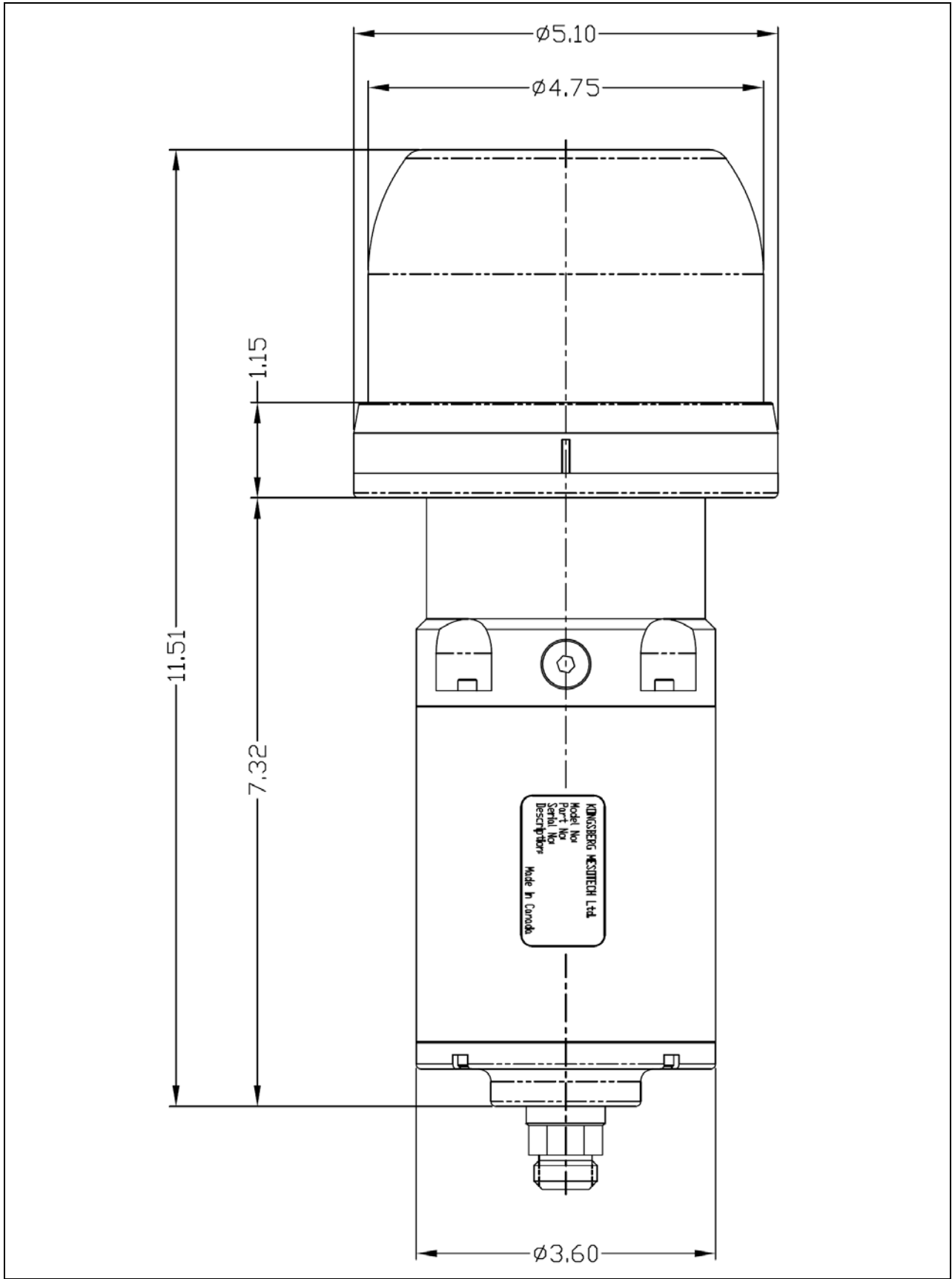
<sup>2</sup> Excluding 570 – 580 kHz, which is blocked from use.

Specifications subject to change without notice

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