

LITHIUM STORAGE SYSTEM TS

The commercial all-rounder



Designed for 30 years • 1C charging speed • The safest cell technology

TESVOLT
THE ENERGY STORAGE EXPERTS

WE HAVE A „THEN“ FOR ANY „WHEN“.

Our battery storage system can be optimally adapted to suit every application.

Whether it's used for emergency power, or coupled to the power grid or off-grid, whether it's in the desert or the polar circle, with the *TESVOLT TS storage system*, TESVOLT is offering power storage technology for all types of use.

The *TESVOLT TS storage system* is not only flexible, with a size and output that can be adapted to suit any need, it is also one of

the most advanced and efficient storage systems. It is extremely robust and is therefore well-suited to the hardest tasks. Thanks to high-quality battery cells from the automobile industry and innovative technologies, such as the *Active Battery Optimizer*, our *TESVOLT TS storage system* is one of the most efficient and durable products on the market.

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 capacity guarantee of 10 years on the battery modules.

Long lifespan

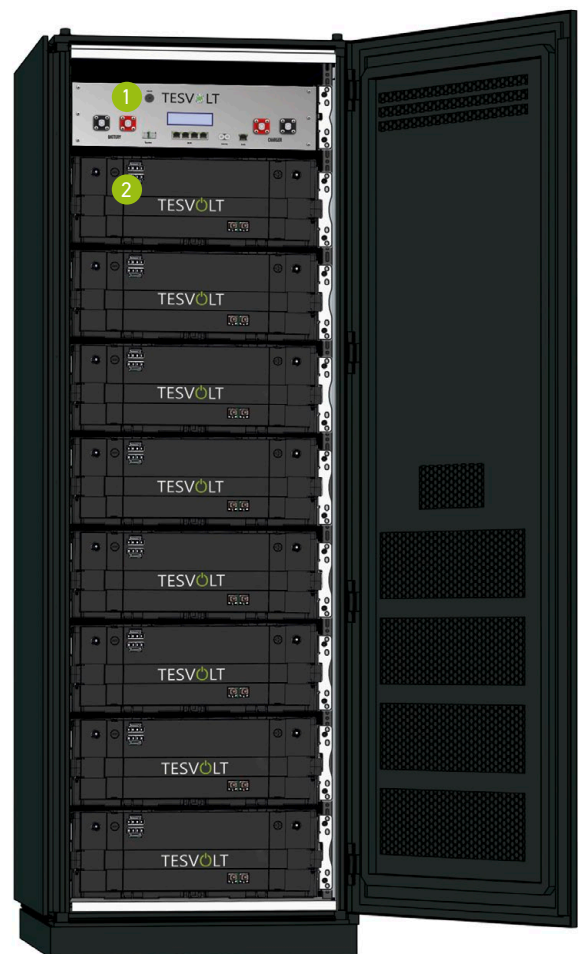
The lifespan of a battery has a huge impact on its economic efficiency. Our storage system features outstanding performance: all components are designed to last 8,000 cycles or offer a 30-year lifespan.

High-performance without compromise

TESVOLT TS storage systems can store energy very quickly, and release it again just as quickly. With a continuous power rating of 1C – and even 4C for short periods – the storage system is optimized for professional use in commercial applications, agriculture and industry.

Flexibility now and in the future

Our *TESVOLT TS storage systems* do not only offer flexible configuration options at the moment of purchase – thanks to the innovative *Active Battery Optimizer* technology, the capacity can also be expanded years later.



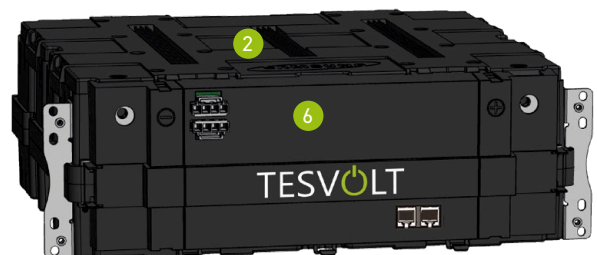
Samsung SDI cells



- 1 Active Power Unit
- 2 Battery module
- 3 Overcharge Safety Device (OSD)
- 4 Vent
- 5 Fuse
- 6 Active Battery Optimizer

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

Battery module



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

APPLICATIONS

- **Emergency power** – in the case of a power failure, your storage system is ready to supply power in a split second
- **Increase self consumption** – use more of the power you have generated
- **Off-grid power supply** – create your own power grid, for example in combination with a photovoltaic system

MODULAR SYSTEM PRINCIPLE

TESVOLT TS storage systems can be flexibly adapted to suit any operating purpose:

The desired energy is built up in 4.8 kWh increments. An *Active Power Unit (APU)* can monitor up to 16 battery modules.

