Single-phase Residential On-grid Inverter

X1-BOOST G4

2.5kW / 3.0kW / 3.3kW / 3.6kW
4.0kW / 4.2kW / 5.0kW / 6.0kW

High Efficiency

- 200% PV oversizing and 16A input to support high-power panels
- 50V start up voltage

Assured Safety

- Type II SPD on AC & DC side
- Ready for rapid shutdown function
- AFCI support (optional)

Intelligent Design

- 10s data refresh on SolaXCloud
- Easy configuration via WiFi & App
- IV curve scan

Flexible Adaptability

- Supports parallel operation for up to 5 inverters, no external EMS required
- Smart loads management (e.g. heat pump, smart EV charger)
- Built-in export power control function

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	X1-BOOST-2.5K-G4	X1-BOOST-3K-G4	X1-BOOST-3.3K-G4	X1-BOOST-3.6K-G4	X1-BOOST-4K-G4	X1-BOOST-4.2K-G4	X1-BOOST-5K-G4	X1-BOOST-6K-G4
PV INPUT								
Max. recommended PV array power	6.0 kWp	6.0 kWp	6.6 kWp	7.2 kWp	8.0 kWp	8.0 kWp	10.0 kWp	12.0 kWp
Max. PV input voltage①	600 V							
Rated PV input voltage	360 V							
Operation voltage range	35 ~ 600 V							
MPPT voltage range②	40 ~ 560 V							
Start up voltage	50 V							
No. of MPP trackers / strings per MPP tracker	2 / (1 / 1)							
Max. input current per MPPT	16 A / 16 A							
Max. input short circuit current per MPPT	22 A / 22 A							
AC OUTPUT								
Rated output power	2500 W	3000 W	3300 W	3680 W	4000 W	4200 W	5000 W③	6000 W
Rated output current	10.9 A	13.1 A	14.4 A	16.0 A	17.4 A④	18.3 A	21.7 A	26.1 A
Max. output apparent power	2750 VA	3300 VA	3630 VA	4048 VA⑤	4000 VA	4620 VA	5000 VA⑥	6000 VA
Max. output continuous current	12.0 A	14.4 A	15.8 A	17.6 A⑦	17.4 A⑧	20.1 A	21.7 A⑨	27.3 A
Rated AC voltage	1 / N / PE, 220 / 230 / 240 V							
Rated AC frequency	50 Hz / 60 Hz							
AC frequency range⑩	50 ± 5 Hz / 60 ± 5 Hz							
Adjustable power factor range	~ 1 (0.8 lagging to 0.8 leading)							
THDi (rated power)	< 3%							
EFFICIENCY								
Max. efficiency	98.0%							
European efficiency	97.0%							
ENVIRONMENT LIMIT								
Ingress protection	IP66							
Operation temperature range	-25 ~ 60°C							
Max. operation altitude	4000 m							
Relative humidity	0 ~ 100% RH (condensing)							
Overvoltage category	Mains: III, PV: II							
GENERAL								
Dimensions (W × H × D)	404 × 274 × 146 mm							
Net weight	11.0 kg						11.5 kg	
Cooling concept	Natural cooling							
Communication interfaces	RS 485, DRM, optional: meter, CT							
Power consumption (night)	< 3 W							
Topology	Non-isolated							
Certifications	IEC/EN 62109-1/-2, IEC61727, EN50549, G98/G99, AS 4777.2, VDE4105, CEI 0-21, VFR, PPDS, TOR							
AC auxiliary power supply (APS)	Optional							
PROTECTION								
Protection	Over / under voltage protection, DC isolation protection, DC reverse-polarity protection, Grid monitoring, DC injection monitoring, Back feed current monitoring, DC reverse-polarity protection							
Active anti-islanding protection	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 5000 W (4600 W for VDE4105, 4999 W for AS4777.2)
④ 17.4 A (16 A For G98) ⑤ 4048 VA (3680VA For G98/G99, TOR and PPDS) ⑥ 5000 VA (4600 VA for VDE4105, 4999 VA for AS4777.2)
⑦ 17.6 A (16 A For G98/G99, TOR and PPDS) ⑧ 17.4 A (16 A For G98) ⑨ 21.7 A (20 A for VDE4105)
⑩ The AC frequency range may vary from different country codes

