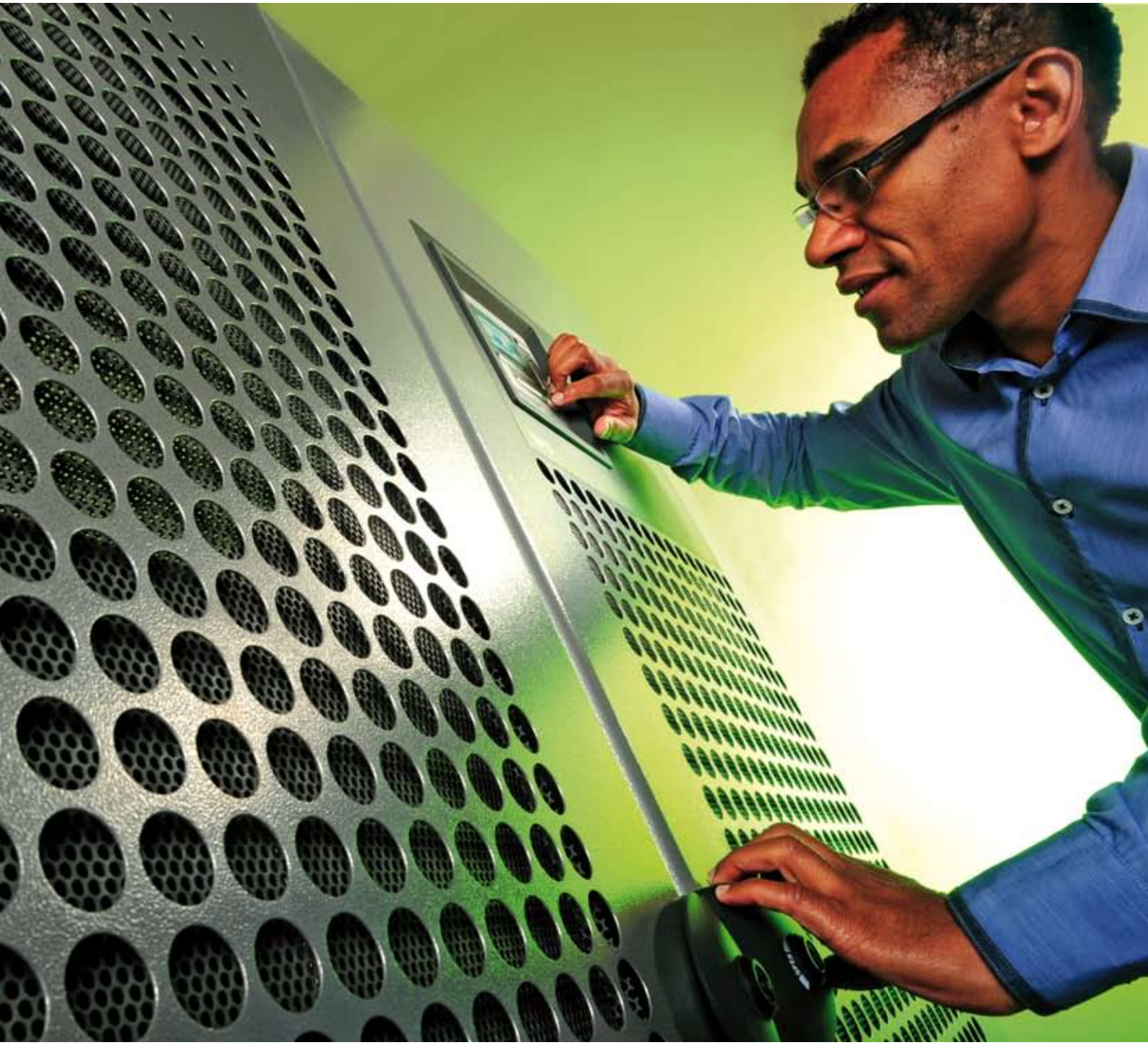
DELPHYS Green Power

from 160 to 400 kVA

High availability with energy efficiency



ABSOLUTE GREEN
AVAILABILITY & SAVING

socomec
Innovative Power Solutions UPS

Three-phase UPS

DELPHYS Green Power

from 160 to 400 kVA

the solution that combines high availability with energy efficiency

In the current climate with soaring energy costs and urgent environmental issues, it is no surprise that users are on the lookout for new cost-effective, efficient and adaptable technical solutions.

