Product Environmental Profile

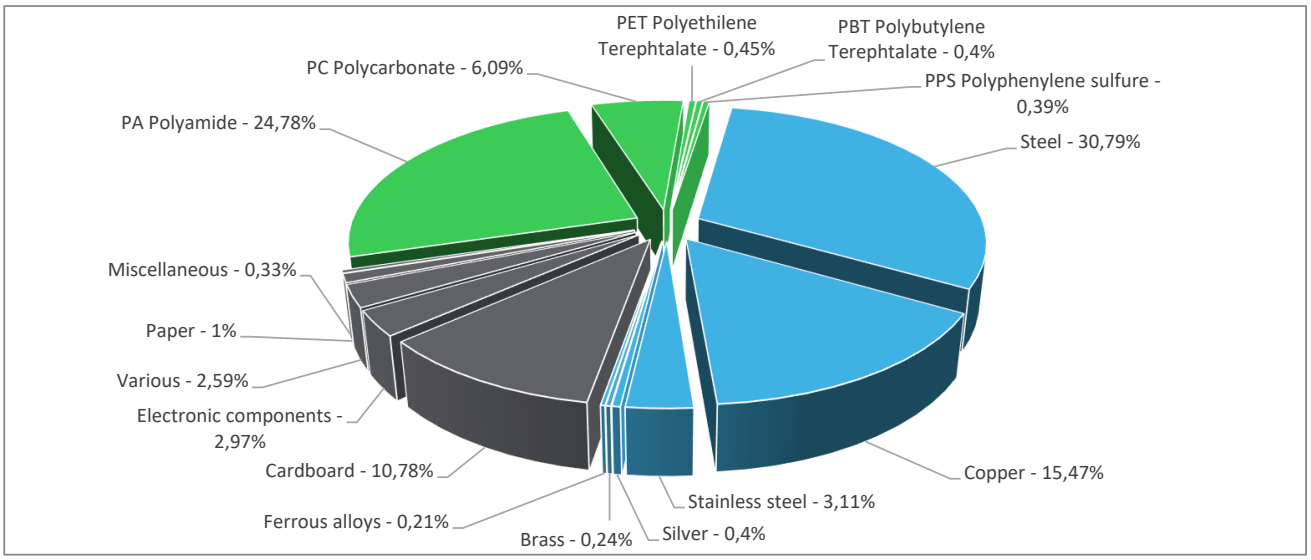
ComPacT BREAKER NSXm160F 36kA AC 4P 160A 4.1 ELINK

General information

Representative product	ComPacT BREAKER NSXm160F 36kA AC 4P 160A 4.1 ELINK - C12F44V160L
Description of the product	Compact NSXm 160F 4P Earth Leakage Circuit Breaker with electronic Micrologic 4.1 trip unit is designed to provide protection of installation against overloads and short-circuits and provide earth leakage protection in electrical distribution systems with assigned voltage up to 440VAC and rated current up to 160A.
Functional unit	Provide during 20 years protection of installation against overloads and short-circuits and earth leakage protection in electrical distribution system with assigned voltage up to (U) 440VAC and rated current up to (In) 160A. The protections are ensured in accordance with the following parameters: - Number of poles Np = 4 Poles - Rated breaking capacity Icn at 415VAC = 36kA (according to IEC 60947-2) - Tripping curve Cd - adjustable long time and short time protections and non-adjustable instantaneous protection

Constituent materials

Reference product mass	1848.9 g	including the product, its packaging and additional elements and accessories



