

SUNSYS HES XXL[®]

High power energy storage system

from 1 MVA / 2 MWh to 6 MVA / 23 MWh systems

SUNSYS HES XXL



SUNSYS HES XXL is a complete and ready to use outdoor high power energy storage system for on-grid and off-grid applications. It supports dedicated applications such as optimization of photovoltaics with self-consumption, peak shaving, backup power and EV charging infrastructure. This system is based on standard cabinets: a converter cabinet C-Cab XXL, a battery cabinet B-Cab XXL (CATL) and a master control cabinet (M-Cab) enabling a large variety of configurations in a simple and safe way. It is perfectly adapted to large scale commercial and industrial installations as well as front of the meter projects.

High safety

SUNSYS HES XXL integrates advanced power conversion and LFP battery technologies to create a winning formula. The B-Cab (battery storage cabinet) uses liquid-cooled, lithium iron phosphate chemistry, with an integrated fire protection system, and meets the requirements of the latest international fire code.

The complete system is certified to the latest UL 9540, the safety standard for energy storage systems in both Canada and the USA.

Extreme scalability

A large variety of system configurations are available based on three standard cabinets:
* a 1.3 MVA or 1.5 MVA C-Cab converter cabinet
* a 407 kWh B-Cab battery cabinet
While putting up to 4 systems in parallel it is possible to reach 6 MVA / 23 MWh on a single transformer.

Fully bankable supplier

Socomec is a 102-year old company with expert knowledge in power conversion, switching and monitoring. With our energy storage experience of more than 10-years and more than 360 systems installed worldwide, we have proven our knowledge and support process on the field.

Integrated ready to use certified system

SUNSYS HES XXL systems, including; converter, batteries and the control cabinets all together, are certified and tested. In addition, a software adapted to enable internal communication between all cabinets has been specifically developed.

The solution for

- > Large commercial and industrial buildings
- > EV charging infrastructures
- > Grid support
- > Isolated microgrids
- > Resilient microgrids
- > Community solar

Strong points

- > High safety
- > Extreme scalability
- > Fully bankable supplier
- > Integrated ready to use certified system

Conformity to standards

- > **Safety:** UL 9540; UL 9540A; UL 1973; NFPA 855; NFPA 68
- > **EMC:** FCC part 15 Level A
- > **Environment:** RoHS; REACH IEC 61249
- > **Communication protocol:** Modbus TCP; SunSpec 2.0
- > **Grid code:** UL 1741 SB; UL 1741 PCS CRD; IEEE 1547-2018; IEEE 1547.1-2020; CA Rule 21; Rule 14H
- > CEC, HECO listed

Please consult us for additional ones.

Expert services

An experienced and skilled team is at your service to make your project a success, providing optimised asset management and performance!

