Super SeaKing DST

Dual Frequency Digital CHIRP Sonar

MOOG

Advanced CHIRP signal processing for clear and high resolution imagery

The Super SeaKing DST is a digital CHIRP dual frequency sonar capable of operating in Low Frequency or High Frequency modes. When operating in Low Frequency mode the sonar has a true operational range of 300m. Switching to High Frequency mode the same sensor is capable of providing a high definition image at shorter range.

The very latest in composite transducer and CHIRP technology has been used to produce the advanced Super SeaKing Dual Frequency CHIRP Sonar. It delivers the clearest images available, at operating ranges previously unobtainable.

CHIRP technology dramatically improves the range resolution compared with conventional sonars. Resolution can be improved by a factor of five times.

The Super SeaKing DST shares many of the features of the earlier SeaKing, which has been chosen as the standard obstacle avoidance sonar in many of the professional ROV fleets around the world.

In addition, a modular transducer design and longer life slip ring assembly have been introduced to minimise the consequences of operational damage and to further improve upon the SeaKing's already excellent reliability.

Benefits
- Reliable, robust, proven design
- Two operating frequencies
- Easy integration
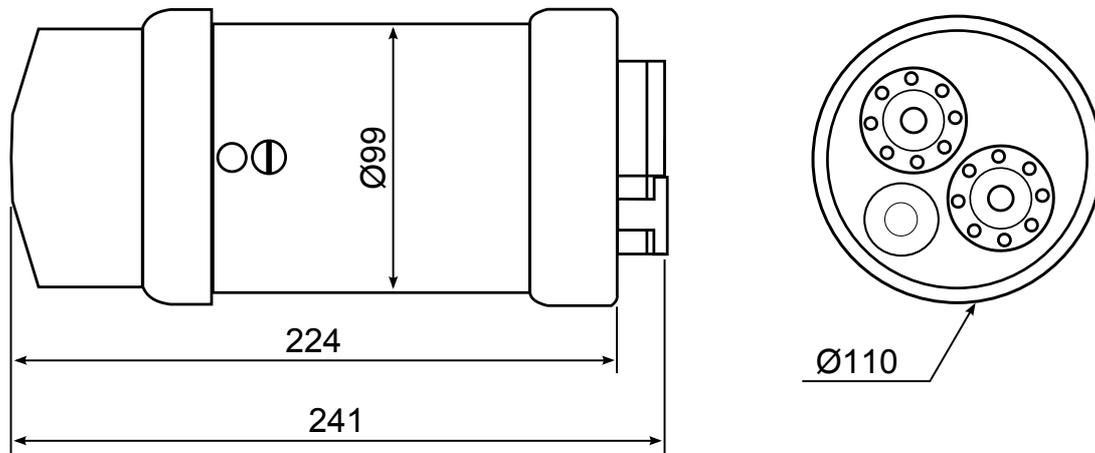- Tune-able frequency ranges

Features
- Digital CHIRP system
- Composite material transducer
- 4000 or 6800m depth rating
- Various connector options
- RS232, RS485 and ARCNET

Applications
- ROV/AUV obstacle avoidance
- Target recognition
- Harbour surveillance
- Port security

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Not to scale, dimensions in mm.

Acoustic	High Frequency	Low Frequency
Operating frequency	CHIRP centred on 650kHz	CHIRP centred on 325kHz
Beamwidth	40° vertical, 1.5° horizontal	20° vertical, 3.0° horizontal
Pulse length	200µs	400µs
Maximum range	100m	300m
Minimum range	0.4m	
Range resolution	approximately 15mm (minimum)	
Mechanical resolution	0.45°, 0.9°, 1.8°, 3.6°	
Source level	210dB re 1µPa at 1m	
Scanned sector	Variable up to 360°	
Continuous 360° scan?	Yes	
Sector offset mode?	Yes	

Physical	
Weight in air	3kg (aluminium)
Weight in water	1.4kg (aluminium)
Materials	Anodised aluminium body (6Al4V titanium alloy optional)
Depth rating	4000m standard 6800m optional
Temperatures	Operating: -10 to 35°C Storage: -20 to 50°C

Electrical and Communication	
Power requirement	20 to 36V DC at 15VA
Protocols	ARCNET, RS232, RS485 (AUX)
Rate	ARCNET: 156kbit·s^{-1} (maximum) RS485/RS232: 115.2kBd (maximum)
ARCNET line driver	1500m at 156kbit·s^{-1} 2500m at 78kbit·s^{-1}
Connector options	Tritech 6-pin (standard) Others available on request