SOLAX POWER | BVB 09 PARTNER

ESS-AELIO

HYBRID C&I ESS CABINET

Solax New Commercial Energy Storage Solutions

ROBUST

- Support both on-grid and off-grid operation
- Robust back-up ability, switch over time ＜10ms, up to 150% EPS output for 10s
- Support unbalanced loads on three phases

SAFE

- Four-level fire safety protection
- IP66 protection for Inverter and IP54 for cabinet
- AFCI optional
- AC&DC SPD type II, always guarding the inverter
- Smart IV Curve scan for early panel diagnosis

INTELLIGENT

- AI ready, forecasting solar generation and load consumption, smart energy management strategy*
- Support smart scene function, intelligent loads management(e.g., Heat pump，EV charger)*
- VPP ready, SolaX cloud supports resource aggregator (2030.5, OpenADR)
- Support Micro-grid and a variety of scenarios
- Support 7×24h remote O&M and schedule deployment
- Support wireless meter solution

ECONOMIC

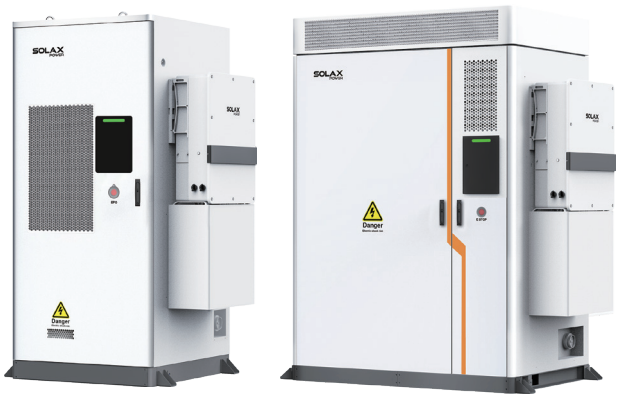
- Maximum 200% PV oversized input
- Maximum 40A input current per MPPT, support high power solar panel
- Global MPP SCAN boost solar energy harvest
- Advanced LFP battery, single cabinet with up to
- 200kWh, expandable to MWh

* Under development

HYBRID C&I ESS CABINET

AELIO

“INTRODUCTION”



Aelio series is a highly integrated, all-in-one, C&I Hybrid energy storage cabinet with multiple application scenarios. It has outstanding advantages such as intelligent charge and discharge management, safety and reliability, and simple operation and maintenance.

First of all, Aelio cabinet uses high-density, high-safety, and high-performance LFP batteries. There are two models with capacity of 100kWh and 200kWh. When used in a single cabinet or multiple cabinets, it can charge and discharge stably according to the set working modes at different time periods, and the large-capacity battery cell of 280Ah also reduces the intial cost of the system.

Secondly, the cabinet is equipped with a self-developed Energy Management System (EMS) that can monitor the working status and abnormal alerts of each battery cell, PCS, and fire protection system in real-time. The local data storage capability allows for data analysis and verification for up to 1 year. The advanced EMS system also has leading advantages in intelligent control of different smart operation strategies, autonomous scheduling based on local electricity prices, and comprehensive management of photovoltaic, energy storage systems, EV charging and generators at power plant level. These features improve the overall system efficiency and shorten the investment return period.

In addition, the cabinet also has multiple safety protection measures. It has built-in protection functions such as overvoltage, overcurrent, and overtemperature. It is also equipped with fireproof materials and 4 levels of fire protection system, which can promptly detect and respond to potential fire risks, effectively control the spread of fires and reduce the risk of safety accidents.

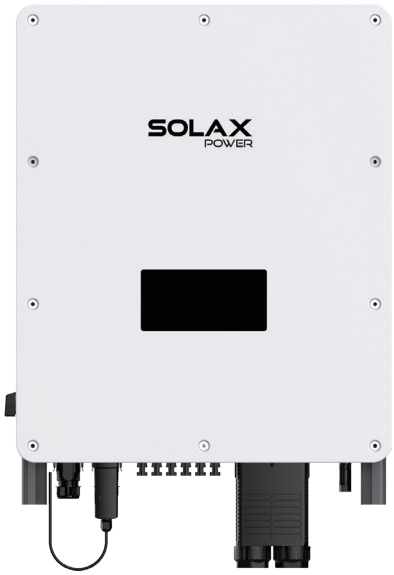
The cabinet is suitable for various C&I PV&ESS scenarios, including peak shaving, demand response, backup mode, photovoltaic and energy storage integration, and stable load consumption curves. It also supports applications such as virtual power plants(VPP) and frequency regulation.

