

Product Environmental Profile

Circuit breaker ComPacT NSX600S DC, 100 kA at 750 VDC, TM-DC trip unit, 600 A rating, 4 poles

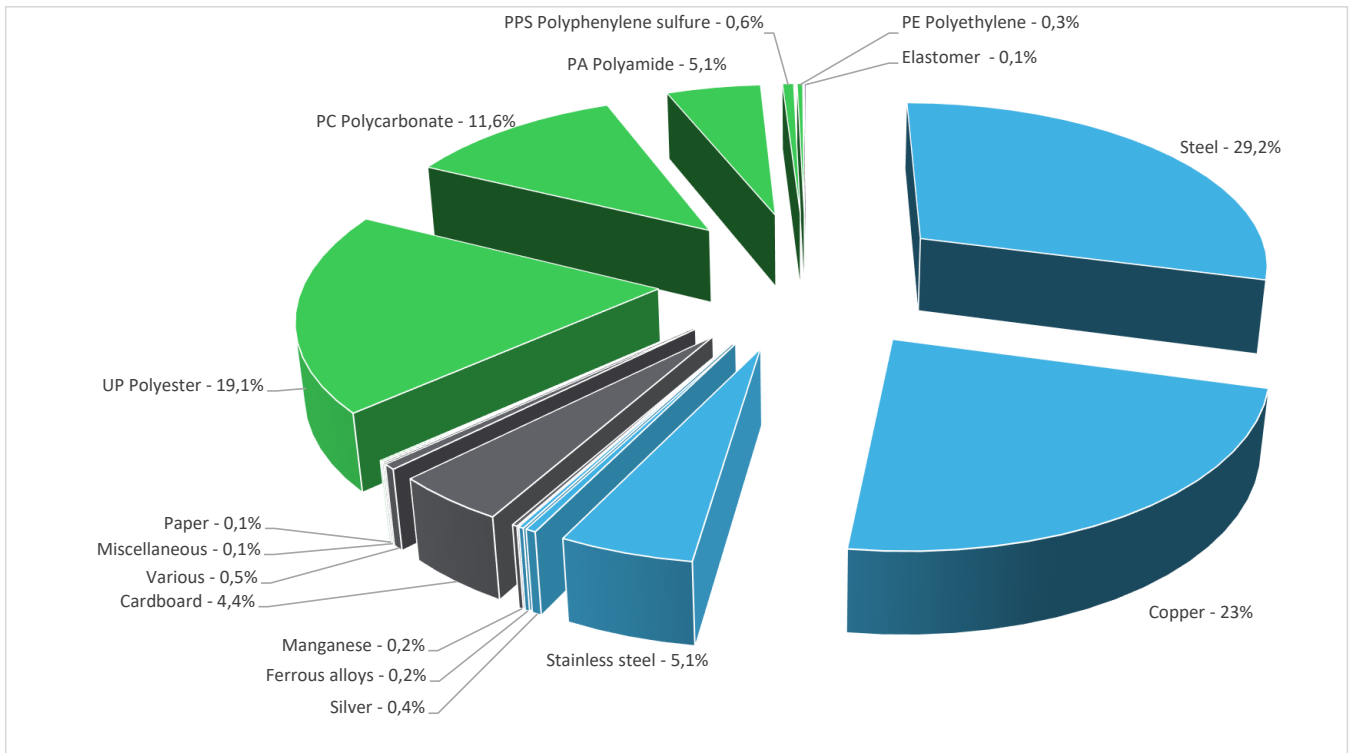


General information

Reference product	Circuit breaker ComPacT NSX600S DC, 100 kA at 750 VDC, TM-DC trip unit, 600 A rating, 4 poles - C63S4TM600D
Description of the product	The ComPacT NSX630S DC 4P circuit breaker equipped with a thermal-magnetic trip unit for DC networks (TM-DC) is designed to provide protection to industrial and commercial electrical distribution systems (with rated voltage up to 750VDC and rated current up to 600A) against overloads and short-circuits.
Functional unit	Protect during 20 years the installation against overloads and short-circuits in circuit with assigned voltage up to 750V DC and rated current up to 600A. This protection is ensured in accordance with the following parameters: <ul style="list-style-type: none"> - Number of poles = 4P - Rated breaking capacity = S 100kA 500V DC - Tripping curve = Type B [LI = long time, instantaneous] - IP degree of protection = IP40 conforming to IEC 60529 - IK degree of protection = IK07 conforming to IEC 62262

