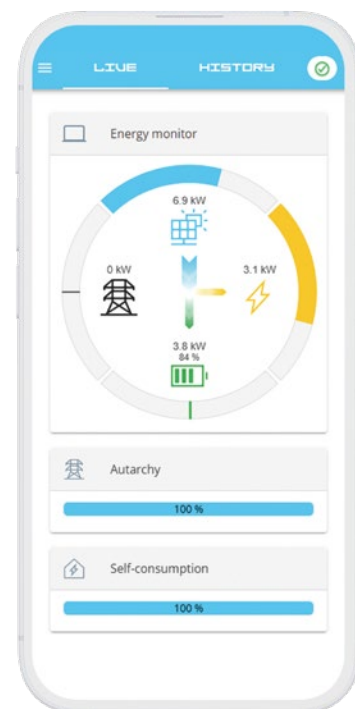


The high-power residential energy storage system

HOME 20 | 30



Key Facts

30

Power in kW

14-168

Capacity in kWh

45

Integrated PV connection
in kWp and for up to three
orientations

Benefits

- Intelligent integration of wallboxes, heat pumps and a heating element*
- Self-Consumption Optimization 2.0 with AI-optimized utilization of time-of-use tariffs*
- 3-phase emergency power supply with solar recharging and black-start capability
- Plug-&-Play installation
- 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
- Ready for your Energy Journey: Modularly expandable with battery modules 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 +50
Operating temperature in °C*	-20 to +55
Optimal battery operating temperature in °C*	+15 to +30
Max. grid connection in A**	120

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

** Higher supply currents are possible through optional meters.

Certifications and Directives

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

Battery module



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 capacity	Yes
Dimensions (W D H) in mm	506 401 140
Capacity warranty*	12 years or 6,000 cycles

* Find further information in our warranty terms at www.docs.fenecon.de.

Inverter



Product name

Home 20
FHI-20-DAH

Home 30
FHI-29,9-DAH

DC connection

Max. DC input power in kWp	30	45
MPP Trackers	2	3
Inputs per MPPT	2 (MC4)	
Starting voltage MPPT in V	200	
Max. DC input voltage in V	1,000	
MPPT voltage range in V	200 - 850	
Nominal input voltage in V	620	
Max. effective input current per MPPT in A	30	
Max. short circuit current per MPPT in A	38	
Max. (dis-)charging power in kW	20	29.9

AC connection

Grid connection	400/380 V, 3L/N/PE, 50/60 Hz	
Max. output current (400 V) in A	29	43.3
Max. input current (400 V) in A	45	50
Nominal apparent power output in VA	20,000	29,900
Max. apparent power of the grid in VA	22,000	29,900
Cos(Phi)	-0.8 to +0.8	

Emergency power

Emergency power capability	Yes	
Electrical network configuration	400/380 V, 3L/N/PE, 50/60 Hz	
Loads supplied with emergency power (per phase) in VA	20,000 (6,666)	29,900 (9,966)
Unbalanced load in VA	6,666	9,966
Black start capability	Yes	
Solar recharging	Yes	

Efficiency

Max. efficiency in %	98.0	
Europ. efficiency in %	97.5	

General specifications

Dimensions (W D H) in mm	520 220 660	
Weight in kg	48	54
DC surge protection	Type 2	
Ripple control receiver inputs	Yes	
Cooling	Intelligent fan	

System configurations

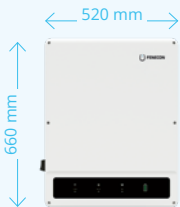


Battery modules per tower	5	6	7	8	9	10	11	12	13	14	15
Nominal capacity in kWh											
1 tower with x modules	14.3	17.2	20.1	22.9	25.8	28.7	31.5	34.4	37.3	40.1	43.0
2 towers with x modules each				45.9	51.6	57.3	63.1	68.8	74.5	80.3	86.0
3 towers with x modules each							94.6	103.2	111.8	120.4	129.0
4 towers with x modules each								137.6	149.1	160.6	172.0
Effective capacity in kWh*											
1 tower with x modules	14.0	16.8	19.6	22.4	25.2	28.0	30.8	33.6	36.4	39.2	42.0
2 towers with x modules each				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	109.4	117.6	126.0
4 towers with x modules each								134.4	145.6	156.8	168.0
Nominal power in kW**											
Nom. power in kW (20 kW Inv.)	11.2	13.4	15.7	17.9	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Nom. power in kW (30 kW Inv.)	11.2	13.4	15.7	17.9	20.2	22.4	24.6	26.9	29.1	30.0	30.0
Weight in kg											
1 tower with x modules	187	217	247	277	307	337	367	397	427	457	487
2 towers with x modules each				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
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

