

# P3-S

## THREE-PHASE HYBRID INVERTER

Harness the power of the sun day and night with the ground-breaking range of Hybrid inverter from Fox ESS. Full of advanced features and compatible with our very own range of high-voltage batteries, the hybrid range from Fox ESS.



**5kW ...>>> 15kW**



Advanced System Monitoring  
with **FoxCloud 2.0**



### HIGH EFFICIENCY

Includes high-voltage batteries for maximum round-trip efficiency.



### EASY INSTALLATION

Flexible configuration, plug and play set-up, built-in fuse protection.



### IP65 RATED

Engineered to last with maximum flexibility. Suitable for outdoor installation.



### REMOTE MONITORING

- Monitor your system remotely via smartphone App or Web portal.
- AI assistant helps better understand and manage your system.



[www.fox-ess.com](http://www.fox-ess.com)

## TECHNICAL SPECIFICATIONS

| MODEL                                               | P3-5.0-SH                                                                                                          | P3-6.0-SH   | P3-8.0-SH                                     | P3-10.0-SH                | P3-12.0-SH        | P3-15.0-SH        |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-------------|-----------------------------------------------|---------------------------|-------------------|-------------------|
| PV INPUT                                            |                                                                                                                    |             |                                               |                           |                   |                   |
| Max. Array Power [Wp]                               | 11000                                                                                                              | 14000       | 18000                                         | 20000                     | 24000             | 30000             |
| Max. DC Input Power [W]                             | 11000                                                                                                              | 13200       | 17600                                         | 18000                     | 22500             | 22500             |
| Max. DC Voltage [V]                                 |                                                                                                                    |             |                                               | 1000 <sup>[1]</sup>       |                   |                   |
| Nominal DC Operating Voltage [V]                    |                                                                                                                    |             |                                               | 620                       |                   |                   |
| Max. MPPT Input Current [A]                         | 20/20                                                                                                              | 20/20       | 20/20/20                                      | 20/20/20                  | 20/20/20          | 20/20/20          |
| Max. MPPT Short Circuit Current [A]                 | 25/25                                                                                                              | 25/25       | 25/25/25                                      | 25/25/25                  | 25/25/25          | 25/25/25          |
| Max. MPPT Input Power [W]                           | 10000/10000                                                                                                        | 10000/10000 | 10000/10000/10000                             | 10000/10000/10000         | 10000/10000/10000 | 10000/10000/10000 |
| Min. Operating PV Voltage [V]                       |                                                                                                                    |             |                                               | 90 <sup>[2]</sup>         |                   |                   |
| MPPT Voltage Range [V]                              |                                                                                                                    |             |                                               | 120 ~ 950                 |                   |                   |
| Start-up Input Voltage [V]                          |                                                                                                                    |             |                                               | 140                       |                   |                   |
| No. of MPP Trackers                                 | 2                                                                                                                  | 2           | 3                                             | 3                         | 3                 | 3                 |
| Strings per MPP Tracker                             | 1+1                                                                                                                | 1+1         | 1+1+1                                         | 1+1+1                     | 1+1+1             | 1+1+1             |
| BATTERY                                             |                                                                                                                    |             |                                               |                           |                   |                   |
| Battery Type                                        |                                                                                                                    |             |                                               | Lithium-Ion battery (LFP) |                   |                   |
| Battery Voltage [V]                                 |                                                                                                                    |             |                                               | 100 ~ 800                 |                   |                   |
| Min. Operating Battery Voltage [V]                  |                                                                                                                    |             |                                               | 100                       |                   |                   |
| Min. Battery Voltage @Full AC Load [V]              | 108                                                                                                                | 125         | 160                                           | 210                       | 250               | 310               |
| Max. Charge/ Discharge Current [A]                  |                                                                                                                    |             |                                               | 50.0                      |                   |                   |
| Communication Interface                             |                                                                                                                    |             |                                               | CAN                       |                   |                   |
| AC OUTPUT                                           |                                                                                                                    |             |                                               |                           |                   |                   |
| Nominal AC Power [W]                                | 5000                                                                                                               | 6000        | 8000                                          | 10000                     | 12000             | 15000             |
| Max. Apparent AC Power [VA]                         | 5500                                                                                                               | 6600        | 8800                                          | 11000 <sup>[3]</sup>      | 13200             | 16500             |
| Rated Grid Voltage (AC Voltage Range) [V]           |                                                                                                                    |             | 400/230; 380/220, 3L/N/PE                     |                           |                   |                   |