Constituent materials

Reference product mass	7262 g including the product, its packaging and additional elements and accessories
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Metals	58,1%
Plastics	36,8%
Others	5,1%

Substance assessment

Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website

<https://www.se.com/ww/en/work/support/green-premium/>



Additional environmental information

End Of Life	Recyclability potential:	60%	Recyclability rate has been calculated based on REEECYLAB tool developed by Ecosystem, for components/materials not covered by the tool, data from the "ECO'DEEEE recyclability and recoverability calculation method" was taken. If no data was found a conservative assumption was used (0% recyclability).
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Environmental impacts

Reference service life time	20 years		
Product category	Circuit-breakers		
Installation elements	No special components needed during the installation phase. The disposal of the packaging materials is accounted for during this phase (including transport to disposal).		
Use scenario	Load rate: 50% of In Use time rate: 30% of RLT		
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.		
Geographical representativeness	Europe		
Energy model used	[A1 - A3]	[A5]	[B6]
	Electricity Mix; Production mix; Low voltage; CN	Electricity Mix; Production mix; Low voltage; UE-27	Electricity Mix; Production mix; Low voltage; UE-27
			[C1 - C4]
			Electricity Mix; Production mix; Low voltage; UE-27

Detailed results, including all the optional indicators mentioned in PCRed4, and the split of the Use Phase (B1 to B7), are available in the LCA report and on demand in a digital format - Country Customer Care Center - <http://www.schneider-electric.com/contact>

Mandatory Indicators		Circuit breaker ComPacT NSX600S DC, 100 kA at 750 VDC, TM-DC trip unit, 600 A rating, 4 poles - C63S4TM600D							Loads and Benefits
Impact indicators	Unit	Total	Manufacturing [A1 - A3]	Distribution [A4]	Installation [A5]	Use [B1 - B7]	End of Life [C1 - C4]	[D]	
Contribution to climate change	kg CO2 eq	7,32E+02	4,77E+01	9,50E-01	6,20E-01	6,68E+02	1,49E+01	-1,45E+01	
Contribution to climate change-fossil	kg CO2 eq	7,30E+02	4,66E+01	9,50E-01	5,93E-01	6,67E+02	1,45E+01	-1,41E+01	
Contribution to climate change-biogenic	kg CO2 eq	2,34E+00	1,07E+00	0*	2,75E-02	8,91E-01	3,55E-01	-3,61E-01	
Contribution to climate change-land use and land use change	kg CO2 eq	5,92E-06	9,16E-10	0*	0*	0*	5,92E-06	0,00E+00	
Contribution to ozone depletion	kg CFC-11 eq	1,41E-05	1,10E-05	1,45E-09	4,10E-08	2,86E-06	2,39E-07	-2,71E-06	
Contribution to acidification	mol H+ eq	4,67E+00	7,81E-01	6,11E-03	2,47E-03	3,81E+00	7,41E-02	-3,49E-01	
Contribution to eutrophication, freshwater	kg (PO4) ³⁻ eq	1,46E-02	1,62E-04	0*	4,47E-06	1,83E-03	1,26E-02	-2,34E-05	
Contribution to eutrophication marine	kg N eq	5,31E-01	8,22E-02	2,87E-03	6,54E-04	4,33E-01	1,22E-02	-1,04E-02	
Contribution to eutrophication, terrestrial	mol N eq	7,59E+00	9,07E-01	3,15E-02	4,95E-03	6,51E+00	1,45E-01	-1,21E-01	
Contribution to photochemical ozone formation - human health	kg COVNM eq	1,72E+00	2,81E-01	7,95E-03	1,32E-03	1,39E+00	4,05E-02	-5,69E-02	
Contribution to resource use, minerals and metals	kg Sb eq	3,53E-02	3,49E-02	0*	0*	4,84E-05	3,55E-04	-5,44E-03	
Contribution to resource use, fossils	MJ	1,84E+04	8,01E+02	1,32E+01	6,46E+00	1,70E+04	5,92E+02	-2,97E+02	
Contribution to water use	m3 eq	6,40E+01	2,77E+01	0*	2,64E-01	2,36E+01	1,24E+01	-1,80E+01	

