# DSP Series Rackmount UPS

## 1KVA-20KVA

### Wire in/out mode: 1/1, 1/3, 3/1, 3/3

DSP Series Rackmount UPS: High frequency On-line double conversion technology; Universal Rackmount and Tower model.
Parallel function: AC output can be connected in parallel. 1+1 redundancy in power module protects the users' data center.
Application field: High power density data center, bank, security, vending machines system, Telecom/VoIP, etc..
Function: clean and persistent power supply, safeguards key equipment and Apps against shutdown, data loss and process interruption caused by power failure.

- Universal Rackmount and Tower model; Rackmount DSP could be embedded in 19 inch standard cabinet.
- N+1 parallel connection is possible, redundant system ensures a more reliable power supply to the users' load.
- Intelligent fan speed regulation. System adjusts cooling and sends out alarm according to the temperature in the cabinet.
- Intelligent battery management. System controls equalisation and float charging, temperature compensation, discharge timing.
- Variety of intelligent communication. Remote monitoring and control , easy management, suitable for unattended operation.
- Variety of alarms. Real time visual alarm status available.
- Acurate performance via DSP control technology. Variety of protection functions. For example, AC over/under voltage, battery input over/under voltage, inrush current, over temperature, output overcurrent, short circuit protection, output over/under voltage, monitor alarm, audible and visual indication, remote notification, etc.

# DSP Series Rackmount UPS

## DSP11-1KVA/2KVA/3KVA

- Rated power: 1KVA/2KVA/3KVA
- Wire in/out mode: 1/1
- Rack mount and Tower
- S: internal battery
- L: external battery pack

## DSP11-6KVA/10KVA

- Rated power: 6KVA/10KVA
- Wire in/out mode: 1/1
- Rack mount and Tower
- Optional battery pack:
  Lead acid battery or Lithium battery

## DSP-10KVA/15KVA/20KVA

- Rated power: 10KVA/15KVA/20KVA
- Wire in/out mode: 1/1, 1/3, 3/1, 3/3
- Rack mount and Tower
- Optional battery pack:
  Lead acid battery or Lithium battery

**Lithium battery pack**

| Model | Capacity (AH) | Dimension (mm) | Weight (kg) | Model DSP | Full load backup time | Half load backup time | Remarks |
|---|---|---|---|---|---|---|---|
| DUPL2440 | 24V40AH | 430(W)*395(D)*86(H) | 10 | DSP11-1KVA-24L | 55 mins | 120 mins | |
| DUPL4820 | 48V20AH | 430(W)*395(D)*86(H) | 11 | DSP11-2KVA-48L | 24 mins | 55 mins | |
| DUPL7215 | 72V15AH | 430(W)*395(D)*86(H) | 12 | DSP11-3KVA-72L | 17 mins | 39 mins | |
| DUPL24015 | 240V15AH | 430(W)*622(D)*131(H) | 30 | DSP11-6KVA | 34 mins | 75 mins | |
| | | | | DSP11-10KVA | 18 mins | 40 mins | |
| DUPL24015 | 240V15AH | 430(W)*622(D)*131(H) | 30 | DSP-10KVA | 40 mins | 95 mins | Two battery packs for one UPS (±240V) |
| | | | | DSP-15KVA | 25 mins | 55 mins | |
| | | | | DSP-20KVA | 18 mins | 40 mins | |

