

# TECHNICAL DATA SHEET

## TS HV 50 E HYBRID



- 2-in-1 hybrid storage solution in the commercial sector with integrated back-up function (< 10 ms)
- With 3 MPPT, a flexible design of the roof area is possible
- Can be used as a purely AC-coupled battery inverter
- One of the safest storage systems in Europe, certified by TÜV Rheinland
- Powerful battery cells from Samsung SDI for a long service life
- Simple installation and commissioning thanks to harmonised system components

### TECHNICAL DATA FOR BATTERY STORAGE SYSTEM

Product name	TS HV 50 E Hybrid	
Type designation	TS HV 50/5-20	TS HV 50/8-20
Energy content (at 100% DoD)	40 kWh	64 kWh
Nominal voltage	405 V $\overline{m}$	648 V $\overline{m}$
Operating voltage	363 - 457 V $\overline{m}$	581 - 730 V $\overline{m}$
Nominal/maximum charging/discharging current	100 A $\overline{m}$	
Max. C-rate	with GW 25K-ET	0,6C
	with GW 29.9K-ET	0,7C
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	6000	
Cycles expected @ 100% DoD   70% SoH   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 (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	426 kg
	Battery module   APU   Cabinet	56 kg   13 kg   130 kg
Dimensions of cabinet (H x W x D)	1608 mm x 608 mm x 808 mm	
with wall bracket	1608 mm x 608 mm x 990 mm	
Tilt height of cabinet forwards, backwards/sideways	1778 mm/1705 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 OF HYBRID INVERTER (GOODWE ET (25-29.9 KW) SERIES)

Type designation	GW25K-ET	GW29.9K-ET
Nominal power	25 kW	29.9 kW
Max. output power (back-up only, without grid)	30 kVA @ 60s	36 kVA @ 60s
Nominal output voltage	380 V / 400 V, 3L / N / PE	
Max. AC current output to/from the grid (400 V)	39,9 A / 36,2 A	43,3 A / 43,3 A
Grid frequency range	45 Hz to 65 Hz	
Max. PV input power	37.5 kW	45 kW
MPPT operating voltage range	200 V $\approx$ to 850 V $\approx$	
Max. Input current per MPPT	30 A	
Number of MPPTs	3	
Number of strings per MPPT	2 / 2 / 2	
Dimensions (H x W x D)	520 x 660 x 220 mm	
Max. Efficiency/European efficiency/MPPT efficiency	98 % / 97.5 % / 99.9 %	
Self-consumption (at night, without back-up output)	< 15 W	
Operating temperature/Humidity	-35 °C to +60 °C / 0 % to 95 %	
Noise	< 45 dB	< 60 dB
Weight	54 kg	
Protection class	IP 66	
Topology / cooling principle	Not insulated / Intelligent fan cooling	
Guarantee	5 years (standard)	
Certificates	See Goodwe website ( <a href="https://de.goodwe.com/document-download">https://de.goodwe.com/document-download</a> )	

## APPLICATIONS



Self-Consumption Optimisation



Peak Shaving



Back-Up Power



Control of consumers



Off-Grid

## SYSTEM CONFIGURATIONS



1 string  
40/64 kWh



2 strings  
80/128 kWh

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