

Preliminary



Energy Storage Solution

Energy Storage System / AiO Box for C&I

- All-in-One solution integrating PCS, battery, DD, and EMS
- Parallel for scalability from 125 kW / 2-hr to 1.25 MW / 6-hr
- Liquid-cooled battery modules improve efficiency, performance, and lifetime


Commercial
Building


Charging
Station


Campus


Factory



All-in-One Energy Storage System

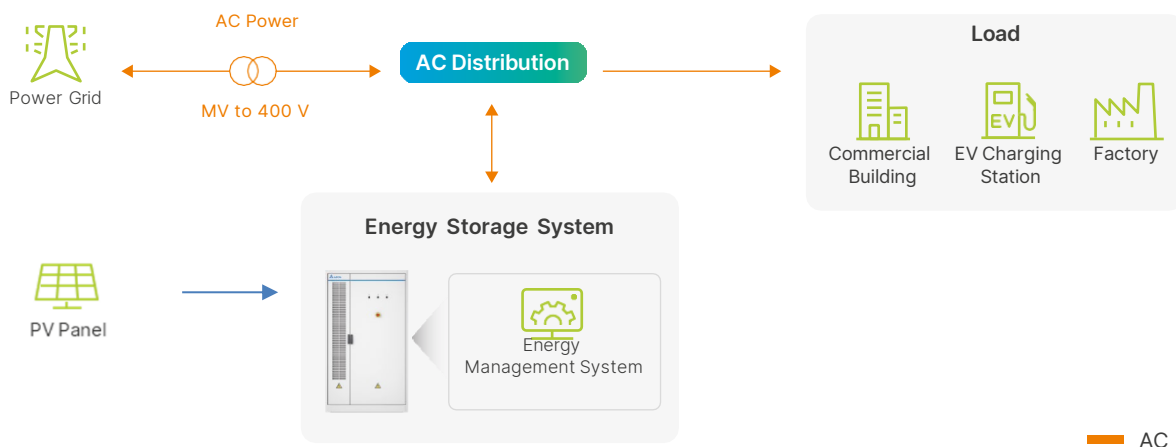
Delta's AiO Box, with a capacity of 125 kW / 279 kWh, is an energy storage system that seamlessly integrates power conditioning system (PCS), non-isolated bidirectional DC conversion power module, advanced battery system with built-in BMS, and cooling system into a compact, all-in-one solution.

Designed for superior power efficiency and space optimization, the AiO Box features liquid-cooled battery modules that maintain optimal temperature uniformity, enhancing performance and extending battery life.

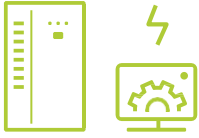
Its robust construction allows it to withstand harsh environmental conditions. This versatile system is scalable and suitable for various configurations, including grid-tied and off-grid scenarios such as power backup, peak shaving, load shifting, PV self-consumption, and PV smoothing.



System Architecture

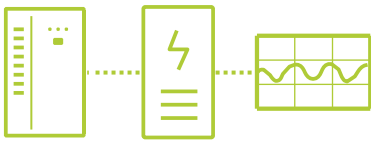


Feature Highlights



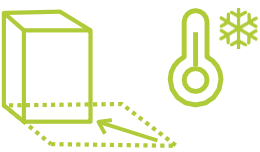
Efficient and Precise Power Control

- Capacity: 125 kW / 279 kWh
- AC input: 400 Vac 3P3W or 3P4W



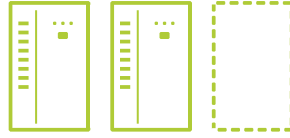
Designed for Energy Storage Applications

- P/Q, Frequency/Voltage control
- Peak shaving
- Load shifting
- Islanding
- Automatic voltage and frequency regulation



Compact, Capable System

- Compact design and liquid cooling optimize footprint
- IP66 battery module and IP65 PCS module
- -25 °C to 55 °C operating temperature range
- Up to 4000M altitude



