AVOCADO

IP66 RATED | EPS FUNCTION | -20°C ~ 55°C | 95% DOD



Powered by Fox ESS

DATASHEET

# P50

**ENERGY** STORAGE SYSTEM

**P50**

A next-generation energy storage system solution with a fully-integrated inverter/charger and boasting a range of advanced features.

**5kW** ···» **30kW**

**5kWh** ···» **15kWh**

Off-Grid



Advanced System Monitoring with FoxCloud **V2.0**

For more information about the Fox ESS range, visit:
www.fox-ess.com

## FULLY INTEGRATED STORAGE SYSTEM

Seamlessly integrated, truly all-in-one solution.

## LESS IS MORE

Sleek, minimalist design for effortless one-step installation.

## DOUBLE OFF-GRID BACKUP CAPABILITY

The system experienced a 200% overload for 10 seconds.

## 4MS

Support 4ms parallel off-grid switching

## TECHNICAL SPECIFICATIONS

| MODEL | | P50-5-H | P50-6-H | P50-7-H | P50-8-H | P50-9-H | P50-10-H |
|---|---|---|---|---|---|---|---|
| **PV INPUT (ONLY FOR HYBRID)** | | | | | | | |
| Max. PV array power[W] | | 16000 | 16000 | 20000 | 20000 | 20000 | 20000 |
| Max. Input Power [W] | | 10000 | 11000 | 12000 | 1300 | 14000 | 15000 |
| Max. MPPT Input Power [W] | | 8000/8000 | 8000/8000 | 8000/8000/8000 | 8000/8000/8000 | 8000/8000/8000 | 8000/8000/8000 |
| Max. Input Voltage [V] | | | | | 600 | | |
| Start-up Input Voltage [V] | | | | | 80 | | |
| Rated Input Voltage [V] | | | | | 360 | | |
| MPPT Operating Voltage Range [V] | | | | | 80 ~ 550 | | |
| Max. Input Current [A] | | 20/20 | 20/20 | 20/20/20 | 20/20/20 | 20/20/20 | 20/20/20 |
| Max. Short-circuit Current [A] | | 25/25 | 25/25 | 25/25/25 | 25/25/25 | 25/25/25 | 25/25/25 |
| No. of Independent MPP Trackers | | 2 | 2 | 3 | 3 | 3 | 3 |
| No. of Strings per MPP Tracker | | | | | 1 | | |
| **BATTERY CONNECTION** | | | | | | | |
| Battery Type | | | | | LFP ($LiFePO_4$) | | |
| Battery Energy [kWh] | | | | | 5.12 | | |
| Depth of Discharge [%] | | | | | 95 | | |
| Cycle Life | | | | | 6000 | | |
| **AC INPUT AND OUTPUT (GRID)** | | | | | | | |
| Output | Rated Power [W] | 5000 | 6000 | 7000 | 8000 | 9000 | 10000 |
| | Rated Apparent Power [VA] | 5000 | 6000 | 7000 | 8000 | 9000 | 10000 |
| | Max. Apparent Power [VA] | 5500 | 6600 | 7700 | 8800 | 9900 | 11000 |
| | Rated Output Current (Per Phase) [A] | 22.7 | 27.3 | 31.8 | 36.4 | 40.9 | 45.5 |
| | Max. AC Current (Per Phase) [A] | 25.0 | 30.0 | 35.0 | 40.0 | 45.0 | 50.0 |
| | THDI | | | | <3%@rated power | | |
| Input | Max. Apparent Power [VA] | 6000 | 7200 | 8400 | 9600 | 10800 | 12000 |
| | Max. Input Current [A] (Per Phase) | 27.3 | 32.7 | 38.2 | 43.6 | 49.1 | 54.5 |
| Output & Input | Nominal Voltage [V] | | | | 220/230/240, L/N/PE | | |
| | Nominal Frequency [Hz] | | | | 50/60, ±5 | | |
| | Power Factor | | | | 1(Adjustable from 0.8 leading to 0.8 lagging) | | |
| | Inrush Current [A] | | | | 15A@0.5ms | | |
| **EPS OUTPUT** | | | | | | | |
| Max. Apparent Power [VA] | | 5000 | 6000 | 7000 | 8000 | 9000 | 10000 |
| Peak Apparent Power [VA] | | 6000@60s | 7200@60s | 8400@60s | 9600@60s | 10800@60s | 12000@60s |
