

Product Environmental Profile



ITYS

ITYS PRO 20kVA

Uninterruptible power supply up to 20kVA



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



■ Representative product

Reference product

The representative product is the *ITYS PRO 20kVA* with commercial reference ITYP320T00T.

Product	Input dependency characteristics	Configuration	Performance classification	Power kVA/kW	Dimensions	Acoustic noise	Power factor
<i>ITYS PRO 20kVA</i>	VFI monomode	online double conversion	VFI-SS-111	20/18	1385 x 370 x 780	≤61dBA	0.9

Functional unit

To protect the load of 20 kW against input power failure during 15 years and switch to the energy storage system to avoid power outage.

■ Material and substances

Declaration of the constitutive materials according to IEC 62474

Total mass of reference product (including packaging): 235 kg

Mass of the packaging (wooden pallet, cardboard and PE film): 25 kg

For the *ITYS PRO 20kVA – without batteries*

Metals, % weight		Plastics, % weight		Others, % weight	
Other ferrous alloys – non stainless	69.3%	Other plastics	2.7%	Others Organics	11.3%
Aluminium and its alloys	9.1%	Other Thermoplastics	1.6%	Ceramics and Glass	1.1%
Copper and its alloys	3.9%	PVC	<0.1%	Others Inorganics	0.8%
Other non-ferrous metals and alloys	0.2%				
Precious Metals	<0.1%				
Nickel and its alloys	<0.1%				
Stainless steels	<0.1%				
Zinc and its alloys	<0.1%				

The estimated content of recycled materials is 26.7%, based on a Life Cycle Analysis model with EIME software which is a software distributed by CODDE, a subsidiary of Bureau Veritas.

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.



ROHS directive 2011/65/EC compliance: although the majority of Socomec products are outside the scope of the ROHS directives, a ROHS compliance process has been in progress on a voluntary basis since 2006. 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).



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

■ Manufacturing



The products covered by this PEP are manufactured on the SUE (China) 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

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

The packaging is mainly made of : wood pallet (15 kg), cardboard (9.7kg), plastic (0.1kg).

No reconditioning is needed for this product.

■ 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

Consumption scenario in on-line mode (VFI)

Use phase scenario: European energy mix

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

Total energy consumption during 15 years

Reference product	ITYS PRO 20kVA
Total energy consumption (kWh)	50088
Average UPS efficiency	92.14%

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.

Consumables

The product does not require consumables.

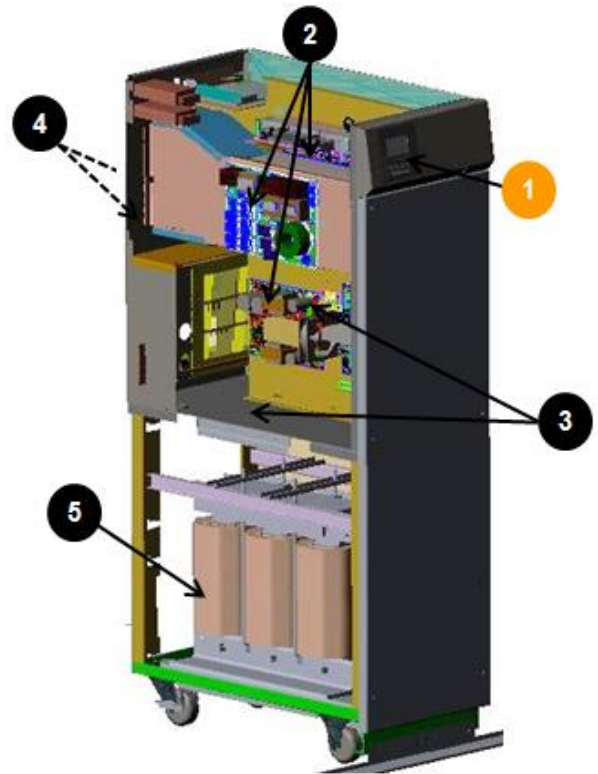
■ End of life

End of life treatment according to IEC TR 62635

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.

Type of component	Item – Part mass	Location
Potential security hazard for operators	LCD screen – 0.08 kg	1
Necessity of a selective treatment	LCD screen – 0.08 kg	1
	PCBA – 20.1 kg	2
	Cables – 3.5 kg	3
	Fans – 2.0 kg	4
	Transformers – 133 kg	5



Recovery potential of the product according to IEC TR 62635

The total potential value of this product is 74.2%.

