NS3000

10-120 kVA Threephase

- DATA CENTERS & SERVERS
- TELECOMMUNICATION DEVICES
- INDUSTRIAL APPLICATIONS
- HOSPITAL AND BANK FACILITIES
- CORPORATE NETWORKS (LAN)

GTEC
Quality Energy Provider

Smart Energy
Solutions

Overview

- HIGHER RELIABILITY
- MINIMUM IMPACT ON MAINS
- FLEXIBLE
- HIGH EFFICIENCY
- SMART BATTERY MANAGEMENT
- SIMPLIFIED MAINTENANCE

THE IDEAL SOLUTION TO GUARANTEE UTILITY STABILITY

NS3000 is a medium size online Uninterruptible Power Supply (UPS), the ideal solution to solve utility stability, supply clean and power continuity for very critical loads. This system is also particularly suited where space-constrained room needs a compact, flexible and scalable solution.

HIGHER RELIABILITY

- DSP digital control
- automatic analysis of main features
- double input
- smart ventilation system control

MINIMUM SOURCE IMPACT

- rectifier with PFC technology
- POWER FACTOR 0,99
- current distortion less then 3%

FLEXIBILITY

- high technology LCD display
- sized for small spaces
- parallel up to 6 units

HIGH EFFICIENCY

- 3 level IGBT technology
- PWM high-frequency modulation
- high efficiency at lower loads
- Ecomode system guarantees efficiency equal to 99%
- lower heat dissipation

SIMPLIFIED MAINTENANCE

- components designed to be easily accessible
- easy, fast and safe maintenance

User friendly LCD display

Product range

10 - 30 kVA

60 kVA

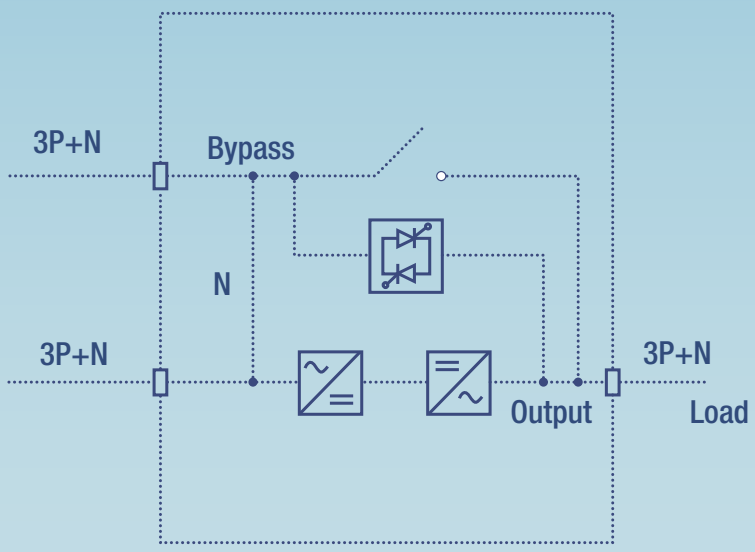
90 - 120 kVA

NS3000 is available in power capacities 10, 20, 30, 60, 90 and 120 kVA.
The system is equipped with digital signal processor (DSP), controlled IGBT rectifier, inverter transformerless, and filters for disturbances suppression.

SMART BATTERY MANAGEMENT

- Wider input voltage window and frequency tolerances help to minimize transfer to battery, reducing the number of charging and discharging cycles.
- The lower number of interventions extends batteries service life.
- In parallel redundant configuration is possible to connect the units to common battery string to have full battery capacity also in case of a single UPS failure.
- NS3000 uses a three charging modes to meet the specifications of the most common battery types as sealed VRLA, AGM or wet lead acid, Ni-Cd.
- Temperature-compensated charging monitors battery temperature and adjusts the charge voltage rate accordingly.
- The battery management system is able to manage the manual and automatic tests, monitoring battery health and remaining lifetime.

