

In the coming years, photovoltaic technology will occupy a growing share of the power supply market. Powerful and extensive photovoltaic systems require inverters that offer the highest level of cost-effectiveness, availability and grid compatibility – one of Converteam's specialist areas. With over 100 years of production, research and development experience in energy conversion, we are the ideal partner for your projects.

From Wind to Solar

As a pioneer in the renewable energy segment, over the last 15 years Converteam has been able to establish itself as an independent supplier of electrical equipment for wind turbines. In 2008, Converteam supplied power electronics for 5 GW of installed wind power. The new ProSolar inverters represent the logical continuation of the ongoing development of inverter technology in the field of environmentally-friendly power generation.

ProSolar: Innovative Mains Supply

ProSolar inverters meet the grid requirements of network operators, which are defined in the latest directive of the BDEW (German Association of the Energy and Water Industry). Simulations and inhouse test benches enable us to test international requirements that are subject to change at short notice and to convert them directly into high-performance system solutions.

Customer-Oriented Technology

In addition to excellent grid compatibility, key features of ProSolar solutions include



ProSolar inverter: high power density at low BoS costs

their high degree of efficiency and compact modular design. Liquid and air-cooled, the inverters can be implemented as a cabinet or power station solution. They can be operated in ambient temperatures from -25°C to +55°C without any problems. ProSolar central inverters are optimised for the use in MW photovoltaic parks. The number of PV strings in the system varies according to the individual requirements.

Balance of System Cost (BoS)

The 3-level topology of the power electronics based on modern IGBT technology and possible input voltages in excess of 1000 V increase efficiency and therewith energy output. Investment costs for cables, buildings, fuses and power electronics can thus be considerably minimised.



ProSolar inverter: watercooled power electronics

Control & Monitoring System

The data logger integrated in the ProSolar inverter enables time-defined logging of electrical input and output variables. Unexpected as well as pre-defined events can be transmitted immediately across the ProSolar system via the Internet or SMS. A diagnostic function, which is available as an option, detects the system components and generates long-term analyses for the continuous improvement of the overall system.

Transformer

An isolating transformer is used to electrically isolate the DC supply and the mains connection. Single-sided earthing of the DC connection also enables thin film modules to be used.

Switch Disconnectors

Through the use of AC and DC switch disconnectors, visible interruption points can be created as stipulated in VDE standard 0100-712.

Reactive Power Compensation

The Converteam ProSolar central inverter manages reactive power regulation at the grid connection point. It meets all the new requirements of the BDEW's „Technical Directive for Power-Generating Systems in the Medium-Voltage Grid“. By means of IGBT power semiconductors, the time-lag free discharge circuit in the inverter ensures continued operation of the photovoltaic system at all times, allowing defined effective and reactive power values to be tuned to requirements even in the case of grid voltages of up to 0%. With its ProSolar inverters, Converteam has the optimum solution. It stands out particularly on account of its rapid control capability, high efficiency and its modular design concept, which meets the various photovoltaic system performance classes.

Benefits for Grid Operators

- No immediate disconnection of the photovoltaic parks from supply grid in the event of grid faults
- Requirement-compliant response if balanced or unbalanced grid faults arise in the event of undervoltages
- Controlled grid support by means of defined supply of reactive and active current during and after a fault
- Active support of the grid protection technology in the event of faults
- Optional: reduction of power supply on demand of grid operator

Technical Data

Input (DC)

Power Range: DC 500 kWp ... 680 kWp
DC MPPT: DC 450 V...1,200 V
DC Voltage: > 1,000 V possible

Output (AC)

Power Range: AC 425 kW /
450 KVA ... 600 KW / 680 kVA
Operating Voltage: 270 V...400 V (±10 %)
AC current distortion: < 2 % THD at P nom
Frequency: 50 Hz / 60 Hz
Efficiency: > 98 %
Possible reactive power support:
0.95 ind.- 1 - 0.95 cap.
Enclosure: IP 21, optional IP 54
Ambient temperature: -25° C to 55 °C
Interfaces: Ethernet, Can, Ethercat, Profibus, wireless connection

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