Data centres, prodigious consumers of electrical energy for their operational functions and air-con systems, are among the business sectors that are concerned first and foremost.

SOCOMEC, with more than 40 years of specialist experience, is one of the first manufacturers to take an active approach to improving the energy efficiency of its UPS systems.

As a concrete example of this commitment, SOCOMEC was one of the first to sign up to the European Commission's Code of Conduct covering UPS equipment. The purpose of this charter is to make sustainable reductions in energy consumption whilst maximising the output efficiency of the UPS system.

DELPHYS Green Power
from 160 to 400 kVA

96 %

The highest efficiency performance on the market

Flywheel COMPLIANT

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

BUREAU VERITAS

DELPHYS Green Power series is attested by Bureau Veritas.

Your protection for

- > Data centres
- > Telecommunications
- > Service sector
- > IT Networks/Infrastructures



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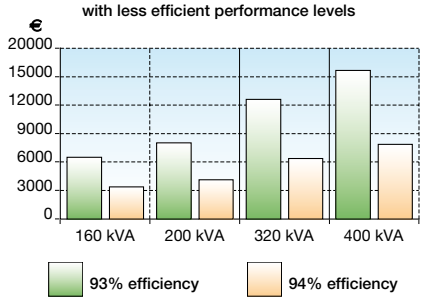
Your *DELPHYS Green Power* advantages

Significant cost savings (TCO)

- Maximum energy savings thanks to 96% output efficiency:
  - reduced energy loss and requirements for air conditioning systems,
  - significant savings in operational and energy bills.
- 0.9 power factor and harmonic content avoid over rating the supply system (i.e. switches, generator sets and protection devices).
- Highly compact UPS and battery cabinet (reduced footprint) saves valuable floor space.
- Extended battery life and performance:
  - EBS battery charging management improves battery lifespan,
  - DC bus optimum voltage,
  - ***BHC Interactive***, battery monitoring system that proactively interacts with the battery charger to optimise battery lifetime.
- Minimum amount of battery cabinets for equivalent back-up time thanks to ultra high efficiency, very wide input voltage and frequency rectifier, acceptance without battery use, wide selection of battery configurations (very flexible DC bus voltage).

Annual savings with 96% efficiency against UPS with less efficient performance levels



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Optimised electrical network

- Smaller upstream installation, due to very low input current.
  Input power factor > 0.99 and the lowest.
  Input current harmonic distortion.
- High active power availability for servers thanks to the 0.9 output power factor, all the power can be used with the latest servers.
- Designed to work with latest-generation servers.
  Suitable for leading power factor loads of up to 0.9 without derating.

High availability

- Advanced battery monitoring and management for optimum battery reliability.
- High availability architectures:
  - parallel redundant architecture,
  - internal Automatic Cross Synchronisation (ACS).
- Internal redundancy thanks to the redundant cooling system to ensure a permanent power supply even in the event of system failure.
- ***BHC Universal*** (Battery Health Check), stand-alone battery monitoring system to provide permanent monitoring of the battery system.

Advanced communication facility

- User-friendly multilingual interface with graphic display.
- Flexible communication for:
  - remote monitoring and management by the system administrator,
  - integration in automatic centralised supervision systems.
- 24/7/365 SOCOMEC monitoring.
- ***T.service*** realtime remote surveillance.
- Advanced server shutdown options.
  For stand-alone and virtual servers.

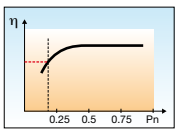
Flexibility

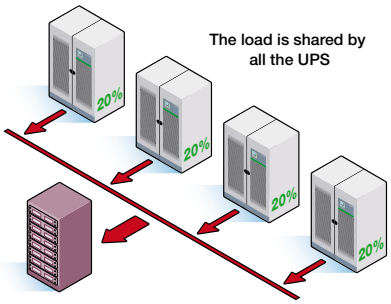
- Shared battery
  Optimisation of battery size
- Flexible modular upgrades.
  Easy-to-add supplementary units for power extension and redundancy.

