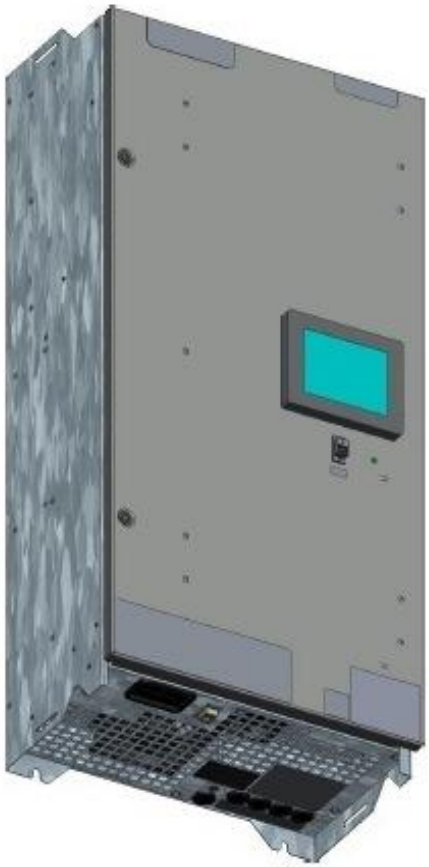
Product Environmental Profile

AccuSine PCSN Active Harmonic Filters

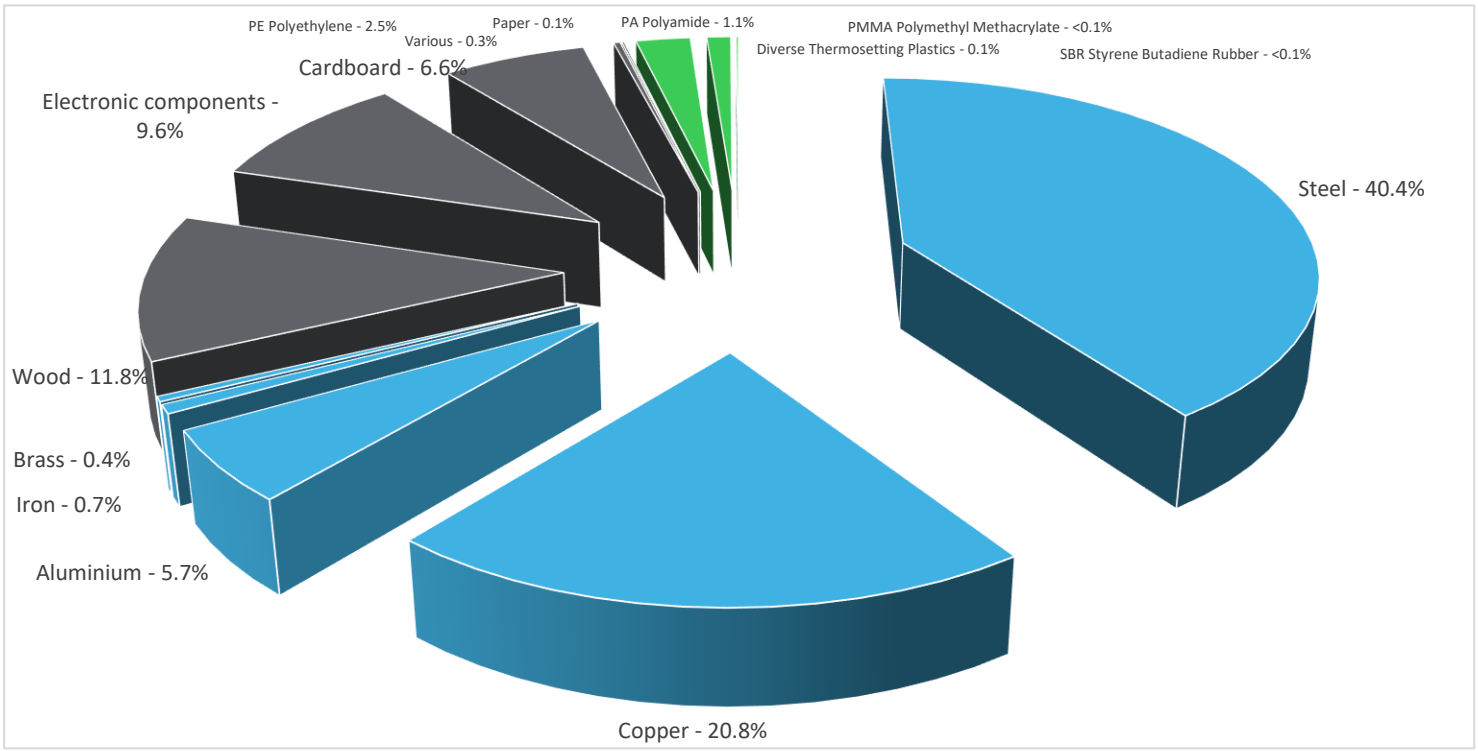


General information

Representative product	AccuSine PCSN Active Harmonic Filters - PCSN060Y4W20
Description of the product	The ACCUSINE PCSN is an Active Harmonic Filters (AHF); The AHF are static power electronic products that employ digital logic and IGBT semiconductors to synthesize a current waveform that is injected into the electrical network to cancel harmonic currents caused by nonlinear loads. AHF employ current transformers to measure the load current to determine the content of harmonic
Functional unit	to stabilizing electrical networks by providing harmonic mitigation of 60A for period of 10 years.

Constituent materials

Reference product mass	88115 g including the product, its packaging and additional elements and accessories



