

FENECON Home 10

The smart residential battery energy storage system



Unique. Efficient. Innovative.

- Compact high voltage battery
- Variable DC, AC and hybrid inverter
- Open-source based energy management FEMS

More than a battery storage

- Max. AC power output: 10 kW
- Capacity: scalable from 8.8 up to 66 kWh
- Two integrated DC inputs for PV up to 15 kWp
- 3-phase back-up power supply with solar recharging and black start function (< 10 ms UPS-standard switching)
- Plug & Play assembly
- All-in-one system
- Suitable for outdoor installation

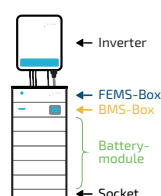


(15.4 kWh configuration)

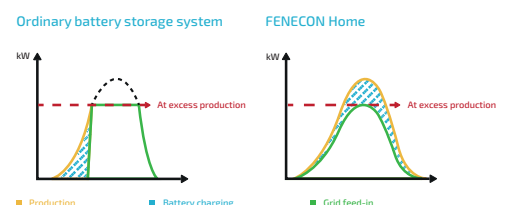
Activate sector coupling over-the-air



Room-efficient



Grid optimized charging



FENECON Home 10

System and inverter



SYSTEM

Product warranty	10 years
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Installation / Ambient conditions

IP classification	55
Operating altitude in m	<= 2,000
Installation/Operating temperature in °C	-30 to +60
Battery operating temperature* in °C	-10 to +50
Optimal battery operating temperature in °C	+15 to +30
Cooling	fanless
Max. grid connection in A	120

Certifications / Guidelines

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

* Reduced charging and discharging power below 5 °C and over 45 °C; no charging and discharging power below -10 °C and 50 °C.



INVERTER

Model	FHI-10-DAH	FHI-10-DAH 16A
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DC PV connection

Max. DC input power in kWp	15	
Number of MPP trackers	2	
Number of inputs per MPPT	1 (MC4)	
Start-up voltage in V	180	
Min. DC input voltage in V	210	
Max. DC input voltage in V	1,000	
MPPT operating voltage range in V	200 - 850	
Nominal input voltage in V	620	
Max. input current per MPPT in A	12.5	16
Max. short circuit current per MPPT in A	15.2	21.2

AC connection

Grid connection	400/380 V, 3L/N/PE, 50/60 Hz
Max. output current in A	16.5
Max. input current in A	22.7
Nominal apparent power output in VA	10,000
Max. apparent power output in VA	11,000
Max. apparent power from the grid in VA	15,000
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	10,000 (3,333)
Unbalanced load in VA	3,333
Black start	Yes
Solar recharging	Yes

Efficiency

Max. efficiency in %	98.2
European efficiency in %	97.5

General information

Dimensions (W D H) in mm	415 180 516
Weight in kg	24
Topology	transformerless
DC-surge protection	Type 2
Inputs for ripple control receiver	Yes



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Battery and system configuration



Cells technology	Lithium Iron Phosphate (LiFePO4)
Module weight in kg	26.5
Nominal module capacity in kWh	2.33
Usable module capacity in kWh	2.2
Extendable	Yes
Tower width Tower depth in mm	506 397
Capacity guarantee*	12 years or 6,000 cycles



