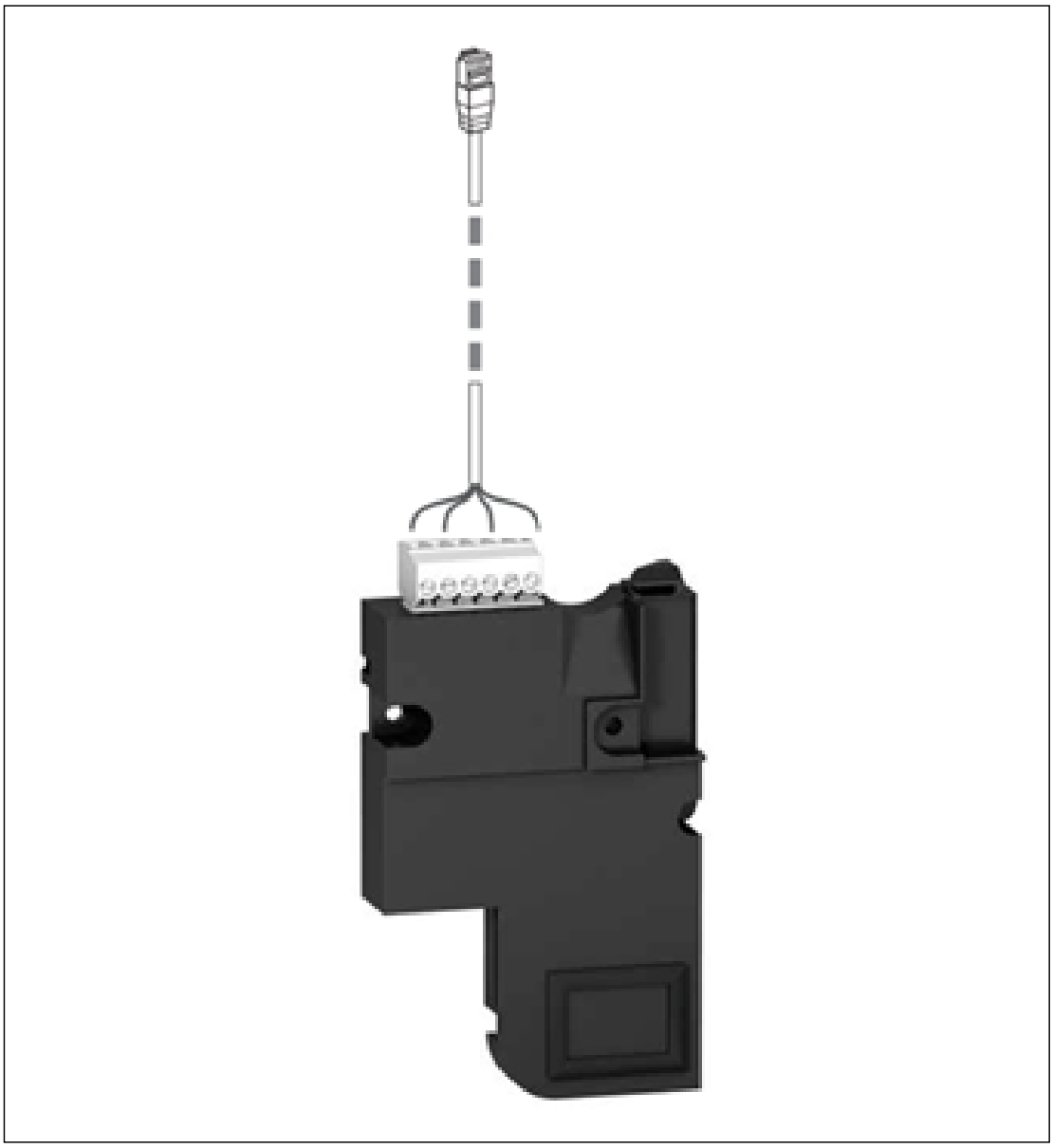
Product Environmental Profile

MODBUS INTERNAL COM MODULE

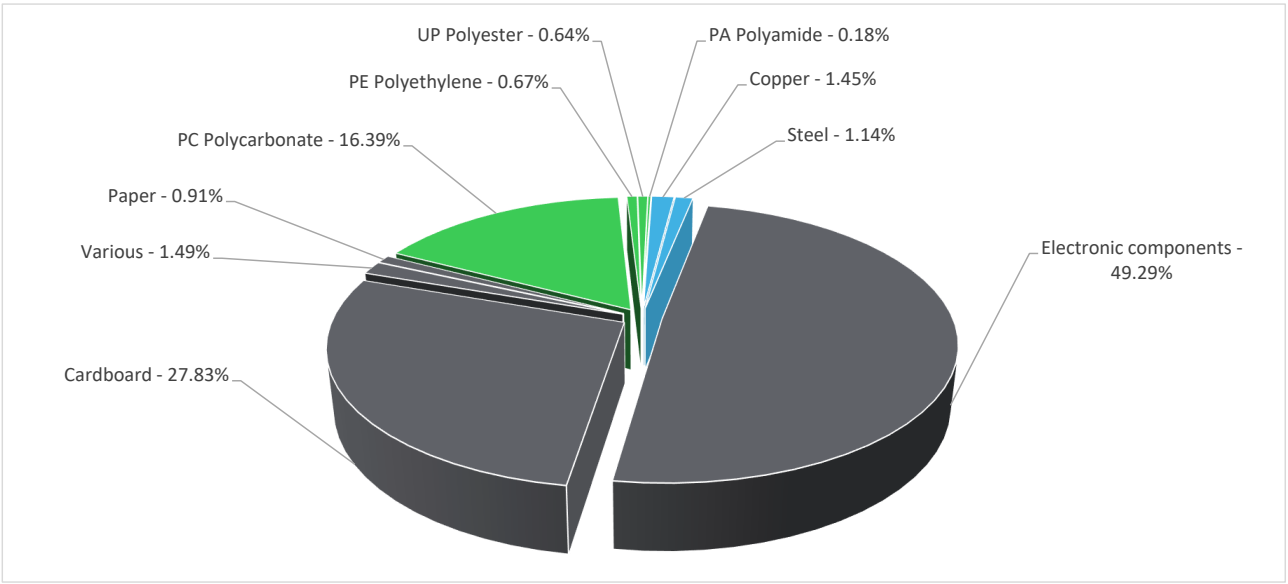


General information

Reference product	MODBUS INTERNAL COM MODULE - 33106, LV434196
Description of the product	The BCM ULP circuit breaker communication module is independent of the trip unit, and it communicates two-way with the modbus network. BCM ULP module is installed behind the MicroLogic trip unit for MasterPact NT/NW, ComPact NS, and PowerPact P- and R-frame circuit breakers and is wired to the microswitches: • For manually operated devices: 1.OF, SDE, and SD contacts • For electrically operated devices: 1.OF, SDE, PF, and CH contacts 2.Connection kit to the MX1 and XF communicating voltage releases The representative product used for the analysis is MODBUS INTERNAL COM MODULE (ref. 33106) and Breaker ULP cord L=1.3m (ref. LV434196).
Functional unit	The BCM ULP module is independent of the trip unit, and it communicates two-way (send and receive information) with: • ULP system via the circuit breaker ULP cord • MicroLogic trip unit via an infra-red link • Modbus network and the lifetime is 10 years
Accessories	MODBUS INTERNAL COM MODULE is connected to the ULP devices via the MEDIUM BREAKER ULP CORD. Ulp cord available in three lengths 0.35 m (LV434195), 1.3 m (LV434196), and 3 m (LV434197), 33119 - Terminal Block

Constituent materials

Reference product mass	100.9 g	including the product, its packaging and additional elements and accessories



Plastics	17.9%
Metals	2.6%
Others	79.5%

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:	**4%**	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	10 years			
Product category	Other equipments - Active product			
Installation elements	No special components needed			
Use scenario	MODBUS INTERNAL COM MODULE will be in active phase for 30% with 0.96 W power consumption and in off phase for 70% during 10 years of lifetime .			
