Product Environmental Profile

2023/08/19

TeSys Deca TeSys GV4 Motor circuit breaker

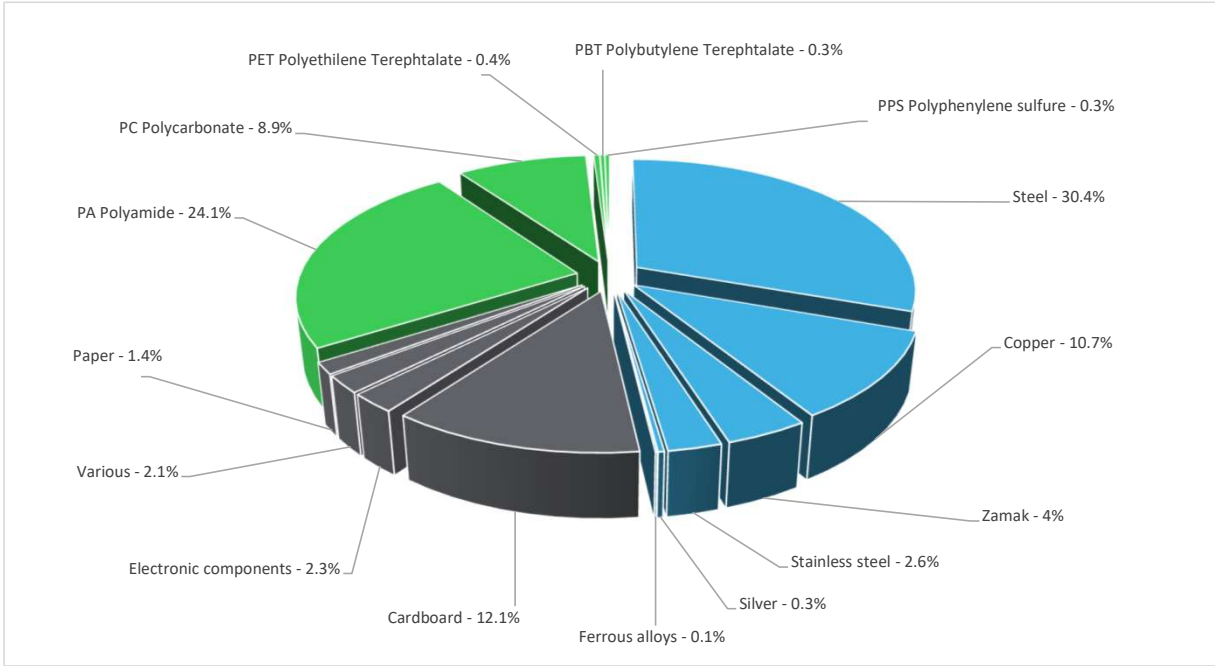## TeSys Deca

Schneider Electric

General information

Reference product	TeSys Deca TeSys GV4 Motor circuit breaker
Description of the product	The Motor Breaker GV4P 3 poles circuit breaker equipped with a thermal magnetic trip unit is designed to provide protection against overloads and short-circuits for electrical motors with assigned voltage up to 690VAC and rated current of 115A.
Description of the range	The range product report includes :Motor power: 0.25-55kW at 400V/415V. , TeSys Deca Frame 4 Motor circuit breakers ,the representative product used for analysis is 37-55kW at 400V/415V (product number: GV4P115N)
	The environmental impacts of this reference product are representative of the impacts of the other products of the range which are developed with a similar technology.
Functional unit	Protect during 20 years the motor against overloads and short-circuits in circuit with assigned voltage up to 690VAC and 115A rated current. This protection is ensured in accordance with the following parameters: - Number of poles: 3 - Rated service breaking capacity Ics at 440VAC = 50kA (according to IEC 60947-2) - Tripping curve: long time, short time and instantanous protections, dual class (10 and 20)

Constituent materials

Reference product mass	1840.07 g	including the product, its packaging and additional elements and accessories

PET Polyethilene Terephtalate - 0.4%
PBT Polybutylene Terephtalate - 0.3%
PC Polycarbonate - 8.9%
PPS Polyphenylene sulfure - 0.3%
PA Polyamide - 24.1%
Steel - 30.4%
Paper - 1.4%
Copper - 10.7%
Various - 2.1%
Zamak - 4%
Electronic components - 2.3%
Stainless steel - 2.6%
Cardboard - 12.1%
Silver - 0.3%
Ferrous alloys - 0.1%

Plastics	34.00%
Metals	48.10%
Others	17.90%

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:	**50%**	Recyclability rate has been calculated based on REEECY'LAB tool developed by Ecosystem, for components/materials not covered by the tool, data from the "ECO'DEEE recyclability and recoverability calculation method" was taken. If no data was found a conservative assumption was used (0% recyclability).