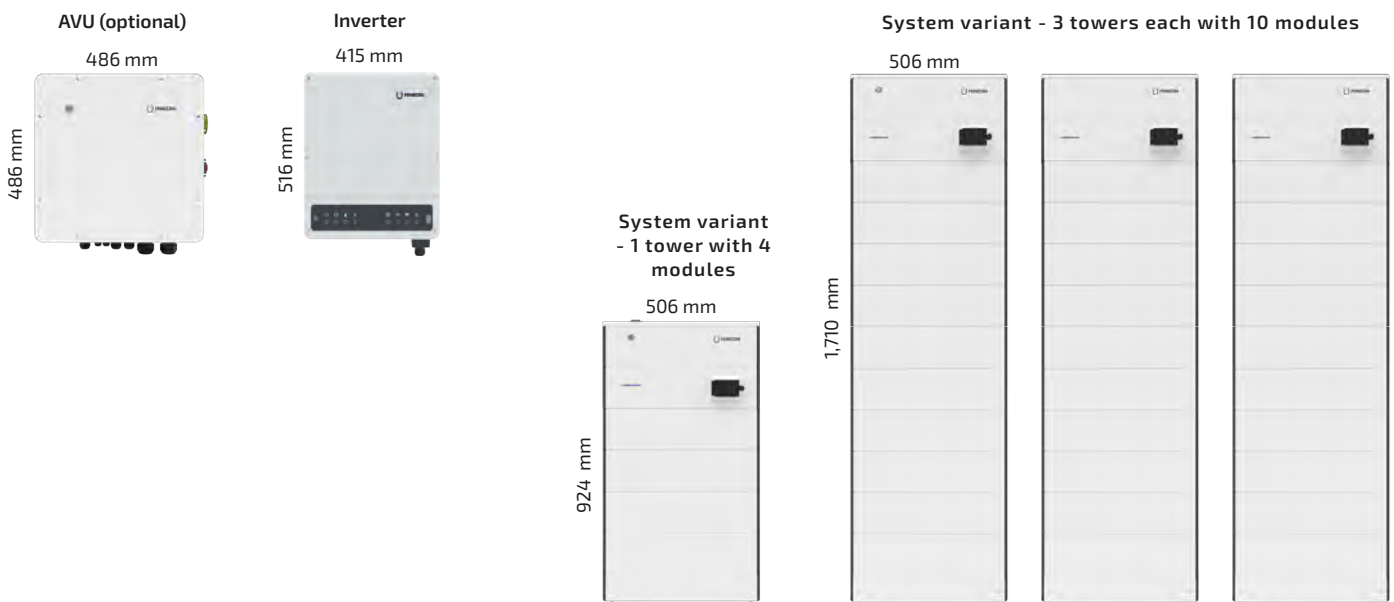
SYSTEM VARIANTS

Number of modules per tower	4	5	6	7	8	9	10
Nominal capacity in kWh							
1 tower with x modules	9.3	11.7	14.0	16.3	18.6	21.0	23.3
2 towers, each with x modules			28.0	32.6	37.3	41.9	46.6
3 towers, each with x modules				48.9	55.9	62.9	69.9
Usable capacity in kWh**							
1 tower with x modules	8.8	11.0	13.2	15.4	17.6	19.8	22
2 towers, each with x modules			26.4	30.8	35.2	39.6	44
3 towers, each with x modules				46.2	52.8	59.4	66
Nominal power in kW ***							
(Charging and discharging power)	4.48	5.60	6.72	7.84	8.96	10.00	10.00
Weight in kg							
1 tower with x modules	133.5	160.0	186.5	213.0	239.5	266.0	292.5
2 towers, each with x modules			373.0	426.0	479.0	532.0	585.0
3 towers, each with x modules				639.0	718.5	798.0	877.5
Approx. height of the tower in mm							
	924	1,055	1,186	1,317	1,448	1,579	1,710

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

** 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.



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FEMS energy management system



Hardware interfaces

Inputs	4 x potential free contacts
Outputs (FEMS relay board)	3 x load switch contacts (10 A per channel)
Parallel connection	CAN
Communication of components	RS485 – Modbus RTU

Communication interfaces

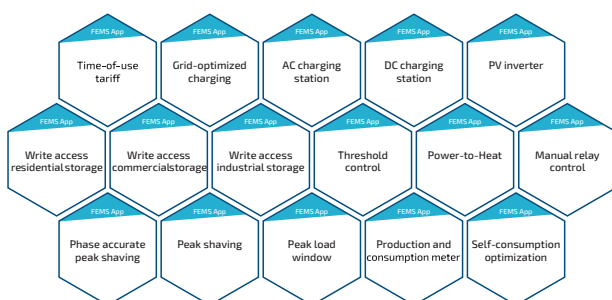
Connection to internet	LAN
Local	Modbus/TCP-API (read, optional write), REST-API (read, optional write)
Online	Cloud-Rest-API (read, optional write)

Basis and sustainability

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

Advanced charging and discharging strategy

Grid optimized charging	Included in standard delivery scope
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
- Purchase apps optionally as bundles
- Fast and convenient installation process

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Presented by:



3.8. Technical data — FENECON Home 10 battery module

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Naming	Value/dimension
Usable capacity	49.1 Ah/2.2 kWh
Rated voltage	44.8 V
Output voltage range	39.2 V to 50.4 V
Storage temperature range (over 7 days)	-30 °C to +60 °C
Storage temperature range (over 30 days)	-20 °C to +55 °C
Storage temperature range (over 180 days)	-10 °C to +50 °C
Protection specification	IP55 (plugged in)
Weight	26.5 kg
installation	stackable
parallel connection	3 battery towers in parallel
cooling	natural cooling
Shipping capacity	< 30 % SoC
Module safety certification	VDE 2510/IEC62619
UN transport test standard	UN38.3
Relative humidity during storage	5% to 95 %

Table 16. Technical data — Battery module


NOTICE

Storage for more than 6 months
Possible consequences: Deep discharge of the cells, battery module failure.

- External charging of the battery modules to rated voltage. This must be performed by the manufacturer or a company authorized by the manufacturer.

3.8.1. Electrical parameters of the battery modules

For number of battery modules from 4 to 6

parameter	value/dimension		
Number of modules	4S	5S	6S
Nominal capacity	8.8 kWh	11.0 kWh	13.2 kWh
Width incl. side cover	506 mm		
Depth	397 mm		
Height (without feet)	924 mm	1055 mm	1186 mm
Weight	133.5 kg	160.0 kg	186.5 kg
Rated voltage	179.2 V	224 V	268.8 V
Output voltage range	156.8~201.6 V	196~252 V	235.2~302.4 V
Maximum continuous Charging/discharging power	4.48 kW	5.60 kW	6.72 kW

Table 17. Electrical parameters — Number of battery modules 4S to 6S (4 — 6 modules in series)

With a number of battery modules from 7 to 10

Parameter	Value/dimension			
Module	7S	8S	9S	10S
Nominal capacity	15.4 kWh	17.6 kWh	19.8 kWh	22.0 kWh
Width incl. side cover	506 mm			
Depth	397 mm			
Height (without feet)	131.7 mm	1448 mm	1579 mm	1710 mm
Weight	213.0 kg	239.5 kg	266.0 kg	292.5 kg
Rated voltage	313.6 V	358.4 V	403.2 V	448.0 V
Output voltage range	274.4~352.8 V	313.6~403.2 V	352.8~453.6 V	392~493 V
Maximum continuous Charging/discharging power	7.84 kW	8.96 kW	10.0 kW	10.0 kW

Table 18. Electrical parameters — Number of battery modules 7S to 10S (7 — 10 modules in series)