Product Environmental Profile

Smart-UPS Battery Systems

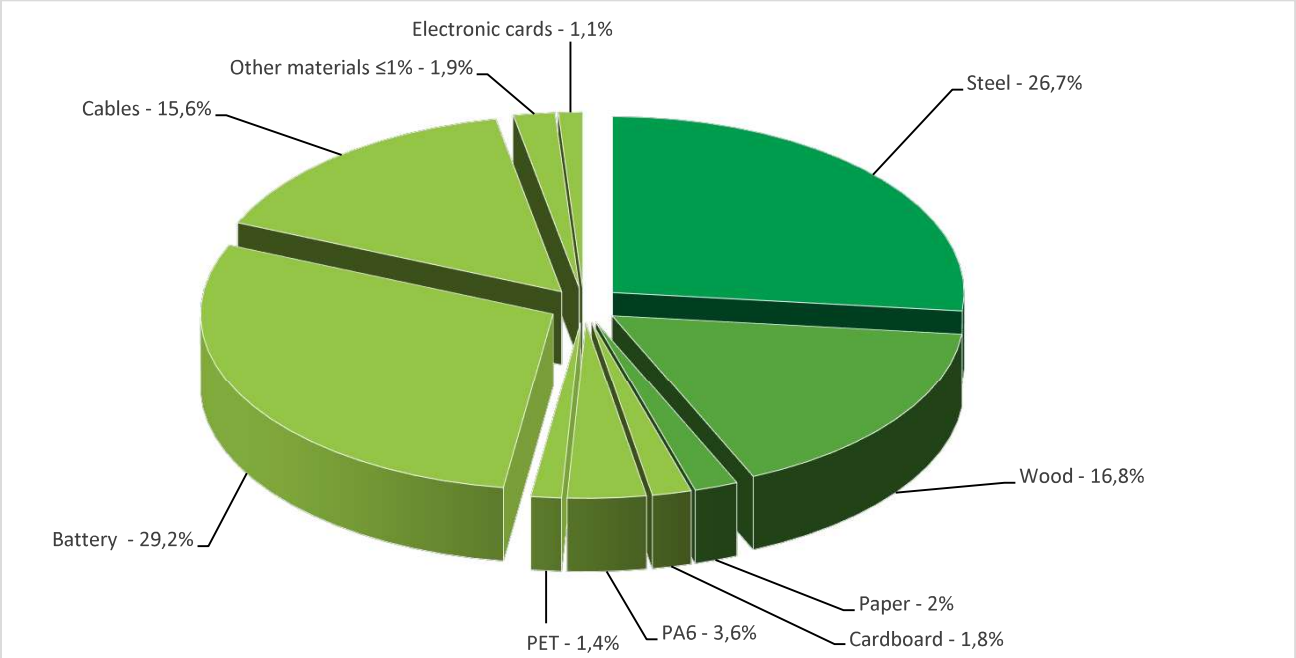
The APC Smart-UPS SRT Battery Pack products protect equipment and critical data from interruptions by supplying reliable, network-grade back up power reliably and efficiently to the APC Smart-UPS products.

General information

Representative product	Smart-UPS Battery Systems -SRT192BP
Description of the product	The Smart-UPS Battery Systems provides, additional back up power (time) to Smart-UPS for servers, voice / data networks, medical labs, and light industrial applications.
Description of the range	The APC Smart-UPS SRT Battery Pack products protect equipment and critical data from interruptions by supplying reliable, network-grade back up power reliably and efficiently to the APC Smart-UPS products. 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.
Products Covered	BR24BP(X), BX1500BP, DLRT192RM(X), FJRT192(X), HT(X), IBMR192RTBP3U(X), NM(X), RWRT192XLBP, SBATTBLK, SMX(X), SMV(X), SRC(X)LMP(X), SRT(X), SRV(X) SU(X), SUM(X), SURT(X), TDBATT, UXBP(X) where (X) are the product sub-categories
Functional unit	Provision of 1920 Battery Volt-Amp-Hours of power protection during 5 years of operation.

