

BI-DIRECTIONAL STORAGE CONVERTER

PROTECT SC.600-ID-UL



Key Features

- » Utility scale PCS (Storage Converter)
- » Highest efficiency for charging and discharging
- » Fully grid code compliant: BDEW, FNN & other
- » Wide DC input range for various battery technologies
- » On-grid / off-grid
- » UL design
- » Cabinet depth 600 mm
- » Black start capability
- » Initial Charge Function
- » Highest Power Density
- » Option: Back-Up Power for control & communication

New challenges are appearing in the energy sector due to the ongoing shift from base-load fossil fuelled plants towards volatile renewable energy sources, such as wind and photovoltaic. Among these challenges are voltage and frequency stabilization, as well as an increasing demand for balanced power and peak shaving. The majority of these problems can be solved with battery storage solutions.

While the battery system solely provides the storage capacity, it is the Storage Converter that ultimately transforms the chemically stored energy into a grid service by supplying the right electric component, at the right time with the right amount and form of electrical power.

Battery Technologies on the Move

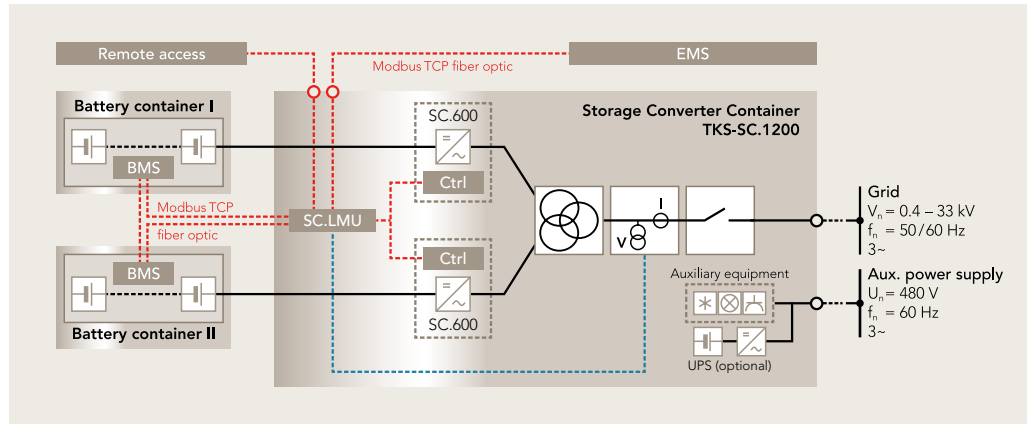
The battery market is moving at an unforeseen pace, constantly presenting new storage technologies. While lead-acid is still the most implemented battery technology in terms of installed capacity, lithium-ion, vanadium redox-flow and also nickel cadmium have captured significant market share. Depending on the pursued goal of the storage solution, one battery technology often offers advantages over another. Sometimes it might also be useful to combine two or more battery types in order to achieve maximum benefit.

The recent advances in battery technology have allowed battery cells and modules to become a commodity with standardized characteristics. Due to its longstanding heritage in the Uninterruptable Power Supply industry, AEG Power Solutions has extensive knowledge in battery handling and the know-how to meet your requirements.

AEG Power Solutions Offer

AEG PS offers a storage converter implemented in a turnkey solution including batteries and medium voltage transformer. The solution has on-grid and off-grid control capability.

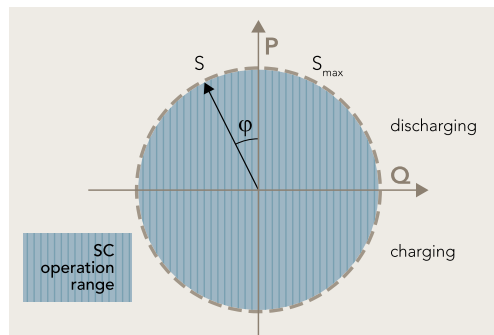
STORAGE SOLUTION



Typical configuration for a battery storage turnkey solution

Storage Converter Functionality

AEG Power Solutions' Storage Converter is based on the highly successful Protect PV solar inverter platform. A power stack with advanced design, measuring and control technology forms the heart of the Storage Converter. The IGBT based converter technology is inherently bi-directional and allows a four quadrant operation as displayed in the graphic below. The converter provides an outstanding conversion efficiency factor during inverter and rectifier operation.



The Storage Converter can be controlled by AEG PS' own Local Management Unit (SC.LMU) or by other control systems. AEG PS' Storage Converter supports multiple communication protocols such as Modbus TCP, Modbus RTU or RS485.

Remote control of the Storage Converter through an Energy Management System (EMS) is possible when integrated into a smart grid.

Data recording of the Storage Converter is available 24/7 and is accessible anywhere in the world.

Specialized distinction

The cabinets are only 600mm deep, thereby allowing for two rows of Protect SC.600 to be installed in a standard industrial container with room in between for personnel access. The modular design allows for easy expansion by the addition of supplementary Protect SC.600 kVA units.

As well as this, black start capability is possible with the option of a back-up power system for control and communication infrastructure in the event of a power outage.

Due to the wide DC input range that is available, Protect SC.600 also lends itself readily to use with any state of the art battery technology currently available.

Storage Converter Technical Data*

- » Nominal power 600 kVA
- » DC-voltage range 450 V – 1,000 V
- » Max. efficiency 98.4 %
- » Frequency 50 / 60 Hz
- » Battery technology Pb, Li, NiCd, VRF, etc.
- » Temperature range -20°C to +50°C
- » Operation mode on-grid & off-grid

* Further information available upon request



AEG Power Solutions

Approach your local AEG Power Solutions representative for further support. Contact details can be found on:

www.battery-energy-storage.com

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