Product Environmental Profile

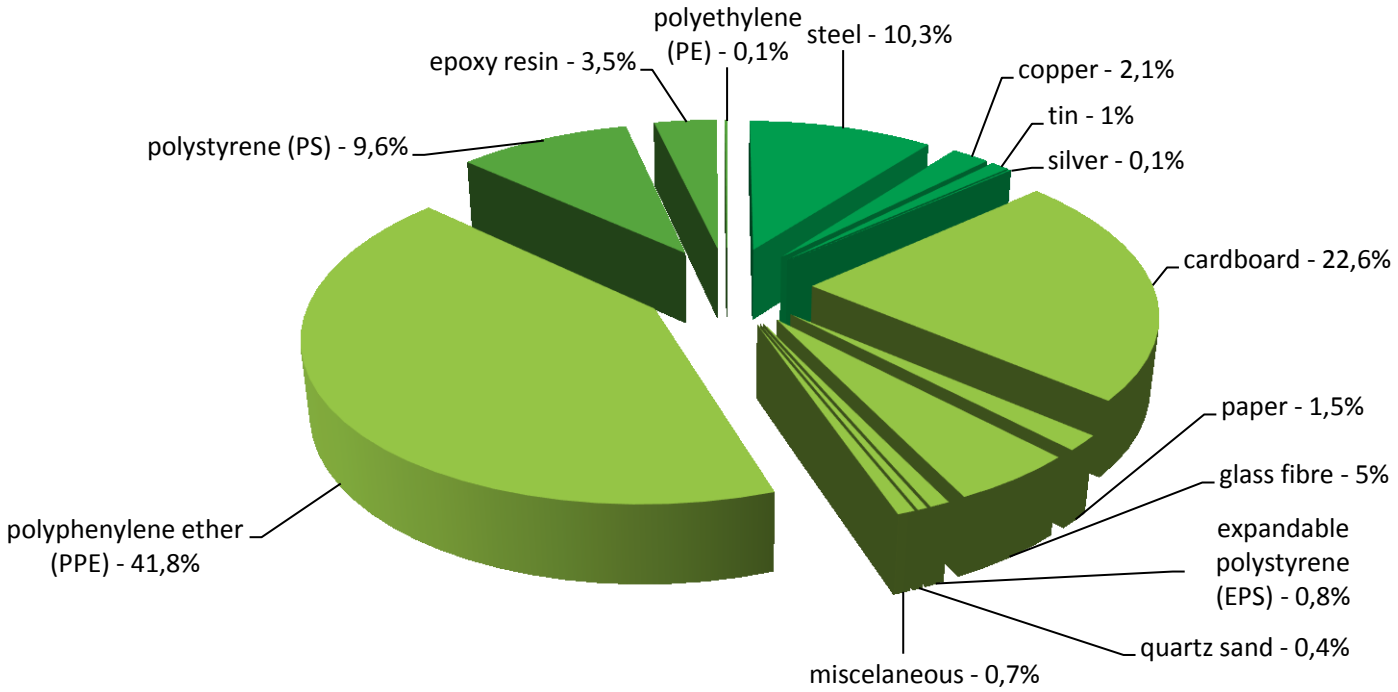
TM5ACBM11 - reference product for TM5 System Bus Bases range

General information

Representative product	TM5ACBM11 - reference product for TM5 System Bus Bases range -TM5ACBM11
Description of the product	The TM5ACBM11 is the reference product for the Modicon TM5 System Bus Bases range The products are I/O configurations for automation solutions which extend the integrated TM5 data and electronic power buses as well as the 24V DC I/O power segment
Description of the range	The range covers Modicon TM5 System Bus Bases with 24V DC I/O or 240V AC I/O, in lots of 1 or 10 units The environmental impacts of this referenced product are representative of the impacts of the other products of the range which are developed with a similar technology
Functional unit	To seat an electronic module on a DIN rail and to connect it to the TM5 bus 100% of the time, for 10 years

