



Data centers are becoming increasingly large, Blade Servers are demanding more power, and there is increasing demand from semi conductors for the digital economy. The MGE Galaxy 9000 range keeps pace with this increasing demand, providing:

- High availability
- High power density
- Flexibility
- Attractive total cost of ownership (TCO)

Features and Benefits

Dedicated system for large data centers and ultra sensitive, high power demand processes

The MGE™ Galaxy™ 9000 is designed and built to meet the market demand for high kVA/kW in a single high density carbon footprint. The MGE Galaxy 9000 is the top choice for Fortune 500 customers seeking the highest in reliability and availability in UPS solutions to meet their critical power protection demands. Providing pure flexibility and high power capabilities, with unique auxiliary equipment such as: paralleling gear up to 4000 kVA, and 12 pulse rectifier options that reduces the input THDI to less than 5%. Featuring advanced generator compatibility by an exclusive integrated MGE Galaxy input current limiter design technique. In addition, external bypasses and synchronization boxes maximize the product catalog while maintaining the efficiency and output power quality that you expect with the MGE Galaxy product range.

MGE Galaxy 9000

Power quality & availability

Low THDU : < 3%

A low THDI consumption upstream from 4 to 8%

Batteries always available

High reliability

Strongly helps discrimination

Rapid and safe maintenance

Maintenance Bypass included

Easy front access to all parts : quick and safe maintenance, no wrong manipulation

Flexibility

Different battery types and and backup time

Architectures for redundancy and/or power extension with various paralleling modes.

Compliant with all type of loads lagging or leading : a lot of kW.

Wide choice of integrated options for flexibility towards specific needs

Options

12 pulse rectifier

Battery cabinets

System bypass cabinet

Centralized Static Switch cabinet

Top entry cabinet

Optimized total cost of ownership

Low operating costs

Low installation costs

Typical applications

Data centers

Financial institutions

Industrial

Healthcare

Petrochemical

Utility

Dedicated system for large data centers and ultra sensitive, high power demand processes

Data centers and telecommunications

Easy to upgrade

- Flexibility for upgrade without any risk is a major requirement for strategic data centers, second only to power availability and quality.
- Most data centers start with a requirement for a few hundred kVA which increases to several MVA as the data center becomes populated. The power uplift is without loss of continuity and planned when required.
- Various paralleling options of the MGE Galaxy 9000 can provide ideal solution to match this need.
- In conjunction with Static Transfer Switches (STS), MGE Galaxy 9000 UPSs can supply power to multiple independent circuits for double or triple input power supply units that are regularly used in data centers.

Green Data Centers

- The compact MGE Galaxy 9000 has high efficiency, input harmonic reduction, and improved Power Factor which makes it ideal for organizations committed to Green Data Center design.

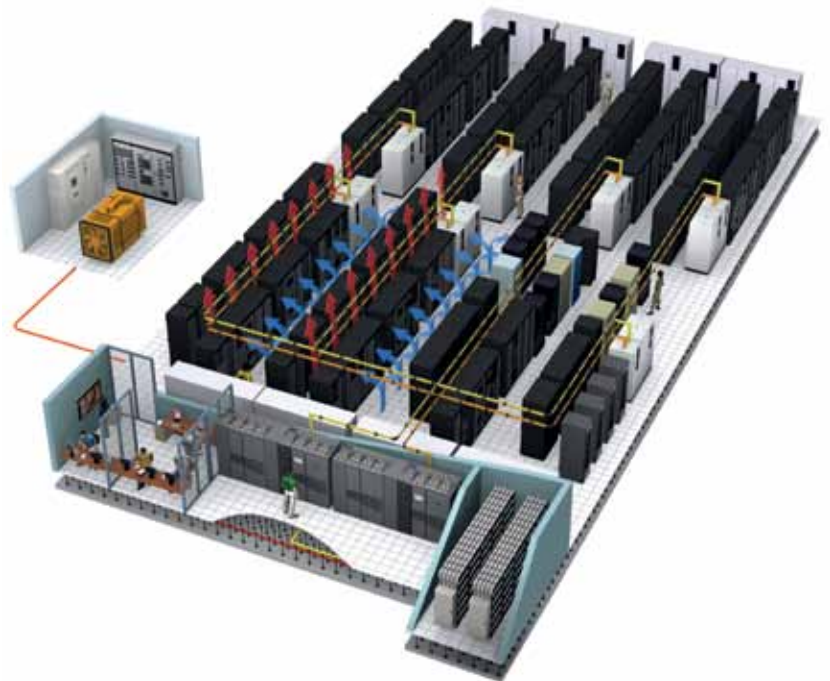
Meets Data Center TIA 942 and TIER IV requirements*

- The data center world is becoming more uniform and standardized. MGE offers solutions based on MGE Galaxy 9000 UPSs, MGE Upsilon Static Transfer Switches, and expert design and installation services to meet TIA 942 and the TIER IV requirements defined by the Uptime Institute.

