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.

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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)
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

Efficient product: energy savings
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

Operation
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

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.

The most comprehensive range of services
## Technical Specifications

### Rated power (kVA/kW) @ 35°C

<table>
<thead>
<tr>
<th></th>
<th>160/144</th>
<th>200/180</th>
<th>250/255</th>
<th>300/270</th>
<th>400/360</th>
<th>500/450</th>
</tr>
</thead>
<tbody>
<tr>
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<td>168/151</td>
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<td>315/284</td>
<td>420/378</td>
<td>525/473</td>
</tr>
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### Rated power (kVA/kW) @ 25°C

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### Normal AC Input
- **Input voltage range**: 250 V² to 470 V, three phase
- **Normal and bypass AC inputs**: Separate
- **Frequency**: 45 Hz to 66 Hz
- **Input current distortion (THDI)**: < 3 %
- **Input power factor**: > 0.99
- **Phase sequence detection**: Yes

### Bypass AC Input
- **Input voltage range**: (380 V, 400 V, 415 V) +/- 10%
- **Frequency**: 50 Hz / 60 Hz +/- 10%
- **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

### Battery
- **Number of battery chains managed**: Up to 2 circuit breakers
- **Type**: Sealed lead-acid, vented, Ni-Cd
- **Overall efficiency**: Up to 94.5%
- **Environmental conditions**
  - **Operating temperature**: Up to 40°C³
  - **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

### Parallel Configurations
- **Integrated parallel units**: Up to 8 units
- **Parallel modules with remote centralized static bypass switch**
  - **Up to 8 units**

### Standards
- **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)

<table>
<thead>
<tr>
<th>Rated power (kVA)</th>
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<th>250</th>
<th>300</th>
<th>400</th>
<th>500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width (without battery, in mm)</td>
<td>1412</td>
<td>1412</td>
<td>1412</td>
<td>1412</td>
<td>1412</td>
<td>1812</td>
</tr>
<tr>
<td>Weight (in kg)</td>
<td>840</td>
<td>840</td>
<td>990</td>
<td>990</td>
<td>1140</td>
<td>1500</td>
</tr>
</tbody>
</table>

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