TPS FLEX

The great all-rounder for commercial and industrial applications

TESVOLT
THE ENERGY STORAGE EXPERTS

MAXIMUM SAFETY

Prismatic battery cells are incredibly durable, safe and powerful, particularly in comparison to round cells. TESVOLT uses Samsung SDI cells and offers a 10-year performance guarantee on the battery modules.

FLEXIBILITY NOW AND IN THE FUTURE

Our TPS flex storage systems do more than just provide flexible configuration on procurement; thanks to their innovative Active Battery Optimizer technology, the battery modules can be retrofitted or replaced even after years of use.

LONG LIFESPAN

The lifespan of a battery has a huge impact on its economic efficiency. Our storage system features outstanding performance: all components are designed to last 8,000 cycles or offer a 30-year lifespan.

HIGH PERFORMANCE WITHOUT COMPROMISE

TPS flex storage systems can store energy very quickly, and release it again just as quickly. With a continuous power rating of 1C, the storage system is optimised for professional use in commercial applications, agriculture and industry.

A POWERHOUSE FOR ALL PURPOSES

Our battery storage systems are easy to adapt to every application.

Whether to increase self consumption or to cut peak loads, on- or off-grid to optimise diesel hybrid systems, whether in the desert or the Arctic circle – with the TESVOLT TPS flex storage system, TESVOLT offers a technical storage solution for any application. Its advanced, cost-optimised design makes for unbeatable efficiency – without sacrificing quality or performance. It is extremely robust and therefore well suited to the hardest tasks. Thanks to high-quality battery cells originally designed for the automotive sector and innovative technologies, such as the Active Battery Optimizer, our TESVOLT TPS flex storage system is one of the most efficient and durable products on the market.

SAMSUNG SDI CELLS

Prismatic cells from Samsung SDI are extremely safe. For example, the NSD (Nail Safety Device) ensures that the cell will not catch fire even when penetrated with a metal nail.

BATTERY MODULE

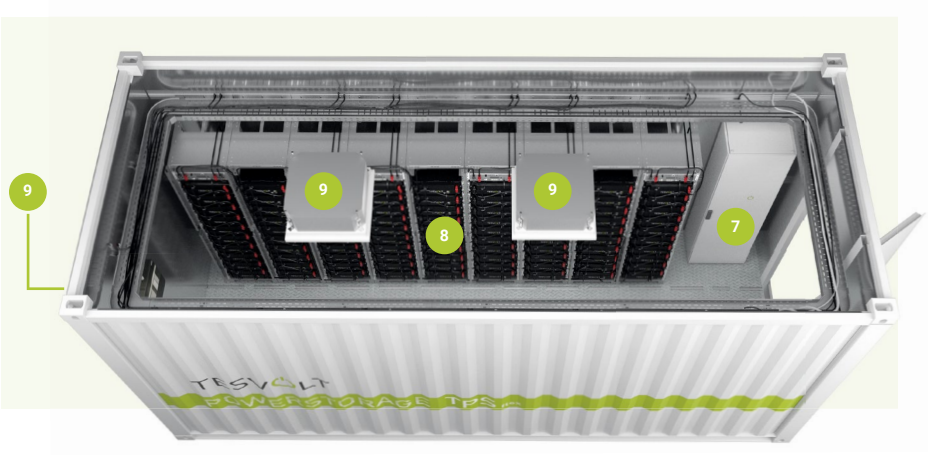
Every battery module has its own Active Battery Optimizer (ABO) that can be separated from the module in a few easy steps, for example, for servicing.

SMA SUNNY TRIPOWER STORAGE 60

TESVOLT TPS flex storage systems have been optimised for use with three-phase SMA Sunny Tripower Storage 60 battery inverters and are ideal for meeting demands in both trade and industry.

These solutions allow affordable storage solutions to be implemented for outdoor applications. An extremely wide range of grid system services are available thanks to the energy management system integrated in the Inverter Manager and the high C-rate of the TESVOLT TPS flex storage systems. At the same time, the system also provides new opportunities in terms of cost efficiency, as the investment costs are less than those of conventional outdoor storage systems. TESVOLT TPS flex storage systems are some of the most durable products on the market.