Environmental impacts

Reference service life time	20 years			
Product category	Circuit-breakers			
Installation elements	Ref GV4P115N does not require any installation operations			
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 in production			
Geographical representativeness	Europe			
Energy model used	**[A1 - A3]** Electricity Mix; Production mix; Low voltage; CZ	**[A5]** Electricity Mix; Production mix; Low voltage; UE-27	**[B6]** 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			TeSys Deca TeSys GV4 Motor circuit breaker - GV4P115N					
Impact indicators	**Unit**	**Total**	**Manufacturing** **[A1 - A3]**	**Distribution** **[A4]**	**Installation** **[A5]**	**Use** **[B1 - B7]**	**End of Life** **[C1 - C4]**	**Benefits** **[D]**
Contribution to climate change	kg CO2 eq	9.21E+01	1.25E+01	5.30E-01	4.73E-01	7.43E+01	4.27E+00	-2.79E+01
Contribution to climate change-fossil	kg CO2 eq	9.18E+01	1.24E+01	5.30E-01	4.52E-01	7.42E+01	4.23E+00	-2.77E+01
Contribution to climate change-biogenic	kg CO2 eq	3.31E-01	1.69E-01	0*	2.10E-02	9.91E-02	4.20E-02	-1.93E-01
Contribution to climate change-land use and land use change	kg CO2 eq	7.05E-07	2.52E-09	0*	3.02E-09	0*	7.00E-07	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	3.39E-06	2.54E-06	4.68E-07	3.13E-08	3.18E-07	3.51E-08	-4.26E-06
Contribution to acidification	mol H+ eq	5.36E-01	9.58E-02	2.30E-03	1.88E-03	4.24E-01	1.24E-02	-2.57E-01
Contribution to eutrophication, freshwater	kg (PO4)³⁻ eq	1.80E-03	1.04E-04	0*	3.43E-06	2.03E-04	1.49E-03	-4.70E-05
Contribution to eutrophication marine	kg N eq	6.30E-02	1.11E-02	1.06E-03	4.97E-04	4.82E-02	2.12E-03	-1.71E-02
Contribution to eutrophication, terrestrial	mol N eq	8.81E-01	1.17E-01	1.15E-02	3.75E-03	7.24E-01	2.51E-02	-1.97E-01
Contribution to photochemical ozone formation - human health	kg COVNM eq	2.08E-01	4.10E-02	3.76E-03	1.00E-03	1.55E-01	7.40E-03	-7.36E-02
Contribution to resource use, minerals and metals	kg Sb eq	6.65E-03	6.61E-03	0*	0*	5.38E-06	4.20E-05	-8.89E-03
Contribution to resource use, fossils	MJ	2.25E+03	2.09E+02	6.44E+00	4.92E+00	1.89E+03	1.39E+02	-6.19E+02
Contribution to water use	m3 eq	1.01E+01	5.33E+00	2.69E-02	2.03E-01	2.63E+00	1.96E+00	-1.58E+01

Additional indicators for the French regulation are available as well

Inventory flows Indicators			TeSys Deca TeSys GV4 Motor circuit breaker - GV4P115N					
Inventory flows	**Unit**	**Total**	**Manufact.**	**Distribution**	**Installation**	**Use**	**End of Life**	**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	3.68E+02	2.68E+00	0*	3.54E-01	3.64E+02	1.02E+00	-4.41E+00
Contribution to use of renewable primary energy resources used as raw material	MJ	4.62E+00	4.62E+00	0*	0*	0*	0*	-4.67E+00
Contribution to total use of renewable primary energy resources	MJ	3.72E+02	7.30E+00	0*	3.54E-01	3.64E+02	1.02E+00	-9.09E+00
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	2.24E+03	1.93E+02	6.44E+00	4.92E+00	1.89E+03	1.39E+02	-6.19E+02
Contribution to use of non renewable primary energy resources used as raw material	MJ	1.62E+01	1.62E+01	0*	0*	0*	0*	-2.57E-02
Contribution to total use of non-renewable primary energy resources	MJ	2.25E+03	2.09E+02	6.44E+00	4.92E+00	1.89E+03	1.39E+02	-6.19E+02
Contribution to use of secondary material	kg	1.37E-04	1.37E-04	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	2.36E-01	1.24E-01	6.27E-04	4.72E-03	6.12E-02	4.58E-02	-3.69E-01
Contribution to hazardous waste disposed	kg	1.12E+02	1.09E+02	0*	0*	1.39E+00	1.72E+00	-7.12E+02
Contribution to non hazardous waste disposed	kg	2.58E+01	1.29E+01	0*	1.54E+00	1.07E+01	6.94E-01	-2.77E+01
Contribution to radioactive waste disposed	kg	1.15E-02	8.95E-03	1.05E-04	2.06E-04	2.24E-03	3.32E-05	-9.83E-03
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	1.09E+00	0*	0*	2.60E-01	0*	8.33E-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	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 ISO14044.

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

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According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range, ratios to apply can be provided upon request

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°			Supplemented by	PSR-0005-ed2-2016 03 29
Date of issue	2023/08/19		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)				
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 14021 : 2016 « Environmental labels and declarations. Type II environmental declarations »				

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