	Plastics	3.7%
	Metals	68.0%
	Others	28.4%

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

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

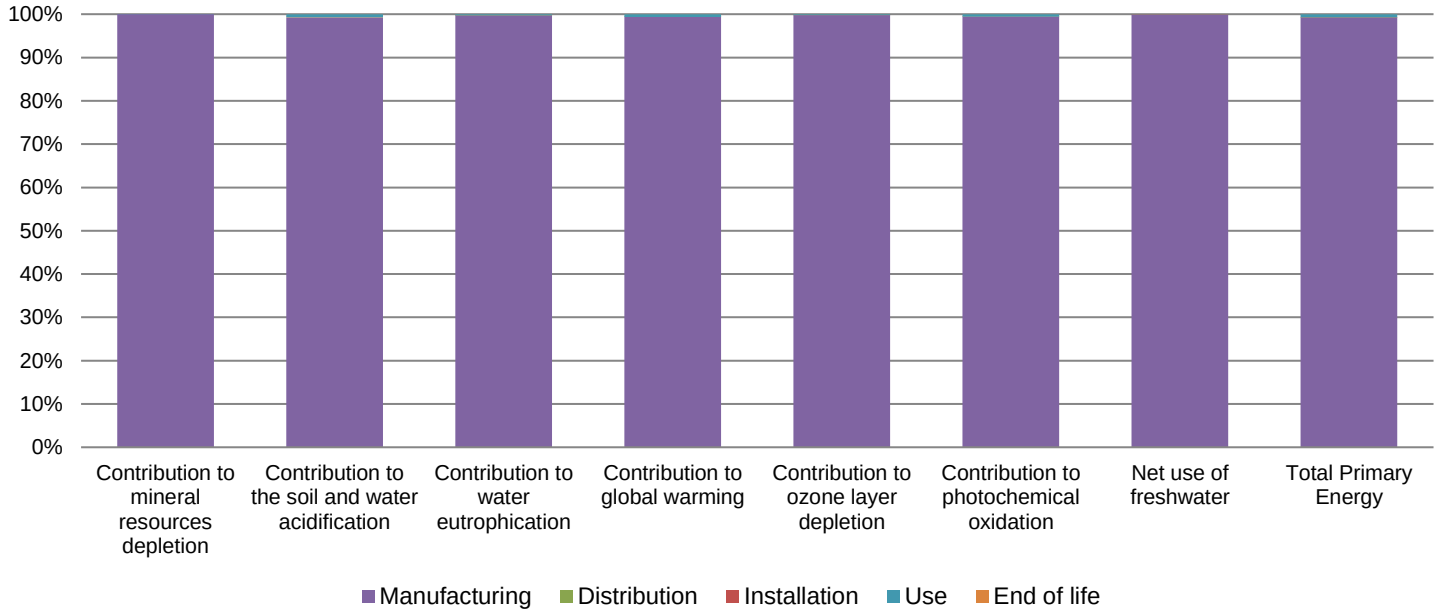
Additional environmental information

The AccuSine PCSN Active Harmonic Filters presents the following relevent environmental aspects	
Design	40% reduction in energy use. Higher reliability reducing waste.
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 18292.1 g, consisting of cardboard (32.1%), wood (56.2%), shrink wrap (11.7%) Packaging recycled materials is 25% of total packaging mass. Product distribution optimised by setting up local distribution centres
Installation	Ref PCSN060Y4W20 does not require any installation operations. The disposal of the packaging materials is accounted for during the installation phase (including transport to disposal).
Use	The product does not require special maintenance operations.
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 Power PCBA (1000g), DISPLAY PCBAs (300g), GATE DRIVE PCBA (300g), FILTER PCBA(s) (600g), CONTROL PCBA (300g), battery (10g), ELECTROLYTIC CAPACITORS (3000g), LCD (300g), , 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: **82%** 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	Other equipments - Active product			
Installation elements	No special components needed			
Use scenario	The product is in active mode 99% of the time with a power use of 1.2kW and in stand-by mode 1% of the time with a power use of 50W, for 10 years			
Geographical representativeness	World wide, Europe			
Technological representativeness	The ACCUSINE PCSN is an Active Harmonic Filters (AHF); The AHF are static power electronic products that employ digital logic and IGBT semiconductors to synthesize a current waveform that is injected into the electrical network to cancel harmonic currents caused by nonlinear loads. AHF employ current transformers to measure the load current to determine the content of harmonic current present. By injecting the synthesized current, network harmonic currents are greatly mitigated, thus reducing the heating effects of harmonic current and reducing voltage distortion. AHF also have the ability to correct for poor displacement power factor (DPF) and for mains current balancing. DPF correction can be provided for either leading (capacitive) or lagging (inductive) loads that cause poor DPF. Mains current balancing is achieved by measuring the negative sequence current present and injecting the inverse negative sequence current to balance the current for the upstream network. The AHF is flexible, high performance, cost-effective solution for stabilizing electrical networks by providing harmonic mitigation, power factor correction and load balancing.			
Energy model used	**Manufacturing**	**Installation**	**Use**	**End of life**
	Energy model used: India	Electricity mix; AC; consumption mix, at consumer; 230V; IN	Electricity mix; AC; consumption mix, at consumer; 230V; IN	Electricity mix; AC; consumption mix, at consumer; 230V; IN