NS3000 - Section and structure



Connectivity devices

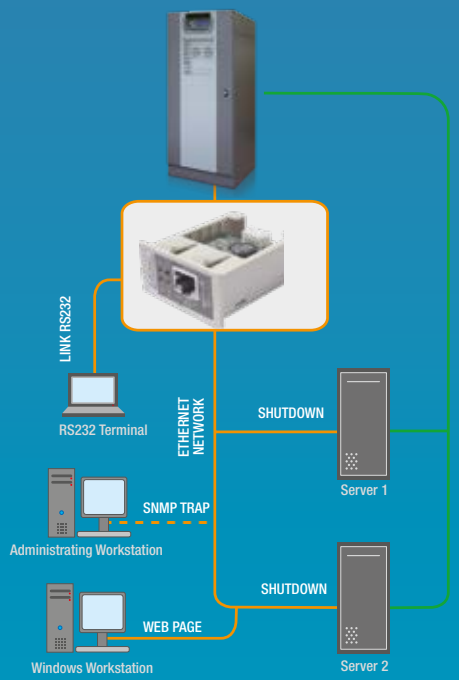
OPERATING SYSTEMS SUPPORTED

Windows, Linux, Novell Netware, Mac OS X; IBM OS/2 Warp and Server; HP OPEN VMS; The most widely used UNIX operating systems such as: IBM AIX, HP UNIX, SUN Solaris INTEL and SPARC, SCO Unix and UnixWare, Silicon Graphic IRIX, Compaq Tru64 UNIX and DEC UNIX, BSD UNIX and FreeBSD UNIX, NCR UNIX.

Through the standard RS232 serial port is possible to access the user-friendly monitoring software. This software displays real time information in the form of bar charts and values for critical data such as main voltage, UPS load and battery charge. It allows remote interrogation of UPS logs and operating parameters to help diagnose alarms and potential fault conditions. The software can also perform an automated safe power down of the protected PCs and file servers.

Advanced communication

- NS3000 is equipped with a mimic led and graphic display that provides information, measures, states and alarms regarding the UPS and the connected load.
- RS232 port and RS485 port with ModBus interface protocol are equipped in standard configuration.
- The system is equipped with EPO (Emergency Power Off) to power down the UPS through a remote emergency push button.
- **Web/SNMP card** allows UPS management across a LAN using any of the main network communication protocols - TCP/IP, HTTP and network interface via SNMP. UPS status informations can be automatically transmitted by email.
- **Relay/AS400 card** is the easy interface that allows communicating the UPS behaviour through dry contacts.



Direct Connection with Ethernet Network

Flexible and scalable technology

NS3000 is characterized by great flexibility that allows it to satisfy the installation requirements, even if load gets higher or a redundancy level is needed. The UPS is able to synchronize with an external source or with an external switch via Load Bus Sync. The Parallel configuration is available up to 6 units, allowing users to increase the power according to effective load requirement.

It is possible to adjust system's power to any load variation, and/or to get the desired redundancy level. All connected units equally share the load. The NS3000 parallel system can work in ECOMODE and with common battery as 1+1 configuration.

Modular concept and customised solutions

CUSTOMISED SOLUTIONS

G-Tec has extensive knowledge in customised solutions for various utilizations and environments; such experience was crucial to drive the NS3000 development.
The system can be equipped with dust filter as well as with various IP protection degrees. It also employs painted electronic boards, and it can be fitted to many different installation requirements.

ARCHITECTURE

NS3000 is designed to facilitate all maintenance operations.
The Uninterruptible Power System guarantees low MTTR, consequently increasing the energy availability.

Key strengths

NS3000 has many significant key strengths that allow it to get advantages both during installation and setup phase, as well as about its operating life.

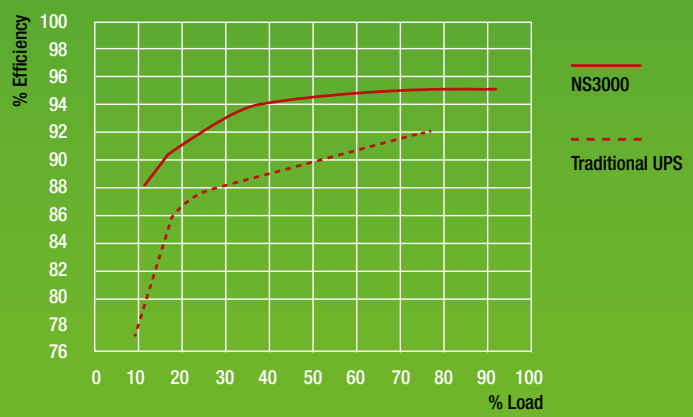
- The high power density makes this UPS very easy to install. For 10-20-30 kVA sizes it is also possible to setup internal batteries (up to 15 minutes autonomy), further reducing the space required for installation.
- The input **PFC** technology extremely optimizes the upstream infrastructure without over rating the supply devices (as input transformers, diesel gensets, switches, cables and other) and eliminating the harmonics distortion troubles.
- The unit is suitable also for leading power factor load without derating.
- The NS3000 **MTTR** (Mean Time To Repair) is one of the shortest in the UPS category due its architecture: it means more availability of system and less cost in intervention and maintenance.

Green features

COST SAVING IN EFFICIENCY

Thanks to the 3-steps level IGBT technology, as well as an extremely careful selection of high quality components, the NS3000 performance is very high. This allows a significant energy saving compared to a traditional UPS, already starting from 30% of applied load.

