Your energy reserve

GEFARM
green energy for life

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A new energy for your well-being.

Innovation, respect for the environment, energy savings.

GEFARM is the vision of an innovative startup, born from the initiative of a team of Manager and engineers with solid experience in the renewable energy sector and technical design. Our goal is to establish ourselves in a market characterized by high technological content.

Driven by the dream of a greener world where energy is accessible, safe, and available to everyone, our project focuses on the development of new energy storage systems based on the innovative sodium-nickel battery technology produced by the Swiss company Horien. These solutions are designed for residential, commercial, and industrial markets.

Building on the technologies developed by the Swiss company, we have created a product that is as unique and innovative as possible, aiming to reduce costs and extend battery lifespan. We are committed to investing in the use of renewable, safe, and easily available organic materials.

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The Energy Transition

Rapidly growing energy storage market.

The shift to renewable energy sources comes with more intermittent energy production...

...and the electrification of society is changing energy consumption patterns...

...which together increase stress on already strained power grids.

Solution

Energy storage systems allow energy to be used when needed, rather than only when it is produced.

Full-cycle service

As a natural consequence of the sector in which the GEFARM project was born and developed, our company offers a “full-cycle service,” starting with pre-sales services including needs analysis, feasibility study, and design assistance. This continues with installation support, commissioning services (system start-up), and ends with continuous scheduled maintenance and 24/7 emergency response services across the entire territory, the latter being managed with the help of dedicated remote control systems.

UNO it is the ideal solution for residential and commercial applications.

GEFARM offers small-and medium-scale solutions ideal for the safe storage of energy in homes, offices, apartment buildings, and residential complexes. When connected to solar or wind power plants, these solutions maximize the benefits of the intermittent nature of sustainable energy. The combination of the intelligent Battery Management System (BMS) and sodium-nickel batteries provides the ideal energy buffer to enhance grid supply.

During peak periods and high-demand hours, UNO is the energy storage solution that helps reduce electricity costs.

Independence

UNO can transform, store, and distribute energy for any residential building, enabling independent energy management.

Reliable energy from renewable sources

This innovative technology is the result of dedicated work by a team of professionals united by the vision of a greener world, where solar energy is safe, accessible, and available to everyone.

Saving means earning

Our system can also connect to the public grid to draw or feed energy back into it. However, UNO's primary goal is to minimize this dependency, aiming for as much energy autonomy as possible.
With UNO, the economic benefit is a significant reduction in electricity bills, as the system allows for the direct consumption of solar-produced energy

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Sodium/Nickel Energy Storage Technology

Can remain unused during winter months without damage.

The salt battery has no memory effect caused by excessive charging. Additionally, it is not sensitive to temperature fluctuations and has a long lifespan. In the event of a malfunction, the batteries can be repaired.

NO RECYCLING COSTS FOR THE BATTERY
The battery is not classified as special waste; it can simply be taken to a landfill, where it is treated as regular electronic waste.

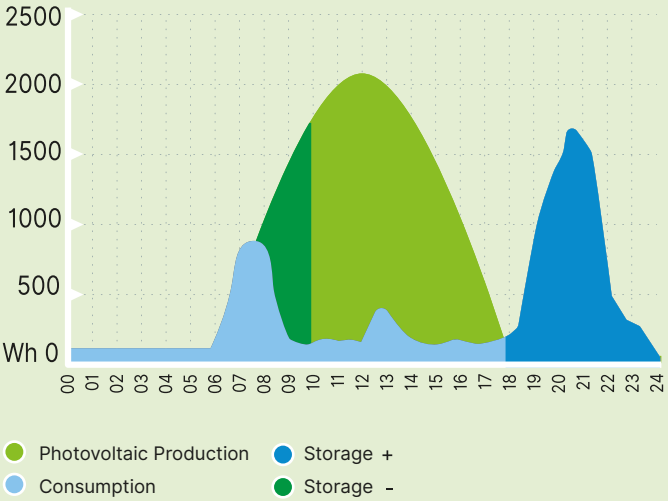
NATURAL SALT HARVESTING
The salt used in the batteries follows a traditional extraction process, where seawater evaporates in dedicated basins. By using sodium/nickel batteries, GEFARM relies solely on environmentally friendly processes.

SAFE AND SUSTAINABLE ENERGY
GEFARM salt batteries are the new frontier of safe energy.
Unlike lithium batteries, their stable chemistry eliminates the risk of fire and explosion. With over 20 years of accident-free operation, they offer reliable energy even in the most extreme conditions.
For us, safety is not an option, but an absolute standard.

