

Static & Rotary UPS

High Quality UPS by GE & KST



For more than a century, GE has led the way with innovative UPS technologies and groundbreaking quality initiatives - literally helping to power the world. Through the development and delivery of state-of-the-art products, ADE has also built a legacy as a leading supplier of critical power solutions, choosing GE as preferred supplier of our Static UPS equipment.

ML Series 1 Phase : 350-1000 VA



The ML Series is a pluggable, line-interactive UPS offering cost-effective protection against mains power disturbances and failures. The range extends from 350VA to 1000VA, allowing you to protect a single PC or multiple workstations and peripherals.

Features & Benefits

- Automatic Voltage Regulation (AVR)
- Superboost for extremely wide input voltage window, maximising battery life
- RS232 communication for advanced communication between UPS and PC
- Superior battery management maximises battery life
- Plug and Play for easy installation and operation

VH Series 1 Phase : 700-3000 VA



The VH Series of UPS is a true VFI (Voltage & Frequency independent) on-line double conversion, intelligent and high performance UPS designed for all mission-critical applications. Shared tower/rack cabinet and a modern design to suit IT and industrial environments.

Features & Benefits

- Voltage and frequency independent (VFI) double conversion technology
- Unique failsafe internal bypass for continued operation even in the event of UPS failure
- Tower and/or 2U rack design for all ratings; all support elements included
- Simple battery replacement without disruption to supported load
- Versatile communication with USB and contact interface, RS232, relays and SNMP
- Wide input voltage window minimising battery usage
- Excellent short circuit protection
- GE's unique Superior Battery Management enhancing battery performance and lifetime
- Easy plug-in connection of battery packs for extended run-time
- Remote monitoring and control for unmanned or isolated sites
- Can be used as a 50/60Hz frequency converter
- Phase neutral reversal protection
- Precise output frequency regulation
- High overload capability
- High efficiency

Match & Match 19" 1 Phase : 500-3000 VA



The Match and Match 19" are a line interactive, intelligent and rugged UPS, designed for cost-critical applications. All units are microprocessor controlled and have standard RS232 communications. They are used in a wide range of IT networking and telecommunications applications.

Features & Benefits

- Automatic Voltage Regulation (AVR)
- Excellent high voltage protection up to 350 Vac
- Low 'green' power consumption
- Optimised sine wave output, avoiding peak currents that can damage electronics and batteries
- Automatic battery test, auto boost charge with 2 hour recharge time and low battery temperature
- Wide input voltage window minimising battery usage

GT Series 1 Phase : 6-10 KVA



With the GT series, your mission-critical equipment is protected from any fluctuation in your power source, enabling you to concentrate on your core activities. The GT Series is a true VFI on-line double conversion, transformer-less, intelligent and high performance installable UPS.

Features & Benefits

- On-line double conversion technology assuring ultimate Power Quality
- (Remote controlled) programmable computer shutdown
- Combined tower/rack for maximum flexibility
- Wide input voltage window to minimise battery operation
- Small footprint & low weight, ideal for IT applications or sites with limited available space
- Hot swap-able batteries for easy battery replacement without dropping the load
- Simple installation of paralleling cable for expanded power and redundancy of the system
- Back feed protection as standard, providing optimal safety for installation
- Frequency converter (50Hz - 60Hz) also in parallel operation
- All components for Rack, Tower & Parallel installation are included with the UPS

LP 11/31T/31 Series 1 Phase : 3-20 kVA

The LP Series provides critical power for many applications. The LP Series is easy to install and service, optimised for the office environment. The robust design is also suitable for more traditional, industrial applications. The LP Series is an on-line double conversion, intelligent and heavy duty UPS.



Features & Benefits

- Low input current distortion & high input power factor eliminates need for costly filters or oversized generator
- Small footprint, with wheels
- Advanced technology enabling silent operation
- High output power factor allows for optimal sizing of UPS
- Low output voltage distortion
- Superior battery management
- ECO mode enables automatic energy savings under stable power conditions

LP 33 Series 3 Phase : 10-120 kVA

The LP 33 Series is a highly reliable transformer-less three phase UPS system providing power protection for a wide range of critical applications from medical to data centres and telecommunication. To further increase system reliability, 2 or more units can be connected in parallel.



