Three-phase Low-voltage Residential Hybrid Inverter

X3-NEO-LV

5kW / 8kW / 10kW
12kW / 15kW / 20kW

Smart Management

- Global MPP scan for optimal energy harvest*
- Smart loads management

Assured Reliability

- Battery terminal temperature detection
- IP65 ingress protection
- Type II SPD on AC&DC side
- AFCI protection (optional)*
- Up to 200% EPS output for 10s
- Single unit UPS-level switchover time < 3 ms

High Performance

- Max. 2 MPPTs for versatile application scenarios
- 200% oversizing and 200% PV input power
- Max. 36 A PV input per MPPT
- Low start-up voltage for higher energy harvest

Flexible Adaptability

- Max. 3pcs parallel for on-grid and off-grid
- Micro-grid and generator function for versatile operations*

** Feature to be upgraded in the future*

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V1.7 Information may be subject to modify without notice. 650.00078.00

	X3-NEO-5K-LV	X3-NEO-8K-LV	X3-NEO-10K-LV	X3-NEO-12K-LV	X3-NEO-15K-LV	X3-NEO-20K-LV
PV INPUT						
Max. recommended PV array power	10 kWp	16 kWp	20 kWp	24 kWp	30 kWp	40 kWp
Max. PV input voltage①	1000 V					
Rated PV input voltage	640 V					
Operating voltage range	160 ~ 950 V					
Start-up voltage	150 V					
No. of MPP trackers / strings per MPP tracker	2 / (1 / 1)		2 / (2 / 1)	2 / (2 / 2)		
Max. input current per MPPT	18 A / 18 A		36 A / 18 A	36 A / 36 A		
Max. input short circuit current per MPPT	25 A / 25 A		50 A / 25 A	50 A / 50 A		
AC INPUT & OUTPUT (ON-GRID)						
Rated output power	5 kW	8 kW	10 kW	12 kW	15 kW	20 kW
Rated output current	7.3 A @ 230 V	11.6 A @ 230 V	14.5 A @ 230 V	17.4 A @ 230 V	21.8 A @ 230 V	29.0 A @ 230 V
Max. output apparent power	5.5 kVA	8.8 kVA	11 kVA	13.2 kVA	16.5 kVA	22.0 kVA
Max. output continuous current	8.0 A @ 230 V	12.8 A @ 230 V	16.0 A @ 230 V	19.2 A @ 230 V	24.0 A @ 230 V	31.9 A @ 230 V
Rated AC voltage	3W / N / PE, 220 / 380 V 3W / N / PE, 230 / 400 V 3W / N / PE, 240 / 415 V					
Max. AC input apparent power	10 kVA	16 kVA	20 kVA	24 kVA	30 kVA	30 kVA
Max. AC input current	14.5 A @ 230 V	23.2 A @ 230 V	29.0 A @ 230 V	34.8 A @ 230 V	43.5 A @ 230 V	43.5 A @ 230 V
Max. continuous AC passthrough (grid to load)	40 A					
Rated AC frequency	50 Hz / 60 Hz					
AC frequency range②	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 / Lead - acid					
Battery voltage range	40 ~ 60 V					
Max. charge / discharge current	125 A / 125 A	200 A / 200 A	250 A / 250 A	280 A / 280 A	300 A / 300 A	350 A / 350 A
EPS (OFF-GRID) OUTPUT (WITH BATTERY)						
Rated EPS output voltage, frequency	230 V / 400 V, 50 Hz / 60 Hz					
Rated EPS output power	5 kVA	8 kVA	10 kVA	12 kVA	15 kVA	20 kVA
Peak EPS output power	10 kVA 2 times of rated power, 10s	16 kVA 2 times of rated power, 10s	20 kVA 2 times of rated power, 10s	24 kVA 2 times of rated power, 10s	30 kVA 2 times of rated power, 10s	40 kVA 2 times of rated power, 10s
Switchover time	< 3 ms					
EFFICIENCY						
Max. efficiency	97.6%					
European efficiency	97.0%					
ENVIRONMENT LIMIT						
Ingress protection	IP65					
Operating ambient temperature range	-25 ~ 60°C (> 45°C derating)					
Max. operation altitude	3000 m					
Relative humidity	4 ~ 100% RH (condensing)					
Overvoltage category	Mains: Ⅲ, Battery: Ⅱ, PV: Ⅱ					
GENERAL						
Dimensions (W × H × D)	520 × 705 × 258 mm					
Net weight	44.6 kg					45.2 kg
Cooling concept	Natural cooling		Smart air cooling			
Communication interfaces	RS485, CAN, USB, DI/DO					
Display	LCD					
Topology	Non-isolated for PV side / HF for battery side					
Certifications	EN IEC 62109-1 / -2, NRS 097-2-1, IEC 61727, IEC 62116, PEA, MEA, BIS, G98 / G99③					
PROTECTION						
Protections	Over / under voltage protection, DC isolation protection, DC reverse-polarity protection, Grid monitoring, DC injection monitoring, Back feed current monitoring, Residual current detection, Over temperature protection					
Active anti-islanding method	Frequency shift					
Surge protection	DC: Type Ⅱ, AC: Type Ⅱ					
Arc-fault circuit interrupter (AFCI)	Optional					

① The maximum input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage the inverter
② The AC frequency range may vary from different country codes
③ G98 certification covers 5-10kw power ranges and G99 covers 12-15kW. 20kW will be certificated in future