

THE BATTERY

MOBILE



About TheBattery Mobile

Due to the increasing demand for energy storage in the rental market and the unique experience Alfen has within microgrid storage projects, Alfen launched TheBattery Mobile back in 2018 as a special concept tuned towards the rental market with a design based on the proven TheBattery product, Alfen's battery energy storage system. The solution addresses the ever increasing need of a clean power supply for temporary solutions in urban and remote areas. TheBattery Mobile solution is not only used on events, construction sites or temporary EV charging hubs, but is also implemented to support grid stability.



Best in class battery package and components

Li-ion based batteries from BMW with corresponding Battery Management System (BMS) combined with an independent selection of the component suppliers. Guaranteed lifetime with a minimum of 10 years performance warranty.



Standardised production with modular scalability

Modular Plug & Play system, expandable over time to accommodate the ever-growing energy demands. Easy to expand the system by connecting several TheBattery units to increase the energy capacity.



Flexibility in regard to the future electricity grid

The system's design and its manoeuvrability allow the multi-purpose asset to solve current and future grid issues and benefit from additional revenue streams within different markets and locations.

Applications

- P-Q mode
- Peak shaving
- Frequency response
- SoC control
- Microgrid
- Back-up functionality

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Battery type	Multiple BMW-i3 42.2 kWh batteries using Li-ion NMC chemistry
System battery capacity	169 kWh - 422 kWh per 10ft container; larger systems are possible with Alfen's modular and integrated multiple container solution.
Connection	Grid, Generator, AC coupled Solar/Wind, off-grid
Power Conversion System	Energy Storage Inverter(s) (ESI) of max. 300 kVA each (under optimum grid and temperature conditions). Features: modularity, redundancy, high efficiency, wide range, minimal low-load losses.
Energy Storage Inverter Efficiency	97,2% max.
Required Minimum Input Connection	3P + N 63A 230/400Vac; compliant with EN 50160:2010. Also suited for IT grids (input/output)
Output Voltage	3P + N 230/400Vac
Earthing	From grid connection or external earthing pin
Output Frequency	50 Hz; compliant with EN 50160:2010, (60 Hz is optional)
System Controller and Communication	Combination of a high-end industrial controller with an in-house developed Remote Terminal Unit (RTU). Various communication channels are possible: via the local HMI, Modbus TCP/IP and Alfen's TheBattery Connect back office platform for remote monitoring and control. This platform offers flexible and open-standard interfacing to the customer's Energy Management System.
TheBattery Mobile Control Panel	TheBattery Mobile is designed for complete outdoor use. To control the system, the main control panel on the outside of the container can be used. To access the panel, a separate door needs to be opened with a key based lock. The panel includes all necessities for safe and easy operation, for example: Human Machine Interface (HMI) panel, data connectors, main switch, circuit breaker etc.
TheBattery Connect	Alfen can offer access to a live web portal, TheBattery Connect, which allows remote monitoring and controlling of the system. TheBattery Connect platform includes the following type of features: system overview, power and FCR profiles, State of Charge control, peak shaving, monitoring, alarms, reports. For more specific information on the platform, please refer to TheBattery Connect datasheet.
Operational Modes of System Controller	Off-grid, Peak shaving, Energy trading (P/Q Control), Frequency Response and other ancillary services (installation of external energy meter required).
Operating Temperature Range	-20°C to + 40°C Optional: temperature range extension (-40°C)
Climatization	Batteries refrigerant cooled; Inverters are external forced air cooled.
Standards	NEN3140, ISO9001, ISO14001, ISO 27001, Low Voltage Directive 2014/35/EU, EMC directive 2014/30/EU, Batteries directive 2006/66/EU, HD IEC 60364: 2005, NEN 1010: 2015, IEC 61439-2: 2011, EN 61000-6-2:2005, EN 61000-6-4:2007+A1:2011, IEC 62619: 2017, IEC 60947, IEC 61439, IEC 62271-100, IEC 62271-102, IEC 62271-103, IEC 62271-200, Road and sea transport ADR class 9, UN 3536, UN 3481 (Lithium-ion Batteries in equipment)
Noise level	Max. 55.5 dB(A) at 10 meter (20°C ambient temperature) depending on positioning
Connection to power supply and load	Integrated Low Voltage (LV) distribution board with 3 available (Powerlock) connection fields: 1 input field for the local grid or a back-up generator and 2 output fields.
Warranties	Product warranty of 2 years. Battery capacity performance guarantee up to 10 years (depending on the load profile).
Operation & Maintenance	Various Service Level Agreements available
Type of enclosure	Containerised integrated solution
IP-value of enclosure	IP54
Container type	10ft
Dimensions (l x w x h)	2.99m x 2.44m x 2.59m
System weight	7,500 kg

NOTE

- Other system configurations upon request.
- Subject to misprints, errors and technical modifications.

