

Product Environmental Profile

Smart-UPS VT

The Smart-UPS VT products increase total power capacity by using multiple uninterruptible power supplies simultaneously and power the connected equipment with multiple uninterruptible power supplies to increase system redundancy.





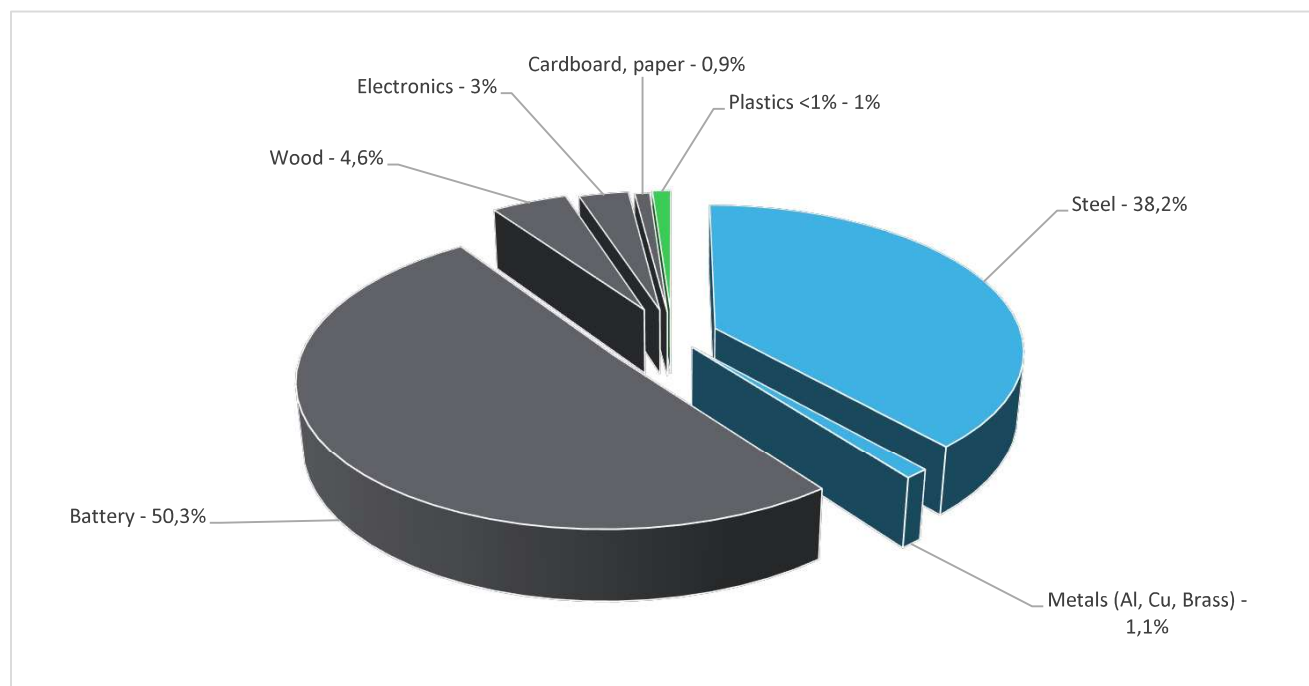
General information

Representative product	Smart-UPS VT - SUVTP10KH4B4S
Description of the product	The Smart-UPS VT products provide power protection for servers, voice / data networks, medical labs, and light industrial applications.
Description of the range	<p>The Smart-UPS VT products increase total power capacity by using multiple uninterruptible power supplies simultaneously and power the connected equipment with multiple uninterruptible power supplies to increase system redundancy.</p> <p>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.</p>
Products Covered	Smart-UPS VT SUVTP(XXX)(Y) where XXX is a number between 8K and 32K, and Y is blank or any combination of letters and numbers.
Functional unit	Protection of a load of 8000 W, against input power failure by providing power protection during 15 years of operation and provide a backup time of 48 minutes in case of a power outage.



