alas ENERGY
SMART ENERGY SYSTEMS

# SMART ENERGY REVOLUTION

# Leadership in smart energy solutions

At ALAS Energy, we are at the forefront of innovation in energy storage and management.
Our mission is to provide smart, efficient and sustainable energy solutions that enhance your lifestyle and protect our planet.


**Choose ALAS Energy and become part of the smartenergy revolution.**

**Together, we will create a more efficient, sustainable and brighter future.**


# Here's how we stand out:

## Smart Energy Management

Our smart energy system uses advanced AI (artificial intelligence) software to optimize energy consumption. Our smart systems learn from the way you consume energy in your space, ensuring maximum efficiency and minimal energy loss.

## Integrated Smart Home Services

We offer Smart Home (space) Energy Storage and Management Services, including design and installation, for the seamless integration of our systems into your space. Our solutions are tailored to your needs, making your space smarter and more energy efficient.

## Compact and modern devices

All-in-one systems are compact, practical and stylish devices. All our systems provide coherent and effective energy management solutions proportional to the space they will serve.

## Sustainable and reliable batteries

Our eco-friendly sodium batteries are designed with the environment and human safety in mind. They offer long life and safe operation, ensuring that energy storage is sustainable, reliable and safe.

## Financial and environmental benefits

By choosing ALAS Energy, you are not only saving energy. You are saving money and contributing to a better world. Our motto, Saving Energy = Save Money = Living Better, reflects our commitment to improving your quality of life while reducing your carbon footprint.

# ARETI - ALL IN ONE

- Hybrid converter 6kW - 20kW
- 2-4 inputs MPPT
- Charge Controller
- Sodium Battery 18kWh
- Smart energy distribution system (SES)
- Internal fuses DC και AC
- Integrated control panel
- WiFi
- Smart Home
- HomeAssistant ready
- Lightning protection
- Touch Screen
- **Automatic switchover to emergency power in the event of a mains power failure (optional)**
- IP 67 Design in the S version


| | |
|---|---|
| Network type | single-phase / three-phase |
| Battery capacity: | 20kWh |
| Battery life | > 5000 charging cycles |
| Rated output voltage | 220V / 230V /240V – 380V / 400V |
| Μέγιστη τάση εισόδου DC | 600V |
| MPPTs | 2-4 |
| Maximum input current from the network | 80-550V |
| | 27,2A |
| Mains voltage range | 184V – 276V per phase |
| Frequency range | 45Hz – 65Hz |
| Performance | 98% |
| Operating temperature | Charge -20°C - +55°C |
| | Discharge -30°C - +55°C |
| Operating humidity meter | 5% - 95% |
| IP enclosure rating | Ip54 & Ip 67 (Model S) |
| Dimensions | |
| (Width x Height x Depth) | 700mm x 1650mm x 700mm |
| Weight | 190kg |


## ESTIA - ALL IN ONE

- Hybrid converter 6kW - 20kW
- 2-4 inputs MPPT
- Charge Controller
- Sodium Battery 4,5kW - 18kW
- Smart energy distribution system (SES)
- Internal fuses DC και AC
- Integrated control panel
- WiFi
- Smart Home
- HomeAssistant ready
- Lightning protection
- Touch Screen
- **Automatic switchover to emergency power in the event of a mains power failure (optional)**


| | |
|---|---|
| Network type | single-phase / three-phase |
| Battery capacity: | 4,5-18kWh |
| Battery life | > 5000 charging cycles |
| Rated output voltage | 220V / 230V /240V – 380V / 400V |
| Μέγιστη τάση εισόδου DC | 600V |
| MPPTs | 2-4 |
| Maximum input current from the network | 80-550V<br>27,2A |
| Mains voltage range | 184V – 276V per phase |
| Frequency range | 45Hz – 65Hz |
| Performance | 98% |
| Operating temperature | Charge -20°C - +55°C<br>Discharge -30°C - +55°C |
| Operating humidity meter | 5% - 95% |
| IP enclosure rating | Ip54 |
| Dimensions | |
| (Width x Height x Depth) | 700mm x 2005mm x 700mm |
| Weight | 130-235kg |

# NYMPH - ALL IN ONE

- Hybrid converter 800W - 3600W
- 2 inputs MPPT
- Charge Controller
- Sodium Battery 2-5kWh
- Internal fuses DC και AC
- Integrated control panel
- WiFi
- Smart Home
- HomeAssistant ready
- Lightning protection

- Optional:
  Smart energy distribution system (SES)


| | |
|---|---|
| Network type | single-phase |
| Battery capacity: | 2-5kWh |
| Battery life | > 5000 charging cycles |
| Rated output voltage | 220V / 230V /240V |
| Μέγιστη τάση εισόδου DC | 100V |
| MPPTs | 1-2 |
| Maximum input current from the network | 20A |
| Mains voltage range | 184V – 276V per phase |
| Frequency range | 45Hz – 65Hz |
| Performance | 98% |
| Operating temperature | Charge -20°C - +55°C |
| | Discharge -30°C - +55°C |
| Operating humidity meter | 5% - 95% |
| IP enclosure rating | Ip54 |
| Dimensions | |
| (Width x Height x Depth) | 600mm x 1300mm x 350mm |
| Weight | 50kg |


