

## SPECIFICATIONS

### Extra Smart Series (Tower / Rack convertible) 10KVA / 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    | 10KVA / 7000W, 12KVA / 8400W                                                                                            |
| Output Voltage                           | 200V/220V/230V/240V Selectable                                                                                          |
| Voltage Waveform                         | Sine wave                                                                                                               |
| Crest Factor                             | 3 : 1                                                                                                                   |
| Output Frequency (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                   | 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                          | 10KVA / 12KVA : 1320 Joules                                                                                                                                                                                                                                                                                   |
| <b>☐ Battery</b>                          |                                                                                                                                                                                                                                                                                                               |
| Battery type                              | Maintenance-free sealed, valve-regulated, Lead-Acid<br>10KVA : 12V, 7Ah, 12KVA : 12V, 9Ah                                                                                                                                                                                                                     |
| Voltage                                   | 10KVA / 12KVA : 60Vdc                                                                                                                                                                                                                                                                                         |
| Typical backup time at half-load          | 10KVA : 11minutes<br>12KVA : 10minutes                                                                                                                                                                                                                                                                        |
| Typical backup time at full load          | 10KVA : 4minutes<br>12KVA : 4minutes                                                                                                                                                                                                                                                                          |
| Charging method                           | Smart pulse charging with two charging modes :<br>Quick charging when battery is not fully charged,<br>Trickle charging when battery is 90% fully charged.                                                                                                                                                    |
| Charging time                             | Less than 4 hours to 90% at normal line and normal temperature.                                                                                                                                                                                                                                               |
| Charging current (Average)                | 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.                                                                                                                                                                             |
| <b>☐ Communications &amp; Management</b>  |                                                                                                                                                                                                                                                                                                               |
| 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                                                                                                                                             |                                |                                |
| <b>☐ Environmental and Safety</b>         |                                                                                                                                                                       |                                |                                |
| 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                                                                                                                                                              |                                |                                |
| <b>☐ Physical</b>                         |                                                                                                                                                                       |                                |                                |
| Dimensions:<br>(D×H×W)<br>Unit / Shipping | Both models, 10K & 12K, can fit in 7u or 12u case, depending on request.<br>7u : 66 x 40 x 44 (cm) / 76 x 61 x 49 (cm)<br>12u : 66 x 62 x 44 (cm) / 76 x 83 x 49 (cm) |                                |                                |
| Weight:<br>Net / Gross (kg)               |                                                                                                                                                                       | 7u (with 20 batteries)         | 12u (with 40 batteries)        |
|                                           | 10KVA<br>:<br>12KVA<br>:<br>:                                                                                                                                         | 118kg / 128kg<br>118kg / 128kg | 189kg / 200kg<br>189kg / 200kg |
| Packing                                   | Export carton for each unit, 1 - 4 units per pallet                                                                                                                   |                                |                                |