

MICROGRID-ENABLED BATTERY ON TRAILER (MeBOAT™)



QUANTA
TECHNOLOGY

Overview

MeBOAT is a fully-transportable self-contained Mobile Battery Energy Storage System (MBESS) designed for relocation and fast interconnection at a new site, using a standard generator terminal box with Cam-lok™ plugs. MeBOAT was originally developed as a clean replacement for emergency (portable) diesel generators. However, the mobility enhances the value and utilization of energy storage by including the flexibility in capturing locational benefits of grid support or customer-specific applications. The MBESS platform is equipped with a Microgrid Energy Management System (MEMS) that provides comprehensive sets of autonomous controls, optimization schemes, and supervisory capability for ease of remote operator access and/or integration back to the Dispatch Center for overall grid coordination.



Not to scale. See reverse for specifications.

Reliable and Sustainable Design¹



- Most reliable, fire-resistant, and safe battery-cell technology
- Explosion- and fire-resistant battery cabinets
- Additional fire suppression systems designed to meet NFPA 855 fire protection standard
- Emission-free design
- Sound-attenuated container enclosure
- Condition monitoring based on preventative techniques

Mature Technology

- UL-certified Battery Management System (BMS)
- Lithium iron-phosphate (LiFePO₄) battery cells
- High full cycle charge rate (more than 4000)
- Mature technology from electric vehicle industry

Mobility

- Containerized solution
- Installed on a flat-bed trailer for easy transport
- Anti-vibration and tension-resistant design

Plug-and-Play Interconnection

- Compliance with IEEE 1547-2018 interconnection requirements (using standard switches)
- Including visible load-break disconnect switch, fault interruption circuit breaker, and synchronizing devices
- Isolation transformer for interconnection with fuse and circuit-breaker overcurrent protection

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Clean . Mobile . Quiet

Clean Replacement for Emergency Diesel Generators



Outage Management and Maintenance Support

Replaces traditional forms of backup generation units (e.g., diesel generators) for supplying customers during service interruptions due to outage or maintenance.



Peak Load and Demand Charge Management

Provides peak-shaving capabilities during periods of high demand or high electricity prices to relieve loading on utility assets and achieve global cost reduction.



Voltage Control

Mitigates and improves commonly experienced voltage issues to enhance customers' power quality on the distribution systems through corrective actions.

(1) The information on this brochure is presented as general system specifications applicable under normal use. Technical details, including warranty terms, may vary as detailed designs are developed for specific customer projects and commercial terms. Actual contractual and guaranteed performance may vary.



Battery System

Cell Technology	Lithium iron-phosphate (LiFePO ₄)		
Voltage Range (DC)	624–864 V DC		
Recommended Charge Current	1C		
Power Conversion System (PCS) & Intertie	75 kVA single-phase	250 kVA three-phase	500 kVA three-phase
Rated Power Output at 30 °C and Nominal Voltage	75 kW	250 kW	500 kW
Interconnection Voltage	120/240 V	480 V (USA standard listing) 600 V (Canada standard listing)	
AC Output	Single/split-phase (Isolated)	<ul style="list-style-type: none"> 3-phase, 4-wire ungrounded, Isolated (grid connected) Grounded (stand-alone) 	
Nominal DC Voltage	770 V DC		
Nominal AC Current	312 A	300 A (480 V) 240 A (600 V)	600 A (480 V) 480 A (600 V)
Grid Frequency	57–63 Hz		
Current Harmonic Distortion	< 3%		
Protection	<ul style="list-style-type: none"> Circuit breaker with manual (visible) disconnect switch for grid side SEL-751 protection relay for interconnection 		
Communications	<ul style="list-style-type: none"> ModBus/DNP3 (TCP) - Third-party SCADA access LTE cellular (asset monitoring) 		
Standards Compliance	IEEE 1547, UL 1741, UL 1973		

Container and Trailer

Onboard Standby Auxiliary Power	120/240 V UPS (6.8 kVA, 10 kWh)
Auxiliary Power Consumption	3 kW maximum
Trailer/Container Dimensions L x W x H (ft)	22' x 8' x 11'8" (Container only: 20' x 8' x 8'6")
Fully integrated HVAC	9200 BTU/hr unit with thermostat control (qty. 2, primary and backup)
Fire Suppression System	Fire Extinguisher, Smoke detector
NEMA Rating/IP Class	NEMA 3R/IP54
Elevation	<2500m
Ambient Operating Temperature	-40 °C to 40 °C
Weight	9.5 metric tons

