

# STORION-TB250/500

250/500 kW | 630 ~ 2090 kWh

- ▶ AC-Coupled and DC-Coupled solutions are both available
- ▶ A liquid-cooling solution offers enhanced safety and extended lifespan
- ▶ On/Off-grid switching time  $\leq 20\text{ms}$
- ▶ Flexible capacity configuration  
209 kWh per cabinet, up to 10 cabinets in parallel  
Battery capacity ranges: 630 ~ 2090 kWh
- ▶ DC-Coupled up to 160% PV oversize
- ▶ Various working modes for different application scenarios
- ▶ LFP battery cell, high security, long cycle life



AC Container (PCS included)

Liquid-cooling Battery Cabinet

STORION-TB250/500 is an AlphaESS liquid-cooling C&I product for large-scale C&I application, the container has EMS, PCS, STS, transformer, air conditioner, fire extinguishing devices and other equipment. Customers can choose different power range according to their application scenarios.

► **Easy Installation**

- Devices and batteries are pre-assembled at the factory
- Only external wiring at first installation

► **Flexible Configuration**

- PCS is available in 250/500 KVA two options
- The battery capacity ranges from 630 kWh ~ 2090 kWh

► **Safety**

- Active temperature monitoring and control at  $23 \pm 2^{\circ}\text{C}$
- Smoke & temperature detection, automatic alarm system

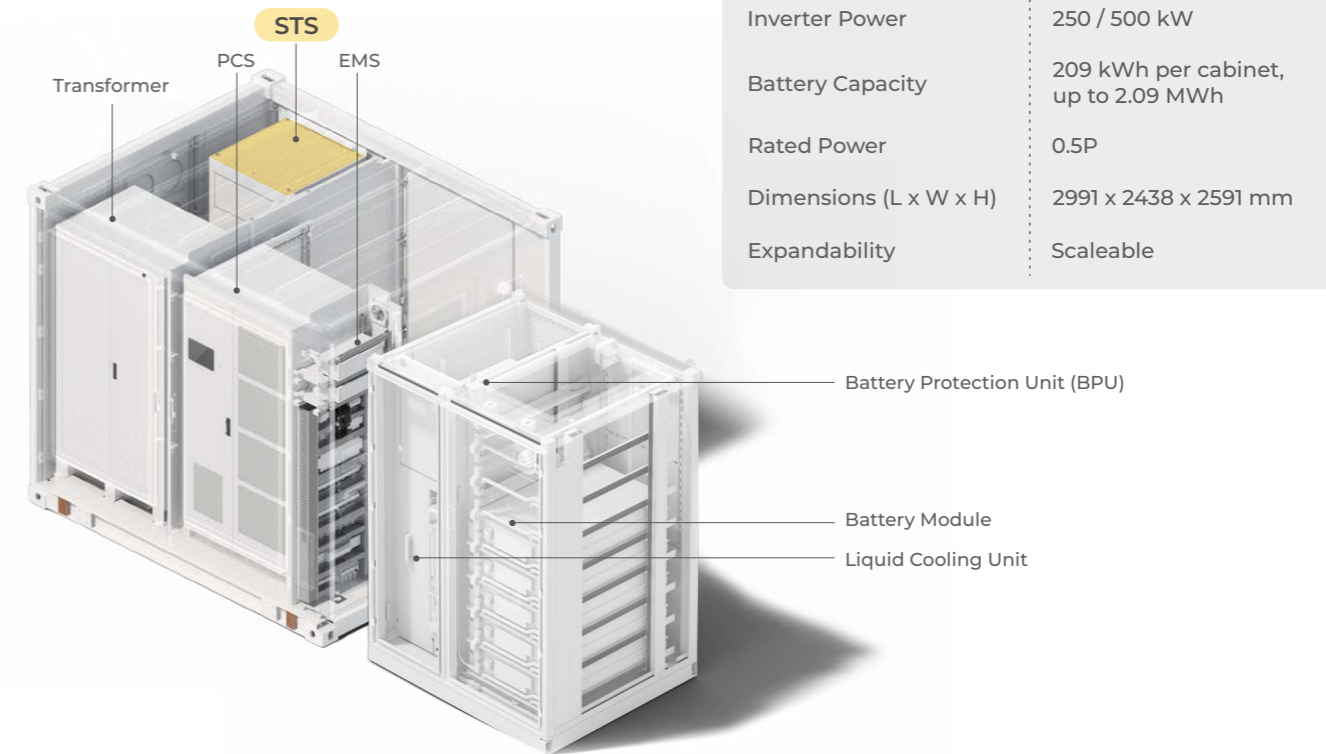
► **Expandable Capacity**

- AC-coupled solution supports a maximum of 4 systems in parallel, reaching a maximum of 2MW power and 8MWh battery capacity.

