

# Product Environmental Profile

## 30–100 A double throw F-series safety switches





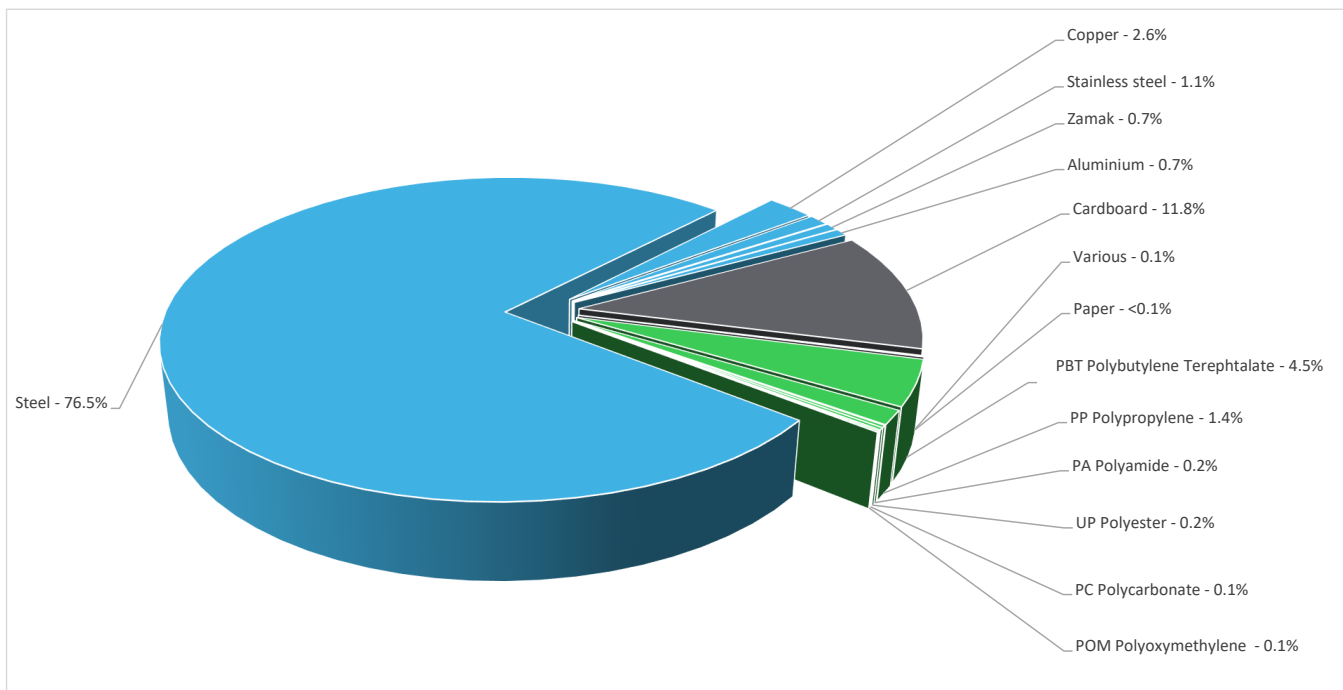
## General information

Reference product	30–100 A double throw F-series safety switches - DTU223RB
Description of the product	Double Throw Safety Switches are supplied for switching one load between two power sources. These switches are UL® Listed and suitable for use in accordance with Article 702 of the National Electrical Code, ANSI/NFPA 70.
Description of the range	Single product
Functional unit	Turn off all or part of an installation by separating the installation or part of the installation of all electrical energy or earth, for safety reasons with a rated voltage U, and rated current In ensuring isolation characterised by a rated voltage Ui, and if applicable the specific specifications, according to the appropriate use scenario, and during the reference service life of the product of 20 years.
Specifications are:	U = 600 V In = 100 A Ui = 2200 V IP = NEMA Type 3 R Standards - UL 98 and CSA® No.22



## Constituent materials

Reference product mass	20410 g including the product, its packaging, additional elements and accessories
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Plastics	6.5%
Metals	81.6%
Others	11.9%



## Substance assessment

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

<https://www.se.com>

**Additional environmental information**

End Of Life	Recyclability potential:	91%	The recyclability rate was calculated from the recycling rates of each material making up the product based on REEECYLAB tool developed by Ecosystem, for components/materials not covered by the tool, data from the EIME database and the related PSR 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	Disconnectors - Low voltage			
Life cycle of the product	The manufacturing, the distribution, the installation, the use and the end of life were taken into consideration in this study			
Installation elements	The product does not require any installation operations			
Use scenario	Load rate = 50 % In Use rate (closed device) = 30 % RLT			
Time representativeness	The collected data are representative of the year 2025			
Technological representativeness	The Modules of Technologies such as material production, manufacturing processes and transport technology used in the PEP analysis (LCA EIME in the case) are Similar and representative of the actual type of technologies used to make the product.			
Geographical representativeness	Final assembly site	Use phase		End-of-life
	Lexington, US	US, Canada, Mexico		US, Canada, Mexico
Energy model used	[A1 - A3]	[A5]	[B6]	[C1 - C4]
	Electricity Mix; Europe; RER	Electricity Mix; Europe; RER	Electricity Mix; Low voltage; 2020; United States, US	Global, European and French datasets are used.
	Electricity Mix; Global; GLO		Electricity Mix; Low voltage; 2020; Canada, CA	
	Electricity Mix; Low voltage; 2020; Mexico, MX			

