

MASTERYS GP & DELPHYS GP

High-efficiency protection without compromise
UPS from 10 to 1000 kVA/kW

2017



your energy
our expertise



An independent manufacturer

The benefit of a specialist

3,500 m²
of test platforms

One of the leading independent power testing labs in Europe

65,000
on-site interventions per year

Nearly 400 experts in commissioning, technical audit, consultancy and maintenance

10%
of turnover invested in R&D

Always at the cutting-edge of technology for innovative, high-quality products



SO innovative!

Since its foundation more than 90 years ago, SOCOMEC continues to design and manufacture its core products in Europe. Notably solutions for its primary mission: the availability, control and safety of low voltage electrical networks.

As an independent manufacturer, the Group is committed to constant innovation to improve the energy performance of electrical installations in infrastructures as well as industrial and commercial sites.

Throughout its history, SOCOMEC has constantly anticipated market changes by developing cutting-edge technologies, providing solutions that are adapted to customer requirements and fully in keeping with international standards.

"Optimising the performance of your system throughout its life cycle" - this is the commitment carried out every day by the SOCOMEC teams around the world, wherever your business is located.

SYDW 161 B



Your energy, our expertise



Critical Power *Ensuring the availability and storage of high quality power*

With its wide range of continuously evolving products, solutions and services, Socomec are recognised experts in the cutting-edge technologies used for ensuring the highest availability of the electrical power supply to critical facilities and buildings, including:

- static uninterruptible power supplies (UPS) for high-quality power free of distortions

and interruptions occurring on the primary power supply,

- changeover of static, high availability sources for transferring the supply to an operational back-up source,
- permanent monitoring of the electrical facilities to prevent failures and reduce operating losses,
- energy storage for ensuring the proper energy mix of buildings and for stabilisation of the power grid.



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Power Control & Safety *Managing power and protecting persons and facilities*

Active in the industrial switching market since its foundation in 1922, Socomec is today an undisputed leader in the field of low voltage switchgear, providing expert solutions that ensure:

- isolation and on load breaking for the most demanding switching applications,
- continuity of the power supply to electrical facilities via manual remotely operated or automatic transfer switching equipment.
- protection of persons and assets via fuse-based and other specialist solutions.



APPLI 575A



Energy Efficiency *Managing the energy performance of buildings*

Socomec solutions, from current sensors through to a wide choice of innovative scalable software packages are driven by experts in energy performance. They meet the critical requirements of facility managers and operators of commercial, industrial and local authority buildings for:

- measuring energy consumption, identifying sources of excess consumption and raising the awareness of occupants about their impact,
- limiting reactive energy and avoiding the associated tariff penalties,
- using the best available tariffs, checking utility bills and accurately distributing energy billing among consumer entities,
- monitoring and detecting insulation faults.



APPLI 571A



Expert Services *Enabling available, safe and efficient energy*

Socomec is committed to delivering a wide range of value-added services to ensure the reliability and optimisation of end-users' equipment:

- prevention and service operations to lower the risks and enhance the efficiency of operations,
- measurement and analysis of a wide range of electrical parameters leading to

recommendations for improving the site's power quality,

- optimisation of the total cost of ownership and support for a safe transition when migrating from an old to a new generation of equipment,
- consultancy, deployment and training from the project engineering stage through to final procurement,
- performance assessment of the electrical installation throughout the life cycle of the products via analysis of data transmitted by connected devices.



APPLI 760A



MASTERYS GP

High-efficiency protection without compromise
Green Power 2.0 range from 10 to 120 kVA/kW

Three-phase UPS



GAMME 202 C

GAMME 125 B

The solution for

- > Data centres
- > Telecommunications
- > Healthcare sector
- > Service sector
- > Infrastructure
- > Industrial applications

Certifications



The MASTERYS GP series is certified by TÜV SÜD with regard to product safety (EN 62040-1).

