

SUNSYS HES L[©]

Scalable outdoor energy storage system

from 100 kVA / 186 kWh to 600 kVA / 1674 kWh

SUNSYS HES L



The solution for

- > Commercial and industrial buildings
- > EV charging infrastructure
- > Isolated microgrids
- > Resilient microgrids
- > Renewable energy integration

Strong points

- > High safety standards
- > Extreme scalability
- > Fast and safe installation
- > Combines the best technologies

Conformity to standards

- > **Safety:** IEC 62368-1, IEC 62933-5-2; UL 9540A
- > **EMC:** EN61000-6-2/4
- > **Mechanical:** EN60529; EN62262
- > **Environment:** RoHS; REACH, IEC 61249-2-21; RAAE 2012/19/UE
- > **Communication protocol:** Modbus TCP
- > **Grid code:** Europe: EN50549-1, EN50549-2; DE: VDE AR-N 4110; IT:CEI 0-16; UK:G99/1; Belgium: C10-11; Spain: UNE 217001, 217002 , NTS 631 SEPE & SENP

Please consult us for additional ones.

Expert Services

An experienced and skilled team is at your service to make your project a success!

- > **Project development:** pre-sales support, project design
- > **Deployment & integration:** training, field inspection, pre-commissioning, commissioning
- > **Operation:** maintenance contracts, spare parts replacement, remote monitoring
- > **Extended product and performance warranties**

For more information, please contact us.

SUNSYS HES L is an outdoor energy storage system adapted to on-grid energy storage, in terms of both generation and distribution side.

It supports dedicated applications such as the optimisation of photovoltaics and self-consumption, peak shaving and backup power for commercial and industrial buildings and EV charging infrastructures, for example.

The solution is also ideal for off-grid installations where it can provide an energy reserve in the event of an electrical blackout and can energise non-electrified areas in place of generators. Furthermore, in dual on-grid mode with "island" mode, the resilience of the connected smart grid increases.

High safety standards

SUNSYS HES L system has been designed using the best conversion and battery technologies, primarily to achieve a high level of security. The B-Cab (battery storage cabinet) comprises stable lithium iron phosphate (LFP) chemistry; moreover, punctual thermal management guarantees safety thanks to liquid cooling and a fire protection system.

The complete system is safety certified according to the strictest European and American standards.

Extreme scalability

Based on 4 cabinets, SUNSYS HES L is a modular energy storage system with convenient sizing; its flexibility means that it adapts to the specific needs of your system. In fact, our AC-Cab (power distribution cabinet) is designed on a case by case basis in full compliance with your own installation and requirements. Based on standard equipment and pre-tested configurations, the design, quotation, installation and commissioning process is much faster as a result.

Fast and safe installation

SUNSYS HES L is supplied with all internal energy modules pre-assembled and plug and play power modules to guarantee maximum quality, the optimisation of installation time and ease of transport.

