

Product Environmental Profile

Circuit breaker ComPact NSX630S 100kA DC 4P 600A TMD

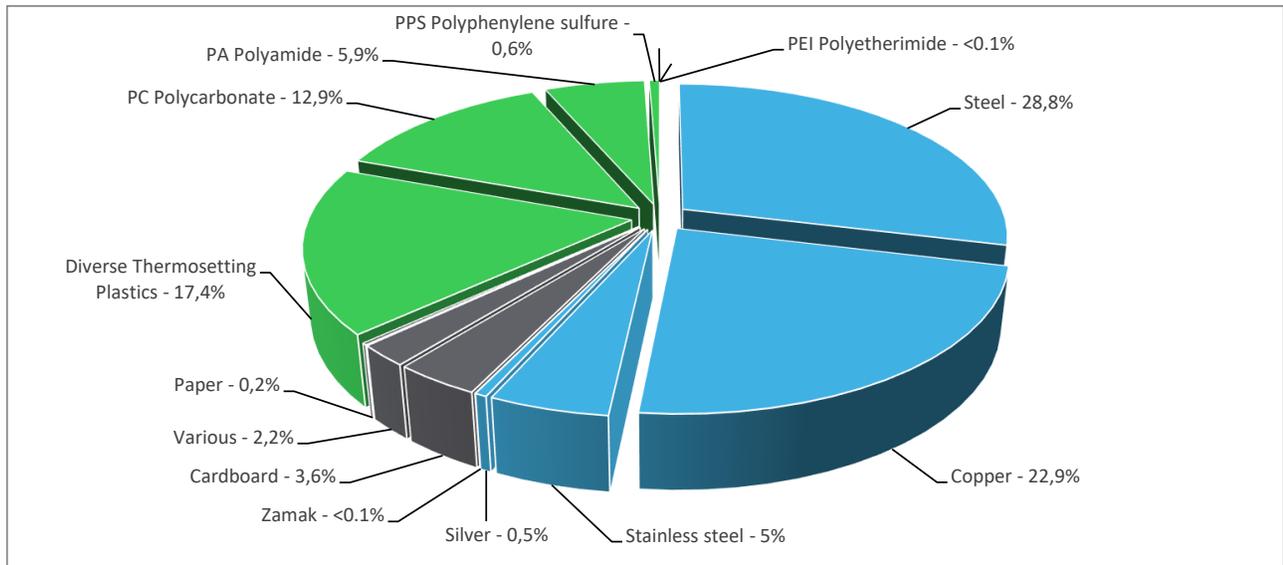


General information

Representative product	Circuit breaker ComPact NSX DC - C63S4TM600D
Description of the product	The main purpose of the Compact NSX DC is to protect and control low-voltage distribution systems, it follows IEC60947-1/IEC60947-2 and lifetime is 20 years. The data used to make this PEP are the most representative of the product studied.
Functional unit	Protect during 20 years the installation against overloads and short-circuits in circuit with assigned voltage 750 V DC and rated current 600A at 40°C. This protection is ensured in accordance with the following parameters: - Number of poles 4 - Rated breaking capacity 100kA - Tripping curve long time, short time and instantaneous protections

Constituent materials

Reference product mass 7329 g including the product, its packaging and additional elements and accessories



Plastics	36,8%
Metals	57,2%
Others	6,0%

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 Circuit breaker ComPact NSX630S 100kA DC 4P 600A TMD presents the following relevant environmental aspects

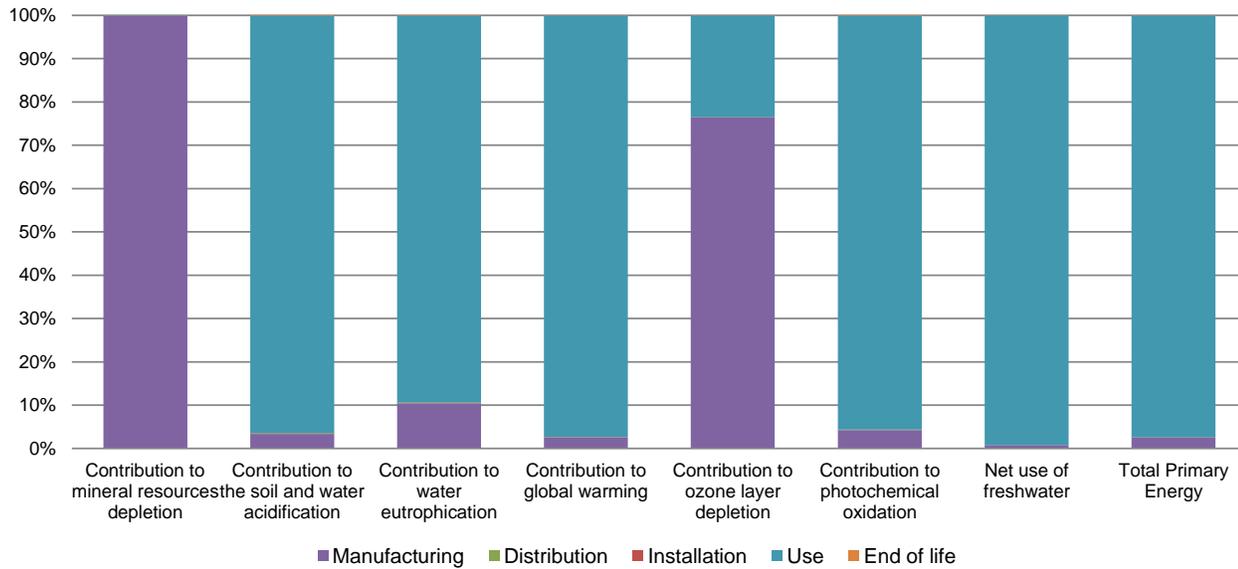
Manufacturing	Manufactured at a Schneider Electric production site ISO14001 certified
Distribution	Weight and volume of the packaging optimized, based on the European Union's packaging directive Packaging weight is 279,1 g, consisting of Cardboard (97.3%) ,Paper (1.7%) and Polyetherimide (1%) Product distribution optimised by setting up local distribution centres
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 No special end-of-life treatment required. According to countries' practices this product can enter the usual end-of-life treatment process. Recyclability potential: 54% 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			
Product category	Circuit-breakers			
Installation elements	The disposal of the packaging materials are accounted for during the installation phase (including transport to disposal).			
Use scenario	The product is in active mode 30% of the time with a power use of 31W and in Off mode 70% of the time for 20 years			
Geographical representativeness	Global			
Technological representativeness	The modules of technologies such as material production, manufacturing process and transport technology used in this PEP analysis (LCA-EIME in this case) are similar and representative of the actual type of technologies used to make the product.			
Energy model used	Manufacturing	Installation	Use	End of life
	Energy model used: Naples IT	Electricity mix; AC;consumption mix, at consumer; 220V; CN;at consumer; < 1kV; EU-27; at consumer; 240V; AU;at consumer; 230V; IN	Electricity mix; AC;consumption mix, at consumer; 220V; CN;at consumer; < 1kV; EU-27; at consumer; 240V; AU;at consumer; 230V; IN	Electricity mix; AC;consumption mix, at consumer; 220V; CN;at consumer; < 1kV; EU-27; at consumer; 240V; AU;at consumer; 230V; IN

