

Product Environmental Profile



MODULYS XL

Uninterruptible Power Supply
from 200 to 4800kVA / kW



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 ecofriendly 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



■ Product information

Modulys XL presentation

MODULYS XL concept covers a wide range of solutions, based on 3 standardized bricks

- **POWER HUB :** Reference **3XLxH12-xxxxxxx (*)**
- **POWER SLOT :** Reference **3XL-SL-200-00-x (*)**
- **POWER MODULE :** References **3XL-PI-200-0xx0 (*)**

(*) where “x” may be replace by alphanumerical characters, depending on the required configuration and included options

Solutions covered by the PEP

MODULYS XL concept allows UPS installations to be extended in power (hot-scalable) by adjusting the modules present into the system as per the need evolves.

This PEP considers the worst case: each installed POWER SLOT is equipped with a POWER MODULE

		Quantities of bricks for each solution		
		POWER HUB	POWER SLOT	POWER MODULE
Solution	Description			
Solution 1	MODULYS XL 400 kVA/kW	1	2	2
Solution 2	MODULYS XL 600 kVA/kW		3	3
Solution 3	MODULYS XL 800 kVA/kW		4	4
Solution 4	MODULYS XL 1000 kVA/kW		5	5
Solution 5	MODULYS XL 1200 kVA/kW		6	6

SOLUTION	Configuration	Performance classification (EN/IEC 62040-3)	Power kVA/kW	Dimensions W x D x H	Acoustic noise level	Power factor
MODULYS XL 400 kVA/kW	Modular UPS with centralised bypass	VFI-SS-111	400/400	2340 x 975 x 2120	≤75dBA	> 0.99
MODULYS XL 600 kVA/kW			600/600	2890 x 975 x 2120		
MODULYS XL 800 kVA/kW			800/800	3440 x 975 x 2120		
MODULYS XL 1000 kVA/kW			1000/1000	3990 x 975 x 2120		
MODULYS XL 1200 kVA/kW			1200/1200	4540 x 975 x 2120		

Functional unit

To protect the load (rated power according to the chosen solution) against input power failure during 15 years and switch to the energy storage system to avoid power outage.

Reference product

In regards to the number of possible configurations, this PEP details a referential solution, fully equipped and composed by the following bricks:

Description	References and quantities of bricks for each solution		
	POWER HUB	POWER SLOT	POWER MODULE
	3XL-H12-D-000-0	3XL-SL-200-00-0	3XL-PI-200-00-0
MODULYS XL 1000kVA	1	5	5

Material and substances

Declaration of the constitutive materials according to IEC 62474

Metals, % weight		Plastics, % weight		Others, % weight	
Other Ferrous alloys, non-stainless steels	53,3%	Others thermoplastics	4,3%	Others Organics	15,0%
Copper and its alloys	15,5%	Other plastics	1,4%	Ceramics and Glass	0,4%
Aluminium and its alloys	9,4%			Others Inorganics	0,4%
Stainless steel	0,16%				
Nickel and its alloys	0,12				
Zinc and its alloys	<0,1%				
Other non-ferrous metals and alloys	<0,1%				
Precious metals	<0,1%				

The estimated content of recycled materials is 23,8,1%, based on a Life Cycle Analysis with EIME software which is a software distributed by LCIE, a subsidiary of Bureau Veritas.

Total mass of the reference product without batteries: 4465 kg.

Packaging is made of PEBD film (12,5kg), wood (509kg), cardboard (150 kg), galvanized sheet (22,5kg).

Other products

Solution	Designation	Total weight kg	Metals, % weight	Plastics, % weight	Others, % weight
Solution 1	MODULYS XL 400kVA	2402	79,8	5,8	14,4
Solution 2	MODULYS XL 600kVA	3089	79,2	5,7	15,1
Solution 3	MODULYS XL 800kVA	3776	78,8	5,7	15,5
Solution 4	MODULYS XL 1000kVA	4465	78,5	5,7	15,8
Solution 5	MODULYS XL 1200kVA	5152	78,5	5,7	15,9

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.



Directive 2011/65/EU : 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), polybrominated diphenyl ethers (PBDEs) and phthalates (DIBP, DEHP, BBP, DBP).



To the best of our knowledge, based on the supplier declarations, at the publication date of this document, the product do not contain any other SVHC in a concentration above 0,1% per weight.

■ Manufacturing



The products covered by this PEP are manufactured on the 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.



The products covered by this PEP are manufactured in France in a production site with ISO 50001 certification. The site is committed in a roadmap to reduce its energy consumptions

■ Distribution

As part of its distribution policy aiming to respect the environment, Socomec is in favor of groupage transports and ISO14001 certified logistic partners.