Compulsory indicators	AccuSine PCSN Active Harmonic Filters - PCSN060Y4W20						
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	2.89E+00	2.89E+00	0*	0*	0*	0*
Contribution to the soil and water acidification	kg SO_2 eq	2.76E+02	2.74E+02	5.19E-02	0*	1.82E+00	0*
Contribution to water eutrophication	kg PO_4^{3-} eq	1.69E+02	1.69E+02	0*	0*	4.80E-01	0*
Contribution to global warming	kg CO_2 eq	2.64E+05	2.62E+05	0*	0*	1.74E+03	0*
Contribution to ozone layer depletion	kg CFC11 eq	2.08E-02	2.07E-02	0*	0*	4.83E-05	0*
Contribution to photochemical oxidation	kg C_2H_4 eq	4.05E+01	4.02E+01	0*	0*	2.32E-01	0*
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	4.12E+03	4.12E+03	0*	0*	1.90E+00	0*
Total Primary Energy	MJ	3.67E+06	3.65E+06	0*	0*	2.67E+04	0*



Optional indicators	AccuSine PCSN Active Harmonic Filters - PCSN060Y4W20						
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	4.08E+06	4.05E+06	0*	0*	2.72E+04	0*
Contribution to air pollution	m³	2.47E+07	2.45E+07	0*	0*	1.72E+05	0*
Contribution to water pollution	m³	1.47E+07	1.46E+07	1.87E+03	0*	8.69E+04	0*
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	3.12E+01	3.12E+01	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	6.13E+04	6.00E+04	0*	0*	1.25E+03	0*
Total use of non-renewable primary energy resources	MJ	3.61E+06	3.59E+06	0*	0*	2.54E+04	0*
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	6.11E+04	5.98E+04	0*	0*	1.25E+03	0*
Use of renewable primary energy resources used as raw material	MJ	2.34E+02	2.34E+02	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	3.61E+06	3.59E+06	0*	0*	2.54E+04	0*
Use of non renewable primary energy resources used as raw material	MJ	2.05E+02	2.05E+02	0*	0*	0*	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	2.42E+05	2.42E+05	0*	0*	5.19E+01	8.84E+01

Non hazardous waste disposed	kg	4.32E+04	4.29E+04	0*	9.96E+00	2.88E+02	0*
Radioactive waste disposed	kg	2.85E+01	2.84E+01	0*	0*	2.05E-02	0*
Other environmental information	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	7.30E+01	6.97E+00	0*	9.39E+00	0*	5.66E+01
Components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	2.56E+00	0*	0*	0*	0*	2.56E+00
Exported Energy	MJ	7.08E+00	6.65E-01	0*	6.41E+00	0*	0*

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

Life cycle assessment performed with EIME version EIME v5.7.0.3, database version 2016-11 in compliance with ISO14044.

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

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	ENVPEP1811005	*Drafting rules*	PCR-ed3-EN-2015 04 02
Date of issue	11/2018		
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) »

Schneider Electric Industries SAS

Country Customer Care Center www.schneider-electric.com/contact

35, rue Joseph Monier

CS 30323

F- 92506 Rueil Malmaison Cedex

RCS Nanterre 954 503 439
Capital social 896 313 776 €

www.schneider-electric.com

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