Product Environmental Profile

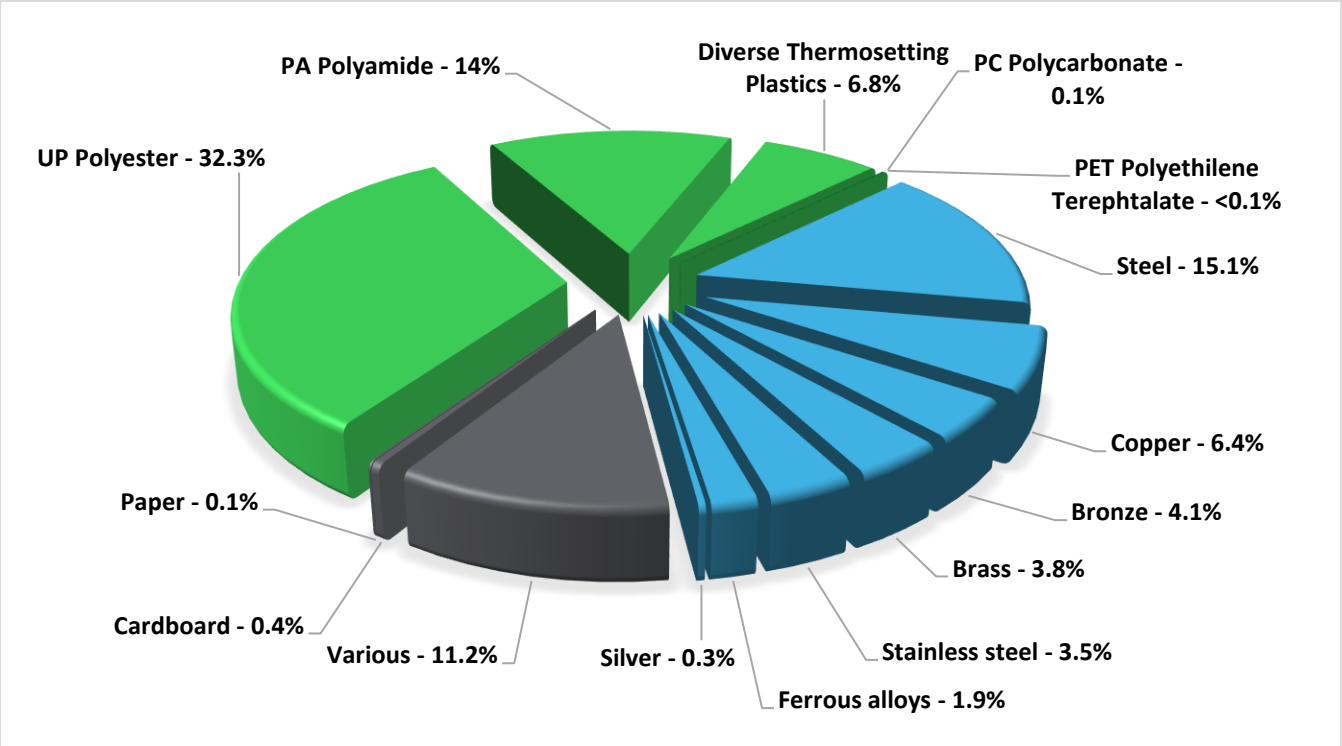
QO MINIATURE CIRCUIT BREAKER

General information

Representative product	QO MINIATURE CIRCUIT BREAKER - QO120
Description of the product	The main function of this product is to ensure protection of low voltage electrical installations
Functional unit	Protect during 20 years the installation against overloads and short-circuits in circuit with assigned voltage 120V and rated current 20A. This protection is ensured in accordance with the following parameters: - Number of poles 1p - Rated breaking capacity 10KA

Constituent materials

Reference product mass	113.4 g	including the product, its packaging and additional elements and accessories



