

REDFLOW R&D DIVISION

MANUFACTURED BY **FLEXTRONICS**

SYSTEM INTEGRATORS

Store and shift renewable energy, manage peak grid load, support off-grid power systems and telecommunications, with the Redflow ZBM.



10kWh

48V

### ZBM 2

IDEAL FOR SUPPORTING TELECOMMUNICATIONS AND COMMERCIAL PROJECTS

High energy density at 10kWh

Warranted total energy throughput 30MWh or a maximum of 10 years, whichever comes first.

Ideal for telecommunications applications at 48Vdc

Power Rating 3kW (5kW peak)

## Product Features

### ROBUST AND LONG LIFE DESIGN

- Ideal for tough conditions, with high temperature tolerance up to 50°C (122 °F) without air conditioning, mitigating additional cooling costs.
- 100% depth of discharge for day-in day-out deep cycling.
- 100% depth of discharge is perfect for intermittent energy sources (unstable grids and renewable energy), there is no battery damage from regular power outages.
- Guaranteed indefinite battery life, when fully discharged and no maintenance required, meaning no calendar life.
- No trickle charge required when deployed or stored.
- Batteries can be kept at zero state of charge for long periods of time without degradation.
- Made from recyclable and commonly sourced materials.
- CE Certification and RCM (C-Tick) for ZBM and ZBM2.

### COMPACT WITH HIGH ENERGY DENSITY

- 0.34m2 [3.7ft2] for all products with up to 44MWh expected energy throughput - 40MWh

- Total weight of 240kg or 90kg without electrolyte.
- Modular system, series or parallel connect for larger storage requirements.

### INHERENTLY SAFE AND SMART DESIGN

- Zinc-bromide electrolyte is water-based and a natural fire retardant.
- Intelligent battery which self manages, self protects and informs via remote monitoring.
- No thermal runaway, due to physical separation of cell stack and energy storage tank.
- Safety abuse testing and safety encasing required.
- Theft deterring design.
- Plug and play for easy installation.

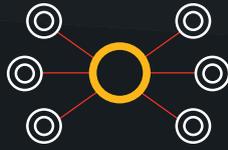
### 24/7 BATTERY MANAGEMENT AND DATA CAPTURE

- Self-monitoring with real-time data capturing and error reporting through the MODBUS communications system.

## Building blocks to advanced energy storage features



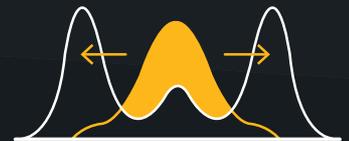
100% depth of discharge is perfect for intermittent energy sources with no battery damage from regular power outages.



Redflow batteries are suited to storing long-duration and renewable energy during times of high generation and discharging it during peak periods.



Enables grid peak shifting and shaving for utilities and consumers.



Our flow batteries reduce the cost of generating energy by storing and shifting renewables for anytime use.



