



X3-AELIO

49.9kW / 50kW / 60kW / 61kW



Flexible Configuration

- Parallel operation: supports up to 10 parallel systems, meeting power requirements from 49.9 kW to 600 kW.
- Battery options: three 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

* Feature to be upgraded in the future

	X3-AELIO-49.9K	X3-AELIO-49.9K-P	X3-AELIO-50K	X3-AELIO-60K	X3-AELIO-61K
PV INPUT					
Max. recommended PV array power	100 kWp	120 kWp	100 kWp	120 kWp	120 kWp
Max. PV input voltage ^①			1000 V		
Rated PV input voltage			650 V		
MPPT voltage range ^②			160 ~ 950 V		
Start-up voltage			180 V		
No. of MPP trackers / Strings per MPP tracker	5 / 2	6 / 2	5 / 2	6 / 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	50.0 kW	60.0 kW	61.0 kW
Rated output current	75.7 A @ 220 V 72.4 A @ 230V	75.7 A @ 220 V 72.4 A @ 230V	75.8 A @ 220 V 72.5 A @ 230V	91.0 A @ 220 V 87.0 A @ 230V	92.5 A @ 220 V 88.5 A @ 230V
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 @ 230V	75.7 A @ 220 V 72.4 A @ 230V	83.4 A @ 220 V 79.8 A @ 230V	100.0 A @ 220 V 95.7 A @ 230V	100.0 A @ 220 V 95.7 A @ 230V
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 ^③			50 ± 5 Hz / 60 ± 5 Hz		
Adjustable power factor range			~ 1 (0.8 lagging to 0.8 leading)		
THDi (rated power)			< 3%		
BATTERY					
Battery type			LFP		
Battery voltage range			180~ 820 V		
Max. charge / discharge current			160 A (80 A x 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 x H x D)			670 x 820 x 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, DIx2, DOx1, RCR(DIx4), 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 trigger inverter protection

③ The AC frequency range may vary from different country codes

*Manufactured in China