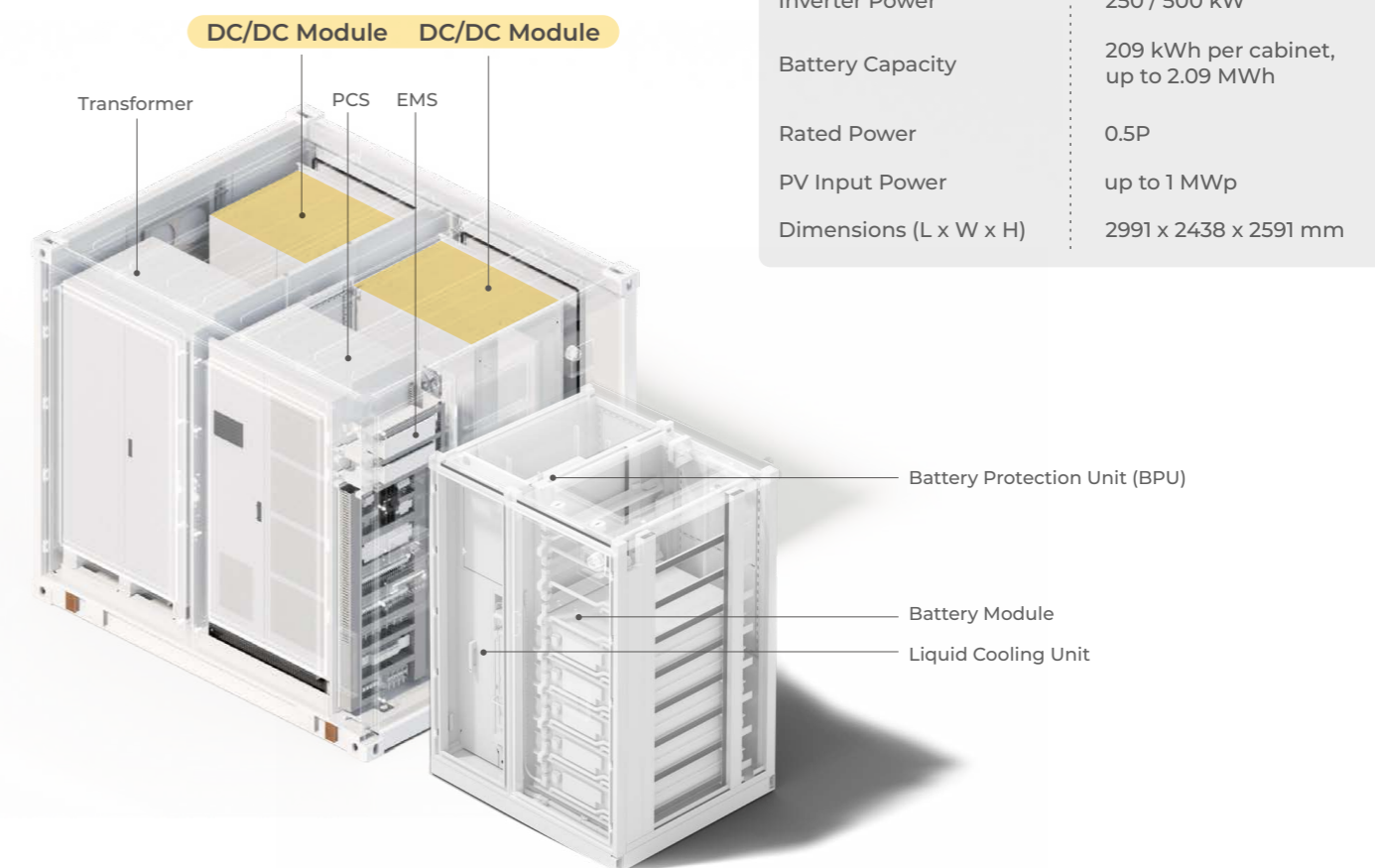


# SOLUTIONS

## AC-Coupled

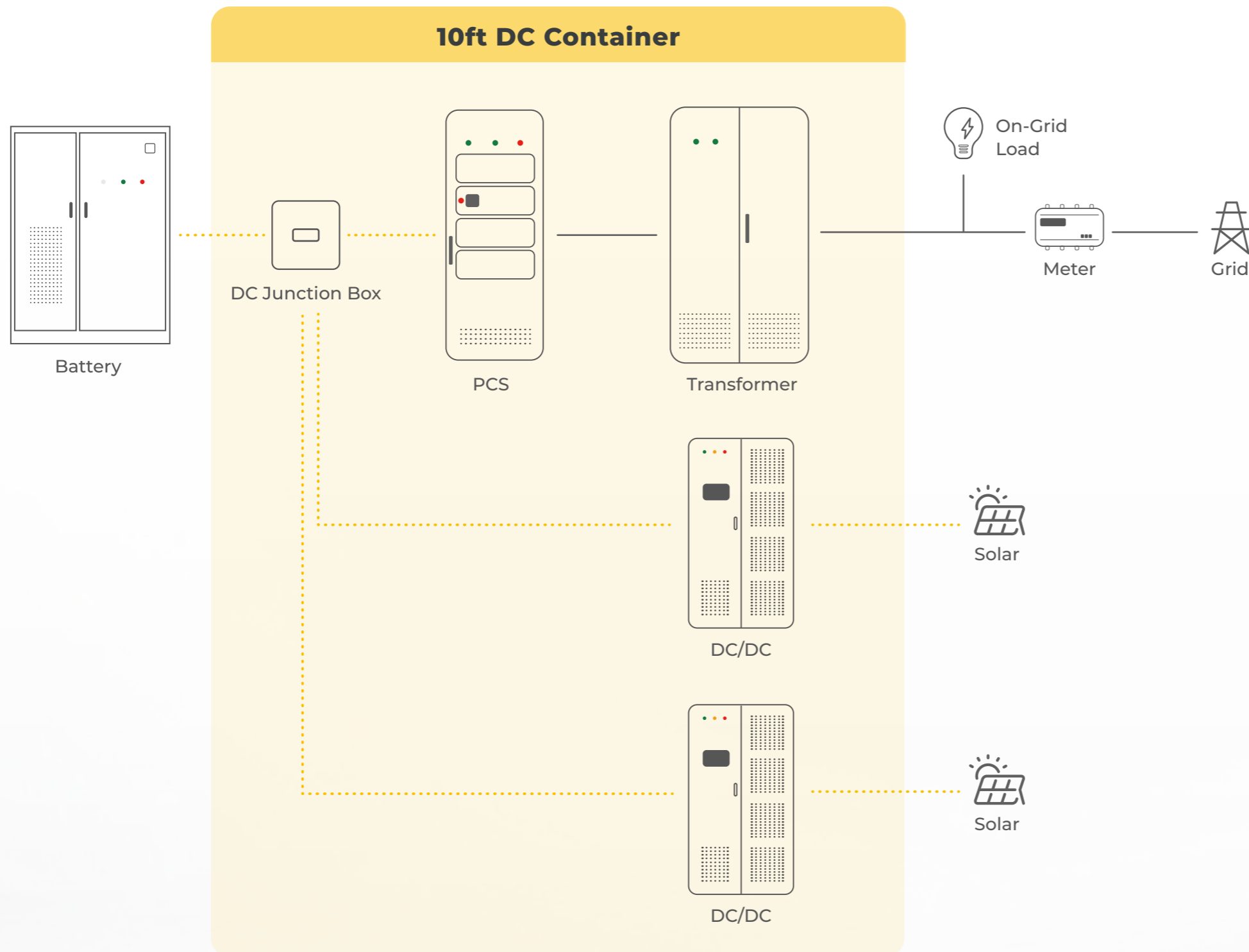


## DC-Coupled



# SOLUTIONS

## DC-Coupled System



### ► For some scenarios with PV oversizing requirements

- Need extra DC/DC modules
- Support Max. two DC/DC modules in parallel
- Each DC/DC module has 8 MPPTS
- Adapt to multi-orientation PV arrays to maximize energy output

### ► Maximum 160% PV oversizing

### ► Integrated DC/DC modules in containers, saves space and installation time

# COMPONENTS

## DC / DC Module

- 400kVA, 8MPPTs
- Max. 2 Modules in Parallel Operation

The DC/DC module can be integrated into the TB series configuration to enable a DC-coupled solution. This module consists of eight 50kW DC/DC converters, each equipped with 8 MPPTs, and supports two units connected to TB series PCS in parallel. For TB500, up to 160% DC oversizing is attainable, optimizing energy utilization. During sunny conditions, part of the electricity output can be directed to supply the load while the other part charges the battery, effectively maximizing the self-consumption rate.



