

# MGE Galaxy 7000

160/200/250/300/400/500 kVA

Power efficiency for business continuity



**Performance 3 Phase Power Protection with high adaptability to meet the unique requirements of Medium to Large Data centers, Industry, Buildings, and Mission Critical Environments**

- Flexible and Very Adaptable
- Advanced Electrical Features
- Parallel Capable up to 8 units
- High Efficiency
- Output Synchronization to External Source
- High Availability Architectures component
- Efficiency Booster Mode on Parallel installations

# Features and Benefits

## Power efficiency for business continuity

The MGE Galaxy™ 7000 is the latest addition to the MGE Galaxy UPS family, providing secured power solutions for medium to large data centers, industry, buildings, and mission critical environments. The MGE Galaxy 7000 is flexible/adaptable through its robust IGBT rectifier/inverter design with all types of real world loads (inductive, capacitive with no de-rating of active power). This transformer-less based UPS system maximizes the system efficiency up to 94.5%, keeping valuable operational costs low (energy savings) while providing highest power quality to mission critical loads.

MGE Galaxy 7000 includes features and options that continue to solve customer needs, including flexibility to grow/expand power requirements with N+1 parallel/redundant modules with several choices including: Isolated redundant, Integrated Parallel, and Centralized Static Switch making the MGE Galaxy 7000 a leader with high availability architectures for mission critical environments. Easy to install and maintain is the basis of the core design for this new UPS with only front electrical connections and fully serviceable components. MGE Galaxy 7000 includes additional UPS solutions such as: bus synchronization boxes, IP32 enclosures, back-feed protection, frequency conversion capabilities, and flexible and extended battery solutions including VRLA, NiCad, external matching maintenance bypass cabinets, and paralleling gear. The versatile MGE Galaxy 7000 interfaces with the industry's leading universal communication protocols and incorporates four communication slots in a rack mount multi-slot case to support SNMP, J-Bus/Modbus® and RS232-RS485 protocols for easy interfacing with most devices. MGE Galaxy 7000 available services include start-up, preventive maintenance, fast response time, and comprehensive service packages designed for hassle-free system maintenance.

## MGE Galaxy 7000

### Availability

Sized for harsh environments

Easy to upgrade

Flexible

### Installation and Serviceability

Front access design

Easy to install

Easy integration into electrical networks

### Low total cost of ownership

Power factor corrected input

Up to 94.5% efficiency in double conversion mode

Efficiency Booster Mode on parallel installations

### Options

Battery cabinets

System bypass cabinet

Centralized Static Switch cabinet

Centralized Static Switch cabinet maintenance bypass

Top entry cabinet

Backfeed

### Typical Applications

Data centers

Financial institutions

Industrial

Healthcare

Petrochemical

Utility

# An innovative solution to make life simple

**The MGE Galaxy 7000 is easy to choose. It can operate at different frequencies and voltages, i.e. 50/60 Hz and 380-415 V. It also displays all information in 19 languages.**

## **Compatible with all load types**

- Output power factor = 0.9, in line with the latest generation of IT applications
- No derating for leading power factors
- High short-circuit and overload capacities for motor loads

## **Compatible with all battery types**

- Lead-acid batteries (vented, sealed)
- Ni-Cad

## **Compatible with all backup time**

- The high power charger rapidly charges batteries for backup times up to four hours

## **Harmonic free rectifier**

- No additional harmonic filtering is required

## **Easy integration into electrical networks**

**Schneider Electric™, a leader in harmonic management, has built a true IGBT rectifier into the MGE Galaxy 7000. Upstream THDI is less than 5% and the input power factor is greater than 0.99.**

- Less reactive power
- Fewer harmonics injected upstream
- Savings in network component ratings such as circuit breakers, cables, etc.
- Fully compatible with generator sets. In addition to its high input power factor, Galaxy 7000 features a soft start capability. A 400 kVA UPS only requires a 440 kVA generator set.

