# UL2, UL3 Series UPS

## Features

- One of the most advanced and robust UPS in the word today
- Designed to supply various types of single-phase appliances
- Premium quality with over 250,000 hours of MTBF (Mean Time Between Failures)
- Compliance with the global standard IEC 62040-3
- Ultra high efficiency resulting in minimum energy consumption, reduced, operational cost and superb ROI
- UL3 series designed for hight start-up currents, suitable for reactive appliances such as induction loads and swich-mode power supplies

## Technical Specifications

| General | | | | | | |
|---|---|---|---|---|---|---|
| Model | UL2,UL3-2000 | UL2,UL3-3000 | UL2-5000 | UL2,UL3-6000 | UL2-8000 | UL2-10000 |
| Rated power | 2000VA/ 1600W | 3000VA/ 2400W | 5000VA/ 4000W | 6000VA/ 4800W | 8000VA/ 6400W | 10000VA/ 8000W |
| Efficiency | >98% | | | | | |
| Applicable standards | IEC 62040-3 | | | | | |
| Dimensions (WxDxH) | 192x480x280mm | | 192x530x350mm | | 193x673x508mm | |
| Weight (kg) | 25.5kg | 32kg | 39kg | 49kg | 67kg | 80kg |
| **Environmental** | | | | | | |
| Storage temperature | -20°C to +70°C | | | | | |
| Operating temperature | 0°C to 40°C | | | | | |
| Altitude | ≤3000m | | | | | |
| Humidity | 0 to 95% non-condensing | | | | | |
| Degree of protection against hazards and water ingress (IP) | IP 20 | | | | | |
| Acoustic noise at 1m | <50dBA | | | | | |
| **Input** | | | | | | |
| Phases request | 1 | | | | | |
| Rated voltage | 220Vac | | | | | |
| Maximum input voltage in stored energy mode | 440Vac | | | | | |
| Maximum input voltage in normal mode | 255Vac | | | | | |
| Minimum acceptable input voltage in normal mode and nominal load (Vac) | 165Vac | | | | | |
| Frequency range | 50±5%HZ (±1% to ±6% Adjustable) | | | | | |
| Current THDi | Same as the load | | | | | |
| Input power factor at normal mode and nominal load | Same as the load | | | | | |
| Generator compatibility | Generator must provide UPS input power based on maximum start-up plus battery charging power | | | | | |

| Inverter's Electrical Output Specifications | | | | | | |
|---|---|---|---|---|---|---|
| Output phases available | 1 | | | | | |
| Output wave | sine wave | | | | | |
| Rated voltage | 220Vac | | | | | |
| Voltage regulation | ±1% | | | | | |
| Output frequency | 50Hz | | | | | |
| Output frequency Range | 50Hz ±0.0001 (Free running) | | | | | |
| Acceptable input frequency for output synchronization | 50Hz±5% (±1% to ±6% Adjustable) | | | | | |
| Max sync phase error (Degrees) | 6 | | | | | |
| Apparent power | 2000VA | 3000VA | 5000VA | 6000VA | 8000VA | 10000VA |
| Active power in linear load | 1600W | 2400W | 4000W | 4800W | 6400W | 8000W |
| Active power in non-linear reference load | 1600W | 2400W | 4000W | 4800W | 6400W | 8000W |
| Start-up current capacity | 200,300 % | 200,400 % | 200% | 200,300 % | 200% | 200% |
| Overload | 120%@100Sec. | | | | | |
| THD<br>linear load<br>non-linear load | <br><3%<br><5% | | | | | |
| Power factor (lead to lag) | Unlimited | | | | | |
| Max output voltage variation from no load to nominal load or changing UPS operation mode | <10% | | | | | |
| Recovery time from start of changes to 90% output correction | <3mS | | | | | |
| **Battery and Charger** | | | | | | |
| Normal voltage | 48Vac | | | | | |
| Battery type | All types of lead acid and gel, sealed or vented | | | | | |
| Battery installation | External battery | | | | | |
| Capability to add more packs or Battery Ah | Yes | | | | | |
| Max allowed battery capacity to complete recharge under 12 hours | 100Ah | 150Ah | 250Ah | 300Ah | 350Ah | 400Ah |
| Charger type | Standard charger technology DIN-41773 | | | | | |
| Capability to adjust recharge current according to number of battery packs and Ah | Yes | | | | | |
| Float and boost charging method | Yes | | | | | |
| Maximum adjustable battery recharge current | 10A | 15A | 25A | 30A | 35A | 40A |
| Minimum adjustable battery recharge current | 2.5A | 3A | 6A | 7.5A | 10A | 12A |
| Minimum time required to recharge battery to 90% nominal capacity | 4h | | | | | |
| SCM recharge method | Yes | | | | | |
| Capability to automatically adjust current or charger voltage | Yes | | | | | |

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|---|---|
| **Life** | |
| Mean Time Between Failures (MTBF) | 250,000h |
| Temperature of input electrolytic capacitors of the inverter | |
| ambient temperature 20°C | 25°C |
| ambient temperature 40°C | 45°C |
| Percentage of overall time when fans are turned on in nominal load | <1% |
| **Isolation** | |
| Magnetic isolation by iron core between AC and DC | Yes (Transformer Based) |
| Material of winding in isolated transformer | 100% copper winding |
| Isolation class | F |
| **Protections** | |
| AC input overcurrent | |
| Against 2-phase in input without interruption in UPS operation | |
| Against voltage transient | |
| Against decrease and increase in output voltage | |
| Against positive feedback (short between output and input) | |
| Against decrease and increase in output voltage | |
| Against overload and overheat | |
| Against disconnecting the battery without disconnecting the output to replace batteries during operation and against unexpected situations | |
| Against connecting reverse battery poles when UPS is off | |
| Against connecting reverse battery poles while replacing, when the UPS is working, without shutting down the output | |
| Against high input impedance | |
| Against increase or decrease of the DC voltage | |
| Protected charger against short circuit | |
| Against improper quantity of connected batteries | |
| Against output short circuit | |
| Earth protection | |
| Input and output protection against RFI and EMI noises | |
| Computer network protection (Ethernet) against transient voltage (Spike) with 1500W power | |
| **Information Transfer Connectors** | |
| RS232 serial port | |
| Serial port to LAN converter (optional) | |
| GSM modem (optional) | |
| Free-contact relays (optional) | |
| Remote control LCD panel (optional) | |

| Screen and Alarms |
| --- |
| LED screen |
| Capability to change settings by LCD |
| Audio alarms |
| Speech warnings (optional) |
| **Other Capabilities** |
| Modular internal powers with 2kVA power in parallel redundant configuration (A possible error in any of the power modules would cause the output power to reduce 2kVA and it would not damage the device) |
| UPS installation as a shared neutral |
| Software with UPS monitoring capability |
| Software with management and configuration setting capability |
| Software with capability to record the operation and failure reports |
| Software with capability to monitor multiple UPSes simultaneously (optional) |

In the interest of continual product improvement, all specifications are subject to change without notice.