Galaxy 3000

10/15/20/30 kVA

Data Center Grade Power Protection for Critical Environments

The **Galaxy 3000** is the world's first data center grade UPS designed specifically for mid-range enterprise level applications. Incorporating all the same features as **MGE's** high power UPS systems found in many of the world's class A data centers, the **Galaxy 3000** delivers the optimum level of reliability, availability and scalability demanded by the new generation of critical enterprise applications.

With 95% of Fortune 100 companies now using MGE UPS SYSTEMS, *you're buying more than a UPS. With the* Galaxy 3000 *you're buying peace of mind.*

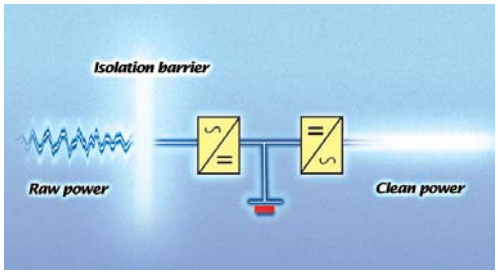
Advanced Features

- True on-line technology
- Quiet operation
- Distortion free input
- Network based power management
- Fault tolerant architecture
- All-in-one complete solution
- Compact footprint
- Full front access
- Ultra high availability topology (UHAT)
- Energy saving Eco-Mode
- Input Power Factor Correction (PFC)
- Scalable power levels
- User friendly graphical interface
- Digital Power Quality Management
- Power surge stabilization for IT equipment startup
- Generator friendly technology

MGE
UPS SYSTEMS

Galaxy 3000 ~ *Delivering the Essential elements of critical power protection*

True Double Conversion On-line Topology: The **Galaxy 3000's** double conversion topology (the only recognized true "on-line" topology for use in high reliability applications) uses the rectifier & inverter to isolate devices on the UPS output from the dangers of raw utility power - never exposing the critical load to raw utility power. Other conversion topologies allow poor power conditions such as low voltage surges to travel through the UPS and potentially reach devices on the UPS output. Double conversion topology also allows the UPS to regulate the output frequency without switching to battery power, a necessity for continued reliable operation with a generator.



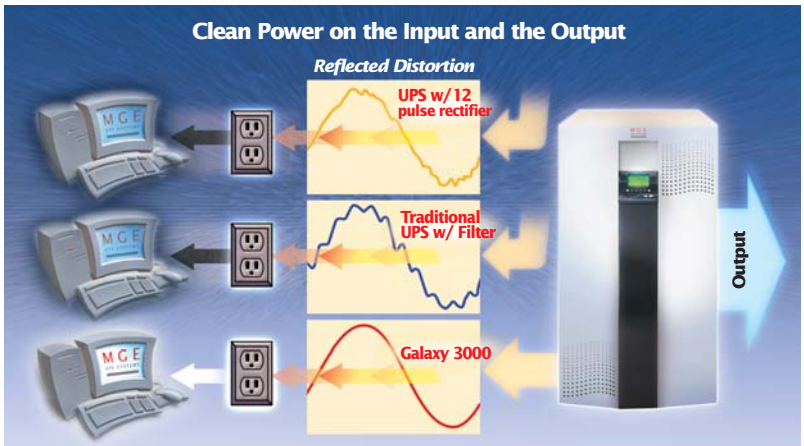
User friendly operation: In 30 years of manufacturing UPSs, **MGE** has realized that user errors account for a majority of UPS load drops. The **Galaxy 3000's** graphical user interface presents information like operator instructions in a clear and safe manner – preventing unnecessary operator errors. Also depicted are alarm / event logs, mimic diagrams and detailed system status information.

Power Factor Correction

While most UPSs provide clean power on the output, their rectifier can reflect distortion back onto the utility power, disturbing other equipment sharing the utility power in the rest of the facility. The **Galaxy 3000** is equipped with Input ***Power Factor Correction*** *(PFC)* for a practically distortion free (<3% THD) input. Since the **Galaxy 3000** uses a unique IGBT (Insulated Gate Bipolar Transistor) rectifier it eliminates input harmonics without an input filter that is required on other UPSs.