Advantages



Better performance than the EU Code of Conduct on efficiency of AC UPS

Energy saving + Full rated power = reduced TCO

Energy Saving: high efficiency without compromise

- Offers the highest efficiency in the market using VFI – Double Conversion Mode, the only UPS working-mode that assures total load protection against all mains quality problems.
- Ultra high efficiency output independently tested and verified by an international certification organization in a wide range of load and voltage operating conditions, to have the value in the real site conditions.
- Ultra high efficiency in VFI mode is provided by an innovative topology (3-Level technology) that has been developed for all the Green Power 2.0 UPS ranges.

Significant cost-saving (TCO)

- Maximum energy saving thanks to 96% efficiency in true double conversion mode: 50% saving on energy losses compared to legacy UPS gives significant savings in energy bill.
- UPS "self-paying" with energy saving.
- Energy Saver mode for global efficiency improvement on parallel systems.
- kW=kVA means maximum power available with the same UPS rating: no overdesign cost and therefore less €/kW.
- Upstream infrastructure cost optimization (sources and distribution), thanks to high performance IGBT rectifier.
- Battery configuration can be optimized, thanks to a very wide DC range.
- Extended battery life and performance:
 - long life battery,
 - very wide input voltage and frequency acceptance, without battery use.
- EBS (Expert Battery System) charging management improves battery service life.

Full-rated power: kW=kVA

- No power downgrading when supplying the latest generation of servers (leading or unity power factor).
- Real full power, according to IEC 62040: kW=kVA (unity power factor design) means 25% more active power available compared to legacy UPS.
- Suitable also for leading power factor loads down to 0.9 without apparent power derating.

Standard electrical features

- Dual input mains.
- Internal maintenance bypass.
- Backfeed protection: detection circuit.
- EBS (Expert Battery System) for battery management.
- Battery temperature sensor.

Electrical options

- External maintenance bypass.
- External battery cabinet.
- Additional battery chargers.
- Galvanic isolation transformer.
- Parallel kit.
- ACS synchronization system.

Standard communication features

- User-friendly multilingual interface with color graphic display.
- Commissioning wizard.
- 2 slots for communication options.
- Dry-contact interface (100-120 kVA/kW).
- MODBUS TCP.
- MODBUS RTU.
- Embedded LAN interface (web pages, email).

Technical data

MASTERYS GP										
Sn [kVA]	10	15	20	30	40	60	80	100	120	
Pn [kW]	10	15	20	30	40	60	80	100	120	
Input / output 3/1	•	•	•	-	-	-	-	-	-	
Input / output 3/3	•	•	•	•	•	•	•	•	•	
Parallel configuration	up to 6 units									
INPUT										
Rated voltage	400 V 3ph+N									
Voltage tolerance	240 V to 480 V ⁽¹⁾									
Rated frequency	50/60 Hz ± 10%									
Power factor / THDI	> 0.99 / < 2.5%									
OUTPUT										
Power factor	1 (according to IEC/EN 62040-3)									
Rated voltage	1ph + N: 230 V (can be configured 220/240 V) 3ph + N: 400 V (can be configured 380/415 V)									
Voltage tolerance	static load ±1% dynamic load in accordance with VFI-SS-111									
Rated frequency	50/60 Hz									
Frequency tolerance	± 2% (configurable for GenSet compatibility)									
Total output voltage distortion - linear load	< 1%									
Total output voltage distortion - non-linear load	< 3%									
Overload	125% for 10 minutes, 150% for 1 minute ⁽¹⁾									
Crest factor	3:1									
BYPASS										
Rated voltage	rated output voltage									
Voltage tolerance	± 15% (configurable from 10% to 20%)									
Rated frequency	50/60 Hz									
Frequency tolerance	± 2%									
EFFICIENCY (TÜV SÜD verified)										
Online mode @ 50% of load	up to 96%									
Online mode @ 75% of load	up to 96%									
Online mode @ 100% of load	up to 96%									
Eco Mode	up to 98%									
ENVIRONMENT										
Operating ambient temperature	from 0 °C up to +40 ⁽¹⁾ °C (from 15 °C to 25 °C for maximum battery life)									
Relative humidity	0% - 95% without condensation									
Maximum altitude	1000 m without derating (max. 3000 m)									
Acoustic level at 1 m (ISO 3746)	< 52 dBA	< 55 dBA	< 60 dBA	< 65 dBA						
UPS CABINET										
Dimensions	W	444 mm			600 mm		700 mm			
	D	795 mm							800 mm	
	H	800 mm	1000 mm	1400 mm			1930 mm			
Weight	190 kg	195 kg	315 kg	320 kg	180 kg	200 kg	380 kg			
Degree of protection	IP20									
Colours	RAL 7012									
STANDARDS										
Safety	IEC/EN 62040-1, AS 62040.1.1, AS 62040.1.2									
EMC	IEC/EN 62040-2, AS 62040.2									
Performance	IEC/EN 62040-3, AS 62040.3									
Seismic compliance	On demand according to Uniform Building Code UBC-1997 Zone 4									
Product declaration	CE, RCM (E2376)									

