





**PARTNER**

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# AELIO+HR140

49.9kW/50kW/60kW/61kW  
100.1kWh~400.4kWh

SolaX Split C&I Energy Storage Solution

# X3-AELIO



\* Feature to be upgraded in the future



## Flexible Configuration

- Customizable battery setup: batteries can be flexibly configured according to customer site requirements, supporting both indoor and outdoor installations, as well as rack-mounted and stacked installations
- Parallel operation: supports up to 10 parallel systems, meeting power requirements from 49.9 kW to 600 kW
- Battery options: two battery choices available
- PV oversizing: supports up to 200% PV oversizing



## Safe and Reliable

- Three-Phase unbalance: Inverter supports 100% three-phase unbalance.
- Long-Term overload: inverter supports 110% long-term overload.
- Seamless switching: inverter supports 10ms on-grid/off-grid switching
- Off-Grid overload: inverter supports 150% off-grid overload.



## Intelligent and Convenient

- Remote monitoring: supports web/app remote data viewing and remote OTA updates
- Versatile operating modes: supports various operating modes to meet different application scenarios such as self-consumption, peak shaving, and demand management
- VPP Integration: supports VPP applications through IEEE2030.5, OpenADR※
- Generator control: work seamlessly with generator to save fuel and back up

	X3-AELIO-49.9K	X3-AELIO-49.9K-P	X3-AELIO-50K	X3-AELIO-60K	X3-AELIO-61K
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	PV INPUT				
Max. recommended PV array power	100 kWp	120 kWp	100 kWp	120 kWp	
Max. PV input voltage <sup>①</sup>	1000 V				
Rated PV input voltage	650 V				
MPPT voltage range <sup>②</sup>	160 ~ 950 V				
Start-up voltage	180 V				
No. of MPP trackers / strings per MPP tracker	5 / 2	6 / 2	5 / 2	6 / 2	
Max. input current per MPPT	40 A				
Max. input short circuit current per MPPT	50 A				
	AC INPUT & OUTPUT (ON-GRID)				
Rated output power	49.9 kW	49.9 kW	50 kW	60 kW	61 kW
Rated output current	75.7 A @ 220 V 72.4 A @ 230 V	75.7 A @ 220 V 72.4 A @ 230 V	75.8 A @ 220 V 72.5 A @ 230 V	91.0 A @ 220 V 87.0 A @ 230 V	92.5 A @ 220 V 88.5 A @ 230 V
Max. output apparent power	49.9 kVA	49.9 kVA	55.0 kVA	66.0 kVA	66.0 kVA
Max. output continuous current	75.7 A @ 220 V 72.4 A @ 230 V	75.7 A @ 220 V 72.4 A @ 230 V	83.4 A @ 220 V 79.8 A @ 230 V	100.0 A @ 220 V 95.7 A @ 230 V	100.0 A @ 220 V 95.7 A @ 230 V
Rated AC voltage	3 / N / PE, 220 / 380 V 3 / N / PE, 230 / 400 V				
Rated AC frequency	50 Hz / 60 Hz				
AC frequency range <sup>③</sup>	50 ± 5 Hz / 60 ± 5 Hz				
Adjustable power factor range	~ 1 (0.8 lagging to 0.8 leading)				
THDi (rated power)	< 3%				