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 Ingress protection
- Type II SPD on AC&DC side

High Performance

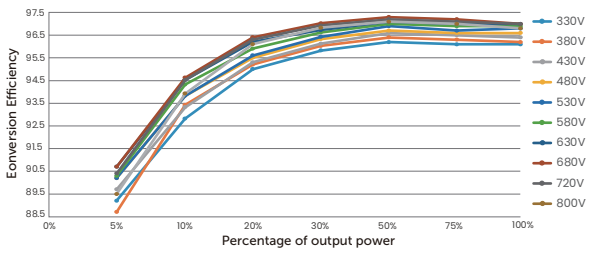
- 200% PV oversizing and up to 110% AC output
- Up to 97.5% efficiency in charging and discharging
- Up to 200% PV input
- Three-phase unbalanced output: Max. 5kW per phase

Flexible Adaptability

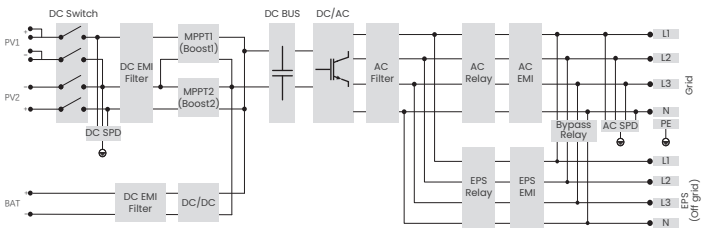
- Lithium & Lead-acid battery compatible
- On-grid and off-grid parallel function, up to 150kW
- Max. 28A input per MPPT, optimized for high-power solar panels.
- Quick configuration via U-disk

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

Efficiency Curve



Circuit Diagram



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	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	10 kWp	12 kWp	16 kWp	20 kWp	24 kWp	30 kWp
Max. PV input voltage①	1000 V					
Rated 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	16 A / 16 A		28 A / 16 A			
Max. input short circuit current per MPPT	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
Rated 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
Rated 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 / Lead-acid					
Battery voltage range④	120 ~ 800 V					
Max. charge / discharge current	30 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	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					
Operation temperature range	-35 ~ 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)	503 × 503 × 199 mm					
Net weight	30 ± 1 kg					
Cooling concept	Natural cooling				Smart air 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					
Certifications	EN/IEC62109-1/-2, VDE4105, G99, G98, AS4777, EN50549, CEI 0-21, IEC61727, PEA/MEA, NRS-097-2-1, RD1699, TOR					
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: 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

Three-phase C&I Hybrid Inverter

X3-ULTRA

15kW / 19.9kW / 20kW
25kW / 30kW

Smart Management

- Single unit UPS-level switchover time <10ms
- Built-in shadow tracking
- Smart loads management(e.g. heat pump, smart EV charger)
- Loads respond time within 0.3 s
- VPP ready with a variety of compatibility (OpenADR, IEEE2030.5, FCAS, API)*

Assured Reliability

- IP66 Ingress protection
- Type II SPD on AC&DC side
- Optional AFCI protection

High Performance

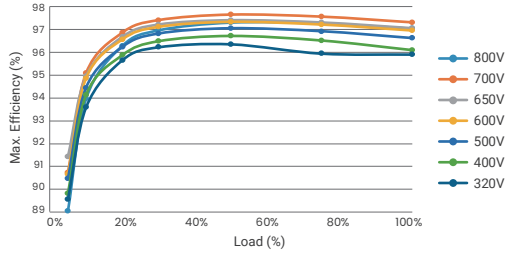
- 200% PV oversizing and up to 110% AC output
- 200% EPS overload for 10s
- Max. 60A charging / discharging current
- Low start-up voltage for more power generation

Flexible Adaptability

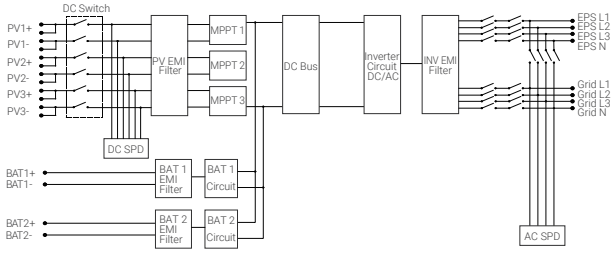
- Max. 10pcs parallel for on-grid and off-grid
- Microgrid and generator function for versatile operations
- Max. 36A PV input per MPPT, optimized for high-power solar panel

