Product Environmental Profile

Resi9 Combi SPU 1PN C Surge Protection Device

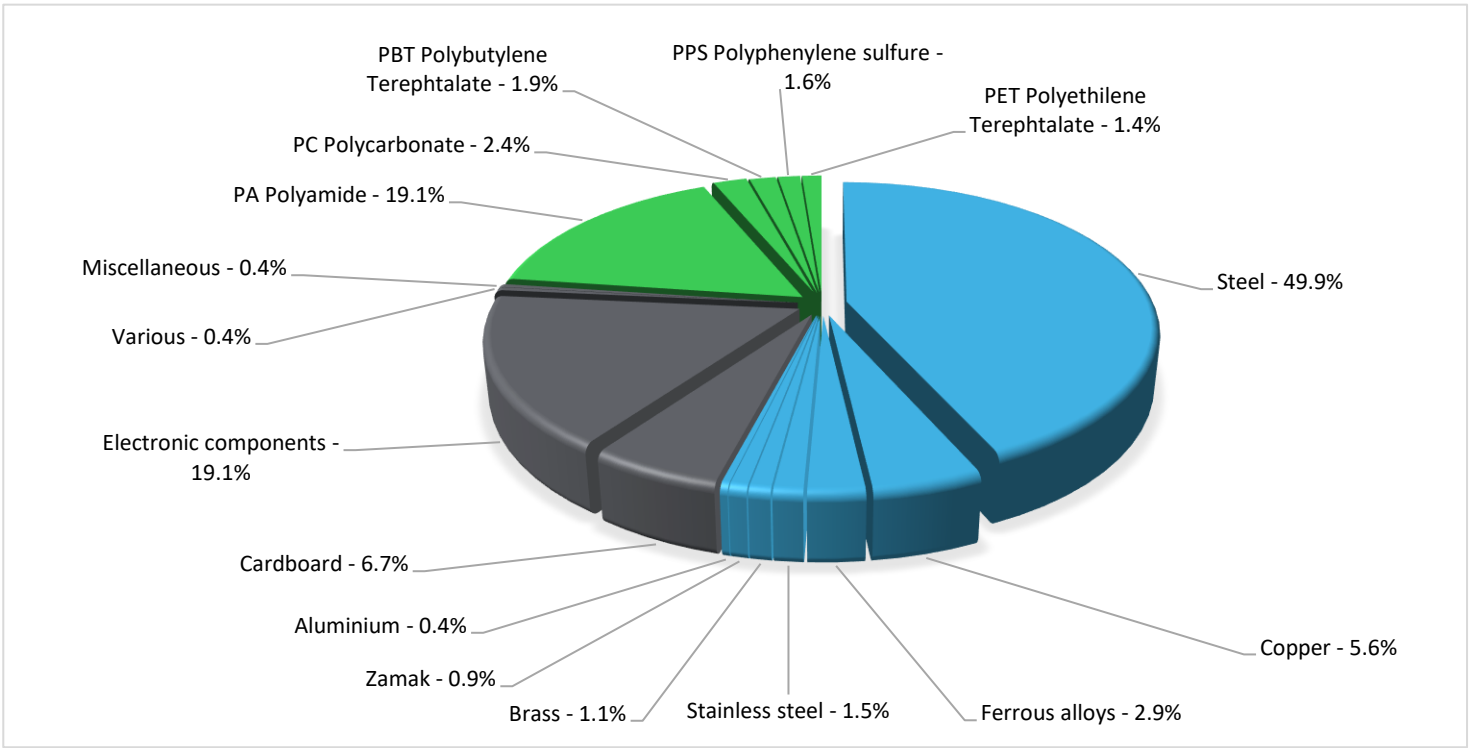


General information

Representative product	Resi9 Combi SPU 1PN C Surge Protection Device - R9L20625
Description of the product	The function of Resi9 Combi SPU 1PN C Surge Protection Device is to provide in low voltage power systems: --SPU (Surge transient overvoltages and Power frequency overvoltage protection Unit): •Protect during against direct or indirect effects of lightning or against transient overvoltages electrical equipements connected to electrical networks •Detect power frequency overvoltage and trigger MCB and indicate overvoltage fault --MCB (Miniature Circuit Breaker): •Protect the installation against overloads and short-circuits in circuit (with assigned voltage 400 VAC (Ue) and rated current 25A (In)).
Functional unit	The function of the product is to provide for 20 years in low voltage power system with operational voltage Ue = 400 VAC and rated current In=25A. This protection is ensured in accordance with the following parameters: - Number of poles 1P+N - Rated breaking capacity 6kA - Tripping curve C Type Resi9 Combi SPU 1PN C Surge Protection Device withstands the following: - IEC 61643-11:2011 - IEC 63052:2019 - BS EN 50550:2011+A1:2014 - IEC 60898-1:2016

