



TECHNICAL BROCHURE



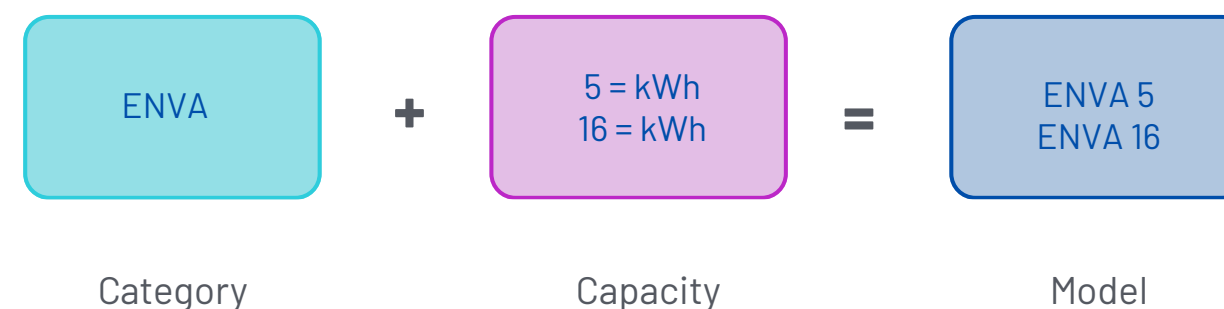
freedom
WON

The ENVA LV Range

From compact residential backup to high-voltage commercial storage, ENVA scales with your project on a single LiFePO₄ platform – built-in fire suppression, App monitoring and a 5-year warranty across the range.

ENVA Naming Convention:

All ENVA models follow the pattern: [Category] + [Capacity] = Model



ENVA 5

5.12 kWh

4.6 kWh usable @ 90% DoD

Wall-mounted residential

52V

Up to 15 in parallel



ENVA 16

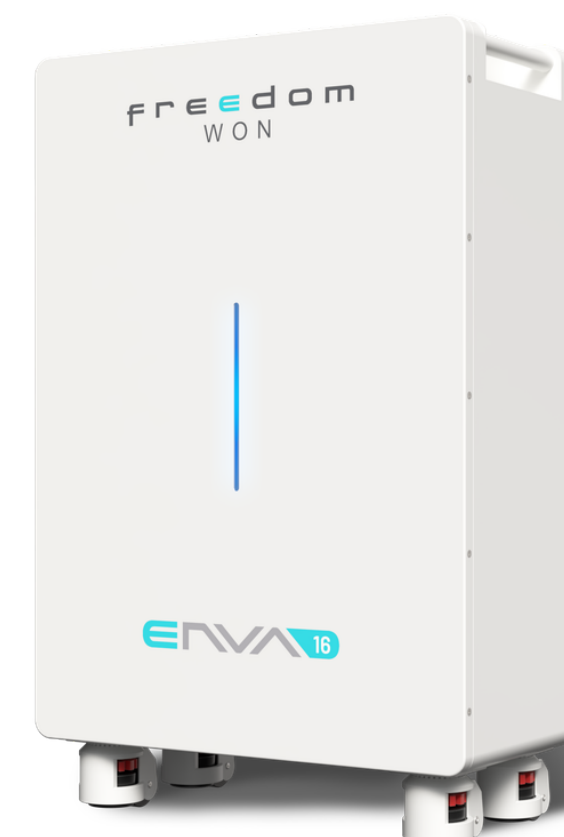
16 kWh

14.5 kWh usable @ 90% DoD

Floor-standing storage

52V

Up to 15 in parallel

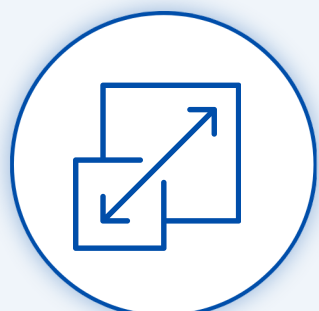


The USPs



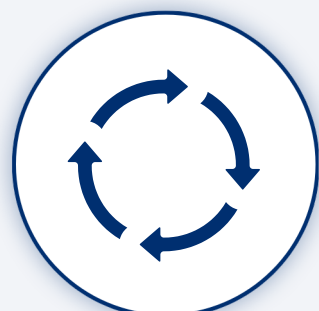
Built-in fire suppression

Thermally activated aerosol canister inside every enclosure



Scalable

Modular capacity that grows in steps as demand rises.



