



## LEAD BATTERIES: ENERGY STORAGE CASE STUDY



### Ecoult Energy Storage Solutions **100% Off Grid Community**

#### **Moora Moora Co-Op, Australia**

In this 100% renewables-powered community, consisting of over 70 people and 30 houses located on Mt Toolebewong, a lead UltraFlex® powers the “heartbeat” of the large solar residential microgrid, allowing the community to live entirely off grid.

The system is also part of a training centre on site for renewable and storage installers, for which UltraFlex is an important training tool. The microgrids manager and designer, Moora Moora resident and solar installer Glen Morris, has access to the instantaneous and historical performance of the microgrid.

**“The Ecoult UltraFlex was chosen to power this central “heartbeat” due to its high power handling capabilities, sophisticated monitoring system and availability of local support from the engineers who designed the technology.”**

John Wood, CEO, Ecoult

#### **Technical Specification**

Commissioned in February 2015, the UltraFlex 48 V system is used as an anchor for the remainder of the large microgrid on site, including a 3 phase power system and extensive PV generation.

The Moora Moora Co-Operative’s microgrid required a central source with high power quality to synchronise the various battery systems and technologies in home around the community.

The Ecoult UltraFlex was chosen due to its high power handing capabilities, sophisticated monitoring system and the availability of local support from the engineers who designed the technology.



## Technical Summary

Battery specification	4 strings, UltraBattery
Capacity	608 Ah
Overall voltage	48 V
Overall Power Output	20 kW
Available Stored Energy	20 kWh

## UltraBattery

The UltraBattery is a hybrid energy storage device which combines the fast charging and long life of an ultracapacitor with the energy storage capability of a lead battery in one unit with a common electrolyte.

The negative plates have a normal electrochemical function combined with an ultracapacitor and the positive plates are the same as a normal lead battery.

These features allow the UltraBattery to perform better than conventional lead batteries in shallow cycling operation.

## About the Company

Ecoul is the global energy storage arm of the world's largest single-site lead battery manufacturing facility, East Penn Manufacturing (EPM), known worldwide for its quality and environmental excellence.

Ecoul provides software, hardware, systems integration and engineering to monitor and control the energy storage systems and maximize their capabilities. EPM manufactures the Deka UltraBattery cells inside every system.