



# LITHIUM STORAGE SYSTEM TS HV

The commercial and industrial all-rounder

**TESVOLT**  
THE ENERGY STORAGE EXPERTS



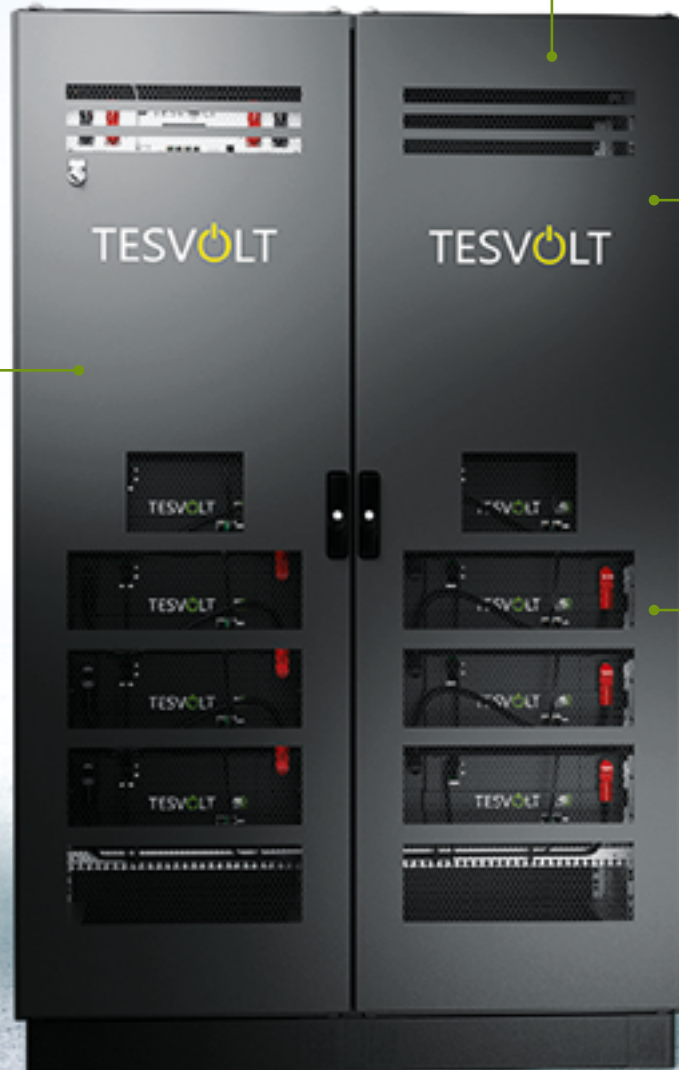
## APPLICATIONS

- **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 frequency, effective and reactive power and balance grid fluctuations.
- **Multi-use:** Combine various applications such as self-consumption optimisation and peak shaving.



## 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 performance 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 HV 70 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 system can be optimally adapted to suit 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 TS HV 70 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 from the automobile industry and innovative technologies, such as the Active Battery Optimizer, our TESVOLT TS HV 70 storage system is one of the most efficient and durable products on the market.



