FENECON

The versatile commercial energy storage system

COMMERCIAL 50

Key Facts

50

Power in kWh

28–210

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*
- Integrate further generators
- PV-optimized integration of wallboxes, heat pumps and heating elements*
- Plug & Play installation
- All-in-one system with compact high-voltage battery, efficient battery inverter, intelligent FEMS energy management and full service from one manufacturer
- Optional emergency power supply via STS box
- Ready for the Energy Journey of your own: Increase your battery capacity, or add new functionality via FEMS Apps

* FEMS App Self-Consumption Optimization and FEMS App Grid Optimized Charge included. Further apps optional.

System

Product warranty 10 years

Installation / Ambient conditions	
IP classification	IP55
Operating altitude in m	≤ 2,000
Installation temperature in °C	-20 to +45
Operating temperature in °C*	-20 to +55
Optimal battery operating temperature in °C*	+15 to +30
Max. grid connection	variable through external converters (not included)

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

Certifications and Directives	
Overall system	CE VDE 2510-50
Inverter	VDE 4105:2018-11 VDE 4110:2023 TOR Erzeuger Typ A 1.1
Battery	UN38.3 IEC62619 EMV (complete)
Other countries	Sweden (registered Rikta Rätt), Netherlands (Synergrid C10/11 planned)

Battery module & Parallel switch box

Cell technology	Lithium iron phosphate (LiFePO4)
Module weight in kg	29.6
Nominal module capacity in kWh	2.87
Usable module capacity in kWh	2.8
Optimal operating temperature in °C	+15 to +30
Capacity warranty*	12 years or 6,000 cycles
Expandable through parallel connection	yes

* For further information, please refer to our warranty conditions at www.fenecon.de.

Parallel switch box	
Max. Operating Voltage	800 V DC
Max. Continuous Current	145 A
Operating Ambient Temperature in °C	-20 bis +45
Ingress Protection	IP55
Protection class	I
Dimensions (W|D|H) in mm	606 | 162.5 | 639
Gewicht in kg	27

Inverter & STS Box

Product name	FINV-50-1-DAH
DC-PV-connection	
Max. DC input power in kWp	75
MPP-Tracker	4
Inputs per MPPT	2 (MC4)
Starting voltage MPPT in V	200
Max. DC input voltage in V	1,000
MPPT voltage range in V	165 - 850
Nominal input voltage in V	620
Max. effective input current per MPPT in A	42/32/42/32
Max. short circuit current per MPPT in A	55/42/55/42
DC battery connection	
Max. (dis-)charging power in W	55,000
AC connection	
Grid connection	400/380 V, 3L/N/PE, 50/60 Hz
Max. output current (400 V) in A	75.8
Max. input current (400 V) in A	75.8
Nominal apparent power in VA	50,000
Max. apparent power output in VA	50,000
Max. apparent power of the grid in VA	50,000
Cos(Phi)	-0.8 bis +0.8
General specifications	
Dimensions (W|D|H) in mm	520 | 260 | 660
Weight in kg	65
DC overvoltage protection	Typ 2
Ripple control receiver inputs	yes
Cooling	Intelligent fan cooling
Noise emission in dB	65
Max. efficiency in %	98.1
Europ. efficiency in %	97.5
STS Box	
Product name	STS-200
Emergency power capability	yes
Max. power (consumer, mains) in VA	138,000
Max. current (Verbraucher, Netz) in A	200
Emergency-supplied loads (per phase) in VA	55,000 (18,300)
Unbalanced load in VA	18,300
Black start capability	yes
Solar recharging	yes

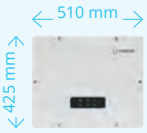
System configurations

No. of modules per tower	5	6	7	8	9	10	11	12	13	14	15
Nominal capacity in kWh											
2 towers with x modules each	28.7	34.4	40.1	45.88	51.61	57.34	63.08	68.81	74.55	80.28	86.02
3 towers with x modules each							94.62	103.22	111.82	120.42	129.02
4 towers with x modules each								137.63	149.09	160.56	172.03
5 towers with x modules each									186.35	200.70	215.05
Effective capacity in kWh*											
2 towers with x modules each	28.0	33.6	39.2	44.8	50.4	56.0	61.6	67.2	72.8	78.4	84.0
3 towers with x modules each							92.4	100.8	109.2	117.6	126.0
4 towers with x modules each								134.4	145.6	156.8	168.0
5 towers with x modules each									182.0	196.0	210.0
Nominal power in kW**											
2 towers with x modules each	22.40	26.88	31.36	35.84	40.32	44.80	49.28	53.76	55.00	55.00	55.00
3 towers with x modules each							49.28	53.76	55.00	55.00	55.00
4 towers with x modules each								53.76	55.00	55.00	55.00
5 towers with x modules each									55.00	55.00	55.00
Weight in kg											
2 towers with x modules each	374	434	494	554	614	674	734	794	854	914	974
3 towers with x modules each							1,101	1,191	1,281	1,371	1,461
4 towers with x modules each								1,588	1,708	1,828	1,948
5 towers with x modules each								2,135	2,285	2,435	1,708
Height in mm (approx.)	**1,120**	**1,263**	**1,406**	**1,549**	**1,692**	**1,835**	**1,978**	**2,121**	**2,264**	**2,407**	**2,550**

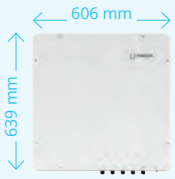
* DC-side at 25 °C and 0.2 C

** Average DC power at nominal voltage; The actual power depends on factors like state of charge, ambient and cell temperature and the operating mode.

STS Box (optional)



Parallel switch



Inverter

System variant 2 towers, each with 15 modules

System variant 5 towers with 15 modules

FEMS Hardware

Hardware interfaces	
Inputs	4 digital inputs
Outputs (FEMS relay board)	3 wet contacts (10 A per channel & metered), 2 dry contacts 1 analog output (0 to 10 V)
Parallel connection	CAN
Communication between components	RS485 – Modbus RTU

Communication interfaces	
Internet connection	LAN
Local	Modbus/TCP-API, REST-API (read access, write access optional)
Online	Cloud-Rest-API (read access, write access optional)

Base & future capability	
Operating system	FEMS, based on OpenEMS
Classification	OpenEMS Ready Gold
Updates	Unlimited, automatic & free of charge
Feed-in management	0% (e.g., outside EEG) up to 100%

Advanced charging & discharging	
Grid-optimized charging	Standard
Time-of-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

Monitoring of generators & consumers	
Monitoring of further generators/ individual consumers	Optional

FEMS

FENECON Energymanagement System

A system that selects the best route every day.

Included

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

Future-proof

Thanks to FEMS, your storage unit remains open for whatever the future may bring. Optional FEMS apps allow you to expand your energy system with new devices, ideas, and possibilities at any time. This is no problem thanks to the manufacturer-independent open-source approach.

Proactive

FEMS ensures that your energy doesn't just run – it follows your life. 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

FENECON GmbH
Gewerbepark 6
94547 Iggensbach
Germany

+49 9903 6280-0
info@fenecon.de
www.fenecon.de

More info about the product