ASC-4

Automatic Sustainable Controllers

DEIF

ASC-4 Battery

Automatic Susainable Controller

Designed specifically to serve as a reliable, fully integrated and optimizing link between sustainable power plants and genset power plants, DEIF's automatic sustainable controller, ASC-4 Battery, offers seamless energy storage integration in hybrid microgrid applications.

ASC-4 Battery is ideal for both AC- and DC-coupled applications. For AC-coupled systems, you can define battery charging and discharging scheme. Using the chargeScheme, you'll also be able to define the energy sources (gensets, PV or Mains) you allow for charging purposes.

ASC-4 Battery hardware features

- Automatic shift between grid forming/following operation
- Charging/discharging
- Power Conversion System (PCS) control
- Batter Management System (BMS) monitoring
- Control of breaker
- Simple graphical configuration
- Record time commissioning with DEIF Emulation - uses and verifies the functions of the real system for test, production and design
- Suitable for power management solutions fitted with AGC-4 or AGC 150 genset controllers
- Suitable for stand-alone solutions using multi-instruments such as DEIF's MIB or MIC

ASC-4 Solar

Automatic Susainable Controller

Designed specifically to serve as a reliable, fully integrated and optimising link between sustainable power plants and genset power plants, DEIF's automatic sustainable controller, ASC-4 Solar, is a renowned, market-leading solution for the industry.

The ASC-4 Solar will in any operation mode automatically maximise sustainable power penetration, depending on the total load demand to the hybrid without compromising constraints such as minimum genset load demand.

ASC-4 Solar hardware features

- Maximising PV penetration
- Spinning reserve demand
- Minimum genset load requirement
- Suitable for self-consumption and IPP applications
- Support of SunSpec and other relevant protocols
- Monitoring and supervision
- Meteorological measurements
- Simple graphical configuration
- Record time commissioning with DEIF Emulation – uses and verifies the functions of the real system for test, production and design
- Suitable for power management solutions fitted with AGC-4 or AGC 150 genset controllers
- Suitable for stand-alone solutions using multi-instruments such as DEIF's MIB or MIC

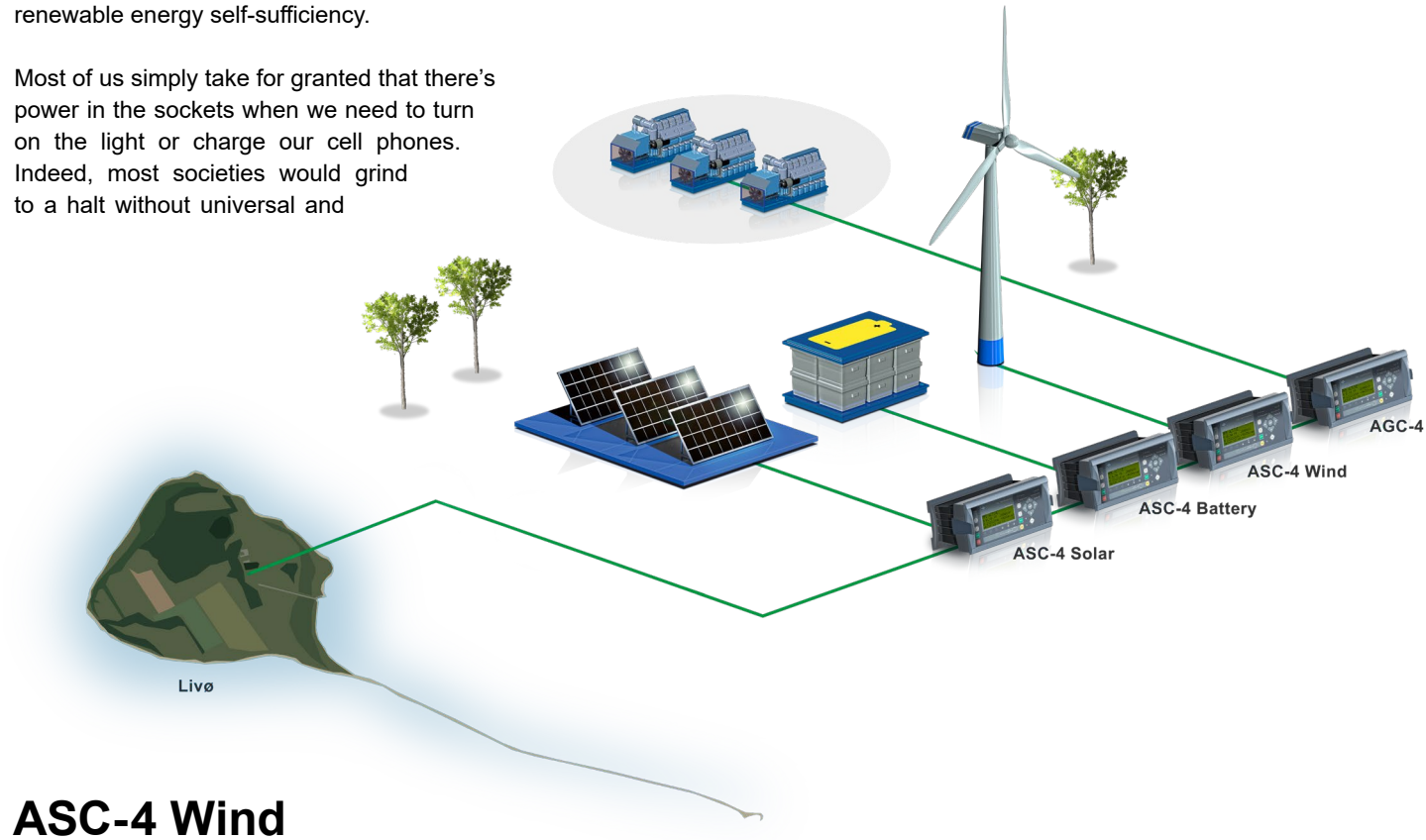
Case study

Hybrid power system on Danish off-grid island

The off-grid island Livø achieves security of supply with intelligent system to manage the mix of power sources

Using DEIF AGC-4 and ASC-4 controllers, the off-grid Danish island of Livø has acquired a power management solution that ensures security of supply despite significant load variations, and with several renewables in the energy mix. The target is for the island to achieve 100% renewable energy self-sufficiency.

Most of us simply take for granted that there's power in the sockets when we need to turn on the light or charge our cell phones. Indeed, most societies would grind to a halt without universal and reliable access to electrical power. Utilities must therefore safeguard security of supply – especially in isolated off-grid communities that rely on a local power supply.



ASC-4 Wind

Automatic Susainable Controller

ASC-4 Wind hardware features

- P/Q control
- Turbine/Park Communication
- Control of breaker

The ASC Wind is a part of the overall DEIF Hybrid Energy Management System(EMS)

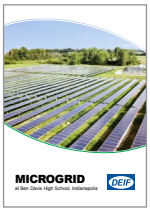
The ASC Wind can be installed as the Power measurement and Power control unit between single wind turbines or a wind park controller.

Controlling the Wind power into the plant based on the level of control possible.

Wind power will in DEIF EMS be prioritised at same level as PV to have the highest green power penetration.

ASC-4 Battery - Data sheet

ASC-4 Solar/Wind etc - Data sheet



Case study: **Hybrid microgrid**

Case study: **Renewable power with hybrid storage**

DEIF A/S

Frisenborgvej 33, 7800 Skive, Denmark

Tel. +45 9614 9614

www.deif.com