

# THE MULTIUSE STORAGE SYSTEM

**MODULAR  
CONSTRUCTION**  
from  
30 kWh

no matter  
what battery  
manufacturer!



## POWER UNIT TECHNOLOGY:

The **IRIS energy storage system** provides an bi-directional inverter, which was developed in cooperation with the experts from the Technical University in Nuremberg, especially for the energy storage sector.



## ADVANTAGES OF THE POWER UNIT

- Battery voltage 400V -1000V
- DC-Photovoltaik connection
- High system performance (98%)
- Standalone functionality (connection to the grid)
- Wide variety of connection options:

- ▶ Direct PV-Input
- ▶ Wind power
- ▶ Hydropower

- ▶ Cogeneration unit
- ▶ Power generator
- ▶ ...

**MADE  
IN  
GERMANY**

Inverter <b>S</b>	Inverter <b>M</b>	Inverter <b>L</b>	Inverter <b>X</b>
Power: 30-50 kW	Power: 100 kW	Power: 200 kW	according to customer specifications

Voltage	400 V AC (+/- 10 %), or to customer specification
Nominal frequency	50 Hz / 60 Hz
Grid monitoring	According to the country certificates
Communication interface	Ethernet RJ 45; RS 485; CAN; Modbus; Analog inputs and outputs (further interfaces possible at customers request)
Display	11" Touch display
Remote monitoring	Remote monitoring of performance data to supervise the systems
Switchover time for UPS	< 10 ms

## Association of experts - Developed from the user's point of view

- more than 50 years  
Experience in power electronics

**SCHULTES**  
Maschinenbau GmbH

- more than 30 years  
Experience in power electronics

**GPE**  
Grass Power Electronics GmbH



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Smart  
Energy  
Storage  
Systems

# MULTIUSE POWER

The MULTIUSE Storage System

**PLUG &  
GO!**



Integrating Renewables Into Storage



## UPS AND EMERGENCY POWER SUPPLY



Switchover  
time < 10 ms

Energy storage for emergency power and UPS!

- ▶ Protects against power failures and voltage fluctuations
- ▶ Prevents plant failures



### ADVANTAGES

- ✔ Asymmetric load capability at UPS or Off-Grid
- ✔ Low in maintenance
- ✔ Rapid switchover time (<10ms)
- ✔ Scalable in power and capacity
- ✔ High currents quickly retrievable



**Disturbance**  
Power supply disconnected

**Continuous supply**



through the  
energy storage  
system



## MULTIUSE APPLICATIONS



Process and  
operational safety



Reduction of  
energy costs



Expansion of the  
connected load



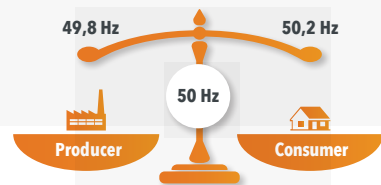
Off-Grid solution



E-Mobility

## BALANCING MARKET

Many IRIS Energy storage systems for grid stabilization (pooling)!



- ▶ Minute reserve
- ▶ Primary- / Secondary control power

## OWN CONSUMPTION

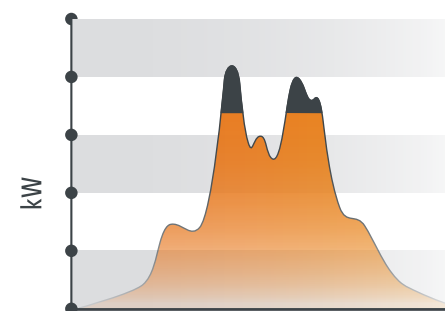
Use your existing generation plants (PV plant, cogeneration plant, ...) in combination with an IRIS Energy storage system to increase their profitability and your independence!

- ▶ 100% own consumption rate

## PEAK-SHAVING

- ▶ By reducing the maximum load about 100 kW, 11.900 € and more can be saved easily every year

- Supply through the storage
- New load profile



### ADVANTAGES

- ✔ Increased efficiency
- ✔ Reduction of energy costs
- ✔ Independence from weather

## OFF-GRID SOLUTION

- ▶ Ensuring the supply of energy in remote regions
- ▶ Significant cost reduction potential

## EXPANSION OF THE CONNECTED LOAD

An extension of the power connection is lengthy and cost-intensive!

- ▶ IRIS the economical alternative!



- ▶ With an energy storage, the potential of regenerative electricity generation can be exploited much better!

## E-MOBILITY

### High Speed DC-Charging

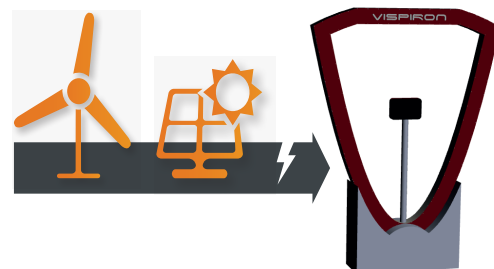
150  
kW



- ✔ Integrated electronics for DC fast charging
- ✔ Efficiency losses on loading can be reduced by more than **50%**

### Powerful quick charging station

- Independent of location and grid connection
- Direct charging with solar power



### ADVANTAGES

- ✔ Connection of the energy storage system with charging system for electrical cars
- ✔ up to three vehicles can be loaded simultaneously
- ✔ No costs for expansion of the electrical connection
- ✔ CCS and CHAdeMO

