

MGE Galaxy 7000

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

Power efficiency for business continuity



Performance three-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
- ECO Mode on both single units and parallel installations
- Smart PowerTest (SPoT) feature

APC[™]
by Schneider Electric

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. Higher gains can also be made thanks to the ECO Mode feature, up to 99% efficiency, available on both parallel and single units. Smart Power Test (SPoT) features allows to make significant savings on installation and operation of the installation: no more load bank needed. This feature can operate in two different modes on both single and parallel systems.

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. User friendly graphical display with multiple language options, and an SNMP with network-based power management card that all ship standard. 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
- Smart Power Test (SPoT) feature

Low total cost of ownership

- Power factor corrected input
- Up to 94.5% efficiency in double conversion mode
- Up to 99% efficiency thanks to the ECO Mode
- Efficiency Booster Mode on parallel installations

Options

- Battery cabinets
- System bypass cabinet
- Centralized Static Switch cabinet
- Centralized Static Switch cabinet maintenance bypass
- SKID
- Communications cards
- Advanced power management software
- 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 – 440 V. It also displays all information in 19 languages.

Compatible with all load types

- Output power factor up to 1, 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 – a 400 kVA UPS only requires a 440 kVA generator set
- Features a soft start capability

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 5,000 time-stamped events, statistical analysis, and energy flow pictograms, system management could not be simpler.

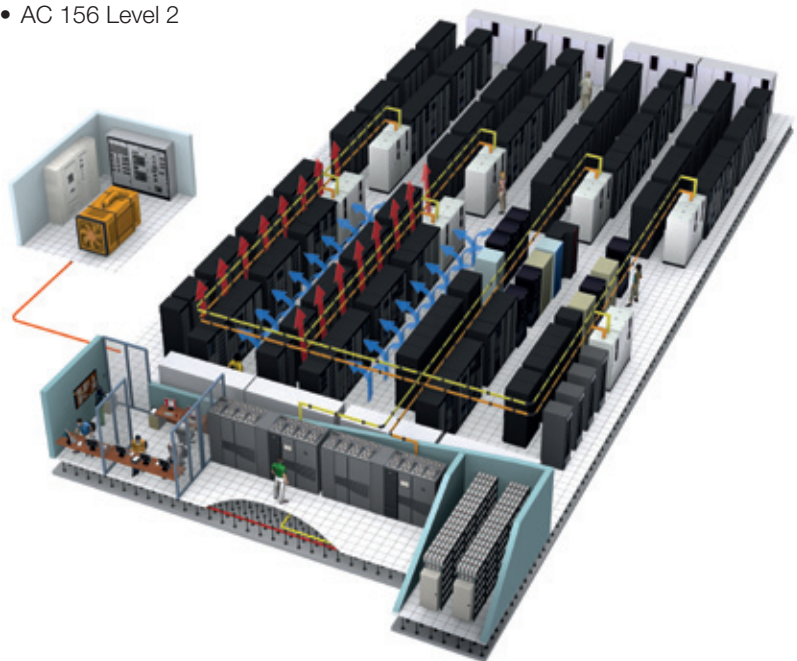
Remotely

- 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/Modbus for BMS systems,
 - Modem for teleservice,
 - Simple programmable current loop contacts

Seismic compliant

The MGE Galaxy 7000 has been tested for seismic compliancy using a specific anchoring system engineered by APC by Schneider Electric. This allows in option to be compliant to the following worldwide recognized standards:

- EEE 693 High Level
- GR 63 CORE Zone 1 & 2
- AC 156 Level 2



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

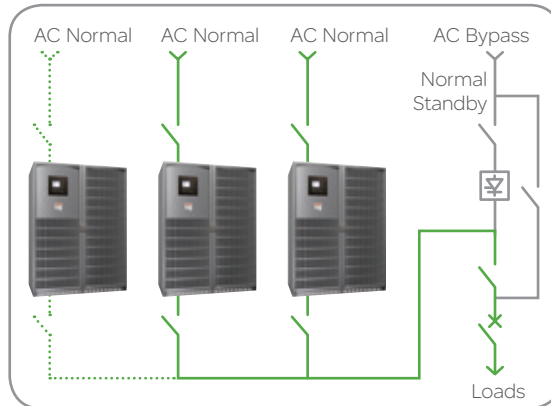
Power and redundancy upgrades

- 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.