	AELIO-P50B100	AELIO-P50B200	AELIO-P60B100	AELIO-P60B200
DC Side				
Max. PV input power [kW]	100		120	
Max. PV input voltage [V]	1000			
Start output voltage [V]	200			
Rated input voltage [V]	650			
MPPT voltage range [V]	160 ~ 950			
No. of MPP trackers / Strings per MPP tracker	5(2 per MPPT)		6(2 per MPPT)	
Max. input current [A]	40			
Max. input short circuit current [A]	50			
AC Side				
Rated AC output power [kW]	50		60	
Rated AC output current [A]	72.2		86.6	
Max. AC output apparent power [kVA]	55		66	
Max. AC output current [A]	83.6		100.3	
Nominal grid voltage [V]	3P4W, 400/230, 380/220			
Nominal grid frequency [Hz]	50/60			
Adjustable power factor range	1 (0.8 Leading ~ 0.8 Lagging)			
THDi (Rated power) [%]	< 3			
Battery Side				
Battery type	LFP / 280Ah			
Rated battery capacity [kWh]	100	200	100	200
Rated battery voltage [V]	358.4	716.8	358.4	716.8
Battery voltage range [V]	280 ~ 408.8	560 ~ 817.6	280 ~ 408.8	560 ~ 817.6
Discharge depth [%]	90			
Rated charge/discharge current [A]	140			
Max charge/discharge current [A]	160 (80 × 2)			
General				
Dimensions(with Inverter) (W×H×D) [mm]	1310 × 2300 × 1140	2070 × 2420 × 1200	1310 × 2300 × 1140	2070 × 2420 × 1200
Dimensions (without Inverter) (W×H×D) [mm]	1020 × 2300 × 1150	1680 × 2420 × 1200	1020 × 2300 × 1150	1680 × 2420 × 1200
Weight (with Inverter) [kg]	1600	2800	1600	2800
Weight (without Inverter) [kg]	1500	2700	1500	2700
Operating ambient temperature range [°C]	-30 ~ 55			
Relative humidity (Non-condensing) [%]	0 ~ 95			
Max. operating altitude [m]	3000			
Cooling concept	Smart air cooling			
Ingress protection	Cabinet: IP55; Inverter: IP66			
Fire protection	Aerosol(Optional:Novec1230) / Water			
Topology	Non-isolated			
Standard	IIEC62619, IEC63056:2000, IEC61000, IEC62477-1, UN38.3			

HYBRID C&I ESS CABINET
Inverter

Safe

- IP66 protection level
- AC&DC SPD type II, always guarding the inverter
- AFCI optional
- Smart IV Curve scan for early panel diagnosis



Intelligent

- AI ready, forecasting solar generation and load consumption, smart energy management strategy*
- VPP ready, SolaX cloud supports resource aggregator (2030.5, OpenADR)
- Support smart scene function, intelligent loads management(e.g., Heat pump， EV charger)*
- Micro-grid ready, supporting a variety of scenarios, both on-grid and off-grid, balancing power between PCS and Hybrid in real time
- Support 7×24h scheduling mode
- Support Wireless meter solution
- Dual independent battery ports are ready to expand more capacity

Robust

- Robust back-up ability, switch over time ＜10ms, up to 150% EPS output for 10s
- Support off-grid operation

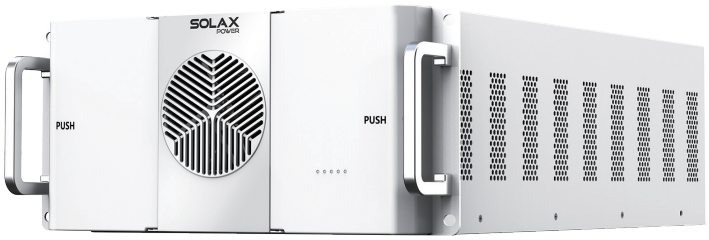
Economic

- Maximum 200% PV input
- Maximum 40A input current per MPPT, support high power solar panel