Features & Benefits

- Clean input Active IGBT Technology provides low input harmonics feedback distortion, constant for all load levels from 20% to 100% load. This allows the user to save in the sizing of upfront UPS equipment: generator sets, cabling and circuit breakers. It also reduces the disturbance on nearby equipment without the need of additional filters
- Input/Output terminals are easily accessible from the front, as are all other serviceable parts
- EMC class A filters are installed as standard (at no additional cost) in the UPS, ensuring the reduction of interference with other equipment supported in the application (telecom, broadcasting,...)
- The low footprint of the LP33 Series is best in class and provides users with more space for other equipment
- The output dynamic stiffness characteristics of the unit is particularly suitable in healthcare application where no voltage distortion with none linear load and no voltage variation with load steps are required

SitePro 3 Phase : 10-40 kVA

The SitePro high performance UPS system provides critical power protection for a range of applications. All SitePro models operate in a double conversion mode (providing true on-line operation), thus providing the highest levels of power reliability.



Features & Benefits

- High output power factor eliminates the need for UPS oversizing
- Constant high efficiency at full and partial load
- Superior Battery Management (SBM) to enhance battery life and to prevent battery failure
- Super ECO Mode for energy savings
- Extremely low output distortion even at none linear loads
- Highest levels of reliability and flexibility with Redundant Parallel Architecture™ (RPA™)
- Best in class for variable load applications
- Various operation modes: double conversion; voltage and frequency stabilizer; frequency converter
- Galvanic isolation which provides additional critical power protection
- UPS monitoring and protection software
- Back-feed protection standard included, providing a safe work environment

SG Series

3 Phase : 60-500 kVA

The SG Series UPS in the range from 60-50kVA are available with GE's cutting edge PurePulse technology.

The 160-300kVA range is also available with a traditional thyristor-based rectifier.



Features & Benefits

- Voltage Frequency Independent (VFI) operation fully compliant with international standards (IEC 62040-3) providing full power protection for demanding critical applications
- Front access for all service and maintenance reducing operational footprint
- Excellent dynamic response preventing the need for over sizing in case of pulsating loads
- Superior Battery Management (SBM) enhances battery lifetime resulting in reduced cost of operation
- Super ECO Mode (user selectable) to reduce energy consumption costs
- Automatic start-up procedure and user friendly interface simplifying UPS operation
- Maintenance bypass integrated in UPS cabinet, no need for external switches
- Fully compliant with EMI international standards (IEC 62040-2) and safety standard (IEC 62040-1)
- Preventative maintenance and advanced diagnostic information using the PMAD feature

Connectivity Solutions

Increased system availability and process protection

Power Diagnostics

With Power Diagnostics it is possible to combine the remote monitoring and diagnostic core product IRIS web and dedicated services in a comprehensive solution to minimize the risk and maintenance costs.

24x7 UPS monitoring, regular operational status reports, immediate alerting for alarms and critical events via SMS, e-mail and fax are just some of the characteristics of the RM&D solution. In particular the system is scalable and can be easily adapted to various configurations, while remaining safe through a multi-level security system



JUMP Manager

Protection Software

The main function of the GE protection software is data and operating system protection. JUMP DataShield™ diminishes the risk of lost data or system crashes. The software provides events handling and computer shutdown for all major operating systems, protecting the security of precious data. Multi-vendor and multi-platform environments as well as client-server structures are managed, using SNMP-based network communication protocols.



IRIS

Management Software

The GE UPS management software provides direct access to remote UPS and active management of each UPS in multi-unit configurations to ensure efficient and predictable power quality. A network manager or facilities engineer can use JUMP Manager™ to monitor and control the local or remote UPS, and the equipment and processes it protects. Typically, an SNMP connection, direct serial link or modem connection is used for this purpose. The UPS can also be monitored on the Internet using the GE IRIS system.

UPS Software Products

- Data protection software for multiple operating systems
- UPS management software, including integration
- Web based remote monitoring and diagnostic services

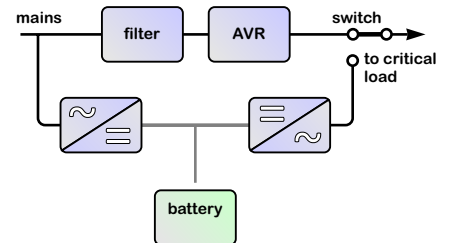
UPS Topologies

A brief overview

Line-Interactive

The line-interactive system channels the incoming mains power, via an AVR - Automatic Voltage Regulator, directly to the load. Compared to off-line, the system can handle much larger voltage variations before switching to battery operation.

Solutions : ML Series, Match Series

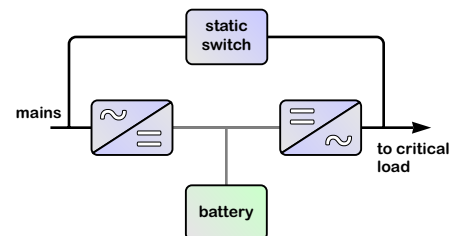


On-Line - double conversion

VFI - Voltage and Frequency Independent

Input and output are completely separated: the output converter (DC to AC, or = to ~) continuously supplies the critical load with a completely new, regulated and clean sine wave output. No switching takes place when the incoming mains power gets outside tolerances. A bypass switch automatically transfers the load to the mains when the output converter is unable to supply the load (e.g. due to overload or over-temperature).