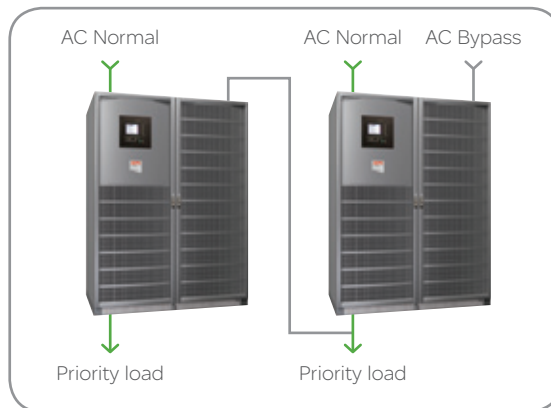
Flexible architecture

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

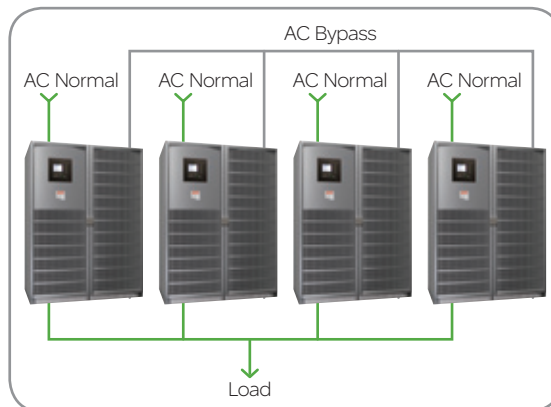
- Source redundancy
- Power-distribution redundancy



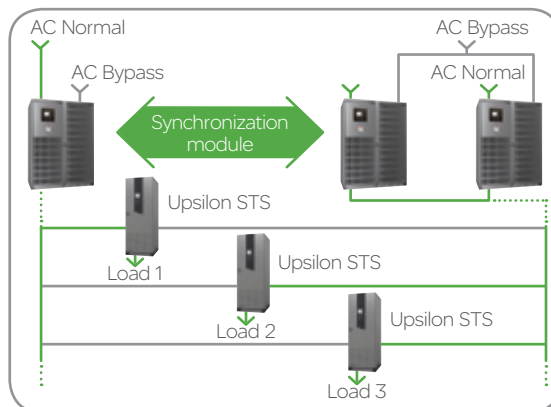
Parallel connection for increased power with a centralized bypass unit and up to 8 UPS units



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

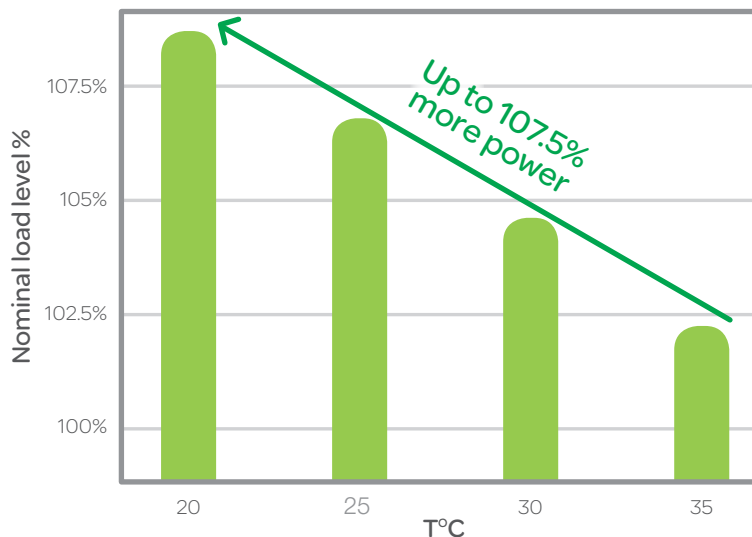
The innovative technology built into the MGE Galaxy 7000, including digital electronics for better and faster regulation, an IGBT rectifier, and transformer-less design, results in high efficiency.

- 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.