| Rated Grid Frequency [Hz]                           |                                                                                                                    |             | 50/60, ±5                                     |                           |                   |                   |
| Rated AC Current [A] (Per Phase) <sup>[4]</sup>     | 7.6                                                                                                                | 9.1         | 12.1                                          | 15.2                      | 18.2              | 22.7              |
| Max. AC Current [A] (Per Phase) <sup>[4]</sup>      | 8.3                                                                                                                | 10.0        | 13.3                                          | 16.7                      | 20.0              | 25.0              |
| Power Factor                                        |                                                                                                                    |             | I(Adjustable from 0.8 leading to 0.8 lagging) |                           |                   |                   |
| THDI [%]                                            |                                                                                                                    |             | <3 @rated power                               |                           |                   |                   |
| AC INPUT                                            |                                                                                                                    |             |                                               |                           |                   |                   |
| Max. AC Power [VA]                                  | 6000                                                                                                               | 7200        | 9600                                          | 12000                     | 14400             | 18000             |
| Rated Grid Voltage (AC Voltage Range) [V]           |                                                                                                                    |             | 400/230; 380/220, 3L/N/PE                     |                           |                   |                   |
| Rated Grid Frequency [Hz]                           |                                                                                                                    |             | 50/60, ±5                                     |                           |                   |                   |
| Max. AC Current [A] (Per Phase)                     | 9.1                                                                                                                | 10.9        | 14.5                                          | 18.2                      | 21.8              | 24.2              |
| EPS OUTPUT                                          |                                                                                                                    |             |                                               |                           |                   |                   |
| Max. Apparent AC Power [VA]                         | 5000                                                                                                               | 6000        | 8000                                          | 10000                     | 12000             | 15000             |
| Peak Apparent AC Power [VA] (60s)                   | 6000                                                                                                               | 7200        | 9600                                          | 12000                     | 14400             | 15000             |
| Rated Output Voltage [V]                            |                                                                                                                    |             | 400/230; 380/220, 3L/N/PE                     |                           |                   |                   |
| Rated Grid Frequency [Hz]                           |                                                                                                                    |             | 50/60                                         |                           |                   |                   |
| EPS Max. Current [A] (Per Phase)                    | 7.2                                                                                                                | 8.7         | 11.6                                          | 14.5                      | 17.4              | 21.7              |
| Power Factor                                        |                                                                                                                    |             | I(Adjustable from 0.8 leading to 0.8 lagging) |                           |                   |                   |
| Switch Time [ms]                                    |                                                                                                                    |             | <10                                           |                           |                   |                   |
| THDV [%]                                            |                                                                                                                    |             | <3 @Linear load                               |                           |                   |                   |
| EFFICIENCY                                          |                                                                                                                    |             |                                               |                           |                   |                   |
| MPPT Efficiency [%]                                 |                                                                                                                    |             | 99.90                                         |                           |                   |                   |
| Max. Efficiency [%]                                 | 97.30                                                                                                              | 97.70       | 97.70                                         | 97.90                     | 97.90             | 97.90             |
| European Efficiency [%]                             |                                                                                                                    |             | 97.20                                         |                           |                   |                   |
| PROTECTION                                          |                                                                                                                    |             |                                               |                           |                   |                   |
| PV Reverse Polarity Protection                      |                                                                                                                    |             | YES                                           |                           |                   |                   |
| Battery Reverse Protection                          |                                                                                                                    |             | YES                                           |                           |                   |                   |
| Anti-Islanding Protection                           |                                                                                                                    |             | YES                                           |                           |                   |                   |
| Output Short Protection                             |                                                                                                                    |             | YES                                           |                           |                   |                   |
| Leakage Current Protection                          |                                                                                                                    |             | YES                                           |                           |                   |                   |
