



## **Second-Life** Energy Storage System (ESS)

First commercialized Second-Life Battery Energy Storage System

- → 30 % cost savings
- → 70 % reduced energy waste
- → 5 % more battery capacity
- → 100 % fail-safe
- → 7 years guarantee
  → 95 % efficiency
- → Service life: 10 years or 5,000 cycles



### Why **Second-Life** Batteries?

- ightarrow Governmental regulations around CO2 emissions have increased dramatically.
- $\rightarrow$  Roll-out can help to reach worldwide climate goals.
- $\rightarrow$  The footprint of every li-lon e-car battery can be improved.
- $\rightarrow$  The lifespan of the batteries is being extended until recycling.
- $\rightarrow$  Better EUR/kWh price situation by deploying 'used' batteries.
- ightarrow Significant governmental support existing and more to be provided.
- $\rightarrow$  Symbolizes the sustainability credentials of e.battery systems.

#### Most flexible and configurable system on the market today

Entirely new patented inverter system concept solves issues and **replaces the complex ensemble** of various components. The modular concept uses **battery modules** with safe voltage below 60 Volts.

#### We set the new standard for large-scale Battery Storage Systems.

Switching between charging the batteries and discharging them for **peak shaving** is very fast and fully automatic – all of this is handled by the integrated **control system**.

By using **second-life batteries** as storage modules from e-mobility applications like e-cars, e-buses, e-machines, this concept is becoming the most sustainable, green and innovative **storage system** on the market.

The system is based on a 67,5 kW converter while **additional power** can be added by **expanding** the system with additional modules and containers.



# New battery inverter technology $\downarrow$

#### Static Series Connection:



#### Operating principle for the generation of stepped output voltage



#### Dynamic Connection:





#### Areas of application

- $\rightarrow$  Industry and manufacturing
- → Electromobility
- $\rightarrow$  Building sites or mining
- → Telecommunications
- $\rightarrow$  Residential complexes

#### Why you should choose our Energy Storage System:

- $\rightarrow$  A self-sufficient energy supply

- energies (wind, solar, hydro)
- $\rightarrow$  Power supply in case of power cuts
- $\rightarrow$  Self-consumption optimization
- $\rightarrow$  Kicks in during power peaks
- $\rightarrow$  Integration of renewable
- $\rightarrow$  Peak Shaving
- → Intelligent charge management
- $\rightarrow$  Second-life use of electric car batteries
- $\rightarrow$  Accumulation of own energy storage

## Data sheet $~~\downarrow~$

#### **Technical Details**

Parameter	Value	Inverter
Grid Voltage	400 V AC 3ph	_
Input-Voltage (DC)	68 V DC (0CV)	_
Rated current (AC)	97.8 A	_
Short circuit current (AC)	100 A	-
Max. fuse size	100 A (recommended: NH 00 AC 500V 100A gR)	
Rated power (AC)	67.5 kVA (at 400 V line-to-line grid voltage)	_
Power frequency	50 Hz and 60 Hz	-
Protection class	I	
Overvoltage category (AC connections)	III	_
Grid type	TN. IT. TT	
Idle Power	0 – 100% of apparent power	_

Parameter	Value	Inverter
Operating environment	Air-conditioned according to IEC 60721-3-3	module
Internal operating consumption	< 1.7 W	
Internal standby consumption	0 W	

Parameter	Value	Connection
Operating environment	Air-conditioned according to IEC 60721-3-3	Box
Internal operating consumption	12 W	
Internal standby consumption	3 W	
IP rating	IP 20	

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