

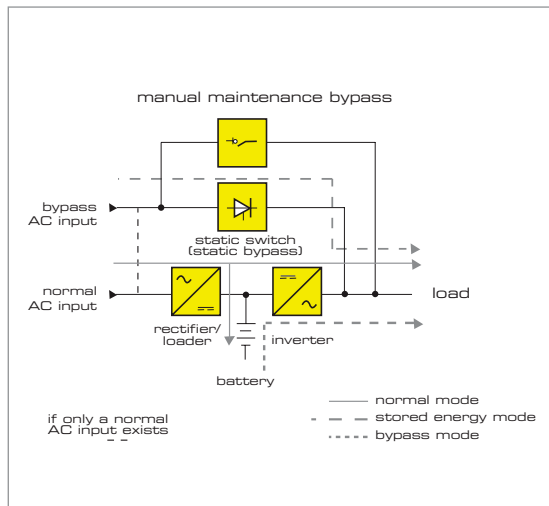
## UPS Double conversion low frequency series

3 phase In 1 phase out 10/15/20/30/40/50 KVA



### UPL31 series 10/50 KVA

#### Operating principle



The UPL31 series low frequency On-line UPS from 10 to 50 KVA adopts twin changing On-line design, intelligent IGBT module, PWM pulse width modulation, and several DSP control technology. It is the best protection equipment for various kinds of important equipments.

#### Main Features

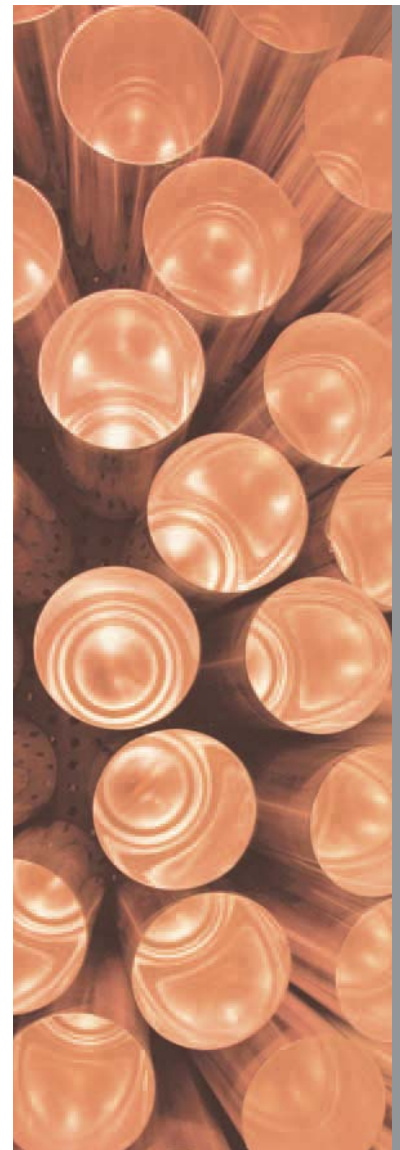
- Online double conversion technology
- 100% non linear ability
- Redundant parallel architecture up to 8 units
- Isolation transformer on the output to avoid abnormal signals and lightning strokes
- Static and maintenance by-pass
- 12-pulse charging mode
- IGBT PWM inverter together with digital control
- Overload and short-circuit protection
- Expandable battery modules
- Optimized for use with generators
- RS232/RS485 interfaces

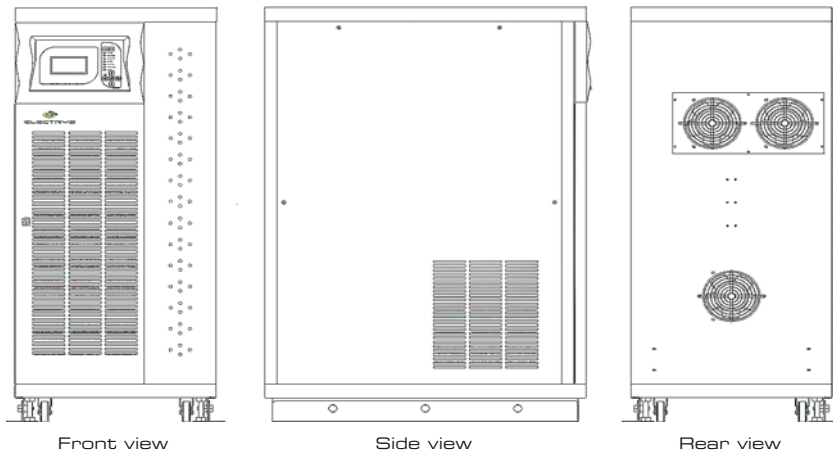
#### Applications

- Data management equipment and system
- Automatic control systems
- Hospital
- Mini office systems
- Telecommunication systems

#### Optional

- Long duration batteries and related charger for the UPS
- Battery cabinet
- Dry contacts for alarm signaling
- SNMP management interface
- Parallel redundancy