Constituent materials

Reference product mass	375 g	including the product, its packaging and additional elements and accessories



	Plastics	26.3%
	Metals	62.2%
	Others	26.5%

Substance assessment

Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2011/65/EU of 2 January 2013, amended in March 2015, 2015/863/EU and in November 2017, 2017/2102/EU) 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), Bis (2-ethylhexyl)phthalate - DEHP, Benzyl butyl phthalate– BBP, Dibutyl phthalate - DBP, Diisobutyl phthalate - DIBP) as mentioned in the 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

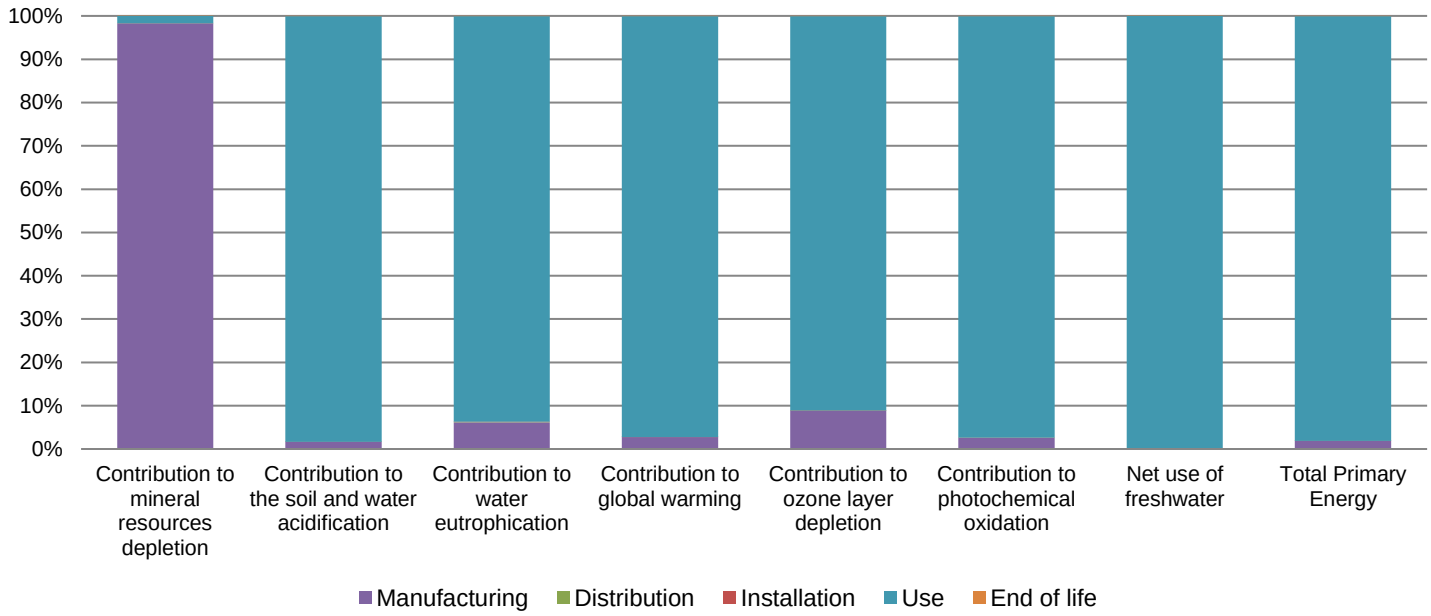
Additional environmental information

The Resi9 Combi SPU 1PN C Surge Protection Device presents the following relevent 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 26.5 g, consisting of cardboard (99.92%), paper (0.08%)
Installation	The product does not require special installation procedure and requires little to no energy to install. The disposal of the packaging materials are 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 electronic card (14.735g) 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: **63%** 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	20 years(According to PSR0005)			
Product category	Combination of functions			
Installation elements	The product does not require special installation procedure and requires little to no energy to install. The disposal of the packaging materials are accounted for during the installation phase (including transport to disposal).			
Use scenario	SPU:Product power consumption is 1.98 W at 100% Load rate and Load factor : 100% of In,Use rate: 100% of the RLT. MCB:Product power consumption is 3.55 W at 100% Load rate and 0.8875 W at Load factor : 50% of In,Use rate: 30% of the RLT.			
Geographical representativeness	Spain			
Technological representativeness	All the technologies pertaining to product manufacturing are represented in manufacturing phase properly.			
Energy model used	**Manufacturing**	**Installation**	**Use**	**End of life**
	Energy model used: China	Electricity grid mix; AC; consumption mix, at consumer; 230V; ES	Electricity grid mix; AC; consumption mix, at consumer; 230V; ES	Electricity grid mix; AC; consumption mix, at consumer; 230V; ES

Compulsory indicators		Resi9 Combi SPU 1PN C Surge Protection Device - R9L20625					
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	7.60E-04	7.47E-04	0*	0*	1.29E-05	0*
Contribution to the soil and water acidification	kg SO_2 eq	8.82E-01	1.43E-02	2.94E-04	0*	8.67E-01	1.54E-04
Contribution to water eutrophication	kg PO_4^{3-} eq	5.79E-02	3.58E-03	6.77E-05	0*	5.42E-02	4.56E-05
Contribution to global warming	kg CO_2 eq	1.81E+02	4.97E+00	6.44E-02	0*	1.76E+02	9.41E-02
