# Gemini NBI

## Produces an acoustic image, cutting through the water with a narrow acoustic beam and at the high refresh rate.

The reduced beam width allows the user to more precisely image the position of targets in high turbid conditions such as trenching and mining applications than is possible with a wide beam imaging sonar commonly used for obstacle avoidance operations.

Operating at 620 kHz the Gemini NBI is able to produce images with 10 mm range resolution while the 0.5˚ horizontal angular resolution results in an extremely sharp sonar image. Where monitoring your position relative to a known target is the objective, and not general obstacle avoidance, then the Gemini NBI can help guide you safely to the desired target.

The multibeam transducer design used for the Gemini NBI results in a 130˚ sector scan width and advanced technology allows update rates as high as 30 scans per second. With wide angle imaging and a high refresh rate the user is able to quickly and effectively manoeuvre to a target in poor visibility conditions.

Depth rated to 4000 m and manufactured from titanium the Gemini NBI has been designed to work in the harshest of environments such as those typically found in subsea mining and excavation.

The Gemini NBI software can be run on the customers own laptop PC.

Software development kits (SDKs) are also available for Windows and Linux operating systems.

### Benefits

- Trenching operation monitoring
- Mining visualisation
- Pipe and cable lay tracking
- ROV/AUV navigation
- High speed updates

### Features

- 130˚ sector scan width
- 1˚ vertical beam width
- 0.5˚ effective angular resolution
- Ethernet or VDSL communication
- Solid-state design reliability
- Easy to use software package

| Best Suited Applications | Depth Rated | Frequency | 3 Year Warranty | SDK |
|---|---|---|---|---|
| Trenching | 4000 m | 620 kHz | ✓ | ✓ |



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## Acoustic Specifications

| | |
|---|---|
| Operating frequency | 620 kHz |
| Angular resolution | 1.0˚ acoustic, 0.5˚ effective |
| Range | 0.5 - 120 m / 1.65 - 394 ft |
| Number of beams | 256 |
| Vertical beam width | 1˚ |
| Range resolution | 10 mm / 0.40 in (range dependant) |
| Update rate | 5 – 30 Hz (range dependent) |
| Scanning sector | 130˚ |

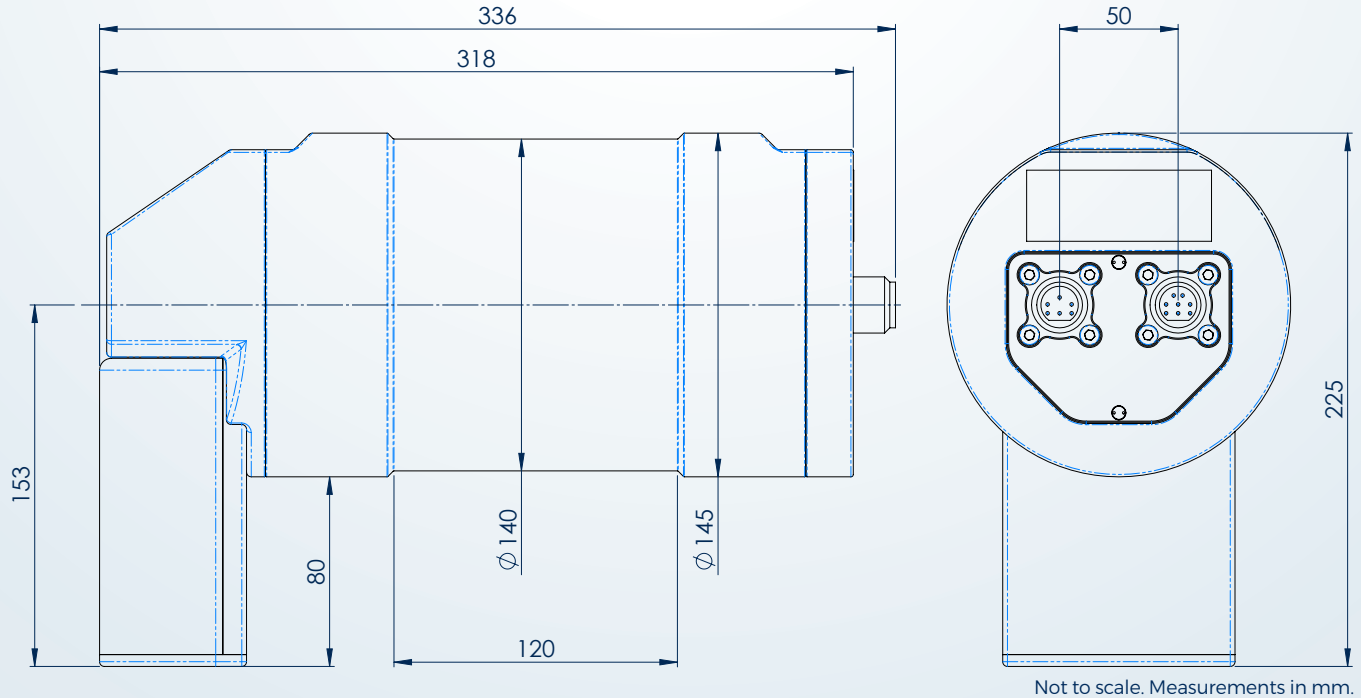
## Interface

| | |
|---|---|
| Supply voltage | 22 to 75 Vdc |
| Power requirement | 37 W max (range dependent, head unit only)[1] |
| Main port protocol | Ethernet (up to 80 m/ 263 ft) or VDSL (up to 500 m / 164 ft) |
| Connector type | Burton 5506 series |
| VDSL cable length | Maximum length for VDSL and power is 300 m, if power is provided locally the maximum length for VDSL communication is 500 m / 1641 ft |

| Physical Specification | Forward facing | Downward facing |
|---|---|---|
| Depth rating | 4000 m / 13123 ft | |
| Weight in air | 14.60 kg / 32.19 lbs | 19.00 kg / 41.89 lbs |
| Weight in water | 9.50 kg / 21 lbs | 13.00 kg / 28.67 lbs |
| Material | Titanium (6 AL-4 V) | |
| Temperature rating (operating) | -10 to +35 ˚C / -14 to +95 ˚F | |
| Temperature rating (storage) | -20 to +50 ˚C / -4 to +122 ˚F | |

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

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




Not to scale. Measurements in mm.