SUNSYS HES XXL©

High power energy storage system
from 1 MVA / 1 MWh

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SUNSYS HES XXL is a complete, ready-to-use high power energy storage system for on-grid and off-grid applications. This system is based on standardised cabinets, offering a wide variety of safe and simple configurations. It is ideally suited to large commercial and industrial installations, as well as standalone or co-location projects, mainly with renewable energy sources.

High safety standards

The SUNSYS HES XXL system has been designed using the best battery technologies, primarily to achieve a high level of safety. The B-Cab (battery storage cabinet) is based on lithium iron phosphate (LFP) chemistry and an localised thermal management system ensures safety thanks to liquid cooling and a fire protection system. The latter includes heat and smoke detectors, an aerosol fire extinguishing system, a dry pipe to connect a water inlet and a deflagration panel.
The B-Cab is certified UL 9540A, guaranteeing that it will withstand thermal runaway.

Maximum flexibility

Based on 4 cabinets and 2 types of battery cabinet (0.5C and 1C), SUNSYS HES XXL offers a large choice of configurations using a 1.5 MVA C-Cab conversion cabinet, a M-Cab control cabinet and a 407 kWh B-Cab battery cabinet in 0.5C or 379 kWh in 1C.
The system can be used in parallel up to 6 MVA / 20 MWh on a single transformer.
For larger installations, it is possible to put several systems in parallel.

Combines the best technologies

Thanks to joint-design between CATL and Socomec, you can be assured of compatibility between products, and that the complete system has been validated and certified.
The M-Cab cabinet (Master cabinet) has been designed to control the entire system, including the battery management system (BMS) along with the PLC for automation functions and connection to an external EMS.
The software has been specially developed to enable internal communication between all cabinets in the system.

The solution for

- Large commercial and industrial buildings
- EV charging infrastructure
- Grid support
- Colocation with renewable energies

Strong points

- High safety standards
- Maximum flexibility
- Combines the best technologies

Conformity to standards

- Safety: IEC 62909-1, IEC 62477-1; UL 9540A
- EMC: EN 61000-6-2/4
- Mechanical: EN 60529; EN 62262
- Environment: RoHS; REACH; IEC 61249-2-21; WEEE 2012/19/EU
- Communication protocol: Modbus TCP
- Grid code: Europe: EN 50549

Please contact us for other grid codes.

Expert Services

Our experienced and skilled team is at your service to make your projects a success!

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

For more information, please contact us.

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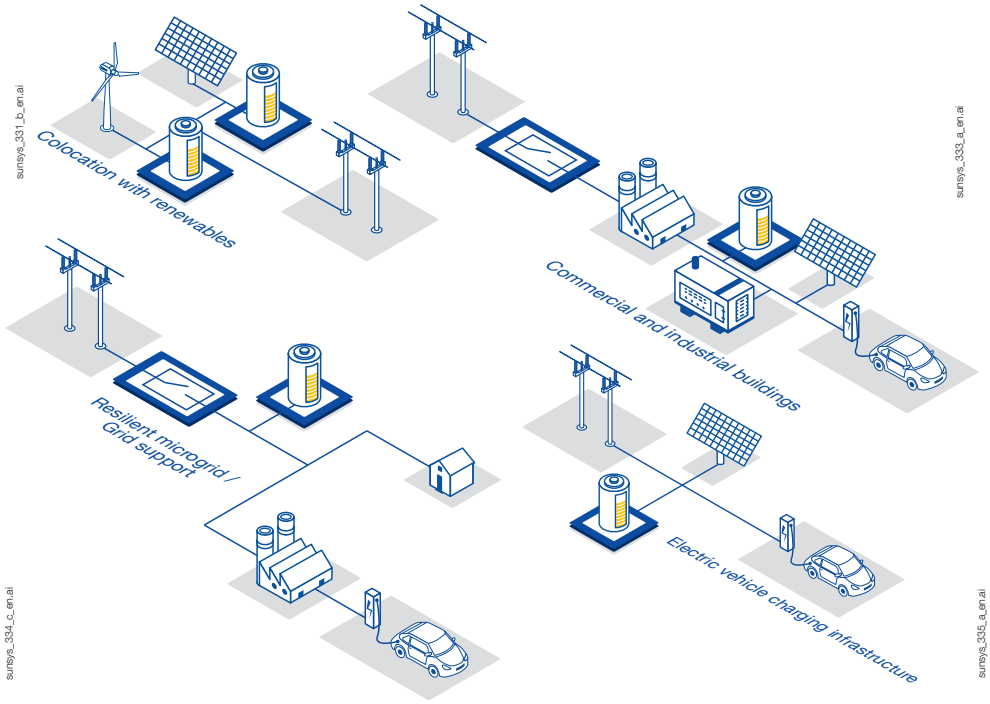
Suitable for all of the following applications



Typical functions managed by our system in supporting grid infrastructure:

- Regulating frequency
- Reserve capacity
- Trading on the daily, intraday and balancing markets
- Other services that may be required by the grid operator