**The MGE Galaxy 7000 is easy to install. Phase sequence detection prevents start-up if the phase order is incorrect.**

- Small footprint
- No need for rear or side access. All connections are made through the front
- Integration of all switches requiring connection
- Ready for all system earthing arrangements

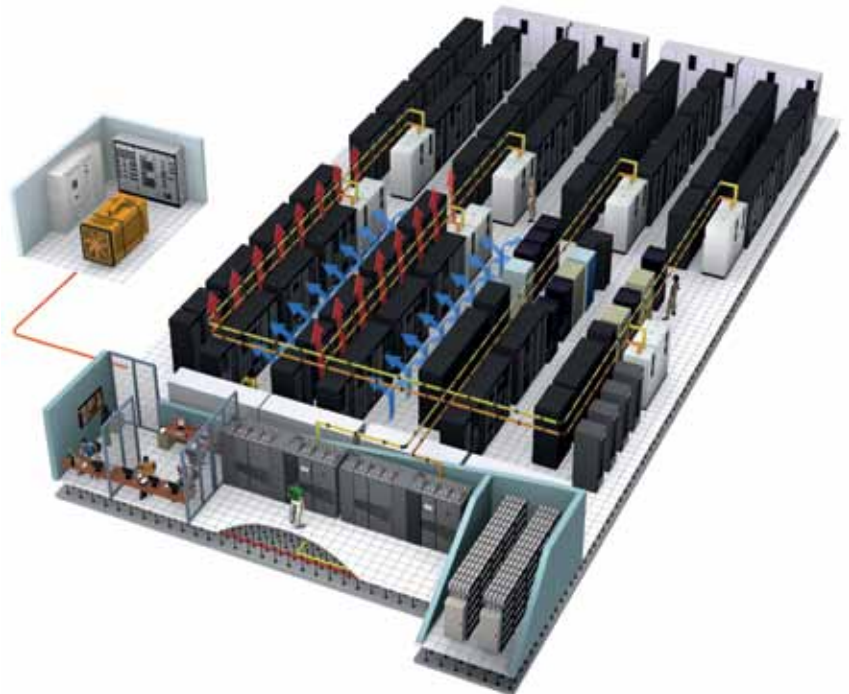
**The MGE Galaxy 7000 is easy to operate. Any screen may be selected as the standard display. For example, if output measurements are a critical parameter, select the output measurement screen as the default display.**

## **Locally**

- The MGE Galaxy 7000 intuitive user interface provides clear, relevant information for easy operation. With its 5000 time-stamped events, statistical analysis, and energy flow pictograms, system management could not be simpler.

## **Remotely**

- The MGE Galaxy 7000 provides valuable information to supervision systems on:
  - The UPS and its environment,
  - Controlled shutdown of operating systems.
- A number of different communication protocols are available for remote operation:
  - Ethernet 10/100 Mbps with HTTPS encryption for browser and NMS supervision,
  - J-Bus/Mod-Bus for BMS systems,
  - Modem for teleservice,
  - Simple programmable current loop contacts.



# Efficient product: power availability

## Sized for harsh environments

### Robust electrical performance

The sizing and quality of power components result in unsurpassed output performance:

- High fault-clearing capabilities
- High load crest factor > 3:1
- Excellent voltage stability, even for stepped load switching or unbalanced loads
- Designed for any type of load (from industrial to IT)
- No derating, even for loads with a leading power factor
- Benefits
  - High fault-clearing capacity for better discrimination in the electrical network
  - Compatibility with all types of loads, including computer loads and loads with high crest factors

### Clean, stable output waveform

The digitally controlled IGBTs and high technology output filter provide a very clean, stable output voltage waveform with less than 2% total harmonic distortion (THDU), even for:

- Stepped load switching
- Unbalanced loads
- Benefits
  - Optimum supply for loads
  - Increased life expectancy for the protected equipment