High cycle life

5 Years (or 6 000 warranty cycles)
>15 years (>6 000 cycles) expected life



Bluetooth & WiFi

Local connectivity for UI access
WAN connectivity for remote access



Android & iOS app

Real-time monitoring
Direct access to tech support



Local expert support

Reliable local support backed by
trusted energy storage expertise

Safety & Protection

ENVA is engineered around inherently stable chemistry and layered protection – so the system stays safe through every charge and discharge.

Certified & Tested

UN38.3

IEC62619

LiFePO₄ chemistry

Inherently stable lithium iron phosphate cells – the safest mainstream lithium chemistry.

Electronic protection

Over-current, cell over/under-voltage, temperature, weak-cell detection and minimum-SoC control.

Intelligent monitoring & control

The ENVA range allows users to remotely monitor battery performance, system health and energy usage through a user-friendly mobile application and remote connectivity platform.



Real-Time Battery Monitoring



Remote Diagnostics



Battery Analytics



State of Charge Indication



Mobile Connectivity



Remote System Access

Intelligent Connectivity

CAN Bus (RJ45)

For interfacing with CAN-compatible inverters



RS485 PORT (RJ45)

For communication with RS485 compatible inverters e.g., Voltronic



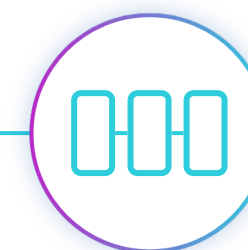
RS232 (RJ11)

For connection to PC (Freedom Won authorized technicians only)



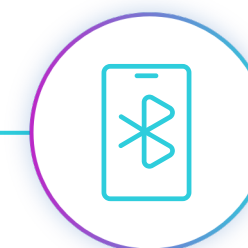
Parallel Communication (RJ45 x 2)

For the communication of batteries in a parallel link



Bluetooth

Local wireless connection to Android or iOS app for monitoring and configuration



Wi-Fi

Connect to your home network for remote monitoring via the Android or iOS app



State of Charge Display



Status LED (Indicated by Color Bar)



Main Power Breaker



BMS On/Off Switch



Child-safe power connectors



Compact residential storage

The ENVA 5 delivers reliable energy storage in a compact wall-mounted design, making it ideal for apartments, small homes and essential backup applications.

Its streamlined design, smart monitoring functionality and seamless solar integration make it an ideal entry point into reliable lithium energy storage.

Key Features

- 5.12kWh energy capacity
- Compact wall-mounted installation
- Compatible with 48V inverter systems
- 6000 cycle life
- Expandable up to 15 in parallel



ELECTRICAL PARAMETERS

Total Energy Capacity [kWh]	5.12
Current Capacity [Ah]	100
Energy, 80% DoD [kWh]	4.1
Energy, 90% DoD [kWh]	4.6
Max/Cont. Discharge Current [A]	100/≤50
Max. Discharge Power [kW]	5
Max/Cont. Charge Current [A]	100/≤50
Max/Cont. Charge Power [kW]	5/≤2.5
Nominal Voltage [V]	51.2V, to suit 48V Inverters
Max/Min. Operating Voltage [V]	56/46
Prospective Short Circuit Current [kA]	5
Max. Parallel Configuration	15 x ENVA 5 - Custom combiner box required

PHYSICAL PARAMETERS

Battery Dimensions - H x W x D [mm]	594x450x209
Battery Weight [kg]	53
DC Connection Power Cables [mm ²]	1 Pair 35mm ² x 1.2m long
Enclosure	Mild Steel - Painted off-white. Wall-mount. Includes handles for easy handling.
Protection	Internal electronic protection including overcurrent, cell under and over voltage, temperature out of range, weak cell detection, minimum SoC control, active voltage based charge current limiting *DO NOT short circuit or connect in reverse polarity
Fire Protection	Thermally activated fire suppression aerosol canister for internal firesuppression

