

# Healthcare facilities

## Solutions for power quality and patient safety



# SOCOMEK Group: a manufacturer at your service



CORPO 031 A

## The guarantee of a specialist

Incorporated 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 of 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 are all showing 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, namely 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 has once again excelled by winning the 2009 Best Practice Award for "European Energy & Power Systems Product Line Strategy". This prestigious accolade was presented in recognition of the company's ability to propose an extensive product range demonstrating the most insight into the needs and product demands of its customers.



SOCOMEK UPS  
UPS from 550 VA to 5400 kVA



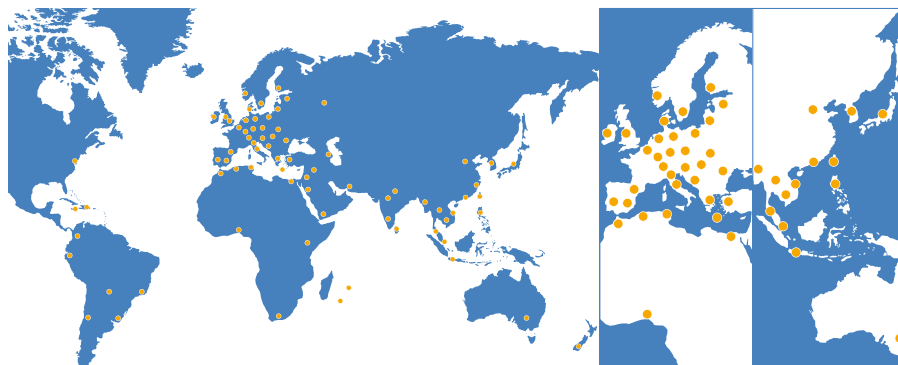
SOCOMEK SCP  
Switching and Protection Systems

## 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 23 countries, SOCOMEC is a major player in the global market of electrical equipment.



CARTE 043 A



# Needs which are clearly understood

The power continuity in hospital structures and services must go further than ensuring the quality of patient life. **Security** and **availability** of the power supply to the various critical items of equipment assume front line priority as defined by healthcare authorities.



## Supporting IT growth within hospital facilities

The changes occurring on the facility side dictate a new approach to healthcare power protection. With this increased dependence on technology, a power disruption inside the hospital or healthcare facility can lead to:

- compromised patient safety,
- loss of patient data,
- corrupted diagnostic images,
- damage to expensive and critical items of equipment,
- lost revenues because of equipment unavailability,
- patients and staff waiting for IT to reboot,
- staff dissatisfaction and reluctance to use IT.



## Healthcare technology trends

IT is being integrated throughout healthcare operations to improve patient care, service levels and operating costs.

Through the use of technologies such as electronic medical record (EMR), patient RFID, picture archiving and communication systems, wireless communications and pharmaceutical barcode/radio frequency identification technology, the healthcare sector is benefiting significantly from increased accuracy and efficiency.

Within the new digital healthcare environment, IT is the link connecting the facility's medical staff with patient data stored on servers in the data centre.

Brownouts, shut down of the system or when the power supply is disrupted because of weather disturbances, voltage surges or other abnormalities can broke the link.

It is therefore essential to supply those applications using flexible, compact and reliable UPS solutions.



## Supporting IT growth in the healthcare data centre

The need to increase computing capacity, file storage and performance creates a corresponding need to assure continuous operation of technology systems.

In the data centre, this means investing or transitioning to an infrastructure that can support "always on" operations with the ability to be scaled up to support continuous growth in server and storage capacity.

Keys to success are therefore, disturbancefree uninterrupted power and redundant systems to eliminate singlepoint failures and to achieve the required high availability levels with regard to power source.

# Customized solutions for hospital environments

In the course of its many years of experience in the field of high-quality power supplies for critical applications, Socomec has developed into a provider able to devise solutions that address the technical constraints imposed by a hospital or other healthcare environment.



