Gemini 1200ik

High resolution, dual-frequency imaging multibeam

Applications

- ROV/AUV navigation
- Obstacle avoidance
- Detailed object imaging
- Diver Mounted Display
- Subsea monitoring and inspection

The Tritech Gemini 1200ik multibeam sonar operates at two acoustic frequencies, 720kHz for long range target detection, and 1200KHz for enhanced high resolution imaging at shorter ranges. Switching between acoustic frequencies is done either manually or automatically at a range set by the user.

Benefits

- Switch between 720kHz and 1200kHz
- Long range object detection
- Short range detailed imaging
- Compact and easy to install
- 350m depth rating

Features

- Real-time updates for video-like imagery
- 120˚ field of view
- CHIRP processing
- Integrated velocimeter for accurate ranging
- Software development kit available

A benefit of the 1200ik is the ability to maintain a 120˚ field of view when operating at both frequencies. This allows the target of interest to remain within view at all times, even when the target is in the nearfield.

CHIRP processing ensures that the Gemini 1200ik can provide high-resolution imaging at longer ranges, while the integrated VOS sensor ensures the image is displayed at a high degree of accuracy. Operating to a depth of 350m, the Gemini 1200ik can be used on a range of small to mid-size vehicles, as well as installed on larger vehicles operating in shallow water.

The Gemini 1200ik is fully compatible with Tritech's software package, Genesis, which improves user interaction and allows control of a number of Tritech sensors from within one software package.

With the same physical size and identical interface connection, the Gemini 1200ik can be swapped out with any 720ik which is already installed, providing an easy upgrade path to higher resolution imaging. As with all Gemini products, SeaTec software can be utilised to undertake more advanced decision based activities based on the sonar data. The higher resolution capability of the Gemini 1200ik has the ability to perform target classification to an even higher degree of accuracy.

Finally, the Gemini software development kit (SDK) also supports the Gemini 1200ik and is available for Windows and Linux operating systems.

Key Specification	Low Frequency Mode	High Frequency Mode
Operating frequency	720kHz	1200kHz
Angular resolution	1.0˚ acoustic, 0.25˚ effective	0.6˚ acoustic, 0.12˚ effective
Range	0.1m - 120m / 4in - 394ft	0.1m - 50m / 4in - 164ft
Depth rating	350m / 1148ft	
Weight in water	0.44kg / 0.97lbs	

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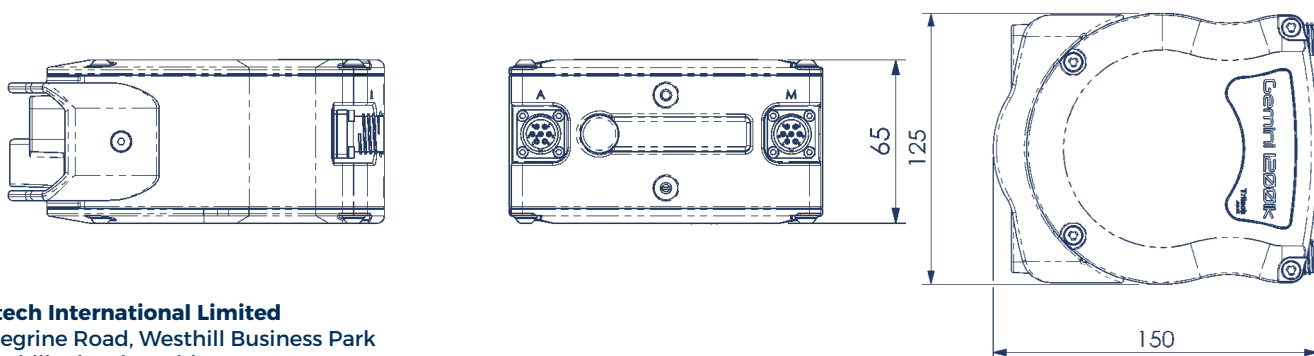| Acoustic specifications	Low frequency mode	High frequency mode
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Range	0.1m - 120m / 4in - 394ft	0.1m - 50m / 4in - 164ft
Number of beams	512	1024
Horizontal beam width	120˚	120˚
Vertical beam width	20˚	12˚
Range resolution	4mm / 0.2in	2.4mm / 0.1in
Update rate	5 - 65Hz (mode and range dependent)	
Mode of operation	CHIRP and CW	
Speed of sound	Integrated Velocity of Sound sensor for accuracy	

Interface	
Supply voltage	19V to 74V DC
Power requirement	9.5W - 27W (range dependent)
Main port protocol	Ethernet
Auxiliary port protocol	RS232, TTL in, pass-through power (2.5A max)
Connector type	Impulse MKS(W)-307-FCR

Physical specification	
Depth rating	350m / 1148ft
Weight in air	1.46kg / 3.22lbs
Weight in water	0.44kg / 0.97lbs
Temperature rating (operating)	-10˚C to 35˚C / 14˚F to 95˚F
Temperature rating (storage)	-20˚C to 50˚C / 4˚F to 122˚F

Software requirements	Minimum	Recommended
Included	Genesis	
Processor	2GHz	3GHz Quad Core
Graphics	3D hardware accelerated graphics card	
SDK	Available on request	
Operating system	Microsoft Windows 7, 10	

Specification subject to change in line with Tritech's policy of continual product development

Not to scale. Measurements in mm.

65

125

150

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