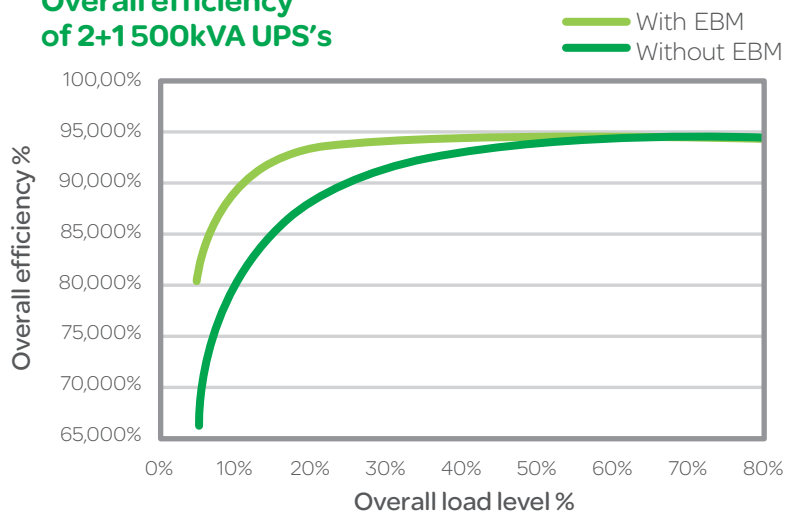


Efficiency Booster Mode (EBM) available on parallel installation

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

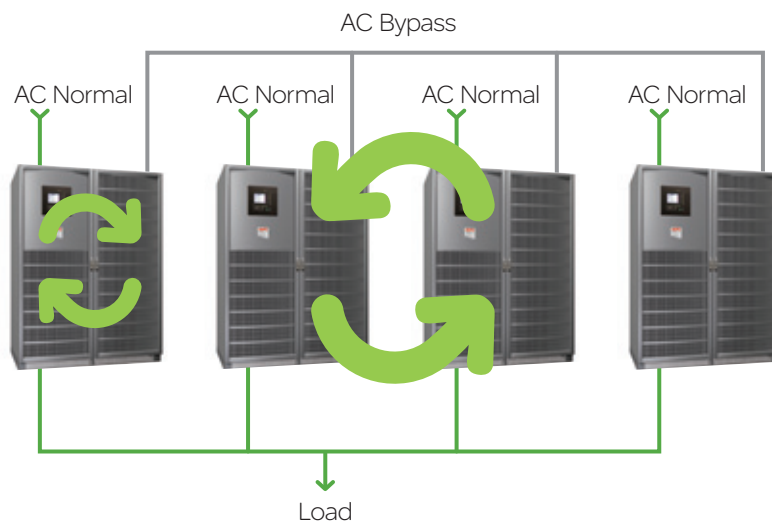
Overall efficiency of 2+1 500kVA UPS's



Smart Power Test (SPoT) feature

This advanced feature creates significant savings during overall system installation. By removing the need for a load bank, additional breakers and switchgears are not necessary.

- Benefits
 - Installation can be tested at any load level and at any power factor
 - SPoT can be used on both single and parallel systems



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
- 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.

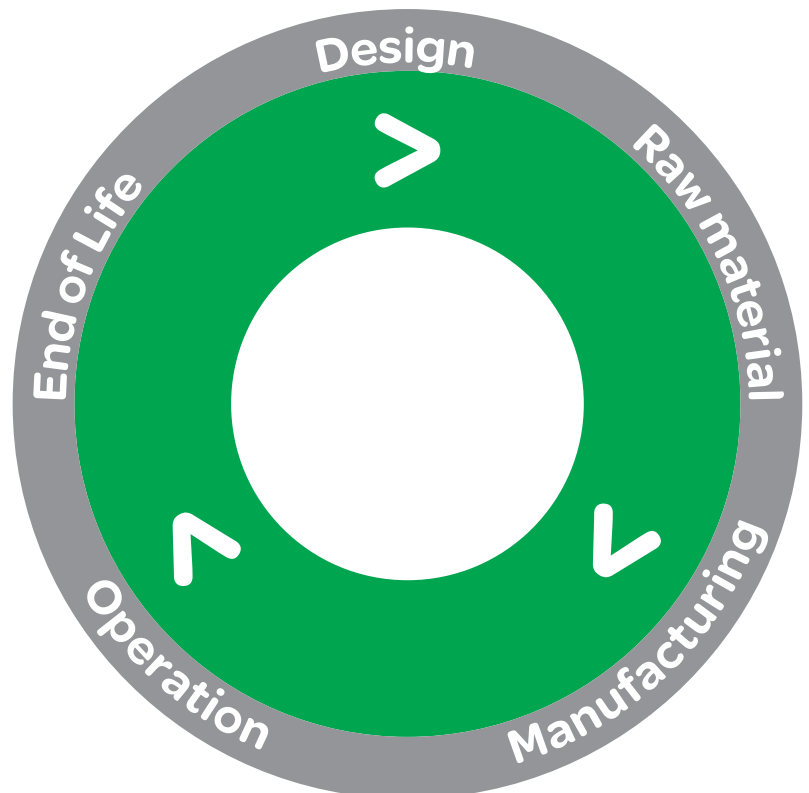
Manufacturing according to environmental standards

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
 - Improves global efficiency of a parallel system at low load level via Efficiency Booster Mode
 - Up to 99% efficiency in ECO Mode



StruxureWare for Data Centers Software Suite

APC™ by Schneider Electric™ UPS units and secure power systems are a core component of any architecture designed for highly critical applications, such as data centers, industry environments, infrastructure, and buildings.

