

Product Environmental Profile

Motor circuit breaker, TeSys GV5, 3P, 150A, Icu 70kA, thermal magnetic

Representative of all TeSys GV5 Motor circuit breaker from 150A to 220A

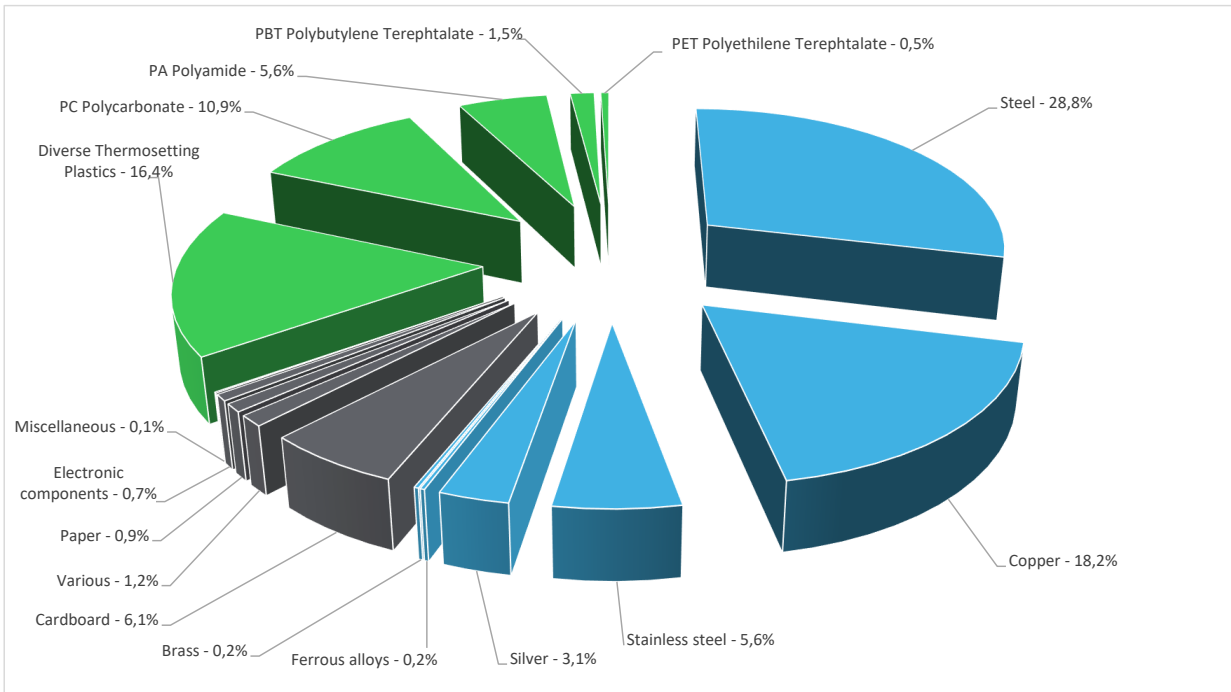


General information

Reference product	Motor circuit breaker, TeSys GV5, 3P, 150A, Icu 70kA, thermal magnetic - GV5P150H
Description of the product	TeSys GV motor circuit breaker, 3 poles (3P), 150A/690V, for protection of 3-phase motors 55-75kW@400V. It provides thermal magnetic protection and additional protections, breaking capacity Icu 70kA, start-stop control by rotary handle, connection for bars or cables with lugs (direct connection of cables with additional connectors). Thermal protection adjustable by dials with a setting current Ir in range 70-150A and a selectable tripping class 5, 10 or 20, magnetic protection at 15 In. Additional protections with fixed pick-up include short time delay protection I _{sd} at 13 I _r , phase unbalance and loss protection. It makes internal locations available for additional auxiliary contact blocks (OF, SD), and voltage trip units (MN, MX). Multi standards certified (IEC, UL, CSA, CCC, EAC, Marine).
Description of the range	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. The products of the range are: All TeSys GV5 Motor circuit breaker from 150A to 220A
Functional unit	Protect the installation from overloads and short circuits in a circuit with rated voltage 690V (U _e), rated current 150A (I _n), with 3 poles, a rated breaking capacity 70kA (I _{cu}), and, if applicable, the specific specifications, in the Industrial application area, while protecting them against the penetration of solid objects and liquids (IP40), and with a degree of protection against external mechanical impacts (IK07) in accordance with the standard IEC 62262 according to the appropriate use scenario, and during the reference service life of the product of 20 years.
Specifications are:	U _e = 690 V I _n = 150 A N _p = 3P Rated breaking capacity (A): 70kA IP = IP40 Degree of protection against ingress of solid foreign objects and water with harmful effects in accordance with the standard IEC 60529 IK = IK07 Degree of protection against external mechanical impacts in accordance with the standard IEC 62262 Voltage range: Low voltage Current type: Alternative current

