



Green Power 2.0

Modulys GP

Uninterruptible power supply 25 to 200 kVA
Parallel systems up to 600 kVA



The commitments of Socomec to respect the environment

As part of its environmental policy, Socomec is committed to:

- Develop innovating solutions primarily focused on energy efficiency to help its customer in the design of less energy-consuming, better managed and eco-friendly installations.
- Diversify its product offer in the renewable energy and energy efficiency sectors,
- Minimize the environmental impact of its industrial activities through the progressive ISO 14001 certification of its production sites,
- Minimize at the preliminary design stage the environmental impacts of its products taking into account their whole life cycle,
- Provide his customers with reliable data on the environmental performance of the products.



Socomec is member of :



Environment and sustainable development commissions



■ Representative product

Reference product

Modulys GP 200kVA/kW from Green Power 2.0 range with commercial reference M4-S-200-82-0.

Product family	Configuration	Power kVA/kW	Dimensions	Performance classification	Power factor	Acoustic noise
Modulys GP	Modular UPS with Bypass	200/200	600 x 890 x 1975	VFI-SS-111	<0.999	<55dBA

Functional Unit

To protect the load of 200 kW against input power failure during 15 years and switch to the energy storage system to avoid power outage.

■ Material and substances

Material declaration of the reference product according IEC 62474

Total weight of reference product: 452 kg

For the Modulys GP 200kVA/kW – without batteries

Metals, % weight		Plastics, % weight		Others, % weight	
Other ferrous alloys – non stainless steels	53.3%	Other Thermoplastics	5.5%	Others Organics	5.4%
Aluminium and its alloys	17.7%	Other plastics	2.6%	Others Inorganics	0.7%
Copper and its alloys	13.7%	PVC	<0.1%	Ceramics and Glass	0.4%
Other non-ferrous metals and alloys	0.3%				
Zinc and its alloys	0.3%				
Stainless steels	<0.1%				
Precious Metals	<0.1%				
Nickel and its alloys	<0.1%				

Mass of single products: from 296 to 452 kg depending on customer configuration

Mass of parallel system: up to 1356 kg

Estimated content of recycled materials: 26.9%.

Substances management

Socomec is leading a program to limit the use of hazardous substances in the design of new products and to monitor the presence of substances of concern in its supplies to anticipate future use restrictions.



Although the ROHS directive 2011/65/EU does not yet require UPS to be compliant, product references covered by this PEP meet the requirements of the RoHS Directive on the restriction of substances such as lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ethers (PBDEs).



To the best of our knowledge at the publication date of this document, none of the substance of the candidate list to authorization (SVHC) of the REACH 1907/2006 regulation has been found in the references covered by this PEP

■ Manufacturing



The products covered by this PEP are manufactured in Isola Vicentina (Italy) production site whose environmental management system has been ISO 14001 certified. Impacts on the environment are reduced by optimizing its energy consumption and by practicing a rigorous waste management.

■ Distribution

The sizing of the packaging has been optimized to ensure the best possible protection of the product at the lowest possible volume in order to reduce transport impact.

The packaging is mainly made of: wood pallet (13 kg), cardboard (10 kg), plastic (0,3 kg), steel screws (0,1 kg)
No reconditioning is needed for this product.

■ Installation

Environmental impacts related to the connection of the product to the electrical installation are not significant, except impacts from packaging waste.

■ Use phase

Consumption scenario in on-line mode (VFI)

The consumption scenario and the total energy consumption calculation comply with the Energy Star Program requirements, specification for UPS version 1.0 :

http://www.energystar.gov/index.cfm?c=new_specs.uninterruptible_power_supplies

Consumption scenario

Load (%)	25%	50%	75%	100%
Proportion of time spent a specified load (%)	25%	50%	25%	0

Total energy consumption during 15 years

Product reference	Representative product 200 kW/KVA
Total energy consumption (kWh)	538740
Average UPS efficiency	95.85%

Maintenance

It is recommended to carry out periodic specialized maintenance in order to keep the equipment at the maximum level of efficiency and to avoid the installation being out of service with possible damage and risks.

