

## UPS - 3000SC

## Scientific & Environmental

### Overview

The OceanWorks UPS-3000 Uninterruptable Power Supply provides a reliable power source for a wide variety of sub sea applications. The UPS-3000 builds on proven designs previously deployed and qualified for 25 year life with a 5 to 10 year battery maintenance cycle. The system is designed to provide maximum assurance of power delivery by using multiple redundant elements. The UPS-3000 includes the ability to charge batteries subsea. The system uses commercially available lead acid batteries with intelligent monitoring and charging electronics.

### Application

- ▶ Environmental Baselines
- ▶ Oil Field Monitoring
- ▶ Autonomous Fluid Injection
- ▶ Peak Load Shaving (Load Leveling)
- ▶ UPS applications for subsea sensors or systems

### Features

The UPS-3000 is rated for 3000 meters of seawater and each module includes a 150kWhr start of life capacity, a smart monitoring and logging control system and a wet mateable communication and power connection. The system is designed as three interconnected modules in a single ½ height 20' ISO container sizing. All systems are redundant allowing for graceful degradation of the system in the event of component failure.

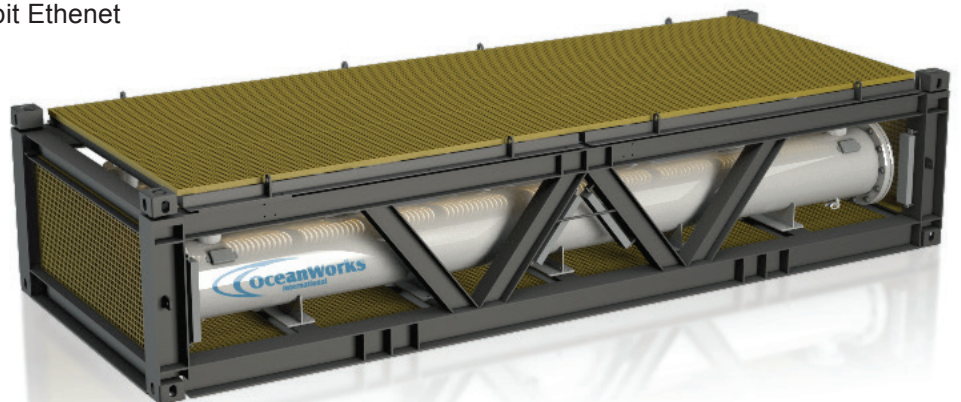
### Specifications

#### Input

- ▶ Input range 300VDC to 400VDC, nominal 375VDC
- ▶ Over voltage and transient protected
- ▶ Communications options (select on build)
  - 1000BaseLX SM fiber optic Gigabit Ethernet
  - 100BaseT Copper Ethernet
- ▶ Wet-mate connector standard

#### Output

- ▶ 375VDC Buffered, 15.5Amp, 6kW
- ▶ Wet-mate connectors standard



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#### Energy Capacities

- ▶ Oil filled, pressure compensated AGM Lead Acid cells
- ▶ Three 50kWh independent battery stings, fully redundant, providing 150kWh start of life capacity
- ▶ 100kWh available after 5 years supporting 30 full charge / discharge cycles per year
- ▶ 70% capacity available after 12 months if deployed without input charging power

#### Charging

- ▶ 24Hours minimum charge time, actual charge time depends on available power

### Communications & Telemetry

- ▶ Telnet command interface
- ▶ UDP hotel data interface (at selectable rates up to 10Hz) SNTP time stamped
- ▶ Per pod, voltage, current

### Standard Testing

- ▶ Pressure boundary hydro-static test
- ▶ 120 hour operation salt water immersion test

### Environment

- ▶ 3000msw operating depth
- ▶ -20°C to +50°C Transport
- ▶ -3°C to +20°C Operational

### Options

- ▶ Custom interfaces and connectors
- ▶ Input voltages up-to 10,000VDC
- ▶ Custom Output voltages
- ▶ Extended burn-in testing optional
- ▶ Optical Gigabit communication links
- ▶ Hub interface for serial connection of UPS modules

#### Mechanical

- ▶ 6m x 2.4m x 1.4m half height ISO container
- ▶ 13600kg in air weight
- ▶ 100% titanium pressure vessel with dual o-ring seals
- ▶ Vibration qualified to IEC60068-2-64, Category 2

#### Reliability

- ▶ 20+ year design life on 5 year maintenance service
- ▶ Class ISO8 Clean-room assembly (pressure vessels)
- ▶ 50,000 Hrs MTBF (MIL-HDBK-217) at 25°C

