# Three-phase C&I On-grid Inverter

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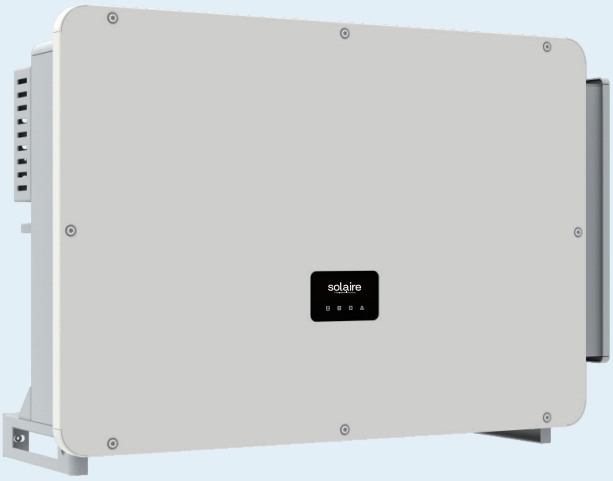


# X3-FORTH

**75kW / 80kW / 100kW / 110kW**
**120kW / 125kW / 136kW / 150kW**

## High Efficiency

- Up to 99% efficiency
- 32A per MPP tracker
- 180~1000Vdc MPPT voltage range
- 150% PV oversizing, 110% overloading output
- Max. 12 MPPTs, 2 strings per MPP tracker

## Assured Safety

- IP66 protection degree
- AFCI support (optional)
- AC terminal temperature detection
- String current monitoring
- 24 hours operation monitoring
- Type II SPD on AC&DC side

## Intelligent Design

- Night-time reactive power compensation
- Smart air cooling enhances fan longevity
- Heat dissipation reduces system weight & size by over 5%
- I-V curve diagnosis

## Flexible Adaptability

- Built-in export power control function
- Remote setting and upgrading
- Aluminium AC cable connection available

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| | X3-FTH-75K | X3-FTH-80K | X3-FTH-100K | X3-FTH-110K | X3-FTH-120K | X3-FTH-125K | X3-FTH-136K-MV | X3-FTH-150K-MV |
|---|---|---|---|---|---|---|---|---|
| **PV INPUT** | | | | | | | | |
| Max. recommended PV array power | 120 kWp | 120 kWp | 150 kWp | 165 kWp | 180 kWp | 188 kWp | 204 kWp | 225 kWp |
| Max. PV input voltage① | 1100 V | | | | | | | |
| Nominal PV input voltage② | 580 V / 600 V | 580 V / 600 V | 580 V / 600 V | 580 V / 600 V | 580 V / 600 V | 580 V / 600 V | 730 V / 785 V | 730 V / 785 V |
| Operating voltage range | 200 ~ 1000 V | | | | | | | |
| MPPT voltage range③ | 180 ~ 1000 V | | | | | | | |
| Start-up voltage | 200 V | | | | | | | |
| No. of MPP trackers / Strings per MPP tracker | 9 / 2 | 9 / 2 | 9 / 2<br>12 / 2④ | 9 / 2<br>12 / 2④ | 12 / 2 | 12 / 2 | 12 / 2 | 12 / 2 |
| Max. input current per MPPT | 32 A | | | | | | | |
| Max. input short circuit current per MPPT | 46 A | | | | | | | |
| **AC OUTPUT** | | | | | | | | |
| Rated output power | 75 kW | 80 kW | 100 kW | 110 kW | 120 kW | 125 kW | 136 kW | 150 kW |
| Rated output current② | 113.7 A / 108.7 A | 121.3 A / 116 A | 151.6 A / 145 A | 166.7 A / 159.5 A | 181.9 A / 174 A | 189.4 A / 181.2 A | 157.1 A / 145.4 A | 173.2 A / 160.4 A |
| Max. output apparent power | 75 kVA | 88 kVA | 110 kVA | 121 kVA | 132 kVA | 132 kVA | 149.6 kVA | 165 kVA |
| Max. output continuous current② | 113.7 A / 108.7 A | 133.4 A / 127.6 A | 166.7 A / 159.5 A | 183.4 A / 175.4 A | 200 A / 191.3 A | 200 A / 191.3 A | 172.8 A / 160 A | 190.6 A / 176.5 A |
| Nominal AC voltage | 3 / (N) / PE, 220 / 380 V<br>3 / (N) / PE, 230 / 400 V | | | | | | 3 / PE, 500 / 540 V | |
| Nominal AC frequency | 50 Hz / 60 Hz | | | | | | | |
| AC frequency range⑤ | 50 ± 5 Hz / 60 ± 5 Hz | | | | | | | |
| Adjustable Power Factor range | ~ 1 (0.8 lagging to 0.8 leading) | | | | | | | |
| THDi (rated power) | < 3% | | | | | | | |
| **EFFICIENCY** | | | | | | | | |
| Max. efficiency | 98.6% | | | | | | 99.0% | |
| European efficiency | 98.3% | | | | | | 98.5% | |
| **ENVIRONMENT LIMIT** | | | | | | | | |
| Ingress protection | IP66 | | | | | | | |
| Operating ambient temperature range | -25 ~ 60°C | | | | | | | |
| Max. operating altitude | 4000 m | | | | | | | |
| Relative humidity | 0 ~ 100% RH | | | | | | | |
| Overvoltage Category | Mains: III, PV: II | | | | | | | |
| **GENERAL** | | | | | | | | |
| Dimensions (W × H × D) | 985 × 660 × 327.5 mm | | | | | | | |
| Net weight | 83 kg | | | | 87 kg | | | |
| Cooling concept | Smart cooling | | | | | | | |
| Communication interfaces | RS485, DRM | | | | | | | |
| Power consumption (night) | < 10 W | | | | | | | |
| Topology | Non-isolated | | | | | | | |
| Certificates and approvals | IEC/EN 62109-1, IEC/EN 62109-2, NB/T 32004, EN 50549, AS4777.2, VDE4105, IEC 61727, IEC 62116, IEC 61683, IEC 60068, EN 50530 | | | | | | | |
| AC auxiliary power supply (APS) | Build-in | | | | | | | |
| **PROTECTION** | | | | | | | | |
| Protections | Over / under voltage protection, DC reverse-polarity protection, DC isolation protection, Grid monitoring, DC injection monitoring, Back feed current monitoring, Residual current detection, Over temperature protection, String fault detection, 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 | | | | | | | |
| Anti-PID | External | | | | | | | |

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 two data refer to different grid voltage 220V/230V (75~125kW models) or 500V/540V (136~150kW models)
③ Input voltage exceeding the MPPT voltage range may trigger inverter protection
④ 9/12MPPTs is optional for 100kW and 110kW models
⑤ The AC frequency range may vary from different country codes