

# TECHNICAL DATA SHEET

## TS HV 30-80 E

### TECHNICAL DATA FOR BATTERY STORAGE SYSTEM

Product name	TS HV 30 E	TS HV 50 E	TS HV 80 E
Type designation	TS HV 50/4-20	TS HV 50/7-20	TS HV 50/10-20
Energy content (at 100% DoD)	32 kWh	56 kWh	80 kWh
Nominal voltage	324 V <sup>---</sup>	567 V <sup>---</sup>	810 V <sup>---</sup>
Operating voltage	290–365 V <sup>---</sup>	508–639 V <sup>---</sup>	726–913 V <sup>---</sup>
Nominal/maximum charging/discharging current		100 A <sup>---</sup>	
Max. C-rate	with STPS X 30 with STPS X 50	1C --	0.5C 1C 0.4C 0.6C
Overvoltage category		III	
Cell		Lithium NMC prismatic (Samsung SDI)	
Cell balancing		DynamiX Battery Optimizer	
Cycles expected @ 100% DoD   70% SoH   23°C +/-5°C 1C/1C		6,000	
Cycles expected @ 100% DoD   70% SoH   23°C +/-5°C 0.5C/0.5C		8,000	
Efficiency (battery)		up to 98%	
Self-consumption (standby)		5 W (without battery inverter)	
Operating temperature		0°C to 50°C (derating at low temperatures)	
Ambient temperature		0°C to 50°C (optimal: 25°C +/-5°C)	
Ambient temperature for capacity guarantee		10°C to 45°C	
Humidity		0 to 80% (non-condensing)	
Cooling concept		Passive via fins and active via fans	
Altitude of installation site		< 2,000 m above sea level	
Max. noise emission (per fan running)		65 dB	
Weight	Total	approx. 364 kg	approx. 538 kg
	Battery module   APU   Cabinet	56 kg   13 kg   approx. 107 kg	56 kg   13 kg   approx. 130 kg
			56 kg   13 kg   approx. 150 kg
Dimensions of cabinet (H x W x D)		1208 mm x 608 mm x 808 mm	1608 mm x 608 mm x 808 mm
with wall bracket		1208 mm x 608 mm x 990 mm	1608 mm x 608 mm x 990 mm
Tilt height of cabinet forwards, backwards/sideways		1426 mm/1339 mm	1778 mm/1705 mm
			2155 mm/2090 mm
Certificates/ standards	Cell	IEC 62619, UL 1642, UN 38.3	
	Product	CE, UN 38.3, IEC 62619, IEC 62620, IEC 61010-1, IEC 61508, IEC 61000-6-2/4/7, 2006/66/EC (Battery Directive)	
Guarantee		10-year performance guarantee, 10-year system guarantee	
Recycling		TESVOLT offers a free take-back scheme for batteries from Germany	
Protection class		IP 20	
Degree of protection		I	
Pollution degree		PD 2	
IK class		IK 10	
Battery specification as per DIN EN 62620:2015		INP46/175/127/[1P22S]M/-20+60/90	

### TECHNICAL DATA FOR BATTERY INVERTER (SMA STPS X 30/50)

Type designation	STPS X 30	STPS X 50
Nominal power	30 kVA	50 kVA
AC voltage range		340 V to 477 V
Grid frequency range		44 Hz to 66 Hz
DC voltage range		200 V <sup>---</sup> to 980 V <sup>---</sup>
Dimensions (H x W x D)		837.3 mm x 772 mm x 443.8 mm
Max. efficiency/European efficiency	98%/97.6%	98%/97.2%
Self-consumption (standby)		25 W (if AC and DC are connected)
Operating temperature		-25 to 60°C (with derating)
Noise emission (typical)		69 dB (A)
Weight		104 kg
Protection class		IP 65   NEMA 4X
Communication		Modbus (SMA, Sunspec), SMA Speedwire, Webconnect
Topology/cooling principle		Three-phase/active
Guarantee		5 years standard SMA guarantee (optional: 10 years)
Certificates		VDE-AR-N 4105:2018-11, VDE-AR-N 4110:2018-11, EN 50549-1:2019, EN 50549-2:2019, G99/1-6:2020 Type A, G99/1-6:2020 Type B, TOR Erzeuger Type A:2019/R25:2020, TOR Erzeuger Type B:2019, CEI 021: 2019 +V1:2020, CEI 016:2019 +V1:2020, NA/EEA-NE7-CH2020 (see SMA website for more)

## SYSTEM CONFIGURATIONS

The tables show a selection of possibilities for the different product variants depending on the battery energy and number of SMA STPS X 30/50 battery inverters (other possibilities on request).

Number of TS HV 30 E	Energy system								
40	1280.0 kWh								
20	640.0 kWh								
16	512.0 kWh								
12	384.0 kWh								
10	320.0 kWh								
8	256.0 kWh								
6	192.0 kWh								
5	160.0 kWh								
4	128.0 kWh								
3	96.0 kWh								
2	64.0 kWh								
1	32.0 kWh								
Output		30 kW	60 kW	90 kW	120 kW	150 kW	180 kW	240 kW	300 kW
Number of SMA STPS X 30		1	2	3	4	5	6	8	10

Number of TS HV 50 E	Energy system								
40	2240.0 kWh								
20	1120.0 kWh								
16	896.0 kWh								
12	672.0 kWh								
10	560.0 kWh								
8	448.0 kWh								
6	336.0 kWh								
5	280.0 kWh								
4	224.0 kWh								
3	168.0 kWh								
2	112.0 kWh								
1	56.0 kWh								
Output		30 kW/50 kW	60 kW/100 kW	90 kW/150 kW	120 kW/200 kW	150 kW/250 kW	180 kW/300 kW	240 kW/400 kW	300 kW/500 kW
Number of SMA STPS X 30/50		1	2	3	4	5	6	8	10

Number of TS HV 80 E	Energy system								
40	3200.0 kWh								
20	1600.0 kWh								
16	1280.0 kWh								
12	960.0 kWh								
10	800.0 kWh								
8	640.0 kWh								
6	480.0 kWh								
5	400.0 kWh								
4	320.0 kWh								
3	240.0 kWh								
2	160.0 kWh								
1	80.0 kWh								
Output		30 kW/50 kW	60 kW/100 kW	90 kW/150 kW	120 kW/200 kW	150 kW/250 kW	180 kW/300 kW	240 kW/400 kW	300 kW/500 kW
Number of SMA STPS X 30/50		1	2	3	4	5	6	8	10

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This data sheet is strictly informational and is not legally binding. The exact specifications and/or product features (particularly in case of further development of the product) may differ somewhat from the information provided here. Subject to errors and changes. Please read the safety and installation instructions carefully and completely before using the product. In case of purchase, the currently valid guarantee policies and the general terms and conditions of delivery and business of TESVOLT AG apply.

Registration in the manufacturer's myTESWORLD portal (<https://mytesworld.tesvolt.com>) is required to use the energy management system (EMS) TESVOLT Energy Manager.  
 Registration in Sunny Portal powered by ennexOS from the manufacturer SMA ([Sunny Portal powered by ennexOS](https://www.sunnyportal.com)) is required to use the energy management system (EMS) Data Manager M.