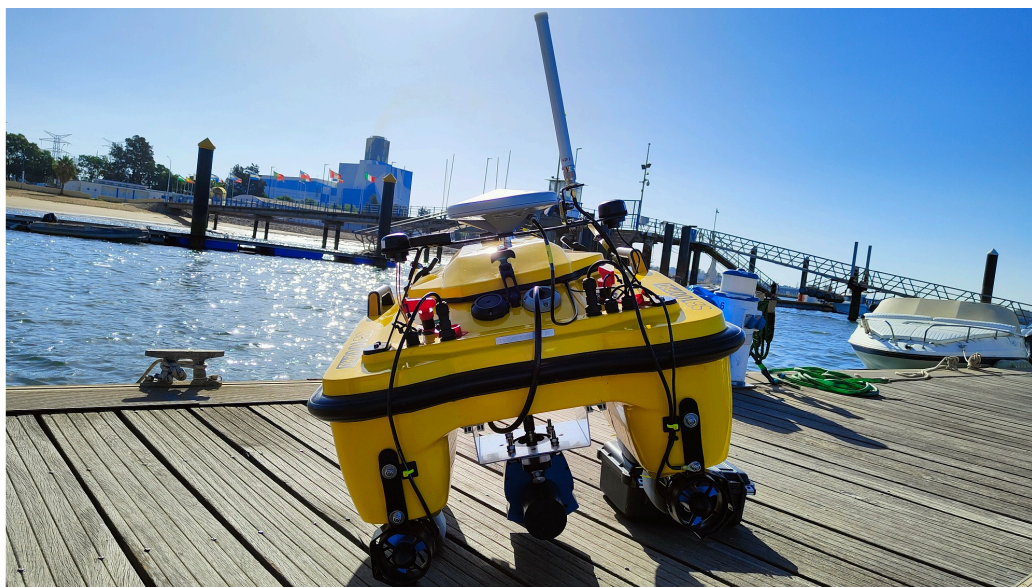


SB100PRO

M5 Multibeam Sonar
Unmanned Surface Vehicle



Technical specifications USV

Performance	Maximum load	15 Kg
	Optimum work speed	1 m/s
		2 m/s max speed (3.8 knots)
	Thrusters	2 x 350 W 9 Kgf
	Propeller type	Three-bladed double impeller

Electric system	Battery type	LiFePo4 > 2000 cycles
	Capacity	2X 12V 30Ah
	Work time @ 1 M/S	Up to 3 hours
	Charge time	Less than 2 hours
	Charger included	15 Ah

Batteries replacement takes less than 30 seconds

Black Box (control unit)	CPU	i7 10gen 16 Gb RAM
	OS	Windows 10 Pro
	Data (in/out)	RS 232, RS422, Ethernet, USB, HDMI,
	Power supply	5V, 12V & 24V

Size and weight	Measurements	103 cm x 75 cm x 55 cm
	Weight (no Payload, no batteries)	31 kg
	Draft	15 cm
	Material	Fiberglass composite

Control systems	Control type	Controller with touchscreen and software
	Control modes	Manual, Auto (waypoints), Auto (survey), Fix Speed, DP1
	Control software	Customized QGC-based software
	Navigation sensors	GNSS RTK FMU board (USV) Frontal camera Frontal distance sensor
	Frequency	2,4 Ghz

Environment	Operating temperature	from 0 to 30° C
	Storage temperature	from -20 to 45° C
	Protection index	IP 65

SB100PRO

M5 Multibeam Sonar
Unmanned Surface Vehicle



Technical specifications Ground Station

Positioning	System	GNSS RTK*
	Multiconstellation	<ul style="list-style-type: none"> • GPS: L1, L2 • Galileo: E1, E5b • GLONASS: L1, L2 • Beidou: B1, B2 • QZSS: L1, L2 • SBAS: Egnos, WAAS, GAGAN, MSAS, SDCM (L1)
	Multiband	Yes
	RTK corrections	Integrated Base or NTRIP

*simpleRTK3B Heading based on Septentrio Mosaic

Environment	Operating temperature	from -10 to 30° C
	Storage Temperature	from -20 to 45° C
	Protection index	IP 67

Communication system	Communication type	Remote link or Ground Station to USV
	Communication channels	4G/LTE* or native WIFI @ 5 Ghz
	Interface	Microsoft Surface Pro
	OS	Windows 10

*Remote desktop software (TeamViewer, Anydesk, SupremoControl,...) is required.

