

# Gemini 720is

## Real-time multibeam imaging sonar



### Applications

- ROV/AUV navigation
- Obstacle avoidance
- Target recognition
- Search and Recovery
- Object detection

The 720is is a key product in Tritech's renowned multibeam sonar range and offers a realtime, high frequency imaging solution. The Gemini 720is operates at 720 kHz and this combined with Tritech's state-of-the-art processing electronics, produces images of superb clarity in harsh and deep water applications.

### Benefits

- Near field focusing
- 4mm / 0.2in range resolution
- Clear wide angle field of view
- Suitable for low visibility environments
- Easier interpretation of sonar imagery

### Features

- 720kHz operating frequency
- CHIRP processing
- Wide 120° field of view
- Real-time updates for video like imagery
- Integrated velocimeter for accurate ranging

With 120° field of view and a fast update rate, the Gemini 720is is ideal for poor visibility environments. The Gemini 720is is supplied with Genesis, Tritech's data acquisition and logging software, which offers users the ability to network and operate the sonar along with a range of other Tritech sensors from a single software interface.

The Genesis software offers additional features such as target tracking and already allows you to run a number of other Tritech sensors alongside your Gemini 720is such as MicronNav 200 USBL tracking system and Mechanical scanning sonars.

Key Specification	
Operating frequency	720 kHz
Angular resolution	1.0° acoustic, 0.25° effective
Range	0.1m - 120m / 4in - 394ft
Supply voltage	19 to 74VDC
Power requirement	16 - 2W (range dependent)
Main port protocol	Ethernet or VDSL
Depth rating	1000m / 3281ft or 4000m / 13123ft
Weight in air	3.40kg / 7.50lbs or 5.00kg / 11.02lbs
Weight in water	1.30 kg / 2.86 bs or 3.00 kg / 6.61lbs

Acoustic Specifications	
Operating frequency	720kHz
Angular resolution	1.0° acoustic, 0.25° effective
Range	0.1m - 120m / 4in - 394ft
Number of beams	512
Horizontal beamwidth	120°
Vertical beamwidth	20° (tilted down 10°)
Range resolution	4mm & 8mm / 0.2in & 0.3in <sup>1</sup>
Update rate	5 - 97Hz (range dependent)
Mode of operation	CHIRP or CW

Interface	
Supply voltage	19 to 74VDC
Power requirement	16 - 27W (range dependent) <sup>2</sup>
Main port protocol	Ethernet or VDSL
Auxiliary port protocol	RS232, RS485 (half duplex), TTL in, Ethernet
Connector type	SeaCon 55 series, SubConn FCR 15 series or Schilling SeaNet
VDSL cable length	Maximum length for VDSL and power is 300 m / 984 ft, if power is provided locally the maximum length for VDSL communication is 500 m / 1640 ft

Physical specification	
Depth rating	1000m / 3281ft or 4000m / 13123ft
Weight in air	3.40kg / 7.50lbs or 5.00kg / 11.02lbs
Weight in water	1.30kg / 2.86lbs or 3.00kg / 6.61lbs
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
Dimensions	271mm x 135mm x 107mm / 10.67in x 5.32in x 4.22in

Software	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

1 Software switchable.

2 The power consumption range quoted is accurate for a standalone unit and ignores cable losses.

