# Datasheet
# SPRINT-Nav M

300 m

1,000 m

4,000 m

**SPRINT-Nav M is a compact hybrid acoustic-inertial navigator. Built on years of experience gained with SPRINT-Nav, it is designed to provide accurate, precise and robust guidance or navigation information for subsea vehicles.**

SPRINT-Nav M combines carefully selected inertial sensors, a Syrinx Doppler velocity log (DVL+ADCP) and a high accuracy pressure sensor into a single housing and is optimised for size, weight and power consumption.

Like all SPRINT-Nav products, SPRINT-Nav M uses information from all the sensors optimally to provide seamless operation and unprecedented levels of performance compared with standalone instruments.

SPRINT-Nav M outputs industry standard messages for command and control of AUVs, ROVs and USVs, removing complex integration.

It comes equipped with highly accurate gyroscopes and accelerometers which are not affected by magnetism and provide a true north seeking gyrocompass.

SPRINT-Nav M provides velocity, depth and altitude which is free from noise and immune to short term DVL acoustic outages. Being able to provide these messages, including quality metrics, at a constant output rate of up to 200 Hz drastically improves vehicle control.

The compact form factor is significantly smaller and lighter than any other combination available in the market.

It comes pre-calibrated and requires no additional calibration presenting minimal operational complexity.

An easy-to-use Web UI provides an intuitive dashboard viewer as well as configuration and detailed status pages for integration and troubleshooting. A clearly defined API allows for deep integration into vehicle control systems and remote operation of the system.

SPRINT-Nav M is supplied with either top or sidewall-mounted connectors for easy vehicle integration. For vehicles where height is critical, the sidewall variant measures only 187 mm in height.

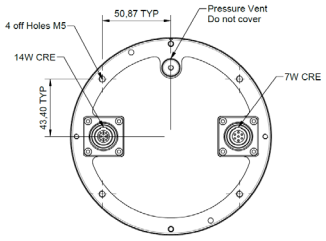
## Typical applications

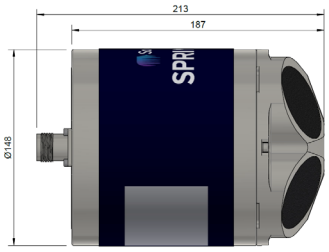
- Ideal for observation-class ROVs, light work-class ROVs, AUVs, USVs, manned submersibles and diver navigation boards
- Ideally suited for both remotely operated and autonomous vehicles
- True North seeking

## Key features

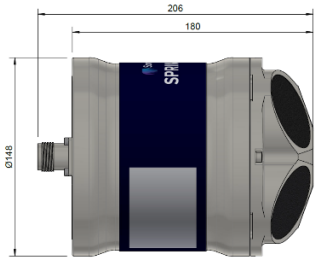
- All-in-one turn-key solution
- Highly optimised size, weight and power
- 300, 1,000 and 4,000 m variants
- Fixed frequency, continuous and robust vehicle control, guidance and navigation outputs
- Alignment in <5 minutes with DVL aiding
- Low-height variant available measuring only 187 mm in height
- Factory calibrated
- 500 kHz DVL + ADCP
- 0.3–200 m bottom track operating altitude
- Intuitive web UI
- Modern API
- Export is not ITAR controlled

# Specifications
# SPRINT-Nav M

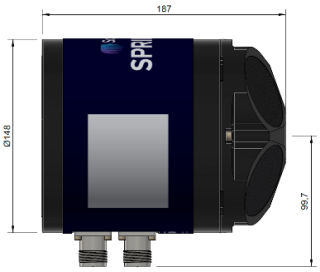



SPRINT-Nav M 4,000 m




SPRINT-Nav M 1,000 m




300 m side connector

| Performance[1] | | | SPRINT-Nav M |
|---|---|---|---|
| DVL aided[2] | Typical survey | | 0.05% |
| | Distance from origin | | 0.2% |
| Altitude min/max[3] | | | 0.3/200 m |
| USBL/GNSS and DVL aided | Precision improvement | | Up to 5x better |
| Heading[4] (secant latitude) | with GNSS or USBL and DVL | | 0.08° |
| | with GNSS or USBL or DVL | | 0.12° |
| Roll and pitch | | | 0.02° |
| Angular rate range | | | ±495°/s |
| Pressure sensor[5] | | | 0.01% FS |
| ADCP[6] | Profiling range | | 0.4–100 m |
| | Velocity range and RMS (along beam) | | Up to ±6.7 m/s ±0.4% of measured value |
| | Maximum number of cells | | 255 |
| | Max ping rate | | 4 Hz (ADCP) or 20 Hz (DVL) |
| **Power** | | | |
| Power requirements | | | 24 V dc, 10 W nominal |
| Internal battery backup | | | Li-ion/5 minutes |
| **Physical/comms** | | | |
| Data storage | | | 64 GB internal memory |
| Serial ports/protocol | | | 3x RS232 |
| Interfaces | | | Ethernet, UDP/TCP, WebUI, 2 x trigger inputs/outputs (1PPS/DVLtrigger), NTP, ZDA + 1PPS out |
| Mechanical construction | | 300 m | POM-C |
| | | 1,000/4,000 m | Titanium |
| Dimensions (diameter x height, including connectors) | Standard | 1,000/4,000 m | 148 x 206/148 x 213 mm |
| | Side connector | 300 m | 148 x 187 mm (174 x 187 mm including side connector) |
| Weight air/water[7] | | 300 m | 3.7/0.7 kg |
| | | 1,000 m | 5.5/2.9 kg |
| | | 4,000 m | 7.1/4.1 kg |
| **Environmental** | | | |
| Depth rating | | | 300/1,000/4,000 m |
| Operating temperature | | 300 m | -5 to 40°C |
| | | 1,000/4,000 m | -5 to 50°C |
| Storage temperature | | | -25 to 55°C |

[1] UK export control 7A003a3 applies to; 8358-xxxx (all variants).
[2] All accuracy figures related to time or distance are CEP50, all angular accuracies/heave are 1DRMS. All distance travelled % values assume accurate direct read sound velocity on well aligned systems. Cross track performance decreases at higher latitudes due to heading error.
[3] In optimal conditions (seabed type, absorption).
[4] AHRS performance when static and never aided at correct latitude is 0.8° (secant latitude).
[5] 0.01% precision, 0.05% accuracy, relative to full scale of sensor, raw pressure available or processed depth by SPRINT-Nav.
[6] Optional upgrade.
[7] Measured in 20°C fresh water.

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Specifications subject to change without notice – 09/2026