Product Environmental Profile

C-BUS RELAY

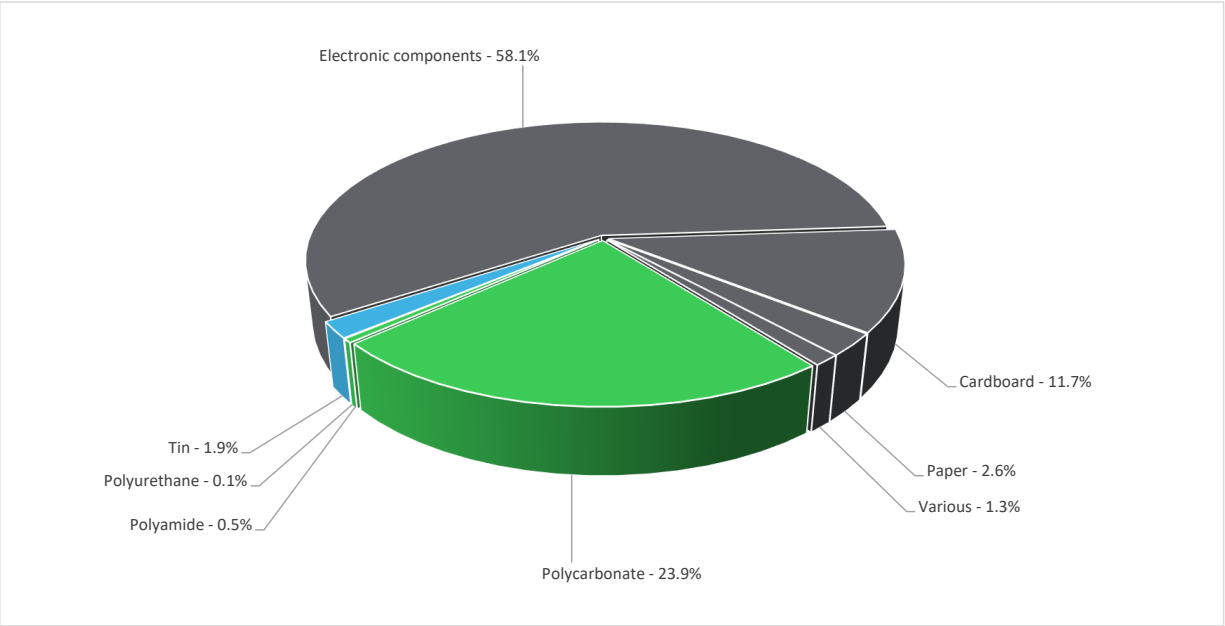


General information

Reference product	C-BUS RELAY - 5516RVF
Description of the product	The SpaceLogic C-Bus Relays are voltage free relays that allow control of electrical loads. The material constituant of the packaging material is Cardboard (82%) & Paper (18%)
Functional unit	The main functions of this product is to monitor, control and switching on/off lighting, small motor load and other devices connected with C-Bus channels and Integrated Switchable C-Bus Power Supply with voltage range of 110/230 V and rated current 10A/16AX according to IEC 60669-2-2, while protecting the user from direct contact with live parts and with a protection class IP20 in accordance with IEC 60529 for the reference service life time of 10 years

Constituent materials

Reference product mass	796 g	including the product, its packaging and additional elements and accessories



Others	73.7%	
Plastics	24.4%	
Metals	1.9%	

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

Manufacturing	Manufactured at a production site complying with the regulations		
Distribution	Weight and volume of the packaging optimized, based on the European Union's packaging directive Product distribution optimised by setting up local distribution centres		
Installation	No special components needed Installation process		
Use	The product does not require special maintenance operations		
End Of Life	Recyclability potential:	**3%**	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, the ESR database and the related PSR was taken. If no data was found a conservative assumption was used (0% recyclability)