Constituent materials

Reference product mass 2059 g including the product, its packaging, additional elements and accessories



Metals	56,1%
Plastics	34,9%
Others	9,0%

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:	60%	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	Circuit-breakers - Industrial		
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	No special components needed		
Use scenario	Load rate = 50 % In Use rate = 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	
	Beijing, China	Europe	
Energy model used	[A1 - A3]	[A5]	[B6]
	Electricity Mix; High voltage; 2020; China, CN	No energy used	Electricity Mix; Low voltage; 2020; Europe, EU-27
			[C1 - C4]
			Global, European and French datasets are used.

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		Motor circuit breaker, TeSys GV5, 3P, 150A, Icu 70kA, thermal magnetic - GV5P150H						
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	1,70E+02	1,82E+01	3,63E-01	1,90E-01	1,47E+02	4,77E+00	-3,78E+00
Contribution to climate change-fossil	kg CO2 eq	1,67E+02	1,84E+01	3,63E-01	1,82E-01	1,43E+02	4,70E+00	-3,87E+00
Contribution to climate change-biogenic	kg CO2 eq	3,13E+00	0*	0*	7,47E-03	3,24E+00	7,75E-02	8,21E-02
Contribution to climate change-land use and land use change	kg CO2 eq	2,36E-04	2,35E-04	0*	0*	0*	1,25E-06	0,00E+00
Contribution to ozone depletion	kg CFC-11 eq	3,62E-06	2,95E-06	5,57E-10	2,01E-09	6,28E-07	4,12E-08	-7,36E-07
Contribution to acidification	mol H+ eq	9,94E-01	2,06E-01	2,30E-03	5,52E-04	7,67E-01	1,82E-02	-7,81E-02
Contribution to eutrophication, freshwater	kg P eq	3,01E-03	2,93E-04	0*	3,87E-06	3,51E-04	2,36E-03	-8,36E-06
Contribution to eutrophication marine	kg N eq	1,11E-01	1,65E-02	1,08E-03	2,14E-04	8,98E-02	3,22E-03	-2,83E-03
Contribution to eutrophication, terrestrial	mol N eq	1,67E+00	1,79E-01	1,18E-02	1,56E-03	1,44E+00	3,83E-02	-3,22E-02
Contribution to photochemical ozone formation - human health	kg COVNM eq	3,66E-01	6,75E-02	2,98E-03	3,84E-04	2,85E-01	1,09E-02	-1,42E-02
Contribution to resource use, minerals and metals	kg Sb eq	6,81E-02	6,80E-02	0*	0*	4,75E-05	7,62E-05	-1,39E-03
Contribution to resource use, fossils	MJ	4,04E+03	3,40E+02	5,07E+00	3,72E+00	3,52E+03	1,72E+02	-8,19E+01
Contribution to water use	m3 eq	2,63E+01	1,22E+01	0*	2,36E-02	1,11E+01	2,99E+00	-4,25E+00

