

All-in-one Liquid-cooled On/off-grid ESS Container

STAR LABS 500KW/1MWh

The FTLP- is a highly integrated, standard 10-ft containerized energy storage system designed for commercial and industrial applications, with a rated AC output voltage of 400V. The system integrates STS system (optional), providing strong off-grid load capability and supporting seamless on/off-grid switching within 20ms. It is equipped with dedicated interfaces for diesel generator connection and PV inverter connection, enabling multiple power sources to supply the system. This flexible design allows the system to adapt to various application scenarios and diverse user requirements.



All-in-One 10-ft Container

Highly integrated 3S system, cooling system, and fire protection system, delivering greater capacity within a smaller footprint.



String-Based Solution

Each battery cluster is independently managed, enhancing system reliability and stability.



Seamless On/off-grid Switching

The system is equipped with an integrated STS, enabling seamless on-grid and off-grid switching within 20ms.



Multiple Power Source Options

Equipped with reserved interfaces for diesel generator and PV inverter, the system supports multiple power sources, making it suitable for a wide range of application scenarios.

Specifications

Battery Side

Cell Type	LFP / 314 Ah LiFePO4
Pack Configuration	52.2 kWh / 1P52S
System Configuration	1044 kWh / 4P260S
Rated DC Voltage	832 V
DC Voltage Range	728 ~ 936 V
Max. Charge/Discharge Rate	0.5 P
Max. Depth of Discharge	100% (25 ± 2 °C)

Grid Side

Rated Output Power	500 kW
Max. Apparent Power	550 kVA
Rated AC Voltage	400 V
AC Voltage Range	±15%
Grid Type	3W+N+PE
Rated Frequency	50 Hz / 60 Hz
On/off-grid Switching Time	<20 ms
Power Factor	0.99/ -1 ~ +1
THDi	≤3%
DC Ratio	<0.5% I _{pn}

Backup Side

Max. PV Inverter Input Current	800 A
Max. Diesel Generator Input Current	800 A
Max. Backup Load Port Current	800 A
Recommended Max. Backup Load Power*	350 kW (70% of Rated Output Power)

General

Cycle Life	≥ 12,000 cycles
Communication	Modbus TCP/IP
Fire Suppression System	Aerosol system(pack level and container level), water spray system
Ingress Rating	IP54
Cooling	Liquid cooling+Forced air cooling
Operating Temperature	-25°C~55°C (Derating after 50°C)
Anticorrosion Rating	C4 (C5 optional)
Humidity	5~95% RH (non-condensing)
Noise	≤ 80 dB
Altitude	3000m (Derating above 2000m)
Dimensions (W*D*H)	2991*2438*2591 mm
Weight	14 t
Certification	UN38.3, IEC62477-1, CE/EMC, IEC62619, IEC63056, UL9540A, EN50549