■ Installation

The installation stage consists in connecting the product to the existing electrical installation. The installation does not generate any significant impacts on the environment, except impacts from packaging waste.

■ Use phase

Electrical consumption

The energy efficiency performances taken into account to define energy consumption were measured in accordance with the requirements of standard EN / IEC 62040-3, referring to the methods of measuring of the UPS performances.

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

Total energy consumption during 15 years

Solution	Total energy consumption	Efficiency
400 kVA/kW	995 624 kWh	Up to 96,6% on referenced resistive load – according to IEC 62040-3 standard
600 kVA/kW	1 474 876 kWh	
800 kVA/kW	1 948 865 kWh	
1000 kVA/kW	2 418 361 kWh	
1200 kVA/kW	2 902 033 kWh	

Care and 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/risks

Typical parts which are subject to maintenance:

Components	Fans	Capacitors	Electronic power supplies
Number of replacements	1	1	1

Consumables

The product does not require consumables.

■ End of life

Recovery potential of the product according to IEC TR 62635

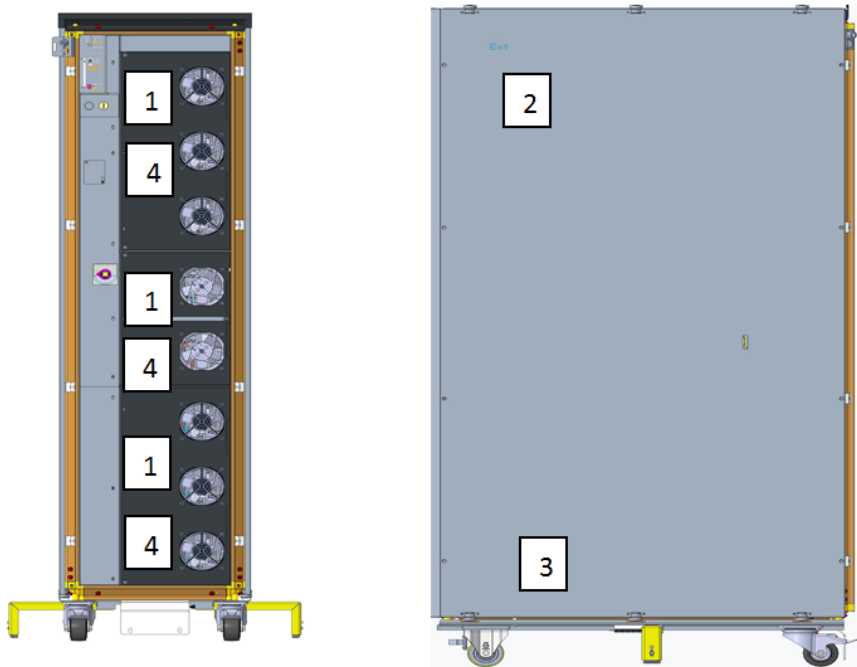
The total potential value of this product is **84,8%**.
This potential value takes into account the material recycling and energy recovery

Note: Maintenance and disassembly should always be conducted by qualified personnel.

End of life treatment

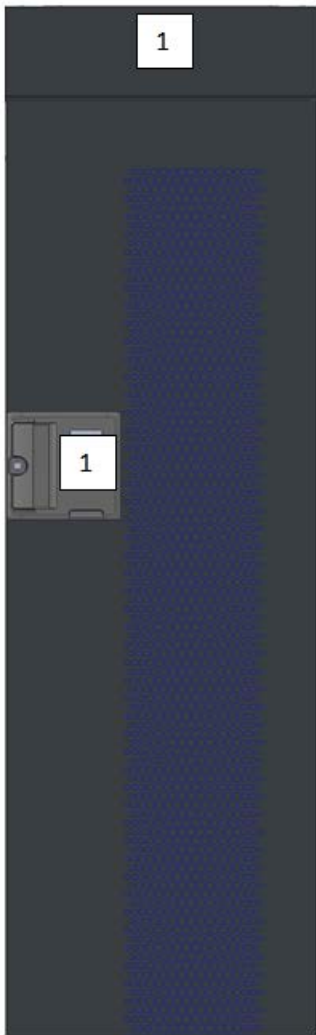
The following parts require specific care and selective treatment in accordance with Annex VII of the WEEE Directive 2012/19/EU - Waste of electrical and electronic equipment.

