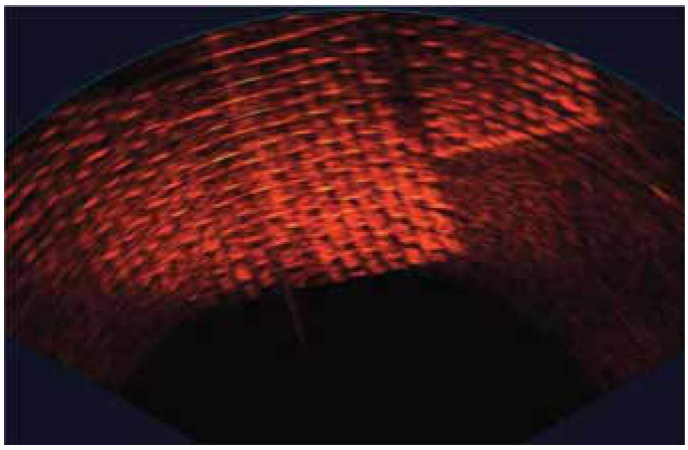
Gemini 720i

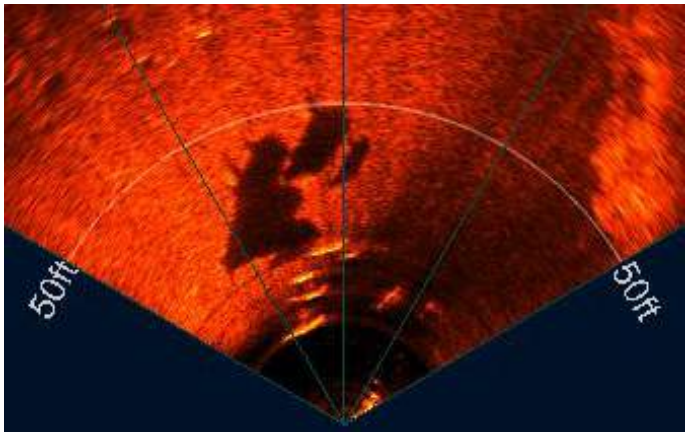
Real Time Multibeam Imaging Sonar

Real time target tracking and visualisation in the underwater environment

The Gemini 720i is a real time high frequency imaging solution, which is suitable even for a very small ROV or AUV. With a 720kHz operating frequency and state of the art processing electronics the Gemini 720i produces images of superb clarity. An integrated sound velocity sensor assists in providing the sharpest image possible with accurate ranging. Network all your Tritech sensors together via Seanet Pro Software, choose the Gemini Standalone Software for control and display or upgrade to Gemini SeaTec Software for target tracking.



Gemini sonar image of a pipeline mattress



Gemini sonar image of a school of dolphins (image courtesy of Centre of Marine Science and Technology, Curtin University).

Benefits

- Near field focussing
- 8mm range resolution
- Crisp, clear, wide angle field of view
- Use in low visibility environments
- Real-time imagery
- Increased target acquisition
- Easier interpretation of sonar imagery
- Flexible interfacing for an ROV/AUV

Features

- 720kHz operating frequency
- 120° field of view (10° downward tilt)
- Integrated velocimeter for accurate ranging
- Weighs only 1.2kg in water
- Ethernet or VDSL communications
- Network all Tritech sensors in Seanet Pro
- Gemini SeaTec Software upgrade available
- Software Development Kit available

Applications

- ROV/AUV Navigation
- Search and Rescue (SAR)
- Obstacle Avoidance
- Target Recognition
- Salvage Operation
- Sub-sea Monitoring & Inspection
- Object detection
- Target tracking

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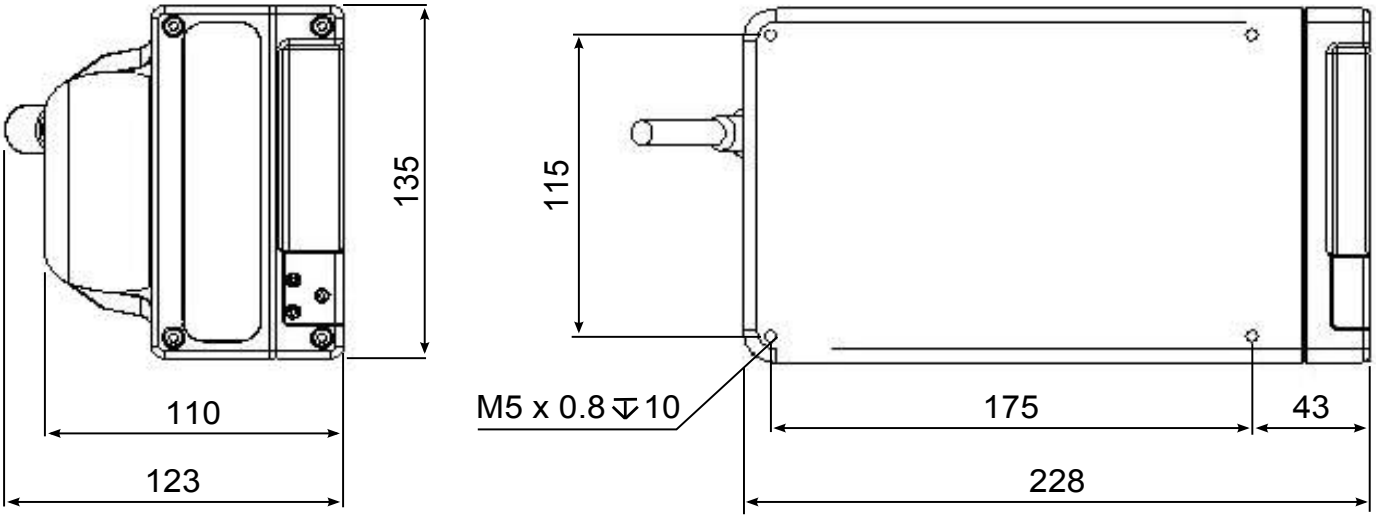
Specification



Not to scale, dimensions in mm.

Acoustic Specifications	
Operating Frequency	720kHz
Angular Resolution	1.0° acoustic, 0.5° effective
Transducer Angle	10° downward tilt
Scanning Sector	120°
Number of Beams	256
Vertical Beamwidth	20°
Range	0.2m to 120m
Scan Rate	5 – 30Hz (range dependent)
Range Resolution	8mm (range dependent)

Interface	
Power Consumption	35W maximum (range dependent, head unit only)
Supply Voltage	20 – 75V DC
Communications Protocols	Ethernet (up to 80m) or VDSL (up to 1000m)
Additional I/O	RS232, Isolated TTL in
Connector Type	Impulse Titan
VDSL cable length	Maximum length for VDSL and power is 300m, if power is provided locally (e.g., by the ROV), then cable length for VDSL communications is 1000m.

Physical Specifications	
Depth Rating	300m
Weight in Air	3.9kg
Weight in Water	1.2kg
Temperature Ranges	-10 to 35°C (operating), -20 to 50°C (storage)

Specifications subject to change according to a policy of continual development.

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