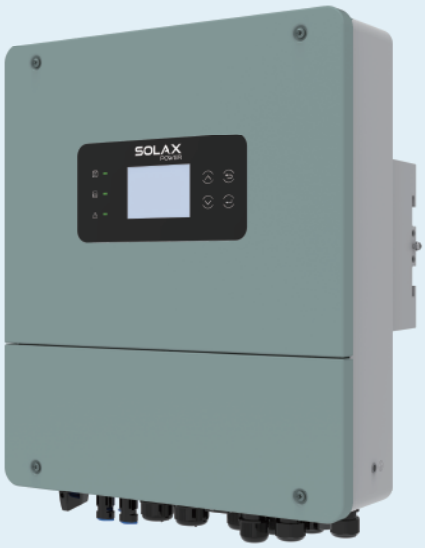
Single-phase Low-voltage Residential Hybrid Inverter



X1-HYB-LV

3.0kW / 3.7kW / 4.0kW
5.0kW / 6.0kW

Smart Management

- Global MPP scan for optimal energy harvest*
- Smart loads management

Assured Reliability

- Battery terminal temperature detection
- IP65 ingress protection
- Type II SPD on AC&DC side
- AFCI protection (optional)*
- Up to 200% EPS output for 10s
- Single unit UPS-level switchover time < 4 ms

High Performance

- Max. 2 MPPTs for versatile application scenarios
- 200% oversizing and 150% PV input power
- Max. 16 A PV input per MPPT
- Low start-up voltage for higher energy harvest

Flexible Adaptability

- Max. 3pcs parallel for on-grid and off-grid
- Micro-grid and generator function for versatile operations*

** Feature to be upgraded in the future*

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V2.0 Information may be subject to modify without notice. 650.00023.00

	X1-HYB-3.0-LV	X1-HYB-3.7-LV	X1-HYB-4.0-LV	X1-HYB-5.0-LV	X1-HYB-6.0-LV
PV INPUT					
Max. recommended PV array power	6000 Wp	7360 Wp	8000 Wp	10000 Wp	12000 Wp
Max. PV input voltage①	550 V				
Rated PV input voltage	360 V				
Operating voltage range	80 ~ 520 V				
Start-up voltage	110 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	20 A / 20 A				
AC INPUT & OUTPUT(ON-GRID)					
Rated output power	3000 W	3680 W	4000 W	5000 W	6000 W
Rated output current	13.1 A @ 230 V	16.0 A @ 230 V	17.4 A @ 230 V	21.8 A @ 230 V	26.1 A @ 230 V
Max. output apparent power	3300 VA	3680 VA	4400 VA	5000 VA	6000 VA
Max. output continuous current	14.4 A @ 230 V	16.0 A @ 230 V	19.2 A @ 230 V	21.8 A @ 230 V	26.1 A @ 230 V
Rated AC voltage	220 / 230 / 240 V				
Max. AC input apparent power	6000 VA	7360 VA	8000 VA	9200 VA	
Max. AC input current	26.1 A @ 230 V	32.0 A @ 230 V	34.8 A @ 230 V	40.0 A @ 230 V	
Max. continuous AC passthrough (grid to load)	40 A				
Rated AC frequency	50 Hz / 60 Hz				
AC frequency range②	50±5 Hz / 60±5 Hz				
Adjustable power factor range	~ 1 (0.8 lagging to 0.8 leading)				
THDi (rated power)	< 3%				
BATTERY					
Battery type	LFP / Lead - acid				
Battery voltage range	40 ~ 60 V				
Max. charge / discharge current	75 A / 75 A			120 A / 120 A	
EPS (OFF-GRID) OUTPUT (WITH BATTERY)					
Rated EPS output voltage, frequency	230 V, 50 Hz / 60 Hz				
Rated EPS output power	3000 VA	3680 VA	4000 VA	5000 VA	6000 VA
Peak EPS output power	6000 VA 2 times of rated power, 10s	7360 VA 2 times of rated power, 10s	8000 VA 2 times of rated power, 10s	10000 VA 2 times of rated power, 10s	12000 VA 2 times of rated power, 10s
Switchover time	< 4 ms				
EFFICIENCY					
Max. efficiency	97.6%				
European efficiency	97.0%				
ENVIRONMENT LIMIT					
Ingress protection	IP65				
Operating temperature range	-25 ~ 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					
Dimensions (W × H × D)	397 × 490 × 201 mm				
Net weight	16.5 kg			17.3 kg	
Cooling concept	Natural cooling			Smart air cooling	
Communication interfaces	RS485, CAN, USB, DI/DO				
Display	LCD				
Topology	Non-isolated for PV side / HF for battery side				
Certifications	NRS 097-2-1, IEC 61727, IEC 62116, PEA, MEA, BIS, EN IEC 62109-1 / -2				
PROTECTION					
Protections	Over / under voltage protection, DC isolation protection, DC reverse-polarity protection, Back feed current monitoring, Residual current detection, Active anti-islanding method, 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 The AC frequency range may vary from different country codes