	Plastics	53.2%
	Metals	35.1%
	Others	11.7%

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

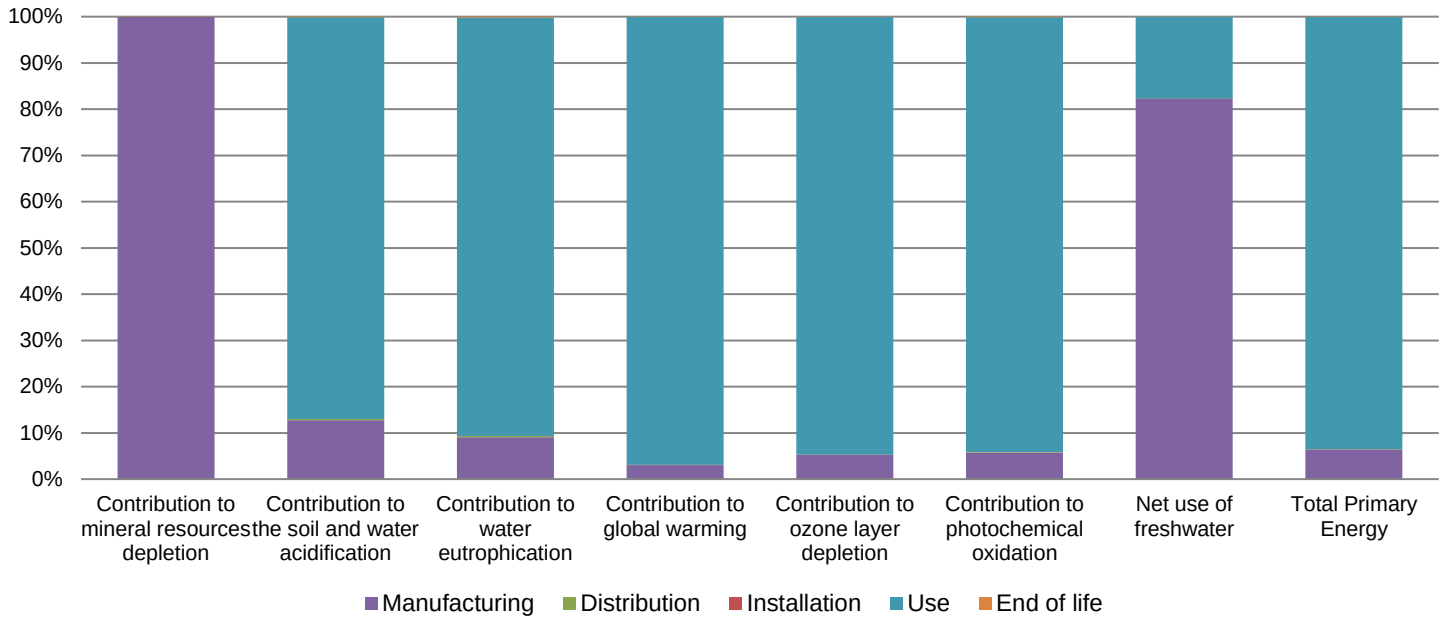
Additional environmental information

The QO MINIATURE CIRCUIT BREAKER 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 0.5 g, consisting of Cardboard (98.1%), plastic (1.9%)
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: **29%** 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 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	Load rate: 50% of In Use time rate: 30% of RLT			
Geographical representativeness	United States of America			
Technological representativeness	The technologies represented in this assessment regards to the main function of this product is to ensure protection of low voltage electrical installations			
Energy model used	**Manufacturing**	**Installation**	**Use**	**End of life**
	Energy model used: Mexico	Electricity mix; AC; consumption mix, at consumer; 120V; US	Electricity mix; AC; consumption mix, at consumer; 120V; US	Electricity mix; AC; consumption mix, at consumer; 120V; US

Compulsory indicators	QO MINIATURE CIRCUIT BREAKER - QO120						
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	3.86E-04	3.86E-04	0*	0*	1.94E-07	0*
Contribution to the soil and water acidification	kg SO_2 eq	2.19E-02	2.78E-03	6.68E-05	0*	1.90E-02	3.38E-05
Contribution to water eutrophication	kg PO_4^{3-} eq	5.54E-03	5.03E-04	1.54E-05	0*	5.01E-03	1.00E-05
Contribution to global warming	kg CO_2 eq	2.17E+01	6.63E-01	1.46E-02	0*	2.10E+01	2.07E-02
Contribution to ozone layer depletion	kg CFC11 eq	1.43E-06	7.61E-08	0*	0*	1.35E-06	7.93E-10
Contribution to photochemical oxidation	kg C_2H_4 eq	3.54E-03	2.04E-04	4.77E-06	0*	3.33E-03	3.46E-06
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	1.85E-01	1.53E-01	0*	0*	3.26E-02	0*
Total Primary Energy	MJ	2.74E+02	1.76E+01	2.07E-01	0*	2.56E+02	1.61E-01



Optional indicators	QO MINIATURE CIRCUIT BREAKER - QO120						
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	2.41E+02	1.11E+01	2.06E-01	0*	2.30E+02	1.30E-01
Contribution to air pollution	m³	1.81E+03	1.51E+02	6.22E-01	0*	1.66E+03	1.18E+00
Contribution to water pollution	m³	1.12E+03	5.46E+01	2.41E+00	0*	1.07E+03	1.49E+00
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	2.01E-03	2.01E-03	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	1.78E+01	5.78E-01	0*	0*	1.72E+01	0*
Total use of non-renewable primary energy resources	MJ	2.57E+02	1.70E+01	2.07E-01	0*	2.39E+02	1.61E-01
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	1.78E+01	5.75E-01	0*	0*	1.72E+01	0*
Use of renewable primary energy resources used as raw material	MJ	3.39E-03	3.39E-03	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	2.55E+02	1.52E+01	2.07E-01	0*	2.39E+02	1.61E-01
Use of non renewable primary energy resources used as raw material	MJ	1.81E+00	1.81E+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	4.64E+00	3.98E+00	0*	0*	4.79E-01	1.87E-01
Non hazardous waste disposed	kg	3.15E+00	5.10E-01	5.20E-04	0*	2.64E+00	4.93E-04
Radioactive waste disposed	kg	8.41E-04	2.62E-04	3.70E-07	0*	5.77E-04	7.89E-07
Other environmental information	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	4.32E-02	1.06E-02	0*	5.05E-04	0*	3.20E-02
Components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	3.43E-03	0*	0*	0*	0*	3.43E-03
Exported Energy	MJ	1.60E-06	1.50E-07	0*	1.45E-06	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 majority of environmental indicators (based on compulsory indicators).
The manufacturing phase is the life cycle phase which has the greatest impact on the contribution to mineral resources depletion and net use of freshwater. The use phase is the life cycle phase which has the greatest impact on the contribution to the soil and water acidification, water eutrophication, global warming, ozone layer depletion, photochemical oxidation and total primary energy.

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	ENVPEP2111016_V1	*Drafting rules*	PCR-ed3-EN-2015 04 02
Date of issue	11/2021	*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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