POWER MODULE

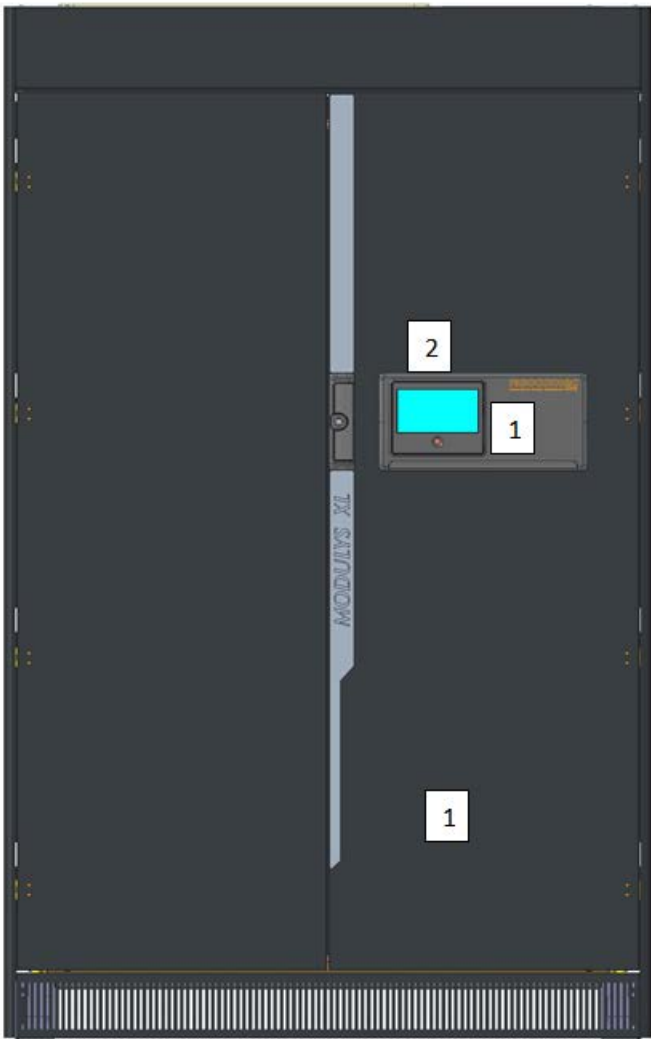


Risk type	Power module
Potential safety hazard for operators	1. Chemical capacitor – 8.5 kg 2. Polypropylene capacitor C10 – 1 kg 3. Polypropylene capacitor C30 – 9 kg
Necessity of a selective treatment	1. Chemical capacitor – 8.5 kg 2. Polypropylene capacitor C10 – 1 kg 3. Polypropylene capacitor C30 – 9 kg 4. Printed circuit boards – 2.2 kg

POWER SLOT



POWER HUB



Risk type	Power slot	Power Hub
Potential safety hazard for operators		<u>2</u> LCD screen
Necessity of a selective treatment	<u>1</u> Printed circuit boards – 0.13 kg	<u>1</u> Printed circuit boards – 2.9 kg

■ Additional information



This environmental declaration lists the information required in the Annex A and B (substances: criterion 1) of IEC 62040-4 (Edition 1.0 2013-04) and EN 62040-4:2013 (2014-03).

■ 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

This study was carried out with the version 5.8.1 of the software EIME with version database CODDE_2018_11. 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

The whole life cycle has been taken into account:

Step	Geographical representativeness	Scenario
Manufacturing (M)	Production of electronic components : Europe Production of other components and packaging : Europe Assembly : France (Huttenheim) Last logistic platform France (Huttenheim)	From the raw material extraction to the last Socomec logistic platform, including packaging Waste generated during manufacturing phase are taken into account.
Distribution (D)	Distribution scenario : Europe	From the last Socomec logistic platform to the final customer. No product reconditioning.
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 scenario according to consumption scenario described above.
End Of Life (EOL)	Transport and treatment : Local	Road transport of 1000 km from the final customer to the treatment sites. End of life treatment.