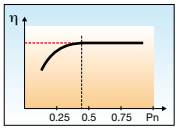
Energy Saver

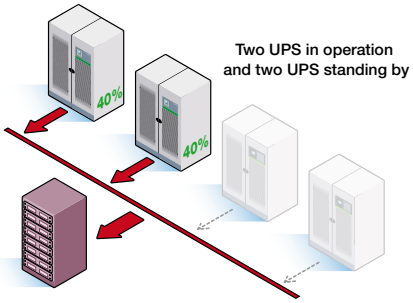
Optimum energy management

- This function optimises the efficiency (η) of your parallel UPS system when operating with a partial load.
- Only the UPS units needed to supply the energy required by the applications are in operation.
- Redundancy is nevertheless ensured by maintaining an additional unit in operation.
- When the power consumed by applications increases, the UPS units needed to meet the increased power requirements intervene immediately.
- This type of operation is perfectly suited to applications subjected to frequent variations in power.
- Energy Saver enables the increased efficiency of the whole system to be maintained.









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Advanced interface

• User-friendly graphic display

Gives a clear view of the UPS subassemblies status and provides the user with a full array of controls for their management.

• High visibility LED status bar

Gives the UPS status in 3 colours: green, yellow or red.

• Easy procedures for start-up and shutdown of the UPS

The display gives operators step-by-step multilingual descriptions of the operating procedures.

• Wide range of network connections

Extensive communication possibilities are available, including: HTML page for remote monitoring, SNMP agent sending TRAP to network management station, e-mail sent according to events selection, MODBUS TCP for BMS data transfer, e-mail and SMS alerts.

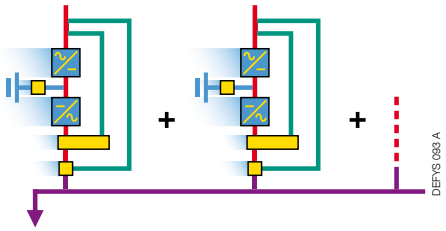
• Shutdown agent

Makes it possible to send a shutdown command to stand-alone or virtual servers.

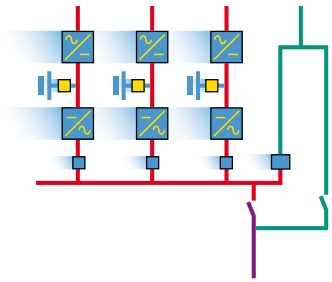
UPS and system architectures

To meet the most demanding availability requirements and the need for a flexible and upgradable installation, ***DELPHYS Green Power*** with different system architectures.

• *DELPHYS Green Power* modular, parallel development without constraints

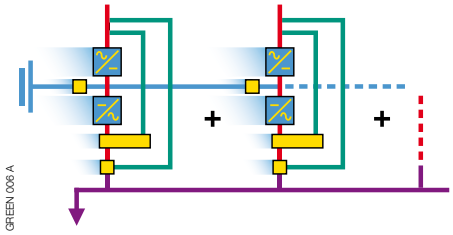


• *DELPHYS Green Power* centralised bypass, parallel progressive development



• Shared battery

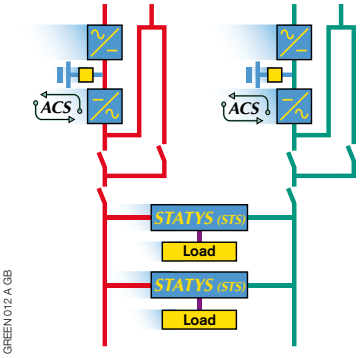
optimisation of battery size for parallel systems.



Available with distributed batteries, ***DELPHYS Green Power*** 160-400 kVA makes it possible to optimise battery size thanks to shared battery operation. This reduces the overall system footprint, weight of required batteries, the battery monitoring system, the amount of wiring needed and amount of lead.

• Double bus architecture,

for very high availability (TIER III or TIER IV classification).



ACS: Automatic Cross Synchronisation
STS: Static Transfer System

BHC Interactive

• Safeguarding the battery

The battery is a key element in UPS operation. If load is the most critical factor, battery system availability and efficiency are very important to avoid shutdown. To meet both requirements fully, SOCOMEC has developed ***BHC Interactive*** (Battery Health Check). Permanently connected to ***DELPHYS Green Power***, it optimises battery lifetime, provides permanent monitoring of the battery system and simplifies maintenance (either preventative or curative).

• Have confidence in the battery system

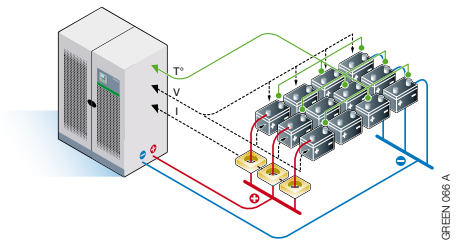
BHC Interactive continually provides accurate diagnosis of battery condition and generates warning messages allowing the scheduling of preventative maintenance.