Choosing NS3000 you get a very fast ROI (Return Of Investment).



Technical specifications

Model	NS3010	NS3020	NS3030	NS3060	NS3090	NS30120
Power	10kVA/9kW	20kVA/18kW	30kVA/27kW	60kVA/54kW	90kVA/81kW	120kVA/108kW
MAIN INPUT						
Grid system	3 Phases + Neutral + Ground					
Rated voltage / Frequency	380/400/415VAC (Phase-Phase), 50/60Hz					
Voltage range	-10% ~ +20%, full load -10%~-40%, power derating between 100%-60%			-20% ~ +15%, full load -10%~-40%, power derating between 100%-60%		
Frequency range	40-70Hz					
Power factor	>0.99					
Current THDi	<3%					
BYPASS INPUT						
Grid system	3 Phases + Neutral + Ground					
Rated Voltage / Frequency	380/400/415VAC (Phase-Phase), 50/60Hz					
Voltage range	Default -20% +15%					
Frequency range	Selectable (±1Hz ~ ±5Hz), Default ±5Hz					
Bypass overload	125%, long term operation 125%<load<130%, 60 minutes 130%<load<150%, 6 minutes load>150%, 100 milliseconds			110%, long term operation 110%<load<125%, 5 minutes 125%<load<150%, 1 minute 150%<load<400%, 1 second load>400%, 200 milliseconds		
OUTPUT						
Rated Voltage / Frequency	380/400/415VAC (Phase-Phase), 50/60Hz					
Power factor	0.9					
Voltage precision	1% (balanced load),1.5% (unbalanced load)			±1.5% (0-100% linear load)		
Voltage THDv	<1% from 0% to 100% linear load; <5% full non-linear load according to IEC/EN62040-3			<1% from 0% to 100% linear load; <6% full non-linear load according to IEC/EN62040-3		
Inverter overload	105%, 60 minutes 110%, 10 minutes 125%, 1 minute 150%, 5 seconds >150%, 200 milliseconds			110%, 60 minutes 125%, 10 minutes 150%, 1 minute >150%, 200 milliseconds		
Frequency regulation	50/60Hz ±0.1%					
Synchronized range	Selectable ±0.5Hz ~ ±5Hz, Default ±3Hz					
Synchronized slew rate	Selectable 0.5Hz/s ~ 5Hz/s, Default 1Hz/s			Selectable 0.5Hz/s ~ 3Hz/s, Default 0.5Hz/s		
Crest factor	3:1					
BATTERIES						
Battery rate voltage	±240VDC					
Charger voltage precision	1%					
Batteries arrangement	Internal and/or external			External		
Battery type	Pb / Ni-Cd					
SYSTEM						
Efficiency	Normal operation: >95% Eco Mode operation: 99% Battery operation: 95%					
Display	LED + LCD + Touch Screen					
Protection degree	IP20					
Interface	Standard equipment: RS232, RS485 Optional: USB, Dry contacts, SNMP, parallel kit, Cold Start, dust filter			Standard equipment: RS232, RS485, USB, dry contacts Optional: SNMP, parallel kit, Cold Start, dust filter		
ENVIRONMENT						
Operating temperature	0 ~ 40°C					
Storage temperature	-40 ~ 70°C					
Relative humidity	0 ~ 90% no condensing					
Noise (dBA)	55dB maximum			65dB maximum		
Altitude	<1000m; load derated 1% per 100m, from 1000 ~ 2000m					
PHYSICAL DATA						
Dimensions W*D*H (mm)	540*690*1240			600*980*950	600*980*1400	
Weight (Kg) without batteries	106		118	176	231	266
Color	Cabinet: RAL 7021 Door: RAL 7012					

Note: technical specifications and data could be changed without notification

G-Tec Service

G-Tec supports its customers throughout the whole product life cycle, providing technical assistance and after-sales service at the highest professional standards.

MAINTENANCE is an essential activity in order to guarantee a safe and stable load protection. G-Tec shows maximum care about this topic, providing the best service in terms of experience, instrumentation and safety level.

Through the dedicated **CALL CENTER**, customers receive prompt answers to any request, and the specialized technicians directly schedule maintenance interventions.

The partnership between G-Tec and its customers gets consolidated through the **TRAINING SESSIONS** proposal for technical staff, so that each user can operate on the UPSs with maximum consciousness and safety.

A **PROJECT CONSULTING** team is also available in G-Tec Service offer, in order to provide to designers the best solution according to their specific needs.

www.gtec-power.eu

G-Tec Europe srl
Strada Marosticana, 81/13
36031 Povolaro (VI), Italia
Tel. +39 0444.361321 - Fax +39 0444.365191
info@gtec-power.eu

G-Tec France
france@gtec-power.eu

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