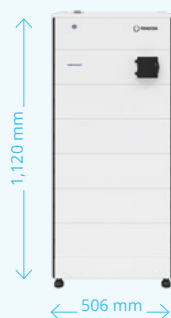
* DC-side at 25 °C and 0.2 C

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

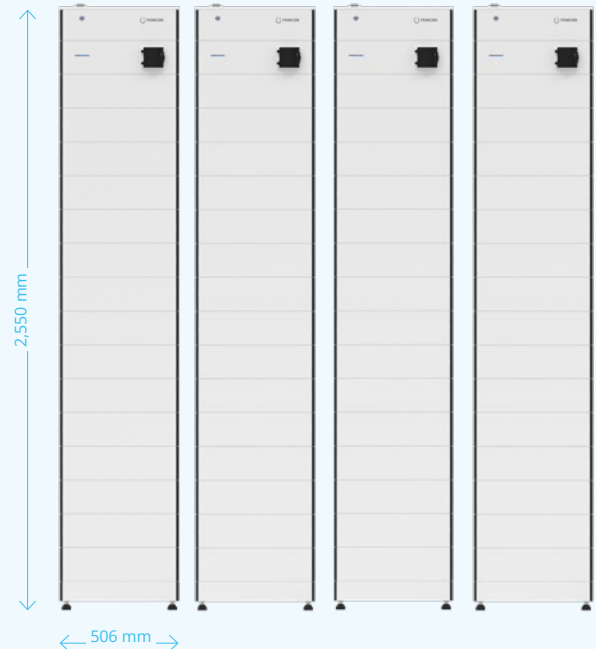
Inverter



System variant 1 tower with 5 modules



System variant 4 towers with 15 modules each



FEMS Hardware



Hardware interfaces

Inputs	4 digital inputs
Outputs (FEMS relay board)	3 wet inputs (10 A per channel & metered), 2 dry contacts 1 analog output (0 to 10 V)
Communication with external components	RS485 – Modbus RTU/LAN Modbus TCP

Communication interfaces

Internet connection	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%
Dynamic ripple control receiver	Standard

Advanced charging & discharging

Grid-optimized charging	Standard
Time-of-use tariffs & time-variable grid charges	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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www.fenecon.com



More info about the product



3.6. Technical Data — BMS box

3.6. Technical Data — BMS box

Description	Value/Dimension
Maximum operating voltage range	224 V to 672 V
Maximum output/input current	50 A
Optimal operating temperature	15 to 30 °C
Operating temperature range	-20 to 55 °C
Protection specification	IP55 (when plugged in)
Width (incl. side panel) Depth Height	506 401 143 mm
Weight	13 kg
Installation	stackable/wall-mounted

Table 15. Technical Data — BMS box

3.6.1. Dimensions

The dimensions are given in mm.

