

# Datasheet

## TheBattery™ - Samsung Solution

### Technical Specifications

Battery type	Multiple Samsung SDI 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.
Transformer	External transformer or optional internal LV/MV transformer
Required Connection	3P + N 230/400Vac, TN-C/TN-S; compliant with EN 50160:2010 */ MV option upon request
Connection Auxiliary Power	3P + N 63A 230/400Vac; compliant with EN 50160:2010 Optional: internal auxiliary power feed
Frequency	50 Hz; compliant with 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 Controller	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	Air-conditioned 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 2.59m 20ft: 6.06m x 2.44m x 2.89m 40ft: 12.19m x 2.44m x 2.89m
System weight	4,400 - 29,700kg
System battery capacity	137 - 2,055 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-10-343	343	300	250	10	6,200
TB-20-617	617	300	250	20	10,200
TB-40-754	754	900	750	40	14,300
TB-40-1,028	1,028	1,500	1,250	40	17,900
TB-40-1,165	1,165	1,200	1,000	40	18,500
TB-40-1,233	1,233	1,200	1,000	40	19,100
TB-40-1,644 (with integrated MV transformer)	1,644	1,800	1,500	40	29,700
TB-40-2,055	2,055	2,400	2,000	40	28,700
TB-45-2,466	2,466	2,400	2,000	45	32,725

### 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.



### Alfen B.V.

Hefbrugweg 28 | 1332 AP Almere | The Netherlands  
PO-box 1042 | 1300 BA Almere | The Netherlands