

The advanced residential energy storage system

Key Facts:

- Power: up to 30 kW
- Capacity: 14 up to 168 kWh
- Integrated PV input for up to 45 kWp and up to three orientations

Benefits:

- PV-optimized integration for electric vehicle charging stations, heat-pumps and heating element*
- Self-consumption optimization 2.0 with AI-optimized time-of-use tariffs*
- 3-phase back-up power supply with solar recharging and black start function (< 10 ms switchover)
- Plug & Play installation
- All-in-one system with compact high-voltage battery, flexible DC, AC and hybrid inverter, intelligent FEMS energy management and full service from one manufacturer
- Ready for your Energy Journey: extendable with battery modules and FEMS apps



(22.4 kWh system variant)

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

Home 20 & 30

System, battery module and inverter

SYSTEM

Product warranty	10 years
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Installation/Ambient conditions

IP classification	IP55
Operating altitude in m	≤ 2,000
Installation/Operating temperature in °C	-30 to +60
Operating temperature in °C*	-10 to +50
Optimal battery operating temperature in °C*	+15 to +30
Max. grid connection in** A	120

* Outside the optimum operating range, charging/discharging power is reduced.

** Higher grid connection is possible with optionally available meter.

Certifications/Guidelines

Overall system	CE
Inverter	VDE 4105:2018-11 TOR type A 1.1
Battery	UN38.3 VDE 2510-50 EMC; IEC62619



BATTERY

Cells 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
Extendable	Yes
Tower width Tower depth in mm	506 401
Capacity warranty*	12 years or 6,000 cycles

* For more information, please refer to our warranty terms and conditions at www.fenecon.de.



INVERTER

Model	Home 20	Home 30
	FHI-20-DAH	FHI-29,9-DAH

DC connection

Max. DC input power in kWp	30	45
Number of MPP trackers	2	3
Number of inputs per MPPT	2 (MC4)	
Start-up voltage in V	200	
Max. DC input voltage in V	1,000	
MPPT operating voltage range in V	200 up to 850	
Nominal input voltage in V	620	
Max. input current per MPPT in A	30	
Max. short circuit current per MPPT in A	38	

AC connection

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

Back-up power

Back-up power capability	Yes	
Grid shape	400/380 V, 3L/N/PE, 50/60 Hz	
Max. back-up load (per phase) in VA	20,000 (6,666)	29,900 (9,966)
Unbalanced load in VA	6,666	9,966
Black start	Yes	
Solar recharging	Yes	

Efficiency

Max. efficiency in %	98.0
European efficiency in %	97.5

General information

Dimensions (W D H) in mm	520 220 660	
Weight in kg	48	54
Topology	Non-isolated	
DC-surge protection	Type 2	
Inputs for ripple control receiver	Yes	
Cooling	Adaptive ventilator	
Noise in dB	< 45	



Home 20 & 30

Battery and system configuration



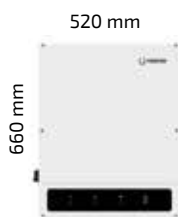
BATTERY VARIANTS

Number of modules per tower	5	6	7	8	9	10	11	12	13	14	15
Nominal capacity in kWh											
1 tower with x modules	14.34	17.20	20.07	22.94	25.8	28.67	31,46	34.41	37.27	40.14	43.01
2 towers, each with x modules				45.88	51.61	57.34	62,92	68.81	74.55	80.28	86.02
3 towers, each with x modules							94,38	103.22	111.82	120.42	129.02
4 towers, each with x modules								137.63	149.09	160.56	172.03
Usable 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, each with x modules				44.8	50.4	56.0	61.6	67.2	72.8	78.4	84.0
3 towers, each with x modules							92.4	100.8	109.4	117.6	126.0
4 towers, each with x modules								134.4	145.6	156.8	168.0
Nominal power in kW **											
Nominal power in kW (20 kW WR)	11.20	13.44	15.68	17.92	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Nominal power in kW (30 kW WR)	11.20	13.44	15.68	17.92	20.16	22.40	24.64	26.88	29.12	30.00	30.00
Weight in kg											
1 tower with x modules	187	217	247	277	307	337	367	397	427	457	487
2 towers, each with x modules				554	614	674	734	794	854	914	974
3 towers, each with x modules							1,101	1,191	1,281	1,371	1,461
4 towers, each with x modules								1,588	1,708	1,828	1,948
Approx. height of the tower in mm											
	1,120	1,263	1,406	1,549	1,692	1,835	1,978	2,121	2,264	2,407	2,550

