

MGE™ Galaxy™ 9000

Three phase UPS

800/900 kVA



High availability
High power

Data centres 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 power
- > Flexibility
- > Attractive total cost of ownership (TCO)



 + APC MGE = peace of mind

Customer

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 centres, second only to power availability and quality.

Most data centres start with a requirement for a few hundred kVA which increases to several MVA as the data centre 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 two or three separate circuits for double or triple input power supply units that are regularly used in data centres.

Green Data Centres

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

Meets Data Center TIA 942 and TIER IV requirements*

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

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

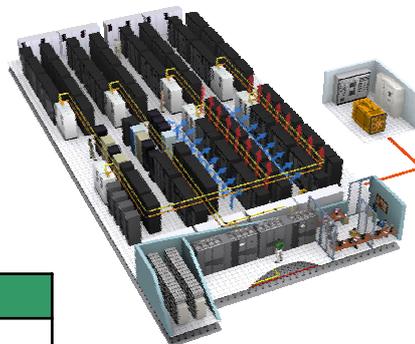
PROCESS INDUSTRY

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 : 900 kVA
 - > 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 design office and dedicated engineering division are able to modify standard products or customise them for particular requirements:
- > ruggedisation
 - > anti-vibration mountings for maritime applications
 - > custom paint and markings.



Power quality and availability assured continuity of service

Data communication is part of everyday operation in data centres, 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 on 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.
- > 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
- > identification of faulty blocks (trend curves)
- > possibility of replacing individual blocks.

Advantages:

- > ensures that the battery is available
- > maximises the lifetime, reduces monitoring and maintenance costs.

Flexibility : for upgrading without limits

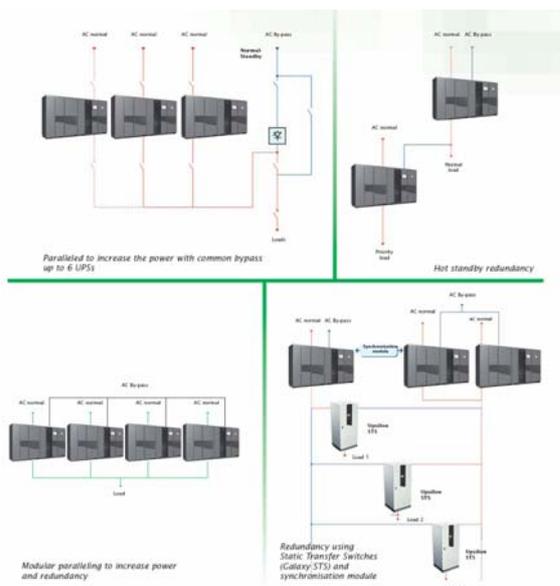
MGE™ Galaxy™ 9000 provides high power quality with different types of battery, architectures and options and its great modularity allows applications to be upgraded more or less without any risk to the load.

Easy upgrading: more power, greater redundancy

MGE™ Galaxy™ 9000 can be installed singly or in parallel or with a common bypass and can therefore meet all needs to:

- > improve the power availability
- > increase the power rating as the site develops.

MGE™ Galaxy™ 9000 UPSs can be synchronised 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 colour 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 Mod-Bus 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.

Minimum total cost of ownership

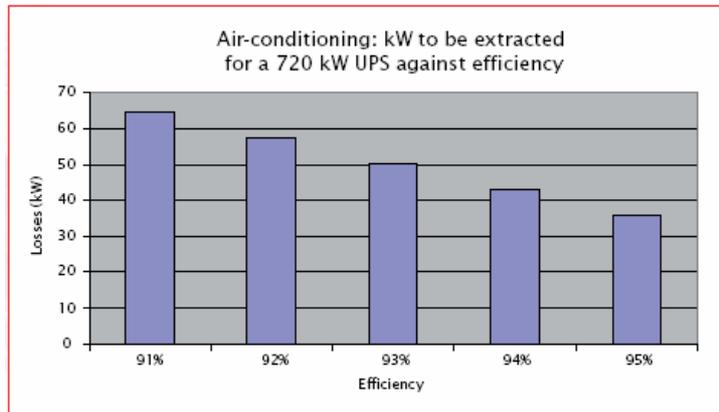
High efficiency: reduced running costs

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 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						
1 000 kW	5 256	26 280	10 512	52 560	15 768	78 840	21 024	105 120
1 500 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 minimises 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 provides commissioning service for all new equipment with support to meet your specific requirements.

Teleservice monitoring services

Continuous monitoring, providing necessary alerts at the customers' sites and for the service centres, with powerful diagnostics: the availability of the installation is monitored by the largest network of experts.

Managing an installation calls for Upgradeability

To be sure of benefiting from the management of an installation, Schneider Electric Critical Power and Cooling Services provides solutions for upgrading:

- technical upgrading
- upgrading battery functions
- site audits, studies and analysis of the UPS environment
- harmonic audits
- upgrading the UPS function using Swap-Pac for adapting and anticipating changes in customers' requirements as well as providing environmental end of life cycle management.



Maintenance contracts

A maintenance contract on your UPS ensures a smooth running system allowing you to focus on your core business. A maintenance partnership with the company that manufactures and installs your UPS systems provides continuity and service levels no one else can meet. APC by Schneider is pleased to offer the industry's most comprehensive, efficient and cost effective maintenance programs designed in an à la carte fashion to tailor the program to your specific needs.

While you can custom build a maintenance program specific to your site, APC has devised 3 basic packages that cover a majority of the needs of our customers. However, even these three packages can be customized to your precise specifications and budget. For example, additional services such as preventative maintenance visits, site inspections and remote monitoring can be added to each package so you get precisely the level of service you need.

• ULTRA :

APC by Schneider's most complete service package, Ultimate Agreements offer 7 x 24 back-up featuring 30 minute call back time on all service requests and on site arrival within four hours of your call (not available in all areas). All parts, replacement spare parts, labor, and travel expenses associated with the call are included with Ultimate Agreements.

• PREMIER :

For a superior level of coverage, Premier Service is available Monday through Friday, from 8:00AM - 5:00PM, local time, perfect for most businesses. This program guarantees a maximum 30-minute callback time, with on-site arrival of your APC by schneider engineer on the next business day or sooner. All parts, replacement spare parts, labor, and travel expenses associated with visiting your site are included in this complete package.

• SELECT :

For a moderate level of coverage, Select Service offers a discount on parts and labor associated with corrective maintenance, 30-minutes maximum callback time, and next business day or sooner on-site arrival time. Parts, labor and travel expenses associated with corrective maintenance are billed separately at discounted time and material rates.

Technical characteristics

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	> 0,82	
AC bypass input		
Input voltage range	340V to 460V	
Frequency	50 or 60 Hz +/- 10%	
Output		
Output voltage	380/400/415 v +/- 3% Star	
Voltage regulation	+/- 1%	
Frequency	50 or 60 Hz	
Overload	150% 1 minute, 125% 10 minutes	
Short Circuit Capacities	1733 A	1949 A
THDU	< 3%	
Batteries		
Backup time	5-10-15 minutes, others on request	
Type	Sealed / open lead acid, nickel cadmium	
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	IEC61000-4	
EMC emissions	IEC 62040-2, EN 50091-2 Class 3	
Dimensions and weight (height 2000 mm; depth : 840 mm)		
UPS		
Width (mm)	3600	
Weight (kg)	4100	
UPS + 12 Pulse		
Width (mm)	4400	
Weight (kg)	5600	

1: For 8 hours, 30°C maximum for continuous operation. The battery life will reduced at temperatures above 25°C.