

# TPS FLEX

The great all-rounder for Commercial and Industrial applications



Built to last 30 years • 1C charging speed • Extremely safe cell technology

HIGH-VOLTAGE SYSTEM

TESVOLT  
THE ENERGY STORAGE EXPERTS

# SOLUTIONS FOR EVERY ENERGY STORAGE REQUIREMENT.

## 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 is 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.

### 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.

### 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.

### 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.

### Flexible in the future as well

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.

### Samsung SDI cell



- 1 Overcharge safety device
- 2 Vent
- 3 Fuse

### Battery module



- 4 Battery module
- 5 Active Battery Optimizer

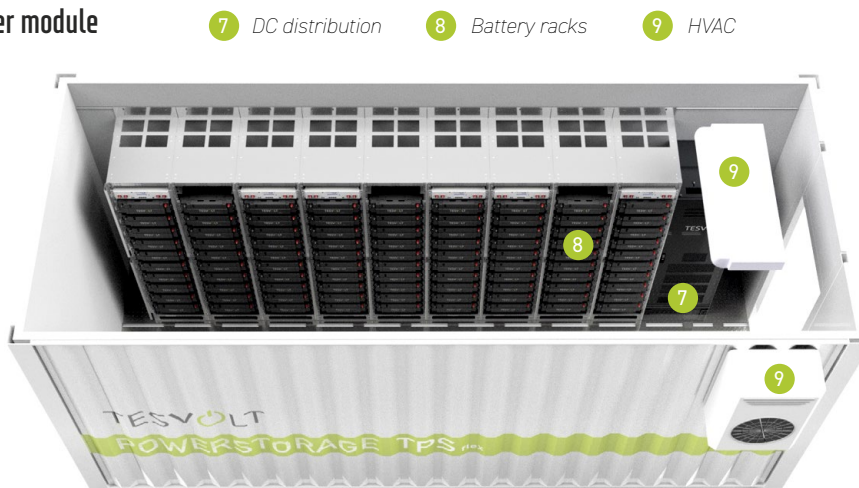
### Battery systems



- 6 Active Power Unit

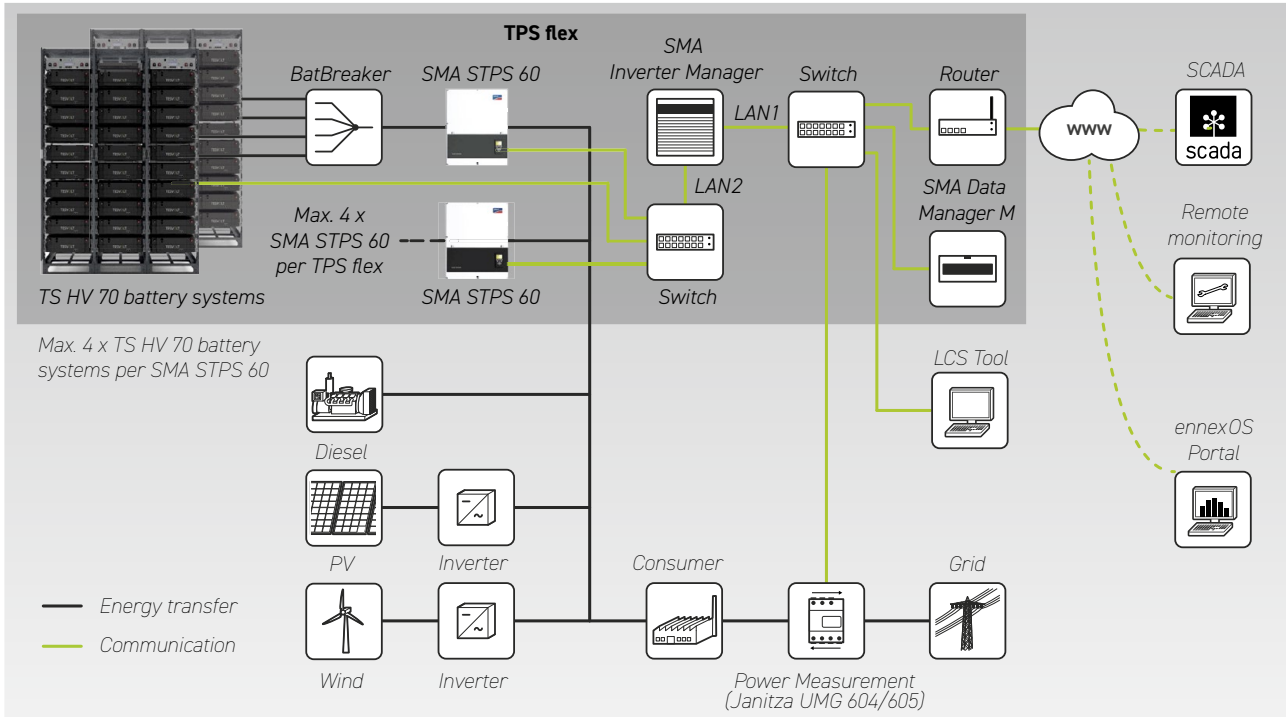
The *TPS flex storage system* has a fully modular design from the battery modules to the container, so it can be flexibly adapted and is also extremely efficient thanks to its long lifetime.

### TPS flex container module



- 7 DC distribution
- 8 Battery racks
- 9 HVAC

# SYSTEM STRUCTURE



The SMA company logo, SMA and Sunny Tripower Storage are registered trademarks of SMA Solar Technology AG in many countries around the globe.

## 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)
- **Peakshaving** – cap your consumption peaks and save money thanks to lower output use
- **Increase self consumption** – use more of the power you have generated
- **Grid system services** – manage reactive/active power or frequency and compensate for grid fluctuations
- **Charging infrastructure** – combine applications such as peakshaving, selfconsumption and grid system services.

## 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 (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 six 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 four SMA STPS 60 units can be fitted in a 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	2,976 kg
TPS flex 10 ft TS HV 140/60	144 kWh	60 kW	75 kW	101172	10 ft	2	1	3,537 kg
TPS flex 10 ft TS HV 140/120	144 kWh	120 kW	134 kW	101173	10 ft	2	2	3,612 kg
TPS flex 20 ft TS HV 140/60	144 kWh	60 kW	75 kW	101175	20 ft	2	1	5,137 kg
TPS flex 20 ft TS HV 210/180	216 kWh	180 kW	201 kW	101177	20 ft	3	3	5,888 kg
TPS flex 20 ft TS HV 280/120	288 kWh	120 kW	150 kW	101176	20 ft	4	2	6,374 kg

Other variants available on request

# 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.

## Technical Specification SMA 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 %
Selfconsumption (standby)	< 3 Watt
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 data

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	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 (excluding 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	< 2,000 m above sea level
Dimensions (H x W x L)	10 ft container 2,900 x 2,440 x 3,000 mm
	20 ft container 2,900 x 2,440 x 6,100 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, German Battery Act 2006/66/EC
Warranty	10-year performance guarantee, 5-year system guarantee
Recycling	TESVOLT offers free return of batteries from Germany
Protection class	IP 35

Your certified TESVOLT specialist partner

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