

# Three-phase Residential Hybrid Inverter



## X3-HYB G4 PRO

4kW / 5kW / 6kW / 8kW  
10kW / 12kW / 15kW



### Smart Management

- V2X ready for smart home energy integration
- Smart Schedule, Smart Scene, and 7\*24h TOU
- Wireless meter compatibility
- VPP ready with a variety of compatibility(OpenADR, IEEE2030.5, FCAS, API)\*



### High Performance

- 20A DC input per MPPT with 3 trackers
- 200% PV oversizing and up to 110% AC output
- Ultra-wide MPPT range of 110-950V



### Assured Reliability

- Up to 200% EPS output for 10s
- UPS-level switchover time <10ms
- Optional Rapid Shutdown function for enhanced safety
- Type II SPD on AC&DC side
- Optional AFCI protection\*

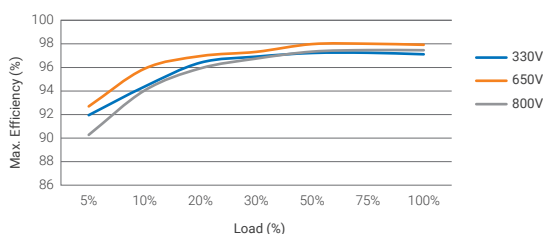


### Flexible Adaptability

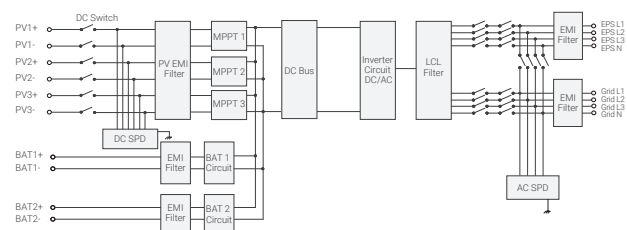
- Dual battery ports & 2-in-1 function for expansion
- Additional ports for simplified wiring and installation
- Functional and stylish wiring cover
- Microgrid and generator modes for versatile operations