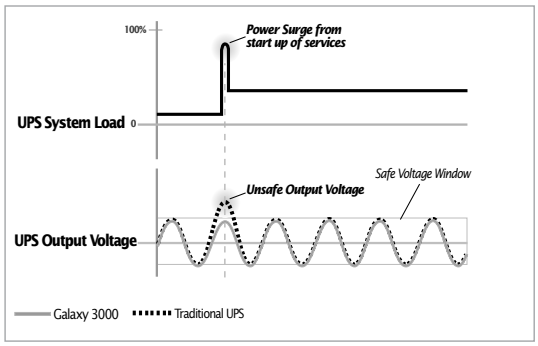
Unique Advantages of **Galaxy 3000** ***Input Power Factor Correction***

- Eliminates reflected harmonics on the input keeping utility power clean for the rest of the facility
- Contributes to unsurpassed generator compatibility
- Eliminates costly and bulky input filters, *reducing UPS power consumption by* ***20%***
- Increased reliability with fewer components



	Current Distortion	Power Factor
Galaxy 3000 with IGBT Rectifier	**<3%**	**>0.99**
Traditional UPS with Input Filter	**<10%**	**0.95**
UPS without Input Filter	**>25%**	**0.85**

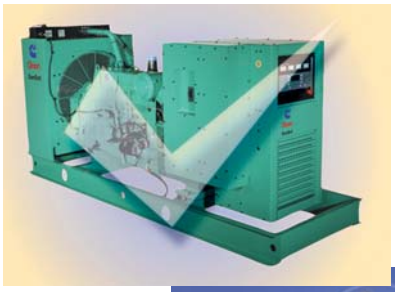
While UPSs provide clean power on the output, the rectifier used on their input reflects disturbances back on to the utility disturbing nearby devices that share the power. Even UPSs equipped with input filters don't ensure that some distortion won't be reflected onto the utility. The above chart shows that the ***Galaxy 3000's*** *IGBT rectifier is the most effective technology for reducing reflected distortion, and does not require the hidden cost and energy consumption associated with an input filter.*



Load surge management technology

Manage Start-up with Confidence: Most IT equipment draws many times its rated current when the equipment is first started. Switching on a bank of servers can create a big enough current surge that causes an output voltage sag or surge leading to equipment malfunction. The **Galaxy 3000** was specifically designed to tightly regulate the UPS output voltage even when hit with instant power demands as high as 150% of the nominal load. This means start-ups and surges will not cause mystery lock-ups on your equipment – ***a unique feature from MGE.***

Generator friendly technology

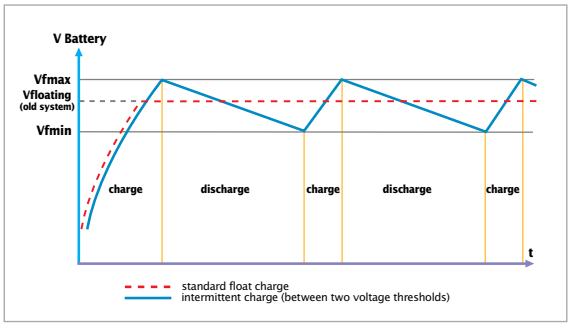


The **Galaxy 3000** boasts the best generator compatibility in the industry thanks to its distortion free power factor corrected input. This technology results in significant cost savings as the generator no longer has to be oversized to operate reliably with the UPS like on most other UPSs. Since generators can have wide frequency shifts especially when starting loads like banks of servers, the ***Galaxy 3000*** has an extremely wide frequency window, maintaining output frequency without having to use precious battery power during frequency. Together these features result in substantial cost savings and eliminate the traditional risks associated with UPS-generator operation.

