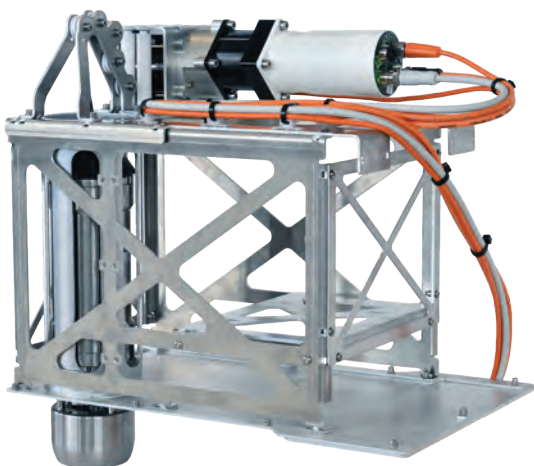




DUS SMART MINI WINCH

ULTRA COMPACT HIGH-PERFORMANCE WINCH FOR AUTONOMOUS & REMOTE OPERATIONS

The DUS Smart Mini Winch is a versatile, ultra-compact winch system for autonomous USVs, crewed vessels and fixed measurement stations. Developed in-house for autonomous and remote operations, it provides a fully integrated, precise, and low-maintenance solution for automated dipping tasks. Optimized for USVs yet fully stand-alone operable, it supports over 90% of common wireless and battery-powered payloads, including multiparameter probes, SVPs, and CTDs. A minimalist in-field service-friendly design and cross-platform control software ensures seamless integration with both DEMCON and third-party systems, enabling continuous, remote, hands-free operation in any environment.



Moonpool survey bracket integration example (DUS CV2000 USV)

KEY FEATURES

Ultra-compact lightweight design

At only 1.8 kg, this is the smallest and lightest high-performance maritime winch in its class, ideal for compact USVs and confined space mountings.



Integrated modular system

Plug-and-play solution enabling single-person installation, quick-swaps, and universal mounting for USVs, crewed vessels, and fixed structures.



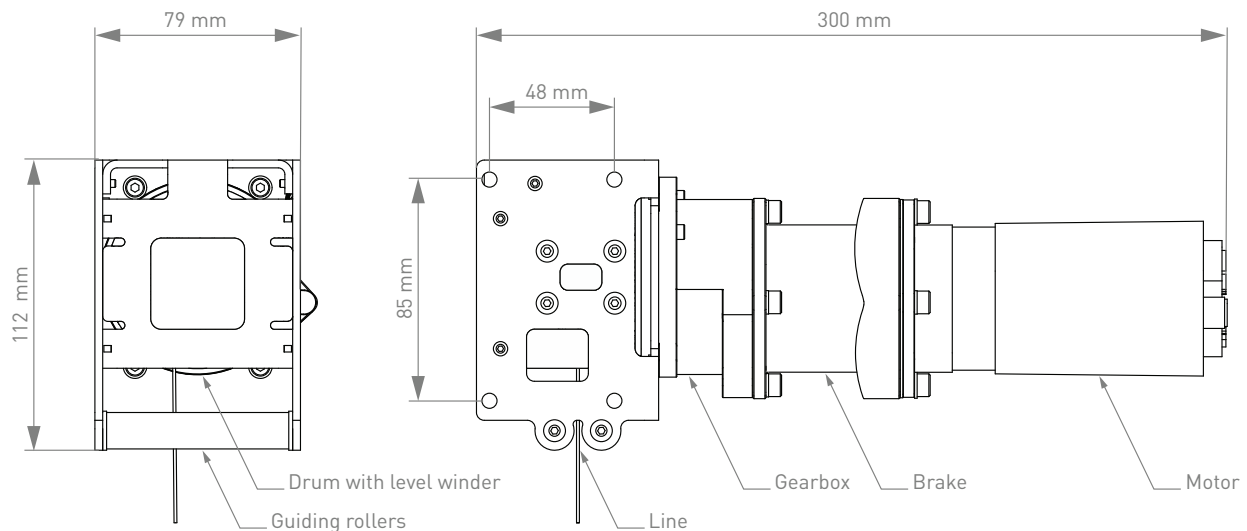
Ruggedized for marine environments

Designed for durability with circular waterproof connectors, a sealed splash-zone system, and marine-grade materials for continuous dipping operations.



UNMANNED
SYSTEMS

SPECIFICATIONS DUS SMART MINI WINCH



PHYSICAL

Size:	300 x 112 x 79 mm (LxHxW) (standard)
Weight:	1.8 kg (standard)
Housing/materials:	Marine grade aluminium (no external housing required) Mountable in multiple orientations
Ratings:	Suitable for fresh and salt water Watertight splash-zone sealed system Operating temperature: 0–40 °C IP67 EMC compliant motor

PERFORMANCE

Payloads:	5 kg dry (standard) up to 10 kg dry*
Power:	12–24 V(DC) Electric drive 83 W motor (standard) Various motor options* Up to 220/230 V (DC)* Portable/battery power pack*
Torque:	2.6 Nm
Level winder:	Mechanical level winding system Guide rollers for uniform spooling
Line speeds:	1 m/s down/up
Breaking system:	Electromagnetic holding brake (zero backlash) Automatic activation in case of power loss (free-fall protection)
Maintenance cycle:	Annual servicing (depending on duty cycle)

*Optional

LINE/CABLE

Line capacity:	30 m (standard) up to 70 m Other options (diameter, material)
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CONTROL & COMMUNICATION

Control interface:	Cross-platform software (Windows/Linux) Native C++ API for 3rd party ROC/USV integration* Web-based API*
Communication & cabling:	Ethernet, Modbus TCP/IP Shielded industrial M12 circular connectors
Remote & automatic control features:	Absolute multi-turn encoder, battery-less kinetic energy system (Wiegand) maintains position without power Automatic docking with soft start/stop Automatic go-to-depth and return-to-zero Configurable hold time at depth Automatic mechanical homing (zero at endstop) Auto-initialization/auto-zeroing Level-winding system Automatic stuck-payload protection Automatic self-recovery after stuck-payload detection Optimized velocity control for fast and smooth depth profiling Energy saving automatic mechanical brake One-click fault reset 5Hz winch status updates

SERVICE

Custom engineering:	Control, integration, mechanical adaptations, etc.
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GET IN CONTACT

For competitive pricing, flexible configuration options, and fast delivery from stock or within 6 weeks for customised setups, please contact us.

unmanned@demcon.com
+31 (0)88 1152000

