

Product Environmental Profile

THERMAL UNIT



Schneider
Electric



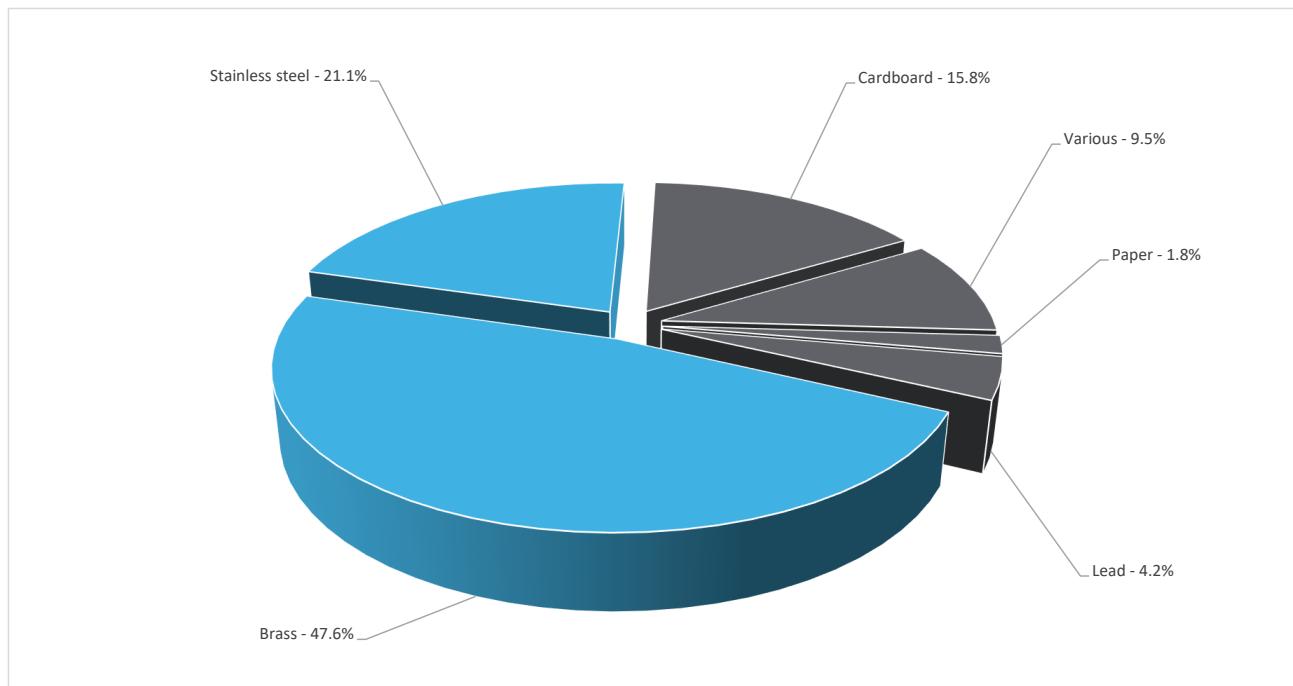
General information

Reference product	THERMAL UNIT - B25.0
Description of the product	Current sensing unit for motor overload relay. UL 60947-4-1
Description of the range	Single product
Functional unit	Other switchgear and controlgear solutions mentioned in the scope (e.g. fuses TC32, all-or-nothing relays TC94, Measuring relays and protection equipment TC95), apply the general rules of PCR and mention in the accompanying report the functional unit, the reference product characteristics, the reference lifetime and the use scenario which are applied consistently with the relevant IEC technical standards.
Specifications are:	Voltage(V) - 600V Current range - 12.8 to 14.1 Amps



Constituent materials

Reference product mass 19 g including the product and its packaging.