| Insulation Resistor Detection                       |                                                                                                                    |             | YES                                           |                           |                   |                   |
| Overvoltage Category                                |                                                                                                                    |             | III(AC side), II(DC side)                     |                           |                   |                   |
| Reverse Connect Protection                          |                                                                                                                    |             | YES                                           |                           |                   |                   |
| Overcurrent Protection / Overtemperature Protection |                                                                                                                    |             | YES                                           |                           |                   |                   |
| DC/AC Surge Protection                              |                                                                                                                    |             | Type II(PV)/Type II(AC)                       |                           |                   |                   |
| AFCI Protection                                     |                                                                                                                    |             | Optional                                      |                           |                   |                   |
| DC Switch                                           |                                                                                                                    |             | YES                                           |                           |                   |                   |
| GENERAL DATA                                        |                                                                                                                    |             |                                               |                           |                   |                   |
| Dimensions (W*H*D) [mm]                             |                                                                                                                    |             | 600*450*226                                   |                           |                   |                   |
| Dimension of Packing (W*H*D) [mm]                   |                                                                                                                    |             | 665*545*390                                   |                           |                   |                   |
| Net Weight [kg]                                     |                                                                                                                    |             | 34                                            |                           |                   |                   |
| Gross Weight [kg]                                   |                                                                                                                    |             | 40                                            |                           |                   |                   |
| Installation                                        |                                                                                                                    |             | Wall-mounted                                  |                           |                   |                   |
| Operating Temperature Range [°C]                    |                                                                                                                    |             | -25 ~ +60 (Derating at 45)                    |                           |                   |                   |
| Storage Temperature [°C]                            |                                                                                                                    |             | -40 ~ +70                                     |                           |                   |                   |
| Storage/Operation Relative Humidity [%]             |                                                                                                                    |             | 0 ~ 100                                       |                           |                   |                   |
| Altitude [m]                                        |                                                                                                                    |             | <4000 @Derating exceeding 2000                |                           |                   |                   |
| Protective Class                                    |                                                                                                                    |             | I                                             |                           |                   |                   |
| Ingress Protection                                  |                                                                                                                    |             | IP65 (For outdoor use)                        |                           |                   |                   |
| Standby Consumption [W]                             |                                                                                                                    |             | 20 ~ 25                                       |                           |                   |                   |
| standby Mode                                        |                                                                                                                    |             | YES                                           |                           |                   |                   |
| Cooling                                             | Natural                                                                                                            | Natural     | Natural                                       | Natural                   | FAN cooling       | FAN cooling       |
| Noise Grade [dB]                                    | <40                                                                                                                | <40         | <40                                           | <40                       | <55               | <55               |
| Inverter Topology                                   |                                                                                                                    |             | Non-isolated                                  |                           |                   |                   |
| Communication Interface                             | Ethernet, EMS(RS485), Meter, WiLAN(Wifi+LAN+Bluetooth), 4G(Optional), DRM, Ripple Control, USB, BMS(CAN), SG Ready |             |                                               |                           |                   |                   |
| Button                                              | Capacitive touch sensor *4                                                                                         |             |                                               |                           |                   |                   |
| Buzzer                                              | 1, inside(EPS&Earth fault)                                                                                         |             |                                               |                           |                   |                   |

[1] For 1000V system, PV Maximum operating voltage is 950V.

[2] The starting working voltage of the power supply is 90V.

[3] Belgian safety regulations require an apparent power of 10000W to be 10000VA.

[4] Per-phase output current can be increased via remote settings. After enabling the expansion function, the inverter can deliver up to 22.7A output current per phase.