4 modular units for maximum flexibility

Dimensions (W x D x H):
1000 x 1636 x 2281 mm
1360 kg

Dimensions (W x D x H):
1390 x 1344 x 2348 mm
3650 kg

Dimensions (W x D x H):
800 x 800 x 1800 mm
300 kg

Optional

Specific

C-Cab XXL Converter cabinet

- Bidirectional power converter
- 1.5 MVA/cabinet
- Liquid/air hybrid cooling system
- On-grid and off-grid operation
- IoT ready

B-Cab XXL Battery cabinet

- Lithium-ion battery
- LFP technology
- 407 kWh/rack in 0.5C
- 379 kWh/rack in 1C
- Liquid cooling thermal management
- Integrated fire safety detection and suppression system

M-Cab XXL Master cabinet

- ESS control cabinet
- Built-in battery management system
- Remote management devices
- Auxiliaries power supply
- PLC for automation and connection to an external EMS
- Battery data logging

DC-Cab XXL DC cabinet

- DC connections
- From 9 B-Cab XXL per system

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from 1 MVA / 1 MWh

Many system configurations are available to meet our customers' requirements

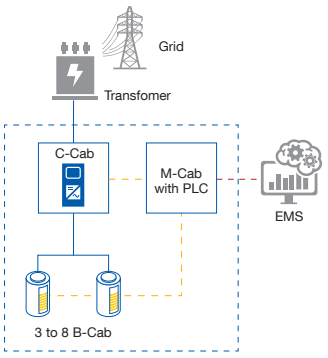
Power \ Energy																	
1 to 1.5 MVA	1 to 3 MWh	to 5 MWh															
2 to 3 MVA		2 to 6 MWh				to 10 MWh											
3 to 4,5 MVA			3 to 9 MWh					to 15 MWh									
4 to 6 MVA				4 to 12 MWh						to 20 MWh							

with DC-Cab

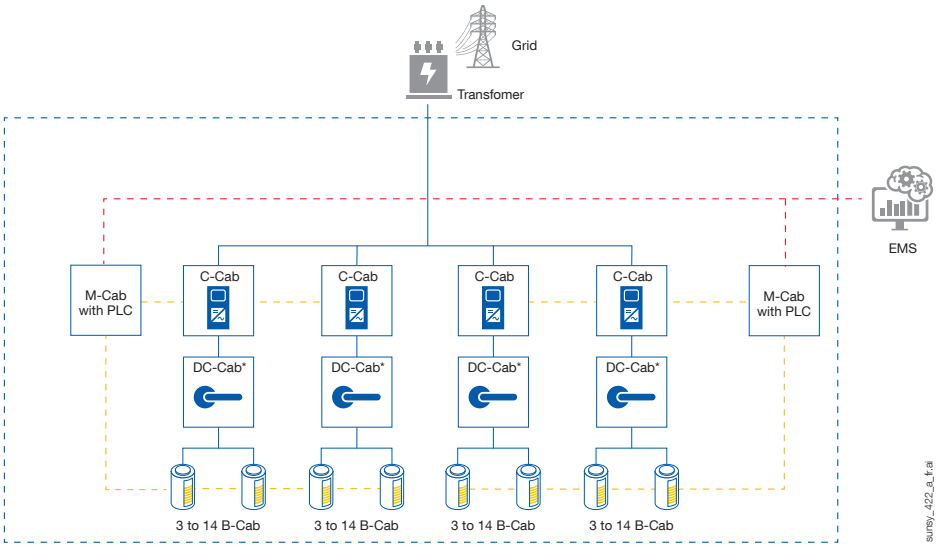
Larger installations are possible by paralleling multiple systems.

SUNSYS HES XXL system architectures

Architecture with 1 C-Cab



Architecture with 4 C-Cabs



Power connection

Provided by Socomec

Power management by PLC

Connecting to external EMS **

* DC-Cab : mandatory from 9 B-Cab

** EMS: Energy Management System

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Technical characteristics

System information	
Power modularity	1.5 MVA per C-Cab
Chemistry	LFP – Lithium Iron Phosphate
Energy nameplate	407.4 kWh per rack for 0.5C 379.4 kWh per rack for 1C
AC/AC round-trip efficiency	greater than 90% (without taking into account the energy consumption of auxiliaries)
Maximum load rate	0.5C or 1C
AC connections	6 x 300 mm² three-phase
AC voltage range	690 VRMS +/-10%
Rated frequency	50/60 Hz configurable
Fire safety system	Heat and smoke detectors, aerosol fire extinguishing system, a dry pipe and a deflagration panel.
Environment	
Environment installation	Outdoor
Ingress Protection rating	IP 55
Operating temperature	-20 to +45 C° (without derating)
Acoustic noise at 3 m	<75 dBA at 3 m
Max. altitude	2000 m without derating (please consult us for requirements above this)

Please contact Socomec to discuss specific integration options, for more challenging environments.

Also available

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SUNSYS HES L

Outdoor Energy Storage System
from 100 kVA / 189 kWh to 600 kVA / 1827 kWh
Safe, all-in-one solution suitable for on-grid and off-grid energy storage applications.
READY TO START version: assembled, mounted and wired on a SKID.