## S.E.S + EV WALLBOX V2H = BIDIRECTIONAL

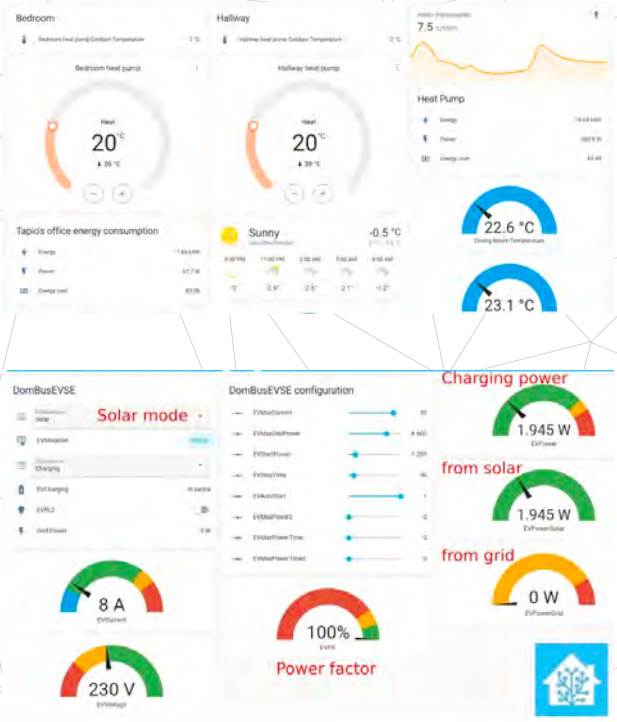
S.E.S. can also use your vehicle's fully charged battery as a power source. Bidirectional charging of electric vehicles is currently only possible on a few models, but will be supported by more and more manufacturers in the future, including through software updates to older models.

**Some of the supported vehicles:**

- BYD Atto 3
- KIA Ev9
- Nissan Leaf EV

## S.E.S = Smart Energy System

- The basis of your smart home
- The hot water tank can be heated in the summer with the electricity from the photovoltaics and the heat pump can thus be used only for cooling the house, which significantly reduces the electricity consumption of the heat pump.
- This means that the heat pump can be switched off in the summer if it is not used for cooling.
- The excess electricity, especially in summer, is fed into the electric car and then into the hot water tanks.
- During the transition period, the SES decides whether to heat with air conditioning (if available in the future) or with the heat pump, depending on weather conditions.





## S.E.S & THE NEAR FUTURE

When the interface with IPTO is launched in Greece, which will probably happen in 2025, according to the EU, AlasEnergy S.E.S. will know the current price of electricity with minute precision and will decide whether it is worth buying electricity and charging its batteries or the electric car depending on weather conditions and predicted consumption.

# The Sodium - Ion Battery

## Technical specifications of a single module:

- up to 4 modules can be connected in parallel.
- up to 8 modules can be connected in parallel in the near future.

- **Dimensions:** 19” case 4U (490x490x178mm)
- **Weight:** 38kg
- **Capacity:** 5kWh
- **Cycle life:** 5.000
- **Charge current:** 15A (20A for <10 sec.)*
  ***note:** after modules are inserted & connected
- **Discharge current:** 15A (20A for <10 sec.) parallel, the maximum current is the sum of all modules in a stack (eg. 4Stack = 60A)
- **Voltages:** 360V – 576Vdepending on SOC
- **Display:** SOC, SOH, Voltage, Set up menu, Color, Touchscreen.
- **Working Temperature:** -20°C - +60°C
- **Communication:** RS485, CANBUS, WiFi, Bluetooth
- **Cooling mode:** Natural convection

## Advantages:

- One module alone can be directly connected to HV Inverters (like the RECOM Titan), since the output voltage is high.
- All major BMS protocols are selectable via Setup on the touchscreen (Pylontech, Afore, Victron )
- All cells in a module (up to 144) are supervised
- Cell balancing in charge AND discharge on a cell basis
- In case of a faulty module, the rest keep working
- Small embedded Webserver with SOC, Voltage, Temperature overview of every cell accessible via WiFi or Bluetooth.
- BMS Parameters can be changed on the fly (with administrator account)
- Software Updates via Weblink
- **High Safety:** Interlock-sockets, Key switch, Emergency Switch, every CMS (Cell Management System can switch off the whole system without the BMS), Pyrofuse, DC-Fuse, 3 HV Relays, Intrusion detection)


*Alas Energy HV Module*

## The SES lights:

The current energy status of the system can be immediately recognized at a glance.
**Πράσινο:** The system is completely self-sufficient. The battery charges and no electricity is drawn from the grid.
**Κίτρινο:** The battery powers the house or solar energy is sufficient to power the house. No electricity is drawn from the grid.
**Κόκκινο:** Part of the electricity is drawn from the grid. Now large consumers should not operate for cost saving reasons.

**Overview:**
Over the last two years we and our partners have been working together to create a revolution in renewable energy storage:
**The Sodium - Ion Battery.**

For more detailed information about our Sodium-Ion Battery please check our Q&A page at:
**www.alasenergy.gr/Q&A**

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