⁽¹⁾ Conditions apply.

Communication options

- Dry-contact interface (10-80 kVA/kW).
- PROFIBUS.
- BACnet/IP interface.
- NET VISION: professional WEB/SNMP interface for UPS monitoring and shutdown management of several operating systems.

Remote monitoring service

- LINK-UPS, remote monitoring service that connects your UPS to your Critical Power specialist 24/7.



DELPHYS GP

High-efficiency protection without compromise
Green Power 2.0 range from 160 to 1000 kVA/kW

Three-phase UPS



GAMME 300-A

The solution for

- > Data centres
- > Telecommunications
- > Healthcare sector
- > Service sector
- > Infrastructure
- > Industrial applications

Attestations and certifications



BUREAU VERITAS
DELPHYS GP is attested by Bureau Veritas

Advantages



Better performance than the EU Code of Conduct on efficiency of AC UPS

Energy saving + Full rated power = reduced TCO

Energy saving: high efficiency without compromise

- Offers the highest efficiency in the market using VFI – Double Conversion Mode, the only UPS working-mode that assures total load protection against all mains quality problems.
- Ultra high efficiency output independently tested and verified by an international certification organization in a wide range of load and voltage operating condition.
- Ultra high efficiency in VFI mode is provided by an innovative topology (3-Level technology) that has been developed for all the Green Power 2.0 UPS ranges.

Full rated power: kW=kVA

- No power downgrading when supplying the latest generation of servers (leading or unity power factor).
- Real full power, according to IEC 62040: kW=kVA (unity power factor design) means 25% more active power available compared to legacy UPS.
- Suitable also for leading power factor loads down to 0.9 without apparent power derating.

Significant cost-saving (TCO)

- Maximum energy saving thanks to 96% efficiency in true double conversion mode: 50% saving on energy losses compared to legacy UPS gives significant savings in energy bill.
- Up to 99% efficiency with FAST ECOMODE.
- UPS "self-paying" with energy saving.
- Energy Saver mode for global efficiency improvement on parallel systems.
- kW=kVA means maximum power available with the same UPS rating: no overdesign cost and therefore less €/kW.
- Upstream infrastructure cost optimization (sources and distribution), thanks to high performance IGBT rectifier.
- Extended battery life and performance:
 - long life battery,
 - very wide input voltage and frequency acceptance, without battery use.
- EBS (Expert Battery System) charging management improves battery service life.
- BCR (Battery Capacity Re-injection) removes the constraints of using an additional load bank for the battery discharge test: it consists in re-injecting the energy stored in the batteries to other applications.

Parallel systems

To fulfil the most demanding needs for power supply availability, flexibility and the installation to be upgraded.

- Modular parallel configurations up to 4MW, development without constraint.
- Distributed or centralized bypass flexibility to ensure a perfect compatibility with the electrical infrastructure.
- Twin channel architecture with Static Transfer Systems.
- Distributed or shared battery for energy storage optimization on parallel systems.

Standard electrical features

- Integrated maintenance bypass for single unit (and 1+1 system).
- Backfeed protection: detection circuit.
- EBS (Expert Battery System) for battery management.
- Redundant cooling.
- Battery temperature sensor.

