

# Energy Pod200

The Redflow Energy Pod200 is a scalable storage solution with the capability to store up to 200 kWh of energy. Our ZBM flow batteries are housed in a custom enclosure which provides electrical protection and power conditioning, enabling it to deliver energy safely and reliably in a range of applications.



## Key applications

- + Peak shaving
- + Bulk energy shifting
- + Renewables integration
- + Smart grid support
- + Backup power
- + Microgrid

## INTEGRATED POWER CONDITIONING EQUIPMENT (PCE)

Equipped with optional and scaleable DC-DC converters to achieve higher range output voltages.

OR

Selected hybrid inverters for direct AC output.

## BUILDING BLOCKS

- + Compatible with central inverters (if DC-DC converters are integrated).
- + Compatible with DC-coupled architecture.
- + Hybrid inverter options enable direct solar PV integration.

## HARDWARE PROTECTION

- + IP55 outdoor suitable enclosure.
- + Isolation circuit breakers on individual batteries.
- + Integrated inverters also individually isolated.
- + Protection inherent in the ZBM3 batteries included (refer to the ZBM3 datasheet).
- + Fire suppression not required. Non-flammable electrolyte is not subject to thermal runaway (tested to UL9540a). Fire test reports available upon request.

## ELECTRICAL RATINGS

- + **DC link voltage:** 765 Vdc to 950 Vdc (range)  
850 Vdc  $\pm$  10% (balanced to Earth)
- + **Battery Voltage:** 48 Vdc (nominal)

## AUXILIARY POWER

- + **Type:** Single phase plus ground, 50/60 Hz
- + **Voltage range:** 110 Vac to 240 Vac
- + **Power:** 250 W

## COMMUNICATION

- + **Supported protocols:** JSON, TCP/IP, Modbus over TCP/IP or RS485, CAN
- + **EMS and third-party monitoring:** Ethernet, CAN, Serial (RS485)
- + **Inverter communication:** Ethernet, RS485, or CAN
- + **Remote monitoring:** Cloud or local monitoring

## SITE PREPARATION

- + **Foundation:** Level concrete plinth suitable for weight loading, max foundation slope 0.5°.
- + **Access:** On 3 sides not against a wall or fence (for ventilation). Clearances outlined in technical specifications.



MODULAR



SCALABLE



COMPETITIVE CAPEX

# Technical Specifications

## TECHNOLOGY

- + **Battery type:** Zinc-bromine flow battery.
- + **Architecture:** 20 parallel connected ZBM 10 kWh batteries.
- + **Battery management:** Incl. Battery Management System (BMS).

## PERFORMANCE

- + **Rated discharge power:** 100 kW (peak) @ 48 Vdc or 60 kW (continuous) output dependent on PCE selection.
- + **Rated discharge energy:** 200 kWh
- + **Duration:** 3.5 – 12 hours (incl. hibernation capability)
- + **Depth of Discharge:** 100%

## ENVIRONMENTAL

- + **Ambient temperature:** 10 °C to 45 °C (50 °F to 113 °F)
- + **Enclosure:** IP54/NEMA 3R
- + **Seismic:** California building code seismic zone 4.
- + **Humidity:** 5 %RH to 95 %RH (non-condensing)
- + **Altitude:** Up to 2000 m (6500 ft)

## PHYSICAL

- + **Dimensions ( W x D x H ): 2895 x 2024 x 2225 mm (9' 6" x 6' 8" x 7' 4")**
- + **Clearances:** Front and Rear: 1000 mm (40")  
Right Side: 1200 mm (40")  
Left Side: 50 mm (2")
- + **Mass:** 6250 kg (approximate) (13800 lb)
- + **Handling:** Forklift, crane
- + **Transport:** Standard ISO shipping container: 2 per 20', 4 per 40' container.
- + **Mount points:** M16

## STANDARDS

- + Selected hybrid inverters comply to regulatory approvals in AU, US and ZA markets. Others to be determined if required.
- + Certification to UL1973 in progress and UL9540a completed.

## Battery Management System (BMS)

### FEATURES

- + Measurements: voltage, current, power, temperature.
- + Accurate SOC reporting.
- + Available energy and charge/discharge power.
- + Real-time data logging.
- + DC-DC Converter command and control.
- + Thermal management control and monitoring.

### REAL-TIME MONITORING AND CONTROL

- + Protection against overcharging or discharging.
- + In-situ stack protection.
- + Monitor leak sensors.
- + Electrolyte over temperature.
- + Authentication and access control validation.
- + Automatic power management at the end of discharge, independent of the inverter command.

## About Redflow

Redflow Limited, a publicly listed Australian company (ASX: RFX), produces zinc-bromine flow batteries for stationary energy storage applications. Redflow batteries are designed for high cycle-rate, long time-base energy storage, and are scalable from small commercial systems through to grid-scale deployments. Redflow's smart, self-protecting batteries offer unique advantages including secure remote management, 100 per cent daily depth of discharge, tolerance of high ambient temperatures, a simple recycling path, no propensity for thermal runaway and sustained energy delivery throughout their operating life.



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