

# Gaps M3

## High-performance USBL positioning & communication system

Gaps M3 is a high-performance Ultra Short Baseline (USBL) positioning and communication system for locating and communicating with subsea assets. Available in a version free of export restrictions and an extended range version, Gaps M3 is a lighter and more compact version of the Gaps design ideal for permanent fit.



### FEATURES & BENEFITS

- Wide bandwidth signals
- Acoustic communication (telemetry & modem)
- Truly omnidirectional
- Suitable for DP class 2,3 (LUSBL mode)
- Third party transponder compatibility
- Easy interfacing with major navigation suites
- Embedded web-MMI
- Simultaneous multiple subsea asset tracking

### APPLICATIONS

- ROV tracking
- AUV tracking
- Marine work
- Dynamic positioning (DP)

### MULTIPLE TARGET TRACKING AND ACOUSTIC COMMUNICATION CAPABILITIES

Advanced acoustic techniques, including wide bandwidth signals, enable maximum performance even in the most challenging conditions. With its unique 3D acoustic array, the Gaps M3 allows for efficient tracking and communication from the deep sea to extremely shallow water, including at angles above horizontal. Gaps M3 embeds the latest improvement of the Gaps series with advanced features, including enhanced acoustic communication capability for commanding and controlling multiple subsea assets, a new web MMI with real-time 2D mapping, and additional compatibility with third-party transponders.

### COMPATIBILITY WITH MAJOR GYROS, AHRS, AND MOTION SENSORS

Gaps M3 is compatible with Exail Phins surface INS and AHRS to achieve ultimate absolute positioning performance. It is also compatible with various third-party AHRS commonly used on worldwide vessels.

### COMPATIBILITY WITH MAJOR DYNAMIC POSITIONING (DP) SYSTEMS

Developed to meet the requirement of DP class 2 and 3, Gaps M3 is a valuable equipment for all kind of DP vessels. It provides reliable USBL and LBL measurements (LUSBL mode) to ensure continuous operation even when other sensors are unavailable.

## GAPS M3 TECHNICAL SPECIFICATIONS

### Performance

	Gaps M3
Operating frequency	18 – 34 kHz (MF)
Range <sup>(1) (2)</sup>	995 m / 7,000 m
Positioning repeatability <sup>(2) (3)</sup>	0.1 % of slant distance (CEP50)
Range accuracy	1 cm
Coverage	> 200°
Update rate	Up to 3 Hz
Simultaneous target	40

### Mechanical

Housing	Carbon fiber
Weight (air)	12 kg
Dimensions (HxØ)	465 x 296 mm
Depth rating	25 m
Temperature (operating/storage)	-5°C to +35°C / -40°C to +70°C

### Interfaces & electrical

Power supply	100 to 240 VAC / 50-60 Hz - 24/36 VDC
Power consumption nominal	14 W (with Gaps box and 50m cable)
Input/Output ports	Ethernet + 4 serial RS232/422 (with Gaps BOX)
Synchronisation	1 PPS + 3 IN/OUT (TTL or differential +/-5V)
Control/Command & Display	WebMMI, NMEA protocol, 3D visualization software in option

