

# Online UPS 3 Phase Out

## GTC Series

120-800kVA

Three Phase / Three Phase



# LEVELUPS



### Features:

- True Online, Three Level IGBT Rectifier & Inverter Technology
- High Output Power Factor 0.9
- On Line-Double Conversion Technology (Class VFI-SS-111)
- DSP Control
- Ultra High Efficiency 96.5%
- Low Input Current THDi (<3%)
- High Input Power Factor (>0.99)
- Dual Input.
- DBST (Dual Bus Synchronisation Technology) enable multiple UPS in Parallel to work like single UPS.
- Optional DC/DC Charger/Booster
- Wide Input Voltage Range
- Advance Battery Management
- Parallel upto 8 Units
- 500 Real Time Event Log with Detailed Parameters
- Static & Manual Bypass Operation
- Small Footprint and Easy Maintenance
- Advance Communication Capabilities
- Perfect Generator Compatibility
- External Battery Temperature Facility
- Isolation Transformer Compatible

**96.5%**  
Efficiency  
even at half load

Three Level IGBT Rectifier  
& Inverter Technology  
Ultra High Energy  
Efficiency

**\*Enable saving of more than 10 lakh per year as compare to competitors efficiency of 92% in 200KVA UPS**

## Greater Power Higher Efficiency

GTC Series uninterruptible power supply (UPS) with innovative 3 level Technology is a true on-line double conversion, three-phase UPS system that provides one of the highest level energy efficiencies in the industry.

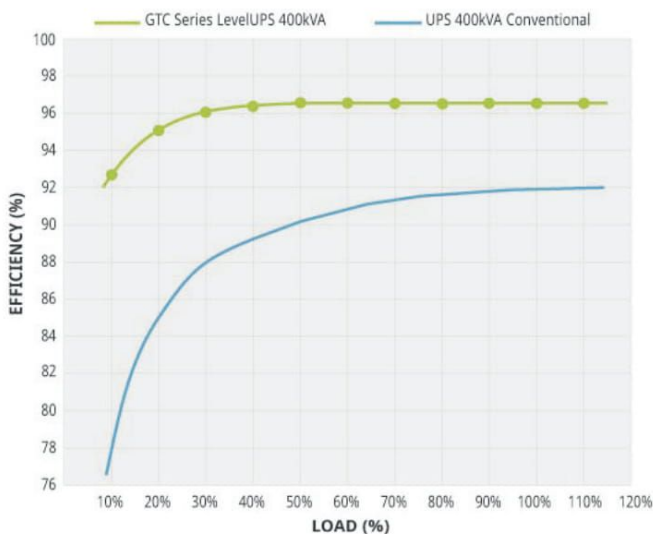
## Three Level GT Challenger Series

With its latest Three level inverter & rectifier design GTC Series brings the newest power conversion technology and delivers efficiency up to 96.5% at 50-75% load operation which is the most common operating range. This ultra high system efficiency provides considerable cost savings in comparison to the traditional transformer less UPS's with 93% efficiency.

- **High Efficiency & Low Total Cost of Ownership**

GTC Series consumes less energy to supply the load thanks to its high efficiency up to 96.5%. High Efficiency rate provides:

- Reduced energy loss
- Reduced electricity usage and air conditioning requirements
- Reduction in operating cost of UPS



- **Power Factor Corrected IGBT Rectifier**

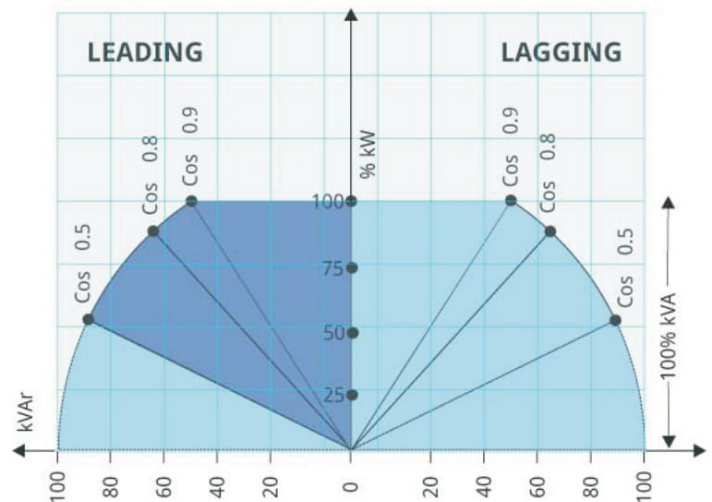
IGBT based power factor correction technology provides input power factor close to unity ( 0.99) and keeps Input Current Total Harmonic Distortion (THDi) less than 3%, that helps to avoid the disturbance.

