

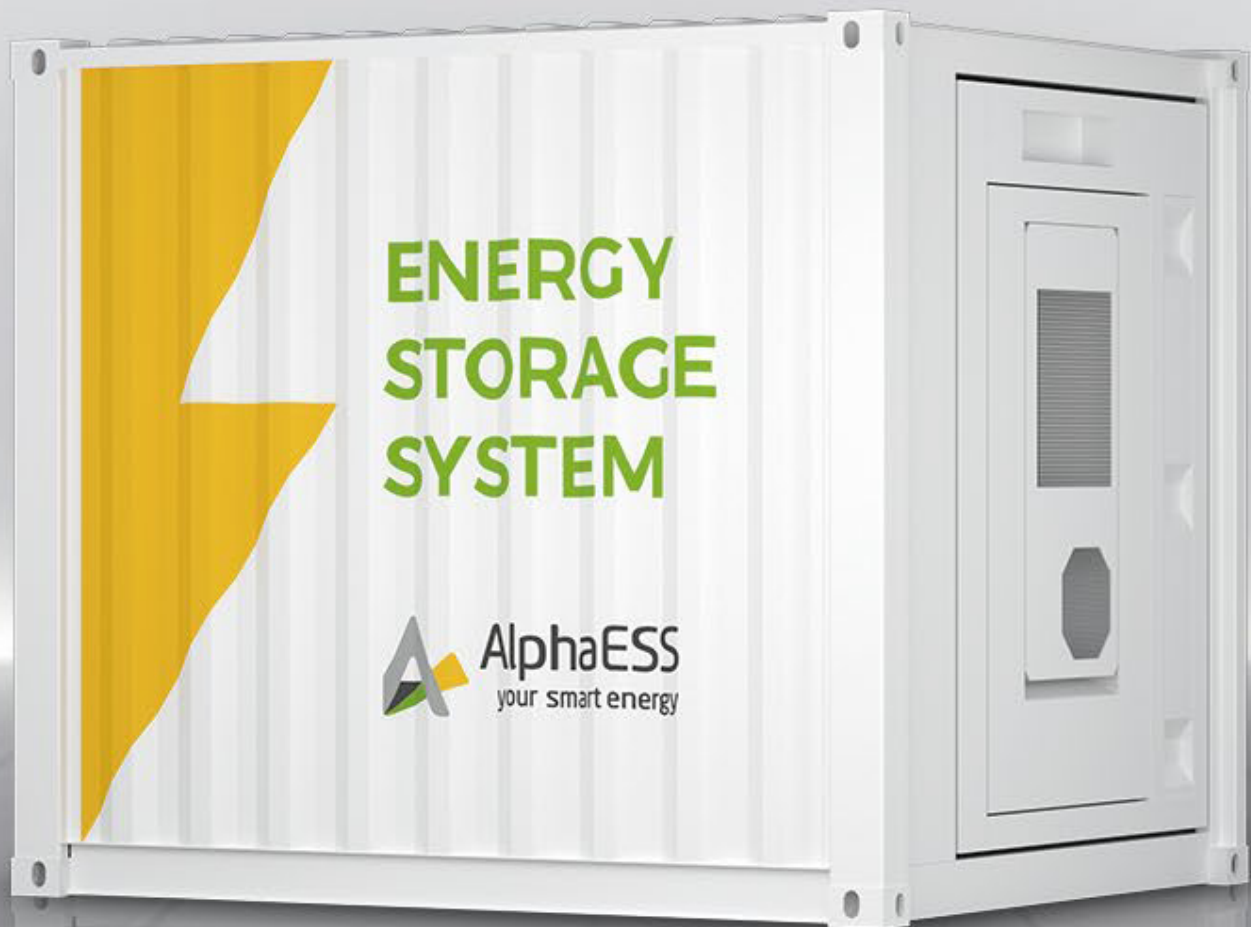
STORION – T50 / 100

50 / 100 KW | 62 ~ 387 kWh

STORION-T50/100 10ft container is an AlphaESS standardized product for C&I application, the container has built-in batteries, EMS, PCS, fire extinguishing devices and other equipment. Customers can choose different capacity containers according to their needs to meet the required application scenarios.

AlphaESS adheres to the primary principles of safety and intelligent product design, and this product reflects this feature very well.