Contribution to ozone layer depletion	kg CFC11 eq	6.56E-06	5.82E-07	0*	0*	5.98E-06	4.06E-09
Contribution to photochemical oxidation	kg C_2H_4 eq	5.29E-02	1.36E-03	2.10E-05	0*	5.15E-02	1.57E-05
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	6.38E+01	3.41E-02	0*	0*	6.38E+01	0*
Total Primary Energy	MJ	3.80E+03	7.17E+01	9.10E-01	0*	3.73E+03	7.42E-01



Optional indicators		Resi9 Combi SPU 1PN C Surge Protection Device - R9L20625					
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	2.29E+03	5.02E+01	9.04E-01	0*	2.24E+03	5.97E-01
Contribution to air pollution	m³	6.98E+03	9.62E+02	2.74E+00	0*	6.01E+03	5.33E+00
Contribution to water pollution	m³	5.14E+03	9.38E+02	1.06E+01	0*	4.18E+03	6.84E+00
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	3.98E-02	3.98E-02	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	6.97E+02	9.60E-01	0*	0*	6.96E+02	0*
Total use of non-renewable primary energy resources	MJ	3.11E+03	7.08E+01	9.09E-01	0*	3.03E+03	7.41E-01
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	6.97E+02	8.55E-01	0*	0*	6.96E+02	0*
Use of renewable primary energy resources used as raw material	MJ	1.05E-01	1.05E-01	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	3.10E+03	6.70E+01	9.09E-01	0*	3.03E+03	7.41E-01
Use of non renewable primary energy resources used as raw material	MJ	3.72E+00	3.72E+00	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	3.40E+01	3.31E+01	0*	0*	2.56E-01	6.89E-01
Non hazardous waste disposed	kg	2.48E+02	2.50E+00	0*	0*	2.45E+02	0*
Radioactive waste disposed	kg	3.29E-01	1.09E-03	0*	0*	3.28E-01	0*
Other environmental information	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	3.94E-01	4.98E-02	0*	3.51E-02	0*	3.09E-01
Components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	1.53E-02	0*	0*	0*	0*	1.53E-02
Exported Energy	MJ	1.11E-04	1.05E-05	0*	1.01E-04	0*	0*

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

Life cycle assessment performed with EIME version EIME v5.9.1, database version 2016-11 in compliance with ISO14044.

The use phase is the life cycle phase which has the greatest impact on the Acidification potential of soil and water,Eutrophication,Global warming,Ozone layer depletion ODP steady state,Photochemical oxidation(high NOx),Net use of freshwater,Total Primary Energy.
The manufacturing phase is the life cycle phase which has the greatest impact on the Abiotic depletion(elements,ultimate reserves).

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	ENVPEP2012004_V1	*Drafting rules*	PCR-ed3-EN-2015 04 02
Date of issue	2/2022	*Supplemented by*	PSR-0005-ed2-EN-2016 03 29
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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