| | | 7500@30s | 9000@30s | 10500@30s | 12000@30s | 13500@30s | 15000@30s |
| | | 10000@10s | 12000@10s | 14000@10s | 16000@10s | 18000@10s | 20000@10s |
| Nominal Voltage [V] | | | | | 220/230/240 | | |
| Nominal Frequency [Hz] | | | | | 50/60 | | |
| Max. Output Current (Per Phase) [A] | | 22.7@220V | 27.3@220V | 31.8@220V | 36.4@220V | 40.9@220V | 45.5@220V |
| Power Factor | | | | | 1(Adjustable) | | |
| Switch Time [ms] | | | | | <4 | | |
| THDV [%] | | | | | <3@Linear Load | | |
| Parallel Operation | | | | | Yes @max 3PCS | | |
| **EFFICIENCY** | | | | | | | |
| Max. Conversion Efficiency [%] | | | | | 97.62 | | |
| European Efficiency [%] | | | | | 97.20 | | |
| Max. Battery Charge Efficiency (PV To BAT) (@full Load) [%] | | | | | 95.40 | | |
| Max. Battery Charge/discharge Efficiency (BAT To AC)(@full Load)[%] | | | | | 94.50 | | |
| **PROTECTION** | | | | | | | |
| Insulation Monitoring | | | | | YES | | |
| Residual Current Monitoring | | | | | YES | | |
| DC Reverse Polarity Protection | | | | | YES | | |
| Anti-islanding Protection | | | | | YES | | |
| AC Short-circuit Protection | | | | | YES | | |
| AC Overcurrent/Overvoltage Protection | | | | | YES | | |
| DC Switch | | | | | YES | | |
| Over Voltage Category | | | | | DC: Type II /AC: Type II | | |
| AFCI Protection | | | | | YES | | |
| **GENERAL DATA** | | | | | | | |
| Dimensions (W*H*D) [mm] | | | | | 584*1009*197 | | |
| Weight [kg] | | | | | 80 | | |
| Installation | | | | | Floor-mounted/Wall-mounted | | |
| Cooling Method | | | | | Intelligent air cooling | | |
| Noise Emission [dB] | | | | | <45, Average | | |
| Max. Operating Altitude [m] | | | | | <4000@Derating exceeding 2000m | | |
| Operating Temperature Range [°C] | | | | | -20 ~ 55 | | |
| Humidity (No Condensation) [%] | | | | | 0 ~ 100 | | |
| Ingress Protection | | | | | IP66 | | |
| Standby Consumption [W] | | | | | ＜20 | | |
| Monitoring Module | | | | | WiFi, LAN, 4G | | |
| Communication Interface | | | | | Ethernet, EMS(RS 485), Meter, WiLAN(WiFi+LAN+Bluetooth), 4G(Optional), DRM, Ripple Control, USB, BMS(CAN), SG Ready | | |
| Display | | | | | LED, LCD, APP, Website | | |
| Support dual EPS expansion | | | | | YES | | |
| **STANDARD COMPLIANCE (MORE AVAILABLE UPON REQUEST)** | | | | | | | |
| Safety | | | | | EN/IEC 62109-1, EN/IEC 62109-2, EN/IEC62477-1,EN/IEC 62040(AU) | | |
| EMC | | | | | EN IEC 61000-6-1:2019, EN IEC 61000-6-3:2021, EN IEC 61000-6-2:2019, EN IEC 61000-6-4:2019, IEC 62920:2017 | | |
| RED | | | | | EN 50665:2017, ENIEC 62311:2020, EN 301 489-1 V2.2.3 (2019-11), EN 301 489-17 V3.2.4 (2020-09), EN 300 328 V2.2.2(2019-07), EN 55032:2015+A11:2020+A1:2020, EN 55035:2017+A11:2020 | | |
| Grid Regulation | | | | | G99, CEI 0-21, AS/NZS 4777.2:2020, NRS 097-2-1, IEC 61727, EN 50549-1, P140/P515 | | |
| Battery Regulation | | | | | IEC62619:2022 | | |
| Transportation | | | | | UN 38.3 | | |
| Environment | | | | | ROHS, REACH, WEEE | | |