ENVIRONMENTAL PARAMETERS

Operating Temperature [°C]	Charge: 0 to 55 Discharge: -20 to 55
Storage Temperature [°C]	10 to 40 (<3 months) / 10 to 25 (>3 months)
Operating Humidity [%]	≤90% RH, non-condensing

GENERAL DATA

Battery Chemistry	Lithium Iron Phosphate (LiFePO ₄)
Battery Standards	UN38.3, IEC62619
Warranty	5 years (or 6 000 cycles)
Service Life	>15 years (>6 000 cycles) expected life

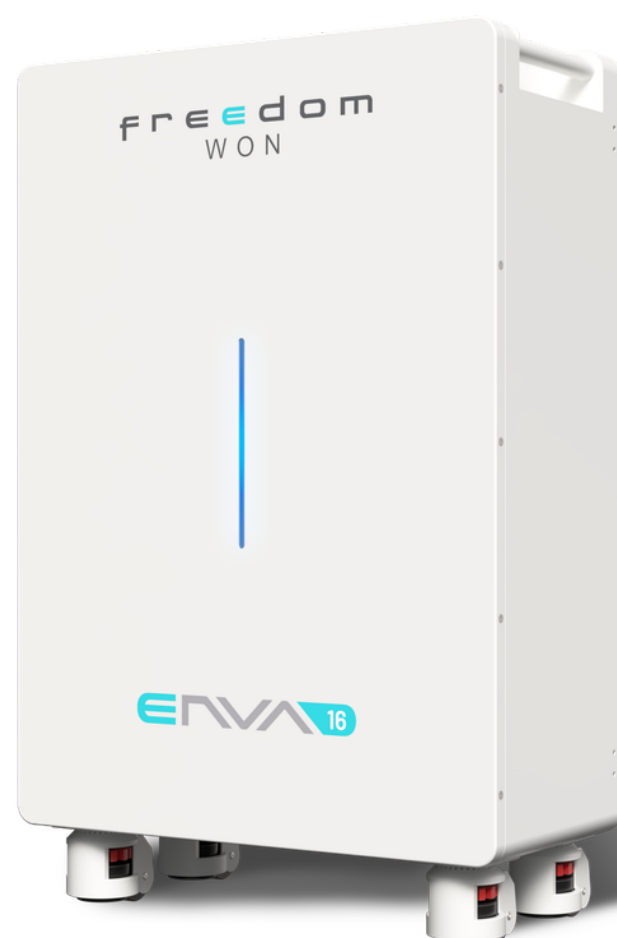
Compact residential storage

The ENVA 16 is engineered for environments requiring greater energy storage capacity, intelligent power management and reliable backup performance.

Its scalable architecture and enhanced power capability make it ideal for homes and businesses with higher energy demands, solar integration requirements and operational continuity needs.

Key Features

- 16kWh energy capacity
- Floor-standing, height-adjustable feet with wheels
- One unit supports up to 10kVA inverter power
- 6000 cycle life
- Expandable up to 15 in parallel



ELECTRICAL PARAMETERS

Total Energy Capacity [kWh]	16
Current Capacity [Ah]	314
Energy, 80% DoD [kWh]	12.8
Energy, 90% DoD [kWh]	14.5
Max/Cont. Discharge Current [A]	200/≤157
Max. Discharge Power [kW]	10
Max/Cont. Charge Current [A]	200/≤157
Max/Cont. Charge Power [kW]	10/≤8
Nominal Voltage [V]	51.2V, to suit 48V Inverters
Max/Min. Operating Voltage [V]	56/46
Prospective Short Circuit Current [kA]	10
Max. Parallel Configuration	16

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Service Life	>15 years (>6 000 cycles) expected life

Let's Connect

We're here to power your energy future.



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