

AUV DEEP-1 U/G '19

Specifications

Owned by : Fukada Salvage & Marine Works Co.,Ltd

Platform : ISE Explorer Class AUV

※ ISE : International Submarine Engineering Limited.

- Depth Rating : 3000 m
- Hull Diameter : 0.69 m
- Overall Length : 4.60 m
- Dimension :
 - 4.60 x 1.47 x 1.31 m (Length x Breadth x Height)
 - Including planes and rudder
- Weight :
 - 950 kg (Dry)
 - 2000 kg (Flooded approx.)
- Endurance : 20 – 22 hours @ 1.5 m/sec, 80% payload duty cycle
- Batteries :
 - 13.4 kWh Li-Ion battery pack (Certified for air transport)
 - 3 hours total re-charge time
- Control Planes :
 - 5 planes for optimal roll, pitch, yaw control
 - enable AUV to maintain level cruise while following topography for precise MBES / SSS measurements



Factory Equipped Payloads

- Multibeam Echosounder : R2Sonic 2022
 - Adjustable frequency 200 to 400 kHz, 700 kHz
 - 1024 beams, width 1 x 1° at 400 kHz, 2 x 2° at 200 kHz
 - Range to 500 m, range resolution 1.25 cm
 - 35 watt power for increased endurance
 - Snippets recording only
- Sound Velocity Probe : Valeport Mini
- Combined Side Scan Sonar / Sub-Bottom Profiler : Edgetech 2200-M
 - 120 / 410 kHz Full Spectrum Chirp Side Scan Sonar
 - 2 / 16 kHz Full Spectrum Sub-Bottom Profiler
 - Power 40 Watts, 48 VDC
- CTD : Sea-Bird FastCAT – 49
 - Range 0 - 9 S / m
 - Resolution 0.4 ppm
- Camera : Cathx M12 A1000 Camera with two Cathx Apos 32 LED light system
 - Sensor Size 22.5 x 16.9 mm
 - Sensor Resolution 4096 x 3072, 12.5 Megapixels
 - Pixel Size 5.5 μm

Navigation & Position Suite

- Inertial Navigation : iXsea PHINS fiber optic gyro system
 - Outputs heading, pitch, roll, depth, velocity, heave
 - Position Accuracy 0.1 % of distance travelled
 - Pitch & Roll Accuracy 0.01°
- USBL : iXSea GAPS, installed the external trigger
Kongsberg cNode-mini as back-up USBL
- DVL : Teledyne Workhorse Navigator 300 kHz
- D-GPS : Magellan DG14 Receiver
- Altimeter : Kongsberg Mesotech 1007 675kHz
- Depth Sensor : Paroscientific Digiquartz
- Obstacle Avoidance : Imagenex / ISE Forward-looking 330kHz sonar array
- NTP Server : Masterclock, syncs to GPS when AUV on surface

Communication Suite

- Acoustic Modem : Sercel MATS3G
- Radio Modem : Encom EP-BB24NC
- Satellite Modem : Iridium 9522B

Surface Control Equipment

- Mission Planning Station with electronic charting / GPS interface
- AUV Operating Console

Emergency Equipment & Contingency

- Strobe : Novatech ST-400-AR
- Drop Weight : 18kg, drops on command or computer time out