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]**	**[A5]**	**[B6]**	**[C1 - C4]**
	Electricity Mix; Production mix; Low voltage; ID	Electricity Mix; Production mix; Low voltage; UE-27	Electricity Mix; Production mix; Low voltage; UE-27	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		**MODBUS INTERNAL COM MODULE - 33106, LV434196**						
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	1.77E+01	7.14E+00	1.32E-02	5.51E-02	1.03E+01	1.28E-01	-3.03E-02
Contribution to climate change-fossil	kg CO2 eq	1.76E+01	7.13E+00	1.32E-02	5.27E-02	1.03E+01	1.23E-01	-2.99E-02
Contribution to climate change-biogenic	kg CO2 eq	2.75E-02	6.03E-03	0*	2.45E-03	1.38E-02	5.21E-03	-3.84E-04
Contribution to climate change-land use and land use change	kg CO2 eq	2.00E-08	9.36E-09	0*	5.52E-09	0*	5.15E-09	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	9.35E-07	8.80E-07	0*	3.67E-09	4.42E-08	6.51E-09	-2.64E-09
Contribution to acidification	mol H+ eq	1.11E-01	4.89E-02	8.49E-05	2.19E-04	5.90E-02	2.52E-03	-3.78E-04
Contribution to eutrophication, freshwater	kg $(PO4)^{3-}$ eq	5.80E-05	1.66E-05	0*	4.22E-07	2.83E-05	1.27E-05	-2.83E-07
Contribution to eutrophication marine	kg N eq	1.40E-02	5.44E-03	3.99E-05	5.81E-05	6.70E-03	1.79E-03	-3.23E-05
Contribution to eutrophication, terrestrial	mol N eq	1.60E-01	5.80E-02	4.37E-04	4.39E-04	1.01E-01	8.68E-04	-2.91E-04
Contribution to photochemical ozone formation - human health	kg COVNM eq	4.12E-02	1.91E-02	1.10E-04	1.17E-04	2.15E-02	3.51E-04	-9.99E-05
Contribution to resource use, minerals and metals	kg Sb eq	1.50E-03	1.49E-03	0*	0*	7.49E-07	3.11E-07	-3.43E-06
Contribution to resource use, fossils	MJ	3.48E+02	8.23E+01	1.84E-01	5.72E-01	2.63E+02	1.22E+00	-4.03E-01
Contribution to water use	m3 eq	3.43E+01	1.89E+00	0*	2.49E-02	3.66E-01	3.20E+01	-2.79E-02