Consumables

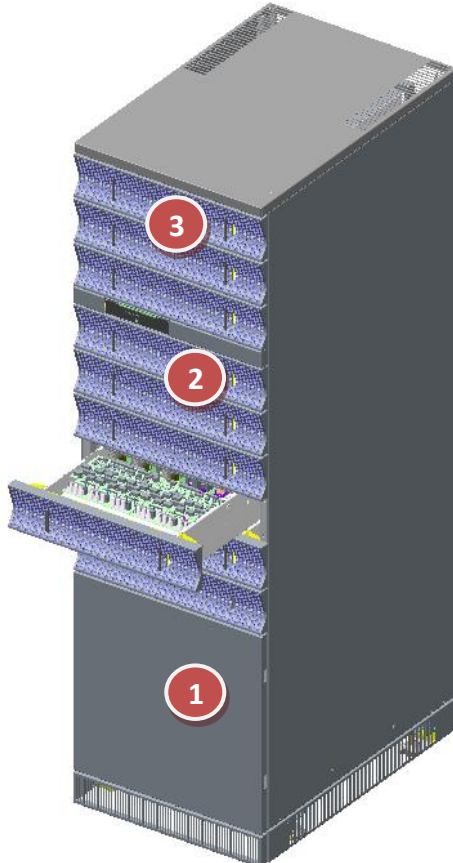
The product does not require consumables




■ End of life

End of life treatment

During dismantling, some parts could constitute a safety hazard for treatment operators and damage environment. See below the location of such components that need to be dismantled and oriented towards appropriate end of life facilities according to the applicable local legislation.

Maintenance and disassembly should always be conducted by qualified personnel.



-  ⇒ Electronic cards
⇒ Capacitors
-  ⇒ Electronic cards
-  ⇒ LCD screen
⇒ Electronic cards

Recovery potential of the product according to IEC TR 62635

The total potential value of this product is 72.9%.

This potential value takes into account the material recycling and energy recovery.

■ Environmental impacts

Calculation methodology: life cycle assessment (LCA)



The calculation of the impacts on the environment was made using a life cycle assessment methodology in accordance with the ISO 14040 requirements and with PEP eco passport product category rules. For more details follow the link: www.pep-ecopassport.org. The study was carried out with the version 5.5.0.4 of the software EIME with version database Codde_2015_04. The software is distributed by CODDE which is a subsidiary of BUREAU VERITAS.

This product follows the rules defined in the PSR-0010-ed1.1-EN-2015 10 16: Uninterruptible Power Supplies

Life cycle stages

Step	Geographical representativeness	Scenario			
Manufacturing (M)	Production of electronic components : Asia Production of other components and packaging : Europe Assembly : France	From the raw material extraction to the last Socomec logistic platform, including packaging			
Distribution (D)	Distribution scenario : Europe	From the last Socomec logistic platform to the final customer			
Installation (I)	Transport and treatment of packaging wastes : Local	Local road transport of generated wastes to the treatment site, and landfilling			
Use phase (U)	Energy mix : Europe Production of maintenance components : analog to manufacturing phase	Power consumption required during 15 years and maintenance according to consumption scenario described on page 3.			
		Components	Filter capacitor	Fans	Power supply PCB
End Of Life (EOL)	Transport and treatment : Local	Number of replacement	2	3	2
		Road transport from the final customer to the treatment sites.			


Environmental indicators of Modulys GP M4-S-200-82-0.

The following impacts have been calculated to best represent geographically and technologically each step of the life cycle.

