

DUS OV offshore USV platform

CLASS-CERTIFIED USV FOR OFFSHORE SURVEY OPERATIONS

The DUS OV offshore USV platform is a type-approved platform for offshore data collection. Class-certified to DNV's Craft Standard and the Autonomous & Remote-Operated Ships notation, it features up to quadruple redundancy in mission-critical systems and operates in sea states up to 6. Advanced multi-sensor situational awareness and autonomous navigation software ensure safe missions. Its modular design supports a wide range of moonpool, deck, mast and towed payloads as well as aerial and subsea robotic integrations. Combined with a hybrid biofuel propulsion system, this USV platform offers a long-range, sustainable, and future-proof solution for crewless offshore missions.



KEY FEATURES

Best in class safety system

Triple redundancy in power, propulsion, situational awareness, and communication ensures fault tolerance and uninterrupted offshore operation.

Certified for offshore operations

Class-certified to the highest international standards, the OV offshore USV platform ensures safety, quality, and reliability for demanding offshore deployments.

Easy transport & deployment

Innovative design allows the 7m vessel to fit in a standard 20-foot (6m) container, enabling fast, cost-effective global transport and deployment.

DEMCON | UNMANNED SYSTEMS

SPECIFICATIONS OV USV PLATFORM

MAIN PARTICULARS

Hull material:	Aluminium (marine grade)
Structural design:	Self-righting, round bilge, load bearing hull (no cradle needed), 11 watertight lockable compartments
Classification:	DNV
Notations & compliance:	DNV Craft, DNV-ST-0342 (G4), RP. Autonomy: According to DNV-CG-0264

DIMENSIONS

L.O.A. :	6.80 m (5.75 for transport)
Breadth:	2.30 m
Height:	2.33-4.18 m (mast down-up)
Draught:	0.75 m
Dry weight:	2750 kg

PERFORMANCE

Speed (max):	7.0 knots
Endurance (max):	2016 km-544 hrs-22,5 days (@ 2 kts), 1599 km-215 hrs-9 days (@ 4 kts), 1147 km-112 hrs-4,5 days (@ 5,5 kts)
Range (max):	1089 NM - 2016 km
Seaworthiness (survivability):	Sea state 6

POWER & PROPULSION

Bow Thruster(s):	1x 15 kW electric rim driven thruster (shaftless)
Main Thruster(s):	2x 22 kW electric rim driven thruster (shaftless)
Power:	2x 6.4 kW diesel generators (HVO100) Stage V/EPA/ Tier 4 (range extender)
Backup power:	2x 150 W Solar panels (AIS & Lights always on), 2x 2.3kW backup power
Fuel:	Diesel (EN590/ ASTM D975); Biodiesel HVO100 (supplier mixture dependent) and GTL
Tank(s):	2x 250l (crosslinked)
Fast charger:	2x 2900 W (230 V), 0-100% in <4 hours
Cooling:	Bilge closed cooling (no seawater inside!)

PAYLOADS

Integration:	Powerbocks and network switch for easy 3rd party integrations
Moonpool:	0,50 x 1,50 m (open from keel to deck), Various inter-changeable multi payload brackets
Winch:	*DUS Smart Mini Winch (moonpool winch)***
Open deck area:	3.30 x 1.80 m

NAVIGATION

Navigation:	Primary GNSS INS (RTK) Dual antenna (0.015° Roll & Pitch 0.05° Heading), Secondary GNSS INS survey setup (client system integration), Gyro compass, ENC interface (ADMIRALTY Vector Chart Service Online)
Navigation lights:	Dual portside, Dual Starboard, Upper mast light & lower mast light back up, Stern lights, Not Under Command lights, Restricted in ability to manoeuvre lights, Floodlights bow & stern
Situational Awareness Sensors:	AIS Class A, 360° Daylight camera (4 sensors), 360° Thermal/IR camera (6 sensors), Stabilised PTZ camera 30x Optical zoom, 25W Radar, 32 line LiDAR, Horn, microphone & speaker, Weather station

OTHER EQUIPMENT

Gyrostabiliser:	5340 Nm
Handling & transport:	4x hoisting points, certified, 3x mooring cleats, 20 ft container transportable, *hoisting equipment, road trailer, workshop/yard trollies, container/ deck mount, spreader bar lifting tool (adjustable for different weights)***
Launch & recovery:	*Crane RC magnetic automatic lifting hook, crane cradle, ramp/ slipway trailer***

COMMUNICATION

Data links:	Cellular: 2 x dual 4/5 G LTE modems, Satellite: Starlink, Satellite: Iridium, LOS: Wi-Fi 6
Interaction:	AIS Class B/A (VDES), VHF/UHF radio (VOIP), 1x WAN (Auto) load balancing, 1x Ethernet network, Cyber security

REMOTE OPERATIONS

Wireless control unit:	2
ROC boxes:	Dual LTE, WAN input for office or vessel LAN internet, Wi-Fi 6 LOS link, Fail over system for 110/230VAC (no outages), Back up battery for black out, 4 x 230VAC socket (no outages), Redundant power supply electronics, Electronic fuses for monitoring & resetting electronics, Humidity & temperature sensor
Computers:	High Level Mission Computer, Real Time Control Computer, Safety PLC, Survey Data Acquisition Computer
Mariphone (VHF over IP):	Mari phone IP67, Dual function for monitoring Ch.16 and/ or call channel
Network:	2x Separate CANbus network (M12 IP67), Ethernet network (M12 IP67), Power distribution network (M12 IP67 each component electronically fused)
Safety Sensor network:	A Starboard & Portside Network, Water sensor per compartment, Temperature & humidity per compartment, Sensors all hatches, 2x Fuel level, 2x Coolant point level, 2 x Coolant temperature, Vibration sensors engines & gyro

SAFETY SYSTEMS

Fire:	Fire extinguisher per compartment with fire hazard, Automatic and remote activation possible
Emergency stop:	Emergency stop button on each corner vessel, Emergency Stop button on each remote, Emergency Stop software
Redundancies:	Redundancy in flotation (multiple compartments), Redundant Power (engines/generator), Redundant Batteries, Redundant Propulsion, Redundant Steering, Redundant power Supplies Electronics (triple for emergency systems), Redundant Positioning Systems, Redundant main navigation Lights, Redundant camera system, Redundant communication system, Fault tolerant networks
Bilging:	2 bilge pumps engine compartments, (other compartments watertight)

SOFTWARE*

Demcon Uncrewed Mission Software:	ROC operator interface for mission planning and execution, vessel monitoring and situational awareness
Demcon Advanced Control & Navigation System:	Manual assisted, dynamic positioning and autonomous navigation control modes
Demcon Safety System:	Safety rules, safety actions, emergency stop handling, collision warning, obstacle avoidance and return-to-home functionality
Demcon Logging & Monitoring Software:	Local or cloud based time-based vessel data logging, system monitoring, diagnostics and support tooling

**For more information about software see flyer DUS USV SOFTWARE*
***Optional*
Performance depends on configuration and environmental conditions

GET IN CONTACT

Our vessels are fully customizable and built to necessity. To get more information about possibilities, options and requirements, contact us through e-mail or call us.

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