SUNSYS HES XXL©

High power energy storage system

from 1 MVA / 1 MWh to 6 MVA / 20 MWh systems

SUNSYS HES XXL is a complete and ready to use high power energy storage system for on-grid and off-grid applications.

This system is based on standard cabinets: a converter cabinet C-Cab XXL and a battery cabinet B-Cab XXL (CATL) 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 standalone or colocated - mainly with renewables - projects.

High safety

- B-Cab XXL: based on Lithium Iron Phosphate (LFP) chemistry
- UL 9540A certification insuring that the fire safety system will withstand thermal runaway
- UL 9540 system safety certification.

Extreme scalability

- System configuration based on two standard cabinets offering wide range of configurations:
  - a 1.5MVA C-Cab converter cabinet
  - a 372kWh B-Cab battery cabinet
- Possible system paralleling to reach 6MVA/20MWh on a single transformer.

Optimised asset management & performance

- Presales support
- Remote monitoring to enhance energy management
- Adaptable warranties, maintenance contracts and trainings to ensure optimum operations.

Integrated ready to use certified system

- Certified and tested systems including; converter, batteries and the control cabinets all together
- Specifically developed software adapted to enable internal communication between all cabinets.

The solution for

- Large commercial and industrial buildings
- EV charging infrastructures
- Grid support
- Solar colocation

Strong points

- High safety
- Extreme scalability
- Optimised asset management & performance
- Integrated ready to use certified system

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; RAAE 2012/19/UE
- Communication protocol: Modbus TCP
- Grid code: Europe : EN 50549

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.

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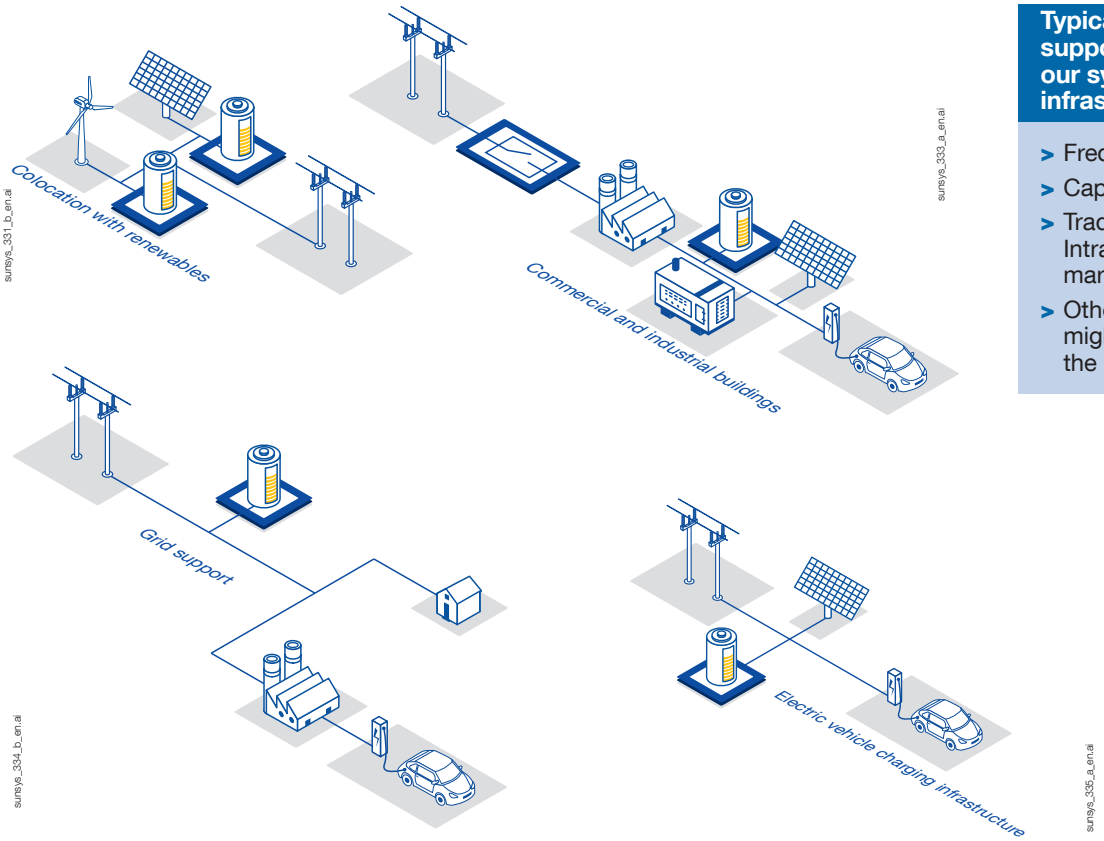
Suitable for all of the following applications



