

# EXIMPOWER

Uninterruptible Power Supplies



*Working in Power*

## TORRENT

### online UPS

30-100 kVA three-phase/single phase  
250-800 kVA three-phase/three-phase

- LOCAL AREA NETWORKS (LAN)
- SERVERS
- DATA CENTERS
- INTERNET CENTERS (ISP/ASP/POP)
- INDUSTRIAL PLCS
- EMERGENCY DEVICES (LIGHTS/ALARM)
- ELECTRO-MEDICAL DEVICES
- TELECOMMUNICATIONS DEVICES
- INDUSTRIAL APPLICATIONS

# TORRENT

The TORRENT and TORRENT i range include 250-300-400-500-600-800 kVA three phase models and 30-40-60-80-100 kVA three/single phase. Both models are true online double conversion technology (VFI) with Inverter output isolation transformer.

TORRENT 250-300-400-500-600 kVA, TORRENT i 30-40-60-80-100 kVA are designed with output nominal power with power factor 0.9

The load is powered continuously by the inverter with a filtered, stabilised and regulated sinewave supply. The input and output EMI filters considerably increase the immunity of the load to mains disturbances and surges.

TORRENT and TORRENT i provides maximum protection for vital "mission-critical" networks, security applications (electromedical) and industrial applications, thanks to its outstanding mechanical and electrical design.

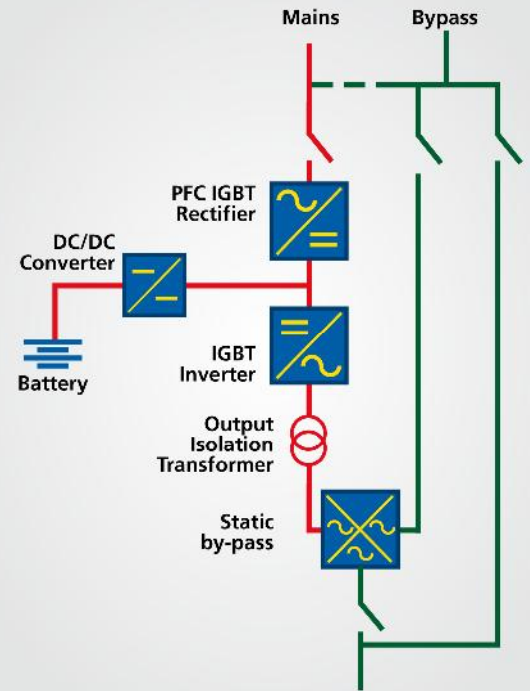
- isolation transformer on the inverter
- extremely high short-circuit current
- sinusoidal absorption THDi 3% & close to unity input power factor

## Specific Solutions

TORRENT can be adapted to your requirements. Please contact G-TEC Asia Pacific Pte Ltd to discuss specific applications and options

## Main Features:

- Low harmonic pollution, input current THDi  $\leq 3\%$  and close to unit input power factor
- Maximum reliability and power availability - connect up to 8 units in parallel or N+1 redundancy; energy saving selectable UPS Group Synchroniser (UGS) and Parallel System Joiner (PSJ)
- High battery management:
  - Automatic battery test
  - Temperature compensated charging available
  - Recharge compensated for temperature
  - Battery care. Battery life span can be increased approximately by 20% more
  - Maximise battery usage with common battery
- Emergency operation: the UPS can be set to operate only when the mains fails (for emergency lighting)
- Back feed protection: to avoid energy feeding back into the mains supply
- By pass may be deactivated to allow operation as a frequency converter (at 50 or 60 Hz), or as stabiliser
- Easy to maintain (front access).



Double-Conversion  
True On-line Technology

# Simplified Maintenance

Access for maintenance is entirely from the front of the unit. Open the door and remove the protective panel (standards requirement) and the power components - mounted on a sliding tray - can be pulled out to provide easy access to all the electrical and electronic components for maintenance and repair work.

This particular feature means that the MTTR (Mean Time To Repair) is less than 30 minutes.

A large amount of maintenance information is available from the front large graphical LCD panel.

In addition system operating parameters are software configurable via a local PC to allow new functions to be added or adjustments made to operating specifications.

