

NETYS PL-120V & NETYS RT-120V

Secure power protection for SOHO
and IT networking applications

EDITION
2018



An independent manufacturer

The benefit of a specialist

11,480 ft²
of test platforms

One of the leading
independent power testing
labs in Europe

60,000
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.

"Optimizing 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.

SYD/AV 1811 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 recognized 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 stabilization of the power grid.



© Databock



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 applications,
- continuity of the power supply to electrical facilities via manual or automatic changeover switching systems,
- 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 optimization 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,
- optimization 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.



APPLI 760A

For a high quality power supply

innovative power solutions

Critical equipment requires high quality energy and faultless continuity of the power supply. Our uninterruptible power systems (UPS), static transfer systems (STS), and DC/AC and AC/DC converters (inverters and rectifiers, respectively) comprise the most complete ranges in the world and cover a very wide range of applications for every sector of activity.



GAMME 008 Z

- > Uninterruptible power supply systems (UPS)
- > Static transfer systems (STS)
- > Backup storage systems
- > Industrial rectifiers
- > DC/AC converters (inverters)
- > Communication and management software
- > Maintenance & Professional Services

High availability

The availability of electrical energy is a strategic factor in industries as varied as telecommunications, data processing centres and industrial processes. It is also vital for certain medical applications. In all these sectors, SOCOMEK offers you all the benefits of its 45 years of experience.

Product solutions that meet requirements

Underpinned by significant R&D resources, our product offer continually evolves as a consequence of our contact with customers. Our products have gained approval from the most demanding users: telecoms operators, naval industry, etc.

Customer-oriented service

Our extensive sales and after-sales network means we are always there for you. Our partner and customers recognize the quality of our products and their availability, as well as our flexibility and commitment to meeting requirements.

A certified organization

Products



Local compliance



Environment



Industrial sites



Certified solutions to reduce energy consumption and environmental impact

Better products for sustainable applications



ENERGY STAR is a voluntary government program that was launched in the early 1990s by the US Environmental Protection Agency (EPA) that provides unbiased information to organizations and consumers about cost-effective, energy-efficient products, practices, and services.

The EPA's vision was a bold and untested one in the environmental arena: capture and channel the ingenuity of the marketplace to overcome barriers to energy efficiency, and prevent pollution, rather than remedy it.

The label has grown to identify efficient products across more than 70 product categories. Since the mid-1990s, the EPA has collaborated with the U.S. Department of Energy (DOE) on specific ENERGY STAR program responsibilities.

In 2009, the EPA and DOE signed a new agreement designed to enhance and strengthen the program. Key components of the agreement included, developing third-party certification requirements for ENERGY STAR products, ensuring that performance specifications are updated as technologies advance, and creating a program highlighting the most efficient ENERGY STAR certified products.

For more than 20 years, people across America have looked to the EPA's ENERGY STAR program for guidance on how to save energy and money, and protect the environment. More than a mark of energy efficiency, ENERGY STAR is also a symbol of trust, quality, and responsible stewardship of our environment.

The NETTS PL-120V and NETYS RT-120V ranges have earned the ENERGY STAR label following stringent third-party testing and verification to meet the program's energy efficiency requirements.

The ENERGY STAR specification for the UPS range establishes minimum average efficiencies for UPS's of different:

- Input dependency characteristics -- Voltage and Frequency Dependent (VFD), Voltage Independent (VI), and Voltage and Frequency Independent (VFI).
- Rated Output Power- from less than 1500 kVA to greater than 10,000 kVA.
- Load Profiles - assume profiles at 25%, 50%, 75%, and 100% load.

ENERGY STAR certified UPS's can cut energy losses by 30-55%. Thus, the Socomec UPS's NETYS PL-120V and NETYS RT-120V are recognized as highly energy efficient products, saving consumers money year after year.