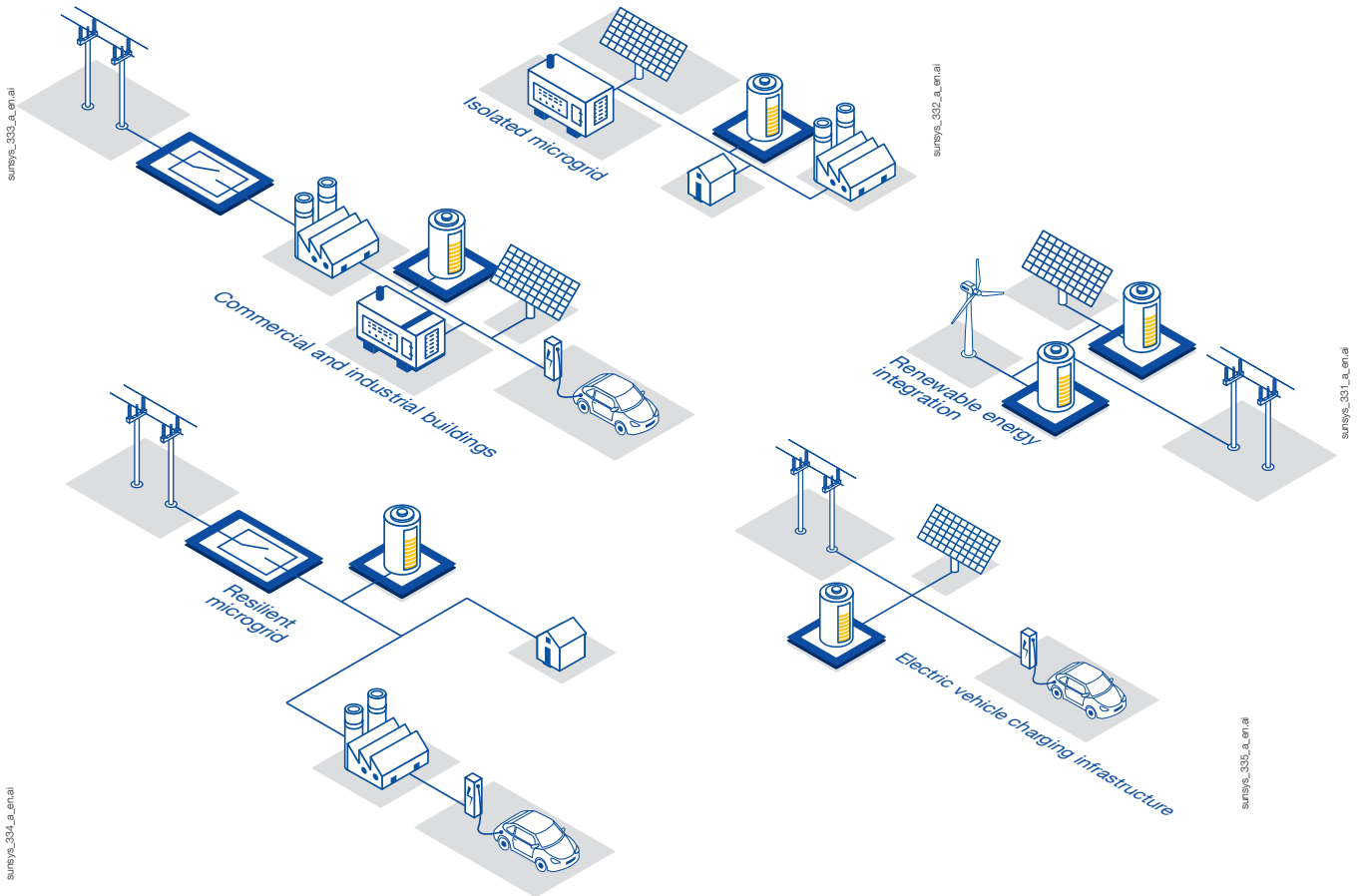
Furthermore, the supply kit always includes the DC, communication and auxiliary power supply cables kit, headed and made to measure for connecting the B-Cab storage units with the C-Cab conversion and control units.

Combines the best technologies

Thanks to a co-design between CATL and Socomec, you can be assured of compatibility between products, and that the complete system has been validated and certified.

The C-Cab (power conversion cabinet) has been designed to include everything required for battery operation, including the management system as well as the power supply.

Suitable for all of the following applications



4 stackable units for maximum flexibility



C-Cab L Converter Cabinet

- Bidirectional power converter
- 100 to 300 kVA / cabinet
- Automation functions
- AC/DC distribution and protection
- Battery management system
- IoT Ready

B-Cab L Battery Cabinet

- Lithium ion battery
- LFP technology
- 186 kWh / rack
- Liquid cooling thermal management
- Integrated fire safety detection and extinction system

DC-Cab L DC Power Distribution Cabinet

- DC distribution panel
- Required for configurations with 7 to 9 B-Cabs per C-Cab
- Battery protection
- Battery auxiliaries power supply

AC-Cab L AC Power Distribution Cabinet

- AC power distribution cabinet
- Multi-source paralleling
- Islanding function
- Synchronisation after mains return
- Short interruption transition

SUNSYS HES L[®]

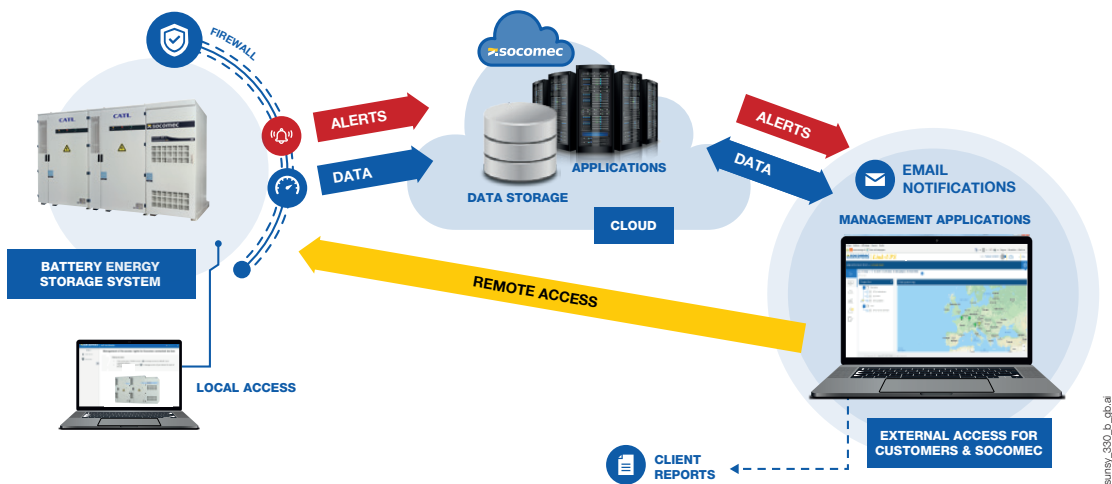
Scalable outdoor energy storage system
from 100 kVA / 186 kWh to 600 kVA / 1674 kWh

Many system configurations are available to meet customer requirements

Power (kVA) \ Energy (kWh)	186	372	558	744	930	1116	1302	1488	1674
100	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.
150	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.
200	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.
250	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.
300	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.
350	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.
400	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.
450	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.
500	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.
550	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.
600	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations without DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.	Standard configurations with DC-Cab.