Flexible System Configuration

- Scalable configuration with multiple units
- 125 kW / 279.5 kWh parallel up to 10 for 1.25 MW 2-hr runtime
- Each box supports up to 2 additional 279.5 kWh batteries for 6-hr runtime



Specifications

Model Name	AIOC279K125L
System Configuration	
Rated Input Rating	125 kVA / 125 kW
Battery Capacity (BOL)	279.5 kWh
AC Connection	
Rated Grid Voltage	400 Vac (3P-N-PE or 3P-PE)
Rated Grid Frequency	50Hz/60 Hz
Rated AC Active Power	125 kVA / kW
Rated AC Current	180.4 A
Current THD	< 3%
DC Current Injection	< 0.5% of rated current
Power Factor	>0.99 (0 to -1 leading, 0 to 1 lagging)
Max Apparent AC Power	125kVA
PCS module Topology	Non-isolated
PCS module max efficiency	97%
Protective class	I
Overvoltage Category	III
Battery Information	
Type of Battery	LFP
Battery Usable Energy	279.5kWh
Battery Depth of Discharge	100%
DC Voltage Range (Full load)	873.6~1123.2 Vdc
Rated Discharge / Charge Power	128 kW / 122 kW
Max. Continuous Discharge / Charge Current	148 A / 140 A
Prate	0.5P
Overvoltage Category	II
DC Connection(PV Side)	
Number of MPP trackers	2
Min input voltage/ Feed-in Start Voltage	400Vdc/550Vdc
Max Input DC Voltage	1500Vdc
MPPT voltage range (Udc min - Udc max)	550V~1350Vdc
Max. input current (Idc max)	100A
Max. power PV system PV1 (Pdc max,PV1)	110kWp
Max. power PV system PV2 (Pdc max,PV2)	110kWp
Maximum Short Circuit Current Per MPPT	150A
Overvoltage Category	II
Standalone Operation	
Rated Output Voltage(1)	400 Vac
Rated Output Power	125 kVA / kW
Rated Output Current	180.4 A
Overload Capability	110% for 30 mins
Output Voltage THD	< 3% @ rated linear load
Max Apparent AC Power	125kVA
Aux power requirement	
Nominal Voltage	187 - 253 V a.c.
Maximum Continuous Current	23 A a.c.
Phase	L+N+PE
Frequency	50 Hz
Overvoltage Category	II
Environment	
Maximum Altitude	4,000 m, de-rating > 2,000 m
Operating Temperature	-25 °C to +55 °C, de-rating > 45 °C

Humidity	0 to 95% RH, non-condensing
Cooling	Liquid cooling for Battery / Forced air cooling with speed control for PCS
Enclosure Rating	The Control Box of Liquid Chiller: IP55, Battery room: IP55, PCS module: IP65
General	
User Interface	LED, Ethernet
Communication	Ethernet, Modbus TCP
Method of Active Anti-islanding	Frequency Shift with continuous positive frequency feedback
Dimensions (W x D x H)	1400 × 1300 × 2400 mm
Protection	DC reverse protection, OVP, UVP, OCP, DC insulation detection, Flood sensor, Residual current protect
Fire Suppression device	Aerosol ,Smoke detector ,flammable gas detector ,exhausting system and deflagration panel
Net Weight	~3,325kg
Certification	Safety: IEC 62477-1 , IEC62109-1/2 , IEC 62040-1 Grid code: AS/NZS 4777.2:2020 Amd 2:2024 Battery: IEC 62619, UL9540A , IEC 60730-1:2022 Annex H System:NFPA68,NFPA69,NFPA855(2)

* Specifications are subject to change without prior notice.

* (1) In Standalone mode, single AiO can operates in 3P4W without transformer and multiple AiOs operate in 3P3W and should add a transformer for operating together.

* (2)Customer need to add fire control panel and some backup battery for detecting and supplying backup power for fire suppression device.

Manufacture:

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