	Metals	68.7%
	Others	31.3%
	Plastics	0.0%



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:	87%	The recyclability rate was calculated from the recycling rates of each material making up the product based on REEECY'LAB 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	Other equipments - Passive product - continuous operation		
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	The load rate of 30%, with usage time reaching 100% of its Rated Lifetime (RLT). Over a span of 20 years, it dissipates 1.87 W of power per pole.		
Time representativeness	The collected data are representative of the year 2024		
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
	Monterrey, US		US, Canada, Mexico
Energy model used	[A1 - A3]		[B6]
	Electricity Mix; United States, US Electricity Mix; Europe, EU		Electricity Mix; Low voltage; 2020; United States, US
			Global, European and French datasets are used.
[A5]		[C1 - C4]	Electricity Mix; Low voltage; 2020; Canada, CA

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		THERMAL UNIT - B25.0							
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	1.28E+01	1.01E-01	1.58E-02	6.36E-03	1.26E+01	2.25E-02	-5.67E-02	
Contribution to climate change-fossil	kg CO2 eq	1.27E+01	1.06E-01	1.58E-02	1.13E-03	1.26E+01	2.12E-02	-5.66E-02	
Contribution to climate change-biogenic	kg CO2 eq	6.51E-02	0*	0*	5.23E-03	6.32E-02	1.37E-03	-1.32E-04	
Contribution to climate change-land use and land use change	kg CO2 eq	7.89E-09	1.01E-09	0*	1.13E-11	0*	6.87E-09	0.00E+00	
Contribution to ozone depletion	kg CFC-11 eq	1.09E-07	4.75E-08	1.39E-08	4.08E-11	4.72E-08	7.38E-10	-1.51E-08	
Contribution to acidification	mol H+ eq	5.82E-02	1.76E-03	6.94E-05	6.85E-06	5.63E-02	1.14E-04	-3.14E-04	
Contribution to eutrophication, freshwater	kg P eq	2.20E-05	1.88E-07	1.85E-09	1.34E-09	2.17E-05	1.18E-07	-1.51E-07	
Contribution to eutrophication, marine	kg N eq	7.34E-03	1.44E-04	3.19E-05	1.73E-06	7.14E-03	2.07E-05	-3.15E-05	
Contribution to eutrophication, terrestrial	mol N eq	8.74E-02	1.54E-03	3.46E-04	2.27E-05	8.52E-02	2.34E-04	-3.56E-04	
Contribution to photochemical ozone formation - human health	kg COVNM eq	2.43E-02	5.65E-04	1.13E-04	4.84E-06	2.35E-02	6.54E-05	-1.33E-04	
Contribution to resource use, minerals and metals	kg Sb eq	2.60E-05	2.33E-05	1.36E-12	1.63E-10	2.68E-06	2.81E-09	-1.09E-05	
Contribution to resource use, fossils	MJ	2.78E+02	1.54E+00	1.97E-01	2.10E-02	2.76E+02	3.02E-01	-9.31E-01	
Contribution to water use	m3 eq	8.13E-01	9.00E-02	8.02E-04	6.54E-05	7.19E-01	3.08E-03	-2.51E-02	

Inventory flows Indicators		THERMAL UNIT - B25.0							
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	4.64E+01	1.01E-01	0*	0*	4.63E+01	1.53E-02	-6.73E-03	
Contribution to renewable primary energy used as raw material	MJ	6.71E-02	6.71E-02	0*	0*	0*	0*	0.00E+00	
Contribution to total renewable primary energy	MJ	4.65E+01	1.69E-01	0*	0*	4.63E+01	1.53E-02	-6.73E-03	
Contribution to non renewable primary energy used as energy	MJ	2.78E+02	1.50E+00	1.97E-01	0*	2.76E+02	3.02E-01	-9.31E-01	
Contribution to non renewable primary energy used as raw material	MJ	3.64E-02	3.64E-02	0*	0*	0*	0*	0.00E+00	
Contribution to total non renewable primary energy	MJ	2.78E+02	1.54E+00	1.97E-01	0*	2.76E+02	3.02E-01	-9.31E-01	
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	m ³	1.90E-02	2.10E-03	1.87E-05	0*	1.68E-02	9.37E-05	-5.85E-04	
Contribution to hazardous waste disposed	kg	1.40E+00	1.17E+00	0*	1.24E-03	2.27E-01	1.94E-04	-8.21E-01	
Contribution to non hazardous waste disposed	kg	2.08E+00	5.32E-02	0*	0*	2.01E+00	1.86E-02	-2.70E-02	
Contribution to radioactive waste disposed	kg	4.83E-04	1.96E-05	3.14E-06	6.25E-08	4.60E-04	8.04E-07	-1.26E-05	
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00	
Contribution to materials for recycling	kg	1.55E-02	2.00E-03	0*	0*	0*	1.35E-02	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	1.54E-04	2.02E-05	0*	0*	0*	1.34E-04	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 9.66E-04