Standard configurations without DC-Cab. Standard configurations with DC-Cab.

Maximum savings and fast ROI



Local management

We have developed a modular and adaptive platform - our Power Management System (PMS) being the brain of the system. This open platform, integrated in the C-Cab, provides access to:

- peak shaving, energy shifting, self-consumption and fuel saving to maximise valuable savings,
- transition from on-grid to off-grid mode via the black start function,
- multi-source microgrid autonomous management and the potential for additional customisation,
- compatibility with third-party supervision systems (EMS, SCADA) for additional functionality.

Remote monitoring

In addition, the C-Cab also integrates IoT devices that make it possible to continuously monitor the system remotely. These devices enable the following:

- web dashboard for on-line monitoring,
- web access to the system KPIs,
- smartphone app,
- remote firmware upgrade.

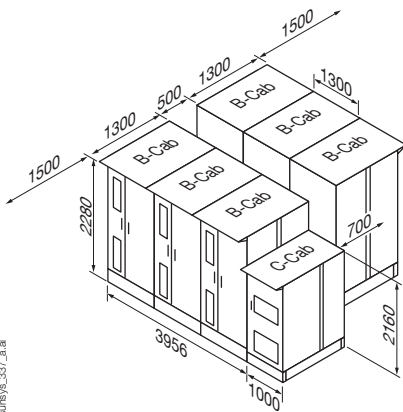
Technical Data

System information	
Power modularity	50 kVA power modules - up to 300 kVA per cabinet
Symmetrical overload	110% during 30 min - 125% during 10 min - 150% during 30 s
Chemistry	LFP - Lithium Iron Phosphate
Energy Nameplate	186 kWh per rack
AC/AC Max Round Trip Efficiency	90%
Maximum C-rate	0.5 C
Maximum current	83 A charging / 87 A discharging per 50 kVA power module
AC connections	3*240 mm ² (consult us for higher section)
Rated voltage (Un)	400 Vac (3ph+N) -20%/+10%
Rated frequency	50 Hz ±6%
Fire protection	Fire Safety System including smoke detectors, heat detectors and aerosol
Environment	
Environment installation	Native outdoor
Degree of protection	IP 55
Operation temperature	-20 to +45 C° without derating
Storage temperature	-20 to +60 C°
Relative humidity	4 to 100% w/o condensation (internal cabinet heating)
Acoustic level at 1 m	< 70 dB
Maximum altitude	1000 m without derating (consult us for requirements above this)

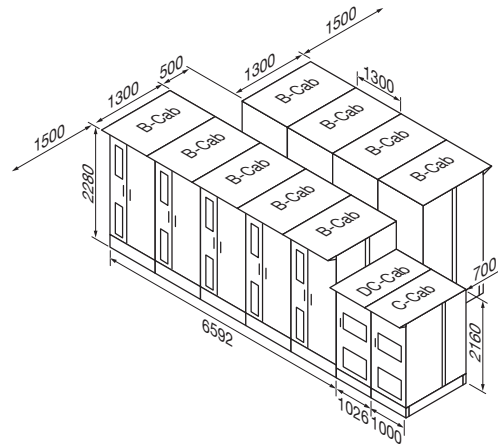
Two system installation options according to the space available on your site

Back-to-back installation

Up to 6 B-Cabs - dimensions (mm)

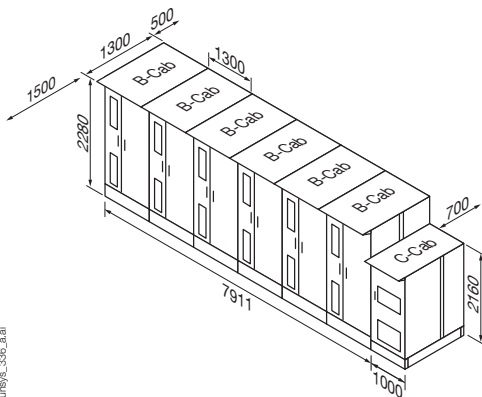


From 7 to 9 B-Cabs - dimensions (mm)



On-line installation

Up to 6 B-Cabs - dimensions (mm)



Also available



SUNSYS HES XXL

High power energy storage system
from 1 MVA / 1 MWh to 6 mVA / 20 MWh systems
Safe system enabling variety without complexity
for on-grid and off-grid applications.