Process industry

Operation under all conditions

- Manufacturing conditions often create a very harsh environment for equipment. Dust, damp, vibration, large temperature variations - processes must be able to operate without failure despite such conditions.
- MGE Galaxy 9000 has been designed to be robust, mechanically as well as electrically, and is ideally suited for providing an uninterruptible power supply.
- High overload and fault clearing capacity
- Stable output voltage even during load transients.
- High ingress protection, strong, reinforced enclosure, dust filters.
- Compatible with wide range of open lead acid, sealed lead acid, and nickel cadmium type batteries.
- APC™ by Schneider Electric™ design office, and dedicated engineering division, are able to modify standard products or customize them for particular requirements:
 - ruggedization
 - anti-vibration mountings for maritime applications
 - custom paint and markings.



MGE Galaxy 9000 Range		
UPS	800 kVA	900 kVA
Applications	Data Center	Process Industry
Power Factor	0.9	0.8
Short Circuit Capacities	1733 A	1949 A

Power quality and availability: assured continuity of service

Data communication is part of everyday operation in data centers, telecommunications, and manufacturing processes. In these particularly critical domains, a power cut may cause very serious operating losses and risks for staff and equipment as well as the image of the company. APC by Schneider Electric has designed its high power range to supply high quality power 24 hours a day for all operating conditions and applications.

High quality supply to applications

The on-line double conversion and variable frequency switching enable the MGE Galaxy 9000 to supply high power quality with:

- very low output distortion: THDU <3%
- stable output voltage even during load transients.
- Advantages:
 - optimum operation of the equipment
 - longer life expectancy
 - protection of capital investment
 - fault tolerant

Redundant architectures

The Uptime Institute recommends that, from TIER II upwards, equipment should be provided with multiple power sources. For Tier III and IV, redundant power distribution must be provided.

- Paralleled MGE Galaxy 9000s provide source redundancy.
- MGE Upsilon Static Transfer Switches provide redundant power distribution.

Batteries always available

Batteries ensure service continuity. APC by Schneider Electric takes particular care in managing batteries to ensure that they are always ready for demanded duty.

DigiBat and Battery Monitoring: for digital battery management

DigiBat uses the operating power level, temperature, age, and type of battery parameters to adjust the battery charging voltage for the operating conditions and continuously calculates:

- the real backup time available
- the remaining lifetime.
- DigiBat also:
 - Tests the battery system automatically (at intervals that can be set), without affecting the battery capacity
 - Raises an alarm if the batteries are low.
- The optional B2000 and Cellwatch battery monitoring systems monitor the battery systems 24 hours a day and provide predictive fault alarms for each battery block:
 - continuous voltage and internal resistance measurement for each block
 - possibility of replacing individual blocks.
- Advantages:
 - ensures that the battery is available
 - maximizes the lifetime, reduces monitoring and maintenance costs.



Flexibility: for upgrading without limits

MGE Galaxy 9000 provides high power quality with different types of batteries, architectures, and options and its great integrated paralleling feature allows applications to be upgraded without any risk to the load.

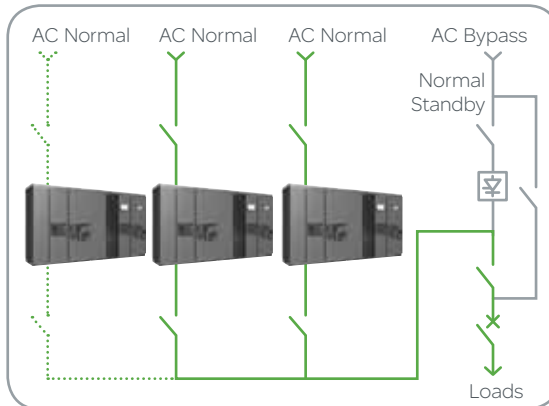
Easy upgrading: more power, greater redundancy

- MGE Galaxy 9000 can be installed singly or in parallel with a common bypass and can therefore meet all needs to improve the power availability and increase the power rating as the site develops.
- MGE Galaxy 9000 UPSs can be synchronized with any other external power source (transformers, generator sets, UPSs, etc.) and can supply power to Static Transfer Switches (STS) to guarantee maximum power availability.