Fault Tolerant Architecture

Adding or changing devices on the UPS output can be an unforgiving experience. Accidental mis-wiring or short circuits anywhere on the UPS output can permanently damage most UPSs dropping the load and potentially forcing the UPS down for days until it can be repaired.

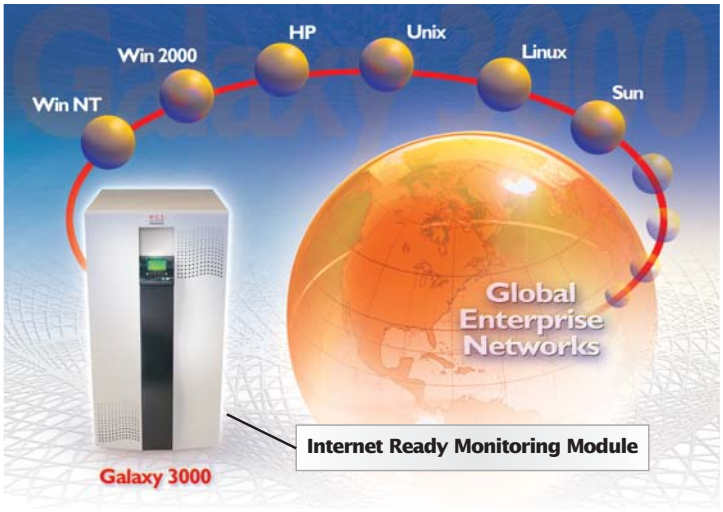
The **Galaxy 3000** incorporates **Fault Tolerant Circuitry** to sustain accidental short circuits without damaging the UPS ~ *a quantum leap in reliability.*



Intelligent Battery Management

Boosting the **Galaxy 3000's** reliability is a new intelligent battery charging technology that increases battery life by **up to 50%** and eliminates battery failures that compromise UPS performance. UPS batteries spend 99% of their life under a constant float charge proven to fatigue batteries and reduce their effective life. By applying a variable charge rate batteries stay fully charged and ready for operation but avoid the effects of accelerated aging and premature failure that can result from years of constant float charging.

Network Based Power Management and Monitoring



MGE Network Power Management Advantages

- Automatic shutdown/reboot of an unlimited number of servers
- View power system status from any point on the WAN
- Trap reception acknowledgement minimizes network bandwidth usage by UPS
- Integration with Enterprise-wide management systems
- Pager or E-mail notification of power events
- Load shedding for optimized use of backup power
- (UM-Switch option) / Environmental monitoring and management (UM-Sensor option)
- Communications cards for every application including: SNMP / Ethernet, U-Talk (RS232-ASCII), RS232 / RS485 (Modbus / JBUS), USB and a standard programmable dry contact card (2 input / 6 output).

True cross platform compatibility

MGE Solution-Pac for WAN software (included with the **Galaxy 3000**) simplifies centralized power management of multiple servers. Featuring TCP/IP based software with a distributed architecture, ***Solution-Pac for WAN*** performs critical power management functions on just about any platform with any operating system. The Internet Ready Monitoring Module allows you to plug your Galaxy 3000 into a network connection and instantly view the UPS status using a standard Internet browser.