Eco-Friendly | **Suitable for Extreme Temperatures** | **Recyclable** | **Smart** | **No Maintenance Required** | **Completely Non-Flammable**

The ideal solution for all environments

MEETS ALL YOUR DAIL ENERGY NEEDS



MORNING: Energy consumption peaks while photovoltaic production is low. UNO is able to provide the missing energy using the reserves accumulated from the previous day.

DAYTIME: Energy consumption is low and inconsistent, while photovoltaic production is high. UNO can store the excess solar energy and make it available for immediate peak demands or store it for evening and nighttime use.

EVENING / NIGHT: Energy consumption is high and prolonged, with no solar production. UNO provides the energy accumulated during the day, supporting peaks from household usage and helping reduce grid consumption even during the night.

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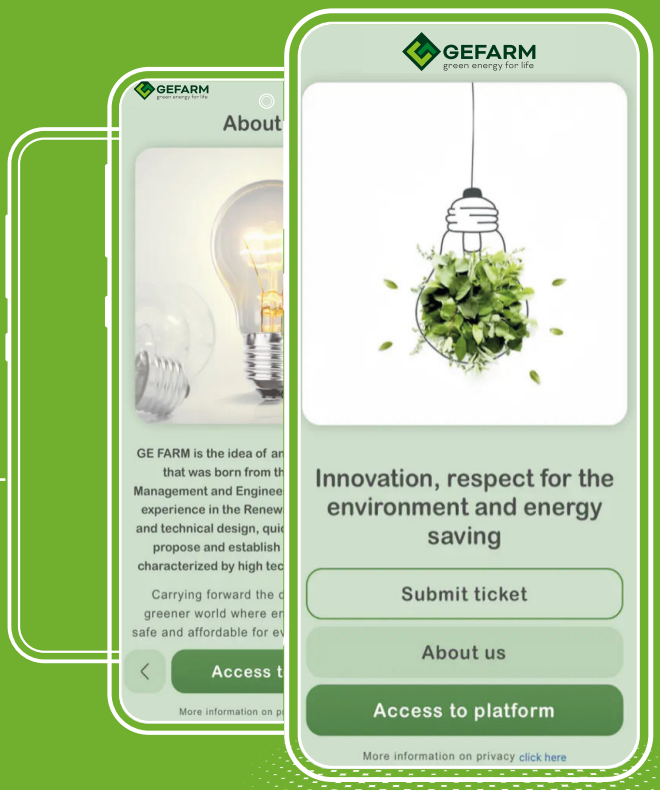
EMC

Intelligent Energy, Anytime, Anywhere

***MONITORING SYSTEM WITH APP AND REMOTE ACCESS TO THE SYSTEM**

UNO can connect via Wi-Fi to your home network, and with the GEFARM app, you can quickly view the performance and data changes of your energy storage system in real time, whenever needed.

The GEFARM app allows you to track the energy production and consumption of your home or office in real time. You can set your usage preferences, ensuring your independence from the grid for a specified period and offering protection against blackouts. No matter where you are, you can control your system remotely and receive instant notifications.



24/7 MONITORING OF THE FOLLOWING FUNCTIONS:

Battery charge level	**Self-consumption capacity of energy stored by UNO**	**Photovoltaic system production**	**Control of energy sale/ purchase to/from the grid**	**Energy consumption of loads**	**UNO charge/ discharge status**	**Alerts for malfun-ctions or faults**