Solutions : VH Series, GT Series, LP Series, SitePro, SG-CE Series



Dynamic Rotary UPS

We are witnessing an unprecedented growth in the field of critical systems power engineering where the demand for reliable and safe power supply has reached an all time high. The critical power supply system is the heart of any large organisation. If the unthinkable happens and a power failure occurs it will have serious consequences for continued mission success. ADE's Rotary Solutions by KST can ensure continuity of supply by providing total systems support.

KST's kinetic energy storage products are firmly placed in the energy-saving, low-carbon category of 'green' and highly efficient power supply.

Innovative KST Cleanwave® KPS UPS System

KST Rotary Solutions staff draw upon many years of UPS and power system design and application experience. Serving a range of commercial, public and industry sectors, we meet the complex and diverse requirements of a broad client-base.

The core product is a high-efficiency battery and power-electronic free UPS that meets the stringent electrical demands of the most modern electronic loads, such as Blade Servers. Its simplicity leads to ultimate reliability and very low service costs which, added to the energy saved by the low UPS losses and the lack of air-conditioning energy produces a very low Total Cost of Ownership. Compared to a typical battery backed Static-UPS the KST Cleanwave® KPS UPS system will pay for itself entirely in fewer than three years - and often less.

As a stand-alone product the KST Cleanwave® KPS products are highly suitable for 'glitch-protection' - where the 12 seconds of autonomy is sufficient to improve the availability of the mains supply to meet the clients requirements. With 97% of all voltage interruptions lasting less than 3 seconds the KPS machine will protect the load with a minimum MTBF (Mean Time Between Failure) of over 24 months in European urban locations.

Typical applications include:

- Transport loads, runway lighting
- Manufacturing loads, plastic injection machinery, CNC machine tools
- High-speed packaging lines, glass bottling plant
- Research facilities, physics laboratories
- Building Services, air-conditioning plant for continuous cooling applications

In conjunction with a diesel standby generator the autonomy is extended only to the limit of fuel-oil supply and typical installations include:

- Computer centres, internet providers and co-location facilities
- IT, telecommunications and data-centre facilities for finance and banking
- Centralised critical power for whole buildings and campuses, call centres
- Medical, research facilities, computer rooms, non-life and life-critical systems
- Transport, tunnels and air traffic control



2 x E-DRUPS 800 kVA

Why choose the Dynamic Rotary UPS – KST Cleanwave™?

The KST Cleanwave™ high-efficiency battery and power-electronic free UPS meets the stringent electrical demands of the most modern electronic loads. Its simplicity leads to ultimate reliability and very low service costs to comply with today's demand for 'green' data centres.

- No power electronics in the critical path - high reliability
- No lead-acid batteries or air-conditioning - small footprint
- No clutch, no magnetic bearings, no vacuum – simple
- Low stress, >10 year bearing service life - lowest service costs
- Separate standard diesel generator set - can be N+1
- High efficiency, >8% lower losses than static UPS
- No de-rating for leading Power Factor loads – Blade Ready
- Input Unity Power Factor with very low harmonics – low cost
- Lowest output reactance, highest fault clearing capacity
- Unmatched reliability through simplicity in design
- Factory trained UK based Service Engineers

High power and high fidelity performance

- Modules of 400, 800 & 1600kVA with >11s of autonomy
- LV multi-module systems up to 4MVA with N+1 redundancy
- MV multi-module systems up to 13MVA
- Suitable for multi-bus and distributed redundancy architecture
- Largest installation to date 11.2MVA

Power Systems

- Turnkey critical power systems and containerised solutions
- Full in-house consultancy and design services
- UPS, Switchgear, Emergency Diesel Generation and Installation solutions



Robust rotary technology:

- Simple Machine
- High reliability
- Low bearing speed (1500 rpm) with longevity

No power electronics

- Low Component count
- Standard 'off the shelf' parts

Product Flexibility - Coupling & Starting

Gen-set electrically coupled to the UPS

- Increase flexibility and reliability
- Electrical Shaft (ES)
- No mechanical stress (no electro-mechanical or mechanical clutches)
- No Gen-set aggressive start (black smoke)

Soft Transfer

- Unique feature that guarantees a progressive soft transfer of load to the Gen-set

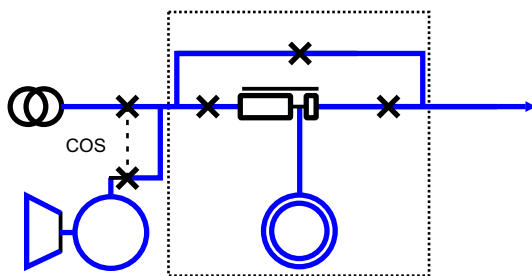
Advantages:

- Flexibility of installation (UPS close to critical load – Gen-set can be located separately for environmental or practical reasons)
- Maintenance operations are separated
- The KPS UPS can be integrated with quality Prime Power Gen-sets
- Simple & secure parallel redundancy (Gen-set and UPS are separately redundant)

1 second hold-off:

- 1 second hold-off of Gen-set start-signal eliminates 99% of nuisance starting
- When Gen-set runs, it runs on load, therefore self cleaning every time.

