



BESS

Battery Energy Storage System(BESS)

100 kW/5MWh

Arenq Storage System

The Arenq Mid-Node 100kW/5MWh BESS is a fully integrated, plug-and-play energy storage solution engineered to meet the demands of both on-grid and off-grid applications. Designed for maximum flexibility, reliability, and efficiency, this system enables significant cost and emission reductions without requiring upfront capital expenditure. These batteries can be operated in island mode, as a part of a hybrid solution with a generator or in parallel with additional BESS, and is ideal for renewable power applications.

- **Environmentally friendly, helps meet emissions regulations**
- **Reduced generator run time and fuel consumption, enabling cost savings and autonomy**
- **Enables management of variable loads by storing excess energy for later, increasing reliability and eliminating light load periods**
- **Reliable and intuitive controls for ease of use and diagnostic capabilities**
- **Increased utilization with simple service and long service intervals**
- **Fast installation and commissioning**
- **Backed by Arenq support, including remote monitoring, for enhanced reliability and uninterrupted operation**
- **Features**
- **Wide operating temperature range**
- **Power Conversion System that combines inverter and charger**
- **Low internal resistance and high efficiency**



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- ECO controller provides intuitive control and monitoring for all batteries and power electronics integrated in the battery pack
- Overload Capability $\leq 10\%$ of nominal value (max. 1 min)
- Delivers zero CO₂ emissions, minimal noise, and have zero maintenance needs, enabling operators to minimize environmental impact
- Designed for ease of maneuverability and transportation
- Emergency stop
- Designed and built to Arenq uncompromising quality standards

Technical Specification	
Parameter	Specification
System Capacity	5,000 kWh (5 MWh)
Rated Power Output	100 kW (continuous)
Battery Chemistry	Lithium Iron Phosphate (LiFePO ₄)
Nominal DC Voltage	768 V DC (typical range: 600–800 V)
Operating Voltage Range	672 V – 864 V DC
Nominal Capacity	~240 Ah per string \times multiple strings
Cell Nominal Voltage	3.2 V
Battery Configuration	Multiple 48V/51.2V modules in series-parallel
Inverter/PCS Rating	250 kW, 3-phase, grid-tied or off-grid
AC Output Voltage	400 V / 415 V AC, 50Hz or 60Hz
Round-Trip Efficiency	$\geq 90\%$
Cycle Life @ 80% DoD	$\geq 3,000$ cycles
Communication Interface	RS485 / CAN / Ethernet
Protection Features	OVP, UVP, OCP, OTP, SCP, BMS-integrated
Cooling Method	Air-cooled or optional liquid cooling
Container Type	10ft / 20ft outdoor-rated (IP54–IP65)
Ambient Operating Temperature	-20°C to $+55^{\circ}\text{C}$
Altitude	≤ 2000 m (derated above)
Fire Suppression Optional	(gas, aerosol, or water mist)
Monitoring System	EMS + BMS + SCADA interface (optional)