

# MicronGemini 720s

Incredibly compact and light-weight, offering a cost-effective solution for obstacle avoidance and navigation of smallROVs/AUVs.

It is an obvious choice for the applications where size and weight are critical, but a small mechanical scanning sonar does not offer the required real-time imaging.

MicronGemini 720s is powered with Tritech’s robust hardware and state-of-the-art signal processing algorithms. The system operates at 720 kHz and offers an effective angular resolution of 0.7° and a range resolution of 8mm. In addition to its impressive compact dimensions, it has integrated sensors for depth and temperature and an optional AHRS for bearing, roll and pitch.

The MicronGemini 720s is also integrated into Tritech’s flagship Diver Mounted Display (DMD) system. The DMD enables divers to identify targets and navigate zero visibility water using a head-mounted sonar making the MicronGemini an excellent addition to this system given its small form factor and light weight.



## Applications

- Obstacle Avoidance
- ROV/AUV Navigation
- Target Detection
- Diver Mounted Display

## Features

- Very compact and light-weight
- 90° horizontal field-of-view
- Ethernet and serial comms
- Serial auxiliary port
- Low power
- 20 Hz update rate
- 300 m or 750 m depth rated
- CW & CHIRP processing
- Integrated sensor for depth and temperature reading
- Optional built-in AHRS

### Key Specification

Operating frequency	720kHz
Angular resolution	2.34° acoustic, 0.7° effective
Range	0.2 m to 50 m / 0.6 ft to 164 ft
Supply Voltage	12 to 48 Vdc
Power Requirement	8.5 W
Main port protocol	Ethernet (100Base-T) and/or Serial (RS232 or RS485)
Dimensions	116 mm x 63 mm x 40 mm / 4.57 in x 2.49 in x 1.58 in
Depth rating	300 m / 1148 ft or 750 m / 2460 ft
Weight in air	0.43 kg / 0.97 lbs
Weight in water	0.24 kg / 0.53 lbs

Acoustic specifications	Low frequency mode
Operating frequency	720 kHz
Angular resolution	2.34° acoustic, 0.7° effective
Range	0.2 m to 50 m / 7.9 in to 164 ft
Number of beams	128
Horizontal beam width	90°
Vertical beam width	20° (±10° about horizontal axis)
Range resolution	8 mm / 0.31 in
Update rate	3 to 20 Hz (range dependent)
Mode of operation	CHIRP and CW or Auto

### Integrated sensors

Pressure sensor*1	Depth accuracy: ±2 m
AHRS*2	Bearing accuracy: 2° RMS
	Roll & Pitch accuracy: 1.5° RMS (static)

### Interface

Supply voltage	12 to 48 Vdc
Power requirement	8.5 W
Main port protocol	Ethernet (100Base-T) and/or Serial (RS232 or RS485)
Auxiliary port protocol	Serial (RS232 or RS485)
Connector type	Main: Impulse MKS(W)-3L10, Impulse MKS(W)-307 & Tritech Micron Aux: Tritech Micron

### Physical specification

Dimensions	116 mm x 63 mm x 40 mm / 4.57 in x 2.49 in x 1.58 in
Weight in air	0.43 kg / 0.97 lbs
Depth rating	300 m / 1148 ft or 750 m / 2460 ft
Weight in water	0.24 kg / 0.53 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

Genesis: (Included)	OS: Microsoft Windows 7, 10, 11 - 2 GHz (minimum) 3 GHz Quad Core (recommended)
SDK	Windows, Linux (Available on request)

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

1 Default. Applicable to 300 m depth rated variant only

2 Optional extra