## STS 800kVA

- On/Off-Grid Switching Time  $\leq 20\text{ms}$

STS is responsible for switching between on-grid and off-grid states. When the system detects a grid abnormality, the STS can switch to off-grid mode within 20ms. This ensures that the electronic equipment connected to the system is not affected by a power outage. A rated power of 800kW ensures circuit safety during switching.



The TB series three-phase battery inverter is one of the best products on the market today. It has six power options to match different customer needs, and the product has a modular design with modular STS and Transformer for easy installation and lining up.

## PCS TB250/500 Battery Inverter

- 4/8 × 62.5kVA PCS
- 340 ~ 460V , 50/60Hz, 3L/N/PE

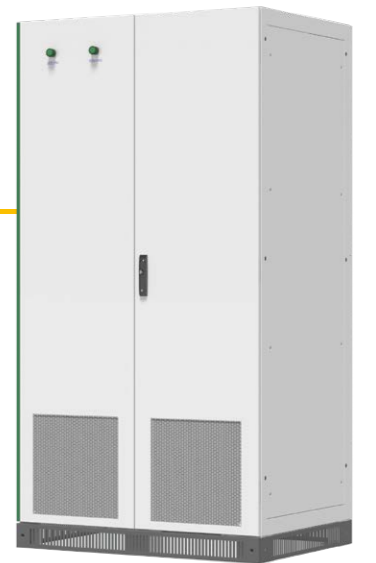
PCS is an important component of a microgrid. It can bidirectional invert DC and AC, and adjust the current waveform to be consistent with the grid, to realize the interaction with the grid. It supports a range of voltages up to 460V, so multiple batteries and PV arrays can be connected in series or parallel.



## Transformer 500kVA

- Isolation and Transfer from Delta Grid to Star Grid

The transformer has a maximum input voltage of 380V and a maximum output voltage of 400V. In addition, it supports switching between star and delta circuits to isolate the grid and the devices connected to the system, thus maximizing the protection of the system from grid fluctuations.



# COMPONENTS

## BATTERY CLUSTER SYSTEM

### Battery Module

Module	M166280-S
Nominal Capacity	46.5 kWh
Max. Charging/Discharging Current	140 A
Depth of Discharge	98%(On-Grid), 90%(Off-Grid)



### Configuration Rack

BLMU	HV1500250-II
Rated Voltage	Max. 1500V
Rated Current	Max. 250A
Operation Temperature	-30 ~ 50 °C
Dimensions (W x D x H)	526 x 650 x 250mm
Weight	30 kg