	X3-AELIO-49.9K	X3-AELIO-50K	X3-AELIO-60K	X3-AELIO-61K
DC Side				
Max. PV input power [kW]	100	100	120	121
Max. PV input voltage [V]	1000			
Start-up voltage [V]	200			
Nominal input voltage [V]	650			
MPPT voltage range [V]	160 - 950			
No. of MPP trackers / Strings per MPP tracker	5 (2 per MPPT)	5 (2 per MPPT)	6 (2 per MPPT)	6 (2 per MPPT)
Max. input current per MPPT [A]	40			
Max. input short circuit current per MPPT [A]	50			
AC Side				
Rated AC output power [kW]	49.9	50	60	61
Rated AC output current [A]	72.3	72.5	87.0	88.4
Max. AC output apparent power [kVA]	49.9	55	66	66
Max. AC output current [A]	83.2	83.3	100.0	101.7
Nominal AC voltage [V]	3P4W, 400/230, 380/220			
Rated AC grid frequency [Hz]	50 / 60			
Adjustable Power Factor range	1 (0.8 Leading ~ 0.8 Lagging)			
THDi (Rated power) [%]	< 3			

	X3-AELIO-49.9K	X3-AELIO-50K	X3-AELIO-60K	X3-AELIO-61K
Battery Side				
Battery type	Lithium - ion			
Battery voltage range [V]	180 - 820			
Max. charge / discharge current [A]	160 (80x2)			
EPS Output(with battery)				
Peak apparent AC power [kVA]	49.9	55	66	66
Nominal voltage [V]; Frequency [Hz]	3P4W, 400/230V, 380/220V; 50/60Hz			
Max. output continous current [A]	72.0	83.6	100.3	100.3
Switch time [ms]	< 10			
General				
Max. efficiency [%]	98			
European weighted efficiency [%]	97.2			
Ingress protection	IP66			
Operating ambient temperature range [°C]	- 35 ~ 60			
Max. operating altitude [m]	< 3000			
Relative humidity [%]	0 ~ 100			
Typical noise emission [dB]	< 70			
Dimensions (W×H×D) [mm]	820 × 670 × 257			
Net weight [kg]	< 100		< 105	
Cooling concept	Smart air cooling			
Communication interfaces	RS485, CAN(BMS), CAN, USB, DI, DO, DRM			
Display	LCD (optional)			
Power Consumption				
Standby consumption (night) [W]	< 10			
Protection				
Over/under voltage protection	Yes			
DC isolation protection	Yes			
DC reverse-polarity protection	Yes			
Grid monitoring	Yes			
DC injection monitoring	Yes			
Back feed current monitoring	Yes			
Residual current detection	Yes			
Anti-islanding protection	Yes			
Over temperature protection	Yes			
SPD (DC/AC)	Type II/Type II			
Arc-fault circuit interrupter (AFCI)	OPT			
Standard				
Safety	EN/IEC 62109-1/-2			
EMC	EN 61000-6-1/2/3/ 4, EN 61000-3-11/12, EN 55011, IEC 62920			
Cetification	VDE4105, G99, AS4777, EN50549, CEI 0-21, IEC61727, PEA/MEA, NRS-097-2-1, RD1699, TOR			

HYBRID C&I ESS CABINET
Pack



	TB-HR140
Battery type	LFP 280Ah
Battery capacity [kWh]	14.3
Battery Configuration	1P16S
Rated cattery voltage [V]	51.2
Battery voltage range [V]	40-58.4
Weight [kg]	115
Charge / Discharge Rate	≤ 0.5C
Dimensions (W×H×D) [mm]	461 × 228 × 778
Operating temperature range [°C]	-20 ~ 53
Relative humidity (non-condensing) [%]	0 ~ 95
Max. operating altitude [m]	3000
Ingress protection	IP20
Communication to PCS	CAN

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V1.3 Information may be subject to modify without notice.
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