

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)*



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



Assured Reliability

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

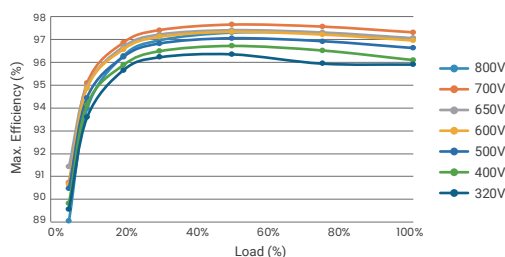


Flexible Adaptability

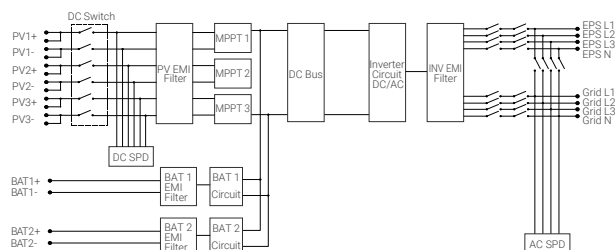
- Max. 10pcs parallel for on-grid and off-grid
- Microgrid and generator function for versatile operations
- Max. 36A PV input per MPPT, optimized for high-power solar panel

*Some features coming soon
**Standard in Brazil

Efficiency Curve



Circuit Diagram



PV INPUT						
Max. recommended PV array power	30000 Wp		40000 Wp	50000 Wp	60000 Wp	
Max. PV input voltage ^①	1000 d.c. V					
Rated PV input voltage	600 d.c. V					
Operating voltage range	120 - 950 d.c. V					
Start-up voltage	200 d.c. 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 / 36 d.c. A	36 / 36 / 36 d.c. A	36 / 36 d.c. A	36 / 36 / 36 d.c. A		
Max. input short circuit current per MPPT	45 / 45 d.c. A	45 / 45 / 45 d.c. A	45 / 45 d.c. A	45 / 45 / 45 d.c. A		
AC INPUT & OUTPUT (ON-GRID)						
Rated output apparent power	15000 VA (AS4777 14999 VA)		19999 VA	20000VA	25000 VA (VDE4105 24900 VA)	30000 VA (AS4777 29999 VA, VDE4105 29900 VA)
Rated output current	21.8 a.c. A@230 a.c. V		29.0 a.c. A@230 a.c. V	29.0 a.c. A@230 a.c. V	36.3 a.c. A@230 a.c. V	43.5 a.c. A@230 a.c. V
Max. output apparent power	16500 VA (AS4777 14999 VA)		19999 VA	22000 VA	27500 VA (VDE4105 24900 VA)	30000 VA (AS4777 29999 VA, VDE4105 29900 VA)
Max. output continuous current	24.0 a.c. A@230 a.c. V (AS4777 21.8 a.c. A@230 a.c. V)		29.0 a.c. A@230 a.c. V	31.9 a.c. A@230 a.c. V	39.9 a.c. A@230 a.c. V (VDE4105 36.3 a.c. A@230 a.c. V)	43.5 a.c. A@230 a.c. V
Rated AC voltage	3W / N / PE, 220 / 380 a.c. V 3W / N / PE, 230 / 400 a.c. V					
Max. AC input apparent power	15000 VA		19999 VA	20000 VA	25000 VA	30000 VA
Max. AC input current	50.0 a.c. A					
Rated grid Frequency	50 / 60 Hz					
AC frequency range	50 ± 5 Hz / 60 ± 5 Hz					
Adjustable power factor range	1 (- 0.8 ~ 0.8)					
BATTERY						
Battery type	Lithium					
Battery voltage range ^{②③}	120- 800 d.c. V					
Max. charge / discharge current	60 d.c. A (30 × 2)					
EPS OUTPUT(WITH BATTERY)						
Rated EPS apparent power	15000VA		19999 VA	20000 VA	25000 VA	30000 VA
Peak EPS output power	2 time of rated power, 10 s					
Rated EPS output voltage, frequency	230 / 400 a.c. V, 50 / 60 Hz					
Switchover time	< 10 ms					
EFFICIENCY						
Max. efficiency	98.0%					
European Efficiency	97.7%					
ENVIRONMENT LIMIT						
Ingress protection	IP66					
Operating temperature range	-35 ~ 60°C (> 45°C derating)					
Max. operating altitude	3000 m					
Relative humidity	0 ~ 100% RH (condensing)					
Overvoltage category	Mains: III, Battery: II, PV: II					
GENERAL						
Demensions(W x H x D)	696 × 526 × 240 mm					
Net weight	46 kg	47.5 kg	46kg	47.5 kg	48.5kg	
Cooling concept	Smart air cooling					
Communication interfaces	RS485, CAN, DRM, DI/DO					
Power consumption (night)	< 5 W					
Topology	Non-isolated					
Cetifications	VDE4105, G99, AS4777, EN50549, CEI 0-21, IEC61727, PEA/MEA, NRS-097-2-1, RD1699, TOR					
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, AC overcurrent protection, AC short-circuit protection, Active anti-islanding method					
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 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

③ When the voltage is below 180V, the inverter will limit the battery current to less than 20A