Constituent materials

Reference product mass	27,62 g including the product, its packaging and additional elements and accessories



Substance assessment

Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2011/65/EU of 8 June 2011) and do not contain, or only contain in the authorised proportions, lead, mercury, cadmium, hexavalent chromium or flame retardants (polybrominated biphenyls - PBB, polybrominated diphenyl ethers - PBDE) as mentioned in the Directive

As the products of the range are designed in accordance with the RoHS Directive (European Directive 2002/95/EC of 27 January 2003), they can be incorporated without any restriction in an assembly or an installation subject to this Directive

Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website
http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page

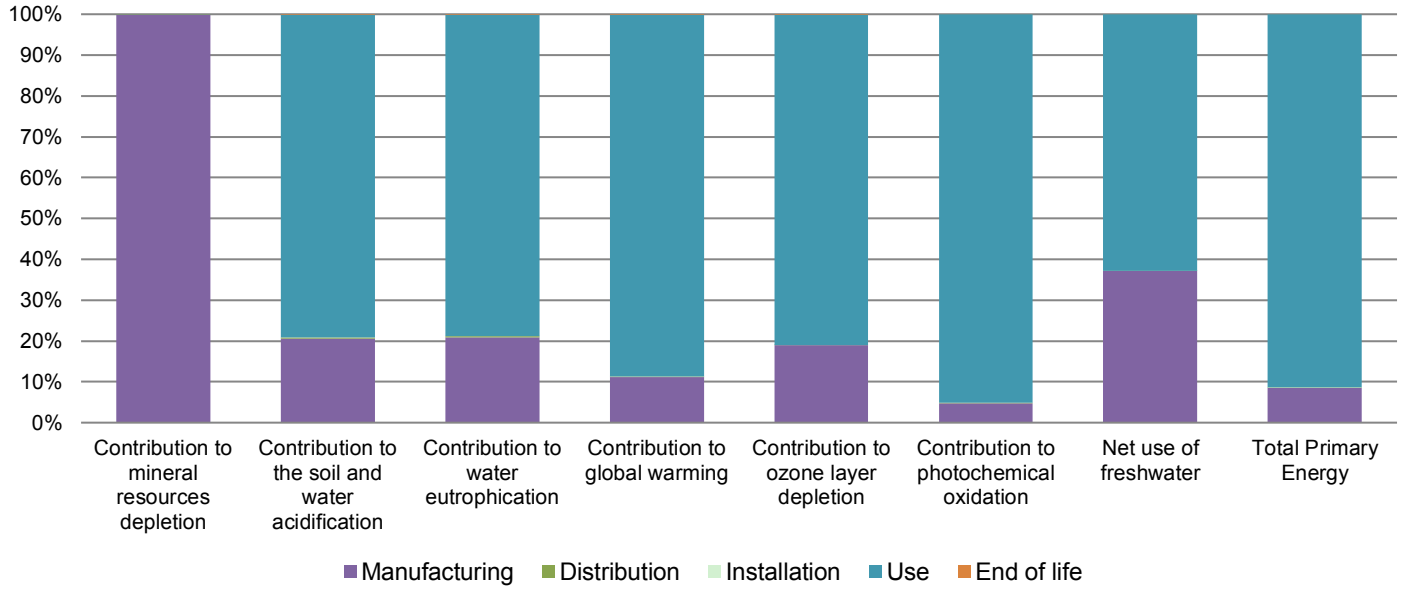
Additional environmental information

The TM5ACBM11 - reference product for TM5 System Bus Bases range presents the following relevent environmental aspects	
Design	Product is not ecodesigned
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 Packaging weight is 7 g, consisting of cardboard (94%), paper (6%)
Installation	The product range does not require any installation operation
Use	The product does not require special maintenance operation
End of life	End of life is optimized to decrease the amount of waste and allow recovery of the product components and materials This product contains Electronic cards (2g) that should be separated from the stream of waste so as to optimize end-of-life treatment The location of these components and other recommendations are given in the End of Life Instruction document which is available on the Schneider-Electric Green Premium website http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page Recyclability potential: **11%** Based on “ECO’DEEE recyclability and recoverability calculation method” (version V1, 20 Sep. 2008 presented to the French Agency for Environment and Energy Management: ADEME)

