

Product Environmental Profile

**Power Sinus NG μ PS - Line Interactive UPS -
Single Phase - 3200VA**



SMS'S ENVIRONMENTAL COMMITMENTS

- **Incorporate environmental management into our industrial sites**

Of all Legrand sites worldwide, over 85% are ISO 14001-certified (sites belonging to the Group for more than five years).

- **Offer our customers environmentally friendly solutions**

Develop innovative solutions to help our customers design more energy efficient, better managed and more environmentally friendly installations.


- **Involve the environment in product design and provide informations in compliance with ISO 14025**

Reduce the environmental impact of products over their whole life cycle.

Provide our customers with all relevant information (composition, consumption, end of life, etc.).



REFERENCE PRODUCT

Function	To protect the load of 1.984 Watts against input power failure during 8 years and provide a backup time of 2,5 minutes for 100% of load and a backup time of 150 minutes for a typical application in case of a power outage. Product dimensions is 307x190x484; AxLxP(mm); Monomode VI; redundancy no; power factor = 0,62, location of the manufacturing plant : Brazil; Mass without energy storage system e.g. batteries with packaging : 23 101 g; Mass of energy storage system if incorporated : 11 000 g; Input Dependency Characteristics according to IEC 62040-3 : VFI, monomode.
Reference Product	
	Cat.No 0027872
	Nob. Power Sinus uPS3200Bi 115 NG



PRODUCTS CONCERNED

The environmental data is representative of the following products:

Catalogue Numbers
00027872, 0027873

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■ CONSTITUENT MATERIALS

This Reference Product contains no substances prohibited by the regulations applicable at the time of its introduction to the market.

Total weight of Reference Product		34102 g (with unit packaging)			
Plastics as % of weight		Metals as % of weight		Other as % of weight	
ABS	1.2%	Steel	14.2%	PWB	45.0%
PBT	0.2%	Copper alloys	0.2%	Batteries	32.6%
PVC	0.2%	others metals	<0,1%	Electric cables	1.0%
PA	0.4%			Others electronics components	0.2%
PP	<0.1%			Packaging as % of weight	
				paper	2.6%
				wood	2.2%
				PE	0,2%
Total plastics	1.6%	Total metals	14.4%	Total other and packaging	83.8%

Estimated recycled material content: 28 % by mass.



■ MANUFACTURE

This Reference Product comes from a site that has initiated an environmental certification.



■ DISTRIBUTION

Products are distributed from logistics centres located with a view to optimize transport efficiency. The Reference Product is therefore transported over an average distance of 1033 by road from our warehouse to the local point of distribution into the market Brazil.

Packaging is compliant with european directive 2004/12/EU concerning packaging and packaging waste. At their end of life, its recyclability rate is 98 % (in % of packaging weight).



■ INSTALLATION

For the installation of the product, only standard tools are needed.



■ USE

Under normal conditions of use, this type of Product requires maintenance during the lifetime of the UPS : 1 AC&DC Capacitors of filtering, 1 Fan, 1 battery and 1 Power supply PCB

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END OF LIFE

The product end-of-life factors are taken into account during the design phase. Dismantling and sorting of components or materials is made as easy as possible with a view to recycling or failing that, another form of reuse.

• Recyclability rate:

Calculated using the method described in technical report IEC/TR 62635, the recyclability rate of the product is estimated at 64%. This value is based on data collected from a technological channel operating on an industrial basis. It does not pre-validate the effective use of this channel for the end of life of this product.

Separated into:

- plastic materials (excluding packaging) : 2 %
- metal materials (excluding packaging) : 14 %
- other materials (excluding packaging) : 43 %
- packaging (all types of materials) : 5 %



ENVIRONMENTAL IMPACTS

The evaluation of environmental impacts examines the stages of the Reference Product life cycle: manufacturing, distribution, installation, use and end-of-life. It is representative from products marketed and used in Brazil.