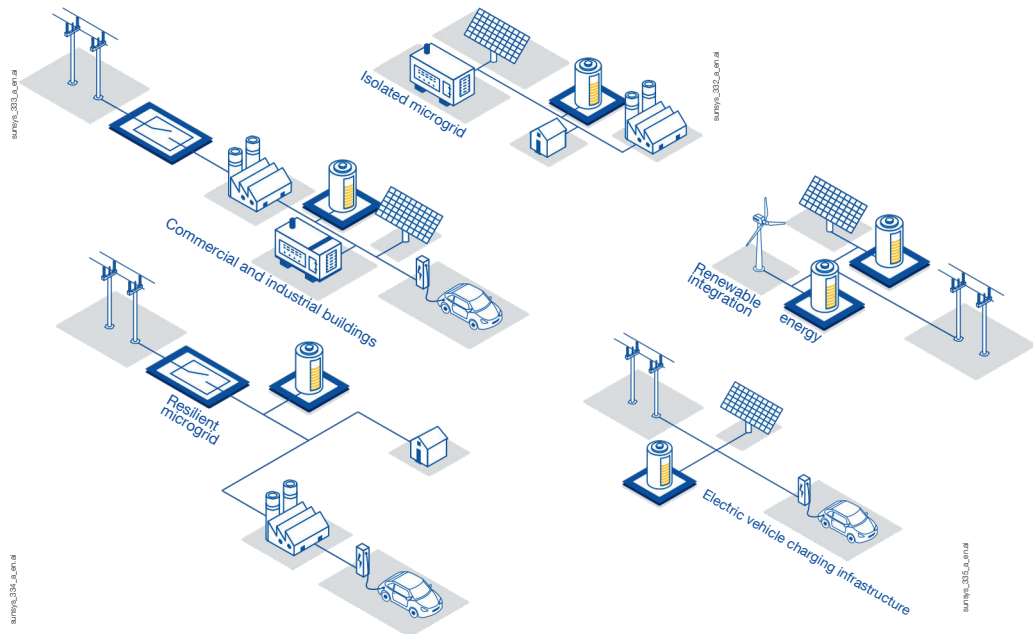
- > **Project development:** pre-sales support, project design
- > **Deployment:** training, field inspection, commissioning
- > **Operation:** maintenance contracts, spare parts replacement, remote monitoring.
- > **Cloud data storage**
Extended warranty on both
> product and performance

For more information, please contact us.

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Suitable for all of the following applications



Typical functions supported by our system in Grid infrastructure support

- > Frequency regulations
- > Capacity reserve
- > Trading on Day-ahead, Intraday and Balancing markets
- > Other services that might be required by the Grid operator

3 modular units for maximum flexibility



(W x D x H): 1000 x 1636 x 2281 mm
39.37 x 64.41 x 89.80 in
1360 kg / 3000 lbs



(W x D x H): 1390 x 1344 x 2348 mm
54.7 x 52.9 x 92.4 in
3650 kg / 8046 lbs



(W x D x H): 894 x 1046 x 2000 mm
35.2 x 41.18 x 78;74 in
300 kg / 611 lbs

C-Cab XXL Converter Cabinet

- > Bidirectional power converter
- > 1.3 or 1.5 MVA / cabinet
- > Hybrid liquid / air cooling system
- > On and off-grid operation

B-Cab XXL Battery Cabinet

- > Lithium ion battery
- > LFP technology
- > 407 kWh / rack
- > Liquid cooling thermal management
- > Integrated fire safety detection, suppression system and deflagration vent as requested by NFPA 68

M-Cab XXL Master Cabinet

- > ESS control cabinet
- > Integrated battery management system
- > Remote management
- > Auxiliaries power supply
- > Automation functions and EMS connection
- > Battery data logging

SUNSYS HES XXL

High power energy storage system

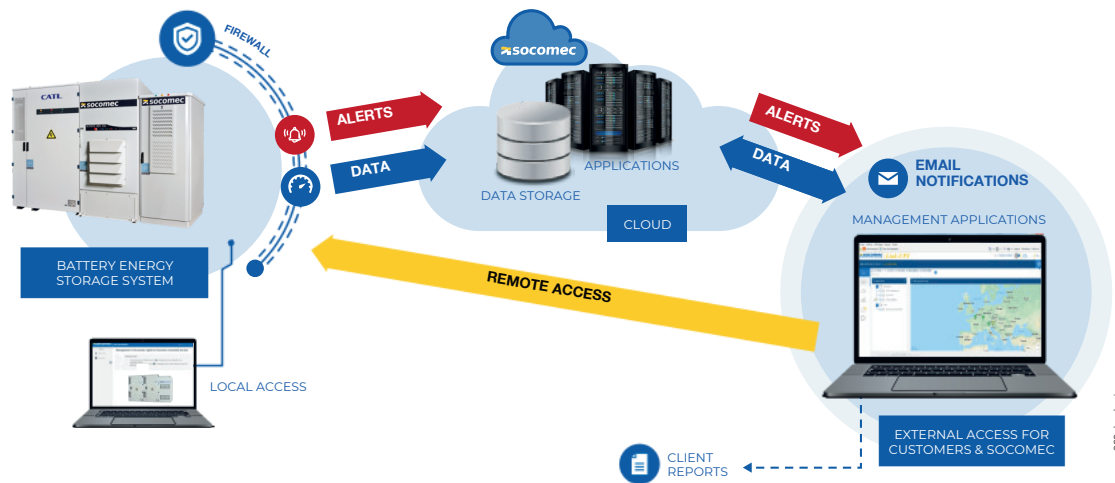
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Many system configurations are available to meet customer requirements