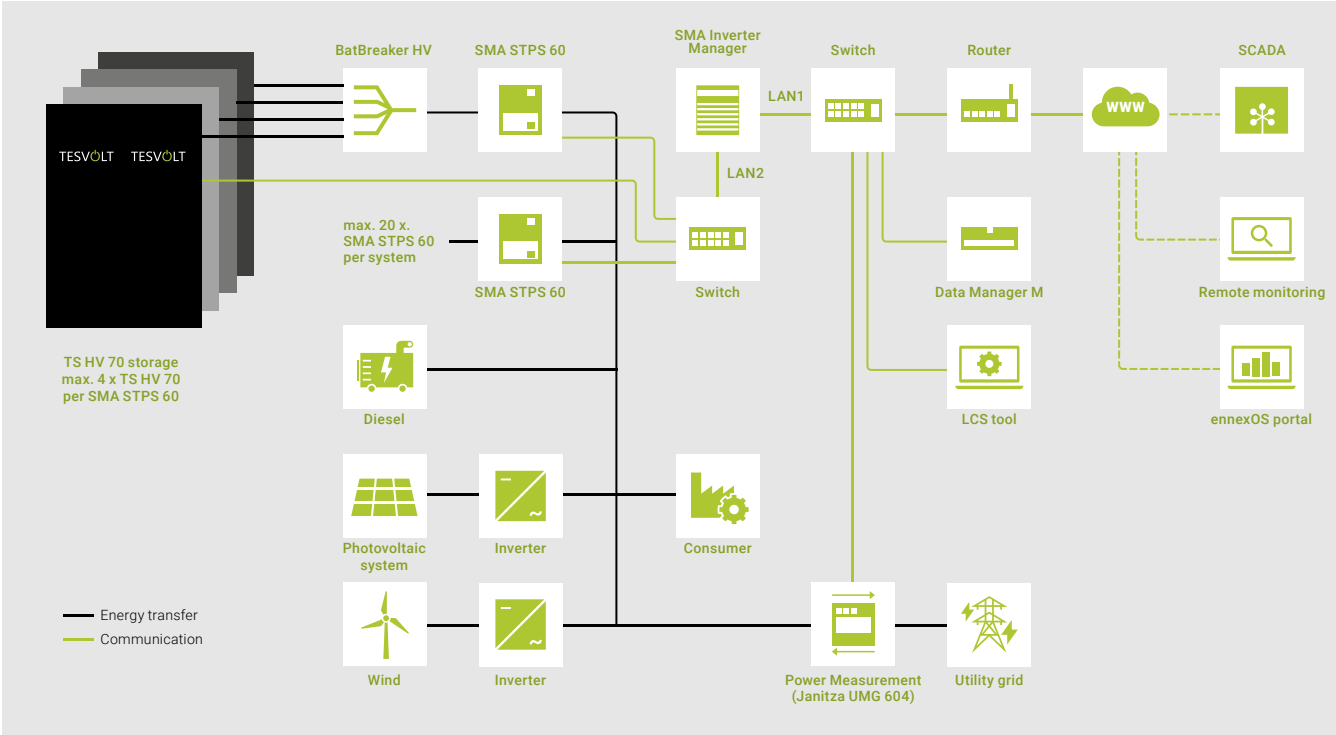
1. Overcharge safety device
2. Vent
3. Fuse
4. Battery module
5. Active Battery Optimizer
6. Active Power Unit
7. AC sub-distribution unit
8. Battery racks
9. HVAC



The TPS flex storage system has a fully modular design from the battery modules to the container, so it can be flexibly adapted and is also extremely efficient thanks to its long lifetime.

*The graphics shown may differ from the actual structure.

SYSTEM STRUCTURE



APPLICATIONS

- **Diesel hybrid optimisation:** Diesel hybrid systems can be optimised for consumption with this system.
- **Time of use:** use of the storage system is dependent on the electricity cost (charge when low, discharge when high).
- **Peak shaving** Cap your consumption peaks and save money thanks to lower output use.
- **Self-consumption optimisation:** Use more of the power you have generated.
- **Grid system services:** Manage reactive/active power or frequency and compensate for grid fluctuations
- **Charging infrastructure:** Supports the integration of charging stations with applications such as peak shaving, self-consumption optimisation and grid system services.
- **Multi-use applications** Combine various applications such as increased self-consumption and peak shaving.

