

## SPECIFICATIONS

### Extra Smart Series (Tower / Rack convertible) 8KVA ~ 12KVA

#### General Features:

- Smart backup time estimation (EBT system)
- Adjustable voltage sensitivity, voltage-transfer points, & charging voltage.
- Generator compatible
- Automatic restart of load after UPS shutdown
- Smart AVR function (Two buck / boost modes)
- Cold-start capable & Audible alarm
- EPO available
- Hot-swappable batteries
- Network manageable (Internal SNMP slot ready)
- Full function of LCD display
- Smart battery management
- Intelligent double stages of charging control



#### Output

|   | 230V Models   |
|---|---|
| Power Levels crated at nominal inputs       | 8KVA / 5600W, 10KVA / 7000W, 12KVA / 8400W  |
| Output Voltage                              | 200V/220V/230V/240V Selectable  |
| Voltage Waveform                            | Sine wave   |
| Crest Factor                                | 3 : 1   |
| Output Frequency<br>(Synchronized to Mains) | Auto Select for 50/60Hz<br>47Hz ~ 55Hz for 50Hz nominal; 56Hz ~ 65Hz for 60Hz nominal                                   |
| Regulation (Nominal)                        | ±5% typical of nominal voltage (optional at ±8% AVR for wide I/P up to ±35%)  |
| Regulation (Batt. mode)                     | ±3% of selected output voltage (adjustable with the remote set-up software)   |
| Transfer time                               | Blackout 3ms typical; Brownout 1ms; Battery mode to Normal mode : 1ms typical   |
| Over current protection                     | Over load alarm level 100% ~ 120%, Over load shutdown level 120% ~ 190%<br>(Adjustable with the remote set-up software) |

#### Input

|                         | 230V Models   |
|-------------------------|---|
| Nominal Voltage         | 200V/220V/230V/240V Selectable  |
| Input Frequency         | 47Hz ~ 65Hz, 50/60Hz auto-sensing   |
| Efficiency              | 97% (Normal mode)   |
| Noise Filtering         | Full time EMI/RFI filtering   |
| Over current protection | 8KVA : By re-settable over current protector 20A x 2pcs<br>10KVA / 12KVA : By MCB                   |
| Voltage Range           | -20% ~ +24% for selected nominal voltage.<br>-29% ~ +33% adjustable with the remote set-up software |

|                                  |  |
|----------------------------------|--|
| AVR Range<br>(2 Bucks, 2 Boosts) | Enhanced Buck: +15% of selected nominal voltage<br>Buck mode: +5% of selected nominal voltage<br>Boost mode: -5% of selected nominal voltage<br>Enhanced Boost: -12.5% of selected nominal voltage |
| Surge Protection                 | 8KVA : 660 Joules<br>10KVA / 12KVA : 1320 Joules   |

## **Battery**

|   |   |
|---|---|
| Battery type                              | Maintenance-free sealed, valve-regulated, Lead-Acid<br>8KVA / 10KVA : 12V, 7Ah, 12KVA : 12V, 9Ah  |
| Voltage                                   | 8KVA : 120Vdc<br>10KVA / 12KVA : 60Vdc  |
| Typical backup time at half-load          | 8KVA : 13minutes<br>10KVA : 11minutes<br>12KVA : 10minutes  |
| Typical backup time at full load          | 8KVA : 5.5minutes<br>10KVA : 4minutes<br>12KVA : 4minutes   |
| Charging method                           | Smart pulse charging with two charging modes : Quick charging when battery is not fully charged, trickle charging when battery is 90% fully charged.  |
| Charging time                             | Less than 4 hours to 90% at normal line and normal temperature.   |
| Charging current<br>(Average)             | 8KVA : 4A<br>10KVA / 12KVA : 7A   |
| Average charging voltage for each battery | Quick charging mode : 14V maximum.<br>Trickle charging mode : 13.2V ~13.9V adjustable with the remote set-up software.  |
| Protection                                | Over current protection & Over charging voltage protection (SCR control)<br>Thermal protection (CPU control) : When temperature inside UPS is over 45°C, charger will stop charging for 2.5 minutes followed by an 1.5 minutes charging. The cycle will be repeated until the temperature is lower than 44°C. |
| Monitoring                                | Smart monitoring & warning for failed battery or open-circuit battery.<br>Auto-detection each time when power on or every 6 days.   |

## **Communications & Management**

|  |  |
|--|--|
| Standard Interface port                | UPSilon2000 compatible, RS232, USB, & SNMP slot; optional for RJ45.  |
| Optional Interface port                | DB9  |
| Control panel                          | LCD  |
| Audible alarm                          | Alarm on battery : Low battery & Battery over voltage<br>Alarm on abnormal operation : Over load, Short-circuit, & Over heat |
| EBT (Estimation of Backup Time) system | Supported for LCD display  |

**Environmental and Safety**

|                        |   |
|------------------------|---|
| Operating Temp.        | Up to 1500 meters : 0°C to 40°C (32°F to 104°F) |
| Transit/storage Temp.  | -15°C to 55°C (5°F to 131°F)                    |
| Relative Humidity      | 5 - 95% non condensing                          |
| Operating Altitude     | 0 ~ 3000 meters                                 |
| Audible noise          | ≤45 dBA (at 1M from surface of unit)            |
| Safety Markings        | CE  |
| EMC                    | Class A, EN62040-2                              |
| Quality control system | ISO 9001  |

**Physical**

|                        |  |                        |                         |
|------------------------|--|------------------------|-------------------------|
| Dimensions:<br>(D×H×W) | All 3 models, 8K, 10K, & 12K, can fit in 7u or 12u case, depending on request.<br>7u : 660 x 400 x 440 (cm) / 760 x 610 x 490 (cm) |                        |                         |
| Unit / Shipping        | 12u : 660 x 620 x 440 (cm) / 760 x 830 x 490 (cm)  |                        |                         |
| Weight:                |  | 7u (with 20 batteries) | 12u (with 40 batteries) |
| Net / Gross (kg)       | 8KVA :   | 115kg / 125kg          | 186kg / 197kg           |
|                        | 10KVA :  | 118kg / 128kg          | 189kg / 200kg           |
|                        | 12KVA :  | 118kg / 128kg          | 189kg / 200kg           |
| Packing                | Export carton for each unit, 1 - 4 units per pallet  |                        |                         |