## Socomec solutions

- are flexible and adaptable to suit the specific features of different premises,
- take due account of environment-specific restrictions,
- are easy to deploy within existing installations,
- are designed to deliver the required level of availability,
- are perfectly compatible with operation in conjunction with gensets (auxiliary power generator sets).

They enable an assured supply of electrical power to be delivered to all critical and vital applications under any circumstances and in all types of hospital premises.

# For an energy supply which is **always reliable** and **available**

## IT NETWORKS

- Equipment such as desktop PCs
- Scanners
- Printers
- Phone servers
- Workstations and servers for picture archiving
- Communication systems
- Data centres
- Carrier services
- Wireless equipment...

## MEDICAL DEVICES

Such as:

- X-ray devices
- CT scanners
- MRI scanners
- Haematology systems
- Gas analysers
- Centrifuges
- Diagnostic devices...

## PATIENT VICINITY

Includes applications such as:

- Heating pads
- Electro-cardiographs
- Drainage pumps
- Ophthalmoscopes
- Intravenous lines
- Monitors
- Low-end MRI and CAT scanners
- Ultrasound equipment
- ECG, EEG...

## OTHER

- Applications in laboratories
- Facilities management systems
- Fire alarm systems
- Emergency lighting systems
- Building management systems
- Waiting rooms...



# Customized solutions for maximum availability and true cost savings

Recent technology developments have seen the emergence of loads which are able to operate despite of very minor power interruptions.

As a result, there is a 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) pushed 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: is it affordable to compromise your business continuity protection, only thinking on money saving (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 consider that true on-line technology is the only one which is able to provide

the maximum availability with a total protection against surges, transients and electrical impurities to and from the power supply.

Socomec UPS is able to ensure true cost saving without compromise: our UPS range have been independently certified to have the highest efficiency performance on the market, for true on-line double conversion technology, up to 96%, keeping your business totally protected.

## 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 blackouts and any disturbance caused by the mains power supply and by distorting loads.

## Saving

- UPS energy costs cut by up to 40%.
- The saving is 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<sub>2</sub> emissions.



## Cost-effective solutions

### Low operating cost

**96%**  
The highest efficiency performance on the market

The Socomec range of UPS systems delivers you a substantial improvement in terms of efficiency (up to 96%). Energy losses are reduced and the need for air conditioning is reduced substantially. Solutions are ultra compact and free up the maximum amount of space in technical areas on the premises.

### Total compatibility with generating sets

During actual cuts in the mains power supply, or during tests carried out for mains absence simulation, the upstream power to the UPS units is supplied by the generating set (auxiliary power supply) serving the hospital building. The features of the low distortion rectifiers dispense with the need for over-sizing when selecting a generating set, or permit the re-use of an existing one:

- sinusoidal rectifier input current,
- high input power factor upstream of the rectifier,
- progressive and sequential start up of the rectifiers, facilitating the take up by the generating set,
- delayed battery recharge when running on generating sets to reduce power consumption.

The absence of an input capacitive filtering device eliminates any risk of alternator control dysfunction, particularly in partial load conditions.

### An infrastructure reduced in terms of size

For all construction or renovation projects, Socomec specialises in finding optimum solutions for the electrical infrastructure of a building.

Low distortion rectifiers, combined with high input power factors allow for savings in:

- consumption of input current,
- the size of the electrical supply cables,
- upstream protection ratings (fuses or circuit breakers),
- absence of need for power factor compensation systems.

## Environment-friendly solutions

Reducing the carbon footprint is an aim for everyone for the future of the planet. The use of a Socomec UPS, thanks to its premium features, makes it possible to cut CO<sub>2</sub> emissions by more than 50%.



### Battery-free solutions

The **FLYWHEEL** is an alternative to traditional energy storage solutions. It uses a very high-speed flywheel to store kinetic energy. Used in conjunction with quick-start genset, this is the ideal solution for a 'green' environment in situations where battery storage is not really a feasible option:

- very low floating losses,
- reduced maintenance: no bearings or pumps,
- footprint cut by half compared to batteries,
- quiet operation: 45 dB,
- strong cycling capability,
- recharge in less than 5 minutes,
- no concrete pad needed or floor loading issues,
- no risk of explosive or hazardous gas release, no acidic substances,
- high level of reliability, service life of 20 years.