Environmental impacts

Reference service life time	10 years
Product category	Other equipments - Active product
Installation elements	The product does not require special installation procedure and requires little to no energy to install. The disposal of the packaging materials are accounted for during the installation phase (including transport to disposal)
Use scenario	The product is in Active mode all the time with C-Bus power supply on 50% of the time with a power use of 2.3W and C-Bus power supply off 50% of the time with a power use of 1.2W for the reference service life of 10 years.
Time representativeness	The collected data are representative of the year 2023
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 représentaive of the actual type of technologies used to make the product.
Geographical representativeness	Rest of the World

	[A1 - A3]	[A5]	[B6]	[C1 - C4]
Energy model used	Electricity Mix; Low voltage; 2018; China, CN Electricity Mix; Low voltage; 2018; Europe, EU-27 Electricity Mix; Low voltage; 2018; France, FR	Electricity Mix; Low voltage; 2018; Europe, EU-27	Electricity Mix; Low voltage; 2018; Australia, AU Electricity Mix; Low voltage; 2018; New-Zealand, NZ Electricity Mix; Low voltage; 2018; Thailand, TH Electricity Mix; Low voltage; 2018; India, IN	Electricity Mix; Low voltage; 2018; Europe, EU-27

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.schneider-electric.com/contact

Mandatory Indicators		C-BUS RELAY - 5516RVF						
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	3.14E+02	1.73E+02	4.29E+00	0*	1.35E+02	2.11E+00	3.20E-02
Contribution to climate change-fossil	kg CO2 eq	3.13E+02	1.72E+02	4.29E+00	0*	1.35E+02	2.11E+00	2.26E-02
Contribution to climate change-biogenic	kg CO2 eq	3.16E-01	2.28E-01	0*	0*	8.77E-02	4.59E-04	9.37E-03
Contribution to climate change-land use and land use change	kg CO2 eq	3.01E-04	3.01E-04	0*	0*	0*	0*	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	1.29E-05	8.55E-06	3.77E-06	0*	6.18E-07	1.85E-09	3.69E-09
Contribution to acidification	mol H+ eq	2.63E+00	1.76E+00	1.76E-02	0*	8.45E-01	1.53E-03	1.46E-04
Contribution to eutrophication, freshwater	kg $(PO4)^{3-}$ eq	1.50E-04	1.36E-04	5.00E-07	2.22E-08	3.10E-06	1.12E-05	1.58E-07
Contribution to eutrophication marine	kg N eq	2.53E-01	1.50E-01	8.02E-03	2.86E-05	9.43E-02	7.17E-04	2.50E-05
Contribution to eutrophication, terrestrial	mol N eq	2.67E+00	1.43E+00	8.70E-02	2.91E-04	1.15E+00	7.33E-03	2.77E-04
Contribution to photochemical ozone formation - human health	kg COVNM eq	8.24E-01	4.81E-01	2.90E-02	0*	3.13E-01	1.81E-03	9.14E-05
Contribution to resource use, minerals and metals	kg Sb eq	1.43E-02	1.43E-02	0*	0*	2.27E-06	0*	5.42E-09
Contribution to resource use, fossils	MJ	4.57E+03	2.42E+03	5.32E+01	0*	2.09E+03	5.64E+00	4.65E-01
Contribution to water use	m3 eq	3.59E+01	3.04E+01	2.17E-01	1.06E-02	5.13E+00	8.82E-02	2.25E-02