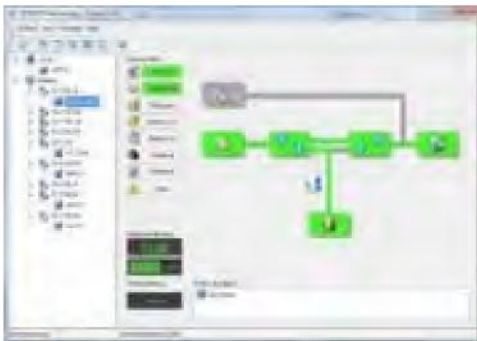


- Reliable, filtered, stabilised and regulated sinewave output (double on-line conversion technology VFI according to EN50091-3 specifications) with filters for atmospheric disturbance suppression
- MasterNOVA i achieved entirely with IGBT and with special DSP controlled IGBT Rectifier. Thus guarantees maximum performance and high quality power for any IT and industrial load.
- High reliability: IGBT technology, full microprocessor control with no-break static and manual bypasses
- High diagnostic capability - event log with 128 messages, status, measurement and alarm-available from the built-in LCD screen in several languages.
- The UPS may be configured with the RS232 serial port (flash upgradable)
- Reduced noise levels: high frequency inverter bridge used (>16 kHz: above audible range)
- Low loss high efficiency up to 94% in On-line mode utilizing IGBT technology and up to 98% in the other operating modes:  
Economy Mode, Smart Active Mode, and Standby/Off Mode.  
- Economy Mode: uses Line Interactive (VI) technology to power less critical loads from the mains supply for certain periods. The function can be set from the front panel keypad or remotely using software



#### DETAILED UPS PARAMETER DISPLAY

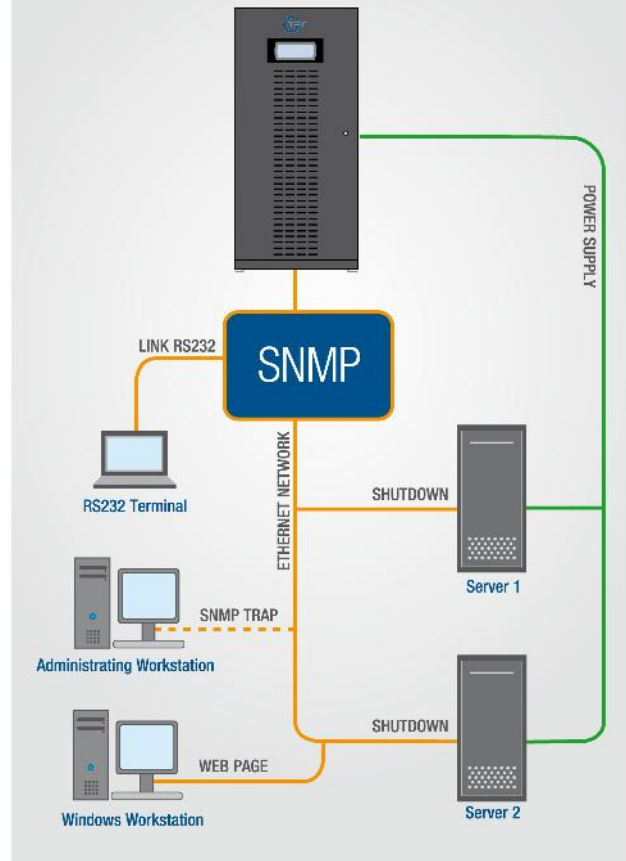
Powershield<sup>3</sup> provides all the information required for first level diagnostics



#### BLOCK AND FUNCTIONAL DIAGRAMS

Powershield<sup>3</sup> also displays the UPS in block format providing the user with information regarding operating status

## Direct Connection with Ethernet Network



# Communication Solutions

#### ADVANCED COMMUNICATION

- Compatible with TELEGUARD for remote maintenance
- Advance, multi-platform communication, for all operating systems and network environments:  
**PowerShield<sup>3</sup>** supervision and shut-down software included, with SNMP agent, for Window NT 4.0, Vista, XP; Mac OS 10.x, Linux, Novell operating systems. The UPS is equipped with a cable for direct connection to the PC (Plug and Play)
- Can also provide shut-down software for:  
IBM AIX; Free BSD; BSDI Unix; BSD/OS; SCO Unixware; SCO Openserver; Sun Solaris; Compaq True64; HP Unix; HP OpenVMS; HP OpenView; SGI Irix MIPS; NCR Unix
- Double RS232 serial port
- Network adapter slot for SNMP agent
- EPO (Emergency Power Off) shut down input contact
- Remote control panel (optional)



SNMP Network Card allows management of UPS across LAN using any of the main network communication protocols - TCP/IP and network interface via SNMP

# TECHNICAL **ASSISTANCE** SERVICE

**UPService**, our technical assistance facility uses highly trained engineers to provide a reliable and competent technical support and after-sales service.