OUTDOOR SOLUTION



Features

► **All-in-one design, compact internal space arrangement, space-saving**

► **Easy installation**

Most devices are pre-assembled at the factory
Just install the battery and external wiring at first installation

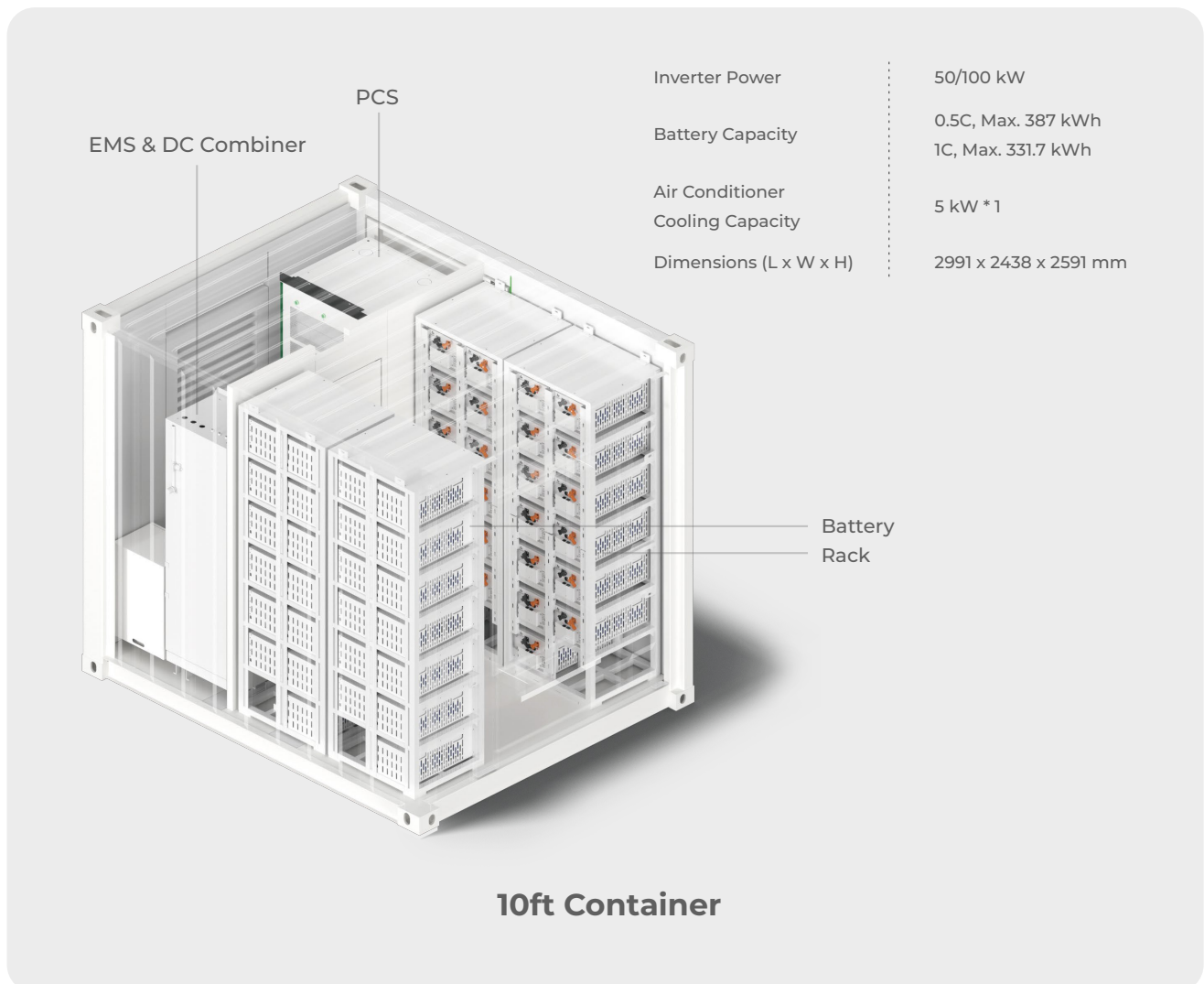
► **Flexible capacity configuration**

PCS is available in 50/100 kVA power
The battery capacity ranges from 62kWh~389kWh

► **Safety**

Constant temperature control at $23\pm 2^{\circ}\text{C}$, air-conditioning system self-checking & EMS cell-level detection
Smoke & temperature detection, automatic alarm system + manual one-touch fire suppression
Support fully submerged HFC-propane fire extinguisher



► **IP54 rating for outdoor installation**





STORION-T50/T100



Battery

Item	Parameters	
		
Battery Module	M38180-S	M38210-S
Battery Type	LiFePO ₄	LiFePO ₄
Pack	3.2V / 90Ah@2P12S	3.2V / 105Ah@2P12S
Internal Resistance	≤10 mΩ	≤10 mΩ
Energy Capacity	6.912 kWh	8.064 kWh
Usable Capacity	6.22 kWh	7.25 kWh
Depth of Discharge (DoD)	90%	90%
Rated Voltage	38.4 V	38.4 V
Operating Voltage Range	36 ~ 43.2 V	36 ~ 43.2 V
Max. Charging / Discharging Current	180 A	105 A
Cycle Life	80%EOL with ≥6000@1C 25°C	80%EOL with ≥6000@0.5C 25°C
Operating Temperature Range	-10°C ~ 50°C	-10°C ~ 50°C
Ingress Protection	IP21	IP21
Relative Humidity	15% ~ 85%	15% ~ 85%
Warranty	3 Years Product Warranty, 10 Years Performance Warranty	
Communication	CAN	CAN
Dimensions (W×D×H)	326×654×250 mm	326×560×222 mm
Weight	64 kg	62 kg
String Pack Quantity	8 ~ 12	8 ~ 12
Certifications	IEC62619, UN38.3	