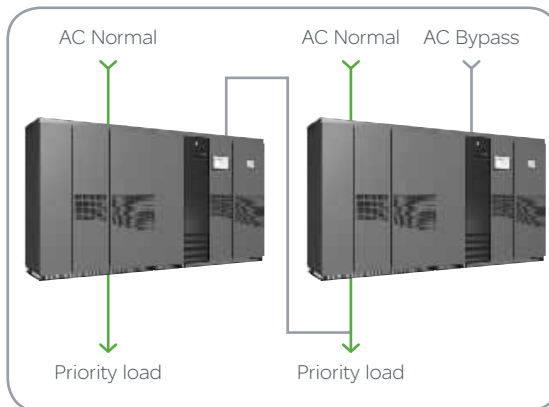
Advanced monitoring: wide variety of protocols

UPS monitoring is essential for managing an installation and for making decisions if a problem should arise.

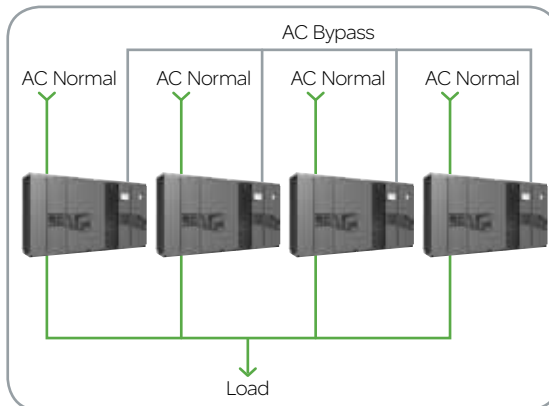
- Local - The optional "Vision" display combines:
 - functionality (mimic of the whole installation, measurements, trending, statistics)
 - ease of use (large high definition color touch screen).
- Advantages:
 - rapid learning
 - reduced risk of error, easy to monitor and control for effective, safe operation.
- Remote - MGE Galaxy 9000 incorporates all the communications facilities that have been developed by APC to:
 - monitor the operation of the UPS and its environment
 - automatically shutdown the operating systems of the servers supported by the UPS
 - supervise a group of UPSs.
- Using:
 - simple programmable relay contacts
 - J-Bus and Modbus® protocols to communicate with a building management system
 - Ethernet 10/100 using HTTPS (Secure Socket Layer) for monitoring via Internet.
- Advantages:
 - clean shutdown of servers to protect data
 - real-time information about the UPS status
 - can be used with any network management system.



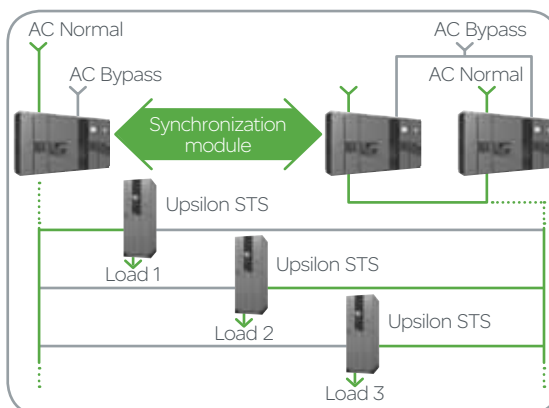
Parallel to increase the power with common bypass up to 6 UPSs



Hot standby redundancy

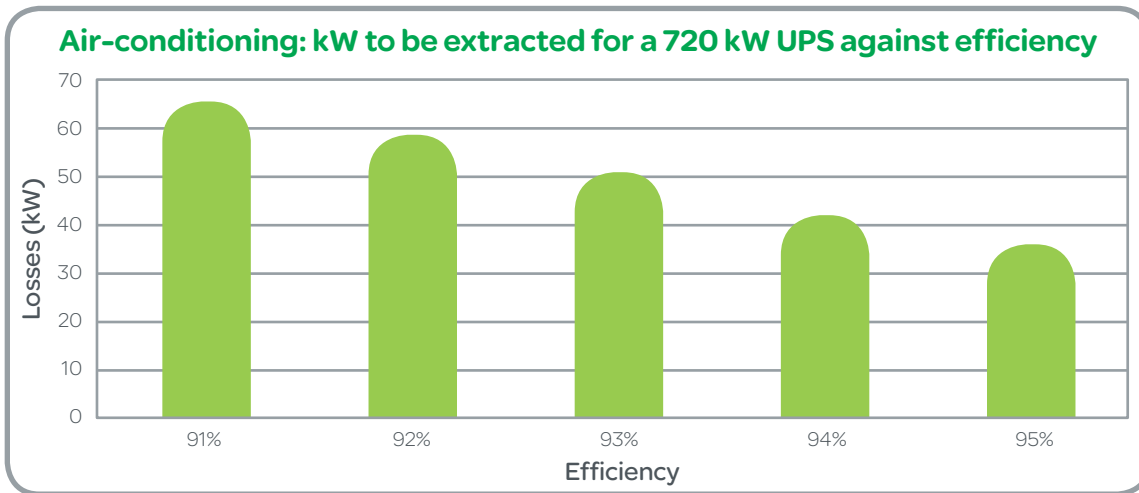


Integrated paralleling to increase power and redundancy



Redundancy using Static Transfer Switches (MGE Upsilon STS) and synchronization module