## 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.

- 1 Active Power Unit
- 2 Battery module
- 3 Overcharge safety device



## 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.

- 4 Vent
- 5 Fuse
- 6 Active Battery Optimizer



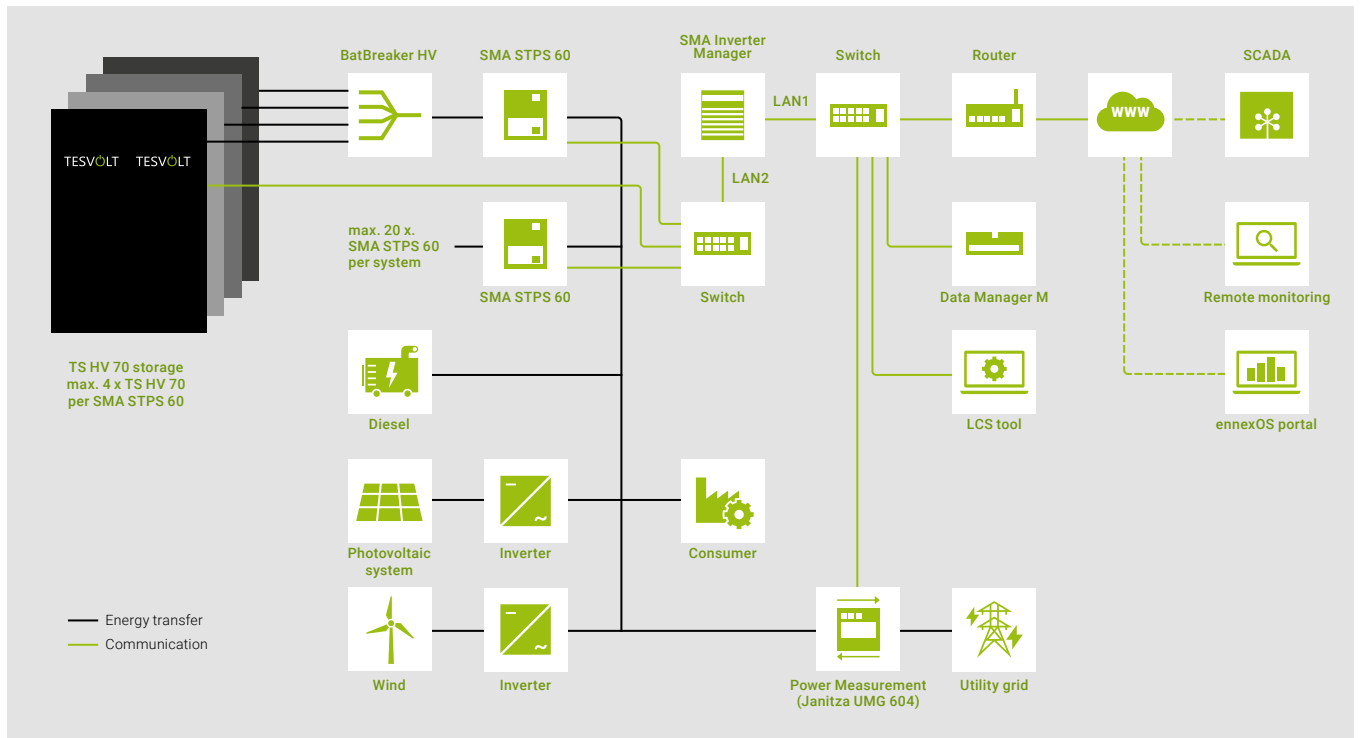
## SMA SUNNY TRIPOWER STORAGE 60

**TESVOLT TS HV 70 storage systems are optimised for use with 3-phase SMA Sunny Tripower Storage 60 battery inverters, and as a system it is perfectly adapted for use in commercial applications and the industry.**

It can be used to realise storage solutions up to the megawatt range. A wide range of very different grid system services can be provided thanks to the energy management system integrated in the Inverter Manager and the high C-rate of the TESVOLT TS HV 70 storage systems. At the same time, the system opens up new economic perspectives – investment costs are considerably lower than for conventional storage systems. TESVOLT TS HV 70 storage systems.



## SYSTEM STRUCTURE



## SYSTEM CONFIGURATIONS

This table displays the possible output depending on the energy and the number of SMA STPS 60 battery inverters:

Number of TS HV 70	Energy of System	60 kW	75 kW	120 kW	150 kW	180 kW	225 kW	240 kW	300 kW	300 kW	375 kW	360 kW	450 kW	420 kW	525 kW	480 kW	600 kW	540 kW	675 kW	600 kW	750 kW	
		1	2	3	4	5	6	7	8	9	10*											
40	3040 kWh																					
	2680 kWh																					
32	2432 kWh																					
	2144 kWh																					
28	2128 kWh																					
	1876 kWh																					
24	1824 kWh																					
	1608 kWh																					
20	1520 kWh																					
	1340 kWh																					
16	1216 kWh																					
	1072 kWh																					
12	912 kWh																					
	804 kWh																					
10	760 kWh																					
	670 kWh																					
9	684 kWh																					
	603 kWh																					
8	608 kWh																					
	536 kWh																					
7	532 kWh																					
	469 kWh																					
6	456 kWh																					
	402 kWh																					
5	380 kWh																					
	335 kWh																					
4	304 kWh																					
	268 kWh																					
3	228 kWh																					
	201 kWh																					
2	152 kWh																					
	134 kWh																					
1	76 kWh																					
	67 kWh																					

\* max. 20 SMA STPS60 possible

max. charging power      max. discharging power

## TECHNICAL SPECIFICATIONS TESVOLT TS HV 70

Energy (14   16 battery modules)	67 kWh   76 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	666 to 930 V DC
Operating temperature	-10 °C to 50 °C
Humidity	0 to 85 % (non-condensing)
Altitude of installation site	< 2000 m above sea level
Weight	(14   16 battery modules, 2 racks) 714 kg   791 kg
	Weight per battery module   Weight per rack 34 kg   120 kg
Dimensions (H x W x D)	1900 x 1200 x 600 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 20
Battery specification as per DIN EN 62620:2015	IMP47/175/127/[14S]E/-20+60/90

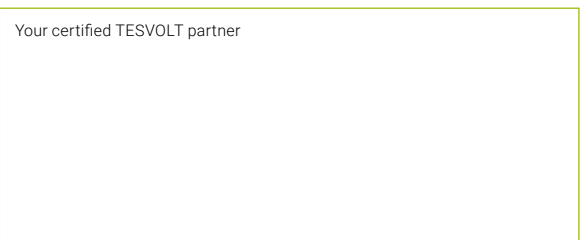
## TECHNICAL SPECIFICATIONS SMA STPS 60

Nominal charging power (AC)	60 kVA
Nominal discharge 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.



**TESVOLT AG**  
 Am Heideberg 31 | 06886 Lutherstadt Wittenberg  
 Germany  
 Phone +49 (0) 3491 8797 100  
 info@tesvolt.com | [www.tesvolt.com](http://www.tesvolt.com)