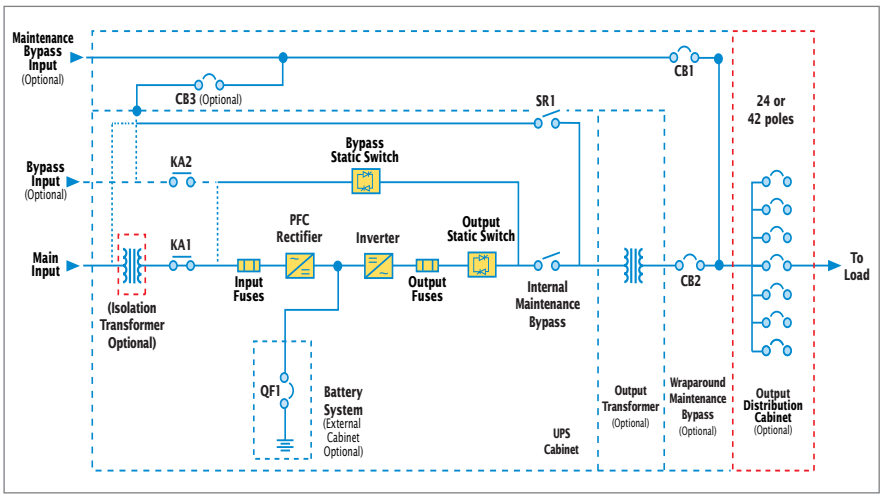
Electrical Specifications

Power (kVA @ 0.8 pf)	10	15	20	30
Input				
Voltage*	208V ,220V, 480V, 600V 3 phase + N + G (± 15%)			
Frequency	60Hz (+8% / -25%)			
Power Factor	>0.99			
Current Distortion (THDI)	<3%			
Input Current (A @ 208 V)	26	39	52	78
Output				
Voltage*	208V (220V, 480V, 600V w/ aux cabinet2) ±1% -3 phase + N + G			
Frequency	60Hz (±1-4% selectable) ± 0.1 Hz free running			
Transient Response	±3% for 0% to 100% to 0% load step changes			
Voltage Distortion THD	<3% L-L and L-N for non-linear loads			
Inverter Overload	120% for 1 min., 145% for 30sec.			
Bypass Overload	10 x nominal current for 1 cycle			
Output Current (A @ 208 V)	28	42	56	83
Heat Rejection (max. BTU's)	4,100	6,100	8,200	12,200
Batteries	*Backup Time (minutes at full load)*			
Internal (UPS Cabinet)	12[1], 36, 56, 92	8[1], 20, 33, 51	14, 23,36	8, 12, 19
Auxilliary Cabinet[1]	100, 151	61, 88	43, 50	29, 45
Dimension and Weights				
*10-15 kVA UPS (micro cabinet)	23.0 W x 48.6" H x 33.5" D (780 lbs)			
10-30 kVA UPS (standard cabinet)	32.8" W x 62.4" H x 35.6" D (2295 lbs-max)			
Aux. Cabinets (matching Maintenance Bypass, Output Transformer, Distribution)	23.0" W x 62.4" H x 35.6" D (592 lbs-max)			
Auxilliary Battery Cabinet	32.7" W x 62.4"H x 35.6" D (2523 lbs-max)			
Standards				
ISO 9001, UL 1778, cUL, FCC Class A parts, 15 sub part J class A, IEC 1000 level 4, IEEE C62.41-B3, NEC				

* 10-15 kVA micro cabinet only available in 208 / 208 V - external maintenance bypass, distribution options not available with micro cabinet

[1] 11/7 minute battery times only applicable for micro cabinet

Galaxy 3000 Schematic



Standard Features

- True Double Conversion On-Line topology
- Input Power Factor Correction (IGBT rectifier)
- Input Distortion Management
- Digital Power Quality Management System (PWM / IGBT inverter)
- Step Load Voltage Stabilization
- Intelligent Battery Management system
- Fault Tolerant Architecture
- Scalable Architecture (10 & 20 kVA models)
- No extra cabinet for Input Isolation Transformer
- Integrated battery bank
- Casters with stabilizing feet
- Network based software for multi-server control
- Dry contact i/o card
- SNMP manageable
- 7x24 remote monitoring (w/ Teleservice subscription)
- Color graphic display with multilingual user interface
- Bottom or top entry
- Integrated maintenance bypass
- Four communications ports

Options

- Matching power distribution unit (24 or 42 pole)
- EIA 232 / EIA 485 serial interface
- Ethernet/SNMP Network connection kit
- Dual Input
- External maintenance bypass
- Input isolation transformer
- Internet ready monitoring module

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