



TheBattery MOBILE X

Mobile Energy Anywhere

Datasheet



ALFEN
POWER TO ADAPT

Alfen's TheBattery Mobile X

TheBattery Mobile X is Alfen's all-in-one solution designed to provide temporary power and energy you need in any kind of situation, regardless of the complexity. Whether the application is a construction site, a factory, or grid stability support, TheBattery Mobile X provides the reliable power and energy you need for a multitude of use cases. Built in the Netherlands, it is Alfen's 4th generation mobile battery energy storage system which is now even more versatile and flexible than previous generations.

Applications



Product Highlights

Xtreme energy & lifetime

Advanced battery technology & superior liquid cooling design.

Xtra secure

Multilayered safety design. IEC 62933 & UL9540A tested.

Xtremely easy to use anywhere

Quick installation within minutes. Simply plug & play.

Xccelerate your sustainability journey

Sustainably sourced, recyclable & enabling zero emissions on-site.

Use cases



Net congestion

Increase the max power capability of a grid connection by providing additional power to peak loads. The charge limits are fully adaptable.



Energy markets

Participate in the energy markets like imbalance (FCR), intraday (FFR) and day ahead with Alfen's EU compliant ancillary services modes.



Genset Optimization

Connect a genset or any other kind of generation source to decrease the run time up to 70-80%, reducing fuel, emissions and noise.



Microgrid island

Increase reliability of power supply in case the grid fails. Alfen's microgrid island operating mode ensures smooth transitioning and prevents blackouts.



Off grid

Go completely 0% emissions standalone or by connecting a renewable energy source. The Mobile X simply reacts to the load.



Multi mobile

Incorporate multiple mobiles to meet any power, capacity or redundancy. Alfen's multi-mobile mode ensures smooth interconnectivity.

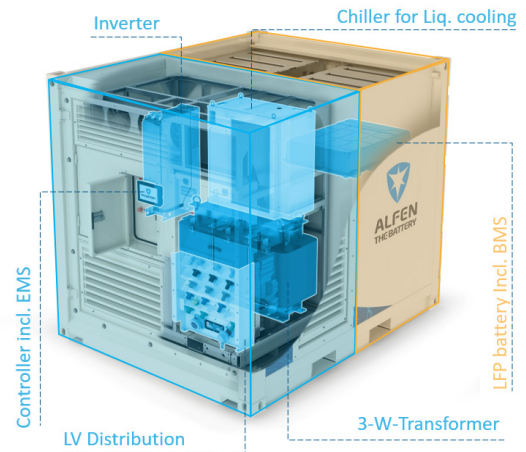
Specifications

Bess System*	TB-MX-360	TB-MX-540	TB-MX-720
Rated AC power capability	270 kW / 270 kVA		
Rated AC Energy Capacity	360 kWh	540 kWh	720 kWh
BESS Round Trip Efficiency	> 84 %	> 85.1 %	> 85.3 %
Inverter	1x bidirectional 270 kVA air-cooled & 1x one way 20 kW air-cooled. Option to enlarge to 80 kW.		
Voltage	400 V AC \pm 10%		
Frequency	50 Hz - 60 Hz		

*All values are indicated at 20°C ambient temperature. For 60 Hz the specifications may alter.

Battery

Battery Type	Prismatic 280 Ah cells
Cell Chemistry	Lithium-ion LiFePo4 (LFP)
Cooling	Liquid cooled water glycol
Cycle life	> 8000 Cycles
Depth of Discharge	100 %
Self-discharge	< 1 % per month



Connections	Type	Intended use
AC input	• 1 x 400 A quick connect powerlock (N+PE+3P)	In hybrid mode for local grid or backup generator.
	• 1 x 32 A CEE Connection (galvanically isolated)	Auxilliary supply during storage
	• Option to enlarge 32 A to 125 A	For weak grid
AC output	• 2 x 400 A (N+PE+3P) powerlock with motorised breaker	Standalone output up to 400 A; in hybrid mode up to 800 A via 2 outputs combined
	• 1 x 63 A CEE switchable	
	• Every output is independently switchable via Modbus	
Earthing	Provision for external pin or via grid connection	

