

# Single-phase Low-voltage Residential Hybrid Inverter



## X1-HYB-LV

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



### Smart Management

- Single unit UPS-level switchover time < 4 ms
- Global MPP scan for optimal energy harvest
- Smart loads management
- CT compatibility with fast load response in just 0.3 seconds



### 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. 120A 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. 16A DC input current for high-power solar panel

\* Feature to be upgraded in the future

PV INPUT					
Max. recommended PV array power	6000 Wp	7360 Wp	8000 Wp	10000 Wp	12000 Wp
Max. PV input voltage <sup>①</sup>	550 V				
Nominal PV input voltage	360 V				
MPPT voltage range <sup>②</sup>	80 ~ 520 V				
Start-up voltage	110 V				
No. of MPP trackers / Strings per MPP tracker	2 / (1 / 1)				
Max. input current per MPPT(MPPT1/2)	16 A / 16 A				
Max. input short circuit current per MPPT(MPPT1/2)	20 A / 20 A				
AC INPUT & OUTPUT(ON-GRID)					
Rated output power	3000 W	3680 W	4000 W	5000 W	6000 W
Max. output apparent power	3300 VA	3680 VA	4400 VA	5000 VA	6000 VA
Max. output continuous current	15.0 A	16.0 A	20.0 A	22.7 A	27.3 A
Nominal AC voltage	1 / N / PE, 220 / 230 / 240 V				
Max. AC input apparent power	6000 VA	7360 VA	8000 VA	9200 VA	
Max. AC input current	26.1 A	32.0 A	34.8 A	40.0 A	
Nominal 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 range	40 ~ 60 V				
Max. charge / discharge current	75 A			120 A	
EPS (OFF-GRID) OUTPUT (WITH BATTERY)					
Rated EPS output voltage, frequency	230 V, 50 Hz / 60 Hz				
Peak EPS output power	6000 VA, 10 s	7360 VA, 10 s	8000 VA, 10 s	10000 VA, 10 s	12000 VA, 10 s
Switchover time	< 4 ms				
EFFICIENCY					
Max. efficiency	97.6%				
European efficiency	97.0%				
ENVIRONMENT LIMIT					
Ingress protection	IP65				
Operating ambient temperature range <sup>③</sup>	-25 ~ 60°C				
Max. operating altitude	3000 m				
Relative humidity	4 ~ 100% RH (condensing)				
GENERAL					
Dimensions (W × H × D)	397 × 490 × 201 mm				
Net weight	16.5 kg			17.3 kg	
Cooling concept	Nature cooling			Smart cooling	
Communication interfaces	CAN, RS485, CT, Meter, NTC, WiFi, WiFi+LAN				
Topology	Transformerless for PV side / HF for battery side				
Certificates and approvals	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				
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 Derating above +45°C