TELECOMMUNICATION APPLICATIONS



RENEWABLES INTEGRATION



ON AND OFF GRID REMOTE POWER

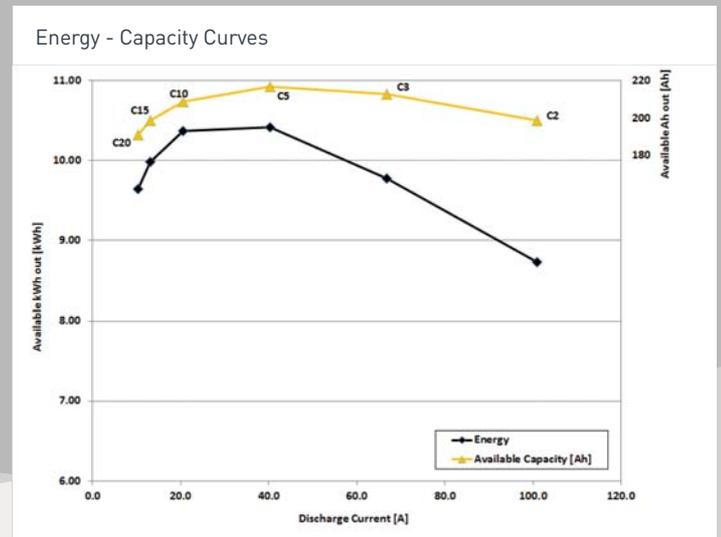
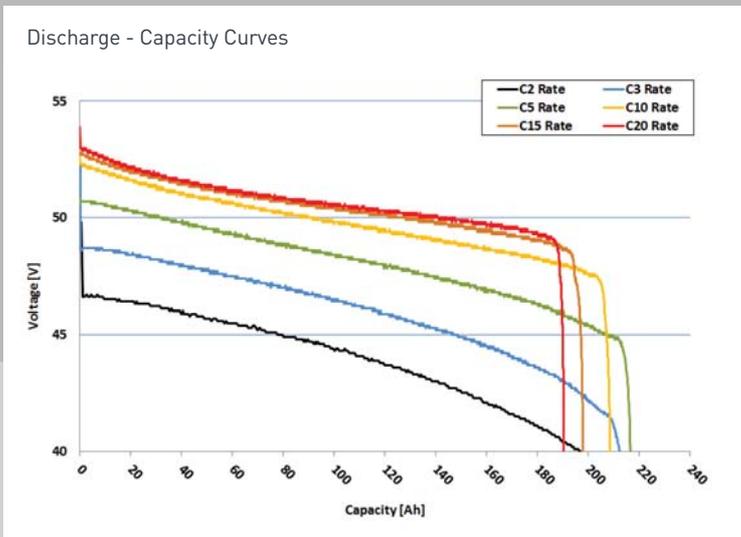
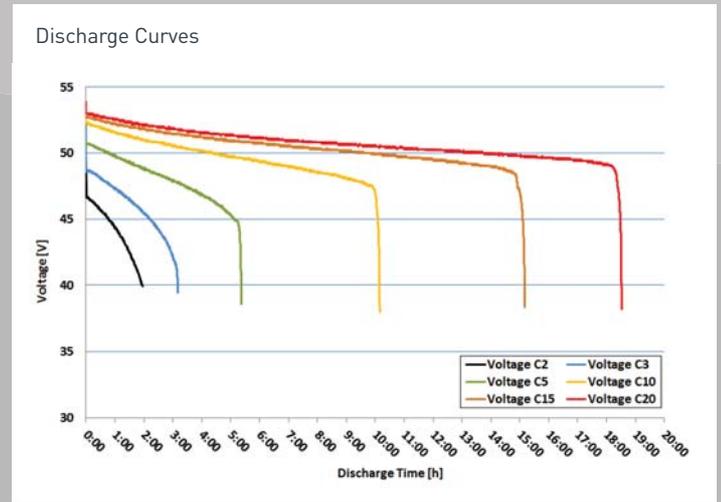
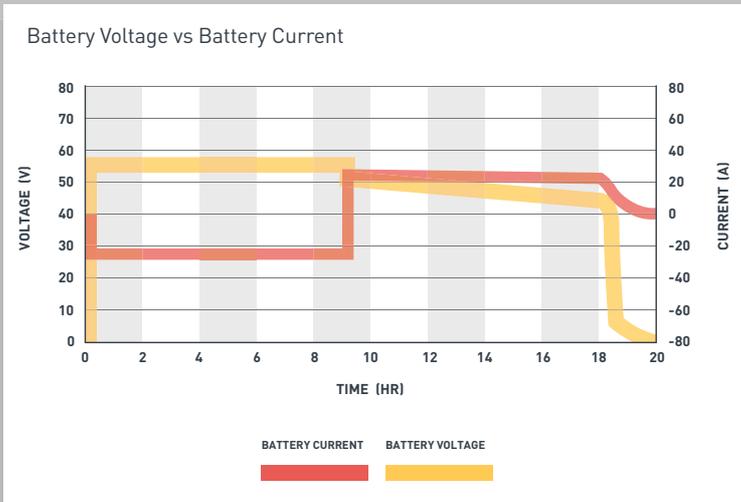


MICRO GRID AND SMART GRID



TRANSMISSION AND DISTRIBUTION DEFERRAL

## Typical Charge and Discharge Curve



## Technical Specifications

### DIMENSIONS

845 L x 823 H x 400 W (mm)  
33 L x 32 H x 16 W (in)

### WEIGHT

240 kg (530 lb) with electrolyte  
90 kg (198 lb) without electrolyte

### ELECTROLYTE VOLUME

100 L (26Gal)

### NET ENERGY EFFICIENCY

80% DC-DC Max

### INTERNAL OPERATING TEMPERATURE

10°C to 50 °C (50°F to 122°F)

### COMMUNICATION

RS485, MODBUS

### SAFETY DATA SHEET

DG Class 8 for electrolyte

### POWER RATING

3kW (5kW peak)



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