

Gemini 1200ik

High resolution, dual-frequency imaging multibeam



Applications

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

The Gemini 1200ik multibeam sonar operates at two acoustic frequencies, 720 kHz for long range target detection, and 1200 kHz for enhanced high-resolution imaging. The sonar maintains a 120° horizontal field of view when operating at both acoustic frequencies. This allows targets of interest to remain within view at all times.

Benefits

- Switch between 720 kHz and 1200 kHz
- Long range object detection
- Short range detailed imaging
- Compact and easy to install
- 350 m or 1000 m depth rating

Features

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

The 1200ik is designed to operate in harsh and noisy environments. The sonar actively attenuates waterborne electrical noise generated by other subsea equipment, including thrusters, to avoid the detrimental impact of such noise on the sonar image. An integrated velocity-of-sound sensor ensures that targets are displayed to a high degree of positional accuracy. CHIRP processing provides improved target separation over longer ranges.

The 1200ik is fully compatible with Trittech's software package, Genesis, which improves user interaction and allows for control of multiple Trittech products from within one software package. A software development kit (SDK) is also available for Windows and Linux operating systems.

To allow the 1200ik to share bandwidth with other sensors on a shared network connection, the data bandwidth required by the sonar can be limited by capping the ping rate, reducing resolution, or enabling data compression.

With the same physical size and connection interface as the 720ik, the 1200ik (350 m) offers 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. The higher resolution capability of the 1200ik provides an opportunity to perform target classification to a higher degree of accuracy than previously

Key Specification	Low Frequency Mode	High Frequency Mode
Operating frequency	720 kHz	1200 kHz
Angular resolution	1.0° acoustic, 0.25° effective	0.6° acoustic, 0.12° effective
Range	0.1 m - 120 m / 4 in - 394 ft	0.1 m - 50 m / 4 in - 164 ft
Depth rating	350 m or 1000 m / 1148 ft or 3280.84ft	
Weight in water	0.44 kg or 0.92 kg / 0.97 lbs or 2.03 lbs	

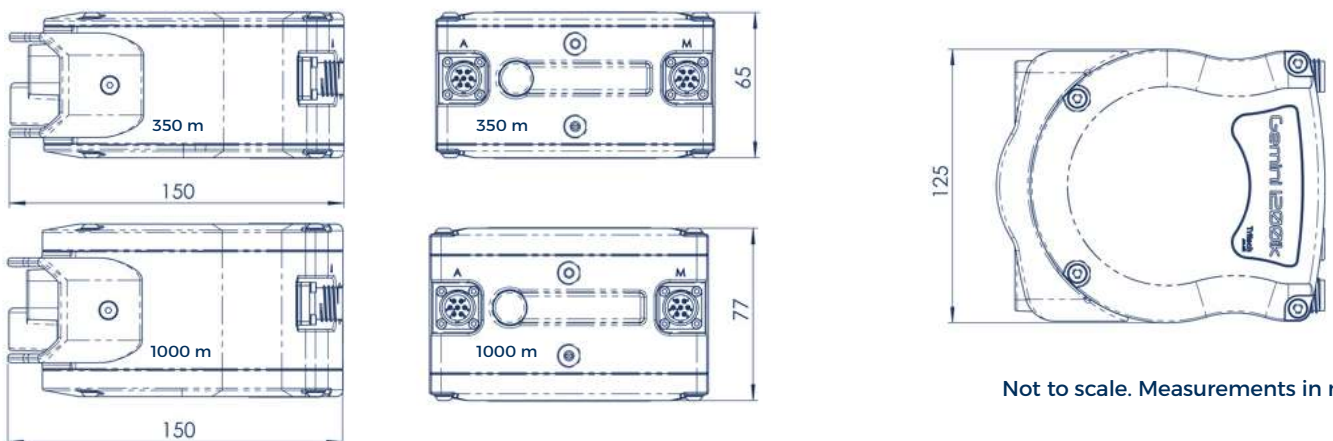
Acoustic specifications	Low frequency mode	High frequency mode
Operating frequency	720 kHz	1200 kHz
Angular resolution	1.0° acoustic, 0.25° effective	0.6° acoustic, 0.12° effective
Range	0.1 m - 120 m / 4 in - 394 ft	0.1 m - 50 m / 4 in - 164 ft
Number of beams	512	1024
Horizontal beam width	120°	120°
Vertical beam width	20°	12°
Range resolution	4 mm / 0.2 in	2.4 mm / 0.1 in
Update rate	5 - 65 Hz (mode and range dependent)	
Mode of operation	CHIRP and CW	
Speed of sound	Integrated Velocity of Sound sensor for accuracy	

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

Physical specification	
Depth rating	350 m or 1000 m / 1148 ft or 3280.84 ft
Weight in air	1.46 kg or 2.03 kg / 3.22 lbs or 4.47 lbs
Weight in water	0.44 kg or 0.92 kg / 0.97 lbs or 2.03 lbs
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	2 GHz	3 GHz 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.