Additional indicators for the French regulation are available as well

Inventory flows Indicators									Circuit breaker ComPacT NSX600S DC, 100 kA at 750 VDC, TM-DC trip unit, 600 A rating, 4 poles - C63S4TM600D								
Inventory flows	Unit	Total	Manufact.	Distribution	Installation	Use	End of Life	Loads and Benefits									
			[A1 - A3]	[A4]	[A5]	[B1 - B7]	[C1 - C4]		[D]								
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	3,31E+03	3,19E+01	0*	4,63E-01	3,27E+03	8,54E+00	-7,84E+00									
Contribution to use of renewable primary energy resources used as raw material	MJ	2,03E+00	2,03E+00	0*	0*	0*	0*	-1,86E+00									
Contribution to total use of renewable primary energy resources	MJ	3,31E+03	3,39E+01	0*	4,63E-01	3,27E+03	8,54E+00	-9,70E+00									
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	1,84E+04	7,41E+02	1,32E+01	6,46E+00	1,70E+04	5,92E+02	-2,97E+02									
Contribution to use of non renewable primary energy resources used as raw material	MJ	6,03E+01	6,03E+01	0*	0*	0*	0*	0,00E+00									
Contribution to total use of non-renewable primary energy resources	MJ	1,84E+04	8,01E+02	1,32E+01	6,46E+00	1,70E+04	5,92E+02	-2,97E+02									
Contribution to use of secondary material	kg	2,64E-01	2,64E-01	0*	0*	0*	0*	0,00E+00									
Contribution to use of renewable secondary fuels	MJ	0,00E+00	0*	0*	0*	0*	0*	0,00E+00									
Contribution to use of non renewable secondary fuels	MJ	0,00E+00	0*	0*	0*	0*	0*	0,00E+00									
Contribution to net use of freshwater	m³	1,49E+00	6,45E-01	0*	6,16E-03	5,50E-01	2,89E-01	-4,18E-01									
Contribution to hazardous waste disposed	kg	5,44E+02	5,24E+02	0*	0*	1,25E+01	7,38E+00	-4,59E+02									
Contribution to non hazardous waste disposed	kg	1,82E+02	8,28E+01	3,33E-02	2,01E+00	9,61E+01	1,40E+00	-1,12E+01									
Contribution to radioactive waste disposed	kg	4,50E-02	2,45E-02	2,37E-05	2,70E-04	2,01E-02	9,38E-05	-4,11E-03									
Contribution to components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*	0,00E+00									
Contribution to materials for recycling	kg	4,71E+00	5,25E-02	0*	3,40E-01	0*	4,32E+00	0,00E+00									
Contribution to materials for energy recovery	kg	0,00E+00	0*	0*	0*	0*	0*	0,00E+00									
Contribution to exported energy	MJ	0,00E+00	0*	0*	0*	0*	0*	0,00E+00									
Contribution to biogenic carbon content of the product	kg de C	0,00E+00	0*	0*	0*	0*	0*	0,00E+00									
Contribution to biogenic carbon content of the associated packaging	kg de C	0,00E+00	0*	0*	0*	0*	0*	0,00E+00									


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

Life cycle assessment performed with EIME version v5.9.4, database version 2022-01 in compliance with ISO 14044.

Detailed results, including all the optional indicators mentioned in PCRed4, and the split of the Use Phase (B1 to B7), are available in the LCA report and on demand in a digital format - Country Customer Care Center - <http://www.schneider-electric.com/contact>

For most impact indicators, the [B6] phase (energy needs during the use phase) is the greatest contributor due to the power dissipated during the product's lifetime. The manufacturing phase [A1-A3] has the greatest impact on the PEF-ODP (ozone depletion) and is almost the sole contributor to the PEF-ADPe (resource use, minerals and metals) indicator. It can be explained due to the materials needed to produce the mechanisms contained in the breaking block of the circuit breaker. The PEF-Epf (eutrophication, freshwater) indicator's main contributor is the [C1-C4] phase, i.e the End of Life of the product.

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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Verifier accreditation N°	VH08	Supplemented by information and reference documents	PSR-0005-ed2-2016 03 29
Date of issue	12/2023	Validity period	www.pep-ecopassport.org 5 years
Independent verification of the declaration and data, in compliance with ISO 14025 : 2010			
Internal	External	X	
The PCR review was conducted by a panel of experts chaired by Julie ORGELET (DDemain)			
PEP are compliant with XP C08-100-1 :2016 or EN 50693:2019			
The elements of the present PEP cannot be compared with elements from another program.			
Document in compliance with ISO 14025 : 2010 « Environmental labels and declarations. Type III environmental declarations »			
			

Schneider Electric Industries SAS

Country Customer Care Center
<http://www.se.com/contact>

35, rue Joseph Monier
 CS 30323
 F- 92500 Rueil Malmaison Cedex
 RCS Nanterre 954 503 439
 Capital social 928 298 512 €

www.se.com

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