

# MicronGemini

Real-time micro multibeam sonar

## Applications

- Obstacle avoidance
- Target Identification
- Navigation
- Diver operations

The MicronGemini is the latest addition to the Trittech's Micron and Gemini product families. It is incredibly compact and light-weight, offering a cost-effective solution for obstacle avoidance and navigation of small ROVs/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.

## 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

MicronGemini is powered with Trittech'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 8 mm. 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 is also integrated into Trittech'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.

Key specifications	
Operating frequency	720 kHz
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 specification	
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 beamwidth	90°
Vertical beamwidth	20° (±10° about horizontal axis)
Range resolution	8 mm / 0.31 in
Update rate	3 to 20 Hz (range dependent)
Mode of operation	CW, CHIRP or Auto

Integrated sensors	
Pressure sensor*1	Depth accuracy: ±2 m
	Temperature accuracy: ±2 °C
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

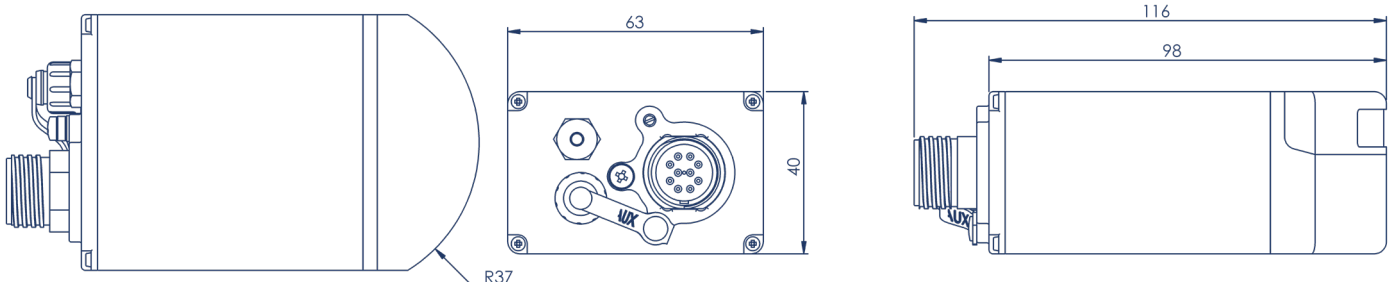
Physical specification	
Dimensions	116 mm x 63 mm x 40 mm / 4.57 in x 2.49 in x 1.58 in
Depth rating	300 m or 750 m / 984 ft or 2460 ft
Weight in air	0.43 kg / 0.97 lbs
Weight in water	0.24 kg / 0.53 lbs
Temperature rating (operating)	-10 °C to 35 °C / 14 °F to 95 °F
Temperature rating (storage)	-20 °C to 50 °C / 4 °F to 122 °F

Software	
Genesis: (Included at no additional cost)	OS: Microsoft Windows 7, 10, 11 Processor: 2 GHz (Minimum), 3 GHz Quad Core (Recommended) Graphics: 3D hardware accelerated graphics card
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 Additional extra



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Not to scale. Measurements in mm.