Constituent materials

Reference product mass	630000 g	including the product, its packaging and additional elements and accessories
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Plastics	1,1%
Metals	39,3%
Others	58,8%



Substance assessment

Products of this range are designed in conformity with the requirements of the European RoHS Directive 2011/65/EU (RoHS2) and EU Delegated Directive (EU) 2015/863 and do not contain, or only contain in the authorised proportions, lead, mercury, cadmium, hexavalent chromium, flame retardants (polybrominated biphenyls - PBB, polybrominated diphenyl ethers - PBDE) or phthalates (Bis(2-ethylhexyl) phthalate - DEHP, Butyl benzyl phthalate (- BBP, Dibutyl phthalate -DBP, Diisobutyl phthalate - DIBP as mentioned in the Directive

As the products of the range are designed in accordance with the RoHS Directive (European Directive 2002/95/EC of 27 January 2003), they can be incorporated without any restriction in an assembly or an installation subject to this 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 Smart-UPS VT presents the following relevant environmental aspects

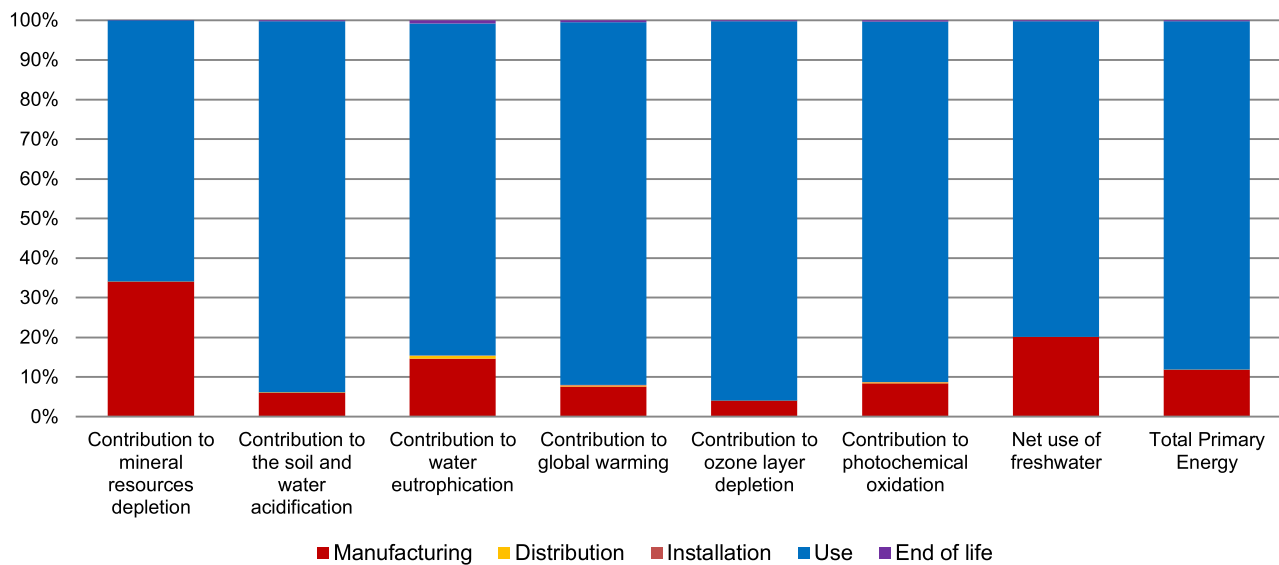
Design	Smart-UPS VT provides up to 96% efficiency even at low load levels. The product design allows quick maintenance in case of failure, leading to higher availability for the load. Designed at a Schneider Electric Design Center that utilizes a design process that conforms to the requirements of the IEC 62430 "Environmentally Conscious Design for Electrical and Electronic Products" standard.
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 36418,2 g, consisting of Cardboard (4154g), Paper (1412g), LDPE (1931), Wood (28920g) Product distribution optimised by setting up local distribution centres
Installation	SUVTP10KH4B4S Smart-UPS VT does not require any special installation materials or operations.
Use	During 15 year life, 16 battery modules containing 128 batteries (319,360g) will be replaced twice at year 5 and 10 plus one power module (47,403g) replacement at mid-life of the UPS.
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 External electrical cables (6002g), printed circuit boards >10cm2 (18803g), Lead acid batteries (319360g), 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 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). Recyclability potential: 72%