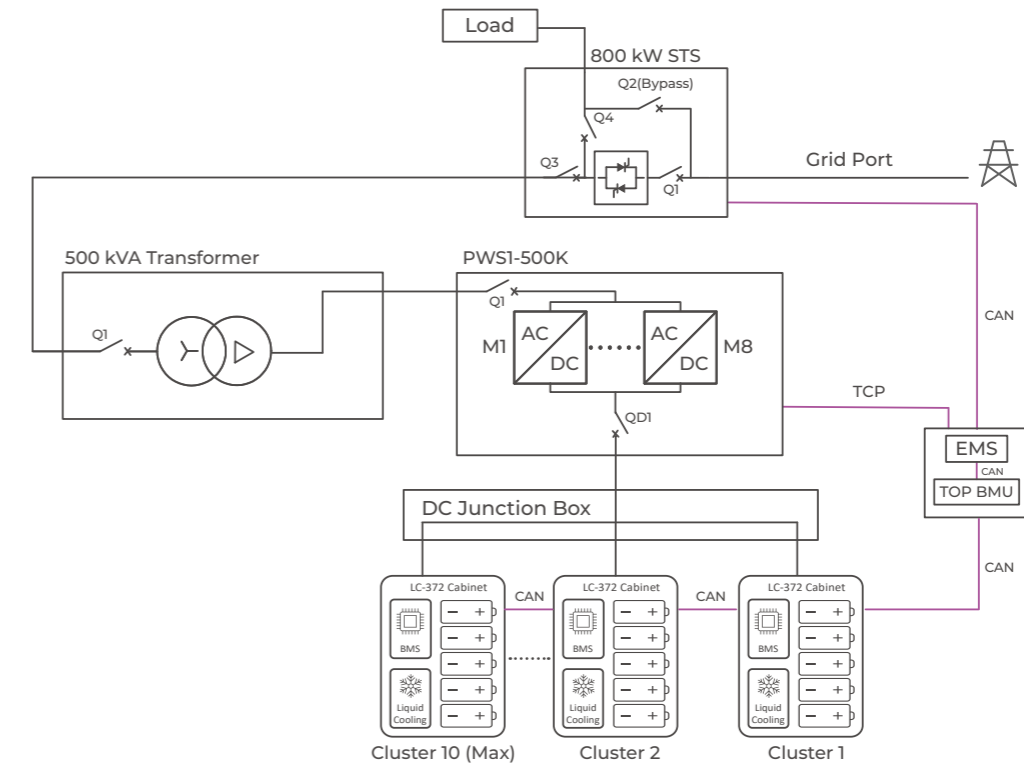
### Battery Cabinet

Module	STORION-LC372
Nominal Capacity	209.6 kWh
Number of Cabinet	3 ~ 10
Dimensions (W x D x H)	810 x 1110 x 237.5 mm
Ingress Protection	IP 55
Operating Temperature Range	-30 °C ~ 50 °C

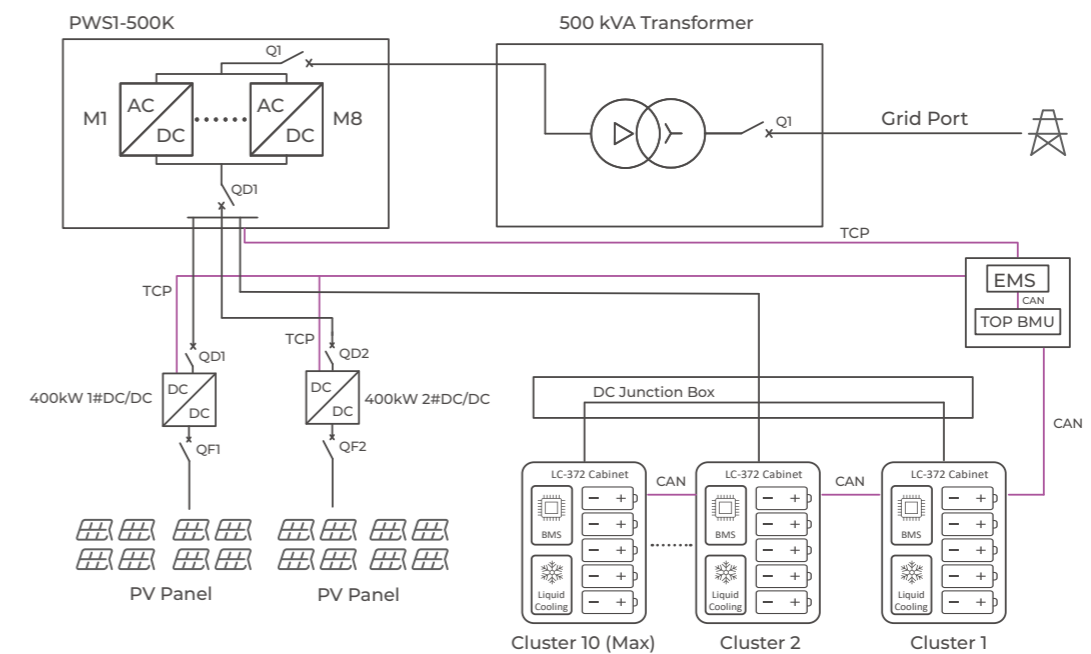


# WIRING DIAGRAM

## AC-COUPLED SOLUTION



## DC-COUPLED SOLUTION



# MULTIPLE UNITS EXPANSION

## SCALEABLE

STORION-TB250/500 CONTAINERS IN PARALLEL

TOTAL POWER CAPACITY: **250kW/500kW/1MW/2MW...**

