

LITHIUM STORAGE SYSTEM TS

The commercial all-rounder



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

TESVOLT
THE ENERGY STORAGE EXPERTS

IF THERE'S AN APPLICATION -THERE'S A TESVOLT

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

Whether for emergency power, a stand-alone power system or to cut peak loads, whether on- or off-grid, whether in the outback or the arctic circle – with the *TESVOLT TS storage system*, TESVOLT offers a technical storage solution for any application. 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's extremely robust and is very well-suited to the hardest of 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 cells from Samsung SDI and offers a 10-year performance warranty on the entire storage system.

Long lifespan

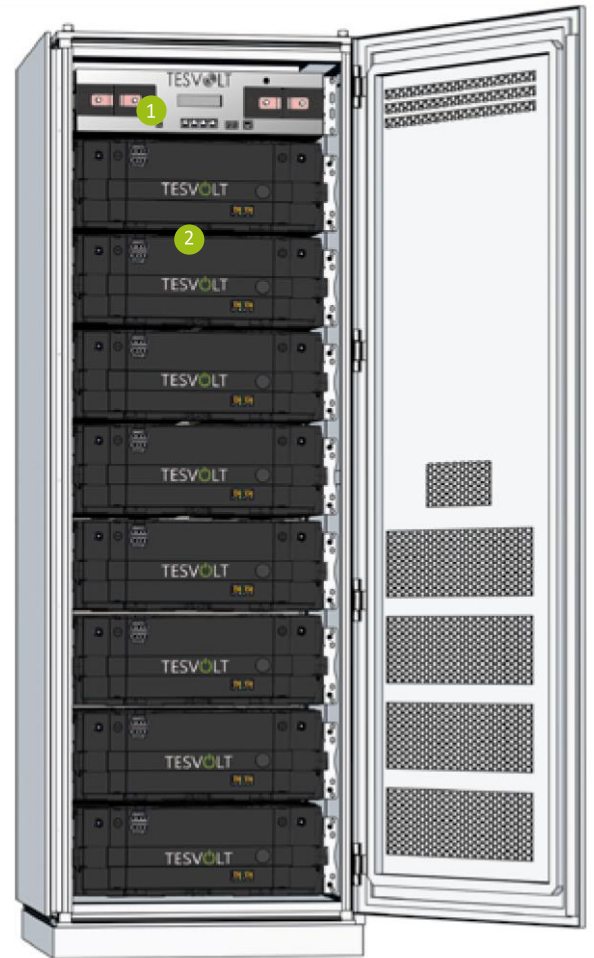
The lifespan of a battery has a huge impact on its economic efficiency. Our storage system features outstanding performance: all components are designed to last 8,000 cycles or offer a 30-year lifespan.

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 from the moment of purchase – thanks to the innovative *Active Battery Optimizer* technology, the capacity can also be expanded years later, irrespective of the individual module age.



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
- **Peak load shifting** – cut your peaks in consumption and save money by reducing the size of the mains connection
- **Increase self-consumption** – use more of the power you have generated
- **Off-grid power supply** – set up your own power grid, e.g. in conjunction 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 control up to 16 battery modules.
- 1-phase or 3-phase supply and the desired connected load determines the number of battery inverters required.
- Three different racks are sizes are available, each holding up to 5, 8 or 10 battery modules respectively.



SYSTEM CONFIGURATIONS

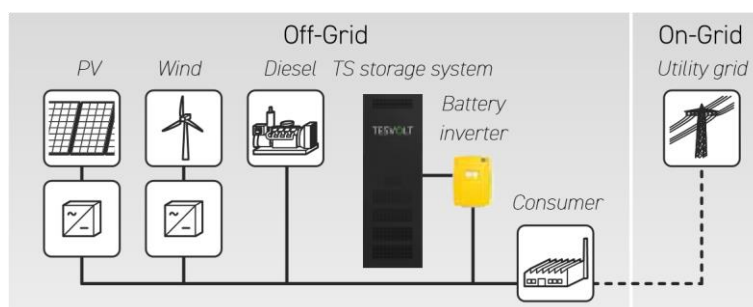
This table displays the possible output depending on the energy and the number of SMA Sunny Island stand-alone inverters.

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 4.4M	1x 6.0H	1x 8.0H	3x 4.4M	3x 6.0H	3x 8.0H	Over 18kW of output, only Sunny Island 8.0H (6.0kW) inverters are depicted in the table.										

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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 type of energy generator, including photovoltaics, bio energy, wind power and diesel generators.



Technical specifications: TSVOLT 4.8kWh battery module

Module energy	4.8kWh	
C-rate	1C (4C max. 20 sec.)	
Cells	Lithium NMC prismatic (Samsung SDI)	
Max. charging, discharging current (max. 3 sec.)	94A	
Cell balancing	Active Battery Optimizer	
Cycles @ 100% DoD 70% EoL 23°C +/-5°C 1C/1C	6 000	
Cycles @ 100% DoD 70 % EoL 23°C +/-5°C 0.5C/0.5C	8 000	
Efficiency (battery)	up to 98%	
Operating voltage	44.8 to 58.1V DC	
Operating temperature	-10 to 50°C	
Humidity	0 to 85% (non-condensing)	
Weight	36 kg	
Dimensions (HxWxD)	163x490x480mm	
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 performance warranty, 5-year product warranty	
Recycling	free take-back of batteries from TSVOLT	

Complete system

Number of battery modules	2	3	4	5	6	7	8	9	10
TS 25 (2 – 5 modules)	1300 x 600 x 600mm (HxWxD)	•	•	•	•				
TS 40 (6 – 8 modules)	1900 x 600 x 600mm (HxWxD)					•	•	•	
TS 50 (9 – 10 modules)	2 300 x 600 x 600mm (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	1C (4C max. 20 sec.)								
Self-consumption (standby)	3 watt (TESVOLT TS complete system)								
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)								

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