UPService can provide customers with:

- A dedicated CALL CENTRE for connection to the UPService organisation. UPService personnel are always available and ready to provide advice and assistance regarding UPS installation, maintenance, fault finding and repair.
- **FAST & READY** A fast repair on site is guaranteed through the use of state-of-the-art UPS technology and the professionalism of the UPService personnel and Authorised Assistance Centres. UPService guarantees that failed parts are replaced with original ones, tested and updated in order to maintain the safety, reliability and operating characteristics of the UPS.
- **COMMISSIONING AND START-UP** UPService can provide assistance during commissioning and startup of the UPS equipment on-site with additional training during handover to site personnel. UPService engineers can also verify site suitability, analyse and advise on potential problems, and disconnect and relocate equipment. UPService recommend that all hardwired installations are commissioned by UPService engineers.
- **MAINTENANCE CONTRACTS** can be provided by UPService to minimise response times and repair costs. Contracts range from periodic inspections to comprehensive cover including labour and materials.
- The **TELEGUARD** software package provides remote 24x7 UPS supervision. TeleGuard can interrogate G-TEC UPS connected to a local telephone line to check on their operating logs and system status. Should the UPS report an alarm condition, the UPService Call Centre is immediately notified and a dedicated customer response activated. Routine site reports can be sent automatically to customer personnel.
- UPService organises regular **TECHNICAL TRAINING COURSES** for UPS operators and installers.



# TECHNICAL **ASSISTANCE** SERVICE

# TORRENT

## 3 Phase Input/ 1 Phase Output

TECHNICAL SPECIFICATION					
Model	30 (3/1)	40 (3/1)	60 (3/1)	80 (3/1)	100 (3/1)
<b>INPUT</b>					
Rated Voltage & Range (V)	400Vac 3 phase +20% -25%				
Frequency & Range	50Hz/ 60Hz auto sensing, 45Hz to 65Hz				
Input power factor & THDi	≥0.9 & ≤5% with CN option				
<b>BYPASS</b>					
Rated Voltage (V)	230Vac (selectable from 220V to 240V), ±15% (adjustable from ±10% to ±25%)				
Frequency & Range (Hz)	50Hz / 60Hz auto sensing ±2%. (Selectable from ±1% to ±6%)				
<b>BATTERY</b>					
Type	VRLA battery; Vented lead acid battery & NiCad battery				
Charging Method	Two level & Cyclic charging according to EN 50272-2				
Ripple voltage	Approximately 0%				
<b>INVERTER OUTPUT</b>					
Rated Power	30kVA/ 27kW	40kVA/ 36kW	60kVA/ 54kW	80kVA/ 72kW	100kVA/ 90kW
Rated Voltage & Stability (V)	220V / 230V / 240V, Single phase ±1%				
Frequency & Stability (Hz)	50Hz/ 60Hz ±0.05% at free running; ±2% at synchronized mode (adjustable ±1% to ±6%)				
Dynamic Stability (V)	±5% within 20ms to standard EN62040-3, class 1				
Overload	110% for 60mins; 125% for 10mins; 150% for 60sec				
<b>ENVIRONMENTAL DATA</b>					
Operating Temperature	0°C to 40°C				
Relative Humidity	<95% non condensing				
Colour	RAL 7035 light grey				
Efficiency	Up to 98% at ECO mode				
Compliance Standard	European Directive LV2006/95/EC, EMC 2004/108/EC, Safety: IEC EN62040-1; EMC: IEC EN62040-2; Performance & Test: IEC EN62040-3				
Noise level @ 1m (dBA)	62				63
Dimension L x D x H (mm)	555 x 740 x 1400		800 x 740 x 1400		800 x 800 x 1900
6 Pulse	555 x 740 x 1400		800 x 740 x 1400		800 x 800 x 1900
CN version	825 x 740 x 1400		1070 x 740 x 1400		-
Weight (kg)	290	340	440	520	650
UPS Monitoring Software Consult GTEC for details	Windows Server 2008/ Vista/ Exchange, VMware ESX/ESXI, Novell Netware, Linux Redhat x86/ x65/ ia64/ SUSE x86/ SUSE x64/ Debian x86/ ia64/ x64/ Ubuntu x64/ Gentoo x86, MacOS X PowerPC/Universal, Sun Solaris Sparc /64-bit/ x64/ x86, Compaq Tru64, IBM AIX, HP UX/Open VMS, Free BSD, Open BSD, SGI Irix, SCO Openserver, SCO Unixware				

