

# Off-Grid Solar Inverter

PAT 500W ~ 3000W (with isolated transformer)  
PF = 1



## Features

- High reliability: adopt high-speed DSP control system, combine advanced SPWM technology and high-speed power MOS
- Operating mode selectable: energy storage priority or power supply priority
- No PID attenuation damage for solar panels to ensure their service life
- Flexible battery management system: auto switch three-stage charging mode shortens recharge time; wide charging current is selectable according to configured battery; flexible DOD (Depth of discharge) is settable to meet more applications
- AC input with effective online synchronous stabilizing technology
- No-load auto shutdown function (optional)
- Automatic frequency selection
- Auto Power-On/Off function; real-time monitoring, test and intelligent startup / shutdown by RS232 or USB interface communicating with PC; remote monitoring by optional SNMP networks

## Technical Data

| MODEL                                | PAT 500   | PAT 1000    | PAT 2000     | PAT 3000          |
|--------------------------------------|---|-------------|--------------|-------------------|
| Rated power                          | 500 W   | 1000 W      | 2000 W       | 3000 W            |
| Battery voltage                      | 12 Vdc  | 24 Vdc      | 48 Vdc       |                   |
| <b>PV INPUT</b>                      |   |             |              |                   |
| Max. input voltage (Voc)             | 60 Vdc  | 100 Vdc     | 150 Vdc      |                   |
| Optimum operating voltage (Vmp)      | 16 ~ 48 Vdc   | 33 ~ 80 Vdc | 65 ~ 120 Vdc |                   |
| Max. charging current                | 50 A  |             | 65 A         |                   |
| Recommended PV configuration         | 700 W   | 1400 W      | 2800 W       | 3500 W            |
| <b>AC INPUT</b>                      |   |             |              |                   |
| AC input range (bypass mode)         | 0 ~ 132 Vac / 0 ~ 264 Vac (high-end limit)  |             |              |                   |
| Rated input voltage                  | 100 Vac / 110 Vac / 115 Vac / 120 Vac or 200 Vac / 220 Vac / 230 Vac / 240 Vac ±25%                           |             |              |                   |
| Rated Input frequency                | 50 Hz / 60 Hz ±5 Hz (auto-sense)  |             |              |                   |
| Max. charging current                | 20 A  |             |              | 30 A              |
| <b>INVERTER OUTPUT</b>               |   |             |              |                   |
| Output voltage                       | 100 Vac / 110 Vac / 115 Vac / 120 Vac ±2% or 200 Vac / 220 Vac / 230 Vac / 240 Vac ±2% settable               |             |              |                   |
| Rated output power                   | 500 W   | 1000 W      | 2000 W       | 3000 W            |
| Power factor                         | 1   |             |              |                   |
| Rated output frequency               | 50 Hz / 60 Hz ±1%   |             |              |                   |
| Waveform                             | Sinusoidal  |             |              |                   |
| Max. efficiency (resistive load)     | ≥ 78%   | ≥ 82%       | ≥ 85%        | ≥ 85%             |
| Sleep mode                           | Settable (< 3% load) access in ≤ 2 min  |             |              |                   |
| Output voltage harmonic              | ≤ 3% (linear load)  |             |              |                   |
| <b>BATTERIES</b>                     |   |             |              |                   |
| Charging current                     | 5 ~ 50 A settable   |             |              | 5 ~ 65 A settable |
| DOD                                  | 9.6 ~ 13.0 Vdc / cell (settable), 10.8 Vdc / cell (default)   |             |              |                   |
| EOD                                  | 9.6 ~ 11.5 Vdc / cell (settable), 10.2 Vdc / cell (default)   |             |              |                   |
| Equalizing charge voltage            | 13.6 ~ 15.0 Vdc / cell (settable), 14.1 Vdc / cell (default)  |             |              |                   |
| Floating charge voltage              | 13.2 ~ 14.6 Vdc / cell (settable), 13.5 Vdc / cell (default)  |             |              |                   |
| Restoration point of overvoltage     | 15.5 Vdc  | 31.0 Vdc    | 62.0 Vdc     |                   |
| <b>OTHERS</b>                        |   |             |              |                   |
| Transfer time                        | 3 ~ 6 ms (typical); ≤ 10 ms (max.)  |             |              |                   |
| Overload (linear load)               | 105% for 5 mins, 110% for 2 mins, 125% for 1 min, 150% for 10 s, 180% for 1 s                                 |             |              |                   |
| ECO mode (optional)                  | Load < 3% (settable) , Yes / No settable  |             |              |                   |
| No-load shutdown (optional)          | Load < 3% ~ 50%, Yes / No settable  |             |              |                   |
| Load adaptation                      | Inductive load: ≤ 30%; capacitive load: ≤ 50%; resistive load: ≤ 100%   |             |              |                   |
| Protections                          | Output overload – short-circuit – overdischarge – overcharge – battery reverse polarity – PV reverse polarity |             |              |                   |
| Lightning protection                 | Class III   |             |              |                   |
| Communications                       | RS232 / USB / RS485 ; SNMP / WiFi / Bluetooth (optional)  |             |              |                   |
| Standards                            | IEC62040, IEC / EN 61000  |             |              |                   |
| IP rating                            | IP21  |             |              |                   |
| Display                              | LCD & LED   |             |              |                   |
| Operating temperature                | 0°C ~ 40°C  |             |              |                   |
| Relative humidity                    | ≤ 93%   |             |              |                   |
| Noise                                | < 50 dB   |             |              |                   |
| Dimensions (W × D × H) (mm)          | 480 × 380 × 202   |             |              | 480 × 380 × 217   |
| Packaged dimensions (W × D × H) (mm) | 545 × 458 × 278   |             |              | 545 × 458 × 295   |
| Net weight (kg)                      | 17  | 18.8        | 27.7         | 35                |
| Gross weight (kg)                    | 18  | 19.8        | 28.7         | 36                |

Disclaimer:  
• These data in this document are tested under specified conditions. It may result in difference between actual results and these data due to some uncertain factors. The statement about this product is for reference only. It makes no representation or warranty.  
• All specifications subject to change without notice.