Constituent materials

Reference product mass	101500 g	Including the product, its packaging and additional elements and accessories



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.

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

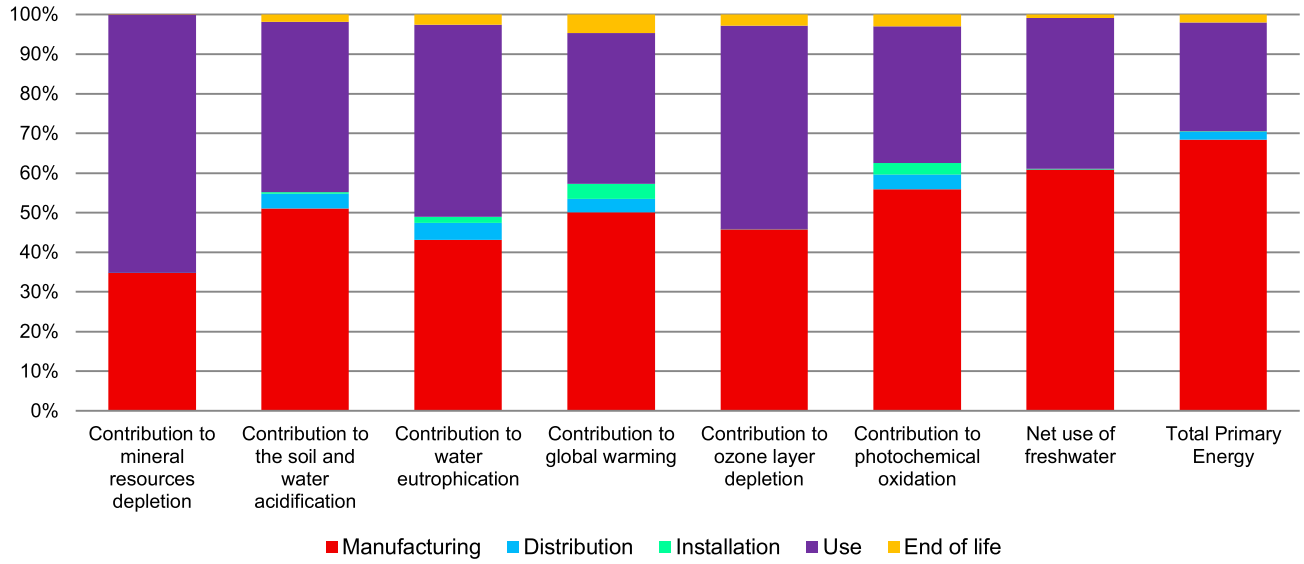
Additional environmental information

The Smart-UPS Battery Systems presents the following relevent environmental aspects	
Design	Extended Run Battery Packs use sealed lead acid battery cells and do not require maintenance. The battery energy output and voltage are monitored to assess the health of the installed batteries when the UPS is operating on battery. 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 21637,7 g, consisting of Wood (80%), Paper (11%) and Cardboard (9%) Product distribution optimised by setting up local distribution centres
Installation	SRT192BP Extended Run Battery Pack does not require any special installation materials or operations.
Use	A total of 32 battery units making up two sets of batteries weighting 60 kg are replaced at year 5. Structural parts of battery modules replaced weigh 3.4kg and associated packaging 18.3 kg.
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 (16200 g), printed circuit boards >10cm2 (1084 g), and Lead acid batteries (30400g) 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: **48%** 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	10 years			
Product category	Passive products - non-continuous operation			
Installation elements	Transport and disposal of packaging are accounted for during installation. No special installation components needed.			
Use scenario	HOURLY: 0.3 W/Hr per 100 AH * 163.2 AH = 0.49 W/Hr ANNUAL: 2.6 KW/Yr per 100 AH * 163.2 AH = 4.2 KW/YR LIFE SPAN: 5 Yrs * 4.2 KW/YR = 21.2 KWH in lifetime			
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, EU and global	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 Battery Systems - SRT192BP					
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	4,28E-01	1,49E-01	0*	0*	2,79E-01	0*
Contribution to the soil and water acidification	kg SO_2 eq	3,12E+00	1,59E+00	1,15E-01	1,17E-02	1,34E+00	5,69E-02
Contribution to water eutrophication	kg PO_4^{3-} eq	6,30E-01	2,72E-01	2,66E-02	9,87E-03	3,05E-01	1,61E-02
Contribution to global warming	kg CO_2 eq	7,49E+02	3,76E+02	2,52E+01	2,86E+01	2,85E+02	3,55E+01
Contribution to ozone layer depletion	kg CFC11 eq	1,08E-04	4,96E-05	5,10E-08	6,31E-08	5,54E-05	3,05E-06
Contribution to photochemical oxidation	kg C_2H_4 eq	2,22E-01	1,24E-01	8,25E-03	6,52E-03	7,64E-02	6,61E-03