• A reactive and proactive system

BHC Interactive operates directly with the UPS battery recharging system (EBS). It optimises battery capacity and maximises battery life and return on investment.

• Gain efficiency in maintenance

BHC Interactive helps maintenance engineers and technicians to plan and prepare targeted preventative and curative maintenance operations.



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Technical data

Sn [kVA]	160	200	320	400
Pn [kW]	144	180	288	360
Input/output: 3/3	•	•	•	•
INPUT				
Rectifier rated voltage	400 V 3ph			
Voltage tolerances	±20 % without derating, -40 % with 50 % of Pn			
Input frequency	50/60 Hz ± 10 %			
Power factor/THDI	> 0.99/< 2.5 %			
Bypass rated voltage: 3ph + N	400 V			
OUTPUT				
Voltage	400 V 3ph + N ±1 % (380/415 V configurable)			
Voltage tolerance	static load ±1 % dynamic load in accordance with VFI-SS-111			
Frequency	50/60 Hz ±2 % (configurable for GenSet compatibility)			
Autonomous frequency tolerance	0.02 %			
Automatic bypass	rated voltage output ±15 % (configurable with generator from 10 % to 20 %)			
Total harmonic voltage distortion	< 2 % with linear load/< 4 % with non linear load			
Overload for 10 minutes (kW)	180	225	360	450
Overload for 1 minutes (kW)	216	270	432	540
Crest factor	3:1			
Short circuit current	up to 3.4 x In			
EFFICIENCY (BUREAU VERITAS attested)				
Online mode @ 50 % of load	96 %			
Online mode @ 75 % of load	96 %			
Online mode @ 100 % of load	95.5 %			
ENVIRONMENT				
Operating ambient temperature	from 0 °C up to +35 °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)			
Noise level (ISO 3746)	< 65 dB (A)		< 68 dB (A)	
Paralleling units	up to 8		up to 4	
UPS CABINET				
Dimensions (W x D x H) [mm]	700 x 800 x 1930		1400 x 800 x 1930	
Weight (kg)	460		980	
Degree of protection	IP 20 (other IP in option)			
Colours	dark grey, silver grey frontal door			
STANDARDS				
Safety	EN 62040-1, EN 60950-1			
Performance	EN 62040-3 (VFI-SS-111)			
Electromagnetic compatibility (EMC)	EN 62040-2			
Product declaration	CE			

Standard communication kit

- 2 slots for communication options.
- RS 232 serial port for modem.
- Ethernet connection (WEB/SNMP/MODBUS TCP/e-mail).

Standard electrical kit

- Integrated maintenance bypass.
- External backfeed control.
- Smart battery recharge temperature dependent (***EBS***).
- Redundant cooling.

Standard mechanical and environmental kit

- IP 20.
- Battery temperature sensor.

Communication options

- 4 additional slots for communication options.
- ADC (Advanced Dry Contact) interface.
- PROFIBUS.
- SMS alert.

Electrical options

- External maintenance bypass.
- Extended back-up time.
- Extended battery charger capability.
- Shared battery.
- Flywheel compatible.
- Isolation transformer.
- Backfeed isolation device.
- Synchronisation with an external source (***ACS***).
- ***BHC Interactive***.
- Cold start.

Mechanical and environmental options

- IP31 or higher.
- Antidust filter.

Remote maintenance

- ***T.SERVICE*** program for continuous 24/7 monitoring of ***Green Power*** range with the SOCOMEC UPS maintenance service.

SOCOMEC UPS

Our commitment to Absolute Green

For maximum availability and true cost savings

Recent technology developments have seen the emergence of loads which are able to operate despite very minor power interruptions.
As a result, there is growing opinion supporting the use of true on-line UPS systems in line-interactive or even off-line mode, without exploiting their maximum level of protection (on-line mode) supported by the fact that the first two have less energy consumption compared to true on-line.
In fact, even in countries with the best power quality, high-quality power supplies are frequently compromised by consumer loads within the system itself, such as harmonics, flicker, frequency variations, power cuts and surges.
It is important to remember that the primary aim of mission-critical services is to ensure business continuity, which is only possible if the UPS operates in true on-line mode.
The essential questions are: can you afford to compromise your business continuity protection, only thinking about saving money (off-line mode)? And does it make sense to choose the leading protection technology (on-line) if you don't always take full advantage of it?
We believe that true on-line technology is the only one that can provide maximum availability with total protection against surges, transients and electrical impurities to and from the power supply.
Socomec UPS can ensure true cost savings without compromise: our UPS range has been independently endorsed as having the highest efficiency performance on the market, for true on-line double conversion technology, up to 96 %, keeping your business totally protected.