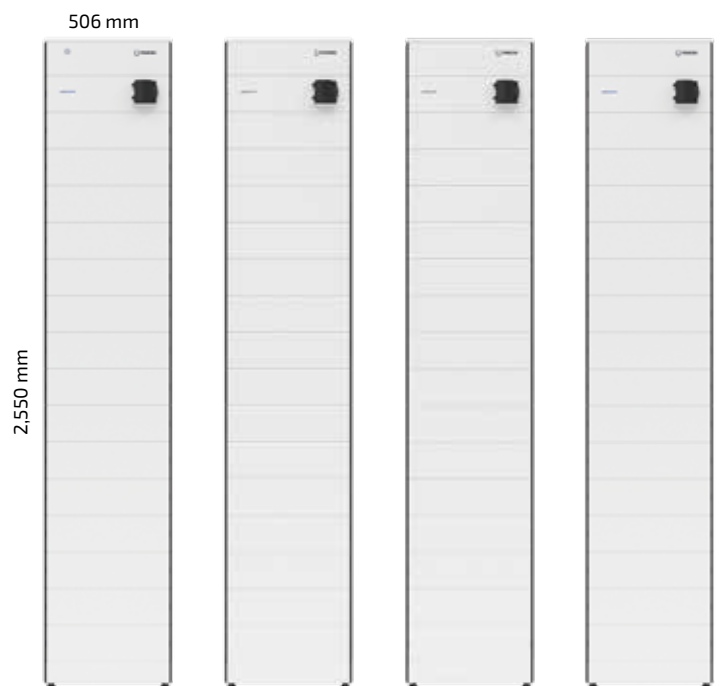
* From DC side at 25°C and 0.2 C

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

Inverter



System variant - 4 towers each with 15 modules



System variant - 1 tower with 5 modules



Hardware interfaces

Inputs	4 digital inputs
Outputs (FEMS Relaisboard)	3 load switch contacts (10 A per channel & measured), 2 potential free switch contacts (max. 24V), 1 analogue output (0 to 10 V)
Parallel connection	CAN
Communication with internal components	RS485 – Modbus RTU
Communication with external components	RS485 – Modbus RTU / LAN-Modbus TCP

Communication interfaces

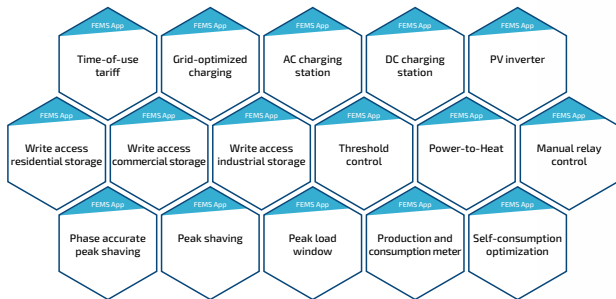
Internet connection	LAN
Local	Modbus/TCP-API (read, optional write), REST-API (read, optional write)
Online	Cloud-Rest-API (read, optional write)

Basis and sustainability

Operating system	FEMS based on OpenEMS (Open Source)
Classification	OpenEMS Ready Gold
Updates	Unrestricted, automatic and free of charge
Feed-in management	0 % to 100 %

Charging and discharging strategy

Grid optimized charging	Included in standard
Time-of-use tariffs	Optional (compatible electricity tariff required)



Easy installation of energy management apps

FEMS apps are important building blocks of the future energy world, where users can adapt their FENECON energy storage system according to their individual needs.

- Use the advantages of FEMS on your energy journey even more efficiently with FENECON
- Simply download apps and install them via license key
- Fast and convenient installation process

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