Series 488-ACW Autonomous Compact Winch

Next-gen winch designed for autonomous Uncrewed Surface Vessels and Underwater Vehicles (USVs/UUVs)

A powerful compact winch designed for remote real-time control. Mission adaptable for light hydrographic and geophysical payloads (sidescan, CTD, water sampling) and subsurface applications for defense, science and subsea operations requiring failsafe remote winch capabilities (mooring, acoustic packages, etc.).

FEATURES AND BENEFITS

- Real-time interface protocols & local control
- Patented winch design²
- Compact, lightweight, small footprint
- Gearmotor enclosed within winch drum
- Best in class strength-to-weight ratio
- Levelwind standard, slipring optional
- Modular bolt-together design
- Scalable, portable, configurable for varied applications
- Drive Control housed in marine enclosure or supplied as back-panel only for vessel integration

OPTIONAL FEATURES

- Torque Mode: Maintains a constant torque, providing almost constant tension.
- Constant Power Mode: Haul in loads as fast as possible within a certain power consumption, slowing down when loads increase; speeding up when loads decrease.
- Heave Compensation: Improve quality of your data collection to maintain more consistent depths in a variety of surface conditions.



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AUTONOMOUS USV WINCH FEATURES

The 488-ACW is a novel design based upon InterOcean's exclusive license with Woods Hole Oceanographic Institute (WHOI)². It provides a high strength-to-weight ratio, including the easily removable gear motor being enclosed entirely within the drum, and a heavy-duty slewing bearing. The standard winch includes an Integral diamond-screw levelwind and is slip ring ready. The winch is designed for a full IP67/IP68 system rating (3m depth rated for USV operation). Underwater UAV/UUV versions are also available rated to 6000m. Grooved Drum Shells featuring either helical or Lebus (23³/₄.) grooving patterns are available to ensure reliable spooling.

SPECIFICATIONS		
INPUT POWER	24VDC to 72VDC, 4,000 Watts Max	
RATED CABLE LINE PULL	500lbs @ Bare Drum ¹	
SPEED	Infinitely Adjustable from 0-1 m/s 200+ ft/min @ Top Layer (Full Drum) 187 ft/min @ Bottom Layer (Bare Drum)	
SPOOLING CAPACITY	11,000+ feet of 1/8" Rope or Wire 6,500+ feet of 3/16" Rope or Wire 3,500 feet of 1/4" Rope or Wire 1,750 feet of 3/8" Rope or Wire 1,000 feet of 7/16" Rope or Wire	SCREW AND GUIDE BAR
OPERATOR CONTROL	I/F Options include EtherCAT, CANopen, and analog Single Handled Joystick with Fast/Slow Switch on 30ft cable (Optional)	Ø 22"
DATA OUTPUT	Scope and Speed via Encoder and Hall Effect Sensor	FLANGE DIAMETER
BRAKING	Spring Applied, Electric Release, rated for approximately 150% of the winch Max Cable Tension	
LIFTING POINTS	Handles and CoG Lifting Eyes	- CHAINS AND SPROCKETS
OPTIONS	Slip Ring – Focal, IEC or Alpha (Focal 180 Standard) Level Wind – Mechanical Diamond Screw Materials – All Stainless Steel and Synthetic Flexible Spooling – Changeable Gear Sets for Spooling Different Cables	
DIMENSIONS	Width: 23-3/4" (with 4-Ch Focal 180 Slip Ring) Length: 29-3/8" Height: 24-5/8" Weight: 170lbs (without cable and DCE)	GEARMOTOR COMPLETELY INTEGRATED INTO FRAME
DIMENSIONS (DCE)	Width: 6-1/2" (6" back panel only) Length: 12" (10" back panel only) Height: 4" (3 1/2" back panel only) Weight: 5lbs (back panel only)	
DRUM DIMENSIONS	Core Diameter: 12-5/8" Drum Width: 14" Flange Diameter: 22"	

1. Maximum Speed and Loads require 72VDC and approximately 4,000Watts of input power

2. Licensed under Agreement with Woods Hole Oceanographic Institution, Woods Hole, MA 02543. Patent No. US-2018-0244507 (Compact Winch)





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(14") DRUM WIDTH п п/о