# Fully controlled and secured energy

## Power supply redundancy with ATyS and ATyS M Automatic Transfer Switches

Essential for ensuring the security of the electrical energy supply in critical sectors, source inverters **automatically switch** to a generating set or another network in the event of the loss of the main power circuit (normal/emergency switching).

Due their high specifications, the **ATyS** and **ATyS M** ranges are the **undoubted market leaders** in transfer switching:

- compliance with IEC or NF EN 60947-6-1 standards,
- safety disconnection,
- manual emergency operation,
- test on/off load,
- remote interfaces,
- version with dedicated enclosure,
- by-pass function.



**ATyS** from 125 to 3200 A  
**ATyS M** from 40 to 160 A



## 100 % energy available in the operating areas with the IT medical distribution cabinet



The Socomec IT medical cabinet ensures the high availability and distribution of high quality energy. It is the result of Socomec's expertise in the area of transfer between supplies, insulation monitoring, and uninterruptible power supply.

In service in many hospital sites, it serves as a reference for healthcare professionals Specifiers, Installers and End Users alike.

The IT medical cabinet offers a comprehensive Range of characteristics:

- Full compliance with the relevant installation standards NFC 15 211 or IEC 60364-7-710, amongst others
- Dual input via an **ATyS M** transfer switch ensuring automatic management of the changeover between the two supplies, the main supply and the back-up supply
- Distribution comprising:
  - an insulation monitoring system **ISOM**
  - an automatic fault search system capable of identifying the insulation defect in less

than 10 seconds, even in the presence of highly disturbing receivers

- An uninterrupted distribution based on the UPS ranges **NETYS** or **MODULYS**, with progressive power and battery autonomy



IT Medical Cabinet



# Presales and aftersales service

## The expertise of a single design, construction and maintenance supplier

Since 1968, SOCOMEC has been developing products and services which are geared towards the quality and continuity of your high quality energy.

Our teams provide you with not only an understanding of your needs, but also their expertise in the areas of electronic components, DC circuits, operating logic and industrial IT.

Their attentiveness and advice actively contribute to an optimised definition of requirements and to ensure that all engagements undertaken are fulfilled.

## Commissioning, Inspection and Maintenance provides services for:

- installing equipment,
- preventive maintenance,
- ad-hoc maintenance for breakdowns,
- “around-the-clock” skilled personnel available,
- consultancy, design and implementation of the systems,
- installation management and upgrades.

## Service for disaster recovery

SOCOMECS UPS maintenance service provides effective protection for your installation and assures the continuing high availability of the UPS.

However, it is very difficult preventing a natural disaster, such as flood, fire, smog, etc., but it is possible to take the necessary precautions.

Such as SOCOMEC UPS Maintenance recovery Programme options dedicated to suit the needs of Data Center facilities.

## T.Service

- 24/7/365 monitoring.
- Preventative and early fault detection.
- Reduced human dependence.
- Periodic status reports.
- Automatic intervention of manufacturer service personnel.
- Remote assistance of skilled engineers.
- In-depth knowledge of the plant.

## Thermography

- Non-invasive technique to scan the plant via infrared camera.
- Due to its highly effective diagnostic of cable connections and clamps (not possible using conventional visual checks) it highlights areas of concern, allowing proactive prevention of possible issues.
- Focuses on cost reduction.
- Seamless checking carried out without downtime requirements.

## Power Quality Audit

- Complete analysis of the electrical plant addressing site reliability, efficiency and safety.
- It provides a complete view of the correct operating state of the electrical plant.

## Rental service

- Availability of UPS renting fleet.
- In case of unforeseen natural disaster, it ensures a high-quality temporary power solution in the waiting of the full restore of your equipment.
- Includes everything, from operation and maintenance to removal at the end of the rental period.



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