NETYS PL-120V

User-friendly multi-socket protection
350 and 750 VA

new



NETYS PL-120V
350 VA

NETYS PL-120V
750 VA

The solution for

- > PC: LCD monitors, scanners, printers, etc.
- > Cash registers, POS
- > Interactive terminals

Technology

- > VFD "offline"

Conformance



To find out more

- > For more information on our UPS solutions, please visit our website:



An innovative solution and superior design

- Compact and practical pluggable power protection integrating a larger number of sockets adapted to computer and IT peripherals in small office and home office environments, facilitating connection and tidier cabling.
- Modern design suitable for desk positioning, floor installation and wall mounting.

Adapted protection to meet all your needs

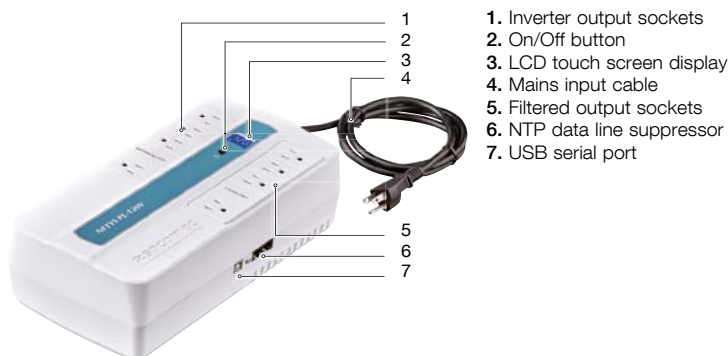
- 8 NEMA standard sockets for easy distribution directly to your applications:
 - 4 sockets protected against power cuts and overvoltages, aimed at your most sensitive applications (professional desk top systems, workstation and monitors).
 - 4 sockets protected against overvoltage alone for use with less critical applications and high absorption consumers (e.g. laser printers).

Easy to use

- Operating mode indicated by means of either a LCD touch screen display (750 VA model) or smart LED indicator lights (350 VA model).
- Easy battery replacement.
- Integrated mains input cable on the side, allowing all eight sockets to be used.

GAMME 205 A

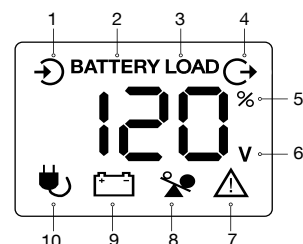
Connections



1. Inverter output sockets
2. On/Off button
3. LCD touch screen display
4. Mains input cable
5. Filtered output sockets
6. NTP data line suppressor
7. USB serial port

Control panel

- The LCD touch screen display allows the easy monitoring of the UPS operating modes.



- | | |
|--------------------|-------------------|
| 1. Input measure | 6. Voltage |
| 2. Battery measure | 7. UPS fault |
| 3. Load measure | 8. Overload |
| 4. Output measure | 9. Battery mode |
| 5. Rate | 10. Mains present |

Technical data

NETYS PL-120V		
Reference	NPL-350-NA	NPL-750-NA
Sn	350 VA	750 VA
Pn	210 W	450 W
Input / output	1/1	
INPUT		
Rated voltage	120 V	
Voltage	90-145 V	
Rated frequency	50/60 Hz with automatic selection	
Mains connection	Cable with NEMA 5-15P plug	
OUTPUT		
Voltage	120 V ±10%	
Rated frequency	50/60 Hz ±1%	
Efficiency	Energy Star certified	
Wave form	Step wave	
Protection	Overload, overcharge, deep discharge and short circuit	
Sockets	4 NEMA 5-15R sockets for battery backup and surge protection, 4 NEMA 5-15R sockets for surge protection	
BATTERIES		
Type	Sealed lead-acid maintenance free - expected life 3/5	
Back-up time ⁽¹⁾	10 min	15 min
COMMUNICATION		
Interfaces	-	USB
Local communication software	-	Local View
UPS CABINET		
Dimensions W x D x H	6.24 x 12.01 x 3.74 in / 158.5 x 305 x 95 mm	
Weight	5.51 lbs / 2.5 kg	6.39 lbs / 2.9 kg
Colour	Black	White
STANDARDS		
Safety	UL 1778; CSA C22.2 107.3	
EMC	FCC part 15 class A; ICES-0003 class B	
Product certification	cULus; Energy Star	
ENVIRONMENT		
Operating ambient temperature	from 32 to 104 °F / 0 to +40 °C (from 59 to 77 °F / 15 to 25 °C for best battery life)	
Storage temperature range	from 5 to 122 °F / -15 to +50 °C (from 59 to 77 °F / 15 to 25 °C for best battery life)	
Relative Humidity	20-90 % non-condensing	
Noise level at 1 meter	< 40 dB	

