

Product Environmental Profile

30-60A Light Duty and General Duty E-series Safety Switches

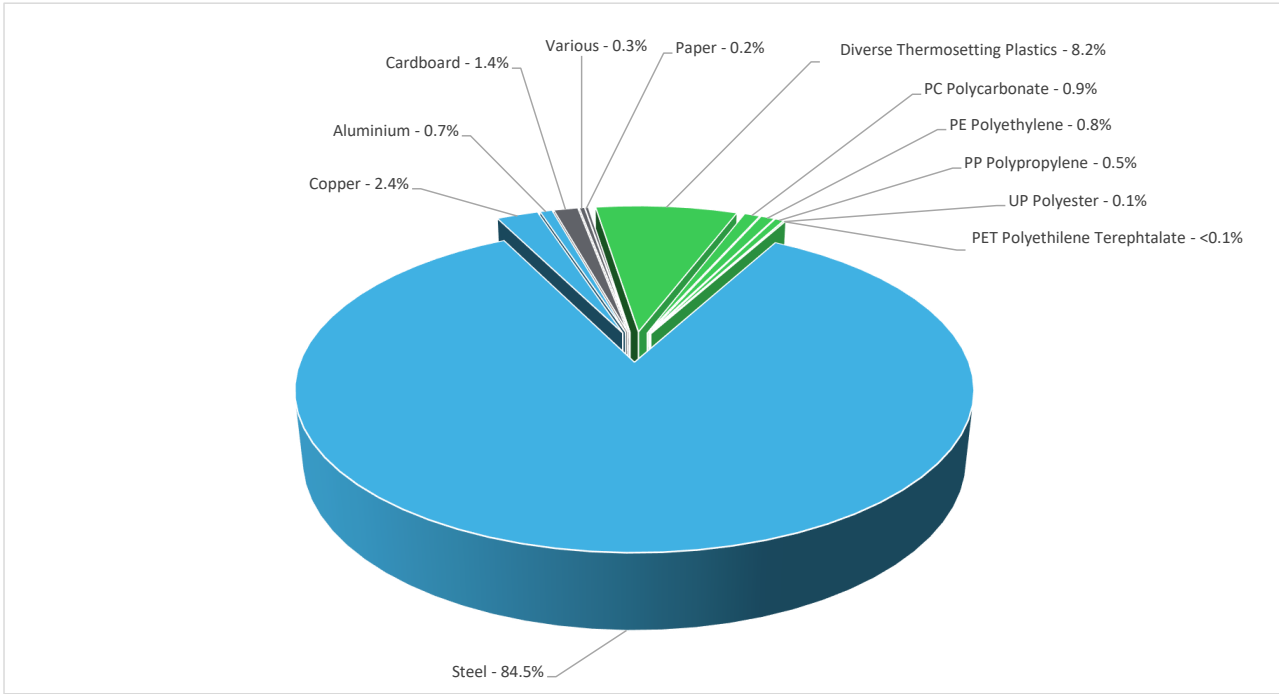


General information

Reference product	30–60A Light Duty and General Duty E-series Safety Switches - DU221RB
Description of the product	The E-Series Light and General Duty safety switches are designed for residential and commercial applications where durability and economy are prime considerations. Typical loads are lighting, air conditioning and appliances. When equipped with fuses, over-current and short circuit protection is also available. The switches are also suitable as service equipment when equipped with a factory-installed neutral assembly or a field-installed equipment grounding kit.
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:	No of poles - 2 Current type - AC U = Rated voltage - 240 V In = Rated current - 30 A 2-wire configuration

Constituent materials

Reference product mass	2114 g including the product, its packaging, additional elements and accessories
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Metals	87.6%
Plastics	10.5%
Others	1.9%

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:	88%	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			
Electricity consumption	The electricity consumed during manufacturing processes is considered for each part of the product individually, the final assembly generates a negligible consumption			
Installation elements	The product does not require any installation operations			
Use scenario	Use time rate: 30% of RLT The energy consumption of the product is 0.37 W on full time load by confirmed from designer. According to PSR0005, load rate: 50 % of In; Use time rate: 30% of the RLT as 0.0925 W.			
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			
	TLaxcala 2, Mexico	US, Canada, Mexico		
Energy model used	[A1 - A3]	[A5]	[B6]	[C1 - C4]
	Electricity Mix; Mexico, MX Electricity Mix; Europe, EU	No energy used	Electricity Mix; Low voltage; 2020; United States, US	Global, European and French datasets are used.
			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		30–60A Light Duty and General Duty E-series Safety Switches - DU221RB						
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	1.92E+01	1.37E+01	0*	1.35E-01	2.22E+00	3.14E+00	-6.94E+00
Contribution to climate change-fossil	kg CO2 eq	1.93E+01	1.38E+01	0*	8.45E-02	2.21E+00	3.13E+00	-6.91E+00
Contribution to climate change-biogenic	kg CO2 eq	-1.61E-02	-8.82E-02	0*	0*	0*	0*	-3.04E-02
Contribution to climate change-land use and land use change	kg CO2 eq	2.92E-05	2.82E-05	0*	1.09E-10	0*	9.15E-07	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	2.67E-06	2.56E-06	0*	4.43E-10	8.45E-09	9.75E-08	-1.04E-06
Contribution to acidification	mol H+ eq	9.49E-02	6.97E-02	0*	7.80E-05	1.00E-02	1.51E-02	-4.85E-02
Contribution to eutrophication, freshwater	kg P eq	1.94E-05	8.18E-06	0*	1.34E-08	3.73E-06	7.50E-06	-1.10E-05
Contribution to eutrophication, marine	kg N eq	1.66E-02	1.26E-02	0*	1.94E-05	1.26E-03	2.71E-03	-4.06E-03
Contribution to eutrophication, terrestrial	mol N eq	1.83E-01	1.37E-01	0*	2.69E-04	1.50E-02	3.08E-02	-4.73E-02
Contribution to photochemical ozone formation - human health	kg COVNM eq	6.13E-02	4.85E-02	0*	5.44E-05	4.18E-03	8.57E-03	-1.69E-02
Contribution to resource use, minerals and metals	kg Sb eq	3.33E-04	3.33E-04	0*	1.64E-09	3.95E-07	1.53E-07	-2.21E-03
Contribution to resource use, fossils	MJ	7.92E+02	7.03E+02	0*	2.22E-01	4.83E+01	4.01E+01	-1.60E+02
Contribution to water use	m3 eq	5.34E+00	4.77E+00	0*	7.07E-03	1.18E-01	4.46E-01	-3.28E+00

