Split-phase
Residential Hybrid Inverter



X1-SPT

10kW / 12kW

High Performance

- 45 V Ultra-low Startup
- 3 MPPT Design
- 200% EPS Peak Power
- < 10ms Seamless Switching

Wide Application & Flexibility

- Battery-Free Super Backup Support
- Whole-Home Backup Solution
- Dual Battery Ports
- Split-Phase EPS Output
- Generator Support

Robust Safety & Reliability

- Intelligent AFCI Protection
- NEMA 4X / IP66 Enclosure
- Integrated Type II SPD

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V2.2. Information may be subject to modify without notice. 650.00110.00

	X1-SPT-10K	X1-SPT-12K
PV INPUT		
Max. recommended PV array power	15,000 Wp	18,000 Wp
Max. PV input voltage①	500 d.c. V	
Rated PV input voltage	390 d.c. V	
MPPT voltage range②	35~ 490 d.c. V	
Full load MPPT voltage range	200 ~ 460 d.c. V	235 ~ 460 d.c. V
Start-up voltage	45 d.c. V	
No. of MPP trackers / strings per MPP tracker	3 (1 / 1 / 1)	
Max. input current per MPPT	18 d.c. A	
Max. input short circuit current per MPPT	22 d.c. A	
AC INPUT & OUTPUT (ON-GRID)		
Rated output power	10,000 W	12,000 W
Rated output current	41.7 a.c. A @ 120 a.c. V 39.4 a.c. A @ 127 a.c. V	50.0 a.c. A @ 120 a.c. V 47.3 a.c. A @ 127 a.c. V
Max. output apparent power	10,000 VA	12,000 VA
Max. output continuous current	42.5 A	51 A
Rated AC voltage	2L/ N / PE, 120 / 240 a.c. V 2L/ N / PE, 127 / 220 a.c. V	
Max. AC input apparent power	19,000 VA	
Max. AC input current	75 a.c. A	
Rated AC frequency	50 / 60 Hz	
Adjustable power factor range	~ 1 (0.8 lagging to 0.8 leading)	
THDi (rated power)	< 3%	
BATTERY		
Battery type	LFP	
No. of battery ports	2	
Battery voltage range	100 ~ 480 d.c. V	
Max. charge / discharge power	10,000 W / 10,300 W	12,000 W / 12,300 W
Max. charge / discharge current	60(30x2)/ 60 (30x2)d.c.A	
EPS (OFF-GRID) OUTPUT (WITH BATTERY)		
Rated EPS power	10,000 W	12,000 W
Peak EPS output power	2 times of rated power, 10s	1.67 times of rated power, 10s
Rated EPS output voltage, frequency	120 / 240 a.c. V; 127 / 220 a.c. V, 50 / 60 Hz	
Rated EPS current	41.7 a.c. A @ 120 a.c. V 39.4 a.c. A @ 127 a.c. V	50.0 a.c. A @ 120 a.c. V 47.3 a.c. A @ 127 a.c. V
Switchover time③	< 10 ms	
LRA current	140 a.c. A	
Total harmonic distortion (THDv, linear load)	< 3%	
EFFICIENCY		
Max. efficiency	96.6%	
ENVIRONMENT LIMIT		
Ingress protection	NEMA 4X / IP66	
Operating temperature range	-35 ~ 60°C (> 45°C derating)	
Max. operating altitude	3000 m	
Relative humidity	4 ~ 100% RH (condensing)	
Storage temperature	-40 ~ 70°C	
Noise emission (typical)	< 45 dB	
Overvoltage category	DC: Ⅱ, AC: Ⅲ	
GENERAL		
Dimensions (W × H × D)	718 × 415 × 210 mm	
Net weight	33 kg	
Cooling concept	Smart air cooling	
Communication interfaces	RS485, WIFI, DI, DO, CAN	
Power consumption (night)	< 10 W	
Topology	Non-isolated	
Certifications	IEC 62109, IEC 61727, UL 1741, IEC63027, Inmetro	
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, Anti-islanding protection	
Surge protection	DC: Type II, AC: Type II	
Arc-fault circuit interrupter (AFCI)	Yes	

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 3 units in parallel is supported currently

Preliminary