AVAILABLE FOR ANDROID AND IOS

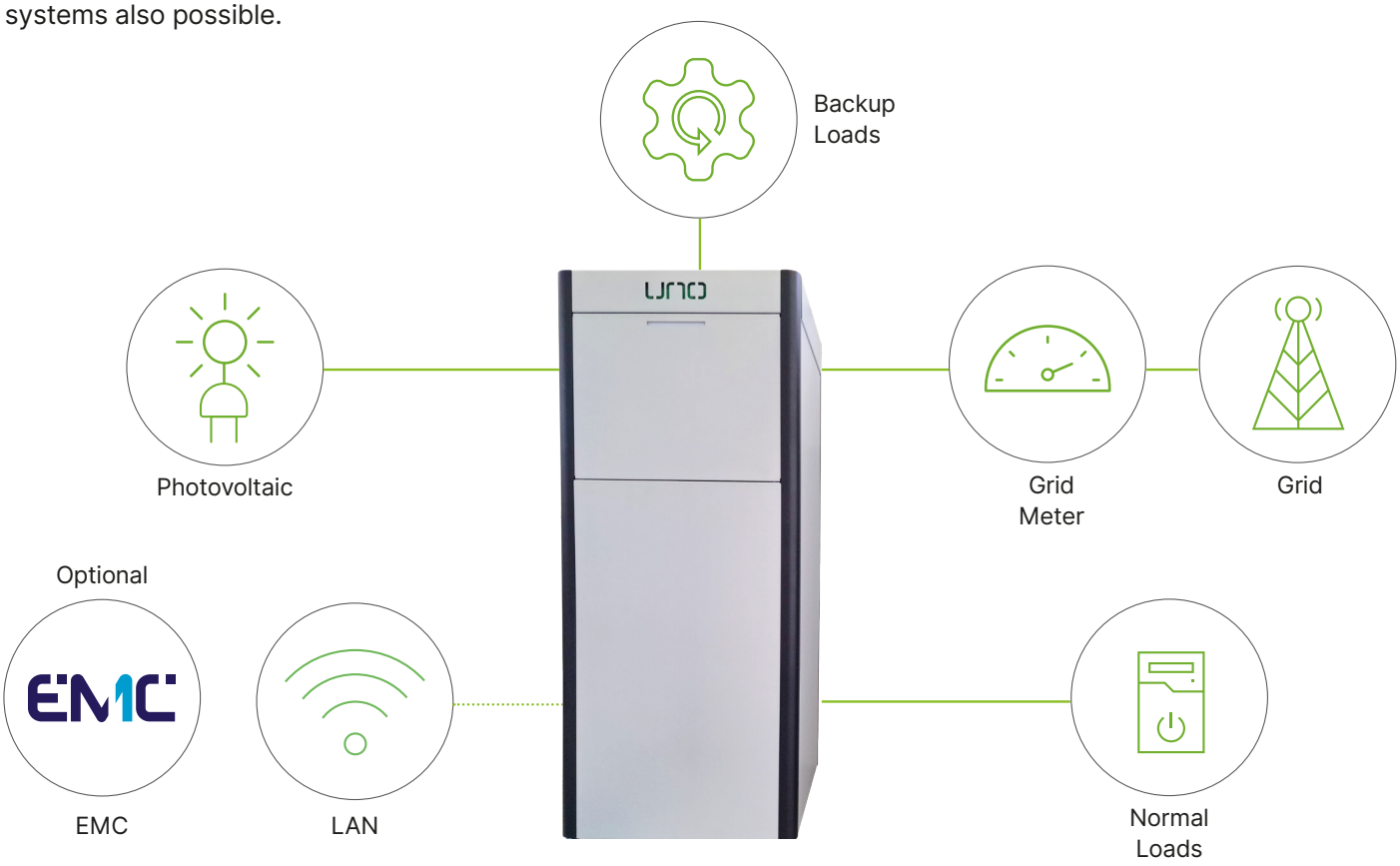
Download on the App Store

GET IT ON Google Play

***Thanks to the integration of the automation system with the EMC device.**

Maximum Installation Flexibility

Integration with existing systems also possible.



The decision to integrate an energy storage system into a photovoltaic system at a later stage, after the initial installation, is significantly more cost-effective.

During the day, when most of the electricity is produced, most users are at work and cannot take advantage of the peak production hours of the system. By integrating the **UNO** energy storage system and control devices managed by the **EMC** box, users will be able to intelligently use the electricity produced both during the day and in the evening when the photovoltaic system is no longer producing energy due to darkness.

The electricity is first stored, then drawn from the photovoltaic storage unit and used according to demand. Feeding energy into the grid is not cost-effective in terms of profitability, so the energy produced should be concentrated towards higher self-consumption.

Complete retrofit: system upgrade with hybrid inverter for higher efficiency.
Customised storage: storage system sized according to PV output and historical consumption.

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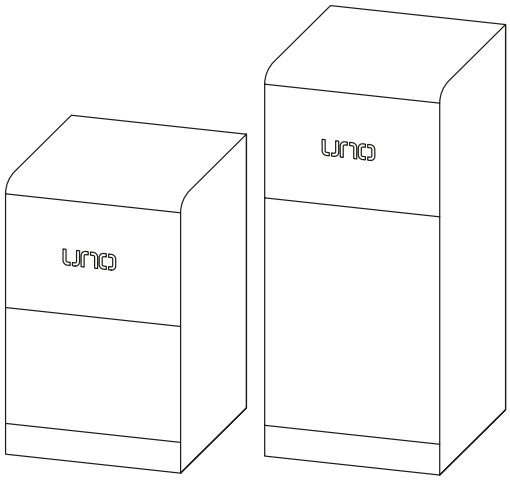
Technical Specifications