Inventory flows Indicators		30–60A Light Duty and General Duty E-series Safety Switches - DU221RB						
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 renewable primary energy used as energy	MJ	1.22E+01	3.28E+00	0*	1.78E-02	6.86E+00	2.07E+00	-1.57E+00
Contribution to renewable primary energy used as raw material	MJ	6.79E-01	6.79E-01	0*	0*	0*	0*	0.00E+00
Contribution to total renewable primary energy	MJ	1.29E+01	3.96E+00	0*	1.78E-02	6.86E+00	2.07E+00	-1.57E+00
Contribution to non renewable primary energy used as energy	MJ	7.84E+02	6.96E+02	0*	2.22E-01	4.83E+01	4.01E+01	-1.60E+02
Contribution to non renewable primary energy used as raw material	MJ	7.48E+00	7.48E+00	0*	0*	0*	0*	0.00E+00
Contribution to total non renewable primary energy	MJ	7.92E+02	7.03E+02	0*	2.22E-01	4.83E+01	4.01E+01	-1.60E+02
Contribution to use of secondary material	kg	0.00E+00	0*	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 fresh water	m³	1.28E-01	1.12E-01	0*	1.64E-04	2.75E-03	1.33E-02	-7.63E-02
Contribution to hazardous waste disposed	kg	2.27E+01	2.26E+01	0*	1.19E-02	4.08E-02	2.49E-02	-1.74E+02
Contribution to non hazardous waste disposed	kg	6.50E+00	3.71E+00	0*	2.61E-02	3.39E-01	2.42E+00	-5.85E+00
Contribution to radioactive waste disposed	kg	1.95E-03	1.76E-03	0*	1.41E-06	7.91E-05	1.13E-04	-2.76E-03
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	2.07E+00	2.66E-01	0*	0*	0*	1.80E+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	2.05E-02	2.67E-03	0*	0*	0*	1.78E-02	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 9.31E-03

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

Mandatory Indicators		30–60A Light Duty and General Duty E-series Safety Switches - DU221RB							
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to climate change	kg CO2 eq	2.22E+00	0*	0*	0*	0*	0*	2.22E+00	0*
Contribution to climate change-fossil	kg CO2 eq	2.21E+00	0*	0*	0*	0*	0*	2.21E+00	0*
Contribution to climate change-biogenic	kg CO2 eq	0*	0*	0*	0*	0*	0*	0*	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	8.45E-09	0*	0*	0*	0*	0*	8.45E-09	0*
Contribution to acidification	mol H+ eq	1.00E-02	0*	0*	0*	0*	0*	1.00E-02	0*
Contribution to eutrophication, freshwater	kg P eq	3.73E-06	0*	0*	0*	0*	0*	3.73E-06	0*
Contribution to eutrophication marine	kg N eq	1.26E-03	0*	0*	0*	0*	0*	1.26E-03	0*
Contribution to eutrophication, terrestrial	mol N eq	1.50E-02	0*	0*	0*	0*	0*	1.50E-02	0*
Contribution to photochemical ozone formation - human health	kg COVNM eq	4.18E-03	0*	0*	0*	0*	0*	4.18E-03	0*
Contribution to resource use, minerals and metals	kg Sb eq	3.95E-07	0*	0*	0*	0*	0*	3.95E-07	0*
Contribution to resource use, fossils	MJ	4.83E+01	0*	0*	0*	0*	0*	4.83E+01	0*
Contribution to water use	m3 eq	1.18E-01	0*	0*	0*	0*	0*	1.18E-01	0*

Inventory flows Indicators		30–60A Light Duty and General Duty E-series Safety Switches - DU221RB								
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	6.86E+00	0*	0*	0*	0*	0*	6.86E+00	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	6.86E+00	0*	0*	0*	0*	0*	6.86E+00	0*	
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	4.83E+01	0*	0*	0*	0*	0*	4.83E+01	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	4.83E+01	0*	0*	0*	0*	0*	4.83E+01	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	2.75E-03	0*	0*	0*	0*	0*	2.75E-03	0*	
Contribution to hazardous waste disposed	kg	4.08E-02	0*	0*	0*	0*	0*	4.08E-02	0*	
Contribution to non hazardous waste disposed	kg	3.39E-01	0*	0*	0*	0*	0*	3.39E-01	0*	
Contribution to radioactive waste disposed	kg	7.91E-05	0*	0*	0*	0*	0*	7.91E-05	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 v6.2.5-6, 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.

Registration number :	ENVPEP1310005_V3-EN	Drafting rules	PEP-PCR-ed4-2021 09 06
Date of issue	09-2025	Supplemented by	PSR-0005-ed3.1-EN-2023 12 08
		Information and reference documents	www.pep-ecopassport.org
		Validity period	5 years
Independent verification of the declaration and data, in compliance with ISO 14021 : 2016			
Internal	X	External	
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 14021:2016 "Environmental labels and declarations. Type II environmental declarations"			

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