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	5,86E+00	3,57E+00	2,25E-03	7,56E-03	2,23E+00	5,09E-02
Total Primary Energy	MJ	1,77E+04	1,21E+04	3,56E+02	2,14E+01	4,85E+03	3,54E+02



Optional indicators		Smart-UPS Battery Systems - SRT192BP					
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	1,05E+04	5,03E+03	3,53E+02	2,94E+01	4,67E+03	4,27E+02
Contribution to air pollution	m³	3,21E+05	1,28E+05	1,08E+03	6,45E+02	1,88E+05	3,01E+03
Contribution to water pollution	m³	2,32E+05	9,46E+04	4,14E+03	2,61E+02	1,14E+05	1,93E+04
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	1,31E+01	1,27E+01	0*	0*	3,71E-01	0*
Total use of renewable primary energy resources	MJ	9,71E+02	5,13E+02	4,74E-01	6,44E-01	4,57E+02	3,00E-01
Total use of non-renewable primary energy resources	MJ	1,67E+04	1,16E+04	3,55E+02	2,08E+01	4,40E+03	3,54E+02
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	2,51E+01	4,31E-01	4,74E-01	6,44E-01	2,33E+01	3,00E-01
Use of renewable primary energy resources used as raw material	MJ	9,46E+02	5,12E+02	0*	0*	4,33E+02	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	1,58E+04	1,09E+04	3,55E+02	2,08E+01	4,12E+03	3,54E+02
Use of non renewable primary energy resources used as raw material	MJ	9,36E+02	6,57E+02	0*	0*	2,80E+02	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	3,67E+02	4,55E+01	0*	0*	1,14E+02	2,07E+02
Non hazardous waste disposed	kg	2,77E+02	9,39E+01	8,94E-01	2,30E+01	1,54E+02	5,54E+00
Radioactive waste disposed	kg	9,92E-02	2,87E-02	6,37E-04	7,50E-04	6,69E-02	2,14E-03
Other environmental information	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	9,19E+01	3,86E+00	0*	0*	3,76E+01	5,04E+01
Components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	1,01E+00	4,90E-02	0*	0*	1,42E-01	8,22E-01
Exported Energy	MJ	1,80E+01	0*	0*	1,64E+01	1,61E+00	0*

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

Life cycle assessment performed with EIME version EIME v5.5, database version 2016-11.

The manufacturing 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 proportional 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 product excluding packaging. Distribution phase impacts - total mass of product (including packaging). Installation phase impacts - mass of packaging. Use phase impacts - product lifetime energy consumption. End of Life impacts - the product mass (excluding 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.

		Drafting rules	PCR-ed3-EN-2015 04 02
Verifier accreditation N°	VH-08		
Date of issue	01/2019		
		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)

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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