



تسلا

یو پی اس، باتری یو پی اس و استابلایزر



# AP 160N

1-10 kVA Singlephase Online Double Conversion UPS



- + DATACENTER & SERVERS
- + INTERNET CENTERS, LAN
- + MEDICAL DEVICES
- + TELECOMMUNICATION DEVICES
- + INDUSTRIAL APPLICATION





# Technical specifications

| Model                           | APN1K   | APN1K-KS* | APN2K         | APN2K-KS* | APN3K          | APN3K-KS*   | APN6K         | APN6K-KS*  | APN10K        | APN10K-KS* |  |
|---------------------------------|---|-----------|---------------|-----------|----------------|---|---------------|------------|---------------|------------|--|
| Nominal power                   | 1000VA  |           | 2000VA        |           | 3000VA         |   | 6000VA        |            | 10000VA       |            |  |
| Active power                    | 900W  |           | 1800W         |           | 2700W          |   | 5400W         |            | 9000W         |            |  |
| <b>MAIN INPUT</b>               |   |           |               |           |                |   |               |            |               |            |  |
| Grid system                     | 1 Phase + Neutral + Ground  |           |               |           |                |   |               |            |               |            |  |
| Rated voltage / Frequency       | 220/230/240VAC (Phase-Neutral), 50/60Hz   |           |               |           |                |   |               |            |               |            |  |
| Voltage range                   | 176~276VAC $\pm$ 3% full load<br>120~276VAC $\pm$ 3% at 50% load  |           |               |           |                |   |               |            |               |            |  |
| Frequency range                 | 50/60Hz $\pm$ 10%   |           |               |           |                |   |               |            |               |            |  |
| Power factor                    | >0.99   |           |               |           |                |   |               |            |               |            |  |
| Current THDi                    | $\leq$ 5%   |           |               |           |                |   |               |            |               |            |  |
| <b>BYPASS INPUT</b>             |   |           |               |           |                |   |               |            |               |            |  |
| Grid system                     | 1 Phase + Neutral + Ground  |           |               |           |                |   |               |            |               |            |  |
| Rated voltage / Frequency       | 208/220/230/240VAC (Phase-Neutral), 50/60Hz   |           |               |           |                |   |               |            |               |            |  |
| Voltage range                   | 184~264VAC (default)<br>120~276VAC (maximum range selectable)   |           |               |           |                |   |               |            |               |            |  |
| Frequency range                 | 50/60Hz $\pm$ 10%   |           |               |           |                |   |               |            |               |            |  |
| Bypass overload                 | load<130%, long term operation<br>130%<load<180%, 1 minute  |           |               |           |                |   |               |            |               |            |  |
| <b>OUTPUT</b>                   |   |           |               |           |                |   |               |            |               |            |  |
| Rated voltage / Frequency       | 208**/220/230/240VAC, 50/60Hz   |           |               |           |                |   |               |            |               |            |  |
| Power factor                    | 0.9   |           |               |           |                |   |               |            |               |            |  |
| Voltage THDv                    | $\leq$ 2% (from 0% to 100% linear load);<br>$\leq$ 5% (full non-linear load according to IEC/EN62040-3) |           |               |           |                |   |               |            |               |            |  |
| Voltage precision               | $\pm$ 1% (0-100% linear load)   |           |               |           |                |   |               |            |               |            |  |
| Transient response              | $\pm$ 9% for step load (0-100%; 100-0%)<br>$\pm$ 6% for step load (20-100%; 100-20%)                    |           |               |           |                |   |               |            |               |            |  |
| Transient recovery              | 100ms for step load (0-100%; 100-0%)  |           |               |           |                |   |               |            |               |            |  |
| Inverter overload               | 102<load<130%, 12 seconds<br>>130%, transfer to Bypass  |           |               |           |                | 102<load<130%, 2 minutes<br>130<load<150%, 30 seconds<br>>150%, 100ms |               |            |               |            |  |
| Output waveform                 | Perfect sine wave   |           |               |           |                |   |               |            |               |            |  |
| Frequency regulation            | 50/60Hz $\pm$ 0.2%  |           |               |           |                |   |               |            |               |            |  |
| Crest factor                    | 3:1   |           |               |           |                |   |               |            |               |            |  |
| <b>BATTERIES</b>                |   |           |               |           |                |   |               |            |               |            |  |
| Battery rate voltage            | 36VDC   |           | 48VDC         |           | 72VDC          |   | 180VDC        |            | 240VDC        |            |  |
| Number of batteries             | 3*12V/7.2Ah   |           | 4*12V/9Ah     |           | 6*12V/9Ah      |   | 15*12V/5Ah    |            | 20*12V/9Ah    |            |  |
| Autonomy (at nominal load)      | >3 minutes  |           | >3 minutes    |           | >2.5 minutes   |   | >3 minutes    |            | >3.5 minutes  |            |  |
| Autonomy (at 70% load)          | 8 minutes   |           | 6.5 minutes   |           | 7 minutes      |   | 6.5 minutes   |            | 7 minutes     |            |  |
| Recharge time (at nominal load) | 3 hours (90%)   |           | 3 hours (90%) |           | 3 hours (90%)  |   | 3 hours (90%) |            | 3 hours (90%) |            |  |
| Battery type                    | Pb  |           |               |           |                |   |               |            |               |            |  |
| <b>SISTEMA</b>                  |   |           |               |           |                |   |               |            |               |            |  |
| Efficiency - Normal Mode        | >87%  |           | >89%          |           | >92%           |   | >93%          |            | >94%          |            |  |
| Efficiency - Eco Mode           |   |           | >95%          |           |                |   | >96%          |            | >97%          |            |  |
| Efficiency - Battery Mode       | >83%  |           | >84%          |           | >88%           |   | >90%          |            | >94%          |            |  |
| Display                         | LED + LCD   |           |               |           |                |   |               |            |               |            |  |
| Protection degree               | IP20  |           |               |           |                |   |               |            |               |            |  |
| Interface                       | Standard equipment: RS232, USB<br>Optional: SNMP, AS400N card, MODBUS                                   |           |               |           |                |   |               |            |               |            |  |
| <b>ENVIRONMENT</b>              |   |           |               |           |                |   |               |            |               |            |  |
| Operating temperature           | 0 ~ 40°C  |           |               |           |                |   |               |            |               |            |  |
| Storage temperature             | 0 ~ 45°C  |           |               |           |                |   |               |            |               |            |  |
| Relative humidity               | 0 ~ 95% (no condensing)   |           |               |           |                |   |               |            |               |            |  |
| Noise (dBA)                     | 45dB maximum  |           | 50dB maximum  |           |                |   | 55dB maximum  |            |               |            |  |
| Altitude                        | <1000m  |           |               |           |                |   |               |            |               |            |  |
| <b>MECHANICAL DATA</b>          |   |           |               |           |                |   |               |            |               |            |  |
| Dimensions W*D*H (mm)           | 438*435*2U  |           |               |           | 438*608*2U *** |   | 438*737*3U    | 438*676*3U | 438*737*5U    | 438*676*5U |  |
| Weight (Kg)                     | 15.3  | 9.1       | 30.5          | 12.3      | 33.2           | 13.5  | 46.5          | 18.0       | 82.5          | 32.5       |  |
| Compliance                      | EN61000-4, EN62040-1, IEC62040-2, IEC62040-3, IEC60950-1, IEC62040-1, ETS300019-2-2 ****                |           |               |           |                |   |               |            |               |            |  |