- **Digital Control System**

All of the control functions for GTC Series UPS including power-on, start-up control, input stage power factor control, battery charging and boosting control, output stage AC voltage regulation and shut-down control, can be realized by using a single DSP control board.

- **High output Power Factor**

Output Power Factor of 0.9 provides up to 12% more active power than a traditional UPS. Suitable for modern power supply application with unity or capacity power factor (e.g. new servers generation) without any reduction in active power.



- **Dual Input Operation**

GTC Series can operate with either single or dual power inputs. Dual input feature increases availability by allowing UPS to be connected to two separate power sources. In dual configuration the rectifier is fed from utility (main source) and the static and maintenance bypass are fed from a secondary source.

- **Advance Battery Management**

GTC Series guarantees enhanced battery life and maximizes battery performance, life span and reliability through intelligent precision charging. Temperature Compensated Battery Charging monitors performing measurement of external battery temperature and adjusting the charge current rate accordingly. Advance battery management provides real-time information about battery capacity and backup time, this information can be seen on LCD panel. The UPS tests the batteries at adjustable periods without switching off the system, the test periods can be set by users.

- **EPO (Emergency Power Off)**

EPO function is designed to switch off the UPS in emergency conditions (fire, flood, etc.). The system will turn off the rectifier, inverter and will stop powering the load immediately (including the inverter and bypass) also the battery stop charging or discharging.

### • Static & Manual (Maintenance) Bypass

GTC Series includes standard static and manual bypass. Static bypass provides safe failure to mains if UPS is overloaded or develops a fault condition. When EMI filters are used to help to neutralize spikes and electrical noise, the load may be routed through bypass to provide further protection.

Manual bypass function is intended only for maintenance work, this bypass supply is incorporated in to the GTC Series design. Manual bypass is used to power down the UPS without interrupting the power to the load. With this feature it is completely safe for the technical personnel to work on the faulty UPS.

### • Auto Restart

When the main and bypass sources fail, the UPS draws power from the Battery system to supply the load until the batteries are depleted. When UPS will reach its end of discharge, it will shut down. The UPS will automatically restart and enable output power:

- After utility power is restored
- After the "Auto Start Delay Time" is expired (the default delay is 5 minutes)

### • Perfect Generator Compatibility

GTC Series is Perfectly compatible with diverse sources, especially with generators. When generator power is used, thanks to its robust IGBT rectifier, it ensures clean, uninterrupted power to protected equipment. With high input power factor performance of GTC Series it is enough to chose generator with power only 20% higher rated than the UPS. GTC Series has the ability to adjust power walk in from 5 to 60 seconds, along with reduced input current distortion.

### • Reverse Energy Tolerance for Regenerative Load

GTC Series can be used with regenerative loads, such as synchronous motors. The regenerative loads pump the energy back to mains, traditional UPS system burn this feedback energy and this causes lower efficiency. GTC Series UPS with IGBT rectifier are able to absorb intermittent load generated power. Additionally, this reverse power tolerance permits execution of important system operations like closed transfers of the UPS load directly to an engine generator source.

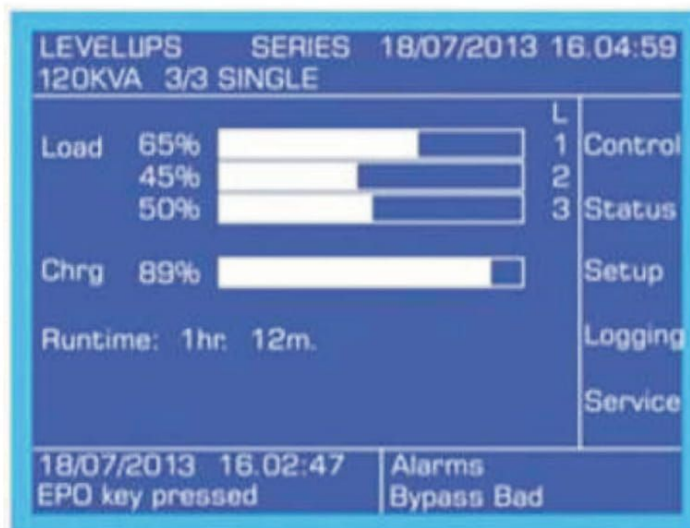
### • Flexibility

GTC Series is compatible with wide range of application. Flexibility achieved through many choices, including type of battery, single or multi-unit configuration, accessories and options.

