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SYDNEY



## LiFePO<sub>4</sub> battery management system

**A wireless battery management system for LiFePO<sub>4</sub> batteries that can survive cold-soaking at -80°C and has been proven in Antarctica.**

### Competitive advantage

An innovative battery management system that:

- Has zero wiring
- Uses infrared for communication
- Allows hundreds of cells to be queried in seconds
- Contains one node per cell; the firmware is programmable using infrared
- Can program multiple nodes in parallel, from any single node
- Completely separates digital and analogue sections for redundancy
- Has a large current capacity for charge balancing
- Is proven to survive 4100m altitude in Antarctica under -80°C conditions

### Impact

- Developed for use in Antarctica where reliability and low-temperature survivability are critical, and where untrained operators need to be able to replace cells easily
- Eliminating wiring and connectors, which are the major cause of failures

### Successful applications

- Used by China's astronomical observatories at Kunlun Station, Dome A, Antarctica.

### Capabilities and facilities

- -80°C fridge for environmental testing
- Fault-tolerant software using low-power AVR microcontrollers

### Our partners

- Polar Research Institute of China
- Purple Mountain Observatory, China

### More Information

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