

## ENERGY UNIT CABINET ESS-MPX-250

All-in-one solution for power and energy delivery

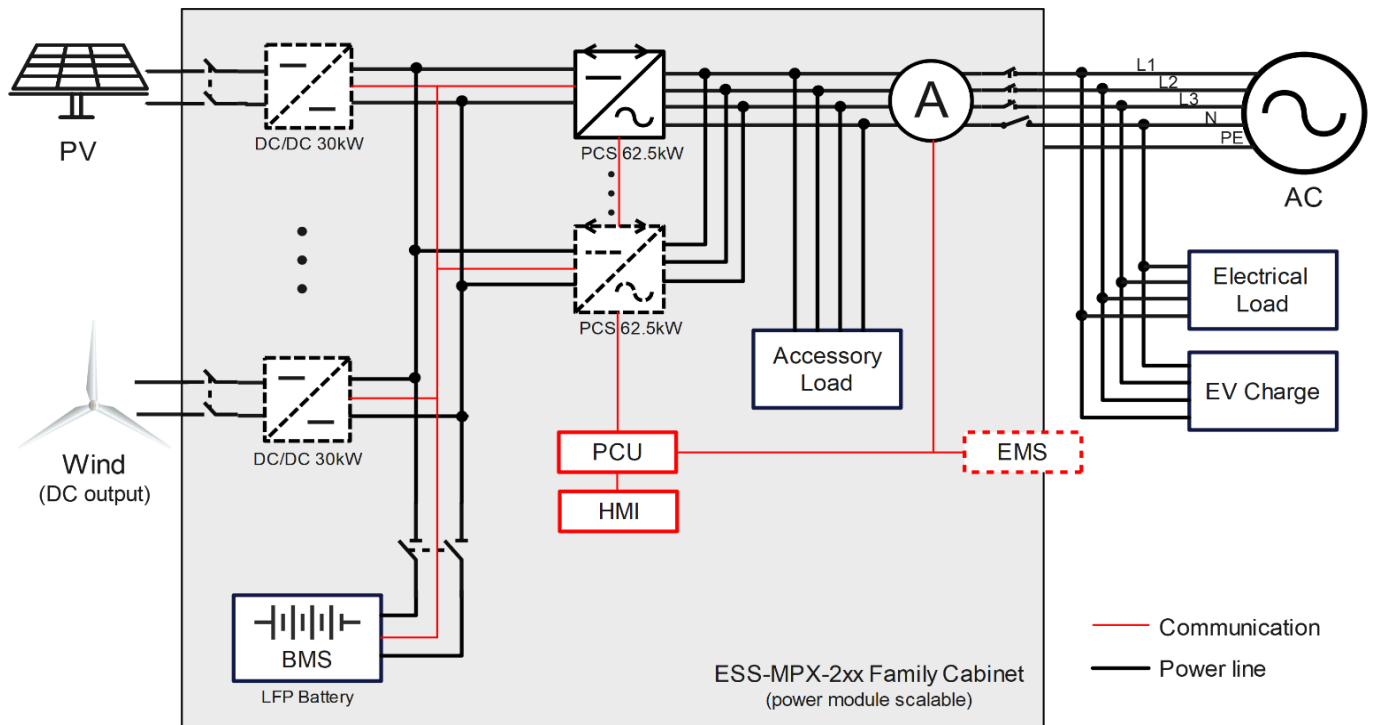


Figure: Electrical diagram of ESS-MPX-250 (shaded) used in-grid applications.  
Dashed components are optional in practise.

**All-in-one cabinet integrating liquid-cooled Lithium ion LFP battery of 1st class with high performance power conversion system. Easy implementation in electrical grid.**

Improved safety characteristics and specially optimized for the highest demands on flexibility, reliability and performance. Especially suitable for industrial, utility and grid serving applications.

### ■ Product certifications:

UN38.3, IEC 62619, UL 1973, UL 9540A, IEC 62477-1 LVD, IEC 61000-6-2/4 EMC, VDE-AR-N 4105:2018, VDE-AR-N 4110:2018

### Highlights

- Compact design, all storage units and power units within single housing.
- Plug-and-play installation, easy to relocate.
- External EMS controller provides more flexibility in applications.

## ESS-MPX-250 Cabinet

Up to 150 kW / 261 kWh Energy Unit

All-in-one cabinet integrating liquid-cooled Lithium-ion battery of 1st class with high performance power conversion system. Easy implementation in application.

CABINET GENERAL	
Protection Class	General IP54, battery cabinet IP55
Operating Ambient Temp.	-20°C to +50°C
Operating Humidity	5-90% RH
Operating Altitude	< 3,000 meter
Ventilation	Fan ventilation
Energy Management	Included
Wiring	3P4W/3P5W, suitable for TN/TT system
Dimensions (W x L x H)	1,640 x 1,550 x 2,200 mm
Cabinet Weight	< 3.5 ton
Communication	Modbus-RTU/-TCP for internal and external communication
Round Trip Efficiency	≥ 88%
Fire Safety System	Included

PHOTOVOLTAIC CONNECTION <sup>2</sup>	
Rated Inlet Power PV	150 kW <sup>1</sup>
PV Panel Inlet Voltage	300 ~ 650 Vdc
No. MPPT Channel	1 MPPT per module, maximal 7
Cooling Type	Forced air cooling
Certificates	IEC 62477, IEC 61000-6-2:2019, IEC 61000-6-4:2019
DC Voltage Ripple	≤ 2%
DC Current Ripple	≤ 2%

<sup>1</sup> 5 x PV DC/DC modules, adjustable accordingly

<sup>2</sup> PV DC/DC conversion modules not delivered by default

<sup>3</sup> 2 x PCS modules, adjustable accordingly

<sup>4</sup> 3 x PCS modules, max 3 x DC/DC modules adjustable

POWER CONVERSION / AC STAGE	
Rated AC Power	125 kW <sup>3</sup>
Max AC Power	150 kW (≤ 20min) <sup>4</sup>
Rated AC Voltage	315 ~ 450 (3-phase) Vac
Frequency	50/60 ± 5 Hz
Total Harmonic Distortion, Current (THDi)	< 3% @ rated power
Power Factor	0.9ind to 0.9cap, conti. adjustable
Cooling Type	Forced air cooling
Certificates	IEC 62477, IEC 61000-6-2:2019, IEC 61000-6-4:2019
In-Grid Code	VDE-AR-N 4105:2018, VDE-AR-N 4110:2018

BATTERY STORAGE / DC STAGE	
Rated Useable Capacity	250 kWh at beginning of life (BoL)
Rated DC voltage	800 Vdc
Depth of Discharge	≥ 97%
Nominal Charge/Discharge Rate	0.5 P / 0.5 P
Max Charge/Discharge Rate	1.0 P / 1.0 P
Nominal SOC at Delivery	30%
Chemical System	Lithium-iron phosphate, LFP
Cooling Type	Liquid cooling
Certificates	UN38.3, IEC 62619, UL 1973, UL 9540A, IEC 62477-1 LVD, IEC 61000-6-2/4 EMC

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