\* Feature to be upgraded in the future

### Efficiency Curve (15kW)



### Circuit Diagram



| PV INPUT  |   |                              |          |                    |                               |          |                                |
|---|---|------------------------------|----------|--------------------|-------------------------------|----------|--------------------------------|
| Max. recommended PV array power                       | 8 kWp   | 10 kWp                       | 12 kWp   | 16 kWp             | 20 kWp                        | 24 kWp   | 30 kWp                         |
| Max. PV input voltage <sup>①</sup>                    | 1000 V  |                              |          |                    |                               |          |                                |
| Nominal PV input voltage                              | 650 V   |                              |          |                    |                               |          |                                |
| Operating voltage range                               | 110 ~ 950 V   |                              |          |                    |                               |          |                                |
| MPPT voltage range <sup>②</sup>                       | 110 ~ 950 V   |                              |          |                    |                               |          |                                |
| Start-up voltage                                      | 120 V   |                              |          |                    |                               |          |                                |
| No. of MPP trackers / Strings per MPP tracker         | 2 (1 / 1)   |                              |          | 3 (1 / 1 / 1)      |                               |          |                                |
| Max. input current per MPPT (MPPT1/2/3)               | 20 A / 20 A   |                              |          | 20 A / 20 A / 20 A |                               |          |                                |
| Max. input short circuit current per MPPT (MPPT1/2/3) | 25 A / 25 A   |                              |          | 25 A / 25 A / 25 A |                               |          |                                |
| AC INPUT & OUTPUT (ON-GRID)                           |   |                              |          |                    |                               |          |                                |
| Rated output power                                    | 4000 W  | 5000 W<br>(AS 4777 4999 W)   | 6000 W   | 8000 W             | 10000 W<br>(AS 4777 9999 W)   | 12000 W  | 15000 W<br>(AS 4777 14999 W)   |
| Rated output current                                  | 5.8 A   | 7.2 A                        | 8.7 A    | 11.6 A             | 14.5 A                        | 17.5 A   | 21.8 A                         |
| Max. output apparent power                            | 4400 VA   | 5500 VA<br>(AS 4777 4999 VA) | 6600 VA  | 8800 VA            | 11000 VA<br>(AS 4777 9999 VA) | 13200 VA | 16500 VA<br>(AS 4777 14999 VA) |
| Max. output continuous current                        | 6.7 A   | 6.7 A                        | 8.4 A    | 10.0 A             | 13.4 A                        | 20.0 A   | 25.0 A                         |
| Nominal AC voltage                                    | 3 / N / PE, 220 / 380 V<br>3 / N / PE, 230 / 400 V  |                              |          |                    |                               |          |                                |
| Max. AC input apparent power                          | 8.4 kVA   | 10.5 kVA                     | 12.6 kVA | 16.8 kVA           | 21.0 kVA                      |          |                                |
| Max. AC input current                                 | 12.2 A  | 15.2 A                       | 18.2 A   | 24.3 A             | 30.4 A                        |          |                                |
| Nominal AC frequency                                  | 50 Hz / 60 Hz   |                              |          |                    |                               |          |                                |
| AC frequency range <sup>③</sup>                       | 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  | Lithium   |                              |          |                    |                               |          |                                |
| Battery voltage range                                 | 130 ~ 800 V   |                              |          |                    |                               |          |                                |
| Max. charge / discharge current <sup>④</sup>          | 50 A (25 A × 2)   |                              |          |                    |                               |          |                                |
| EPS (OFF-GRID) OUTPUT (WITH BATTERY)                  |   |                              |          |                    |                               |          |                                |
| Rated EPS output voltage, frequency                   | 400 V / 230 V, 50 Hz / 60 Hz  |                              |          |                    |                               |          |                                |
| Rated EPS output power                                | 4 kVA   | 5 kVA                        | 6 kVA    | 8 kVA              | 10 kVA                        | 12 kVA   | 15 kVA                         |
| Peak EPS output power                                 | 2 times of rated power, 10 s  |                              |          |                    |                               |          |                                |
| Switchover time                                       | < 10 ms   |                              |          |                    |                               |          |                                |
| EFFICIENCY  |   |                              |          |                    |                               |          |                                |
| Max. efficiency                                       | 98.0%   |                              |          |                    |                               |          |                                |
| European efficiency                                   | 97.7%   |                              |          |                    |                               |          |                                |
| ENVIRONMENT LIMIT                                     |   |                              |          |                    |                               |          |                                |
| Ingress protection                                    | IP66  |                              |          |                    |                               |          |                                |
| Operating ambient temperature range <sup>⑤</sup>      | -35 ~ 60°C  |                              |          |                    |                               |          |                                |
| Max. operating altitude                               | 3000 m  |                              |          |                    |                               |          |                                |
| Relative humidity                                     | 0 ~ 100% RH (condensing)  |                              |          |                    |                               |          |                                |
| Overvoltage Category                                  | Mains: III, Battery: II, PV: II   |                              |          |                    |                               |          |                                |
| GENERAL   |   |                              |          |                    |                               |          |                                |
| Dimensions (W × H × D)                                | 560 × 503 × 210 mm  |                              |          |                    |                               |          |                                |
| Net weight  | 38 kg   |                              |          |                    |                               |          |                                |
| Cooling concept                                       | Nature cooling  |                              |          |                    | Smart cooling                 |          |                                |
| Communication interfaces                              | COM1 (Parallel 1, Parallel 2, BMS 1, BMS 2, RS485, Meter / CT); COM2 (DI/DO, EVC, DATAHUB, DRM, V2X, Heatpump)  |                              |          |                    |                               |          |                                |
| Power consumption (night)                             | < 40 W for standby, < 5 W for idle  |                              |          |                    |                               |          |                                |
| Topology  | Non-isolated  |                              |          |                    |                               |          |                                |
| Certificates and approvals                            | IEC62109-1 / IEC62109-2, VDE 0126-1-1 A1:2012, VDE-AR-N 4105, G98, G99, AS4777, EN50549, CEI 0-21   |                              |          |                    |                               |          |                                |
| PROTECTION  |   |                              |          |                    |                               |          |                                |
| Protection  | 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                          | Frequency shift   |                              |          |                    |                               |          |                                |
| Surge protection (DC / AC)                            | DC: Type II, AC: Type II  |                              |          |                    |                               |          |                                |
| Arc-fault circuit interrupter (AFCI)                  | Optional  |                              |          |                    |                               |          |                                |

①The maximum input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage the inverter ②Input voltage exceeding the MPPT voltage range may trigger inverter protection ③The AC frequency range may vary from different country codes ④If each of the two battery ports is connected to a separate battery, it's 25A per port. If one port is connected to a single battery, it's 30A. If both ports are connected to a single battery using a 2-in-1 splitter cable(sold separately), it's 50A ⑤Derating above +45°C