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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 ⎓	567 V ⎓	810 V ⎓
Operating voltage		290–365 V ⎓	508–639 V ⎓	726–913 V ⎓
Nominal/maximum charging/discharging current		100 A ⎓		
Max. C-rate	with STPS X 30	1C	0.5C	0.4C
	with STPS X 50	--	1C	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. 346 kg	approx. 538 kg	approx. 727 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) with wall bracket		1208 mm x 608 mm x 808 mm 1208 mm x 608 mm x 990 mm	1608 mm x 608 mm x 808 mm 1608 mm x 608 mm x 990 mm	2008 mm x 608 mm x 808 mm 2008 mm x 608 mm x 990 mm
Tilt height of cabinet forwards, backwards/sidewards		1426 mm/1339 mm	1778 mm/1705 mm	2155 mm/2090 mm
Certificates/standards	Cell	IEC 62619:2017, UL 1642, UN 38.3		
	Battery module	UN 38.3, IEC 62619:2017, IEC 62620:2014		
	Product	CE, UN 38.3, IEC 62619:2017, IEC 61010-1+A1:2016, IEC 61508:2010, IEC 61000-6-2:2016, IEC 61000-6-4:2019, IEC 61000-6-7:2015, 2006/66/EG (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 IEC 62620:2014		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 ⎓ to 980 V ⎓	
Dimensions (H x W x D)	837.3 mm × 772 mm × 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	see SMA website for more: https://www.sma.de	

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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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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) is required to use the energy management system (EMS) Data Manager M.

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