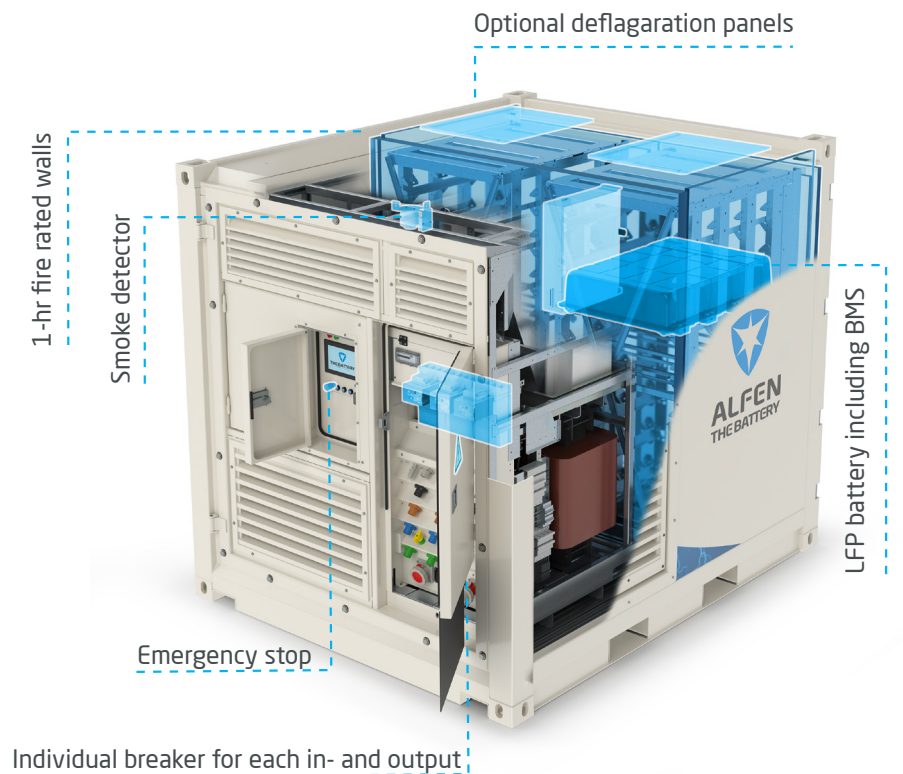
Compliance & Safety

General	• CE Declaration (UKCA)
	• IEC62933 series
	• UN3536
Electrical safety	• Low Voltage Directive: IEC 60364, IEC60664-1/4, IEC61140, NEN1010, NEN3140, IEC62477
	• EMC Directive: 61000-6-2/4, IEC62052-11/21/22/23
Electrical safety features	• Breakers on each individual input and output
	• Emergency stop button on input and output
	• Build-in transformer
	• Anti-islanding protection
	• AC over current protection
	• Isolation monitoring device DC-side standard
	• Isolation monitoring device AC-side optional (for IT network)
• AC surge protection SPD type II	

Specifications

Compliance & Safety

General safety	<ul style="list-style-type: none"> • IEC62933-5-2 • IEC62619 7.3.3 system level thermal runaway propagation test • UL9540A cell / module thermal runaway propagation test • PGS37-1
General safety features	<ul style="list-style-type: none"> • Li-ion LFP battery including Battery Management System • Smoke detector, Emergency stop, visual warning indicator • 1-hr fire rated battery compartment • Optional deflagration panels • Rack and module designed and tested to withstand shocks & vibrations during transport
Battery	<ul style="list-style-type: none"> • EU Battery Legislation • EU Battery Directive • IEC62619 • UL1973 • IEC63056 • UL9540A • UN38.3
Cyber security	<ul style="list-style-type: none"> • NIS2 Directive : IEC62433 (In Progress), IEC61850 (Optional)
Grid codes	<ul style="list-style-type: none"> • EN50549-1 • Specific grid code requirements upon request



Specifications

Control & Interfaces

Control modes	Peak Shaving, Ancillary Services (FCR/FFR), Microgrid Island (back-up), Powerpeakshaving, Multi-Mobile (ugrid & grid connected), Genset Control, Storage mode, or Manual (P/Q)
API	Customer API (incl. hardware) integratable to control and monitor via own backoffice
Communication interface	Modbus TCP, other options upon request
Local interface	7" Touchscreen HMI for status, commands, diagnosis and visual status indicator
Monitoring	Real-time asset management & monitoring via TheBattery Connect cloud-based platform
Data logging	Real-time and historical data via TheBattery Connect cloud-based platform
External connection	Standard modem with 4G internet

General	TB-MX-360	TB-MX-540	TB-MX-720
Operating temperature range	-25 °C to +35 °C ambient. Up to +45 °C with derating. -40 °C optional and upon request.		
Relative humidity	0-100% (non-condensing)		
Dimensions	2.99 m x 2.44 m x 2.59 m (ISO 10 ft)		
Weight	9 600 kg	10 900 kg	12 200 kg
IP-value of enclosure	IP54		
Environment class	C4, water, no salt		
Altitude	1000 m		
Sound level	max 79 dB at 1 m distance		
Colour	RAL 9010 incl. Standard Alfen branding. Custom branding optional.		
Transport	Forklift or four point lift, CSC compliant		

Other

Warranty	2-year standard warranty
Guarantee	10-year standard battery performance guarantee. Optional extension up to 15 years and/or flexible guarantee.
Service	Various Service Level Agreements incl. 24/7 helpdesk available

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