www.vensyselektrotechnik.de

VENSYS
Elektrotechnik

VENCON

VENSYS HYBRID CONVERTER

VENSYS VENCON
The All-rounder among the Converters

Self-sufficient, flexible and modular – one system, lots of possibilities.

The development of the Vensys hybrid converter „VENCON“ has created a modular system for versatile system applications. One system offers the possibility of housing up to three power modules. Every power module can be configurated via the AC or DC connections. In addition, several systems can be connected in parallel using a common intermediate circuit.

150 kW steps allow for customized requirements to be met. The bi-directional operation provides a wide range of applications in the battery sector.

For applications in photovoltaics, wind power, water power or battery storage systems, VENCON is the link to the public grid or an island grid.

The ability to connect three completely different DC sources with 100 kW each for every power module further underlines the flexibility of VENCON.

Thanks to its compact design and an outdoor-capable housing, VENCON is suitable for use in any location.

Almost infinite expandability of the modular VENCON system.

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Applications at a Glance

Battery converter

- Operation of a wide range of battery systems
- Integration of diverse storage technologies such as accumulators, redox flow, mechanical storage devices as well as power to gas
- Smallest AC unit 150 kW
- Three freely usable battery inputs
- Broad voltage range 500–850 V

PV converter

- 300 kW converter
- Three MPP ranges
- Modular central converter
- Voltage range 500–850 V

Wind full-power converter

- 150 kW wind turbine
- Variable speed
- Scalable to turbine size
- Also suitable for water power

Island grid unit

- Central unit for island grids
- Consumers and producers connected via DC bus
- A wide range of producers can be integrated
- Unbalanced load capability of 100 %

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Perfect for Smart-Grid Solutions

H VENCON – in the whole Smart Grid, VENCON represents the intelligent link between energy producers and consumers.

1 Photovoltaic systems
In these systems VENCON is used as a modular central converter.

2 Battery storage device
The battery storage device plays a vital part in the Smart Grid. On the one hand, it enables – in combination with VENCON – the creation of an island grid. On the other, it represents a buffer that temporarily stores excess energy from the regenerative sources which can be retrieved again should the necessity arise.

3 Biomass plants
The use of biomass plants can ensure the provision of basic supplies. In addition, a linking of the electricity and the heat sector is thus achieved.

4 Consumers
Consumers are supplied by the low-voltage grid.

5 + 6 Wind and water power plants
VENCON can be used as a full-power converter for variable-speed machines. Depending on local conditions, energy can be generated using wind and water power plants.

7 DC charging stations
VENCON can supply the necessary energy for DC boost charging. In that case, a pre-charge storage device could serve as a possible energy source.

8 Backup
To enhance security of supply, a diesel generator can be integrated into the Smart Grid as a backup.

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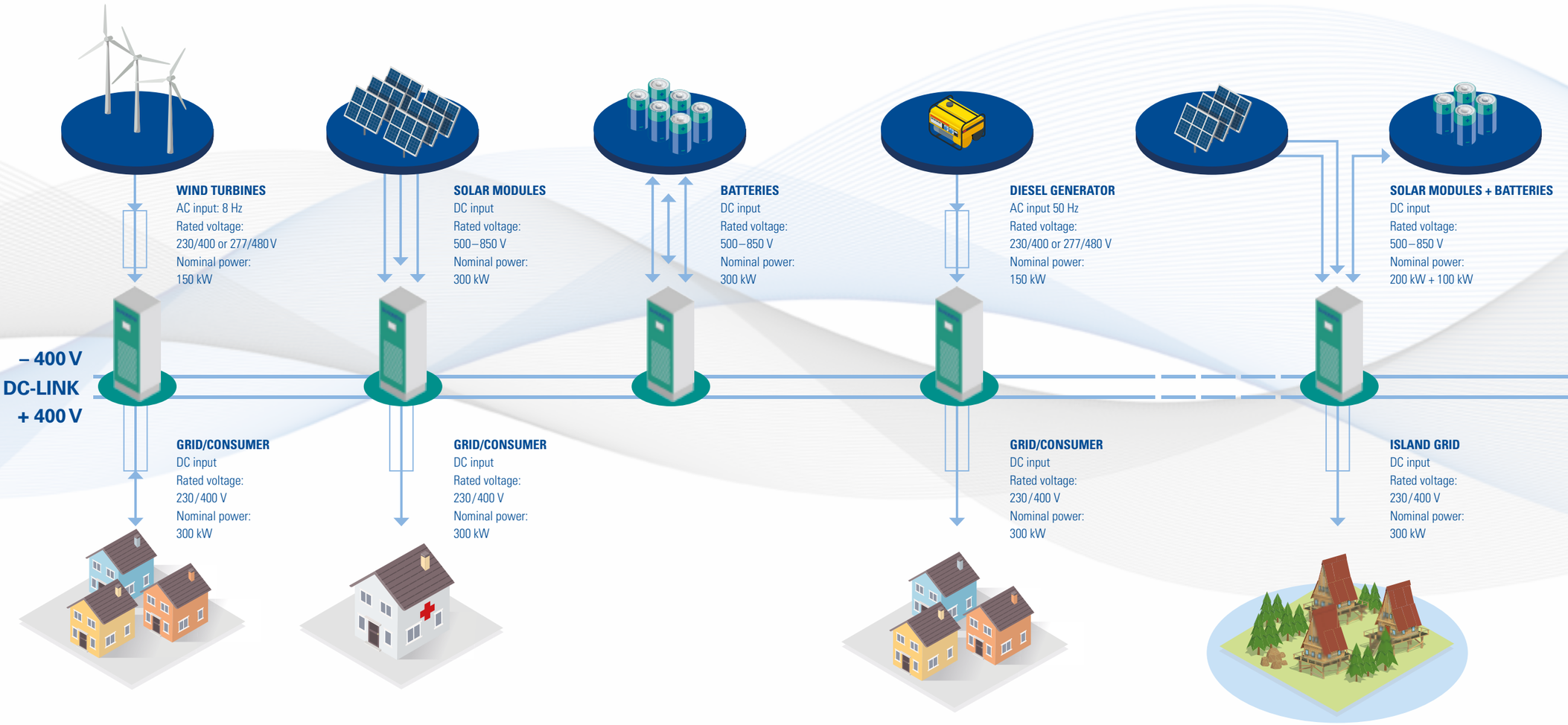
Self-sufficient. Flexible. Modular.

One system – lots of possibilities.

VENCON converters make use of a modular concept. Expandability in steps of 150 kW means that total power can be reached for all sizes, with several systems being connected via a DC bus (DC link). Another advantage is that they require only very little maintenance.

The modular design, air-cooling and the ability to control the system remotely (Web Interface) make sure VENCON is extremely easy to maintain. In addition, hybrid silicon carbide semiconductors allow for virtually soundless clocking. And thanks to its compact design and the outdoor-capable housing, VENCON is suitable for use in almost any location.



VENCON system component

Control cabinet with three power modules	
Dimensions	600 x 800 x 2000 (height) mm
Weight	< 800 kg
Outdoor housing	IP55
Temperature range, operation	–20 to +40 °C
Cable entry	at the bottom

VENCON power modules

Three power modules can be housed in each VENCON. Each module allows for individual DC or AC configuration. For optimal operation, VENCON is equipped with two DC and one AC power module. The use of an AC input module means that wind power plants can be integrated into the system.

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