

The efficient commercial battery energy storage system

COMMERCIAL 92



Key Facts

92—
460

Power in kW

84—
1.050

Capacity in kWh

Benefits

- Self-Consumption Optimization 2.0 with AI-optimized utilization of time-of-use tariffs*
- Peak Shaving: Cuts electricity costs and prevents costly infrastructure expansion*
- PV-optimized integration of e-mobility charging infrastructure, heat pumps and heating elements*
- Including 3-phase sensor for the grid-connection point
- Plug-&-Play installation
- All-in-one system featuring a compact high-voltage battery, a flexible DC and efficient AC inverter, intelligent energy management system FEMS and full service by FENECON
- Ready for your Energy Journey: Expand your battery capacity and add new functionality with FEMS apps

* FEMS App Self-Consumption Optimization and FEMS App Grid-Optimized Charging included. Further apps available optionally.

System

Product warranty 10 years



Installation / Ambient conditions

IP classification	IP55
Operating altitude in m	≤ 2,000
Installation/operating temperature in °C	-20 to +45
Operating temperature in °C*	-20 to +55
Optimal battery operating temperature in °C*	+15 to +30

* Outside of the optimal operating temperature range, the (dis-)charging performance may be reduced.

Meter

Communication interface	Modbus RTU
Transformer ratios	x/5 & x/1

Certifications and Directives

Overall system	CE VDE 2510-50
Inverter	VDE 4105 VDE 4110
Battery	UN38.3 IEC62619 EMV (complete)

Battery module



Battery

Cells technology	Lithium iron phosphate (LiFePO4)
Module weight in kg	29.6
Nominal module capacity in kWh	2.87
Usable capacity per battery module in kWh	2.8
Optimal operating temperature in °C	+15 to +30

Battery tower

Dimensions (W D H) in mm	506 401 2550
Double socket Dimensions (W D H) in mm	1,312 401 1,406
Nominal capacity per battery tower in kWh	43.01
Usable capacity per battery tower in kWh	42
Weight in kg	487
Capacity warranty	12 years or 6,000 cycles
Expandable through parallel connection	Yes

Inverter

KACO blueplanet gridsave 92.0 TL3-S



AC connection

Grid connection	400 V, 3L/PE, 50/60 Hz
Operating voltage range (Ph-Ph) in V	300 - 580
Nominal AC output power in VA	92,000
Max. AC output power in VA	92,000

General specifications

IP classification	IP66
Humidity in %	0 to 100
Dimensions (W D H) in mm	699 450 719
Weight in kg	80
Max. efficiency in %	charging: 98.5 discharging: 98.7

For further details, please refer to the KACO data sheet.

Parallel switch box



General

Max. operating voltage	800 V DC
Max. continuous current	145 A
Operating ambient temperature in °C	-20 to +45
Ingress Protection	IP55
Protection class	I
Dimensions (W D H) in mm	606 162.5 639
Weight in kg	27

System configurations



Towers per inverter	2	3	4	5
Usable capacity in kWh*				
1 inverter	84	126	168	210
2 inverter	168	252	336	420
3 inverter	252	378	504	630
4 inverter	336	504	672	840
5 inverter	420	630	840	1,050
Nominal power in kW**				
1 inverter	67		92	
2 inverter	134		184	
3 inverter	201		276	
4 inverter	268		368	
5 inverter	335		460	
Weight in kg				
	974	1,461	1,948	2,435

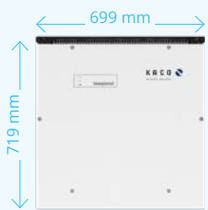
* From DC side at 25 °C and 0.2 C

** Average power at nominal voltage; actual power depends on other factors such as state of charge, ambient temperature, cells temperature and residual capacity.

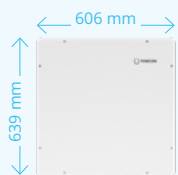


Detailed information about the cluster system can be found here on our website.

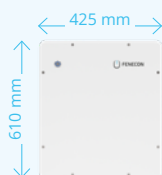
Inverter



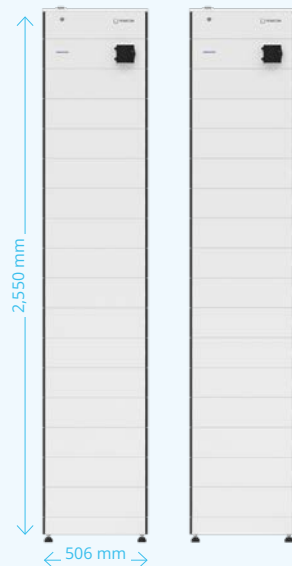
Parallel switch box



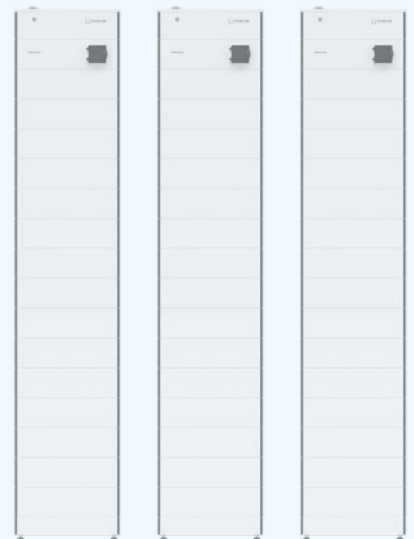
FEMS cluster box



System variant 2 towers with 15 modules each



Expansion possible up to a system variant of 5 towers with 15 modules each



FEMS Hardware



Hardware interfaces

Inputs	4 digital inputs
Output (FEMS relay board)	3 wet contacts (10 A per channel & metered) 2 dry contacts 1 analog output (0 to 10 V)
DC-Parallel connection	CAN
Communication between components	RS485 - Modbus RTU & LAN - Modbus TCP
Communication with external components	RS485 - Modbus RTU & LAN - Modbus TCP

Communication interfaces

Internet connection	LAN
Local	Modbus/TCP-API, REST-API (read access, write access optional)
Operating System	FEMS based on OpenEMS (Open Source)
Classification	OpenEMS Ready Gold
Updates	Unlimited, automatic, and free of charge

Advanced charging & discharging

Grid optimized charging	Standard
Time-off-use tariffs	Optional (compatible tariff required)

Options for sector coupling

Heating element controller	Optional
Heat pump control „SG-Ready“	Optional
Threshold controller	Optional
Manual relay controller	Optional
Wallbox controller	Optional
Controller for multiple wallboxes	Optional

FEMS

FENECON Energy Management System



A system that selects the best route every day.

Essential

FEMS is the heart of your energy system and is fully integrated into the energy storage system as a compact module right from the start.

Future-proof

Thanks to FEMS, your energy storage system remains ready for whatever the future may bring. Optional FEMS apps allow you to expand your system with new devices, ideas, and possibilities at any time. All easily implemented thanks to our manufacturer-independent open-source approach.

Intelligent

FEMS ensures optimal utilization of the energy you have generated. The AI-based forecast creates a holistic, customized energy roadmap in real time that takes into account weather data, consumption profiles, tariffs, and grid conditions.



More info
about FEMS



Test it yourself
with our demo access

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More info about
the product