Inventory flows Indicators		Motor circuit breaker, TeSys GV5, 3P, 150A, Icu 70kA, thermal magnetic - GV5P150H						
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	8,42E+02	1,66E+01	0*	2,04E-01	8,23E+02	1,85E+00	-1,58E+00
Contribution to use of renewable primary energy resources used as raw material	MJ	2,75E+00	2,75E+00	0*	0*	0*	0*	-2,06E+00
Contribution to total use of renewable primary energy resources	MJ	8,45E+02	1,94E+01	0*	2,04E-01	8,23E+02	1,85E+00	-3,64E+00
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	4,02E+03	3,21E+02	5,07E+00	3,72E+00	3,52E+03	1,72E+02	-8,19E+01
Contribution to use of non renewable primary energy resources used as raw material	MJ	1,94E+01	1,94E+01	0*	0*	0*	0*	0,00E+00
Contribution to total use of non-renewable primary energy resources	MJ	4,04E+03	3,40E+02	5,07E+00	3,72E+00	3,52E+03	1,72E+02	-8,19E+01
Contribution to use of secondary material	kg	1,19E-01	1,19E-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	6,14E-01	2,84E-01	0*	5,51E-04	2,60E-01	6,95E-02	-9,89E-02
Contribution to hazardous waste disposed	kg	3,05E+02	3,00E+02	0*	0*	4,05E+00	0*	-1,16E+02
Contribution to non hazardous waste disposed	kg	3,12E+01	8,18E+00	1,27E-02	7,28E-02	2,21E+01	8,16E-01	-2,45E+00
Contribution to radioactive waste disposed	kg	9,74E-03	4,48E-03	9,08E-06	8,46E-06	5,21E-03	3,51E-05	-1,15E-03
Contribution to components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*	0,00E+00
Contribution to materials for recycling	kg	1,23E+00	9,69E-02	0*	1,25E-02	0*	1,12E+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	1,94E-02	5,66E-04	0*	7,63E-03	0*	1,12E-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 4,19E-02

* 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		Motor circuit breaker, TeSys GV5, 3P, 150A, Icu 70kA, thermal magnetic - GV5P150H								
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]	
Contribution to climate change	kg CO2 eq	1,47E+02	0*	0*	0*	0*	0*	1,47E+02	0*	
Contribution to climate change-fossil	kg CO2 eq	1,43E+02	0*	0*	0*	0*	0*	1,43E+02	0*	
Contribution to climate change-biogenic	kg CO2 eq	3,24E+00	0*	0*	0*	0*	0*	3,24E+00	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	6,28E-07	0*	0*	0*	0*	0*	6,28E-07	0*	
Contribution to acidification	mol H+ eq	7,67E-01	0*	0*	0*	0*	0*	7,67E-01	0*	
Contribution to eutrophication, freshwater	kg P eq	3,51E-04	0*	0*	0*	0*	0*	3,51E-04	0*	
Contribution to eutrophication marine	kg N eq	8,98E-02	0*	0*	0*	0*	0*	8,98E-02	0*	
Contribution to eutrophication, terrestrial	mol N eq	1,44E+00	0*	0*	0*	0*	0*	1,44E+00	0*	
Contribution to photochemical ozone formation - human health	kg COVNM eq	2,85E-01	0*	0*	0*	0*	0*	2,85E-01	0*	
Contribution to resource use, minerals and metals	kg Sb eq	4,75E-05	0*	0*	0*	0*	0*	4,75E-05	0*	
Contribution to resource use, fossils	MJ	3,52E+03	0*	0*	0*	0*	0*	3,52E+03	0*	
Contribution to water use	m³ eq	1,11E+01	0*	0*	0*	0*	0*	1,11E+01	0*	


Inventory flows Indicators		Motor circuit breaker, TeSys GV5, 3P, 150A, Icu 70kA, thermal magnetic - GV5P150H							
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	8,23E+02	0*	0*	0*	0*	0*	8,23E+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	8,23E+02	0*	0*	0*	0*	0*	8,23E+02	0*
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	3,52E+03	0*	0*	0*	0*	0*	3,52E+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	3,52E+03	0*	0*	0*	0*	0*	3,52E+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	2,60E-01	0*	0*	0*	0*	0*	2,60E-01	0*
Contribution to hazardous waste disposed	kg	4,05E+00	0*	0*	0*	0*	0*	4,05E+00	0*
Contribution to non hazardous waste disposed	kg	2,21E+01	0*	0*	0*	0*	0*	2,21E+01	0*
Contribution to radioactive waste disposed	kg	5,21E-03	0*	0*	0*	0*	0*	5,21E-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

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.

Registration number :	SCHN-01402-V01.01-EN	Drafting rules	PCR-4-ed4-EN-2021 09 06
		Supplemented by	PSR-0005-ed3.1-EN-2023 12 08
Verifier accreditation N°	VH08	Information and reference documents	www.pep-ecopassport.org
Date of issue	04-2025	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"			

Schneider Electric Industries SAS

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

Head Office
 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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