** Feature to be upgraded in the future*

Efficiency Curve



Circuit Diagram



**V2.2 Information may be subject to modify without notice.* 650.00038.00

	X3-ULT-15K	X3-ULT-15KP	X3-ULT-19.9K	X3-ULT-20K	X3-ULT-20KP	X3-ULT-25K	X3-ULT-30K
PV INPUT							
Max. recommended PV array power	30 kWp		40 kWp			50 kWp	60 kWp
Max. PV input voltage①	1000 V						
Rated PV input voltage	600 V						
Operation voltage range	120 ~ 950 V						
MPPT voltage range②	160 ~ 950 V						
Start-up voltage	200 V						
No. of MPP trackers / strings per MPP tracker	2 / (2 / 2)	3 / (2 / 2 / 2)	2 / (2 / 2)		3 / (2 / 2 / 2)		
Max. input current per MPPT	36 A / 36 A	36 A / 36 A / 36 A	36 A / 36 A		36 A / 36 A / 36 A		
Max. input short circuit current per MPPT	45 A / 45 A	45 A / 45 A / 45 A	45 A / 45 A		45 A / 45 A / 45 A		
AC INPUT & OUTPUT (ON-GRID)							
Rated output power	15000 W (AS4777 14999 W)		19999 W	20000 W	20000 W	25000 W (VDE4105 24900 W)	30000 W (AS4777 29999 W, VDE4105 29900 W)
Rated output current	21.8 A		29.0 A	29.0 A	29.0 A	36.3. A	43.5 A
Max. output apparent power	16500 VA (AS4777 14999 VA)		19999 VA	22000 VA	22000 VA	27500 VA (VDE4105 24900 VA)	30000 VA (AS4777 29999 VA, VDE4105 29900 VA)
Max. output continuous current	24.0 A (AS4777 21.8 A)		29.0 A	31.9 A	31.9 A	39.9 A (VDE4105 36.3 A)	43.5 A
Rated AC voltage	3 / N / PE, 220 / 380 V 3 / N / PE, 230 / 400 V						
Max. AC input apparent power	15000 VA		19999 VA	20000 VA	20000 VA	25000 VA	30000 VA
Max. AC input current	21.8 A		29.0 A	29.0 A	29.0 A	36.3 A	43.5 A
Rated 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						
Battery voltage range③④	120 ~ 800 V						
Max. charge / discharge current	60 A (30 A × 2)						
EPS (OFF-GRID) OUTPUT (WITH BATTERY)							
Rated EPS output voltage, frequency	230 V / 400 V, 50 Hz / 60 Hz						
Rated EPS output power	15000VA		19999 VA	20000 VA		25000 VA	30000 VA
Peak EPS output power	2 times of rated power, 10 s						
Switchover time	< 10 ms						
EFFICIENCY							
Max. efficiency	98.0%						
European efficiency	97.7%						
ENVIRONMENT LIMIT							
Ingress protection	IP66						
Operation temperature range	-35 ~ 60°C (> 45°C derating)						
Max. operation altitude	3000 m						
Relative humidity	0 ~ 100% RH (condensing)						
Overvoltage category	Mains: III, Battery: II, PV: II						
GENERAL							
Dimensions (W × H × D)	696 × 526 × 240 mm						
Net weight	47 kg						
Cooling concept	Smart air cooling						
Communication interfaces	Meter (RS-485), DI x 2, DO x 1, Modbus						
Power consumption (night)	< 5 W						
Topology	Non-isolated						
Certifications	VDE4105, G99, AS4777, EN50549, CEI 0-21, IEC61727, PEA/MEA, NRS-097-2-1, RD1699, TOR						
PROTECTION							
Protections	Over / under voltage protection, DC reverse-polarity protection, Residual current detection, Over temperature protection, DC isolation protection, Grid monitoring, DC injection monitoring, Back feed current monitoring						
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 inverter
② Input voltage exceeding the MPPT voltage range may triggers inverter protection
③ Compatible with a minimum of 3 units of HS Series 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
④ When the voltage is below 180V, the inverter will limit the battery current to less than 20A