UPS - KPS

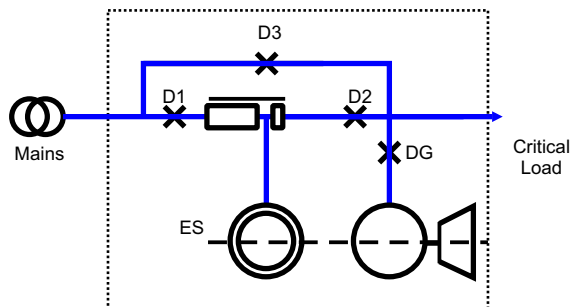


High flexibility

Associated with a Generator set for continuous power supply

Easy paralleling and high redundancy level

E - DRUPS



Fully integrated E-DRUPS module

Electric Shaft (ES)

- No mechanical clutch
- Soft Start
- Soft Transfer of Load
- Critical & Short Break

Black Start (optional)



KST's kinetic energy storage products are firmly placed in the energy-saving, low-carbon category of 'green' and highly efficient power supply.

ADE specialise in the supply and manufacture of diesel generators and UPS systems, with a focus on bespoke acoustic packaging, to meet the most demanding criteria.



Airtight, stainless steel & fireproof pumping station enclosure



2500kVA generator in silenced 'large scale' drop-over canopy



Super-Silenced 450kVA generator enclosure, c/w vertical acoustic air inlet/outlet system



500kVA zintec steel generator canopy silenced to 60dB(A) @ 1 metre

Custom Enclosures

A standard generator enclosure is not always suitable for a given project. Here at ADE we have a complete manufacturing facility enabling us to design and build acoustic & weatherproof canopies for almost any model of diesel or gas generator. You can choose a generator from our substantial stock, enquire about the availability of other generator models or even free issue your own generator to enable us to manufacture an appropriate noise control and/or weatherproof enclosure.

Options & Features

- Secure welded canopies and base frames
- Zintec / Stainless or Mild Steel construction
- Fully welded Aluminium enclosures
- Trailer mounted & portable generators
- Fully welded, integrated or remote fuel tanks
- Robust generators for the hire market
- Full UPS Integration
- Remote Monitoring/Control
- Generator Synchronisation

Super Silencing

Bespoke canopies designed for near silent operation (down to 54dB(A) at 1 metre in open field conditions). Operating noise levels are often the most important issue raised when a generator installation is required, please consult one of our sales engineers to find out more about our super silenced acoustic canopies and containers.

Large Scale Drop-Over Canopies

Typically, for generators above 2500kVA a standard or modified ISO container is too small to use as an enclosure due to the size of the cooling system required. Fortunately ADE have the experience and expertise in the design and manufacture of large scale drop-over canopies.

The canopy can be raised independently to the base frame or the whole unit can be raised using the heavy duty steel base frame.

Standard Enclosed Generators

Ranging from 11 to 3300kVA, we select our substantial stock from only the most reliable and prestigious gen-set manufacturers. This enables us to provide high quality and reliable generator solutions with a highly envied project turnaround time.

Our standard modular enclosed generators are mounted on heavy duty steel skid and delivered ready to run. They are supplied with an integrated base fuel tank (day tank) which would typically provide 4-8 hours operation at 100 percent of the machines load capability.

All our silenced (enclosed) and open generators are assembled in the UK and EU. We offer many servicing and maintenance options and can supply parts and spares for many models of diesel generator.

Standard Enclosed Generators - Typical Features

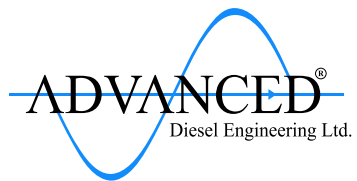
- Secure maintenance access
- Lifting eyes
- Control panel inspection window
- Skid mount base with day tank
- Emergency stop button
- Cable inlet & gland
- Cooling air inlet/outlet

Please visit our website at www.adeltd.co.uk for more products and services from Advanced Diesel Engineering Ltd.





UK Datacentre - Standby generator and UPS Installation - by ADE Ltd 2009.



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