Compulsory indicators		Circuit breaker ComPact NSX630S 100kA DC 4P 600A TMD - C63S4TM600D					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	2,94E-02	2,93E-02	0*	0*	2,81E-05	0*
Contribution to the soil and water acidification	kg SO ₂ eq	2,39E+00	8,07E-02	4,32E-03	0*	2,30E+00	2,22E-03
Contribution to water eutrophication	kg PO ₄ ³⁻ eq	4,32E-01	4,51E-02	9,94E-04	0*	3,86E-01	6,12E-04
Contribution to global warming	kg CO ₂ eq	1,43E+03	3,72E+01	9,46E-01	0*	1,39E+03	1,14E+00
Contribution to ozone layer depletion	kg CFC11 eq	1,24E-04	9,51E-05	0*	0*	2,91E-05	4,98E-08
Contribution to photochemical oxidation	kg C ₂ H ₄ eq	2,17E-01	9,17E-03	3,08E-04	0*	2,07E-01	2,32E-04
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	9,72E+02	7,70E+00	0*	0*	9,64E+02	0*
Total Primary Energy	MJ	2,40E+04	6,11E+02	1,34E+01	0*	2,33E+04	1,08E+01



Optional indicators		Circuit breaker Compact NSX630S 100kA DC 4P 600A TMD - C63S4TM600D						
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life	
Contribution to fossil resources depletion	MJ	2,01E+04	3,70E+02	1,33E+01	0*	1,97E+04	8,68E+00	
Contribution to air pollution	m ³	1,41E+05	1,41E+04	4,02E+01	0*	1,26E+05	7,80E+01	
Contribution to water pollution	m ³	7,17E+04	5,01E+03	1,56E+02	0*	6,64E+04	9,33E+01	
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life	
Use of secondary material	kg	9,14E-01	9,14E-01	0*	0*	0*	0*	
Total use of renewable primary energy resources	MJ	1,55E+03	2,46E+01	0*	0*	1,53E+03	0*	
Total use of non-renewable primary energy resources	MJ	2,24E+04	5,87E+02	1,34E+01	0*	2,18E+04	1,08E+01	
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	1,55E+03	2,43E+01	0*	0*	1,53E+03	0*	
Use of renewable primary energy resources used as raw material	MJ	2,80E-01	2,80E-01	0*	0*	0*	0*	
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	2,24E+04	5,23E+02	1,34E+01	0*	2,18E+04	1,08E+01	
Use of non renewable primary energy resources used as raw material	MJ	6,36E+01	6,36E+01	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	4,74E+02	4,28E+02	0*	0*	3,58E+01	1,08E+01	
Non hazardous waste disposed	kg	1,22E+03	2,28E+01	0*	0*	1,19E+03	0*	
Radioactive waste disposed	kg	6,76E-01	1,08E-02	0*	0*	6,65E-01	0*	
Other environmental information	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life	
Materials for recycling	kg	4,68E+00	4,54E-01	0*	2,76E-01	0*	3,95E+00	
Components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*	
Materials for energy recovery	kg	1,49E-01	0*	0*	0*	0*	1,49E-01	
Exported Energy	MJ	8,52E-04	6,05E-05	0*	7,91E-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 v5.9.4, database version 2022-01 in compliance with ISO14044.

The Manufacturing phase is impacting on Indicator of Abiotic depletion (elements, ultimate reserves) and Ozone layer depletion ODP steady state. The use phase is the life cycle phase which has the greatest impact on the rest 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.

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<i>Date of issue</i>	01/2023	<i>Supplemented by</i>	PSR-0005-ed2-EN-2016 03 29
<i>Validity period</i>	5 years	<i>Information and reference documents</i>	www.pep-ecopassport.org
<i>Independent verification of the declaration and data</i>			
Internal	X	External	
<i>The elements of the present PEP cannot be compared with elements from another program.</i>			
<i>Document in compliance with ISO 14021:2016 « Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling) »</i>			

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