

# Three-phase Low-voltage Residential Hybrid Inverter



## X3-GENKI

10kW / 12kW / 15kW / 20kW



### Smart Management

- Single unit UPS-level switchover time <3 ms
- Dedicated load interface for intelligent load management
- Global MPP scan for optimal energy harvest



### Assured Reliability

- Battery terminal temperature detection
- IP65 protection degree
- Type II SPD on AC&DC side
- Optional AFCI protection\*



### High Performance

- 200% PV oversizing and up to 110% AC output
- 200% peak EPS power for 10 s
- Max. 350A charging / discharging current
- Low start-up voltage for longer operation



### Flexible Adaptability

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

\* Feature to be upgraded in the future

DC INPUT				
Max. PV array power	20000 Wp	24000 Wp	30000 Wp	40000 Wp
Max. PV input power (derating above +45°C)	20000 W	24000 W	30000 W	40000 W
Max. PV input voltage	1000 V			
Start-up voltage	150 V			
Nominal input voltage	640 V			
MPPT voltage range	160-950			
No. of MPPT / strings per MPPT	2 (2 / 1)	2 (2 / 2)	2 (2 / 2)	2 (2 / 2)
Max. input current	36 A / 18 A	36 A / 36 A	36 A / 36 A	36 A / 36 A
Max. short circuit current	50 A / 25 A	50 A / 50 A	50 A / 50 A	50 A / 50 A
BATTERY DATA				
Battery type	Lithium / Lead-Acid			
Battery voltage range	40 ~ 60 V			
Nominal battery voltage	48 V			
Max. charging voltage	≤60 V (Adjustable)			
Max. charging/discharging current	250 A	280 A	300 A	350 A
Charging strategy for Li-ion battery	Self-adaption to BMS			
Charging strategy for Lead-acid battery	3 stages curves			
Temperature sensor	Yes			
EPS OUTPUT (WITH BATTERY)				
Nominal output power	10000 W	12000 W	15000 W	20000 W
Peak apparent power <sup>1</sup> sun+BAT	2 times of rated power,10S			
Nominal AC output frequency	50 / 60 Hz			
Nominal AC output current	14.50 A	17.40 A	21.70 A	29.00 A
Nominal AC voltage	220 / 380 , 230 / 400			
Switch time	< 6 ms			
THDv(@linear load)	< 2 %			
SYSTEM DATA				
MPPT efficiency	> 99.9%			
Max. efficiency	97.6%			
Euro. efficiency	97%			
PROTECTION DEVICE				
Anti-Islanding protection	Yes			
PV string input reverse polarity protection	Yes			
Insulation resistor detection	Yes			
Residual current monitoring unit	Yes			
Output over current protection	Yes			
Output short protection	Yes			
Output over voltage protection	Yes			
Surge protection	AC Type II/DC Type II			
Battery terminal temp protection	Yes			
ENVIRONMENT LIMIT				
Degree of protection	IP65			
Operating temperature range	-25 C ~ +60 C (derating above +45 C)			
Relative humidity	0-100% (condensing)			
Max. operation altitude	<3000 m			
Storage temperature	-40~+70 C			
Noise emission (typical)	<55 dB			
GENERAL				
Dimensions (WxHxD)	520 × 705 × 258 mm			
Net weight	44.6 kg			
Cooling concept	FAN			
Topology	Transformerless for PV side / HF for battery side			
HMI Interface	LED + LCD			
Communication interfaces	CAN/RS485/WiFi/LAN/4G (optional)/NTC			
Mounting	Wall bracket			
STANDARD				
Safety	EN IEC 62109-1/-2, EN IEC62040			