Intelligent energy management of these systems is enabled by Schneider Electric EcoStruxure™ integrated hardware and software system architecture. StruxureWare™ software applications and suites are a key element of the EcoStruxure architecture. StruxureWare software helps maximize system reliability and optimize operational efficiency.

StruxureWare for Data Centers software collects and manages real-time information about assets, resource use, and operation status throughout the data center life cycle. This data center infrastructure management (DCIM) software fully integrates the MGE Galaxy 7000 UPS. With full system visibility, managers can monitor and apply this information in order to optimize data center performance to meet IT-, business-, and service-oriented goals.



A Comprehensive Portfolio of Services

Schneider Electric Critical Power & Cooling Services (CPCS) provides the highest quality services and solutions by trained and trusted professionals. Our world-class services offer a smart way to build, operate, and maintain your critical applications, ensuring the right people, in the right place, at the right time.

Assembly and Start-Up Service

Assembly and Start-Up Service by a certified Field Service Engineer (FSE) ensures full factory warranty coverage. A Schneider Electric certified installation of your solution ensures your equipment is properly and safely configured for optimal performance. This service features a standard eight-hour, five-day response time, with upgrades available for off-business hours.

Advantage Plans

Flexible service packages offer hassle-free system maintenance to improve uptime at a predictable cost. These packages provide your system with the care it needs to operate most efficiently while minimizing downtime. The Advantage Plus, Prime, Ultra, and Max are full-service packages that include technical support, preventive maintenance, quick on-site response, and remote monitoring. Response time upgrades are available.

Remote Monitoring Service (RMS)

RMS is an economical and easy-to-use Web-based service that lets you quickly respond to environmental or system changes. Trained technicians provide secure 24-hour monitoring of your physical infrastructure to diagnose and resolve problems before they become critical.

Preventive Maintenance

Preventive Maintenance on-site examinations of your critical systems are designed to prevent problems before they occur and keep your system running at maximum efficiency.

On-site Warranty Extension Service

In the event of a system issue, an FSE will arrive on site by the next business day to isolate, diagnose, and correct the problem in as little time as possible, minimizing downtime. Upgrades to even faster response times are available.



Technical Specifications

Rated power (kVA/kW) ¹	160/160	200/200	250/250	300/300	400/400	500/500
Normal AC Input						
Input voltage range	250 V ² 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, 440 V _{LN}) +/- 10%					
Frequency	50 Hz / 60 HZ +/- 10%					
Output						
Power factor	up to 1 ¹					
Phase-to-phase voltage setting	380/400/415 V/440 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						
Double conversion	Up to 94.5%					
ECO Mode	Up to 99% ¹					
Environmental conditions						
Operating temperature	Up to 40°C ³					
Humidity	Up to 95% (non-condensing)					
Operating altitude	Up to 1,000 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 ⁴	Up to 8 units					
Standards						
Construction and safety	IEC/EN 62040-1, IEC/EN 60950					
Performance and topology	IEC 62040-3 / VFI SS 111					
Design and manufacture	ISO 14001, ISO 9001, IEC 60146					
EMC immunity	IEC 61000-4					
EMC emissions	IEC 62040-2 C3					
Approvals	LCIE - CE Mark					
Seismic compliancy ⁵	IEEE 693 High - Level 2 AC156 - Zone 1 & 2 GR63CORE					

UPS dimensions (depth 855 mm, height 1,900 mm)

Rated power (kVA)	160	200	250	300	400	500
Width (without battery, in mm)	1,412	1,412	1,412	1,412	1,412	1,812
Weight (in kg)	840	840	990	990	1,140	1,500

¹ Conditions applied; ² Depending on load level; ³ 8 hours max., 35°C continuous; ⁴ 160 and 200 kVA not included; ⁵ Available as an option;

⁶ Input voltage window +6%/-10%