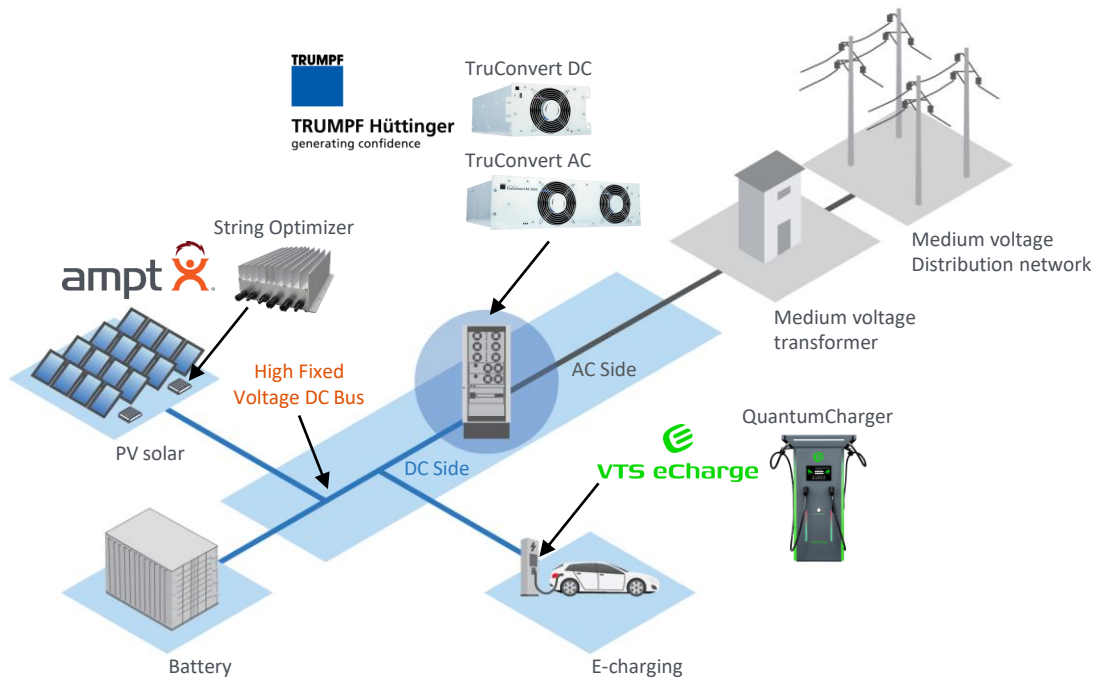


# Flexible Power Electronics Solution for PV Solar + Energy Storage + EV Charging



## Future proof system that lowers the total cost of system ownership

Using the TRUMPF TruConvert family with Ampt String Optimizers and the VTS eCharge QuantumCharger provides straightforward system designs that have perfectly coordinated components and are readily adaptable with unbeatable flexibility to deliver a scalable renewable energy eco-system.

- Treat power sources and energy stores independently
- Efficiently integrate additional system components
- Mix and match power levels when replacing PV modules
- More lifetime energy with string-level MPPT
- Fast DC/DC electric vehicle charging

The TRUMPF TruConvert product family is comprised of a bi-directional battery inverter and a bi-directional DC-DC converter. Both devices are modular to allow for system scalability from the kilowatt to megawatt ranges. Ampt String Optimizers allow the PV array to scale as well so the entire system can easily accommodate immediate and future system needs. The VTS eCharge QuantumCharger enables simplified fleet scaling.



**TRUMPF Hüttinger**  
generating confidence



TruConvert DC

The bidirectional TruConvert DC Series 1000 DC-DC converters from TRUMPF Hüttinger are suitable for use with any battery, whether lithium-ion, second life, redox flow or lead-acid batteries. They can be used in the most varied of storage technologies thanks to a wide voltage range from 0 to 700 V. The modular 19-inch inverter structure allows simple integration in an electrical cabinet or container, facilitating a connection with the most varied of storage technologies.

- Broad voltage range
- Reliability due to parallel circuits
- Simple integration
- DC droop mode for stable DC grid



**TRUMPF Hüttinger**  
generating confidence



TruConvert AC

The bidirectional TruConvert AC 3025 battery inverter from TRUMPF Hüttinger converts alternating current into direct current. Benefit from a wide variety of network link options, black start capacity, voltage and frequency droop and virtual impedance, ready to provide the missing inertia in the grid – combined in just one inverter system. Their compact design in 19" standard housings make them the ideal solution for small and even large battery storage systems.

- Islanding, black start
- Droop control
- Seamless islanding
- Virtual synchronous mode
- UL, ARN4105/4110, TOR Typ-A/B, EN50549-1, AS4777.2\*, G99\*



String Optimizer

Ampt String Optimizers manage power from the PV array by performing maximum power point tracking (MPPT) on each string of PV modules and delivering full available power at a voltage that follows the DC bus. Ampt allows the DC bus voltage to be set by either the inverter, the DC/DC converter, or the battery itself – whichever allows for optimal system design and operation for a given application. This simplifies system controls and component interoperation.

- Lower cost PV system and ESS
- Optimal PV-to-inverter loading ratio
- Increase flexibility for future upgrades



QuantumCharger DC/DC

QuantumCharger DC/DC charging station is the first choice for extremely short charging times. The housing, which is available in various colors, is made of robust stainless steel and offers special protection against vandalism. This makes our charging station perfect for DC/DC charging in semi-public or public areas. The modular and maintenance-friendly design contributes to this, as do the numerous payment functions via bank and credit card, RFID or app.

- Scalable charging power in 30 kW steps (120 – 420 kW)
- Future secure output voltage range (150 – 1000 VDC)
- Fast DC/DC electric vehicle charging

**TRUMPF Hüttinger** is a high-tech company and a leading global manufacturer of DC, medium-frequency, high-frequency and semiconductor-based solid-state microwave generators. The business divisions include plasma technology, industrial heating, battery inverter systems as well as microwave generators and amplifiers. These process power supplies are being used in many key processes in research, development and production.

[www.trumpf-huettinger.com](http://www.trumpf-huettinger.com)

**Ampt** delivers innovative power conversion and communication technology that are used to lower the cost and improve performance of new PV systems, repower existing systems, and enable lower cost DC-coupled storage. With installations and experience serving markets around the world, Ampt is the number one DC optimizer company for large-scale systems.

[www.ampt.com](http://www.ampt.com)

**VTS eCharge** develops and manufactures high-quality wallboxes and charging stations for electric vehicles in the non-public or public sector. Our engineers develop and program the associated software solutions through to the backend interface. Together with a self-sufficient heat management and dehumidification system as well as the modular, maintenance-friendly design, this guarantees high availability.

[www.vts-echarge.de](http://www.vts-echarge.de)