## Easy to upgrade

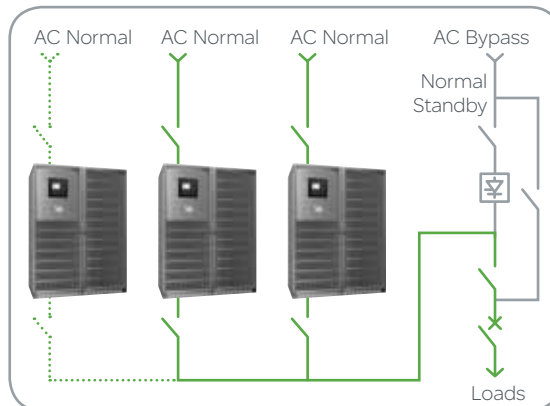
### Power and redundancy upgrades

- Power requirements can change over time.
- MGE Galaxy 7000 output can be multiplied by a factor of eight. Redundancy can also be added or upgraded as needed, e.g. 2N, N+1 or N+2.

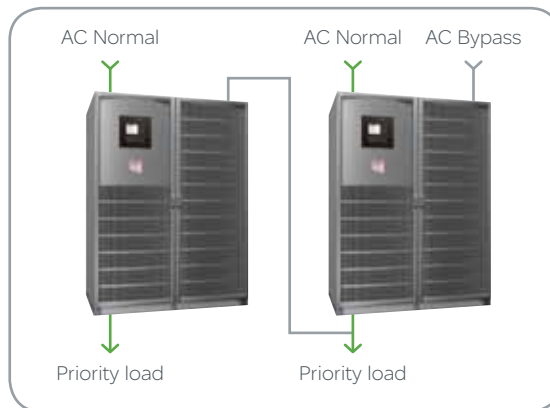
## Flexible architecture

High availability results not only from UPS reliability, but also from innovative and resilient architectures providing:

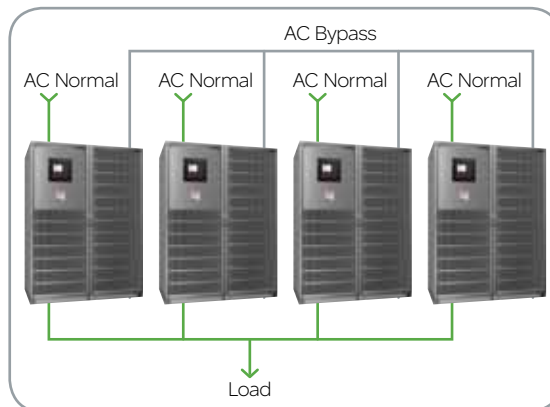
- Source redundancy
- Power-distribution redundancy



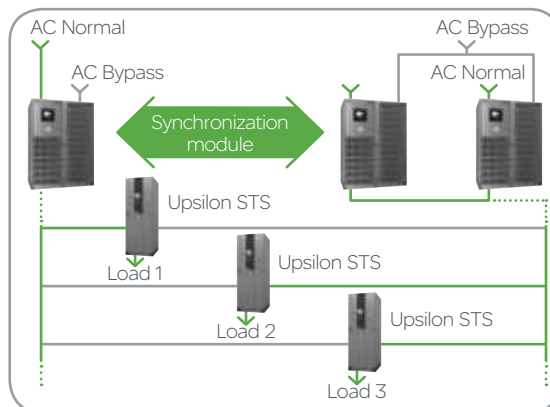
Parallel connection for increased power with a centralized bypass unit and up to 8 UPS units



Live standby redundancy



Distributed parallel connection for increased power and redundancy.



Distribution redundancy with the Static Transfer Switch (Upsilon STS)

# Efficient product: energy savings

## Up to 94.5% efficiency means significant savings

The innovative technology built into the MGE Galaxy 7000, including digital electronics for better and faster regulation, an IGBT rectifier, and transformer less design, results in high efficiency.

