Three-phase Residential Hybrid Inverter

X3-HYBRID G4

5.0kW / 6.0kW / 8.0kW / 10.0kW / 12.0kW / 15.0kW

Smart Management

- VPP ready, ancillary service in power market
- Global MPP scan for optimal energy harvest
- Smart loads management(e.g., heat pump, smart EV charger)
- Intelligent ToU-driven energy management

Assured Reliability

- Up to 200% EPS overload output for 10 seconds*
- UPS-level switchover time <10ms
- IP65 protection degree
- Type II SPD on AC&DC side

High Performance

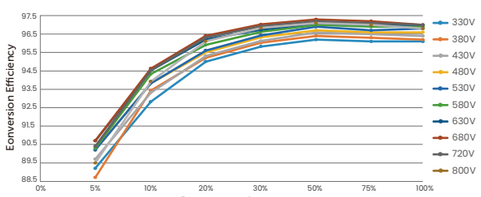
- 200% PV oversizing and up to 110% AC output
- Up to 97.5% efficiency in charging and discharging
- Up to 200% PV input
- Three-phase unbalanced output: Max. 5kW per phase

Flexible Adaptability

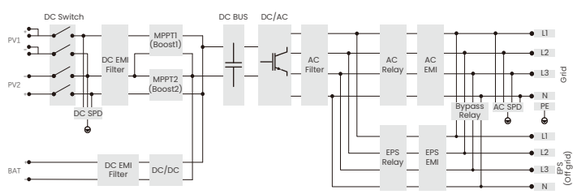
- Lithium-ion & Lead-acid battery compatible
- On-grid and off-grid parallel function, up to 150kW
- Max. 28A input per MPPT, optimized for high-power solar panels.
- Quick configuration via U-disk

**Overload capabilities vary by model. Please refer to the specification page for detailed information*

Efficiency Curve



Circuit Diagram



**V3.5.1. Information may be subject to modify without notice. 650.00010.00*

	X3-HYBRID-5.0-D	X3-HYBRID-6.0-D	X3-HYBRID-8.0-D	X3-HYBRID-10.0-D	X3-HYBRID-12.0-D	X3-HYBRID-15.0-D
PV INPUT						
Max. recommended PV array power	10kWp	12kWp	16 kWp	20 kWp	24 kWp	30 kWp
Max. PV input voltage①	1000 V					
Nominal PV input voltage	640 V					
MPPT voltage range②	180 ~ 950 V					
Start-up voltage	200 V					
No. of MPP trackers / Strings per MPP tracker	2 (1 / 1)		2 (2 / 1)			
Max. input current per MPPT③ (MPPT1/2)	16 A / 16 A		28 A / 16 A			
Max. input short circuit current per MPPT (MPPT1/2)	20 A / 20 A		35 A / 20 A			
AC INPUT & OUTPUT (ON-GRID)						
Rated output power	5 kW	6 kW	8 kW	10 kW	12 kW	15 kW
Rated output current	7.2 A	8.7 A	11.6 A	14.5 A	17.5 A	21.8 A
Max. output apparent power	5.5 kVA	6.6 kVA	8.8 kVA	11.0 kVA	13.2 kVA	15.0 kVA
Max. output continuous current	8.1 A	9.7 A	12.9 A	16.1 A	19.3 A	24.1 A
Nominal AC voltage	3 / N / PE, 220 / 380 V 3 / N / PE, 230 / 400 V					
Max. AC input apparent power	10 kVA	12 kVA	16 kVA	20 kVA	20 kVA	20 kVA
Max. AC input current	16.1 A	19.3 A	25.8 A	32.0 A	32.0 A	32.0 A
Nominal AC frequency	50 Hz / 60 Hz					
Adjustable power factor range	~ 1 (0.8 lagging to 0.8 leading)					
THDi (rated power)	< 3%					
BATTERY						
Battery type	Lithium-ion battery / Lead-acid battery					
Battery voltage range④	120 ~ 800 V					
Max. charge / discharge current	30 A					
EPS (OFF-GRID) OUTPUT (WITH BATTERY)						
Rated EPS output voltage, frequency	400 V / 230 V, 50 Hz / 60 Hz					
Rated EPS output power	5 kVA	6 kVA	8 kVA	10 kVA	12 kVA	15 kVA
Peak EPS output power	12.0 kVA, 10 s	12.0 kVA, 10 s	18.0 kVA, 10 s	18.0 kVA, 10 s	22.5 kVA, 10 s	22.5 kVA, 10 s
Switchover time	< 10 ms					
EFFICIENCY						
Max. efficiency	98.0%					
European efficiency	97.7%					
ENVIRONMENT LIMIT						
Ingress protection	IP65					
Operating ambient temperature range⑤	-35 ~ 60°C					
Max. operating altitude	< 3000 m					
Relative humidity	4 ~ 100% RH (condensing)					
Overvoltage Category	Mains: Ⅲ, Battery: Ⅱ, PV: Ⅱ					
GENERAL						
Dimensions (W × H × D)	503 × 503 × 199 mm					
Net weight	30 ± 1 kg					
Cooling concept	Nature cooling				Smart cooling	
Communication interfaces	CT / Meter (optional), External control RS485, Pocket WiFi (Optional: Pocket LAN/4G), DRM, NTC (optional)					
Power consumption (night)	< 40 W for standy, < 5 W for idle					
Topology	Non-isolated					
Certificates and approvals	EN/IEC62109-1/-2, VDE4105, G99, G98, AS4777, EN50549, CEI 0-21, IEC61727, PEA/MEA, NRS-097-2-1, RD1699, TOR					
AC auxiliary power supply (APS)	Built-in					
PROTECTION						
Protections	DC reverse-polarity protection, DC isolation protection, Residual current detection, AC overcurrent protection, AC short-circuit protection, Over / under voltage protection, Grid monitoring, DC injection monitoring, Back feed current monitoring, Over temperature protection					
Active anti-islanding method	Frequency shift					
Surge protection (DC / AC)	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 Input voltage exceeding the MPPT voltage range may trigger inverter protection
③ When PV1 is connected to 2 strings, the maximum input current is 28A; when PV1 is connected to 1 string, the maximum input current is 20A
④ Compatible with a minimum of 3 units of HS25/HS36 batteries, but if the total voltage of the 3 batteries is less than 127V and there is no PV input, the system will not able to startup
⑤ Derating above +45°C