Additional indicators for the French regulation are available as well

Inventory flows Indicators		MODBUS INTERNAL COM MODULE - 33106, LV434196						
Inventory flows	Unit	Total	Manufact. [A1 - A3]	Distribution [A4]	Installation [A5]	Use [B1 - B7]	End of Life [C1 - C4]	Benefits [D]
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	5.35E+01	2.71E+00	0*	4.22E-02	5.06E+01	1.47E-01	9.72E-02
Contribution to use of renewable primary energy resources used as raw material	MJ	1.74E-01	1.74E-01	0*	0*	0*	0*	-1.60E-01
Contribution to total use of renewable primary energy resources	MJ	5.37E+01	2.88E+00	0*	4.22E-02	5.06E+01	1.47E-01	-6.23E-02
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	3.46E+02	8.05E+01	1.84E-01	5.72E-01	2.63E+02	1.22E+00	-3.56E-01
Contribution to use of non renewable primary energy resources used as raw material	MJ	1.77E+00	1.77E+00	0*	0*	0*	0*	-4.70E-02
Contribution to total use of non-renewable primary energy resources	MJ	3.48E+02	8.23E+01	1.84E-01	5.72E-01	2.63E+02	1.22E+00	-4.03E-01
Contribution to use of secondary material	kg	2.36E-02	2.36E-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	8.92E-01	4.41E-02	0*	5.80E-04	8.52E-03	8.38E-01	-6.49E-04
Contribution to hazardous waste disposed	kg	2.23E+01	2.20E+01	0*	0*	1.93E-01	7.57E-02	-2.96E-01
Contribution to non hazardous waste disposed	kg	3.57E+00	1.89E+00	4.63E-04	1.79E-01	1.49E+00	1.92E-02	-2.57E-01
Contribution to radioactive waste disposed	kg	1.12E-03	7.83E-04	3.29E-07	2.40E-05	3.11E-04	1.13E-06	-1.48E-05
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	3.38E-02	0*	0*	3.12E-02	0*	2.66E-03	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 and on demand in a digital format - Country Customer Care Center - http://www.schneider-electric.com/contact

For all the impact indicators, The Use stage is the greatest contributor due to the energy losses occuring throughout the product reference service lifetime except the Climate change-Land use and land use change (GWPlu), Ozone depletion (ODP),Resource use, minerals and metals(ADPe) and Water Use(WU) stages. The manufacturing stage is the main contributor on Climate change-Land use and land use change (GWPlu), Ozone depletion (ODP),Resource use, minerals and metals(ADPe) stages. The End Of Life stage is the main contributor on Water use (WU).

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-01013-V01.01-EN	*Drafting rules*	PEP-PCR-ed4-2021 09 06
Verifier accreditation N°	VH08	*Supplemented by*	PSR-0005-ed2-2016 03 29
Date of issue	11/2023	*Information and reference documents*	www.pep-ecopassport.org
		Validity period	5 years

Independent verification of the declaration and data, in compliance with ISO 14025 : 2010

Internal External X

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 14025 : 2010 « Environmental labels and declarations. Type III environmental declarations »

Schneider Electric Industries SAS

Country Customer Care Center
http://www.schneider-electric.com/contact

35, rue Joseph Monier

CS 30323

F- 92500 Rueil Malmaison Cedex

RCS Nanterre 954 503 439
Capital social 896 313 776 €

www.se.com

Published by Schneider Electric