ABSOLUTE GREEN
AVAILABILITY & SAVING

Availability

- The system is supplied with top-quality electrical power, minimising the risk of downtime.
- Protection is ensured by the use of on-line double conversion UPS, the most reliable technology on the market.
- The system is fully safeguarded against power cuts and any disturbances caused by the mains power supply and distorting loads.

Saving

- UPS energy costs cut by up to 40 %.
- Savings are guaranteed by the highest available efficiency performance for on-line double conversion UPS on the market, certified up to 96 %.
- Optimising the power supply to the system makes it possible to reduce the use of non-recyclable materials and cut CO_2 emissions.

THE GLOBAL COMPACT
WE SUPPORT

Global Compact

In 2003 the SOCOMEC group joined the United Nations Global Compact, initiative that aims to tackle the social and environmental challenge of globalisation.

AFAQ ISO 14001

ISO 14001

This internationally recognised standard commits SOCOMEC UPS to ongoing environmental management system improvements.

the green grid™ member

The Green Grid℠ membership

The Green Grid is an association working with IT professionals to dramatically improve energy efficiencies for data centres.

European Code of Conduct (CoC)

By signing the Code of Conduct, SOCOMEC UPS is taking firm steps to improve the efficiency and the quality of its UPS systems.



socomec Innovative Power Solutions UPS

The SOCOMEC Group: manufacturing at your service

CORPO 331 A

Specialists guaranteed

Founded in 1922, SOCOMEC is an industrial group with a workforce of 2,700 people.

Our independence allows us to have long-term vision and complete control over any decisions affecting our development.

The company is organised into two independent divisions: SOCOMEC SCP, experts in switching components and protection solutions, and SOCOMEC UPS, specialists in critical system power supply.

The company's standard turnover, operating profit and net profit consistently show steady growth.

These figures allow the company to make prudent yet ambitious plans for the future: plans which guarantee profitability and which also aim to capture new market share, by setting up new subsidiaries worldwide.

Renowned expertise

Having already received the 2004 Award for Customer Service Excellence and the 2006 Award for Product Innovation from Frost & Sullivan, SOCOMEC UPS recently excelled once again by winning the **2009 Best Practice Award** for **European Energy & Power Systems Product Line Strategy**. This prestigious accolade was awarded in recognition of the company's ability to offer an **extensive product range**, demonstrating the most insight into the needs and product demands of its customers.

GAMME 008 S

SOCOMEC UPS
UPS from 550 VA to 5400 kVA

GAMME 046 B

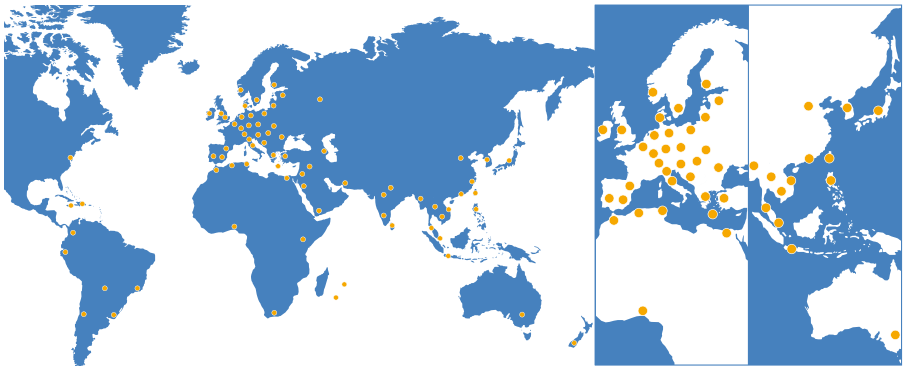
SOCOMEC SCP
Switching and Protection Systems

An organisation focused on customer satisfaction

Our equipment is designed and produced to meet ISO 9001:2000 standards. SOCOMEC UPS systems provide you with a fully protected electrical power supply and first-rate service.

A worldwide presence

With a strong international presence in over 70 countries and subsidiaries in 22 countries, SOCOMEC is a major player in the global market of electrical equipment.



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the green grid™ member

socomec Innovative Power Solutions UPS

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