(1) Desktop PC + 20" LCD monitor (~100 W).

Standard communication features

- LOCAL VIEW: ideal UPS monitoring and shutdown point-to-point solution for Windows®, Linux and Mac OS X® operating systems.



Easy to adapt



Example of wall mounting



NETYS RT-120V

Professional solution for IT infrastructures
from 1000 to 3000 VA - Rack/Tower

Single-phase UPS

new



NETYS 267 C - NETYS 268 C

The solution for

- > Data storage
- > Servers and networking devices
- > VoIP communication systems
- > Structured cabling systems
- > Control systems
- > Video surveillance systems

Technology

- > VFI "online double conversion"

Conformance



To find out more

- > For more information on our UPS solutions, please visit our website:



A professional solution for total power protection

- Ideal solution for protecting small servers, networking devices and peripherals.
- Assures service continuity to critical applications.
- Designed for professional applications: the sinewave inverter technology assures full compatibility with any kind of load and power supply.

High protection and high availability

- True online double conversion technology with sinusoidal waveform, completely filters out all disturbances from/to the mains power supply and ensures maximum protection of the utility.
- Permanent regulation of output voltage and frequency.
- Wide tolerance of the input voltage limits the number of switchovers to battery mode, prolonging the battery life.
- The automatic bypass takes over immediately in the event of overloads or faults, ensuring continuous power supply to the loads.

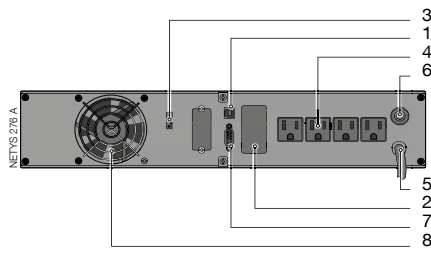
Simple to install

- No configuration needed on first startup.
- USB port as standard for direct interfacing with Windows systems®, without the need for additional specialist software.
- Space and time-saving tower/rack conversion mode.

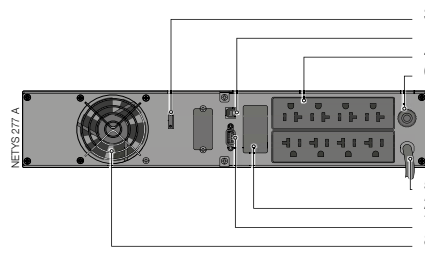
Easy to use

- Wide range of communication protocols for remote monitoring and integration into LAN networks.
- Clear and uncluttered LCD interface, with buzzers that immediately indicate the operating status of the UPS, even for less specialist users.
- Easy connections to the applications (depending on power) via NEMA standard sockets.
- EPO (Emergency Power Off) emergency stop.

