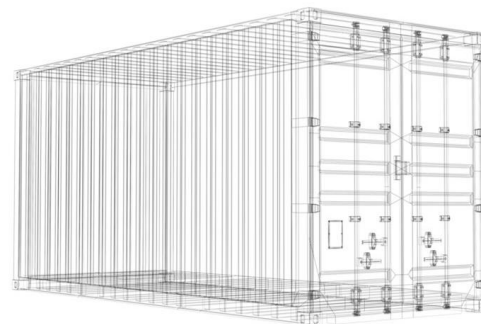





Safe storage.  
Scalable design.  
**SmartGrid.**

# SmartGrid

## Powering electrification at any location




We develop battery storage systems to power electrification anytime, anywhere. Through modular product design, our technology can support all of your energy storage challenges, no matter the complexity. Every SmartGrid solution comes with our product promise guarantee: safe, scalable, smart technology.


- 
**Safe**  
 Our products are built with A-grade Lithium Iron Phosphate cell technology.
- 
**Scalable**  
 Modular solutions from portable containers to large-scale stationary installations.
- 
**Smart**  
 Smart tech that can connect, interface and communicate with existing infrastructure

## Future-proof features


Our energy storage systems are designed as all-in-one solutions. Combining scalable performance characteristics and robust engineering, you can deploy your SmartGrid battery at any location, for any application.




**Peak shaving**  
 Increase available power by enhancing insufficient available grid connections.




**Hybrid**  
 Connect with a Hydrozine or other generator type to extend charge capacity and re-charge offgrid.




**Peak shifting**  
 Advance or delay large energy loads to match network capacity and improve utilisation of infrastructure.



**FCR capacity**  
 Integrate with an aggregator and participate in imbalance markets, like FCR and aFFR.



**Off-grid power supply**  
 Connect local renewables generation and electricity demand in a powerful micro-grid.



**Back-up mode**  
 Guarantee a electricity supply during outages or network failures.



## Battery Energy Storage System

System scope: Factory assembled battery System: Enclosure, Batteries, Inverter, EMS and Control

BESS System parameter	SG10 AC 240-240	SG10 AC 480-480	SG20 AC 1000-1000
Nominal power output	Up to 240 kVA	Up to 480 kVA	Up to 1000 kVA
Rated capacity	Up to 240 kWh	Up to 480 kWh	Up to 1080 kWh
Grid voltage	380 - 440 V	380 - 440 V	380 - 440 V
Inverter	1 x 308 kVA including CMS filters	2 x 308 kVA including CMS filters	4 x 308 kVA including CMS filters
Frequency	50Hz-60Hz	50Hz-60Hz	50Hz-60Hz
Ingoing/outgoing system efficiency	up to 97%	up to 97%	up to 97%

## Battery data

Pack type	SG180Ah-51V2-1C	SG180Ah-51V2-1C	SG180Ah-51V2-1C
Cell Chemistry	Lithium Iron Phosphate LiFePO <sub>4</sub> (LFP)	Lithium Iron Phosphate LiFePO <sub>4</sub> (LFP)	Lithium Iron Phosphate LiFePO <sub>4</sub> (LFP)
Rated cycle life @23 oC/90% DoD/80% EoL	≥ 8000 cycles	≥ 8000 cycles	≥ 8000 cycles
Dept of Discharge	90% (up to 100%)	90% (up to 100%)	90% (up to 100%)
Rated energy throughput over life	≥ 1,7 GWh	≥ 3,4 GWh	≥ 7,7 GWh

## Interfaces

AC-in	1 x CEE 400V/32A, 1 x CEE 400V/63A, 1 set Powerlock (PE, L1, L2, L3, N)/400A OR Busbar	1 x CEE 400V/125A, 2 set Powerlock (PE, L1, L2, L3, N)/400A OR Busbar	4 set Powerlock (PE, L1, L2, L3, N)/400A OR Busbar
AC-out	1 x CEE 400V/32A, 1 x CEE 400V/63A, 1 set Powerlock (PE, L1, L2, L3, N)/400A OR Busbar	1 x CEE 400V/63A, 1 x CEE 400V/125A, 2 set Powerlock (PE, L1, L2, L3, N)/400A OR Busbar	4 set Powerlock (PE, L1, L2, L3, N)/400A OR Busbar
DC	665 V (nom), Powerlock/400A OR Busbar	665 V (nom), Powerlock/400A OR Busbar	665 V (nom), Powerlock/400A OR Busbar
Earthing	Grid connection or external connection	Grid connection or external connection	Grid connection or external connection