| Model | DSP11-1KVA-24S<br>DSP11-1KVA-24L | DSP11-2KVA-48S<br>DSP11-2KVA-48L | DSP11-3KVA-72S<br>DSP11-3KVA-72L | DSP11-6KVA | DSP11-10KVA | DSP-10KVA | DSP-15KVA | DSP-20KVA |
|---|---|---|---|---|---|---|---|---|
| Power | 1KVA | 2KVA | 3KVA | 6KVA | 10KVA | 10KVA | 15KVA | 20KVA |
| DC input | | | | | | | | |
| Voltage | 24VDC | 48VDC | 72VDC | 240VDC | | ±240VDC | | |
| Max charging current | 5A | | | 3A | 5A | 2A | 3A | 4A |
| Battery | S:14 mins half load<br>4 mins full load<br>L:external battery | S:14 mins half load<br>4 mins full load<br>L:external battery | S:14 mins half load<br>4 mins full load<br>L:external battery | External battery pack | | | | |
| AC input | | | | | | | | |
| Input rated voltage | 1 phase, 3 Wire, 220V | | | | | 3 phases, 4 Wire, 380V | | |
| Input voltage range | 120 Vac~276 Vac | | | 176 Vac~264Vac | | 304 Vac~456 Vac | | |
| Input current | 4A | 8A | 12A | 34A | 57A | 3*19A | 3*28A | 3*38A |
| Input current harmonic | ⩽ 5% Rated input and linear load | | | ⩽ 3% Rated input and linear load | | | | |
| Input power factor | 0.99 (100% linear load) | | | | | | | |
| Input frequency | 40~70Hz | | | 45~56Hz(output rated linear load) | | | | |
| Frequency Synchro range | ±10% | | | | | | | |
| Frequency synchro rate | 0.5~2Hz/s | | | | | | | |
| AC output | | | | | | | | |
| AC output voltage | 220Vac | | | 220Vac/230Vac/240Vac | | | | |
| Output power factor | 0.9 | | | 0.9 | | | | |
| Output active power | 900W | 1800W | 2700W | 5.4KW | 9KW | 9KW | 13.5KW | 18KW |
| Output frequency | 50HZ | | | 50/60Hz | | | | |
| Output frequency stability | ±0.2 | | | ±0.1(battery power) | | | | |
| Output THDU | 3% (linear load) | | | | | | | |
| Output voltage accuracy | ±2% | | | | | | | |
| Transient range | ±5% (load changing 0% - 100% - 0%) | | | | | | | |
| Transient duration | 20ms | | | | | | | |
| Peak factor | 3:1 (rated input) | | | | | | | |
| Output delay at power-on | 5~60s | | | | | | | |
| Overload | 10min 125% rated load | | | | | | | |
| Overall efficiency | ⩾ 90% | | | ⩾ 93% | | | | |
| Transfer time Bypass-Inverter | ⩽ 2ms | | | | | | | |
| parallel current unbalancedness | 5% ( > 50% load) | | | | | | | |
| Communication | RS232/RS485(optional) / LAN (optional) | | | | | | | |
| Others | | | | | | | | |
| Mounting | Rackmount / tower | | | | | | | |
| Acoustic noise | ≤40dB | ≤45dB | | ≤50dB | ≤55dB | ≤58dB | ≤58dB | ≤58dB |
| MTBF | 350000 | 350000 | 350000 | 100000h | | | | |
| heat-dissipating method | Forced air cooling | | | | | | | |
| Protection level | IP20 | | | | | | | |
| Enclosure material | Cladding aluminum galvanized , cold-rolled steel sheet, panel: plastic spraying processing | | | | | | | |
| Dimension (mm) | 430(W)*402(D)*88(H) | | | 430(W)*622(D)*88(H) | | 430(W)*622(D)*132(H) | | |
| Weight (kg) | S: 20kg<br>L: 10kg | S: 22kg<br>L: 10kg | S: 27kg<br>L: 10kg | 17kg | | 25kg | | |

## Lead acid battery pack

| Model | Capacity (AH) | Dimension (mm) | Weight (kg) | Model DSP | Full load backup time | Half load backup time | Remarks |
|---|---|---|---|---|---|---|---|
| DUP1204L3 | 24V24AH | 430(W)*395(D)*86(H) | 24 | DSP11-1KVA-24L | 20 mins | 50 mins | |
| DUP1204L2 | 48V12AH | 430(W)*395(D)*86(H) | 24 | DSP11-2KVA-48L | 9 mins | 20 mins | |
| DUP1204L6 | 72V8AH | 430(W)*395(D)*86(H) | 24 | DSP11-3KVA-72L | 4 mins | 12 mins | |
| DUP1208M1 | 240V8AH | 430(W)*622(D)*131(H) | 60 | DSP11-6KVA<br>DSP11-10KVA | 10 mins<br>4 mins | 23 mins<br>12 mins | |
| DUP1208M1 | 240V8AH | 430(W)*622(D)*131(H) | 60 | DSP-10KVA<br>DSP-15KVA<br>DSP-20KVA | 12 mins<br>6 mins<br>4 mins | 32 mins<br>17 mins<br>12 mins | Two battery packs for one UPS (±240V) |