

# Accupower



UPS  
**TN2**  
series

Powering Your Connection

# TN2, built for reliability, purity and power

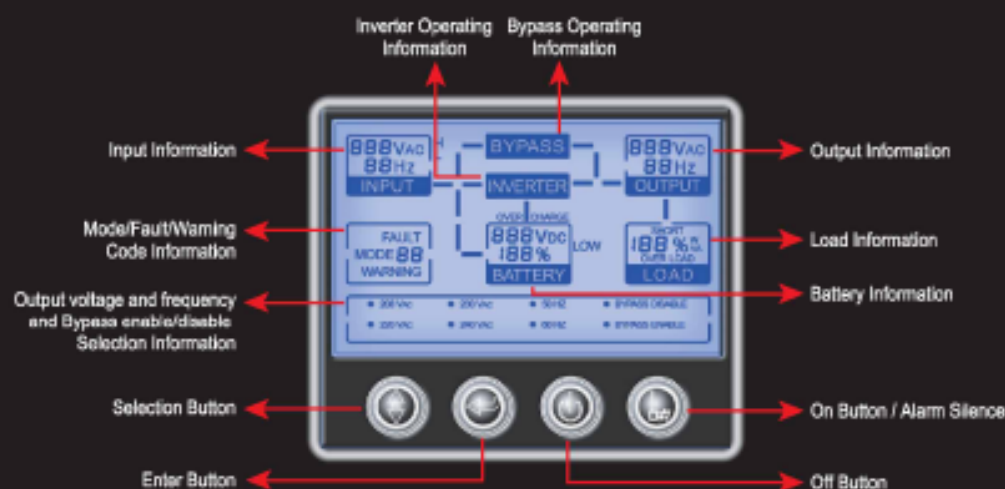
Accupower TN2 UPS make use of the unique double conversion circuitry to detect the electricity current and voltage output of utility power supply.

The current is input via the high frequency PWM to maintain uniform wave form and phase in line with the voltage, so as to attain high input power factor over 95% and avoid generating comparatively significant harmonic interference on the power network.

With the use of outstanding IGBT as the power conversion component, the operating frequency of the inverter of UPS is capable of reaching tens of KHz, due to the high frequency operating characteristics of IGBT.

Higher working efficiency of the inverter also improves the overall efficiency of UPS and higher inversion frequency reduces the noise of the inverter as well.

## Trendy & Elegant LCD Design for real-time UPS system information



### Microprocessor Control

By means of innovative software and control programs, the complicated hardware circuitry is invalid in the powerful microprocessor. Apart from reduced size, it also lowers the defective rate of UPS.

### Auto Self-Testing System

When turning of the UPS system, it immediately performs an inspection of the components such as the inverter, the battery and the load. The system will also detect any problems in time to avoid causing any damage to the system.

### N+X Parallel Redundancy

The parallel redundancy feature is available for high level 6KVA to 10KVA models. Comparing to current 1+1 parallel redundancy technology in the market, Accupower TN2 N+X Parallel Redundancy architecture technology can even achieve the saving of purchasing an extra UPS with corresponding backup rating. This feature benefits on reducing performance will be more stable.

### Extended Backup Time

Long Backup Models are allowed to connect external batteries to get prolonged backup time. The feature particularly suitable for the areas where power supply are consistently in shortage.

### Communication Ports

TN2 offers three different communication ports for user selection: RS232, USB card, SNMP card and AS-400 card. Through either one of them, the user can control and monitor UPS status easily.

### User Selectable Output Voltage

TN2 enables users to select corresponding output voltage to the local mains power without changing hardware. Users can select output voltage by just pushing a button.

### Power Management Software

To provide the battery control of the TN2 UPS system, developed a free download software, Winpower, available online for you to monitor and manage UPS working status easily and real time.

