Datasheet
SPRINT-Nav Mini

SPRINT-Nav Mini 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 Mini combines carefully selected inertial sensors, a Syrinx Mini 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 Mini uses information from all the sensors optimally to provide seamless operation and unprecedented levels of performance compared with standalone instruments.

SPRINT-Nav mini 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 Mini 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 offering minimal operational complexity.

It offers an easy-to-use Web UI, which 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 Mini 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.

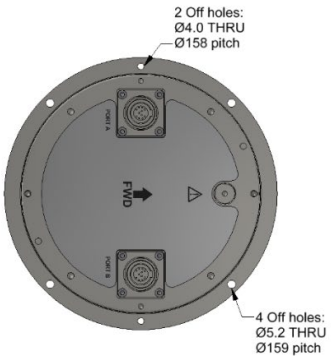
Typical applications

- 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 and 4,000 m variants
- Fixed frequency, continuous and robust vehicle control, guidance and navigation outputs
- 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 Mini



SPRINT-Nav Mini 4,000 m

300 m side connector

Performance			SPRINT-Nav Mini
DVL aided[1]	Typical survey		0.05%
	Distance from origin		0.30%
Altitude min/max			0.3/200 m
USBL and DVL aided	Precision improvement		Up to 5x better
Heading[2] (secant latitude) with GNSS or USBL and DVL[3]			0.10°
Heading[2] (secant latitude) with GNSS or USBL or DVL			0.15°
Roll and pitch[2]			0.02°
Angular rate range			±450°/s
Velocity precision (<2 m/s at 50 m altitude)			<0.4 cm/s
Depth accuracy[2]			0.01% FS
ADCP	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		1 Hz
Power			
Power requirements[4]			24 V dc, 10 W nominal
Physical/comms			
Data storage			32 GB internal memory
Serial ports/protocol			3x RS232
Interfaces			Ethernet, UDP/TCP, WebUI, 2 x trigger inputs (1PPS/DVL trigger), NTP, ZDA + 1PPS out
Mechanical construction		300 m	POM-C
		4,000 m	Titanium
Dimensions (diameter x height)	Standard	300 m	148 x 213 mm
		4,000 m	148 x 213 mm
	Side connector	300 m	148 x 187 mm (174 x 187 mm including connector)
Weight air/water[5]		300 m	3.6/0.7 kg
		4,000 m	7.1/4.2 kg
Environmental			
Depth rating			300/4,000 m
Operating temperature		300 m	-5 to 40°C
		4,000 m	-5 to 50°C
Storage temperature			-25 to 55°C

[1] CEP50
[2] RMS
[3] Heading accuracy is improved by availability of both absolute position (GNSS/USBL) and DVL.
[4] Contains backup battery to maintain system performance during power dropouts.
[5] Estimated weights.

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Specifications subject to change without notice –09/2025