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

Mandatory Indicators		THERMAL UNIT - B25.0							
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to climate change	kg CO ₂ eq	1.26E+01	0*	0*	0*	0*	0*	1.26E+01	0*
Contribution to climate change-fossil	kg CO ₂ eq	1.26E+01	0*	0*	0*	0*	0*	1.26E+01	0*
Contribution to climate change-biogenic	kg CO ₂ eq	6.32E-02	0*	0*	0*	0*	0*	6.32E-02	0*
Contribution to climate change-land use and land use change	kg CO ₂ eq	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to ozone depletion	kg CFC-11 eq	4.72E-08	0*	0*	0*	0*	0*	4.72E-08	0*
Contribution to acidification	mol H ⁺ eq	5.63E-02	0*	0*	0*	0*	0*	5.63E-02	0*
Contribution to eutrophication, freshwater	kg P eq	2.17E-05	0*	0*	0*	0*	0*	2.17E-05	0*
Contribution to eutrophication marine	kg N eq	7.14E-03	0*	0*	0*	0*	0*	7.14E-03	0*
Contribution to eutrophication, terrestrial	mol N eq	8.52E-02	0*	0*	0*	0*	0*	8.52E-02	0*
Contribution to photochemical ozone formation - human health	kg COVNM eq	2.35E-02	0*	0*	0*	0*	0*	2.35E-02	0*
Contribution to resource use, minerals and metals	kg Sb eq	2.68E-06	0*	0*	0*	0*	0*	2.68E-06	0*
Contribution to resource use, fossils	MJ	2.76E+02	0*	0*	0*	0*	0*	2.76E+02	0*
Contribution to water use	m ³ eq	7.19E-01	0*	0*	0*	0*	0*	7.19E-01	0*

Inventory flows Indicators		THERMAL UNIT - B25.0							
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	4.63E+01	0*	0*	0*	0*	0*	4.63E+01	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	4.63E+01	0*	0*	0*	0*	0*	4.63E+01	0*
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	2.76E+02	0*	0*	0*	0*	0*	2.76E+02	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	2.76E+02	0*	0*	0*	0*	0*	2.76E+02	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	1.68E-02	0*	0*	0*	0*	0*	1.68E-02	0*
Contribution to hazardous waste disposed	kg	2.27E-01	0*	0*	0*	0*	0*	2.27E-01	0*
Contribution to non hazardous waste disposed	kg	2.01E+00	0*	0*	0*	0*	0*	2.01E+00	0*
Contribution to radioactive waste disposed	kg	4.60E-04	0*	0*	0*	0*	0*	4.60E-04	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.

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Date of issue	10-2025	Validity period	5 years
Independent verification of the declaration and data, in compliance with ISO 14021 : 2016			
Internal	X	External	
<p>The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain)</p> <p>PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019 or NF E38-500 :2022</p> <p>The components of the present PEP may not be compared with components from any other program.</p> <p>Document complies with ISO 14021:2016 "Environmental labels and declarations. Type II environmental declarations"</p>			

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