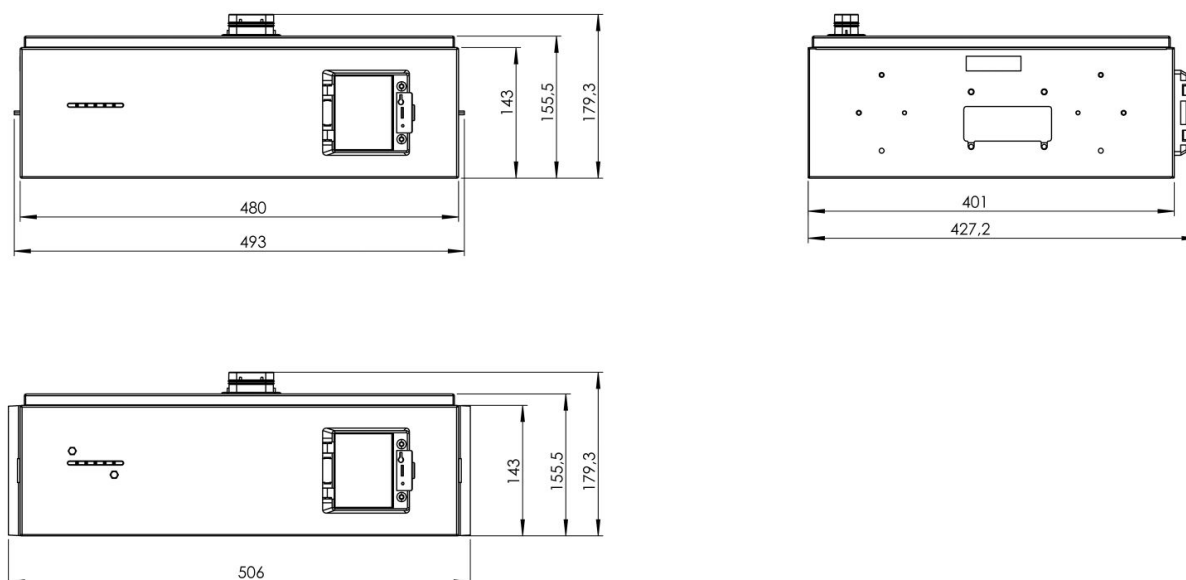


Image 8. Dimensions — BMS box

3.7.2. Electrical parameters of the battery modules

For battery modules 5 to 7

Parameter	Value/dimension		
No. of modules	5S	6S	7S
Nominal capacity in kWh	14.3	17.2	20.0
Usable capacity in kWh	14.0	16.8	19.6
Width incl. side panel in mm	506		
Depth in mm	401		
Height in mm	1120	1263	1406
Weight in kg	187	217	247
Nominal voltage in V	224.0	268.8	313.6
Output voltage range in V	196 ~ 252	235.2 ~ 302.4	274.4 ~ 352.8
Maximum continuous charging/discharging power in kW			
Inverter with 20 kW	11.20	13.44	15.68
Inverter with 29.9 kW	11.20	13.44	15.68

Table 17. Electrical parameters — No. of battery modules 5S to 7S (5 to 7 modules in series)

For battery modules 8 to 11

Parameter	Value/dimension			
Modules	8S	9S	10S	11S
Nominal capacity in kWh	22.9	25.8	28.7	31.5
Usable capacity in kWh	22.4	25.2	28.0	30.8
Width incl. side panel in mm	506			
Depth in mm	401			
Height in mm	1549	1692	1835	1978
Weight in kg	277	307	337	367
Rated voltage in V	358.4	403.2	448.0	492.8
Output voltage range in V	313.6 ~ 403.2	352.8 ~ 453.6	392.0 ~ 504.0	431.2 ~ 554.4
Maximum continuous charging/discharging power in kW				
Inverter with 20 kW	17.92	20.00	20.00	20.00
Inverter with 29.9 kW	17.92	20.16	22.40	24.64

Table 18. Electrical parameters — Number of battery modules 8S to 11S (8 to 11 modules in series)

3.7. Technical data — FENECON battery module

For battery modules 12 to 15

Parameter	Value/dimension			
Modules	12S	13S	14S	15S
Nominal capacity in kWh	34.4	37.3	40.1	43.0
Usable capacity in kWh	33.6	36.4	39.2	42.0
Width incl. side panel in mm	506			
Depth in mm	401			
Height in mm	2121	2264	2407	2550
Weight in kg	397	427	457	487
Rated voltage in V	537.6	582.4	627.2	672.0
Output voltage range in V	470.4 ~ 604.8	509.6 ~ 655.2	548.8 ~ 705.6	588.0 ~ 756.0
Maximum continuous charging/discharging power in kW				
Inverter with 20 kW	20.00	20.00	20.00	20.00
Inverter with 29.9 kW	26.88	29.12	30.00	30.00

Table 19. Electrical parameters — No. of battery modules 12S to 15S (12 to 15 modules in series)



The specified capacity values refer to one battery tower and are rounded to one decimal place.