USV control system	Controller	5,5' touchscreen
	Software	QGC based
	Control modes	Manual, Auto (waypoints) Auto (survey), DP1, Guided, Loiter

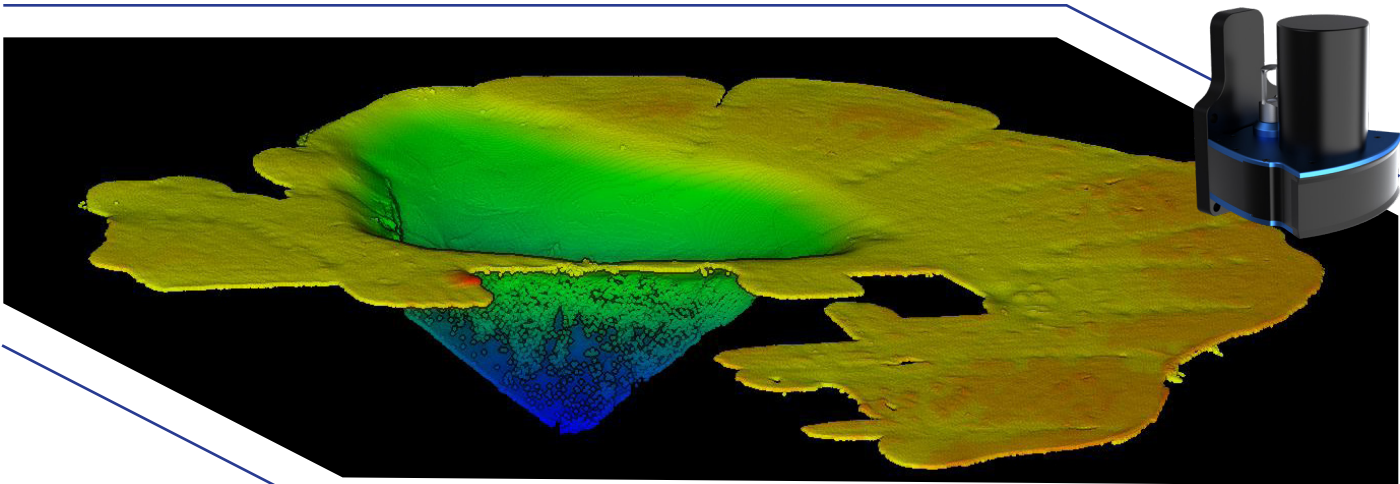
Size and weight	Case type	PELI rugged case
	Measurements	47 cm x 36 cm x 18 cm
	Weight	8 kg

M5 Integrated Multibeam Sonar



M5 is a highly-versatile, high-resolution multibeam echo sounder, which is also extremely simple to use and to install on the vehicle. The tightly coupled GNSS INS makes it easy to integrate even on ultra-small vehicles and very quick to mobilize. Its hydrodynamic form factor and its low power consumption makes it the perfect choice for small autonomous surface vehicles, data acquisition included.

Ponds and Lakes	★★★★★	University Research	★★★★★
Harbors/Construction	★★★★	Dredging	★★★★
Coastal Waters	★★★★	Archeology	★★★★
Small Survey Boats	★★★★	Autonomous Surface Vehicles	★★★★★
Large Survey Boats	★★★	Small Survey Companies	★★★★



Specifications:

Swath coverage	Up to 130 degrees
Number of RX beams	256
TX beam width along-track	1.45°
RX beam width	1° ±0.1
Range	>100m
Beam distribution	Equi-Distant and equi-angular beam distribution
Roll stabilisation	Yes
Pressure rating	100m
GNSS/INS	INS in Sonar
Position	HOR: ±(8mm +1ppm X Distance from RTK Station) VER: ±(15mm +1ppm X Distance from RTK Station) (Assumes 1m GNSS Separation)
Heading Accuracy	0.08° (RTK) with 2m Antenna Separation
Pitch/Roll Accuracy	0.03° Independent of Antenna Separation
Heave Accuracy	2cm or 2% (TRUEHEAVE™). 5cm or 5% (Real Time)
Ping Rate	50 Hz
Outputs	Bathymetry, Side Scan
Compatible with	Qinsy, Hypack, EIVA and others
Weight	Air: 3.5 kg Water: 1.1 kg