## GAPS BOX TECHNICAL SPECIFICATIONS

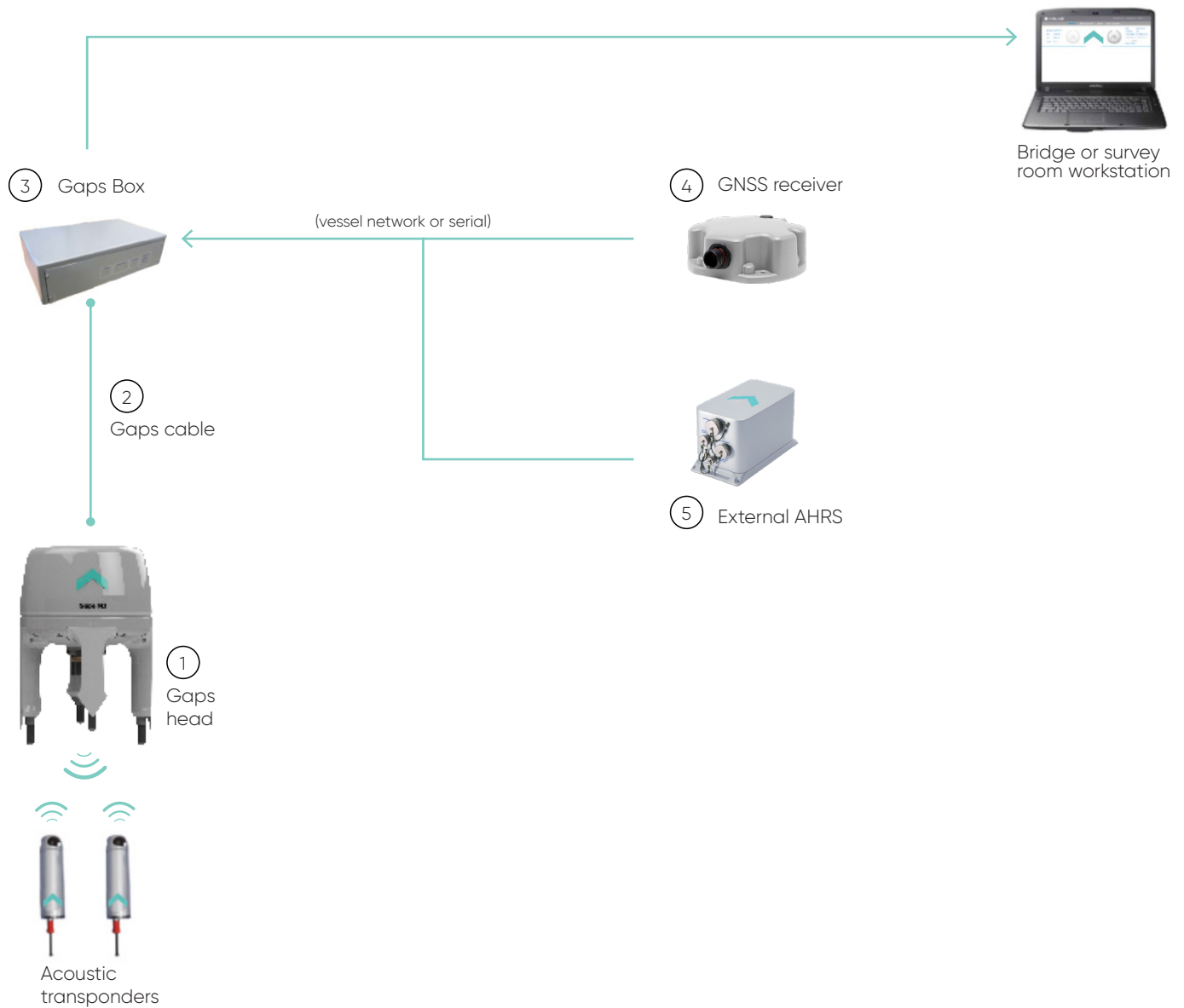
Weight	4.6 kg
Temperature (operating)	-5°C to +55°C (EN60945)
Temperature (storage)	-40°C to +70°C

(1) Operating range is subject to environmental conditions (noise, ray bending...). Positioning up to 7,000m using exail Oceano LF transponders.

(2) Performance subject to environmental conditions

(3) Performance with external AHRS or HVRU

## COMPONENTS & INTEGRATION



① **Gaps head**  
Gaps M3 acoustic transceiver head

② **Gaps cable**  
20/50/95m long cable used to communicate with Gaps head. Extendable up to 190m with a Repeater Box.

③ **Gaps Box**  
Top side unit to interface between the Gaps head and external peripherals.

④ **External GNSS**

⑤ **External AHRS**  
Heading, Attitude and Motion compensation from Exail or other manufacturer.