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	The weighted average loss is 345.1 W. The life time consumption for 15 years is 45,344 kWh. The Smart UPS VT stays at 100% load 30% of the time, 75% load 40% of the time and 50% load 30% of the time.			
Geographical representativeness	Europe			
Technological representativeness	The means of material production, processing and transport modeled are representative of the technologies used in production.			
Energy model used	Manufacturing	Installation	Use	End of life
	Energy model used: Asia and Europe.	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		Smart-UPS VT - SUVTP10KH4B4S					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	4,41E+00	1,50E+00	0*	0*	2,9E+00	0*
Contribution to the soil and water acidification	kg SO ₂ eq	2,28E+02	1,37E+01	3,71E-01	0*	2,1E+02	3,76E-01
Contribution to water eutrophication	kg PO ₄ ³⁻ eq	1,30E+01	1,91E+00	8,55E-02	1,70E-02	1,1E+01	9,89E-02
Contribution to global warming	kg CO ₂ eq	3,81E+04	2,92E+03	8,13E+01	4,50E+01	3,5E+04	1,78E+02
Contribution to ozone layer depletion	kg CFC11 eq	8,81E-03	3,58E-04	0*	0*	8,43E-03	2,27E-05
Contribution to photochemical oxidation	kg C ₂ H ₄ eq	1,23E+01	1,04E+00	2,65E-02	1,02E-02	1,1E+01	4,50E-02
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	1,38E+02	2,78E+01	0*	0*	1,1E+02	3,37E-01
Total Primary Energy	MJ	8,00E+05	9,43E+04	1,15E+03	0*	7,0E+05	2,35E+03



Optional indicators		Smart-UPS VT - SUVTP10KH4B4S					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	4,24E+05	3,98E+04	1,14E+03	0*	3,8E+05	3,35E+03
Contribution to air pollution	m³	5,14E+06	1,22E+06	3,46E+03	9,67E+02	3,9E+06	2,30E+04
Contribution to water pollution	m³	3,05E+06	6,18E+05	1,34E+04	3,41E+02	2,4E+06	1,97E+04
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	2,22E+02	1,11E+02	0*	0*	1,1E+02	0*
Total use of renewable primary energy resources	MJ	4,30E+04	1,15E+03	0*	0*	4,2E+04	0*
Total use of non-renewable primary energy resources	MJ	7,57E+05	9,31E+04	1,15E+03	0*	6,6E+05	2,34E+03
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	4,10E+04	3,41E+02	0*	0*	4,1E+04	0*
Use of renewable primary energy resources used as raw material	MJ	2,00E+03	8,06E+02	0*	0*	1,2E+03	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	7,48E+05	9,21E+04	1,15E+03	0*	6,5E+05	2,34E+03
Use of non renewable primary energy resources used as raw material	MJ	8,67E+03	9,99E+02	0*	0*	7,7E+03	0*
Use of non renewable secondary fuels	MJ	0,00E+00	0*	0*	0*	0*	0*
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	4,20E+03	9,56E+02	0*	0*	2,1E+03	1,12E+03

Non hazardous waste disposed	kg	1,02E+05	5,15E+02	0*	3,72E+01	1,0E+05	5,43E+01
Radioactive waste disposed	kg	8,23E+01	2,64E-01	0*	0*	8,2E+01	1,54E-02
Other environmental information	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	1,13E+03	3,45E+01	0*	2,78E+00	6,6E+02	4,32E+02
Components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	9,36E+00	2,80E-02	0*	0*	9,32E+00	8,26E-03
Exported Energy	MJ	2,33E+02	3,76E+00	0*	2,52E+01	2,0E+02	0*

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

Life cycle assessment performed with EIME version EIME v5.7.0.2, 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.

The environmental indicators of other products in this family may be proportionally extrapolated, by life cycle phase, based on the ratio of the amount of a key parameter of the product, over the amount of that key parameter within the reference product. Proportionality rules are based on the following key parameters for impacts by lifecycle phase: Manufacturing phase impacts - mass of the lead acid batteries and mass of the product excluding packaging.* Distribution phase impacts - total mass of product (including packaging).

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.

Verifier accreditation N° VH-08 Date of issue 12/2018	Drafting rules	PCR-ed3-EN-2015 04 02
	Supplemented by	PSR-0010-ed1.1-EN-2015 10 16
	Validity period	5 years
Independent verification of the declaration and data, in compliance with ISO 14025 : 2010 Internal X External		
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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