Detailed results of the optional indicators mentioned in PCRed4 are available in the LCA report and on demand in a digital format - Country Customer Care Center - <http://www.se.com/contact>

Mandatory Indicators		30–100 A double throw F-series safety switches - DTU223RB						
Impact indicators	Unit	Total (without Module D)	[A1 - A3] - Manufacturing	[A4] - Distribution	[A5] - Installation	[B1 - B7] - Use	[C1 - C4] - End of life	[D] - Benefits and loads
Contribution to climate change	kg CO2 eq	3.04E+02	1.01E+02	3.93E+01	8.89E-02	1.16E+02	4.83E+01	-6.12E+01
Contribution to climate change-fossil	kg CO2 eq	3.03E+02	1.01E+02	3.93E+01	8.90E-02	1.15E+02	4.82E+01	-6.09E+01
Contribution to climate change-biogenic	kg CO2 eq	7.66E-01	8.41E-02	0*	0*	5.79E-01	1.03E-01	-2.84E-01
Contribution to climate change-land use and land use change	kg CO2 eq	3.25E-05	3.08E-05	0*	0*	0*	1.71E-06	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	4.36E-05	8.57E-06	3.45E-05	3.63E-09	4.32E-07	6.64E-08	-9.29E-06
Contribution to acidification	mol H+ eq	1.42E+00	5.65E-01	1.61E-01	1.23E-03	5.16E-01	1.74E-01	-4.38E-01
Contribution to eutrophication, freshwater	kg P eq	4.00E-03	5.46E-04	4.58E-06	4.52E-07	1.93E-04	3.26E-03	-9.81E-05
Contribution to eutrophication marine	kg N eq	2.48E-01	7.21E-02	7.35E-02	5.81E-04	6.54E-02	3.62E-02	-3.58E-02
Contribution to eutrophication, terrestrial	mol N eq	2.77E+00	7.88E-01	7.97E-01	5.91E-03	7.77E-01	3.99E-01	-4.18E-01
Contribution to photochemical ozone formation - human health	kg COVNM eq	8.90E-01	2.75E-01	2.66E-01	1.42E-03	2.16E-01	1.32E-01	-1.50E-01
Contribution to resource use, minerals and metals	kg Sb eq	1.57E-02	1.55E-02	3.36E-09	3.97E-09	2.20E-05	1.05E-04	-1.93E-02
Contribution to resource use, fossils	MJ	9.82E+03	3.57E+03	4.87E+02	1.05E+00	2.51E+03	3.25E+03	-1.40E+03
Contribution to water use	m3 eq	7.09E+01	4.28E+01	1.99E+00	2.16E-01	6.28E+00	1.96E+01	-2.94E+01

Inventory flows Indicators		30–100 A double throw F-series safety switches - DTU223RB						
Inventory flows	Unit	Total (without Module D)	[A1 - A3] - Manufacturing	[A4] - Distribution	[A5] - Installation	[B1 - B7] - Use	[C1 - C4] - End of life	[D] - Benefits and loads
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	3.97E+02	1.51E+01	3.18E-03	7.59E-04	3.79E+02	2.57E+00	-1.41E+01
Contribution to use of renewable primary energy resources used as raw material	MJ	4.79E+01	4.79E+01	0*	0*	0*	0*	0.00E+00
Contribution to total use of renewable primary energy resources	MJ	4.45E+02	6.31E+01	3.18E-03	7.59E-04	3.79E+02	2.57E+00	-1.41E+01
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	9.78E+03	3.53E+03	4.87E+02	1.05E+00	2.51E+03	3.25E+03	-1.40E+03
Contribution to use of non renewable primary energy resources used as raw material	MJ	3.57E+01	3.57E+01	0*	0*	0*	0*	0.00E+00
Contribution to total use of non-renewable primary energy resources	MJ	9.82E+03	3.57E+03	4.87E+02	1.05E+00	2.51E+03	3.25E+03	-1.40E+03
Contribution to use of secondary material	kg	4.51E-02	4.51E-02	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	1.65E+00	9.97E-01	4.62E-02	5.03E-03	1.46E-01	4.56E-01	-6.85E-01
Contribution to hazardous waste disposed	kg	1.19E+03	1.19E+03	3.24E-02	5.44E-04	2.08E+00	0*	-1.53E+03
Contribution to non hazardous waste disposed	kg	1.47E+02	1.24E+02	3.98E-02	2.36E+00	1.78E+01	1.92E+00	-5.12E+01
Contribution to radioactive waste disposed	kg	4.49E-02	3.28E-02	7.78E-03	1.91E-06	4.18E-03	1.53E-04	-2.42E-02
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	1.81E+01	2.25E+00	0*	0*	0*	1.59E+01	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	1.80E-01	2.25E-02	0*	0*	0*	1.57E-01	0.00E+00

