

TECHNICAL DATA SHEET

TS-I HV E SERIES

TS-I HV 80 E | TS-I HV 100 E

TECHNICAL DATA FOR BATTERY STORAGE SYSTEM

		TS-I HV 80 E	TS-I HV 100 E
Type designation		TS HV 90/10-20	TS HV 90/12-20
Energy content		80 kWh (at 100% DoD)	96 kWh (at 100% DoD)
Nominal voltage		810 V <small>max</small>	972 V <small>max</small>
Min. operating voltage		704 V <small>max</small>	845 V <small>max</small>
Max. operating voltage		913 V <small>max</small>	1096 V <small>max</small>
Max. charging/discharging current		100 A <small>max</small>	
Max. C-rate		1C	
Cell		Lithium NMC prismatic (Samsung SDI)	
Cell balancing		DynamiX Battery Optimizer	
Cycles expected @ 100% DoD 70% EoL 23°C +/-5°C 1C/1C		6000	
Cycles expected @ 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 temperature		0°C to 50°C	
Ambient temperature		0°C to 50°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	
Weight	Total	656 kg	886 kg
Weight	Cabinet	131 kg	144 kg
	Battery module	56 kg	
	Battery management system (APU)	13 kg	
Dimensions (H x W x D)		2008 x 608 x 990 mm	2208 x 608 x 990 mm
	Tilt height	2155 mm (front/back)/ 2090 mm (lateral)	2358 mm (front/back)/ 2160 mm (lateral)
Certificates/standards	Cell	IEC 62619, UL 1642, UN 38.3	
	Product	CE, UN 38.3, IEC 62619, IEC 62620, IEC 61010, IEC 61508, IEC 61000-6-2/4/7, 2006/66/EC (Battery Directive)	
Guarantee		10-year performance guarantee, 5-year system guarantee	
Recycling		TESVOLT offers a free take-back scheme for batteries from Germany	
Protection class		IP 20	
Protection class		I	
Battery specification as per DIN EN 62620:2015		INP46/175/127/[1P22S]M/-20+60/90	

SYSTEM CONFIGURATIONS

TS-I HV 80 E

This table displays the possible output depending on the energy and the number of battery inverters and modules.

Quantity TS HV 90/10-20	Energy system [kWh]																																
32	2560																																
31	2480																																
30	2400																																
29	2320																																
28	2240																																
27	2160																																
26	2080																																
25	2000																																
24	1920																																
23	1840																																
22	1760																																
21	1680																																
20	1600																																
19	1520																																
18	1440																																
17	1360																																
16	1280																																
15	1200																																
14	1120																																
13	1040																																
12	960																																
11	880																																
10	800																																
9	720																																
8	640																																
7	560																																
6	480																																
5	400																																
4	320																																
3	240																																
2	160																																
1	80																																
Output [kW]		80	85	160	170	240	255	320	340	400	425	480	510	560	595	640	680	720	765	800	850	880	935	960	1020	1040	1105	1120	1190	1200	1275	1280	1360
Number of IPUs		1*		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16	
Number of TESVOLT PCS		1				2				3				4																			

* A connection to the low-voltage grid according to VDE AR-N 4105 must be coordinated with the local energy supplier. With eight or more TS HV 90 pro TESVOLT PCS, an external DC combiner is required. This is not part of TESVOLT's scope of delivery and must be configured on a project-specific basis.

TS-I HV 100 E

This table displays the possible output depending on the energy and the number of battery inverters and modules.

Quantity TS HV 90/ 12-20	Energy system [kWh]																
32	3072																
31	2976																
30	2880																
29	2784																
28	2688																
27	2592																
26	2496																
25	2400																
24	2304																
23	2208																
22	2112																
21	2016																
20	1920																
19	1824																
18	1728																
17	1632																
16	1536																
15	1440																
14	1344																
13	1248																
12	1152																
11	1056																
10	960																
9	864																
8	768																
7	672																
6	576																
5	480																
4	384																
3	288																
2	192																
1	96																
Output [kW]		85	170	255	340	425	510	595	680	765	850	935	1020	1105	1190	1275	1360
Number of IPUs		1*	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Number of TESVOLT PCS		1				2				3				4			

* A connection to the low-voltage grid according to VDE AR-N 4105 must be coordinated with the local energy supplier. With eight or more TS HV 90 pro TESVOLT PCS, an external DC combiner is required. This is not part of TESVOLT's scope of delivery and must be configured on a project-specific basis.

TECHNICAL DATA FOR TESVOLT PCS BATTERY INVERTER

	1 independent power unit (IPU)	2 IPU's	3 IPU's	4 IPU's
Rated active power	80 kW/85 kW*	160 kW/170 kW*	240 kW/255 kW*	320 kW/340 kW*
Rated apparent power	80 kVA/87 kVA*	160 kVA/173 kVA*	240 kVA/260 kVA*	320 kVA/346 kVA*
Rated AC current	125 A	250 A	375 A	500 A
Rated DC current	140 A ^{max}	280 A ^{max}	420 A ^{max}	560 A ^{max}
DC short-circuit current (< 1 s)	238 A ^{max}	476 A ^{max}	714 A ^{max}	952 A ^{max}
Operating voltage AC	400/480 V +/-10%			
Grid frequency	50/60 Hz			
DC voltage range	680 V ^{min} to 1200 V ^{max}			
Dimensions (H x W x D)	2200 x 820 x 660 mm			
Tilt height	2290 mm (front/back)/2350 mm (lateral)			
Max. efficiency	97.8%			
Operating temperature	0 to 40°C			
Weight	approx. 390 kg	approx. 530 kg	approx. 670 kg	approx. 820 kg
Protection class	IP 20			
Communication	Modbus TCP/IP			
Topology	Transformer-free			
Certificates and permits	CE, EN 50178, EN 61439-1/2, EN 61000-6-2/4, EN 55011, VDE AR-N 4110, IEC 62477			
Noise level	Max. 83 dB(A)			

* Maximum power limit of inverter. The power depends on the connected battery configuration. Please refer to the system configuration table for the output variants by number of connected batteries.

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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 TESVOLT GmbH apply.

Registration in the manufacturer's myTESWORLD portal [<https://mytesworld.tesvolt.com>] is required to use the energy management system (EMS) TESVOLT Energy Manager.