High Voltage Box

Item	Parameters	
		
Model	HV900180-II	HV900105-III
Rated Current	180 A	105 A
Max. Current	220 A	138 A
Rated Voltage	900 VDC	900 VDC
Ultimate Breaking Capacity	250 kA	250 kA
Auxiliary Power Supply	220 VAC	220 VAC
BCMU Power Dissipation	4 W	4 W
Dimensions (W×D×H)	91.5×440×250.1 mm	91.5×440×250.1 mm
Weight	20 kg	20 kg

STORION-T50/T100



Battery Cluster System



Configuration	HV900180-II, M38180-S, Rack	HV900105-III, M38210-S, Rack
Dimensions (W×D×H)	710×572×1950mm	743.3×602×2241.5mm
Battery Racks	2×7	2×7
Overall Weight	657 ~ 913 kg	641 ~ 890 kg
Single Cluster Capacity	55.29 ~ 82.94 kWh	64.5 ~ 96.8 kWh
Max. Charging / Discharging Current	180 A	105 A
Battery Cluster Voltage Range	288 ~ 518.4 V	288 ~ 518.4 V

Inverter



Model	PWG2-50k	PWG2-100k
PV Voltage Range	650 ~ 900 V (MPPT 520 ~ 800 V)	
MPPT Number	1	
Battery Voltage Range	250 ~ 520 V	
Max. PV Input Current	192 A	384 A
Max. PV Input Power	100 kW	200 kW
Max. Charging / Discharging Current	150 A	300 A
Nominal Power	50 kVA	100 kVA
Rated Voltage	400 V	
Grid Voltage Range	340 ~ 460 V, 3L / N / PE	
Power Factor Range	0.99 / -1 ~ 1	
Overload Capacity	100%~110% (long-term); 110%~120% (1 min); 120%~150% (200ms)	
Rated AC Current	72 A	144 A
Off-Grid Output Voltage Range	360 ~ 440 V	
Rated Output Frequency	50 / 60 Hz	
Dimensions (W×D×H)	800×800×2160 mm	
Weight	520 kg	750 kg

DC Junction Box



TOP BMU Box	TOP BMU Power	30 W
	Communication	RS-485×6, CAN×3
	SCADA Power	18 W
Junction Box	Max. Voltage	900 V
	Max. Current	400 A
	Operating Temperature Range	-30°C ~ 50°C
	Weight	100 kg
	Dimensions (W×D×H)	600×600×1650 mm

Meter (Optional)



Model	DTSU666	
Voltage Input	Rated Voltage	230V AC / 400V AC
	Accuracy Class	±1%
Communication Mode	RS485, Modbus RTU	
General Parameters	Dimensions (W×D×H)	72×101×80 mm
CT Model	AKH-0.66, K-30×20	
CT Current Ratio	400 / 5 A	
CT Perforation Size	32×22 mm	

STORION-T50/T100



System Technical Specifications

Item	STORION-T50 (Indoor)	STORION-T100 (Indoor)
DC Data		
Battery Type	LiFePO ₄	
Depth of Discharge (DoD)	90% (On-Grid), 85% (Off-Grid)	
Battery Voltage Range	288 ~ 520 V	
Battery Energy Range	48.384 ~ 967.68 kWh	
Standard Battery Cluster	1 ~ 10	
PV Voltage Range	650 ~ 900 V	
MPPT Voltage Range	520 ~ 800 V	
Number of MPPT	1	
AC Data - Grid		
Rated Power	50 kVA	100 kVA
Max. Output Power	55 kVA	110 kVA
Max. Grid Input Power	100kVA (with STS)	200kVA (with STS)
Rated Grid Voltage	3L / N / PE, 340 ~ 460 V	
Grid Frequency	50 / 60 Hz	
Rated Current	72 A	144 A
AC Data - Backup		
Rated Output Power	50 kVA	100 kVA
Rated Output Voltage	360 ~ 440 V	
Rated Frequency	50Hz / 60Hz	
Overload Capacity	100%~110% (long-term); 110%~120% (1min); 120%~150% (200ms)	
General Data		
Ingress Protection	IP20	IP20
Operating Temperature Range	-20°C ~ 50°C	
Relative Humidity	0 ~ 95% (No Condensation)	
Max. Working Altitude	3000m / 9842ft	
Warranty	3 Years Product Warranty	
Cooling Method	Forced Air Cooling / HVAC	
Communication Interfaces	RS485, CAN, Modbus, Ethernet	
Certifications	NRS 097-2-1:2017 Edition 2.1, EN IEC 61000-6-2&4, IEC62109-1:2010, IEC62109-2:2011, Amd:1:2021	

* The PV power must be less than the smaller value of the rated power of the battery and the PCS, and the load power must also be less than the smaller value of the rated power of the battery and the PCS.



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