

Modular zinc bromide flow battery

The ZBM battery is the main product of the Australian battery manufacturer RedFlow. It is a zinc bromide battery which was developed to efficiently store energy from renewable energy such as photovoltaic systems.

The ZBM is a high-performance battery with high energy density and maximum efficiency at deep discharge. It provides up to 3 kW continuous power (5kW–peak) and up to 10 kWh of energy. There can be full discharge and full charge on a regular basis – without significantly losing performance and lifetime. The battery has a long lifetime of >40 MWh, low life cycle costs and an ideal operating temperature range of +5 to +45 °C. The battery is designed for regular deep charge and discharge cycles. Therefore, this energy storage battery is ideal in combination with renewable energy.

Scalable and flexible

As a scalable, modular system several RedFlow ZBMs can be used in parallel or in series, so that flexible voltage or capacity interpretation can be reached from 8 kWh to MWh in the area. Thanks to the integrated intelligent control software, the battery can be individually configured and is therefore ideally suited for various applications. The ZBM has an open-source MODBUS communication system and works with standard market control and power electronics.



Safe, recyclable design

The RedFlow ZBM is constructed so that when an error occurs, the chemical reaction is stopped and the electrolyte is isolated in the tank. In the event of a short circuit, electrical safety is ensured by current regulation. An intelligent control software continuously monitors the status of the battery. If any faults occur, the battery automatically makes a shut-down. The ZBM of RedFlow consists of inexpensive, mostly recyclable materials – mainly made of plastic, metal and water-based electrolyte.