

Product Environmental Profile

Galaxy VS UPS 10-100kW with integrated batteries

10-50kW 208V and 20-100kW 400/480V UPS

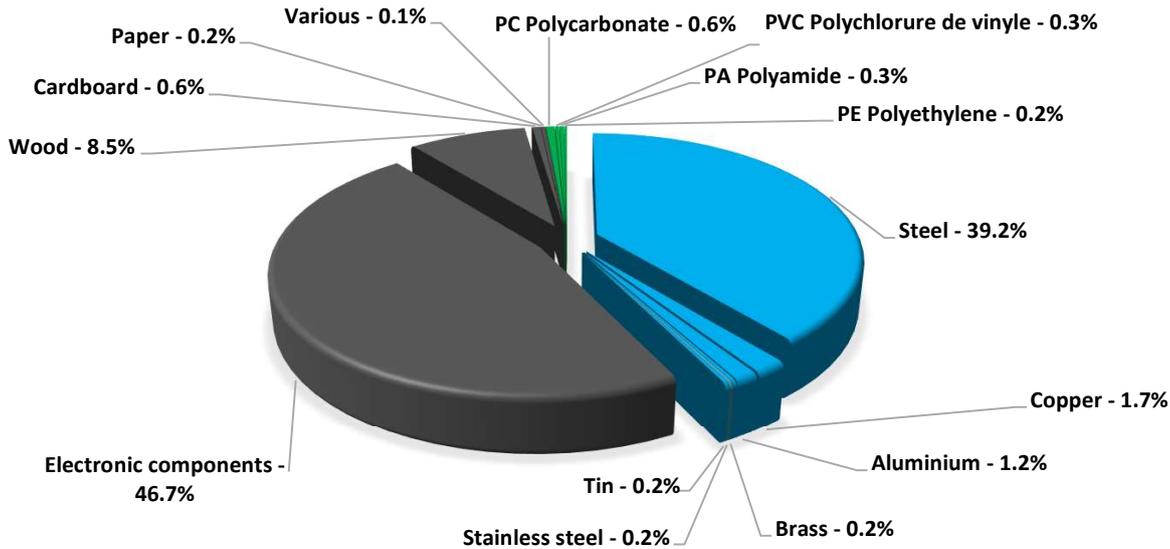


General information

Representative product	Galaxy VS UPS 10-100kW with integrated batteries - GVSUPS50KB4D
Description of the product	Double-conversion UPS ensuring crucial servers, equipment racks, and network devices stay powered and active during outages and brownouts. With industry-leading efficiency in normal operating mode and ECOConversion mode, the Galaxy VS UPS is modular, lightweight and provides full front service access.
Description of the range	10-50kW 208V and 20-100kW 400/480V UPS The environmental impacts of this referenced product are representative of the impacts of the other products of the range which are developed with a similar technology.
Functional unit	To protect the load of 50,000 Watts against input power failure during 15 years and switch to the energy storage system to avoid power outage.

Constituent materials

Reference product mass	478981 g including the product, its packaging and additional elements and accessories
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Plastics	1.4%
Metals	42.7%
Others	55.9%

Substance assessment

Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2011/65/EU of 8 June 2011) and do not contain, or only contain in the authorised proportions, lead, mercury, cadmium, hexavalent chromium or flame retardants (polybrominated biphenyls - PBB, polybrominated diphenyl ethers - PBDE) as mentioned in the Directive

The battery pack(s) within this product range are designed to conform with the requirements of the Battery and Accumulator Directive (European Directive 2006/66/EC of 26 September 2006) and do not contain, or only contain in authorized proportions, the regulated substances lead (Pb), mercury (Hg) and cadmium (Cd) as mentioned in the Directive. Additionally, the non-spillable, valve regulated lead acid batteries used in the battery pack(s) within this product range are certified by their manufacturers as capable of withstanding the IATA/ICAO Vibration and Pressure Differential Test and that at a temperature of 55 degrees Centigrade, there is no free electrolyte to flow from a ruptured or cracked case.

Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website <http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page>

Additional environmental information

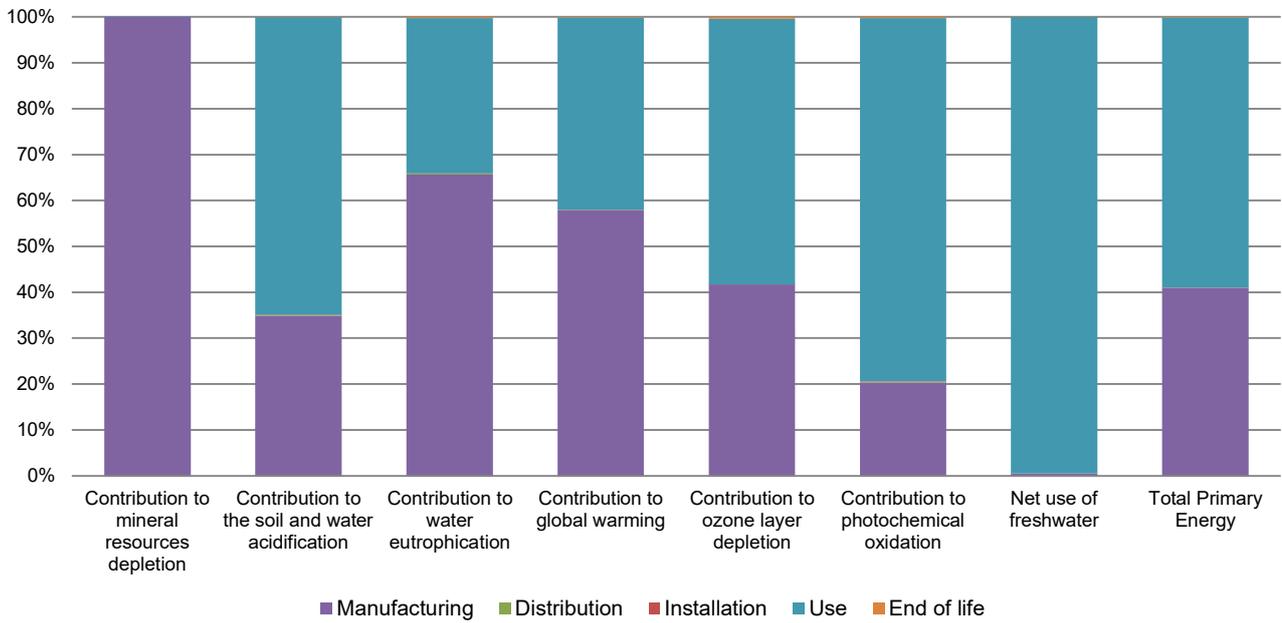
The Galaxy VS UPS 10-100kW with integrated batteries presents the following relevant environmental aspects

Manufacturing	Manufactured at a Schneider Electric production site ISO14001 certified
Distribution	Weight and volume of the packaging optimized, based on the European Union's packaging directive Packaging weight is 40769.4 g, consisting of wood (91%), cardboard and paper (7%) and polyethylene film (2%) Product distribution optimised by setting up local distribution centres
Installation	The Galaxy VS UPS does not require any special installation materials or operations. Installation is to be performed by qualified personnel.
Use	Product maintenance requires monitoring and replacement of components as needed. To align with PSR0010, the power modules are replaced once and the fans are replaced two times. Additionally, it is expected that the dust filter will need to be replaced annually.
End of life	End of life optimized to decrease the amount of waste and allow recovery of the product components and materials This product contains Lithium metal coin batteries (2g), Printed Circuit Boards >10cm ² (6675g) and Electrolytic Capacitors (240g) that should be separated from the stream of waste so as to optimize end-of-life treatment. The location of these components and other recommendations are given in the End of Life Instruction document which is available on the Schneider-Electric Green Premium website http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page Recyclability potential: 68% Based on "ECO'DEEE recyclability and recoverability calculation method" (version V1, 20 Sep. 2008 presented to the French Agency for Environment and Energy Management: ADEME).

Environmental impacts

Reference life time	15 years			
Installation elements	Transport and disposal of packaging are accounted for during installation. No special installation components needed.			
Use scenario	Power consumption conforms to the requirements in PSR0010 where it is modeled to operate at 25% load for 25% of the time, 50% load for 50% of the time and 75% load for 25% of the time. The UPS is also modeled to operate in normal mode (average efficiency of 96.6% and annual use of 7,281.75kWh) 50% of the time and ECOversion mode (average efficiency of 99% and annual use of 2,190kWh) the remaining 50% of the time.			
Geographical representativeness	Europe			
Technological representativeness	Double-conversion UPS ensuring crucial servers, equipment racks, and network devices stay powered and active during outages and brownouts. With industry-leading efficiency in normal operating mode and ECOversion mode, the Galaxy VS UPS is modular, lightweight and provides full front service access.			
Energy model used	Manufacturing	Installation	Use	End of life
	Energy model used: India	Electricity grid mix; AC; consumption mix, at consumer; < 1kV; EU-27	Electricity grid mix; AC; consumption mix, at consumer; < 1kV; EU-27	Electricity grid mix; AC; consumption mix, at consumer; < 1kV; EU-27