Indicators	Unit	Total impact	M	D	I	U	EOL
Contribution to global warming	3,21E+05	1,94E+03	7,87E+01	0*	3,19E+05	5,42E+01	5,42E+01
Contribution to ozone layer depletion	7,77E-02	2,38E-04	0*	0*	7,75E-02	0*	0*
Contribution to the soil and water acidification	2,41E+03	7,31E+00	3,54E-01	0*	2,41E+03	0*	0*
Contribution to water eutrophication	9,15E+01	8,00E-01	8,13E-02	1,35E-02	9,04E+01	2,35E-01	2,35E-01
Contribution to photochemical ozone formation	1,14E+02	6,19E-01	2,51E-02	0*	1,14E+02	1,61E-02	1,61E-02
Contribution to the depletion of abiotic resources - elements	3,54E-01	1,72E-01	0*	0*	1,83E-01	0*	0*
Contribution to the depletion of abiotic resources - fossil fuels	3,31E+06	2,45E+04	1,11E+03	0*	3,28E+06	7,74E+02	7,74E+02
Contribution to water pollution	1,36E+07	1,37E+05	1,29E+04	0*	1,34E+07	6,12E+03	6,12E+03
Contribution to air pollution	1,42E+07	5,21E+05	3,23E+03	0*	1,37E+07	6,43E+03	6,43E+03
Use of renewable primary energy (excl. raw materials)	4,62E+05	9,39E+02	0*	0*	4,61E+05	0*	0*
Use of renewable primary energy used as raw materials	3,20E+02	3,20E+02	0*	0*	0*	0*	0*
Total use of renewable primary energy resources	4,63E+05	1,26E+03	0*	0*	4,61E+05	0*	0*
Use of non-renewable primary energy (excl. raw materials)	5,09E+06	5,55E+04	1,05E+03	0*	5,03E+06	5,60E+02	5,60E+02
Use of non-renewable primary energy used as raw materials	1,39E+03	1,30E+03	0*	0*	0*	0*	0*
Total use of non-renewable primary energy resources	5,09E+06	5,68E+04	1,05E+03	0*	5,03E+06	5,60E+02	5,60E+02

Use of secondary materials	1,39E+02	1,38E+02	0*	0*	0*	0*	0*
Use of renewable secondary fuels	0,00E+00	0*	0*	0*	0*	0*	0*
Use of non-renewable secondary fuels	0,00E+00	0*	0*	0*	0*	0*	0*
Net use of fresh water	8,62E+02	2,73E+01	0*	0*	8,35E+02	0*	0*
Hazardous waste disposed of	8,32E+03	7,75E+03	0*	0*	5,75E+02	0*	0*
Non-hazardous waste disposed of	1,19E+06	1,91E+03	0*	0*	1,19E+06	5,05E+02	5,05E+02
Radioactive waste disposed of	9,73E+02	1,56E+00	0*	0*	9,71E+02	0*	0*
Components for reuse	0,00E+00	0*	0*	0*	0*	0*	0*
Materials for recycling	0,00E+00	0*	0*	0*	0*	0*	0*
Materials for energy recovery	0,00E+00	0*	0*	0*	0*	0*	0*
Exported energy	0,00E+00	0*	0*	0*	0*	0*	0*
Total use of primary energy during the life cycle	5,56E+06	5,80E+04	1,06E+03	0*	5,50E+06	5,75E+02	5,75E+02

NB : 0* means that this impact either represents less than 0.01% of the total life cycle of the reference flow, or has no impact (in the case where the total impact is zero).

Registration number : SOCO-00002-V01.01-EN	Drafting Rules : PCR-ed3-FR-2015 04 02 Supplemented by « PSR-0010-ed1.1-EN-2015 10 16 »
Verifier accreditation number : VH12	Information and reference documents : www.pep-ecopassport.org
Date of issue : 06-2017	Validity period : 5 years
Independant verification of the declaration and data, in compliance with ISO 14025 : 2010	
Internal : <input checked="" type="checkbox"/>	External : <input type="checkbox"/>
The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN)	
PEP are compliant with XP C08-100-1 :2014	
The elements of the present PEP cannot be compared with elements from another program	
Document in compliance with ISO 14025: 2010 « Environmental labels and declarations. Type III environmental declarations »	

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