- Benefits
  - Energy savings to cut costs
  - Reduced air conditioning and ventilation in the UPS room

## Environment adaptation

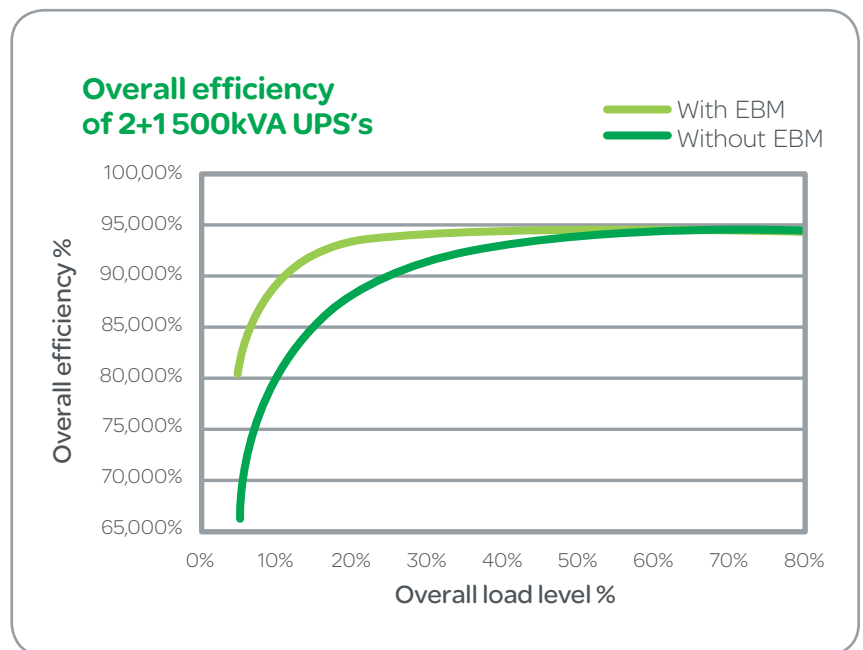
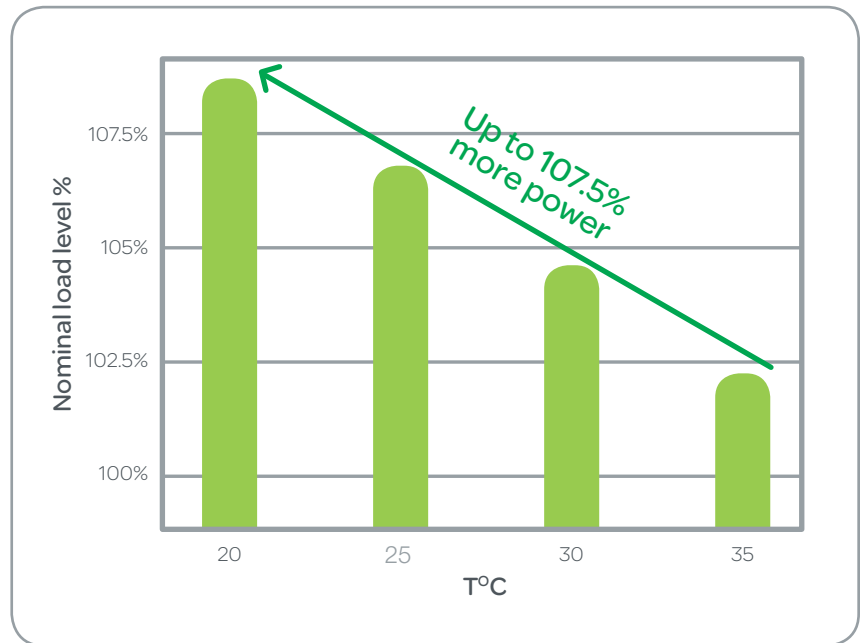
### Ambient temperature adaptability

Digital electronics offer additional features. The available output power is automatically adapted to the temperature, e.g. a 500 kVA UPS delivers 538 kVA at 20°C ambient temperature.