# UPS SPECIFICATIONS

| MODEL         |  |  | TN2-1000                                                        |  | TN2-1000S                                                                                                       |  | TN2-2000                                             |  | TN2-2000S                                       |  | TN2-3000                                             |  | TN2-3000S                                       |  | TN2-3000S      |  |                                                 |  |
|---------------|--|--|-----------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------|--|-------------------------------------------------|--|------------------------------------------------------|--|-------------------------------------------------|--|----------------|--|-------------------------------------------------|--|
| CAPACITY      |  |  | 1000VA/700W                                                     |  |                                                                                                                 |  | 2000VA/1400W                                         |  |                                                 |  | 3000VA/2100W                                         |  |                                                 |  |                |  |                                                 |  |
| INPUT         |  |  | Base on load percentage (100%-80% / 80%-70% / 70%-60% / 60%-0%) |  |                                                                                                                 |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  | Voltage Range                                                   |  | 160VAC/140VAC/120VAC/110VAC ± 5VAC                                                                              |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  |                                                                 |  | 175VAC ± 5VAC                                                                                                   |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  |                                                                 |  | 300VAC ± 5VAC                                                                                                   |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  |                                                                 |  | 285VAC ± 5VAC                                                                                                   |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  | Frequency Range                                                 |  | 46Hz ~ 54Hz                                                                                                     |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  | Phase                                                           |  | Single phase with ground                                                                                        |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  | Power Factor                                                    |  | ≥0.95                                                                                                           |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
| OUTPUT        |  |  | Voltage                                                         |  | 220VAC/230VAC/240VAC                                                                                            |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  | Voltage Regulation                                              |  | ±2%                                                                                                             |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  | Frequency (Synchronized range)                                  |  | 46~54Hz                                                                                                         |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  | Frequency (Battery Mode)                                        |  | 50 ± 0.2 Hz                                                                                                     |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  | Current Crest Ratio                                             |  | 3:1                                                                                                             |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  | Harmonic Distortion                                             |  | Tower Case                                                                                                      |  | ≤3% THD ( Linear Load)<br>≤6% THD ( Non-Linear Load) |  |                                                 |  | ≤4% THD ( Linear Load)<br>≤7% THD ( Non-Linear Load) |  |                                                 |  |                |  |                                                 |  |
|               |  |  |                                                                 |  |                                                                                                                 |  | Pure Sinewave                                        |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  | Output Waveform                                                 |  |                                                                                                                 |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
| EFFICIENCY    |  |  | To AC Mode                                                      |  | 85%                                                                                                             |  |                                                      |  | 85%                                             |  |                                                      |  | 88%                                             |  |                |  |                                                 |  |
|               |  |  | To Battery Mode                                                 |  | 83%                                                                                                             |  |                                                      |  | 83%                                             |  |                                                      |  | 83%                                             |  |                |  |                                                 |  |
| BATTERY       |  |  | Tower Case                                                      |  | Battery Type                                                                                                    |  | 12V/7.2Ah                                            |  | 12V/7.2Ah                                       |  | 12V/7.2Ah                                            |  | 12V/7.2Ah                                       |  |                |  |                                                 |  |