UPS specification and data may subject to change for improvement without prior notice

# TORRENT i

## 3 Phase Input/ Output (full IGBT UPS)

TECHNICAL SPECIFICATION					
Model	250i	300i	400i	500i	600i
<b>INPUT</b>					
Rated Voltage & Range (V)	400Vac, 3 phase ±20%				
Frequency & Range	50Hz/ 60Hz auto sensing, 45Hz to 65Hz				
Input power factor & THDi	≥0.99 & ≤3%				
<b>BYPASS</b>					
Rated Voltage (V)	380V / 400V / 415V ±15% (adjustable from ±10% to ±25%)				
Frequency & Range (Hz)	50Hz / 60Hz auto sensing ±2%. (Selectable from ±1% to ±6%)				
<b>BATTERY</b>					
Type	VRLA battery; Vented lead acid battery & NiCad battery				
Charging Method	Two level & Cyclic charging according to EN 50272-2				
Ripple voltage	Approximately 0%				

# TORRENT

## 3 Phase Input/ Output (full IGBT UPS)

TECHNICAL SPECIFICATION					
Model	250i	300i	400i	500i	600i
<b>OUTPUT</b>					
Rated power	250kVA/225kW	300kVA/270kW	400kVA/360kW	500kVA/450kW	600kVA/540kW
Rated voltage & Stability (V)	400V 3 phase + N (selectable 380V & 415V) ± 1%				
Frequency & Stability (Hz)	50Hz/ 60Hz ± 0.05% at free running; ± 2% at synchronized mode (adjustable ± 1% to ± 6%)				
Dynamic Stability (V)	± 5% within 20ms to standard EN62040-3, class 1				
Overload	110% for 60mins; 125% for 10mins; 150% for 60secs				
<b>ENVIRONMENTAL DATA</b>					
Operating temperature	0°C - 40°C				
Relative humidity	<95% non condensing				
Colour	RAL 7035 light grey				
Efficiency	Up to 98% at ECO mode				
Compliance Standard	European Directive LV2006/95/EC, EMC2004/108/EC, Safety: IEC EN62040-1; EMC: IEC En62040-2; Performance & Test: IEC EN62040-3				
Noise Level @ 1m (dBA)	68%	70% - 72%			
Dimensions (LxDxH) (mm)	1000 x 850 x 1900	1500 x 1000 x 1900		2100 x 1000 x 1900	
Weight (kg)	1000	1550	1720	2525	2700
UPS Monitoring Software <i>Consult GTEC for details</i>	Windows Server 2008/ Vista/ Exchange, VMware ESX/ESXI, Novell Netware, Linux Redhat x86/ x65/ ia64/ SUSE x86/ SUSE x64/ Debian x86/ ia64/ x64/ Ubuntu x64/ Gentoo x86, MacOS X PowerPC/Universal, Sun Solaris Sparc /64-bit/ x64/ x86, Compaq Tru64, IBM AIX, HP UX/ Open VMS, Free BSD, Open BSD, SGI Irix, SCO Openserver, SCO Unixware				

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# TORRENT i

## 3 Phase Input/ Output (12 Pulse Rectifier)

TECHNICAL SPECIFICATION	
Model	<b>800</b>
Rated power (kW)	640
Noise Level @ 1m (dBA)	78
Dimensions (LxDxH) (mm)	4400 x 1000 x 1900
Weight (kg)	5450
UPS Monitoring Software <i>Consult GTEC for details</i>	Windows Server 2008/ Vista/ Exchange, VMware ESX/ESXI, Novell Netware, Linux Redhat x86/ x65/ ia64/ SUSE x86/ SUSE x64/ Debian x86/ ia64/ x64/ Ubuntu x64/ Gentoo x86, MacOS X PowerPC/Universal, Sun Solaris Sparc /64-bit/ x64/ x86, Compaq Tru64, IBM AIX, HP UX/ Open VMS, Free BSD, Open BSD, SGI Irix, SCO Openserver, SCO Unixware

**Bypass; Battery & Inverter Output same as MasterNOVA i**

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THDi is ≤ 3% for CN version