



Lithium Polymer UNDERWATER BATTERY

Tritech International Ltd is proud to introduce a breakthrough in subsea battery technology in collaboration with our partners Xipower.

The battery power needs of the subsea industry are both complex and challenging. This technology will be able to address these needs by offering a technology that is lighter, more compact, 3 x more powerful and more efficient than conventional battery technology.

APPLICATIONS:

- AUV Power
- Subsea Data Logging
- Submerged Power Systems
- Subsea Power Back Up Systems
- Remote Wellhead Power
- SBL/LBL Beacon Power
- Remote Instrumentation Power

The Lithium Polymer battery is submersible to full ocean depth. It also features the latest innovative battery management technology from Xipower which incorporates an advanced energy management system. This autonomous management system constantly monitors the performance and efficiency of all the power cells, thereby optimising and extending the operational time of the battery and reducing overall mission support costs. Optional battery communication is also available to monitor the status of all the cells.

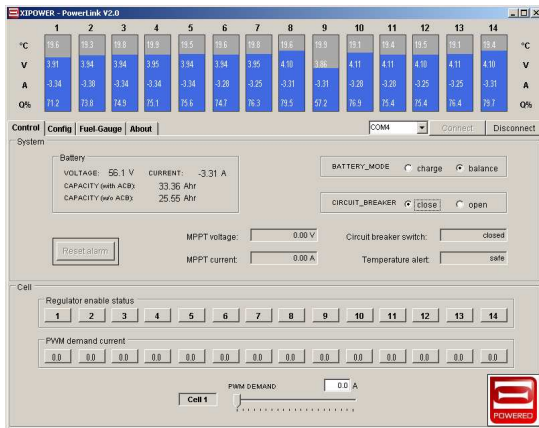


Each battery pack can be built to satisfy the customer's individual power requirement. Its modular design enables a wide range of power cells to be configured to meet the customer specification. By optimising the Lithium Polymer cells and all the associated monitoring circuitry, the battery system offers a flexible and diverse range of voltage and power options.

A key feature of this technology is the optional integrated Active Cell Balancer that enables maximum energy to be stored in the battery pack and enables maximum energy delivery. It also has an optional integrated charger which removes the need for costly external chargers. The overall result is greater time between charges, valuable additional (up to 3 times more than VRLA) operating time for the end user, advanced remote diagnostics and enhanced control for the operator. Its modular construction coupled with advanced inbuilt diagnostics provides a high level of maintainability and upgradeability.

An accurate state of charge for each cell in the battery is derived from measuring each cell temperature, voltage, rate of discharge and the number of charge/discharge cycles. This, coupled with internal self-diagnostic algorithms offers greater system flexibility without compromising performance or safety.

This is a true breakthrough in subsea battery technology, and offers the customer significant potential savings over conventional subsea battery technology available on the market.



Typical battery management interface software



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Technical Data	
Nominal voltage	14.8 V
Open-circuit voltage	16.8 V
Cut-off voltage	10.8 V
Typical capacity 23°C, 2.5 A discharge	5 Ahr
Maximum continuous discharge	15 A
Maximum recharge current	2.5 A
Operating temperature	-20°C to 60°C
Recharge cycle life	> 500 cycles

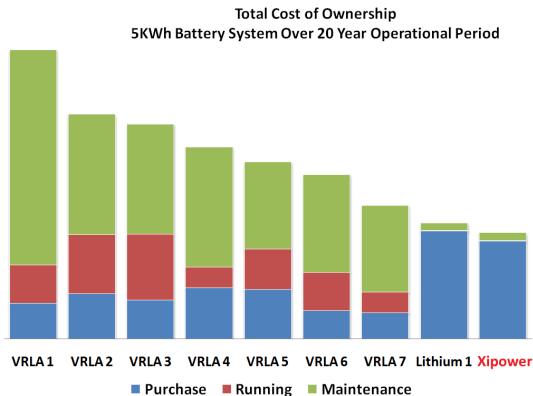
Physical Data	
Cassette weight	700 g *
Lithium metal content	less than 6 g
Dimensions L, W, H	170 mm, 95 mm, 33 mm
Terminals	Subconn
Conformance	UN 3090 EN 61000
Transportation	Individual cassettes exempt from UN 3090 Class 9 shipping regulations

*preliminary

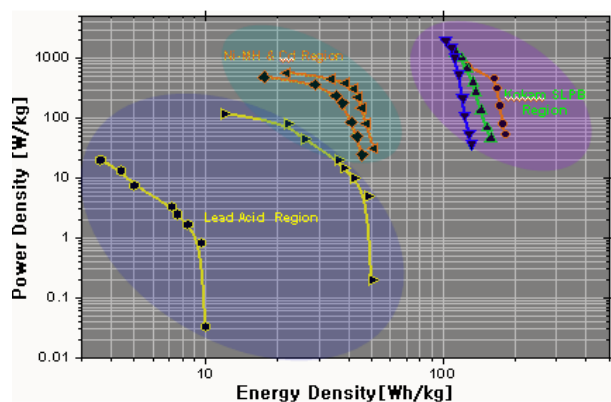
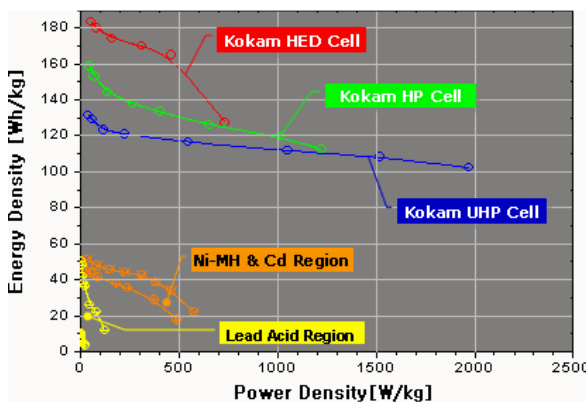


Summary of benefits of Lithium Polymer battery over a comparable lead acid battery...

	Lead	Lithium
Environmental Impact	High	Low
Energy Density	1	x4
Volumetric Density	1	x3
Coulombic Efficiency	70%	Near 100%
Self Discharge	1 Year	10 Year
Charge Rate	1	x5
Toxicity	High	Very Low
Availability of material	1	x20



Power vs. Energy Characteristics Li Poly Cells vs. other cell Chemistries



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