

Mission Specialist Defender Navigation Package

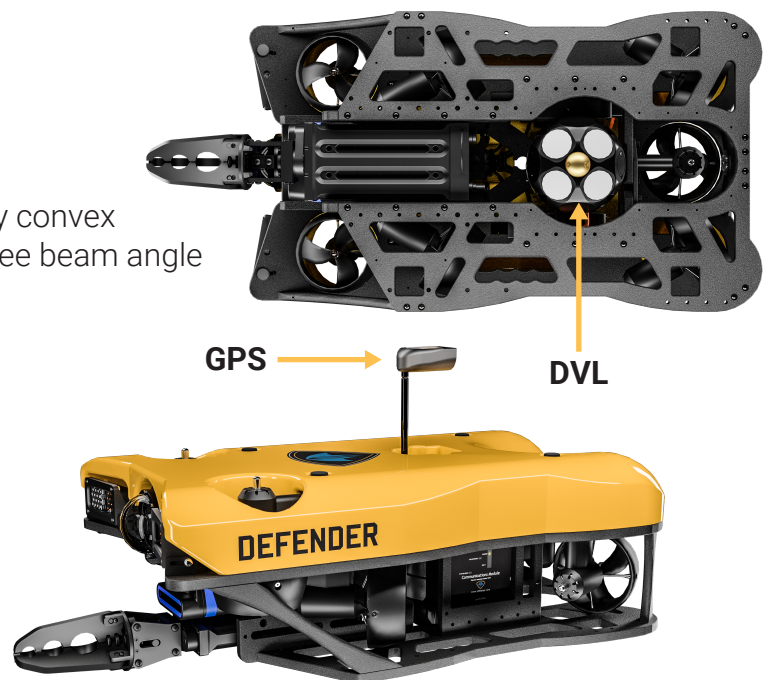
The Mission Specialist Navigation Package enhances autonomous control. It integrates a Doppler Velocity Log (DVL) for tracking the ROV's position along the sea bottom and estimating distance traveled using "dead reckoning" navigation. A GPS antenna corrects the position at the surface. The software upgrade seamlessly integrates these sensors, offering station keeping, mission planning, dynamic positioning, and data export. A USBL system can be added for missions beyond the DVL's range.

DVL SPECIFICATIONS

Depth Rating	300m
Frequency of Operation	500kHz
Beam Width	2.9 degrees
Configuration	4-beam Janus array convex transducer, 25 degree beam angle
Minimum Altitude	0.2m
Maximum Altitude	100m

GPS SPECIFICATIONS

Depth Rating	300m
Horizontal Position Accuracy	2.5m
Time-to-first-fix	29s
Sensitivity	-166 dBm



GREENSEA IQ UPGRADES

- Station Keeping
- Reacquisition
- Mission Planning
- Dynamic Positioning

USBL (OPTIONAL)

Depth Rating	300m
Acoustic Range	1 km radius horizontal, 1km vertical
Range Resolution	±50mm
Velocity-of-Sound Range	1300ms-1 to 1700ms-1
Becaon Velocity	Active Doppler compensation, up to 15kts (28kph)
Communications	Broadband spread spectrum encoding, 24-32kHz, 100 baud. Multi-tiered Acoustic Protocol