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

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 5.6 of the software EIME with version database CODDE_2016_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: Uninterruptible Power Supplies.

Life cycle stages

Step	Geographical representativeness	Scenario
Manufacturing (M)	Production of electronic components : China Production of other components and packaging : China Assembly : China Last Socomec logistic platform : Italy	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 a technician for the installation 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								
		<table border="1"> <tr> <td>Components</td> <td>Inverter PCB</td> <td>Fans</td> <td>Bypass PCB</td> <td>Filter PCB</td> </tr> <tr> <td>Number of replacement</td> <td>2</td> <td>3</td> <td>2</td> <td>2</td> </tr> </table>	Components	Inverter PCB	Fans	Bypass PCB	Filter PCB	Number of replacement	2	3
Components	Inverter PCB	Fans	Bypass PCB	Filter PCB						
Number of replacement	2	3	2	2						
End Of Life (EOL)	Transport and treatment : Local	Road transport from the final customer to the treatment sites								

Environmental impacts of ITYS PRO 20kVA

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	kg CO ₂ eq.	3,30E+04	8,82E+02	4,09E+01	1,50E+03	3,05E+04	2,52E+01
Contribution to ozone layer depletion	kg CFC11 eq.	7,76E-03	6,48E-05	0*	1,75E-04	7,52E-03	0*
Contribution to the soil and water acidification	kg SO ₂ eq.	2,37E+02	5,06E+00	1,84E-01	6,16E+00	2,25E+02	9,59E-02
Contribution to water eutrophication	kg (PO ₄) ³⁻ eq.	1,08E+01	4,60E-01	4,23E-02	1,45E+00	8,74E+00	1,09E-01
Contribution to photochemical ozone formation	kg C ₂ H ₄ eq.	1,19E+01	3,86E-01	1,31E-02	7,14E-01	1,07E+01	7,49E-03
Contribution to the depletion of abiotic resources - elements	kg Sb eq.	3,28E-01	8,07E-03	0*	5,00E-05	3,20E-01	0*
Contribution to the depletion of abiotic resources - fossil fuels	MJ	3,44E+05	9,95E+03	5,75E+02	2,09E+04	3,12E+05	3,60E+02
Contribution to water pollution	m ³	1,64E+06	6,03E+04	6,73E+03	2,41E+05	1,33E+06	2,85E+03
Contribution to air pollution	m ³	1,64E+06	1,40E+05	1,68E+03	1,50E+05	1,35E+06	2,99E+03
Use of renewable primary energy (excl. raw materials)	MJ	4,36E+04	2,17E+02	0*	2,43E+01	4,34E+04	6,91E+00
Use of renewable primary energy used as raw materials	MJ	5,39E+02	5,39E+02	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	4,41E+04	7,57E+02	0*	2,43E+01	4,34E+04	6,91E+00
Use of non-renewable primary energy (excl. raw materials)	MJ	5,32E+05	3,03E+04	5,48E+02	1,98E+04	4,81E+05	2,60E+02
Use of non-renewable primary energy used as raw materials	MJ	3,92E+02	2,25E+02	0*	0*	0*	0*
Total use of non-renewable primary energy resources	MJ	5,33E+05	3,05E+04	5,48E+02	1,98E+04	4,82E+05	2,60E+02
Use of secondary materials	kg	7,13E+01	7,03E+01	0*	0*	0*	0*
Use of renewable secondary fuels	MJ	0,00E+00	0*	0*	0*	0*	0*
Use of non-renewable secondary fuels	MJ	0,00E+00	0*	0*	0*	0*	0*
Net use of fresh water	m ³	9,48E+01	7,81E+00	0*	4,37E-01	8,65E+01	2,22E-02
Hazardous waste disposed of	kg	1,58E+03	6,67E+02	0*	0*	9,11E+02	0*
Non-hazardous waste disposed of	kg	1,12E+05	9,52E+02	0*	7,26E+01	1,11E+05	2,35E+02
Radioactive waste disposed of	kg	9,36E+01	5,20E-01	0*	8,21E-02	9,29E+01	0*
Components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*
Materials for recycling	kg	0,00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	0,00E+00	0*	0*	0*	0*	0*
Exported energy	MJ by energy vector	0,00E+00	0*	0*	0*	0*	0*
Total use of primary energy during the life cycle	MJ	5,77E+05	3,13E+04	5,49E+02	1,98E+04	5,25E+05	2,67E+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).

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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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