Compulsory indicators		Galaxy VS UPS 10-100kW with integrated batteries - GVSUPS50KB4D					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	6.92E+01	6.92E+01	0*	0*	0*	0*
Contribution to the soil and water acidification	kg SO ₂ eq	2.24E+02	7.84E+01	2.82E-01	0*	1.45E+02	2.66E-01
Contribution to water eutrophication	kg PO ₄ ³⁻ eq	2.60E+01	1.70E+01	6.50E-02	1.01E-02	8.77E+00	7.71E-02
Contribution to global warming	kg CO ₂ eq	8.33E+04	4.83E+04	6.18E+01	3.97E+01	3.48E+04	1.58E+02
Contribution to ozone layer depletion	kg CFC11 eq	3.92E-03	1.63E-03	0*	0*	2.27E-03	1.58E-05
Contribution to photochemical oxidation	kg C ₂ H ₄ eq	1.01E+01	2.05E+00	2.01E-02	9.16E-03	7.98E+00	3.07E-02
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	1.27E+05	6.80E+02	0*	0*	1.26E+05	0*
Total Primary Energy	MJ	1.18E+06	4.84E+05	8.74E+02	0*	6.95E+05	1.59E+03



Optional indicators		Galaxy VS UPS 10-100kW with integrated batteries - GVSUPS50KB4D					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	8.35E+05	4.37E+05	8.68E+02	0*	3.95E+05	1.13E+03
Contribution to air pollution	m ³	7.17E+06	5.66E+06	2.63E+03	9.38E+02	1.50E+06	1.53E+04
Contribution to water pollution	m ³	2.24E+06	7.84E+05	1.02E+04	4.49E+02	1.44E+06	1.05E+04
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	2.79E+00	2.79E+00	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	8.98E+04	1.38E+03	0*	0*	8.84E+04	0*
Total use of non-renewable primary energy resources	MJ	1.09E+06	4.83E+05	8.73E+02	0*	6.07E+05	1.59E+03
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	8.91E+04	7.06E+02	0*	0*	8.84E+04	0*
Use of renewable primary energy resources used as raw material	MJ	6.76E+02	6.76E+02	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	1.09E+06	4.82E+05	8.73E+02	0*	6.07E+05	1.59E+03
Use of non renewable primary energy resources used as raw material	MJ	9.17E+02	9.17E+02	0*	0*	0*	0*
Use of non renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*

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Use of renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*
Waste categories	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Hazardous waste disposed	kg	6.68E+04	6.60E+04	0*	0*	1.81E+01	8.25E+02
Non hazardous waste disposed	kg	1.31E+05	1.65E+03	0*	2.97E+01	1.30E+05	3.43E+01
Radioactive waste disposed	kg	8.73E+01	6.70E-01	0*	0*	8.67E+01	1.05E-02
Other environmental information	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	3.34E+02	2.03E+01	0*	1.41E+01	0*	3.00E+02
Components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	1.87E+01	0*	0*	0*	0*	1.87E+01
Exported Energy	MJ	5.81E+01	3.49E+01	0*	2.31E+01	0*	0*

* represents less than 0.01% of the total life cycle of the reference flow

Life cycle assessment performed with EIME version EIME v5.8.1, database version 2016-11 in compliance with ISO14044.

The use phase is the life cycle phase which has the greatest impact on the majority of environmental indicators (based on compulsory indicators).

According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range.

Please note that the values given above are only valid within the context specified and cannot be used directly to draw up the environmental assessment of an installation.

Registration number	ENVPEP2009014_V1	Drafting rules	PCR-ed3-EN-2015 04 02
Date of issue	10/2020	Supplemented by	PSR-0010-ed1.1-EN-2015 10 16
Validity period	5 years	Information and reference documents	www.pep-ecopassport.org
Independent verification of the declaration and data			
Internal	X	External	
The elements of the present PEP cannot be compared with elements from another program.			
Document in compliance with ISO 14021:2016 « Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling) »			

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Published by Schneider Electric

ENVPEP2009014_V1

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10/2020