DESIGN

- One or two battery systems (type: TS HV 70; up to four on request)
- One or two SMA STPS 60 units (up to four on request)
- 10 or 20 ft ISO container
- HVAC (PCS heating, ventilation and air conditioning)
- DC sub-distribution box and installation rack
- Systems with more than one battery have a 160-4X-HV1000 BatBreaker
- SMA Inverter Manager
- Janitza Power Quality Analyser

VARIANTS

The TPS flex is available in a total of 18 standard variants. The variants listed here are just some of these standard variants.
A battery system consists of 15 battery modules with 72 kWh.
Up to four of these battery systems can be connected to each SMA STPS 60 unit. Up to six SMA STPS 60 units can be fitted in a 20 ft TPS flex on request.

Type	Energy	Charging power	Discharging power	Item no.	Container	Battery systems per 15 modules	Number of STPS units	Weight
TPS flex 10 ft TS HV 70/60	72 kWh	60 kW	67 kW	101171	10 ft	1	1	2976 kg
TPS flex 10 ft TS HV 140/60	144 kWh	60 kW	75 kW	101172	10 ft	2	1	3537 kg
TPS flex 10 ft TS HV 140/120	144 kWh	120 kW	134 kW	101173	10 ft	2	2	3612 kg
TPS flex 20 ft TS HV 140/60	144 kWh	60 kW	75 kW	101175	20 ft	2	1	5137 kg
TPS flex 20 ft TS HV 210/180	216 kWh	180 kW	201 kW	101177	20 ft	3	3	5888 kg
TPS flex 20 ft TS HV 280/120	288 kWh	120 kW	150 kW	101176	20 ft	4	2	6374 kg

Other variants available on request

TECHNICAL DATA TESVOLT TPS FLEX

Energy for each TS HV 70 battery system (15 battery modules)		72 kWh
C-rate		1C
Cells		Lithium NMC prismatic (Samsung SDI)
Max. charging/discharging current		94 A
Cell balancing		Active Battery Optimizer
Cycles @ 100% DoD 70% EoL | 23°C +/ -5°C 1C/1C		6000
Cycles @ 100% DoD 70% EoL | 23°C +/ -5°C 0.5C/0.5C		8000
Efficiency (battery)		up to 98 %
Self-consumption (standby)		5 W (without battery inverter)
Operating voltage		714 to 872 V DC
Operating temperature		-10 to 50 °C
Humidity		0 to 85 % (non-condensing)
Altitude of installation site		< 2000 m above sea level
Dimensions (H x W x L)	10 ft container	2900 x 2440 x 3000 mm
	20 ft container	2900 x 2440 x 6100 mm
Certificates/standards	Cells	IEC 62619, UL 1642, UN 38.3
	Product	CE, UN 38.3, IEC 62619, IEC 61000-6-1/2/3/4, German Battery Act 2006/66/EC
Guarantee		10-year performance guarantee, 5-year system guarantee
Recycling		TESVOLT offers free return of batteries from Germany
Protection class		IP 35
Battery specification as per DIN EN 62620:2015		IMP47/175/127/[14S]E/-20+60/90

TECHNICAL DATA STPS 60

Nominal charging power (AC)	60 kVA
Nominal discharging power (AC)	75 kVA
DC voltage range	575 to 1000 V
Dimensions (H x W x D)	740 x 570 x 306 mm
Max. efficiency	98.8 %
Self-consumption (standby)	< 3 W
Operating temperature	-25 to 60 °C
Weight	77 kg
Protection class	IP 65 | NEMA 3R
Communication	Modbus TCP/IP
Topology	transformerless
Guarantee	5 years

ABOUT TESVOLT

Daniel Hannemann and Simon Schandert established TESVOLT in the summer of 2014 with a vision – to bring affordable, clean energy to every corner of the world. Their aim was to develop and manufacture battery systems that store power from renewable energy sources as efficiently as possible.

Given that the biggest energy consumers in many countries are trade and industry, the company focused on storage systems with a large capacity from the very beginning. Today, TESVOLT produces its solutions for commercial storage systems in series and supplies them all around the world.

Your certified TESVOLT specialist partner

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