Micron Gemini

Real-time micro multibeam imaging sonar

Applications

- Obstacle avoidance
- Target Identification
- Navigation
- Diver operations

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

Benefits

- Compact and Light-weight
- High-quality image
- 90° horizontal field of view
- Ethernet and serial comms
- Serial Auxiliary port
- Low power

Features

- 20Hz update rate
- 300m or 750m depth rated
- CW & CHIRP processing
- Integrated sensor for depth reading
- Integrated sensor for temperature reading
- Optional built in AHRS

Micron Gemini is powered with Tritech's robust hardware and state of the art signal processing algorithms for producing high-quality sonar imaging. 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 compact dimensions and high quality imaging, it has integrated sensors for depth and temperature and an optional AHRS for bearing, roll and pitch.

The Micron Gemini 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 Micron Gemini an excellent addition to this system given its small form factor and light weight.

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

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

Integrated sensors	
Pressure sensor*1	Depth: ±2m
	Temperature: ±2˚C
AHRS*2	Bearing accuracy: 2˚ RMS
	Roll & Pitch accuracy: 1.5˚ RMS (static)

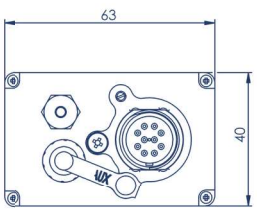
Interface	
Supply voltage	12 to 48V DC
Power requirement	8.5W
Main port protocol	Ethernet (100Base-T) and/or Serial (RS232 or RS485)
Auxiliary port protocol	Serial (RS232 or RS485)
Connector type	Main: Impulse MKS(W)-3L10, Impulse MKS(W)-307 & Tritech Micron Aux: Tritech Micron

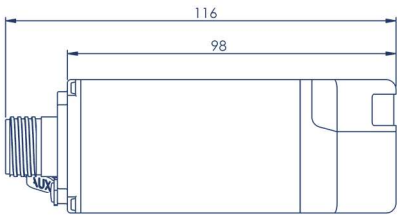
Physical specification	
Dimensions	116mm x 63mm x 40mm / 4.57in x 2.49in x 1.58in
Depth rating	300m or 750m / 984ft or 2460ft
Weight in air	0.43kg / 0.97lbs
Weight in water	0.24kg / 0.53lbs
Temperature rating (operating)	-10˚C to 35˚C / 14˚F to 95˚F
Temperature rating (storage)	-20˚C to 50˚C / 4˚F to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

Software	
Genesis: (Included at no additional cost)	OS: Microsoft Windows 7, 10 Processor: 2GHz (Minimum), 3GHz 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 300m depth rated variant only
*2 Additional extra





Not to scale. Measurements in mm.

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