Datasheet
TheBattery™ - BMW Certified Solution

Technical Specifications

Battery type	Multiple BMW-i3 42.2 kWh batteries using Li-ion NMC chemistry
Power Conversion System	One or multiple Energy Storage Inverters (ESI) of max. 300 kVA each (under optimum grid and temperature conditions). Features: modularity, redundancy, high efficiency, wide range, minimal low-load losses; reduction by smart control switching off unused inverters
Energy Storage Inverter Efficiency	97,2% max.
Required Connection	3P + N 230/400 Vac, TN-C/TN-S; compliant with EN 50160:2010 *
Connection Auxiliary Power	3P + N 63A 230/400Vac; compliant with EN 50160:2010 Optional: internal power feed
Output Frequency	50 Hz; compliant with NEN-EN 50160:2010
Earthing	From grid connection Optional: connection of an external earthing pin
System Controller and Communication	Combination of a high-end industrial controller with the RTU developed by Alfen. Various communication channels possible: local HMI, Modbus TCP/IP and Alfen's TheBatteryConnect back office platform for remote monitoring and control. Platform offers flexible and open-standard interfacing to the customer's Energy Management System.
Operational Modes of System	Peak shaving, Energy trading (P/Q Control), Micro-grid, Secondary Reserve, Frequency Response Service, Black start (depending on availability of auxiliary power). Combination of black start with internal auxiliary power feed is a custom made option.
Operating Temperature Range	-20°C to + 40°C Optional: temperature range extension (-40°C)
Climatization	10ft containers: air-conditioner cooled battery and inverter compartment Optional: refrigerant cooled battery compartement 20ft & 40ft containers: refrigerant cooled battery compartment, forced air-cooled inverter compartment
Standards	NEN3140, NEN3840, 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-IEC 62477-1, EN 61000-6-2:2005, EN 61000-64:2007+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)

NOTE

Other system configurations upon request.
Subject to misprints, errors and technical modifications.
Values based on standard test conditions.
* Alignment with Alfen NV required.

Technical Specifications

Noise level	50-63 dB(A) at 10 meter (20°C ambient temperature), depending on positioning
Warranties	2 year product warranty Battery capacity performance guarantee up to 10 years (depending on load profile)
Operation & Maintenance	Various Service Level Agreements available (Bronze, Silver, Gold, Platinum)
Type of enclosure	Containerized integrated solution
IP-value of enclosure	IP54
Dimensions (l x w x h)	10ft: 2.99m x 2.44m x 2.89m 20ft: 6.06m x 2.44m x 2.89m 40ft: 12.19m x 2.44m x 2.89m
System weight	17,800 - 28,300kg
System battery capacity	506 - 2,194 kWh; larger systems are possible with Alfen's modular, integrated, multiple container solution

Example configurations

Type	Battery capacity (kWh)	Power kVa (20°C)	Power kVa (40°C)	Container type (ft)	System weight (kg)
TB-10-506	506	300	250	10	7,800
TB-20-1,097	1,097	900	750	20	14,800
TB-40-2,194	2,194	2,400	2,000	40	28,300

NOTE

Above is an indication of the different sized systems which are possible with Alfen's TheBattery. Being a fully modular system however, the sizing of any given system can be subject to change due to the specific requirements of the project in question.

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