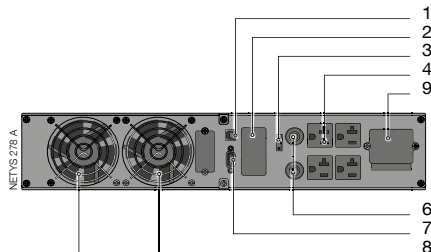
Connections



1000-1500 VA



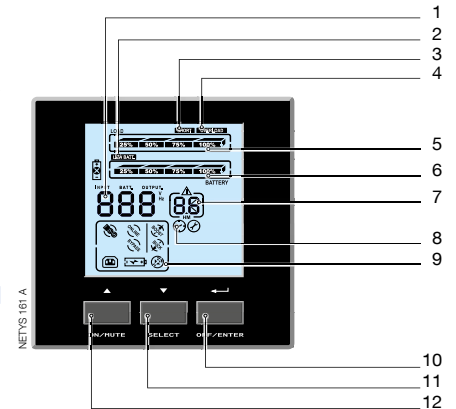
2200 VA



3000 VA

1. USB serial port
2. Slot for optional boards
3. EPO Emergency Power Off
4. UPS output sockets
5. Input
6. AC input protection
7. RS232 serial port
8. Fan/air vents
9. Input/output cords

Control panel



1. Input, output or battery value
2. Low battery
3. Short circuit
4. Overload
5. Load level
6. Battery capacity
7. General Alarm/Setting configuration
8. Backup time
9. UPS status
10. Off/Enter
11. Select/Down
12. On/Buzzer off/Up

Technical data

NETYS RT-120V				
Reference	NRT-U1000-NA	NRT-U1500-NA	NRT-U2200-NA	NRT-U3000-NA
Sn	1000 VA	1500 VA	2200 VA	3000 VA
Pn with battery	900 W	1350 W	1800 W	2700 W
Architecture	online double conversion VFI with input PFC and automatic bypass			
Input/output	1/1			
INPUT				
Rated voltage	120 V			
Voltage tolerance	80 to 150 VAC; up to 55 VAC @ 50% load			
Rated frequency	50/60 Hz with automatic selection			
Power factor	> 0.99			
Mains connection	NEMA 5-15P		NEMA 5-20P	NEMA L5-30P
OUTPUT				
Rated voltage	120 V			
Rated frequency	50/60 Hz ± 3% (± 0.5% in battery mode)			
Efficiency in VFI mode	Energy Star certified			
Crest factor	3:1			
Connections	NEMA 5-15R x4		NEMA 5-15/20R x8	NEMA 5-15/20R x4 L5-30R x1
BATTERIES				
Type	Sealed lead-acid maintenance free - expected life 3/5 years			
Back-up time ⁽¹⁾	8 min			
COMMUNICATION				
Interfaces	RS232 - USB			
Local communication software	Local View			
UPS CABINET				
Dimensions W x D x H	17.24 x 16.53 x 3.46 in / 438 x 410 x 88 mm	17.24 x 20.47 x 3.46 in / 438 x 510 x 88 mm	17.24 x 27.16 x 3.46 in / 438 x 630 x 88 mm	
Weight	28.66 lbs / 13.0 kg	40.78 lbs / 18.5 kg	48.50 lbs / 22.0 kg	66.14 lbs / 30.0 kg
STANDARDS				
Safety	UL 1778; CSA C22.2 107.3			
EMC	FCC part 15 class A; ICES-0003 class A			
Product certification	cULus; Energy Star			
ENVIRONMENT				
Operating ambient temperature	from 32 to 104 °F / 0 to +40 °C (from 59 to 77 °F / 15 to 25 °C for best battery life)			
Storage temperature range	from 5 to 122 °F / -15 to +50 °C (from 59 to 77 °F / 15 to 25 °C for best battery life)			
Relative Humidity	20-90% non-condensing			
Noise level (ISO 7779)	< 50 dB			

(1) @ 75% of rated load PF 0.7.

Standard communication features

- LOCAL VIEW: ideal UPS monitoring and shutdown point-to-point solution for Windows®, Linux and Mac OS X operating systems.



LOGIC 023 A

Communication options

- Dry-contact interface.