- Frequency converter mode
- Optional temperature sensor for external battery cabinets (to assist the recharge voltage compensation)
- Additional battery chargers to optimize recharge time
- Separated bypass
- Backfeed protection

### • Advanced User Interface

GTC Series has large and user friendly 320x240 touch panel GLCD display that provides operating information in four different languages. Thanks to this advanced touch panel GLCD display all parameters of working device can be monitored and controlled UPS is capable of recording up to 500 events.



### • Parallel Operation

GTC Series features easy and simple scalability and redundancy. It is ready to grow with your business demands. Different power rated units and any number of UPS can be connected in parallel.

#### Power Increase:

The UPS's can be connected in parallel to increase total capacity of system. If one of the devices goes out of order the critical loads are transferred to bypass.

#### Parallel Operation Features:

- Internal standard parallel microprocessor for all models
- Up to 8 units parallelable
- Parallel connection
- Optional Loop BUS connection
- Auto sensing disconnected parallel cable
- Equal current share with DSP control
- Easy power upgrade without any interruption
- All parallel systems can be controlled from the front panel of one unit (ID1)
- Full synchronization of parallel units
- Isolated parallel operation card
- Static bypass for all units

## ▶ Technical Specifications of GTC LevelUPS Series 120~800KVA

MODEL	GTC33120L62	GTC33160L62	GTC33200L62	GTC33250L62	GTC33300L62	GTC33400L62	GTC33500L62	GTC33600L62	GTC33800L62
Capacity (KVA)	120	160	200	250	300	400	500	600	800
<b>INPUT</b>									
Voltage Range	380V / 400V / 415V AC +25% -30% (3P+N+PE)								
Power Factor	>0.99								
Frequency Range	50 / 60 Hz ± 10% Auto Sensing								
Harmonic Distortion (THDi)	<3%								
<b>OUTPUT</b>									
Voltage Range	380V / 400V / 415VAC 3P+N ±1%								
Frequency Range	Auto Sensing 50 / 60 Hz ± 1~10% Sync Mode (Configurable), 50/60 Hz ± 0.1 Hz Battery Mode								
THD (THDv)	Linear Load <2%; Non-Linear Load <5%								
Efficiency	Up to 96.5% Dual Conversion Mode, 99% ECO Mode								
Crest Factor	3:1								
Overload	≤ 110% for 60 Min, ≤ 125% for 10 Min, ≤150% for 1 Min and ≥ 150% for 300 ms								
<b>BATTERY</b>									
Battery Voltage	± 360V DC, ± 372V DC Configurable								
Charge Value	Nominal 0.1C, Configurable 0.2C								
<b>SYSTEM FEATURES</b>									
Technology	3Level IGBT based Rectifier, Inverter VFI-SS-111								
IP Protection	IP 20								
Walk-in Time	0~60 Sec (Configurable)								
Parallel	Parallel upto 8 Units								
Alarm / Protection	Short Circuit, Input Under/Over Voltage, Over Temperature, Over Current, Over Load, DC BUS Under / Over Voltage and Battery low								
Display LED + GLCD	Input Voltage, frequency, Input Power KVA / KW, Output Voltage Frequency, Input Power Factor, Output Current / Load %, Load Power KVA / KW, Load Power Factor, Load Crest Factor, Battery Voltage / Current, Autonomy Time, Working Mode, History Log Events, Fault Condition and Temperature.								
Event Log History	500 Events								
<b>ENVIRONMENT</b>									
Temperature	Operating: 0~45°C, Storage: -10°C ~ 55°C								
Humidity / Altitude	0~95% RH Non-condensing / <1500 M								
Noise	Low Audible Noise Level								
<b>STANDARD</b>									
Quality	ISO 9000, ISO 14001, OHSAS 18001, ISO 27001, RoHS								
Safety	IEC/EN62040-1								
EMC / Performance	IEC/EN62040-2; IEC/EN62040-3, Complying to CE								
<b>PHYSICAL</b>									
Net Weight (Kg)	355	425	450	485	700	850	1350	1400	1850
Dimensions (WxDxH) (mm)	810x820x1705	830x870x1800			1480x850x1790			1830x863x2010	3400x806x1904
<b>COMMUNICATION INTERFACE</b>									
Standard	RS-232 / RS-485								
Optional	SNMP / ModBus / Dry Contact								
Monitoring Software	NetAgent Utility v5.8 / View Power / UPSilon 2000 / Muser 4000 / MAKnet								

\*Specifications are subject to change without prior notice.



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