## X3-AELIO-49.9K

## X3-AELIO-49.9K-P

## X3-AELIO-50K

## X3-AELIO-60K

## X3-AELIO-61K

BATTERY					
Battery type	LFP				
Battery voltage range	180 ~ 820 V				
Max. charge / discharge current	160 A (80 A × 2)				
EPS (OFF-GRID) OUTPUT					
Rated EPS output voltage, frequency	3 / N / PE, 220 / 380 V, 50 Hz / 60 Hz 3 / N / PE, 230 / 400 V, 50 Hz / 60 Hz				
Rated EPS output power	49.9 kVA	49.9 kVA	50.0 kVA	60.0 kVA	61.0 kVA
Max. EPS output power	75 kVA, 10s	75 kVA, 10s	75 kVA, 10s	90 kVA, 10s	90 kVA, 10s
Switchover time	< 10 ms				
EFFICIENCY					
Max. efficiency	98.0%				
European efficiency	97.2%				
ENVIRONMENT LIMIT					
Ingress protection	IP66				
Operating temperature range	-35 ~ 60°C (derating +45°C)				
Max. operating altitude	3000 m				
Relative humidity	0 ~ 100% RH (condensing)				
Overvoltage category	Mains: III, Battery: II, PV: II				
GENERAL					
Dimensions (W × H × D)	670 × 820 × 257 mm				
Net weight	< 100 kg	< 105 kg	< 100 kg	< 105 kg	< 105 kg
Cooling concept	Smart air cooling				
Communication interfaces	RS485-Meter, RS485-Monitor, RS485-Parallel (daisy-chain), CAN-BMS, CAN-Parallel (daisy-chain), USB, DI×2, DO×1, RCR (DI×4), DRM				
Topology	Non-isolated				
Certificates and approvals	CE, VDE4105, G99, AS4777, EN50549, CEI 0-21, IEC61727, PEA/MEA, NRS-097-2-1, RD1699, TOR				
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				
Over temperature protection	Yes				
Active anti-islanding method	Frequency shift				
Surge protection (DC / AC)	DC: Type II, AC: Type II				
Arc-fault circuit interrupter (AFCI)	Optional				
AC auxiliary power supply (APS)	Built-in				

① The maximum input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage inverter

② Input voltage exceeding the MPPT voltage range may triggers inverter protection

③ The AC frequency range may vary from different country codes

# TSYS-HR140



T-HR100.1    T-HR114.4    T-HR128.7    T-HR143.0    T-HR157.3    T-HR171.6    T-HR185.9    T-HR200.2

## SYSTEM SPECIFICATION

	7	8	9	10	11	12	13	14
Module quantity	7	8	9	10	11	12	13	14
Rated capacity	100.1 kWh	114.4 kWh	128.7 kWh	143.0 kWh	157.3 kWh	171.6 kWh	185.9 kWh	200.2 kWh
Usable energy (90%DOD)	90.1 kWh	103.0 kWh	115.8 kWh	128.7 kWh	141.6 kWh	154.4 kWh	167.3 kWh	180.2 kWh
Rated voltage	358.4 V	409.6 V	460.8 V	512 V	563.2 V	614.4 V	665.6 V	716.8 V
Operation voltage range	292 ~ 409 V	333 ~ 468 V	375 ~ 526 V	416 ~ 584 V	458 ~ 643 V	500 ~ 701 V	541 ~ 760 V	583 ~ 818 V
Rated operation current	140 A							
Maximum operation current	140 A							
Rated power	50.2 kW	57.4 kW	64.6 kW	71.7 kW	78.9 kW	86.1 kW	93.2 kW	100.4 kW

## BATTERY MODULE

Model	TB-HR140
Module energy	14.3 kWh
Rated module voltage	51.2 V
Module capacity	280 Ah
Cycle life (90% DOD)	6000
Battery type	LFP
Dimensions (W x H x D)	523 × 226 × 805 mm
Weight	115 kg

## BMS

Model	TBMS-R15
Dimensions (W x H x D)	523 × 226 × 805 mm
Weight	37 kg

## RACK

Dimension (W x H x D)	576 × 2287 × 823 mm
Weight	91 kg

## GENERAL

Battery roundtrip efficiency (0.2C, 25°C)	95%
Charge / discharge temperature range (without heating)	0°C to 53°C (charge) -20°C to 53°C (discharge)
Communication interfaces	CAN
Installation type	Rack mounting
Relative humidity	5 ~ 85% (non-condensing)
Max.operation altitude	3000 m
Environment	Indoor
Protection degree	IP20
Safety	EN 62477, IEC 62619
Transport testing requirement	UN38.3