Minimum total cost of ownership



High efficiency: reduced running costs

At 800 or 900 kVA, one of the key criteria of the total cost of ownership is the efficiency of the UPS system. The smallest increase in efficiency can provide significant savings in operating costs.

The MGE Galaxy 9000 has variable frequency switching to give an efficiency of up to 95%, even at 50% load.

Advantages:

- Savings in power consumption
- Reduction in size of air-conditioning and ventilation systems

Savings (€) - Price: €0.06 per kWh

Improvement in efficiency	1%		2%		3%		4%	
	1 year	5 years	1 year	5 years	1 year	5 years	1 year	5 years
1 000 kW	5,256	26,280	10,512	52,560	15,768	78,840	21,024	105,120
1500 kW	7,884	39,420	15,768	78,840	23,652	118,260	31,536	157,680
2 000 kW	10,512	52,560	21,024	105,120	31,536	157,680	42,048	210,240

Reduction in size of mains input equipment

The harmonic filters on the input to the UPSs minimize harmonic currents and improves the power factor:

Advantages:

- Reduces the size of the circuit protection devices on the UPS supply
- Reduces the cross-section of UPS supply cables
- Can save up to 20% on the sizing of the electrical infrastructure

The most comprehensive range of services



Commissioning

Schneider Electric Critical Power and Cooling Services can commission all new equipment and provides the necessary support services to meet your specific requirements.

Maintenance contracts

UPSs must be managed and monitored to keep them in optimum working order. Schneider Electric Critical Power and Cooling Services offers three levels of maintenance contract:

- ULTRA: For end-to-end service, all-inclusive for guaranteed peace of mind
- PREMIER: For effective, basic preventive maintenance
- SELECT: Pick and mix the services you need

Upgradable

Installations must remain up-to-date, that is why Schneider Electric Critical Power and Cooling Services provides upgradeable solutions :

- Technical upgrades
- Upgrading of battery functions
- Site audits, studies, and analysis of the UPS environment
- Harmonic audits
- Swap-Pac upgrading of the UPS function to anticipate and adapt to changes in your needs, and to provide end of life cycle environmental management

Teleservice monitoring services

Teleservice continuously monitors the installation 24/7/365 and sends alerts to you and the service center. Powerful diagnostic systems and the largest network of UPS experts worldwide help maintain system availability.

Technical Specifications

Rated power (kVA)	800	900
Active Power (kW)	720	720
Normal AC supply input		
Input voltage range	323 V to 470 V	
Normal and backup supplies	Separate or Common	
Frequency	50 or 60 Hz +/- 10%	
THDI (with filter)	< 8 %	
Input power factor	> 0.85	
AC bypass input		
Input voltage range	340 V to 460 V	
Frequency	50 or 60 Hz +/- 10%	
Output		
Output voltage	380/400/415 v +/- 3%*	
Voltage regulation	+/- 1%	
Frequency	50 or 60 Hz	
Overload	150% 1 minute, 125% 10 minutes	
THDU	< 3%	
Batteries		
Backup time	5-10-15 minutes, others on request	
Type	Sealed / open lead acid, nickel cadmium	
Overall efficiency		
Double conversion	Up to 95%	
Environmental conditions		
Storage temperature	-20°C to +45°C dry	
Operating temperature	up to 35°C (1)	
Noise	< 75 dBA	
Operating altitude (without derating)	< 1000 m	
Parallel operation		
Integrated parallel	up to 4	
With Static Switch Cubicle	up to 6	
Standards		
Construction and safety	IEC 62040-1, IEC 60950, EN50091-1	
Performance and topology	IEC 62040-3, EN50091-3	
Design and manufacture	ISO 14001, ISO 9001, IEC 60146	
EMC immunity	IEC 61000-4	
EMC emissions	IEC 62040-2, EN 50091-2 Class 3	
Dimensions and weight (height 2000 mm; depth : 840 mm)		
UPS		
Width (mm)	3,600	
Weight (kg)	4,100	
UPS + 12 Pulse		
Width (mm)	4,400	
Weight (kg)	5,600	

*Customizable to address long cable distances when needed.