|               |  |  |                                                                 |  | Numbers of Batteries                                                                                            |  | 3                                                    |  | Depending on the capacity of external batteries |  | 8                                                    |  | Depending on the capacity of external batteries |  | 8              |  | Depending on the capacity of external batteries |  |
|               |  |  |                                                                 |  | Backup Time (Full Load)                                                                                         |  | >5 minutes                                           |  |                                                 |  | >9 minutes                                           |  |                                                 |  | >5 minutes     |  |                                                 |  |
|               |  |  |                                                                 |  | Recharge Time                                                                                                   |  | 5 hours to 90%                                       |  |                                                 |  | 5 hours to 90%                                       |  |                                                 |  | 5 hours to 90% |  |                                                 |  |
|               |  |  |                                                                 |  | Charging Current (Max.)                                                                                         |  | 1.0A                                                 |  | 8 A                                             |  | 1.0A                                                 |  | 8 A                                             |  | 1.0A           |  | 8 A                                             |  |
|               |  |  |                                                                 |  | Charging Voltage                                                                                                |  | 41.1Vdc±0.6V                                         |  |                                                 |  | 110Vdc±0.4V                                          |  |                                                 |  |                |  |                                                 |  |
| TRANSFER TIME |  |  | AC to DC                                                        |  | Zero                                                                                                            |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  | Inverter to Bypass                                              |  | 2.5ms (Typical )                                                                                                |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
| INDICATOR     |  |  | Status                                                          |  | Load Level / Battery Level / Battery Mode / AC Mode / Bypass Mode / Fault                                       |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
| AUDIBLE ALARM |  |  | Battery Mode                                                    |  | Sounding every 4 seconds                                                                                        |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  | Low Battery                                                     |  | Sounding every second                                                                                           |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  | Overload                                                        |  | Sounding twice every second                                                                                     |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  | Fault                                                           |  | Continuously Sounding                                                                                           |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
| DIMENSION     |  |  | Tower Case (DxWxH) mm                                           |  | 400x145x220                                                                                                     |  |                                                      |  | 460x192x340                                     |  |                                                      |  |                                                 |  |                |  |                                                 |  |
| WEIGHT        |  |  | Tower Case                                                      |  | 14 kgs                                                                                                          |  | 7 kgs                                                |  | 34.5 kgs                                        |  | 15 kgs                                               |  | 35.5 kgs                                        |  | 16 kgs         |  |                                                 |  |
| ENVIRONMENT   |  |  | Operating Temperature                                           |  | 0-40°C                                                                                                          |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  | Relative Humidity                                               |  | 20-90% (NON-CONDENSING)                                                                                         |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  | Noise Level                                                     |  | <45dB @ 1 Meter                                                                                                 |  |                                                      |  | <50dB @ 1 Meter                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
| INTERFACE     |  |  | Smart RS-232                                                    |  | Software supports Windows family, Linux, Sun Solaris, IBM Aix, Compaq True64, SGI IRIX, FreeBSD, HP-UX, and MAC |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  | SNMP (option)                                                   |  | Power management from SNMP manager and web browser                                                              |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |
|               |  |  | USB (optional)                                                  |  | Windows family and Mac OS                                                                                       |  |                                                      |  |                                                 |  |                                                      |  |                                                 |  |                |  |                                                 |  |