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

4 stackable units for maximum flexibility

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

C-Cab XXL Converter Cabinet

- Bidirectional power converter
- 1.5 MVA / cabinet
- Hybrid liquid / air cooling system
- On and off-grid operation
- Integrated fire safety detection and extinction system

Dimensions (W x D x H):
1300 x 1300 x 2280 mm

B-Cab XXL Battery Cabinet

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

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

M-Cab XXL Master Cabinet

- ESS control cabinet
- Battery management system integrated
- Devices for remote management
- Auxiliaries power supply
- PLC for automation functions an external EMS connection
- Battery data logging

Dimensions (W x D x H):
1026 x 1300 x 2160 mm

DC-Cab XXL DC Cabinet

- DC connections
- Above 8 B-Cab XXL per system

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Choose the configuration you need

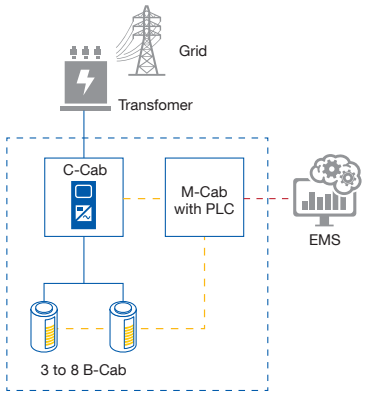
Power	Energy
1 to 1.5 MVA	1 to 3 MWh / to 5 MWh
2 to 3 MVA	2 to 6 MWh / to 10 MWh
3 to 4.5 MVA	3 to 9 MWh / to 15 MWh
4 to 6 MVA	4 to 12 MWh / to 20 MWh

with DC-Cab.

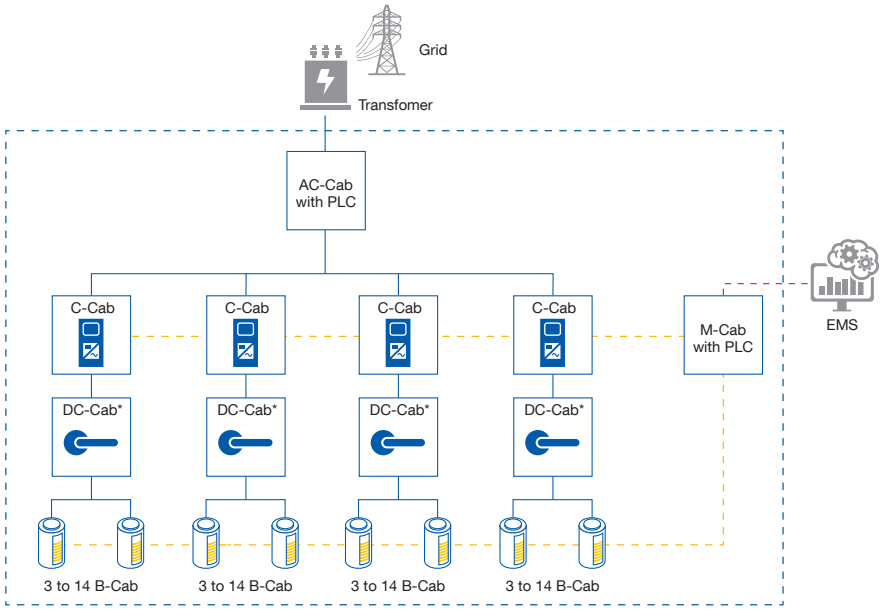
For bigger system needs, a paralleling of systems can be done.

SUNSYS HES XXL system architectures

Architecture with 1 C-Cab



Architecture with 4 C-Cabs



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

* DC-Cab : mandatory from 9 B-Cab

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Technical Data

System information	
Power modularity	1.5 MVA per C-Cab
Chemistry	LFP - Lithium Iron Phosphate
Energy Nameplate	372.7 kWh per rack
AC/AC Max Round Trip Efficiency	higher than 90% (without taking into account the energy consumption of the auxiliaries)
Maximum C-rate	0.5C or 1C
AC connections	6 x 300 mm² 3-wire
AC Voltage range	690 VRMS +/-10%
Rated frequency	50 /60 Hz configurable
Fire protection	fire safety system including smoke detectors, heat detectors and aerosol in the B-Cab
Environment	
Environment installation	Outdoor
Degree of protection	IP 55
Operation temperature	-20 to 45 C° (without derating)
Acoustic level at 3 m	< 75 dBA @ 3m
Altitude max.	2000 m without derating (above consult us)

Also availlable

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SUNSYS HES L

Outdoor Energy Storage System
from 100 kVA / 186kWh to 600kVA / 1674 kWh systems
Safe all-in-on solution adapted to on-grid and off-grid energy storage applications

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