Inventory flows Indicators		C-BUS RELAY - 5516RVF						
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	2.85E+02	1.04E+02	0*	0*	1.81E+02	0*	5.56E-03
Contribution to use of renewable primary energy resources used as raw material	MJ	7.56E-01	7.56E-01	0*	0*	0*	0*	1.91E-01
Contribution to total use of renewable primary energy resources	MJ	2.86E+02	1.05E+02	0*	0*	1.81E+02	0*	1.97E-01
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	4.56E+03	2.41E+03	5.32E+01	0*	2.09E+03	5.64E+00	4.65E-01
Contribution to use of non renewable primary energy resources used as raw material	MJ	9.45E+00	9.45E+00	0*	0*	0*	0*	0.00E+00
Contribution to total use of non-renewable primary energy resources	MJ	4.57E+03	2.42E+03	5.32E+01	0*	2.09E+03	5.64E+00	4.65E-01
Contribution to use of secondary material	kg	9.77E-02	9.77E-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	m^3	8.39E-01	7.12E-01	5.05E-03	2.47E-04	1.20E-01	2.05E-03	5.25E-04
Contribution to hazardous waste disposed	kg	2.67E+02	2.64E+02	0*	0*	3.18E+00	4.72E-01	1.02E-02
Contribution to non hazardous waste disposed	kg	7.47E+01	5.32E+01	0*	1.16E-01	2.11E+01	2.19E-01	1.98E-03
Contribution to radioactive waste disposed	kg	2.51E-02	2.16E-02	8.50E-04	0*	2.64E-03	1.13E-05	1.97E-06
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	2.68E-02	6.81E-03	0*	0*	0*	2.00E-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	2.31E-04	8.17E-05	0*	0*	0*	1.50E-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 de C	0.00E+00
Contribution to biogenic carbon content of the associated packaging	kg de C	3.45E-02

Mandatory Indicators		C-BUS RELAY - 5516RVF							
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to climate change	kg CO2 eq	1.35E+02	0*	0*	0*	0*	0*	1.35E+02	0*
Contribution to climate change-fossil	kg CO2 eq	1.35E+02	0*	0*	0*	0*	0*	1.35E+02	0*
Contribution to climate change-biogenic	kg CO2 eq	8.77E-02	0*	0*	0*	0*	0*	8.77E-02	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	6.18E-07	0*	0*	0*	0*	0*	6.18E-07	0*
Contribution to acidification	mol H+ eq	8.45E-01	0*	0*	0*	0*	0*	8.45E-01	0*
Contribution to eutrophication, freshwater	kg $(PO4)^{3-}$ eq	3.10E-06	0*	0*	0*	0*	0*	3.10E-06	0*
Contribution to eutrophication marine	kg N eq	9.43E-02	0*	0*	0*	0*	0*	9.43E-02	0*
Contribution to eutrophication, terrestrial	mol N eq	1.15E+00	0*	0*	0*	0*	0*	1.15E+00	0*
Contribution to photochemical ozone formation - human health	kg COVNM eq	3.13E-01	0*	0*	0*	0*	0*	3.13E-01	0*
Contribution to resource use, minerals and metals	kg Sb eq	2.27E-06	0*	0*	0*	0*	0*	2.27E-06	0*
Contribution to resource use, fossils	MJ	2.09E+03	0*	0*	0*	0*	0*	2.09E+03	0*
Contribution to water use	m3 eq	5.13E+00	0*	0*	0*	0*	0*	5.13E+00	0*

Inventory flows Indicators		C-BUS RELAY - 5516RVF							
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	1.81E+02	0*	0*	0*	0*	0*	1.81E+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	1.81E+02	0*	0*	0*	0*	0*	1.81E+02	0*
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	2.09E+03	0*	0*	0*	0*	0*	2.09E+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	2.09E+03	0*	0*	0*	0*	0*	2.09E+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	m^3	1.20E-01	0*	0*	0*	0*	0*	1.20E-01	0*
Contribution to hazardous waste disposed	kg	3.18E+00	0*	0*	0*	0*	0*	3.18E+00	0*
Contribution to non hazardous waste disposed	kg	2.11E+01	0*	0*	0*	0*	0*	2.11E+01	0*
Contribution to radioactive waste disposed	kg	2.64E-03	0*	0*	0*	0*	0*	2.64E-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 v6.1, database version 2023-02 in compliance with ISO14044, EF 3.0 method is applied, for biogenic carbon storage, assessment methodology 0/0 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 :	ENVPEP2408008 V1	*Drafting rules*	PCR-4-ed4-EN-2021 09 06
Validity period	5 years	*Supplemented by*	PSR-0005-ed3.1-EN-2023 12 08
Date of issue	08-2024	*Information and reference documents*	www.pep-ecopassport.org

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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