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

Contribution to biogenic carbon content of the product kg of C 0.00E+00

Contribution to biogenic carbon content of the associated packaging kg of C 6.61E-01

\* The calculation of the biogenic carbon is based on the Ademe for the Cardboard (28%), EN16485 for Wood (39,52%), and APESA/RECORD for Paper (37,8%)


Mandatory Indicators		30–100 A double throw F-series safety switches - DTU223RB							
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to climate change	kg CO2 eq	1.16E+02	0*	0*	0*	0*	0*	1.16E+02	0*
Contribution to climate change-fossil	kg CO2 eq	1.15E+02	0*	0*	0*	0*	0*	1.15E+02	0*
Contribution to climate change-biogenic	kg CO2 eq	5.79E-01	0*	0*	0*	0*	0*	5.79E-01	0*
Contribution to climate change-land use and land use change	kg CO2 eq	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to ozone depletion	kg CFC-11 eq	4.32E-07	0*	0*	0*	0*	0*	4.32E-07	0*
Contribution to acidification	mol H+ eq	5.16E-01	0*	0*	0*	0*	0*	5.16E-01	0*
Contribution to eutrophication, freshwater	kg P eq	1.93E-04	0*	0*	0*	0*	0*	1.93E-04	0*
Contribution to eutrophication marine	kg N eq	6.54E-02	0*	0*	0*	0*	0*	6.54E-02	0*
Contribution to eutrophication, terrestrial	mol N eq	7.77E-01	0*	0*	0*	0*	0*	7.77E-01	0*
Contribution to photochemical ozone formation - human health	kg COVNM eq	2.16E-01	0*	0*	0*	0*	0*	2.16E-01	0*
Contribution to resource use, minerals and metals	kg Sb eq	2.20E-05	0*	0*	0*	0*	0*	2.20E-05	0*
Contribution to resource use, fossils	MJ	2.51E+03	0*	0*	0*	0*	0*	2.51E+03	0*
Contribution to water use	m3 eq	6.28E+00	0*	0*	0*	0*	0*	6.28E+00	0*

Inventory flows Indicators		30–100 A double throw F-series safety switches - DTU223RB								
Inventory flows	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]	
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	3.79E+02	0*	0*	0*	0*	0*	3.79E+02	0*	
Contribution to use of renewable primary energy resources used as raw material	MJ	0*	0*	0*	0*	0*	0*	0*	0*	
Contribution to total use of renewable primary energy resources	MJ	3.79E+02	0*	0*	0*	0*	0*	3.79E+02	0*	
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	2.51E+03	0*	0*	0*	0*	0*	2.51E+03	0*	
Contribution to use of non renewable primary energy resources used as raw material	MJ	0*	0*	0*	0*	0*	0*	0*	0*	
Contribution to total use of non-renewable primary energy resources	MJ	2.51E+03	0*	0*	0*	0*	0*	2.51E+03	0*	
Contribution to use of secondary material	kg	0*	0*	0*	0*	0*	0*	0*	0*	
Contribution to use of renewable secondary fuels	MJ	0*	0*	0*	0*	0*	0*	0*	0*	
Contribution to use of non renewable secondary fuels	MJ	0*	0*	0*	0*	0*	0*	0*	0*	
Contribution to net use of freshwater	m³	1.46E-01	0*	0*	0*	0*	0*	1.46E-01	0*	
Contribution to hazardous waste disposed	kg	2.08E+00	0*	0*	0*	0*	0*	2.08E+00	0*	
Contribution to non hazardous waste disposed	kg	1.78E+01	0*	0*	0*	0*	0*	1.78E+01	0*	
Contribution to radioactive waste disposed	kg	4.18E-03	0*	0*	0*	0*	0*	4.18E-03	0*	
Contribution to components for reuse	kg	0*	0*	0*	0*	0*	0*	0*	0*	
Contribution to materials for recycling	kg	0*	0*	0*	0*	0*	0*	0*	0*	
Contribution to materials for energy recovery	kg	0*	0*	0*	0*	0*	0*	0*	0*	
Contribution to exported energy	MJ	0*	0*	0*	0*	0*	0*	0*	0*	

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

Life cycle assessment performed with EIME version v6.2.4, database version 2024-01 in compliance with ISO14044, EF3.1 method is applied, for biogenic carbon storage, assessment methodology -1/1 is used

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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		Supplemented by	PSR-0005-ed3-2023 06 06
Verifier accreditation N°	VH08	Information and reference documents	<a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>
Date of issue	03-2025	Validity period	5 years
Independent verification of the declaration and data, in compliance with ISO 14025 : 2006			
Internal                      External    X			
The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain)			
PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019 or NF E38-500 :2022			
The components of the present PEP may not be compared with components from any other program.			
Document complies with ISO 14025:2006 "Environmental labels and declarations. Type III environmental declarations"			
			

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