## Standards & Safety

Standards conformity	CE, NEN1010, NEN 3140, Safety: IEC 62477, IEC 62485 EMC: IEC 61000-6-2, IEC 61000-6-4, others upon request		
Cyber security	SmartGrid security platform including VPN, encrypted data exchange and firewall		
Monitoring	Voltage, amperage, temperature, monitoring from system to individual cell level		
Safety measures	Fire detection		

## General data

Dimensions (L x W x H)	2991 x 2438 x 2891 mm (ISO 10FT high cube)	2991 x 2438 x 2891 mm (ISO 10FT high cube)	6058 x 2591 x 2838 mm (ISO 20FT high cube)
Weight	= 7.000 kg	= 10.000 kg	= 18.000 kg
Colour	RAL 9010 (sticker wrap and other colours available upon request)	RAL 9010 (sticker wrap and other colours available upon request)	RAL 9010 (sticker wrap and other colours available upon request)
Ambient temperature	-25.. +45°C (extended range upon request)	-25.. +45°C (extended range upon request)	-25.. +45°C (extended range upon request)
Noise level	< 72 dB(A) at 1 m distance	< 72 dB(A) at 1 m distance	< 72 dB(A) at 1 m distance
Max. working altitude	1.000 m (higher altitudes upon request)	1.000 m (higher altitudes upon request)	1.000 m (higher altitudes upon request)

**General data [continued]**

Cooling	HVAC
Service	First year service and maintenance included
Warranty	Minimal product and battery warranty depending on load profile
Mobility/transportation	Internal damping and shock absorbing devices, forklift pockets, corner blocks

**Control system**

Functions	Monitoring, control, self-maintenance, reporting, customizable to customer backoffice
Supported applications	Peak shaving, Peak shifting, Backup, Black start, Off Grid/Island Mode, Frequency Response (in combination with 3rd party), generator control (hybrid)
Local interfaces	Touch screen, HMI with access to status, commands and diagnosis, status indication light
Data logging	1 & 15 min data resolution available; real-time & historical data
Remote connections via	4G / Internet
Communication interfaces	Modbus TCP, Profinet, other upon request
Power usage	Off: <5W; Standby: <45W

## Superior service

SmartGrid is your full-service energy storage partner. Because we custom build in The Netherlands, develop our software in-house and test our products to extreme conditions, we can service the entire process from design to delivery.



### Problem identification

We collaborate to understand exactly what you want to achieve with SmartGrid.



### Solution design & engineering

Based on modular technology, we design the solution that is right for you.



### In-house production

We deliver and integrate the SmartGrid product into your existing systems.



### Installation & commissioning

We deliver and integrate the SmartGrid product into your existing systems.



### Operator training

Our team provides extensive training to get your operators up to speed.



### After sales & service

To guarantee optimal operation, we provide service, maintenance and support.



### End-of-life solutions

We support end-of-life solutions like full recycling of the system for free.



When it comes to energy storage, we choose SmartGrid because it fits our philosophy of sustainability, safety and ethical considerations.

## Our solutions

SmartGrid has solutions across a wide range of industries including construction, transport & logistics, grid stability, events, the battery rental market and even off-grid living.



### Construction

Through peak shaving, peak shifting and island functions, SmartGrid will be ready to deliver charging power for construction equipment whenever you need it.



### Grid stability

Balance the variable generation profiles of various renewable energy sources, improving capacity utilization and reducing curtailment. Trade on imbalance markets with an aggregator.



### Battery rental

Your partner for compact, mobile battery systems that deliver hassle-free rental experiences in demanding and diverse environments.



### Transport & logistics

Charging-ready storage systems that amplify your existing network connection and optimize vehicle operations. Store and use solar power for maximum HBE subsidy.