Power protection vs. UPS topology

Power quality (PQ) is a significant challenge to those responsible for the management of electrical networks and Data Centre facilities. The widespread use of and increasing dependence upon electronic equipment - such as information technology equipment, power electronics including programmable logic controllers (PLC) and energy-efficient lighting - have led to a complete transformation in the nature of electrical loads. These loads are both the major root causes of - and the major casualties of - power quality problems. Due to their non-linearity, all these loads cause disturbances in the voltage waveform.

Along with advances in technology, the organisation of the worldwide economy has evolved towards globalisation and the profit margins of many activities have seen a tendency to decrease.

The increased sensitivity of the vast majority of processes (industrial, services and even residential) to PQ problems means that the availability of high quality electric power is a crucial factor in terms of developing competitive advantage across every market sector. It's widely understood that mission-critical facilities must run continuously, and, of course, that any power interruption, even for a short time, can disrupt business operations and result in significant financial losses.

Although today's Data Centres are all designed with a high level of inherent redundancy in order to minimise downtime, just as important as the mission-critical applications themselves, however, is the quality of the supplied power.

In order to achieve the delivery of consistent, high quality power, it is vital to understand the nature of PQ disturbances and their causes.

What affects the power quality ?

The most common disturbances that adversely affect the power quality are:

- power sags or outages due to network faults,
- short voltage variations due to the connection of heavy loads or the presence of faults in the network,
- distortion of currents and voltages due to non-linear loads present in the system or in the systems of other utilities, etc.
- flicker due to large intermittent loads,
- asymmetry in the supply voltage system.

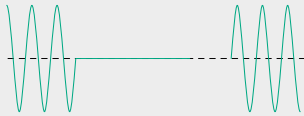
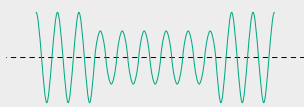
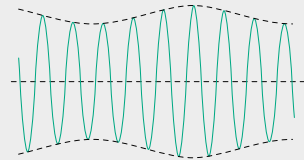
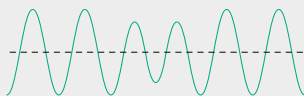
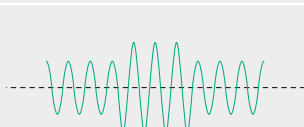
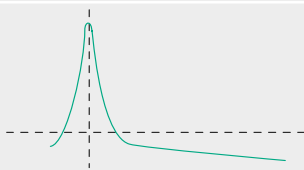
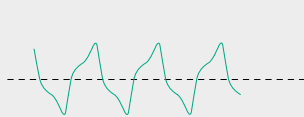
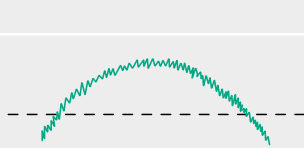
How to ensure the power quality: the UPS

Modern technology offers various solutions to ensure the power quality; static UPS systems are undoubtedly the most versatile and widely used and can be adopted for a very broad range of power ratings.

In response to the need to classify the various types of static UPS systems currently available on the market, the standard EN 62040-3 was developed. It distinguishes between three major topologies, according to the internal schemes adopted:

- VFD "offline"
Voltage and Frequency Dependent - Utilities are normally powered by the mains supply. In the event of power loss the load is automatically switched over to a built-in battery to keep it supplied without interruptions.
- VI "line interactive"
Voltage Independent - The load is supplied by the mains power supply and protected against under and over voltages by an AVR (Automatic Voltage Regulator) voltage stabilizer. If the mains power is lost, the load is instantaneously powered by the battery.
- VFI "online double conversion"
Voltage and Frequency Independent - This is the only UPS working-mode that assures total load protection against all possible mains quality problems. The power is converted twice (AC to DC through a rectifier then DC to AC through an inverter) to provide high quality voltage, stable frequency and protection against power grid disturbances. If the mains power is lost, the load is powered exclusively by the battery. The internal bypass supplies the utilities in case of inverter output voltage anomalies.