1 C-CAB - 600 to 690 V

Power (kVA) \ Energy (kWh)	2 444	2 851	3 259	3 666	4 073	4 481	4 888	5 295	5 703
1 000	2.3 h	2.6 h	3.0 h	3.4 h	3.8 h	4.2 h			
1 250		2.1 h	2.4 h	2.7 h	3.0 h	3.3 h	3.6 h	3.9 h	4.3 h
1 500			2.0 h	2.3 h	2.5 h	2.8 h	3.0 h	3.3 h	3.5 h

Maximum savings and fast ROI



Local management

The Socomec Power Management System, coordinating the operation of all converter and battery components. It's capabilities include:

This open platform, integrated in the C-Cab, provides access to:

- peak shaving, energy shifting, self-consumption and fuel saving to maximise valuable savings,
- transitions between on-grid and microgrid operation,
- autonomous microgrid management,
- compatibility with 3rd party energy management software suites, through a Sunspec 2.0 or Modbus interface,
- SCADA integration through Modbus/TCP.

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, through 2 offers SoLive and SoLive Pro:

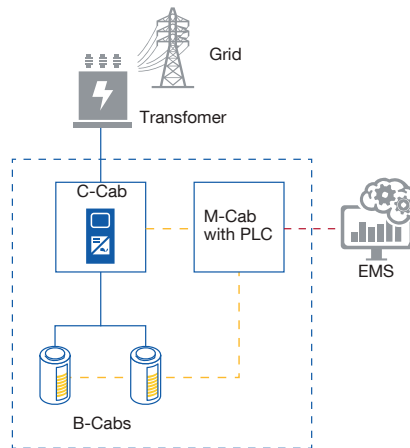
- web dashboard for on-line monitoring,
- web access to the system KPIs,
- smartphone app,
- remote firmware upgrade.

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SUNSYS HES XXL system architecture

Architecture with 1 C-Cab



——— Power connection
 - - - - Power management by PLC
 - - - - Connecting to external EMS
 - - - - Provided by Socomec

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Technical Data

System information	
Power modularity	1.3 MVA @ 600 Vac or 1.5 MVA @ 690 Vac per C-Cab
Chemistry	LFP - Lithium Iron Phosphate
Energy Nameplate	407.3 kWh per cabinet
AC/AC Max Round Trip	Higher than 90%*
Maximum C-rate	0.5C
AC connections	3-wire (3P3W) 6 x 600 kcmil or 6 x 300 mm ²
AC Voltage range	600-690 VRMS +/-10%
Rated frequency	50 & 60 Hz configurable
Fire protection	Fire safety system including smoke detectors, heat detectors, aerosol and deflagration vent in the B-Cab
Environment	
Environment installation	Outdoor
Degree of protection	IP 55
Operation temperature	-20 to 45 C° -4 to +113°F without derating
Acoustic level at 3 m	< 75 dBA @ 3m
Altitude max.	1,000 m / 3,280 ft without derating (above 1,000 m / 3,280 ft, 10% per 1,000 m / 3,280 ft)

*energy consumption of the auxiliaries is not taken into account

Also available



sunsy_392_eps

SUNSYS HES L

Outdoor Scalable Energy Storage System
from 50 kVA / 186kWh to 550 kVA / 1116 kWh systems