Product specifications are subject to change without further notice



# UPS SPECIFICATIONS

| MODEL                          |                       |                         | TN2-6000                                                                                                        |                                                 | TN2-6000S      |                                                 | TN2-10000     |  | TN2-10000S |  |
|--------------------------------|-----------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------|-------------------------------------------------|---------------|--|------------|--|
| CAPACITY                       |                       |                         | 6000VA/4200W                                                                                                    |                                                 |                |                                                 | 10000VA/7000W |  |            |  |
| INPUT                          | Voltage Range         | Low Line Transfer       | 176VAC ± 3VAC                                                                                                   |                                                 |                |                                                 |               |  |            |  |
|                                |                       | Low Line Comeback       | 185VAC ± 3VAC                                                                                                   |                                                 |                |                                                 |               |  |            |  |
|                                |                       | High Line Transfer      | 276VAC ± 3VAC                                                                                                   |                                                 |                |                                                 |               |  |            |  |
|                                |                       | High Line Comeback      | 266VAC ± 3VAC                                                                                                   |                                                 |                |                                                 |               |  |            |  |
|                                | Frequency Range       |                         | 46Hz ~ 54Hz                                                                                                     |                                                 |                |                                                 |               |  |            |  |
|                                | Phase                 |                         | Single phase with ground                                                                                        |                                                 |                |                                                 |               |  |            |  |
|                                | Power Factor          |                         | ≥ 0.98                                                                                                          |                                                 |                |                                                 |               |  |            |  |
|                                | OUTPUT                | Voltage                 |                                                                                                                 | 220VAC/230VAC/240VAC                            |                |                                                 |               |  |            |  |
| Voltage Regulation             |                       | ± 1%                    |                                                                                                                 |                                                 |                |                                                 |               |  |            |  |
| Frequency (Synchronized range) |                       | 46~54Hz                 |                                                                                                                 |                                                 |                |                                                 |               |  |            |  |
| Frequency (Battery Mode)       |                       | 50 ± 0.05 Hz            |                                                                                                                 |                                                 |                |                                                 |               |  |            |  |
| Current Crest Ratio            |                       | 3:1                     |                                                                                                                 |                                                 |                |                                                 |               |  |            |  |
| Harmonic Distortion            |                       | Tower Case              | ≤2% THD ( Linear Load)<br>≤6% THD ( Non-Linear Load)                                                            |                                                 |                |                                                 |               |  |            |  |
| Output Waveform                |                       | Pure Sinewave           |                                                                                                                 |                                                 |                |                                                 |               |  |            |  |
| EFFICIENCY                     | To AC Mode            |                         | >88%                                                                                                            |                                                 |                |                                                 |               |  |            |  |
|                                | To Battery Mode       |                         |                                                                                                                 |                                                 |                |                                                 |               |  |            |  |
| BATTERY                        | Tower Case            | Battery Type            | 12V/7.2Ah                                                                                                       | Depending on the capacity of external batteries | 12V/9Ah        | Depending on the capacity of external batteries |               |  |            |  |
|                                |                       | Numbers of Batteries    | 20                                                                                                              |                                                 | 20             |                                                 |               |  |            |  |
|                                |                       | Backup Time (Full Load) | 8 minutes                                                                                                       |                                                 | 5 minutes      |                                                 |               |  |            |  |
|                                |                       | Recharge Time           | 7 hours to 90%                                                                                                  |                                                 | 8 hours to 90% |                                                 |               |  |            |  |
|                                |                       | Charging Current (Max.) | 2A                                                                                                              | 4.2A                                            | 2A             | 4.2A                                            |               |  |            |  |
|                                |                       | Charging Voltage        |                                                                                                                 | 274Vdc±1V                                       |                |                                                 |               |  |            |  |
| TRANSFER TIME                  | AC to DC              |                         | Zero                                                                                                            |                                                 |                |                                                 |               |  |            |  |
|                                | Inverter to Bypass    |                         | Zero                                                                                                            |                                                 |                |                                                 |               |  |            |  |
| INDICATOR                      | Status                |                         | Load Level / Battery Level / Battery Mode / AC Mode / Bypass Mode / Fault                                       |                                                 |                |                                                 |               |  |            |  |
| AUDIBLE ALARM                  | Battery Mode          |                         | Sounding every 4 seconds                                                                                        |                                                 |                |                                                 |               |  |            |  |
|                                | Low Battery           |                         | Sounding every second                                                                                           |                                                 |                |                                                 |               |  |            |  |
|                                | Overload              |                         | Sounding twice every second                                                                                     |                                                 |                |                                                 |               |  |            |  |
|                                | Fault                 |                         | Continuously Sounding                                                                                           |                                                 |                |                                                 |               |  |            |  |
| DIMENSION                      | Tower Case DxWxH (mm) |                         | 570x260x717                                                                                                     |                                                 |                |                                                 |               |  |            |  |
| WEIGHT                         | Tower Case            |                         | 90 Kgs                                                                                                          | 35 Kgs                                          | 93 Kgs         | 38 Kgs                                          |               |  |            |  |
| ENVIRONMENT                    | Operating Temperature |                         | 0-40°C                                                                                                          |                                                 |                |                                                 |               |  |            |  |
|                                | Relative Humidity     |                         | 20-90% (NON-CONDENSING)                                                                                         |                                                 |                |                                                 |               |  |            |  |
|                                | Noise Level           |                         | <55dB @ 1 Meter                                                                                                 |                                                 |                |                                                 |               |  |            |  |
| INTERFACE                      | Smart RS-232          |                         | Software supports Windows family, Linux, Sun Solaris, IBM Aix, Compaq True64, SGI IRIX, FreeBSD, HP-UX, and MAC |                                                 |                |                                                 |               |  |            |  |
|                                | SNMP (option)         |                         | Power management from SNMP manager and web browser                                                              |                                                 |                |                                                 |               |  |            |  |
|                                | USB (optional)        |                         | Windows family and Mac OS                                                                                       |                                                 |                |                                                 |               |  |            |  |

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