For each phase, the following modelling elements were taken into account:

Manufacture	Materials and components of the product, all transport for the manufacturing, the packaging and the waste generated by the manufacturing.
Distribution	Transport between the last Group distribution centre and an average delivery point in the sales area.
Installation	The end of life of the packaging.
Use	<ul style="list-style-type: none"> • Product category: product with output power $1500\text{ W} < P \leq 5000\text{ W}$, VFI, as described in PSR-0010-ed1.1-EN-2015 10 16 • Use scenario : for a 8 years working life, The average energy efficiency is 95 %. This modelling duration does not constitute a minimum durability requirement. The methodology for the calculation of the electricity consumption is based on the ENERGY STAR® Program Requirements Product Specification for Uninterruptible Power Supplies (UPSs), Eligibility Criteria Version 1.0. Input power factor is = 0.62 and redundancy : UPS that cannot tolerate any failures while maintaining Normal Mode operation. No redundancy. • Energy model: Electricity Mix; Brazil - 2009.
End of life	The default end of life scenario maximizing the impacts.

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SELECTION OF ENVIRONMENTAL IMPACTS

	Total for Life cycle		Raw material and manufacture		Distribution		Installation		Use		End of life	
Global warming	1.74E+03	kg-CO ₂ eq.	2.33E+02	13%	2.83E+00	< 1%	1.03E-01	< 1%	1.51E+03	86%	3.62E+00	< 1%
Ozone depletion	2.45E-04	kg-CFC-11 eq.	4.33E-05	18%	2.01E-06	< 1%	7.52E-10	< 1%	1.99E-04	81%	8.66E-08	< 1%
Acidification of soils and water	1.55E+00	kgSO ₂ eq.	3.19E-01	21%	7.61E-03	< 1%	4.75E-04	< 1%	1.21E+00	78%	1.39E-02	< 1%
Water eutrophication	4.16E-01	kg-PO ₄ ³⁻ eq.	8.06E-02	19%	2.04E-03	< 1%	3.73E-04	< 1%	3.17E-01	76%	1.66E-02	4%
Photochemical ozone formation	3.64E-01	kg-C ₂ H ₄ eq.	5.61E-02	15%	1.65E-04	< 1%	3.40E-05	< 1%	3.07E-01	84%	1.08E-03	< 1%
Depletion of abiotic resources - elements	1.01E-01	kgSb eq.	6.57E-02	65%	5.18E-10	< 1%	4.59E-09	< 1%	3.58E-02	35%	2.26E-07	< 1%
Total use of primary energy	4.71E+04	MJ	4.46E+03	9%	3.50E+01	< 1%	1.33E+00	< 1%	4.25E+04	90%	3.88E+01	< 1%
Net use of fresh water	4.90E+00	m ³	1.82E+00	37%	3.40E-03	< 1%	3.07E-05	< 1%	3.07E+00	63%	3.00E-03	< 1%
Depletion of abiotic resources - fossil fuels	1.92E+04	MJ	3.42E+03	18%	3.57E+01	< 1%	1.44E+00	< 1%	1.57E+04	82%	5.14E+01	< 1%
Water pollution	1.07E+05	m ³	3.46E+04	32%	4.18E+02	< 1%	1.57E+01	< 1%	7.17E+04	67%	4.19E+02	< 1%
Air pollution	1.98E+05	m ³	6.74E+04	34%	9.95E+01	< 1%	9.70E+00	< 1%	1.30E+05	66%	4.10E+02	< 1%

The values of the 27 impacts defined in the PCR-ed3-EN-2015 04 02 are available in the digital database of pep-ecopassport.org website. For products covered by the PEP other than the Reference product, the environmental impacts of each phase of the lifecycle are calculated with

- Manufacturing is proportional to the mass of the batteries,
- Installation, Distribution and End of Life phases are the same value,
- Utilisation phase is proportional to the output power

Registration N°: LGRP-00522-V01.01-EN	Drafting rules: «PEP-PCR-ed3-EN-2015 04 02» Supplemented by «PSR-0010-ed1.1-EN-2015 10 16»
Verifier accreditation N°: VH02	Information and reference documents : www.pep-ecopassport.org
Date of issue: 10-2017	Validity period: 5 years
Independent 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)	
The elements of the present PEP cannot be compared with elements from another program	
Documents in compliance with ISO 14025 : 2010: «Environmental labels and declarations. Type III environmental declarations»	
Environmental data in alignment with EN 15804 : 2012 + A1 : 2013	

