

The high-performance commercial energy storage system

COMMERCIAL 100



Key facts

100

Max. power in kW

39.2-
420

Capacity in kWh

200

Integrated PV connection
in kWp and up to
four directions

Benefits

- Self-Consumption Optimization 2.0 with AI-optimized utilization of time-of-use tariffs*
- Peak shaving to reduce electricity charges*
- Flexible integration of additional producers and consumers*
- PV-optimized integration of e-mobility charging infrastructure, heat pumps and heating elements*
- Efficient plug-&-play installation for commercial use
- All-in-one system featuring a compact high-voltage battery, a flexible DC, AC and hybrid inverter, intelligent energy management FEMS, and service from a single source
- Optional backup power supply and generator input
- Ready for your Energy Journey: Modularly expandable with battery towers and 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	
Ingress Protection	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
Max. grid connection	variable through external transformers (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
Other countries	Sweden (registered for Rikta Rätt), Netherlands (planned: Synergrid C10/11)

Battery module & Parallel switch box



Cell technology	Lithium iron phosphate (LiFePO4)
Module weight in kg	29.6
Nominal capacity per battery module in kWh	2.87
Usable capacity per battery module in kWh	2.8
Expandable through parallel connection	Yes
Dimensions (W D H) in mm	506 401 140
Capacity guarantee**	12 years or 6,000 cycles

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

Parallel switch box	
Max. operating voltage in V DC	800
Max. continuous current in A	100
Dimensions (W D H) in mm	606 162.5 639
Weight in kg	27
Battery inputs	5

Inverter & STS Box



Product designation	FINV-100-1-DAH
DC-PV-connection	
Max. DC input power in kWp	200
MPP Trackers	8
Inputs per MPPT	2
Starting voltage MPPT in V	200
Max. DC input voltage in V	1,000
MPPT voltage range in V	160 to 950
Nominal input voltage in V	620
Max. effective input current per MPPT in A	42
Max. short circuit current per MPPT in A	55

DC battery connection	
Max. (dis-)charging power in W	2 x 55

AC connection	
Grid connection	400/380 V, 3L/N/PE, 50/60 Hz
Max. output current (400 V) in A	158.8
Max. input current (400 V) in A	158.8
Nominal apparent power in VA	100,000
Max. apparent power output in VA	110,000
Max. apparent power of the grid in VA	110,000
Cos(Phi)	-0.8 to +0.8

General specifications	
Dimensions (W D H) in mm	995 358 758
Weight in kg	97
DC surge protection	Type 2
Ripple control receiver inputs	Yes
Cooling	Intelligent fan cooling
Max / Europ. efficiency in %	98.1 / 97.7
Ingress Protection	IP66

STS Box (optional)	
Product designation	STS-210-150
Emergency power capability	Yes
Max. power (consumers, grid) in VA	137,500
Max. current (consumers, grid) in A	210
Unbalanced load in VA	46,200
Black start capability & Solar recharging	Yes
Dimensions (W D H) in mm	680 620 165
Weight in kg	21
Ingress Protection	IP54

System configurations



One / two battery inputs in use:

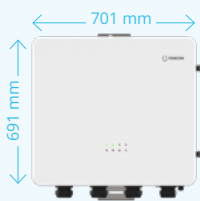
Battery modules per tower	7	8	9	10	11	12	13	14	15
Nominal capacity in kWh									
2 towers with x modules each	40.1 / 80.2	45.88 / 91.76	51.61 / 103.22	57.34 / 114.68	63.08 / 126.16	68.81 / 137.62	74.55 / 149.1	80.28 / 160.56	86.02 / 172.04
3 towers with x modules each					94.62 / 189.24	103.22 / 206.44	111.82 / 223.64	120.42 / 240.84	129.02 / 258.04
4 towers with x modules each						137.63 / 275.26	149.09 / 298.18	160.56 / 321.12	172.03 / 344.06
5 towers with x modules each							186.35 / 372.7	200.70 / 401.4	215.05 / 430.1
Effective capacity in kWh*									
2 towers with x modules each	39.2 / 78.4	44.8 / 89.6	50.4 / 100.8	56.0 / 112.0	61.6 / 123.2	67.2 / 134.4	72.8 / 145.6	78.4 / 156.8	84.0 / 168.0
3 towers with x modules each					92.4 / 184.8	100.8 / 201.6	109.2 / 218.4	117.6 / 235.2	126.0 / 252.0
4 towers with x modules each						134.4 / 268.8	145.6 / 291.2	156.8 / 313.6	168.0 / 336.0
5 towers with x modules each							182.0 / 364.0	196.0 / 392.0	210.0 / 420.0
Nominal power in kW**									
2 towers with x modules each	31.4 / 62.8	35.8 / 71.6	40.3 / 80.6	44.8 / 86.6	49.3 / 98.6	53.8 / 107.6	55.0 / 110.0	55.0 / 110.0	55.0 / 110.0
3 towers with x modules each					49.3 / 98.6	53.8 / 107.6	55.0 / 110.0	55.0 / 110.0	55.0 / 110.0
4 towers with x modules each						53.8 / 107.6	55.0 / 110.0	55.0 / 110.0	55.0 / 110.0
5 towers with x modules each							55.0 / 110.0	55.0 / 110.0	55.0 / 110.0
Weight in kg									
2 towers with x modules each	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						1,985	2,135	2,285	2,435
Height in mm (approx.)									
	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

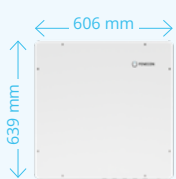
** Average DC power at nominal voltage; The actual power depends on factors like state of charge, ambient and cell temperature and the operating mode.

*** Splitbase configuration optional.

STS Box (optional)



Parallel switch box



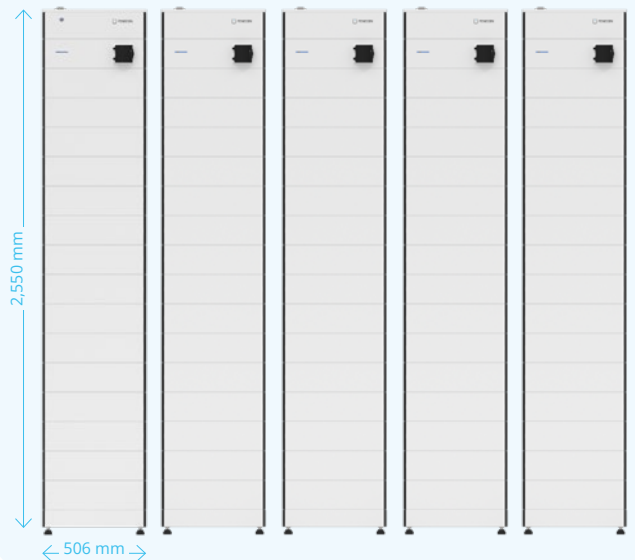
Inverter



System variant 2 towers with 7 modules each



System variant
5 towers with 15 modules each



FEMS Hardware



Hardware interfaces

Inputs	4 digital inputs
Outputs (FEMS relay board)	3 wet contacts (10 A per channel & metered), 2 dry contacts
Communication between components	RS485 – Modbus RTU

Communication interfaces

Connectivity	LAN
Local interface	Modbus TCP API, REST API (read access, write access optional)
Online interface	Cloud REST API (read access, write access optional)

Software & future capability

Operating system	FEMS, based on OpenEMS (Open Source)
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	Included in the standard scope of delivery
Time-of-use tariffs	Optional (compatible tariff required)
Peak shaving	Optional

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

Integration of external producers or consumers	Optional
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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