## Characteristics

|  | UPL.31   | 100  | 150   | 200 | 300                          | 400 | 500 |  |
|--|--|--|---|-----|------------------------------|-----|-----|--|
| Model number                             | Power rating KVA   | 10   | 15  | 20  | 30                           | 40  | 50  |  |
|  | Power rating KW  | 8  | 12  | 16  | 24                           | 32  | 40  |  |
|  | Technology   | On-line double conversion with isolating transformer and Manual/automatic bypass |   |     |                              |     |     |  |
| Input AC parameters                      | Voltage range  | 305 to 456V ( 3 phase + neutral + Ground )                                       |   |     |                              |     |     |  |
|  | Rectifier frequency range  | 40-65 (Hz)   |   |     |                              |     |     |  |
|  | Sync frequency tracking range  | 50 +/- 8% (Hz)   |   |     |                              |     |     |  |
|  | Rectification type   | 6 pulse standard, 12 pulse optional  |   |     |                              |     |     |  |
|  | Total harmonic distortion  | < 5%   |   |     |                              |     |     |  |
|  | Output AC parameters   | Voltage  | 220V/230V +/- 1% ( 1 phase + neutral + Ground ) |     |                              |     |     |  |
| Frequency                                |  | 50 Hz or 60 Hz (User configurable)   |   |     |                              |     |     |  |
| Wave form                                |  | Sinewave   |   |     |                              |     |     |  |
| Crest factor                             |  | 3:1  |   |     |                              |     |     |  |
| Power factor                             |  | 0.8 lagging  |   |     |                              |     |     |  |
| Variation of voltage with 100% load step |  | +/- 2%   |   |     |                              |     |     |  |
| Overload<br>105%-125%<br>125%-150%       |  | 10 min<br>1 min  |   |     |                              |     |     |  |
| Total harmonic distortion                |  | < 3% linear load, < 5% non linear load   |   |     |                              |     |     |  |
| Overall efficiency                       |  | Up to 90%  |   |     |                              |     |     |  |
| Battery Parameters                       | Type   | Valve regulated, non spillable, flame retardant lead acid                        |   |     |                              |     |     |  |
|  | Quantity*Voltage   | 16*12V   |   |     | 29*12V                       |     |     |  |
|  | Hot swappable battery  | External battery cabinet   |   |     |                              |     |     |  |
|  | DC voltage   | 192VDC   |   |     | 348 VDC                      |     |     |  |
|  | Backup time  | Depend on battery capacity   |   |     |                              |     |     |  |
|  | Charge current   | 5A   |   |     | 5 to 30A (adjustable)        |     |     |  |
|  | Battery management   | No   |   |     | Automatic battery testing    |     |     |  |
| By-pass                                  | Transfer time  | 0 ms   |   |     | 0 ms                         |     |     |  |
|  | Power failure or recovery<br>Overload disappear                          | Auto transfer to UPS (2ms)   |   |     | Auto transfer to UPS ( 0 ms) |     |     |  |
| Parallel redundancy                      | Up to 8  |  |   |     |                              |     |     |  |
| Display                                  | LCD display  | AC power situation, battery situation, overload,...                              |   |     |                              |     |     |  |
|  | Indicators and display   | Leds and LCD display for measurement reading                                     |   |     |                              |     |     |  |
| Connections                              | Input/Output sockets   | Hardwired  |   |     |                              |     |     |  |
|  | DB9 communication port (RS 232/RS485)                                    | Yes (serial communication)   |   |     |                              |     |     |  |
|  | Communication card   | SNMP management card (optional)  |   |     |                              |     |     |  |
| Protection                               | Over/Under Voltage, Over load, Over temperature, Short circuit, ect...   |  |   |     |                              |     |     |  |
| Alarm                                    | Over Temperature, Battery, Bypass, AC Power Abnormal, Over under voltage |  |   |     |                              |     |     |  |
| Cooling way                              | Fan  |  |   |     |                              |     |     |  |
| Operating environment                    | Operation temperature  | 0°C to +40°C (+32°F to +104°F)   |   |     |                              |     |     |  |
|  | Storage temperature  | -15°C to +50°C (+5°F to +122°F)  |   |     |                              |     |     |  |
|  | Relative humidity  | 0% to 95% (non-condensing)   |   |     |                              |     |     |  |
|  | Audible noise (at 1 meter)   | < 60 dB  |   |     |                              |     |     |  |
| Physical                                 | Weight (Kg)  | 145  | 160   | 230 | 250                          | 310 | 330 |  |
|  | Dimensions WxDxH (mm)  | 300x740x700  |   |     | 400x800x1180                 |     |     |  |
| Applicable standards                     | IEC 62040-1-1 (EN 50091-3)   |  |   |     |                              |     |     |  |
| Approval                                 | CE   |  |   |     |                              |     |     |  |