3.8. Technical data — Base

Designation	Value/dimension
Width (incl. side panel) Depth Height	506 401 84 mm
Weight	6 kg
Protection specification	IP55 (plugged in)
Installation	stackable

Table 20. Technical data — Base

3.8.1. Dimensions — Base

The dimensions are given in mm.

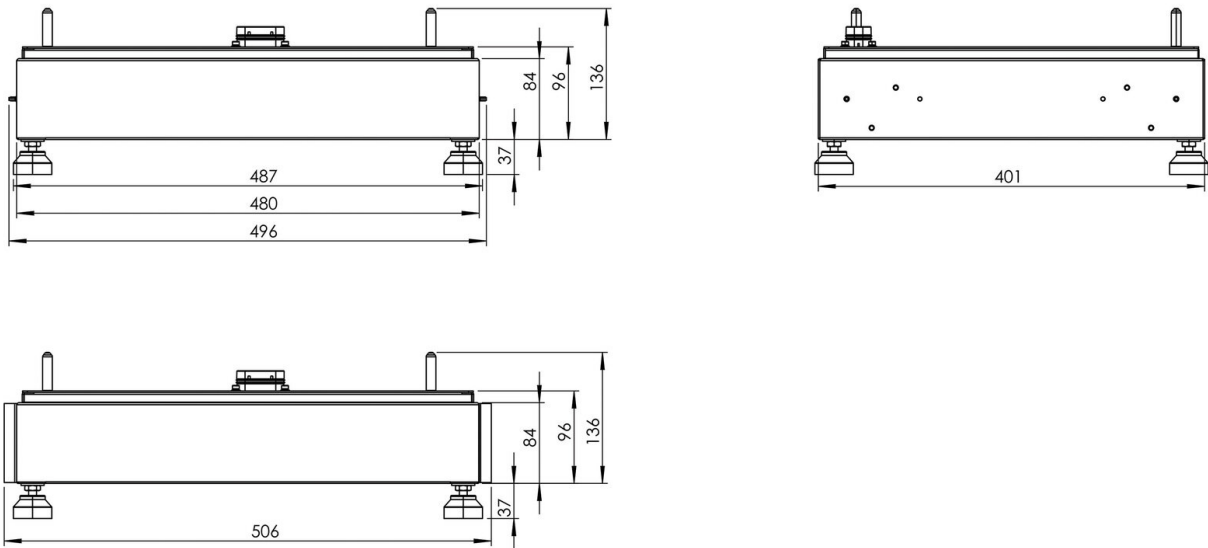


Image 10. Dimensions — Base

5.1. Scope of delivery

5.1.5. FENECON Home 20 & 30-BMS-Box/Base

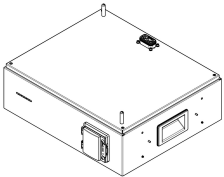
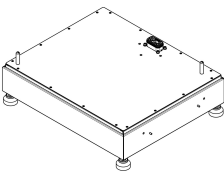
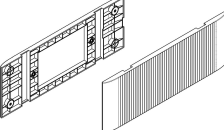
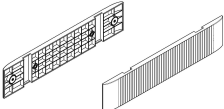
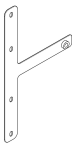
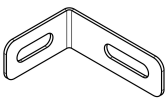
Image	Amount	Description	Item no.
	1	FENECON Home 20 & 30-BMS box	FEH000
	1	Base	
	2	Side panel (FENECON Home 20 & 30-BMS box)	FEH051
	2	Side panel (base)	
	4	Wall mounting — Mounting bracket	Part of connection set FEH052
	4	Wall mounting — Mounting bracket (wall part)	Part of connection set FEH052
	8	Bolt M4 x 10	Part of connection set FEH052
	2	Bolt for wall mounting M6 x 12	Part of connection set FEH052

Table 35. Scope of delivery — BMS box/base