Inverter
Sodium/Nickel Batteries

PV INPUT	GEF-3 K-SLIM	GEF-3.6 K-SLIM	GEF-4 K-SLIM	GEF-4.6 K-SLIM	GEF-5 K-SLIM	GEF-6 K-SLIM
Max Power (kW)	4.5	5.4	6.0	6.9	7.5	9.0
Max PV Voltage (V)	550					
MPPT Range (V)	80-500	80-500	80-500	80-500	80-500	80-500
Total MPPT Range (V)	90 - 500	110 - 500	120 - 500	130 - 500	150 - 500	170 - 500
Nominal Voltage (V)	360					
Startup Voltage	100					
Max Current (A)	18.5x2					
Max Short-circuit Current (A)	26x2					
No. of MPPT Trackers / No. of Strings	2/2					

AC GRID

Max DC Current (A)	14.0	17.0	19.0	22.0	23.0	28.0
Max Continuous Power (kVA)	3.0	3.6	4.0	4.6	5.0	6.0
Nominal Current (A)	13.7/13.1	16.4/15.7	18.2/17.4	21.0/20.0	22.8/21.8	27.3/26.1
Nominal Voltage (V)	198 to 242@220 / 207 to 253@230					
Nominal Frequency	50/60					
Power Factor	- 0.9999 (adjustable from 0.80 overexcited to 0.80 underexcited)					
THD Current (%)	<3					

AC OUTPUT LOAD

Max DC Current (A)	14.0	17.0	19.0	22.0	23.0	28.0
Max Continuous Power (kVA)	3.0	3.6	4.0	4.6	5.0	6.0
Max Peak Current (A) (10 min)	20.5/19.6	24.6/23.5	27.3/26.1	31.4/30	34.1/32.7	41.0/39.2
Max Peak Power (kVA) (10 min)	4.5	5.4	6.0	6.9	7.5	9.0
Nominal Current	13.7/13.1	16.4/15.7	18.2/17.4	21.0/20.0	22.8/21.8	27.3/26.1
Nominal AC Voltage (ACL-N) (V)	220/230					
Nominal AC Frequency (Hz)	50/60					
Certifications/Approvals	NRS97, G98/G99, EN50549-1, C10/C11, AS 4777, IEC62040, IEC62109-1, IEC62109-2, CEI 0-21: V2 2024-01					
EMC 21:2022	EN61000-6-2, EN61000-6-3					

1 Slot

Power	Dimensions	Weight
3 kW – 7.7 kWh	61x61x104	138
3 kW – 9.6 kWh	61x61x104	171
3.6 kW – 7.7 kWh	61x61x104	138
3.6 kW – 9.6 kWh	61x61x104	171
4 kW – 7.7 kWh	61x61x104	138
4 kW – 9.6 kWh	61x61x104	171
4.6 kW – 7.7 kWh	61x61x104	138
4.6 kW – 9.6 kWh	61x61x104	171
5 kW – 7.7 kWh	61x61x104	138
5 kW – 9.6 kWh	61x61x104	171
6 kW – 7.7 kWh	61x61x104	138
6 kW – 9.6 kWh	61x61x104	171

2 Slots

Power	Dimensions	Weight
4 kW – 15.4 kWh	61x61x144	262
4.6 kW – 15.4 kWh	61x61x144	262
5 kW – 15.4 kWh	61x61x144	262
5 kW – 19.2 kWh	61x61x144	290
6 kW – 15.4 kWh	61x61x144	262
6 kW – 19.2 kWh	61x61x144	290

Sodium/Nickel

Nominal Voltage	48 Vdc
Operating Voltage Range:	54 to 59 VDC
Nominal Capacity (Ah):	160-200 Ah (depth of discharge 100%)
Nominal Energy Capacity:	77.7 to 9.6 kWh (depth of discharge 100% C/4)
Max DC Connection Voltage during Controlled Charging	53 – 59 Vdc (Bus DC)
Charging Current:	32 to 40 A (direct charging)
Min Discharge Voltage	40 Vdc (Bus DC)
Max Charging Operating Voltage	59 V
Warm-up time from cold state to operating state:	Max 12 hours
Controlled charging operation:	current control via internal DC/DC converter
Communications: Single battery:	CAN-BUS / MODBUS
Efficiency for a complete cycle:	Efficiency for a complete cycle at 90% (at constant power of 6.25 kW, 80% discharge, depth of discharge and charging at maximum power of 6.25 kW)
Length	498 mm
Width	558 mm
Height	320 mm
Weight	91 - 104 kg
Continuous operating ambient temperature:	-20° to + 60°C (-4 to 140° F)

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ISO 9001:2015