Electrical options

- Separated or common input mains.
- External maintenance bypass.
- Extended battery charger capability.
- Shared battery.
- Flywheel compatible.
- Galvanic isolation transformer.
- Backfeed isolation device.
- ACS synchronisation system.
- BCR (Battery Capacity Re-injection).
- FAST ECOMODE.

Technical data

DELPHYS GP									
Sn [kVA]	160	200	250	320	400	500	600	800	1000
Pn [kW]	160	200	250	320	400	500	600	800	1000
Input/output	3/3								
Parallel configuration	up to 4 MW								
INPUT									
Rated voltage	400 V 3ph								
Voltage tolerance	200 V to 480 V ⁽¹⁾								
Rated frequency	50/60 Hz								
Frequency tolerance	± 10 Hz								
Power factor / THDI	> 0.99 / < 2.5% ⁽³⁾								
OUTPUT									
Power factor	1 (according to IEC/EN 62040-3)								
Rated voltage	3ph + N 400 V								
Voltage tolerance static load	±1 % dynamic load in accordance with VFI-SS-111								
Rated frequency	50/60 Hz								
Frequency tolerance	± 2% (configurable for GenSet compatibility)								
Total output voltage distortion linear load	ThdU < 1.5%								
Total output voltage distortion non-linear load (IEC 62043-3)	ThdU < 3%								
Short-circuit current ⁽²⁾	up to 3.4 x In								
BYPASS									
Rated voltage	rated output voltage								
Voltage tolerance	± 15% (configurable from 10% to 20%)								
Rated frequency	50/60 Hz								
Frequency tolerance	± 2% (configurable for GenSet compatibility)								
EFFICIENCY									
Online mode @ 40 % of load	up to 96%								
Online mode @ 75 % of load	up to 96%								
Online mode @ 100 % of load	up to 96%								
Fast EcoMode	up to 99%								
ENVIRONMENT									
Operating ambient temperature	from 0 °C up to +40 ⁽¹⁾ °C (from 15 °C to 25 °C for maximum battery life)								
Relative humidity	0 % - 95 % without condensation								
Maximum altitude	1000 m without derating (max. 3000 m)								
Acoustic level at 1 m (ISO 3746)	< 65 dBA	< 67 dBA	< 70 dBA	< 68 dBA	< 70 dBA	< 72 dBA	< 74 dBA	< 74 dBA	< 74 dBA
UPS CABINET									
Dimensions	W	700 mm	1000 mm	1400 mm	1600 mm	2800 mm	3510 mm	3910 mm	
	D	800 mm	950 mm	800 mm	950 mm		950 mm		
	H		1930 mm				2060 mm		
Weight	470 kg	490 kg	850 kg	980 kg	1000 kg	1500 kg	2300 kg	2800 kg	3850 kg
Degree of protection	IP20 (other IP as option)								
Colours	cabinet: RAL 7012, door: silver grey								
STANDARDS									
Safety	IEC/EN 62040-1, AS 62040.1.1, AS 62040.1.2								
EMC	IEC/EN 62040-2, AS 62040.2								
Performance	IEC/EN 62040-3, AS 62040.3								
Product declaration	CE, RCM (E2376)								

(1) Conditions apply. (2) Worst condition (Auxiliary Mains not available). (3) With input THDV < 1%.

Standard communication features

- User-friendly multilingual interface with graphic display.
- 2 slots for communication options.
- Ethernet connection (WEB/SNMP/email).
- USB port for event log access.

Communication options

- Advanced server shutdown options for stand-alone and virtual servers.
- 4 additional slots for communication options.
- ADC interface (configurable voltage-free contacts).
- MODBUS TCP.
- MODBUS RTU.
- BACnet/IP interface.

Remote monitoring service

- LINK-UPS, remote monitoring service that connects your UPS to your Critical Power specialist 24/7.

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YOUR DISTRIBUTOR / PARTNER

your energy
our expertise

