

# LITHIUM STORAGE SYSTEM TS HV 70

The commercial and industrial all-rounder



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

HIGH-VOLTAGE SYSTEM

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 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.

## 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 high, discharge when low)
- **Peak load capping** – cap your consumption peaks and save money thanks to lower output use
- **Increase self consumption** – use more of the power you have generated
- **Ancillary services** – manage frequency, effective and reactive power, and balance grid fluctuations

## 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 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.

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 HV 70 storage system* is one of the most efficient and durable products on the market.



## Samsung SDI cell



- 1 Active Power Unit
- 2 Battery module
- 3 Overcharge safety device
- 4 Vent
- 5 Fuse
- 6 Active Battery Optimizer

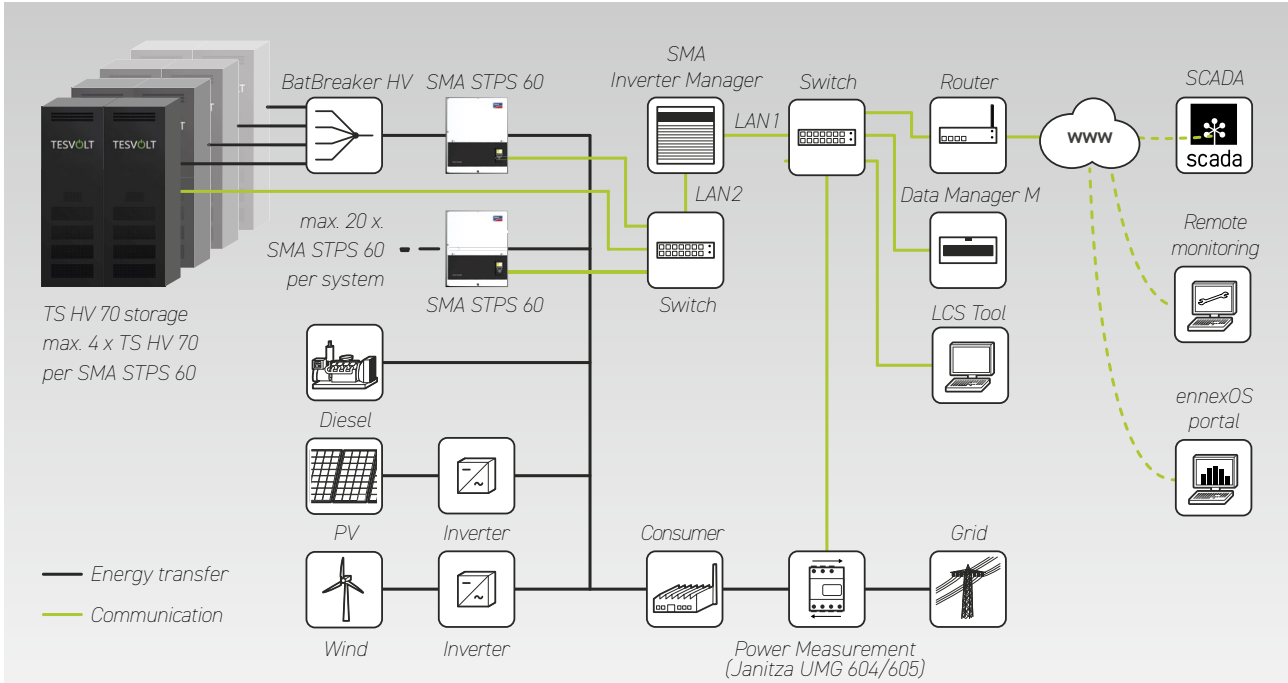
Prismatic cells from Samsung SDI are extremely safe. For example, the *NSD (Nail Safety Device)* ensures that even when penetrated with a metal nail, the cell will not catch fire.

## 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.

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

Legend:  
 ● max. discharging/charging power  
 ○ max. discharging power  
 \* max. 20x SMA STPS60 possible

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# 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 are among the most durable products on the market.

## 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 (Standby)	98.8%
Internal consumption	< 3W
Operating temperature	-25 to 60°C
Weight	77 kg
Protection class	IP 65   NEMA 3R
Communication	Modbus TCP/IP
Topology	transformerless
Warranty	5 years



SMA Sunny Tripower Storage 60 with SMA Inverter Manager

## 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	6 000
Cycles @ 100% DoD   70% EoL   23°C +/-5°C 0.5C/0.5C	8 000
Efficiency (battery)	up to 98%
Selfconsumption (standby)	5 Watt (without battery inverter)
Operating voltage	666 to 930V DC
Operating temperature	-10 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)	742 kg   823 kg
Weight per battery modul   Weight per rack	36 kg   120 kg
Dimensions (H x W x D)	1900x1200x600 mm
Certificates/norms Cells:	IEC 62619, UL 1642, UN 38.3
Product:	CE, UN 38.3, IEC 62619, 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
Protection class	IP 20

Your certified TESVOLT partner

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