

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



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



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

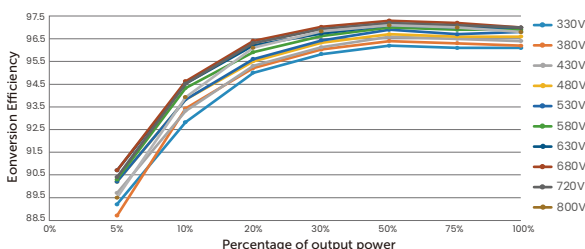


Flexible Adaptability

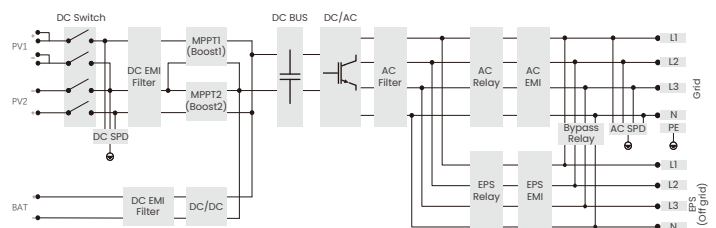
- Lithium-ion & Lead-acid battery compatible
- On-grid and off-grid parallel function, up to 150kW
- Max. 28A input per MPPT, optimized for high-power solar panels.
- Quick configuration via U-disk

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

Efficiency Curve



Circuit Diagram



PV INPUT						
Max. recommended PV array power	10kWp	12kWp	16 kWp	20 kWp	24 kWp	30 kWp
Max. PV input voltage ^①	1000 V					
Nominal PV input voltage	640 V					
MPPT voltage range ^②	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 MPPT ^③ (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 range ^④	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 range ^⑤	-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 standby, < 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 be able to startup

⑤ Derating above +45°C