

Second-Life Energy Storage System (ESS)



First commercialized Second-Life Battery Energy Storage System

- → 30 % cost savings
- → 70 % reduced energy waste
- → Service life: 10 years or



Why **Second-Life**Batteries?

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

Most flexible and configurable system on the market today

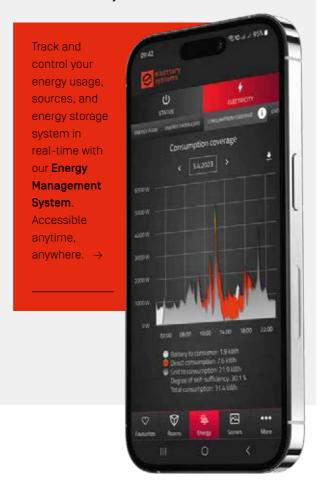
Entirely new patented inverter system concept solves issues and **replaces the complex ensemble** of various components. The modular concept uses **battery modules** with safe voltage below 60 Volts.

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.

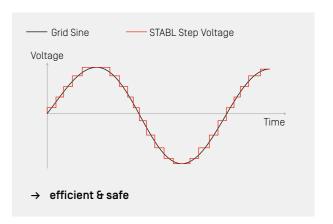


New battery inverter technology ↓

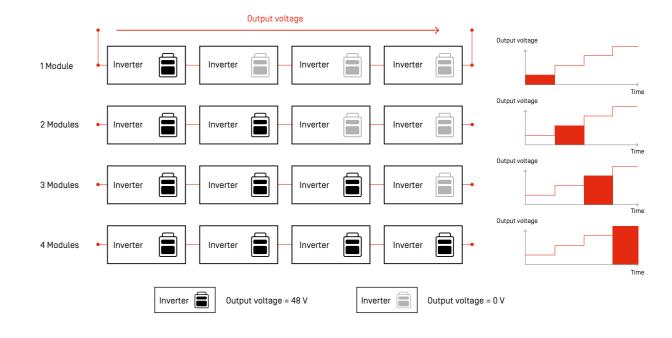
Static Series Connection:

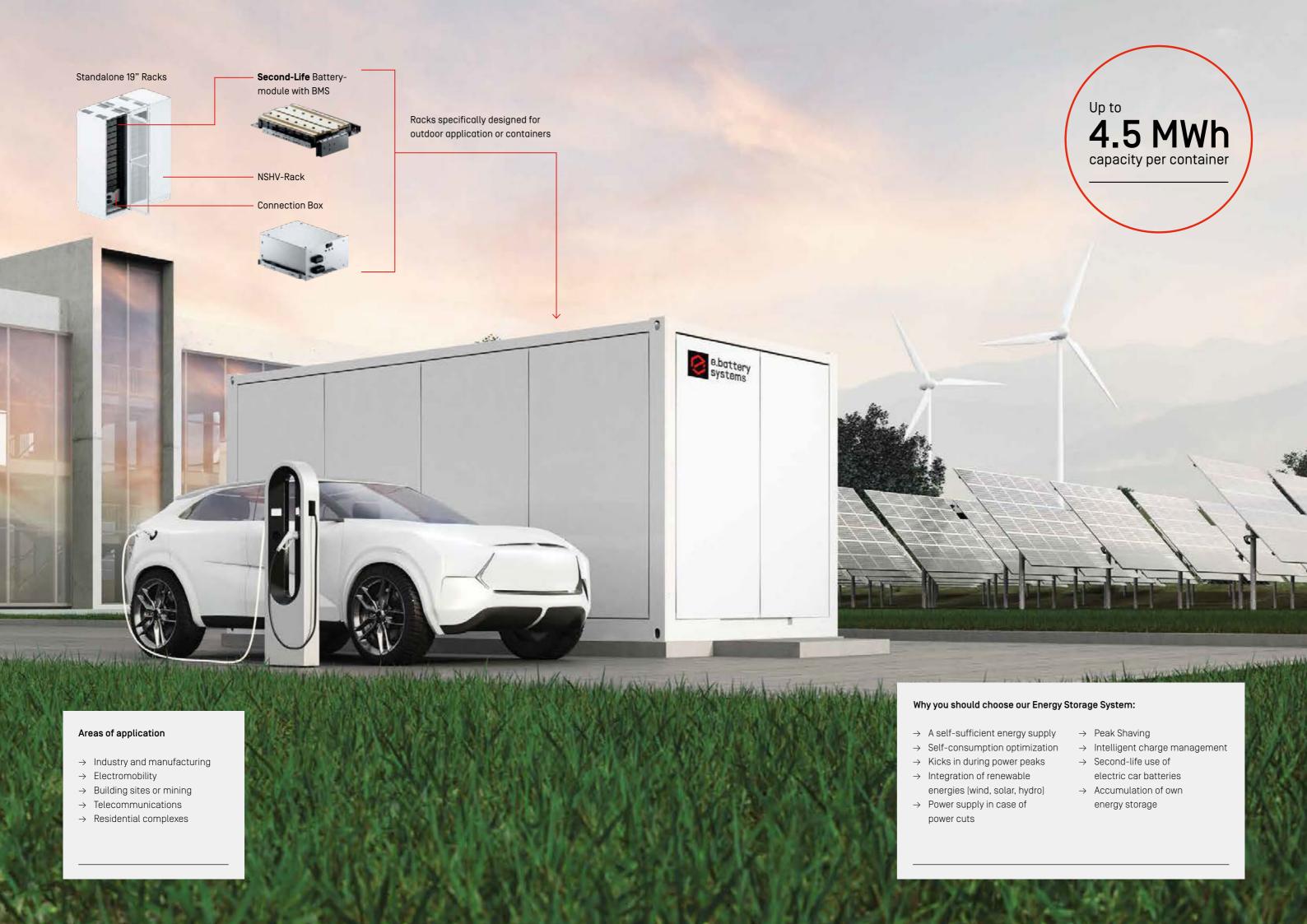
Voltage — Grid Sine — Step Voltage Time → expensive & dangerous

Dynamic Connection:



Operating principle for the generation of stepped output voltage





Data sheet ↓

Technical Details

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

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

^{*} Intended for the end product. Subject to change.