## Efficiency Booster Mode (EBM) available on parallel installation

The innovative and highly anticipated Efficiency booster mode function helps to maintain highest global efficiency in a parallel system, without any compromise on the global availability of the system.

- Benefits
  - Improve system efficiency by an average of 2%
  - Reduce electricity consumption and cooling of the UPS room
  - Manage your energy



# Reducing environmental impact for sustainable development

## Beyond international environmental regulations

The data center and critical power industry must commit to environmental issues. Schneider Electric systematically attempts to exceed current and future requirements imposed by standards. That includes:

- ISO 14001 certification of sites and R&D
- Eco-design based on ISO 14040 & 14060 standards & eco-production, a true commitment to sustainable development
- MGE Galaxy 7000 takes the environmental issue into account at each stage of the product's life

## Design

Reducing the number of parts improves reliability and reduces impact on the environment. The MGE Galaxy 7000 design team used advanced digital electronics to achieve savings:

- fewer electronic boards
- software updates via downloading instead of changing boards

## End of Life recycling

- End of product life:
  - safety instructions
  - list of parts containing regulated substances and their position in the UPS

## Raw materials

Thanks to its compact size and low weight, the MGE Galaxy 7000 requires fewer raw materials and the types used are more environmentally friendly.

- Power efficient components:
  - specific choke coils
  - smaller output filters
- New design for a transformerless UPS:
  - more silicon, less copper
  - more powerful IGBTs

★ The weight of the MGE Galaxy 7000 has been halved compared to the previous generation.

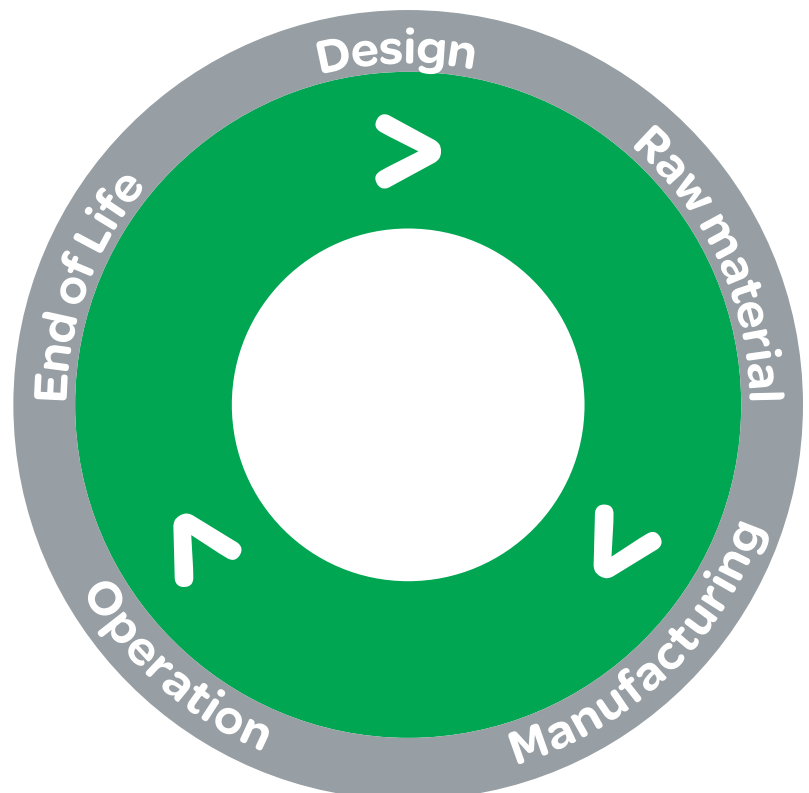
## Manufacturing according to environmental standards

MGE Galaxy 7000 is produced in factories that comply with the ISO 14001 standard to reduce:

- energy consumption
- packaging waste for supplier parts
- amounts of materials used in the process

## Energy efficiency thanks to quality power solutions

- Reduced consumption thanks to the green IGBT rectifier (low harmonics), which in turn reduces sizing of the electrical distribution system (breakers, cables, generator)
- High efficiency UPS solutions to reduce heat losses:
  - up to 94.5% efficiency in on-line mode
  - efficiency booster mode improves global efficiency of a parallel system at low load level





# 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

UPS's 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

## Upgradeable

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 lifecycle environmental management

★ The MGE Galaxy 7000 Life Cycle Monitoring system has built-in sensors for components such as batteries and capacitors that require preventive maintenance. The diagnostics software warns of impending deadlines. Timely preventive replacement keeps critical loads up and running.

## Teleservice monitoring services

Teleservice continuously monitors the installation 24/365 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/kW) @ 35°C	160/144	200/180	250/255	300/270	400/360	500/450
Rated power (kVA/kW) @ 25°C <sup>1</sup>	168/151	210/189	263/237	315/284	420/378	525/473
<b>Normal AC Input</b>						
Input voltage range	250 V <sup>2</sup> to 470 V, three phase					
Normal and bypass AC inputs	Separate	Separate	Separate	Separate	Separate	Separate
Frequency	45 Hz to 66 Hz	45 Hz to 66 Hz	45 Hz to 66 Hz	45 Hz to 66 Hz	45 Hz to 66 Hz	45 Hz to 66 Hz
Input current distortion (THDI)	< 3 %	< 3 %	< 3 %	< 3 %	< 3 %	< 3 %
Input power factor	> 0.99	> 0.99	> 0.99	> 0.99	> 0.99	> 0.99
Phase sequence detection	Yes	Yes	Yes	Yes	Yes	Yes
<b>Bypass AC input</b>						
Input voltage range	(380 V, 400 V, 415 V) +/- 10%					
Frequency	50 Hz / 60 HZ +/- 10%					
<b>Output</b>						
Power factor	0.9 , up to 0.95 @ 25°C					
Phase-to-phase voltage setting	380/400/415 V, three-phase + neutral					
Voltage regulation	+/- 1%					
Frequency	50 or 60 Hz +/- 0.1%					
Permissible overloads	150% for 30 s, 125% for 10 minutes					
Voltage distortion (THDU)	< 2% Ph/Ph and Ph/N for non-linear loads					
<b>Battery</b>						
Number of battery chains managed	Up to 2 circuit breakers					
Type	Sealed lead-acid, vented, Ni-Cd					
<b>Overall efficiency</b>						
Double conversion	Up to 94.5%					
<b>Environmental conditions</b>						
Operating temperature	Up to 40°C <sup>3</sup>					
Humidity	Up to 95% (non-condensing)					
Operating altitude	Up to 1000 m, without derating					
Color	RAL 9023					
IP degree of protection	IP20 Standard, IP32 Optional					
<b>Parallel configurations</b>						
Integrated parallel units	Up to 8 units					
Parallel modules with remote centralized static bypass switch <sup>4</sup>	Up to 8 units					
<b>Standards</b>						
Construction and safety	IEC/EN 62040-1, IEC/EN 60950					
Performance and topology	IEC 62040-3					
Design and manufacture	ISO 14001, ISO 9001, IEC 60146					
EMC immunity	IEC 61000-4					
EMC emissions	IEC 62040-2 C3					
Approvals	LCIE - CE Mark					

## UPS dimensions (depth 855 mm, height 1900 mm)

Rated power (kVA)	160	200	250	300	400	500
Width (without battery, in mm)	1412	1412	1412	1412	1412	1812
Weight (in kg)	840	840	990	990	1140	1500

<sup>1</sup> No other electrical characteristic is impacted; <sup>2</sup> Depending on load level; <sup>3</sup> 8 hours max., 35°C continuous; <sup>4</sup> 160 and 200 kVA not included