Plastics	32,11%
Metals	50,22%
Others	17,67%

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

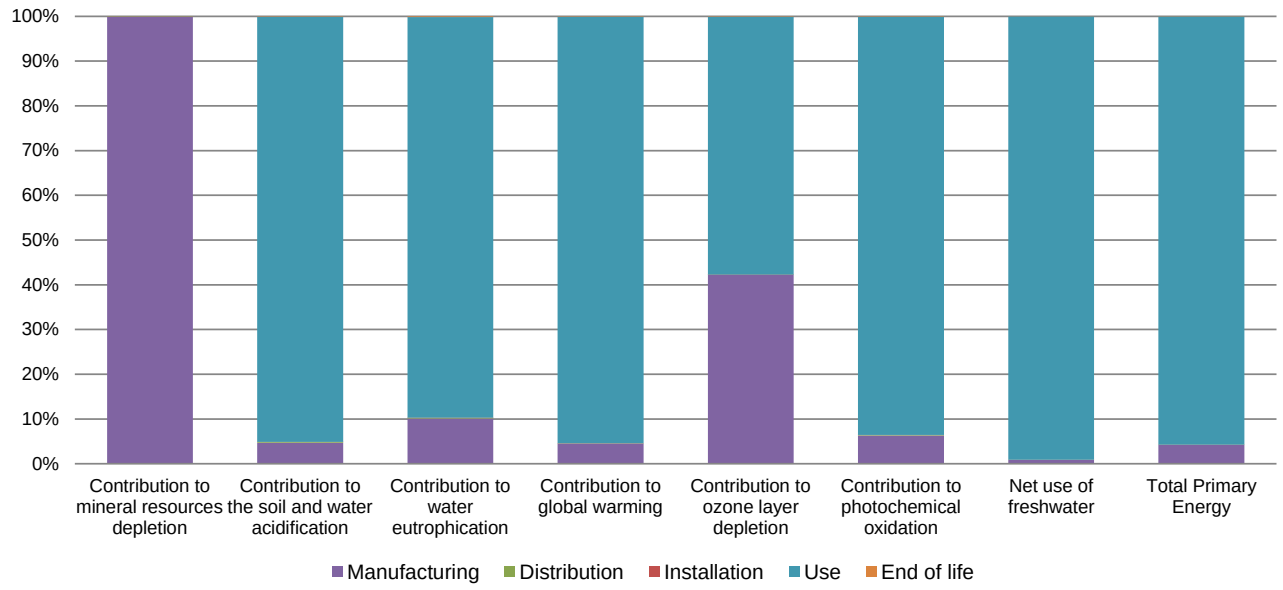
Additional environmental information

The ComPacT BREAKER NSXm160F 36kA AC 4P 160A 4.1 ELINK 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 230,7 g, consisting of Cardboard (90.46%), Paper (8.40%), PE film (1.14%) 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 Trip Unit have to be changed every 10 years.
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 3 electronic boards (30.43g, 20.53g and 3.059g) 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: **52%** 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	Differential circuit breaker			
Installation elements	No special installation components need during installation phase, but transport of packaging to disposal, and disposal of packaging accounted for during installation.			
Use scenario	The product is in active mode 30% of the time with a power use of 9.225W and in off mode 70% of the time with a power use of 0W, 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 in production.			
Energy model used	**Manufacturing**	**Installation**	**Use**	**End of life**
	Energy model used: Bukowno,Poland	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		**ComPacT BREAKER NSXm160F 36kA AC 4P 160A 4.1 ELINK - C12F44V160L**					
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	9,14E-03	9,13E-03	0*	0*	8,35E-06	0*
Contribution to the soil and water acidification	kg SO_2 eq	7,20E-01	3,40E-02	1,09E-03	0*	6,84E-01	5,39E-04
Contribution to water eutrophication	kg PO_4^{3-} eq	1,28E-01	1,29E-02	2,51E-04	1,35E-05	1,15E-01	1,63E-04
Contribution to global warming	kg CO_2 eq	4,35E+02	1,96E+01	2,39E-01	0*	4,15E+02	3,43E-01
Contribution to ozone layer depletion	kg CFC11 eq	1,50E-05	6,35E-06	0*	0*	8,65E-06	1,41E-08
Contribution to photochemical oxidation	kg C_2H_4 eq	6,60E-02	4,19E-03	7,77E-05	0*	6,17E-02	5,49E-05
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	2,89E+02	2,51E+00	0*	0*	2,87E+02	0*
Total Primary Energy	MJ	7,25E+03	3,03E+02	3,37E+00	0*	6,94E+03	2,59E+00



Optional indicators		ComPacT BREAKER NSXm160F 36kA AC 4P 160A 4.1 ELINK - C12F44V160L					
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	6,10E+03	2,26E+02	3,35E+00	0*	5,87E+03	2,08E+00
Contribution to air pollution	m³	4,17E+04	4,02E+03	1,01E+01	0*	3,76E+04	1,87E+01
Contribution to water pollution	m³	2,25E+04	2,62E+03	3,92E+01	0*	1,98E+04	2,42E+01
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	1,01E-01	1,01E-01	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	4,67E+02	1,24E+01	0*	0*	4,55E+02	0*
Total use of non-renewable primary energy resources	MJ	6,79E+03	2,91E+02	3,37E+00	0*	6,49E+03	2,58E+00
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	4,63E+02	8,25E+00	0*	0*	4,55E+02	0*
Use of renewable primary energy resources used as raw material	MJ	4,15E+00	4,15E+00	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	6,77E+03	2,72E+02	3,37E+00	0*	6,49E+03	2,58E+00
Use of non renewable primary energy resources used as raw material	MJ	1,89E+01	1,89E+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	1,63E+02	1,50E+02	0*	0*	1,07E+01	2,58E+00
Non hazardous waste disposed	kg	3,63E+02	8,05E+00	0*	0*	3,55E+02	0*
Radioactive waste disposed	kg	2,02E-01	4,02E-03	0*	0*	1,98E-01	0*
Other environmental information	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	1,55E+00	4,28E-01	0*	2,28E-01	0*	8,93E-01
Components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	5,84E-02	0*	0*	0*	0*	5,84E-02
Exported Energy	MJ	7,21E-04	6,78E-05	0*	6,53E-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 ultimate reserves) (ADPe for EN15804). The Manufacturing and Use phase is equally impacting on indicator of Ozone layer depletion ODP steady state (ODP for EN15804).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.

Registration number	ENVPEP2107005_V2	*Drafting rules*	PCR-ed3-EN-2015 04 02
Date of issue	01/2023	*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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