Power protection vs. UPS topology

Disturbance type	Wave form	Possibles causes	Consequence	UPS topology		
				VFD	VI	VFI
Voltage interruption		Mainly due to opening and automatic re-closure of protection devices to decommission a faulty network section. The main fault causes are insulation failure, lightning and insulator flashover.	Tripping of protection devices, loss of information and malfunction of data processing equipment.	•	•	•
Voltage sag/dip		Faults on the transmission, in distribution network, or in consumer's installation. Start-up loads.	Malfunction of IT equipment, safety systems, or lighting. Loss of data. System shutdown.	•	•	•
Voltage fluctuation		Transmitters (radio), faulty equipment, ineffective grounding, proximity to EMI/RFI source.	Most consequences are common to under-voltages. System halts, data loss. The visible consequence is the flickering of lighting and screens.	•	•	•
Under voltage		Increase of consumption, voltage reduction to lower the consumption.	System halts, data loss, stop of sensitive equipment	-	•	•
Voltage surge		Atmospheric, surges are due to lightning; Transient, surges are due to insulation faults between phase and earth or rupture of neutral conductor; Switching, surges are due to opening of protection devices, generated by energizing capacitor banks or caused by variations in inductive current.	Data loss, flickering of lighting and screens, stop or damage of sensitive equipment.	-	•	•
Voltage spike/transient		Lightning, ESD, switching of lines or power factor correction capacitors, utility fault clearing.	Destruction of electronic components, data processing errors or data loss.	-	-	•
Harmonic distortion		Modern sources like all non-linear loads such as power electronics equipment including ASDs, switched mode power supplies, data processing equipment, high efficiency lighting.	Increased probability in occurrence of resonance, neutral overload in 3-phase systems, overheating of all cables and equipment, loss of efficiency in electric machines, electromagnetic interference with communication systems, errors in measures when using average reading meters, nuisance tripping of thermal protections.	-	-	•
Noise		Transmitters (radio), faulty equipment, ineffective grounding, proximity to EMI/RFI source.	Disturbances on sensitive electronic equipment, usually not destructive. May cause data loss and data processing errors.	-	-	•
Frequency variation		Unstable operating of the generator, unstable frequency of the utility power system.	System halts, data loss.	-	-	•
Notching		Fast switching of power components (diodes, SCR, etc.), rapid variation in the load current (welding machines, motors, lasers, capacitor banks, etc.).	System halts, data loss.	-	-	•

Socomec: our innovations supporting your energy performance

1 independent manufacturer

3,200 employees
worldwide

10 % of sales revenue
dedicated to R&D

400 experts
dedicated to service provision

Your power management expert



POWER
SWITCHING



POWER
MONITORING



POWER
CONVERSION



EXPERT
SERVICES

The specialist for critical applications

- Control, command of LV facilities
- Safety of persons and assets
- Measurement of electrical parameters
- Energy management
- Energy quality
- Energy availability
- Energy storage
- Prevention and repairs
- Measurement and analysis
- Optimisation
- Consultancy, commissioning and training

A worldwide presence

8 production sites

- France (x3)
- Italy
- Tunisia
- India
- China (x2)

27 subsidiaries

- Australia • Belgium • China • France
- Germany • India • Italy • Netherlands
- Poland • Romania • Singapore
- Slovenia • Spain • Switzerland • Thailand
- Tunisia • Turkey • UK • USA

80 countries

where our brand is distributed

HEAD OFFICE

SOCOMEK GROUP

SAS SOCOMEK capital 10633100 €
R.C.S. Strasbourg B 548 500 149
B.P. 60010 - 1, rue de Westhouse
F-67235 Benfeld Cedex
Tel. +33 3 88 57 41 41 - Fax -33 3 88 57 78 78
info.scp.isd@socomec.com

YOUR DISTRIBUTOR / PARTNER

www.socomec.us



ENERGY
SPECIALIST
SINCE 1922

socomec
Innovative Power Solutions