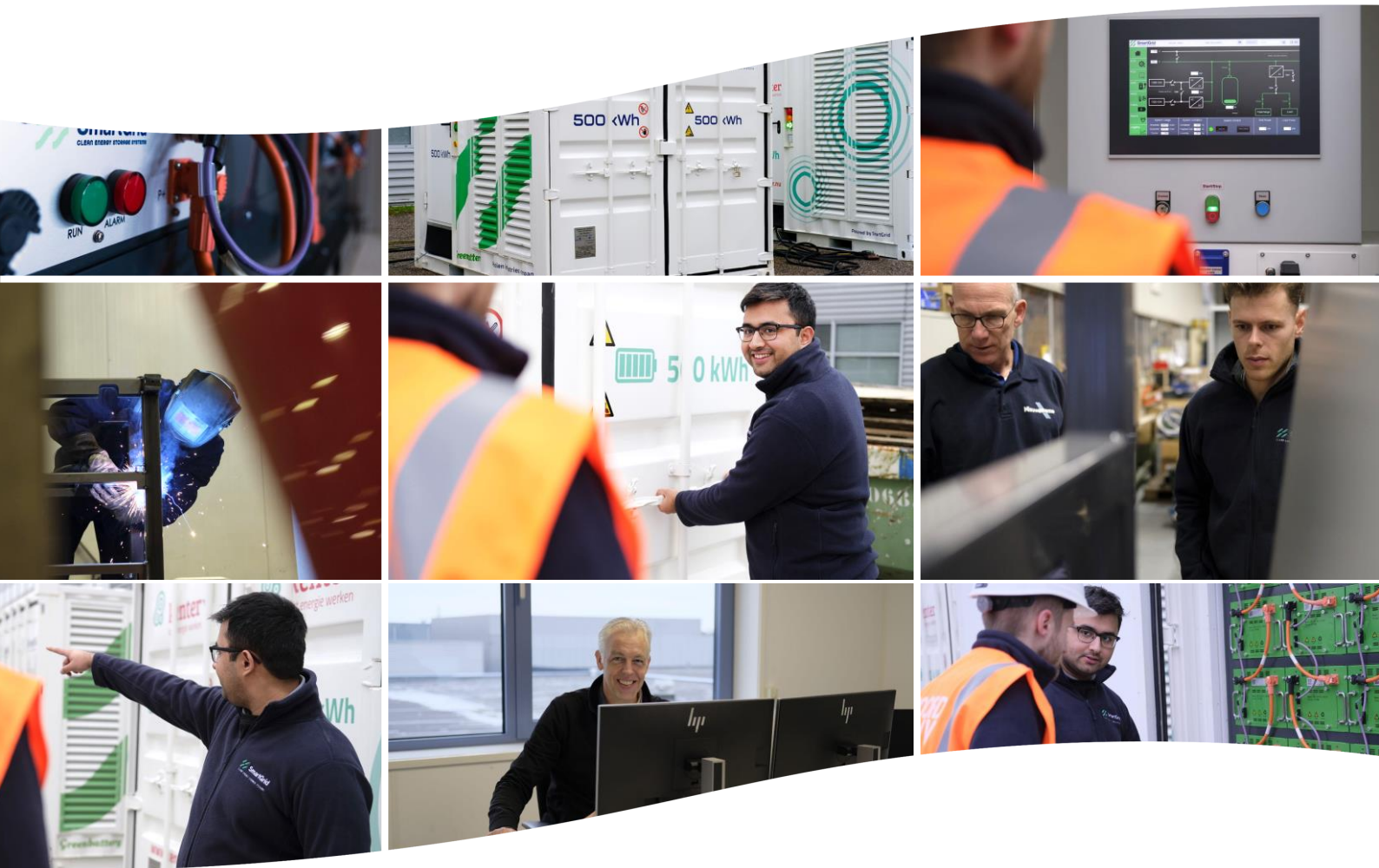
### Events

Advanced energy storage to drastically cut local and overall emissions, creating a clean, more enjoyable visitor experience with a lower footprint.



### Off-grid living

Store electricity from a variety of sources simultaneously and deliver different output levels for different applications at your off-grid location, all year round.





Want to explore energy  
storage solutions with  
SmartGrid?  
**Get in touch!**

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