Environmental impacts

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

Indicators

Indicateurs	Unité	Reference product Solution 4 -1000 kVA						Total impact			
		M	D	I	U	EOL	Total impact	Solution 1 400kVA	Solution 2 600kVA	Solution 3 800kVA	Solution 5 1200kVA
Contribution to global warming	kg CO ₂ éq.	1,66E+04	2,38E+03	1,53E+02	1,19E+06	8,46E+02	1,21E+06	4,98E+05	7,36E+05	9,72E+05	1,45E+06
Contribution to ozone layer depletion	kg CFC-11 éq.	1,53E-03	0*	0*	7,77E-02	1,26E-05	7,92E-02	3,27E-02	4,82E-02	6,36E-02	9,46E-02
Contribution to the soil and water acidification	kg SO ₂ éq.	8,73E+01	1,07E+01	6,28E-01	4,97E+03	3,48E+00	5,07E+03	2,09E+03	3,09E+03	4,07E+03	6,06E+03
Contribution to water eutrophication	kg (PO ₄) ³⁻ éq.	1,29E+01	2,46E+00	4,33E-01	3,01E+02	2,40E+00	3,19E+02	1,33E+02	1,95E+02	2,56E+02	3,80E+02
Contribution to photochemical ozone formation	kg C ₂ H ₄ éq.	8,38E+00	7,59E-01	4,69E-02	2,75E+02	2,60E-01	2,84E+02	1,17E+02	1,73E+02	2,28E+02	3,39E+02
Contribution to the depletion of abiotic resources - elements	kg Sb éq.	1,88E+00	0*	0*	1,35E-01	0*	2,01E+00	1,15E+00	1,44E+00	1,72E+00	2,30E+00
Contribution to the depletion of abiotic resources - fossil fuels	MJ	1,53E+05	3,34E+04	1,78E+03	1,35E+07	9,89E+03	1,37E+07	5,64E+06	8,34E+06	1,10E+07	1,64E+07
Contribution to water pollution	m ³	1,88E+06	3,91E+05	2,08E+04	4,92E+07	1,15E+05	5,16E+07	2,15E+07	3,15E+07	4,15E+07	6,15E+07
Contribution to air pollution	m ³	5,41E+06	9,75E+04	1,27E+04	5,14E+07	7,06E+04	5,70E+07	2,47E+07	3,54E+07	4,61E+07	6,76E+07
Use of renewable primary energy (excl. raw materials)	MJ	6,17E+03	0*	0*	3,03E+06	0*	3,03E+06	1,24E+06	1,84E+06	2,43E+06	3,62E+06
Use of renewable primary energy used as raw materials	MJ	1,42E+04	0*	0*	0*	0*	1,43E+04	7,05E+03	9,48E+03	1,19E+04	1,68E+04
Total use of renewable primary energy resources	MJ	2,04E+04	0*	0*	3,03E+06	0*	3,05E+06	1,25E+06	1,85E+06	2,44E+06	3,64E+06
Use of non-renewable primary energy (excl. raw materials)	MJ	6,44E+05	3,36E+04	0*	2,08E+07	1,03E+04	2,15E+07	8,85E+06	1,31E+07	1,72E+07	2,56E+07

Indicateurs	Unité	Reference product Solution 4 -1000 kVA						Total impact			
		F	D	I	U	FDV	Impact total	Solution 1 400kVA	Solution 2 600kVA	Solution 3 800kVA	Solution 5 1200kVA
Use of non-renewable primary energy used as raw materials	MJ	8,99E+03	0*	0*	0*	0*	9,27E+03	5,00E+03	6,43E+03	7,85E+03	1,07E+04
Total use of non-renewable primary energy resources	MJ	6,53E+05	3,36E+04	0*	2,08E+07	1,03E+04	2,15E+07	8,85E+06	1,31E+07	1,72E+07	2,56E+07
Use of secondary materials	kg	1,27E+03	0*	0*	0*	0*	1,28E+03	6,59E+02	8,66E+02	1,07E+03	1,49E+03
Use of renewable secondary fuels	MJ	0*	0*	0*	0*	0*	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels	MJ	0*	0*	0*	0*	0*	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water	m³	2,72E+03	0*	0*	4,32E+06	0*	4,32E+06	1,77E+06	2,62E+06	3,46E+06	5,16E+06
Hazardous waste disposed of	kg	8,77E+04	0*	0*	2,61E+03	0*	9,03E+04	6,55E+04	7,37E+04	8,20E+04	9,85E+04
Non-hazardous waste disposed of	kg	1,36E+04	0*	7,79E+02	4,44E+06	4,32E+03	4,46E+06	1,83E+06	2,71E+06	3,58E+06	5,33E+06
Radioactive waste disposed of	kg	9,83E+00	0*	0*	2,97E+03	0*	2,98E+03	1,22E+03	1,81E+03	2,39E+03	3,56E+03
Components for reuse	kg	0*	0*	0*	0*	0*	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	2,68E-01	0*	0*	0*	0*	3,19E-01	1,54E-01	2,09E-01	2,64E-01	3,74E-01
Materials for energy recovery	kg	0*	0*	0*	0*	0*	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ par vecteur énergétique	0*	0*	0*	0*	0*	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of primary energy during the life cycle	MJ	6,74E+05	3,36E+04	0*	2,38E+07	1,05E+04	2,45E+07	1,01E+07	1,49E+07	1,97E+07	2,93E+07

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).

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Verifier accreditation number : VH12	Information and reference documents : www.pep-ecopassport.org
Date of issue : 08-2020	Validity period : 5 years
Independant verification of the declaration and data, in compliance with ISO 14025 : 2010	
Internal : ☒	External : ☐
The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN)	
PEP are compliant with XP C08-100-1 :2016	
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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