- Three different racks are available as housing, each holding up to 5, 8 or 10 battery modules.
- 1-phase or 3-phase supply and the desired connected load determine the number of battery inverters required.



* Permitted only in off-grid applications.

SYSTEM CONFIGURATIONS

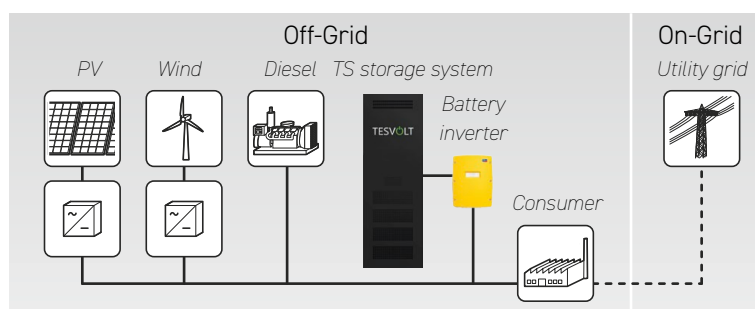
Potential capacities depending on power output using SMA Sunny Island island inverters:

3,686.4 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
230.4 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
211.2 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
192.0 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
172.8 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
153.6 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
134.4 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
115.2 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
96.0 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
76.8 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
57.6 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
38.4 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
24.0 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
19.2 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
14.4 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
9.6 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
4.8 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
↑ Energy TESVOLT TS	3.3 kW	4.6 kW	6.0 kW *	9.9 kW	13.8 kW	18 kW	36 kW	54 kW	72 kW	90 kW	108 kW	126 kW	144 kW	162 kW	180 kW	198 kW	216 kW
SMA → Sunny Island	1x 4.4 M	1x 6.0 H	1x 8.0 H	3x 4.4 M	3x 6.0 H	3x 8.0 H	Over 18 kW of power, the use with multiclust er boxes is permitted only in off-grid applications.										

** In Germany, degradation to max. 4.6 kW occurs with grid-coupled operation due to the unbalanced load specification.

OFF-GRID OR ON-GRID

TESVOLT TS storage systems can be integrated into stand-alone grids and can also be connected to the utility grid. They can be flexibly combined with any sort of energy generator, including photovoltaics, bioenergy, wind power and diesel generators.



Technical specifications TSVOLT battery module

Module energy	4.8 kWh
C-rate	1C
Cells	Lithium NMC prismatic (Samsung SDI)
Max. charging, discharging current (max. 3 sec.)	900 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%
Operating voltage	47.6 to 58.1V DC
Operating temperature	-10 to 50°C
Humidity	0 to 85% (non condensing)
Altitude of the installation site	<2000 m above sea level
Weight	36 kg
Dimensions (HxWxD)	163x490x480 mm
Certificates/Norms	Cells: IEC 62619, UL 1642, UN 38.3
	Product: CE, UN 38.3, IEC 61000-6-1/2/3/4, BattG 2006/66/EG
Warranty	10-year capacity guarantee, 5-year system guarantee
Recycling	TESVOLT offers free return of batteries from Germany

Complete system

	2	3	4	5	6	7	8	9	10
TS 25 (2 – 5 modules)	1300x600x600 mm (HxWxD)	•	•	•	•				
TS 40 (6 – 8 modules)	1900x600x600 mm (HxWxD)					•	•	•	
TS 50 (9 – 10 modules)	2300x600x600 mm (HxWxD)							•	•
TS Flex (energy as required)	Flexibly configure your system according to your requirements.								
Energy [kWh]	9.6	14.4	19.2	24.0	28.8	33.6	38.4	43.2	48.0
Capacity [Ah]	188	282	376	470	564	658	752	846	940
Maximum output power	1 C								
Selfconsumption (standby)	3 watt (without battery inverter)								
Weight [kg]	192	228	264	300	386	422	458	514	550
System	1-phase, 3-phase								
Protection class	IP 20 (indoor use)								
System compatibility	SMA Sunny Island (SMA Solar Technology AG)								

Your certified TSVOLT partner

TESVOLT GmbH

Am Heideberg 31
06886 Lutherstadt Wittenberg
Deutschland | Germany

TEL +49 (0) 3491 87 97-100
info@tesvolt.com
www.tesvolt.com