Environmental impacts

Reference life time	10 years			
Product category	Active products			
Installation elements	There is no special component needed for the product range installation			
Use scenario	The product is active 100% of the time for 10 years with a reference power dissipation of 0,13W			
Geographical representativeness	Europe			
Technological representativeness	The TM5ACBM11 is the reference product for the Modicon TM5 System Bus Bases range The products are I/O configurations for automation solutions which extend the integrated TM5 data and electronic power buses as well as the 24V DC I/O power segment			
Energy model used	**Manufacturing**	**Installation**	**Use**	**End of life**
	Energy model used: Austria	Electricity mix; AC; consumption mix, at consumer; 220V - 230V; RER	Electricity mix; AC; consumption mix, at consumer; 220V - 230V; RER	Electricity mix; AC; consumption mix, at consumer; 220V - 230V; RER

Compulsory indicators		TM5ACBM11 - reference product for TM5 System Bus Bases range - TM5ACBM11					
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	2,38E-04	2,38E-04	0*	0*	1,68E-07	0*
Contribution to the soil and water acidification	kg SO_2 eq	6,32E-03	1,30E-03	1,63E-05	2,60E-06	4,99E-03	7,14E-06
Contribution to water eutrophication	kg PO_4^{3-} eq	1,71E-03	3,56E-04	3,75E-06	1,46E-06	1,34E-03	2,54E-06
Contribution to global warming	kg CO_2 eq	7,29E+00	8,19E-01	3,56E-03	4,88E-03	6,46E+00	6,29E-03
Contribution to ozone layer depletion	kg CFC11 eq	4,42E-07	8,41E-08	0*	0*	3,57E-07	2,43E-10
Contribution to photochemical oxidation	kg C_2H_4 eq	3,18E-03	1,52E-04	1,16E-06	0*	3,02E-03	6,87E-07
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	3,00E-02	1,12E-02	0*	0*	1,88E-02	4,05E-06
Total Primary Energy	MJ	1,71E+02	1,46E+01	5,04E-02	0*	1,56E+02	3,67E-02



Optional indicators		TM5ACBM11 - reference product for TM5 System Bus Bases range - TM5ACBM11					
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	1,06E+02	1,06E+01	5,01E-02	0*	9,50E+01	3,04E-02
Contribution to air pollution	m³	1,17E+03	6,52E+01	1,52E-01	0*	1,11E+03	2,41E-01
Contribution to water pollution	m³	2,90E+02	8,88E+01	5,86E-01	1,86E-01	2,00E+02	3,62E-01
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	9,50E-02	9,50E-02	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	8,49E-01	7,43E-01	0*	0*	1,06E-01	0*
Total use of non-renewable primary energy resources	MJ	1,70E+02	1,38E+01	5,03E-02	0*	1,56E+02	3,66E-02
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	5,98E-01	4,92E-01	6,71E-05	0*	1,06E-01	0*
Use of renewable primary energy resources used as raw material	MJ	2,51E-01	2,51E-01	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	1,69E+02	1,28E+01	5,03E-02	0*	1,56E+02	3,66E-02
Use of non renewable primary energy resources used as raw material	MJ	1,00E+00	1,00E+00	0*	0*	0*	0*
Use of non renewable secondary fuels	MJ	0,00E+00	0*	0*	0*	0*	0*
Use of renewable secondary fuels	MJ	0,00E+00	0*	0*	0*	0*	0*
Waste categories	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Hazardous waste disposed	kg	1,33E+00	3,93E-01	0*	8,43E-03	8,87E-01	4,00E-02
Non hazardous waste disposed	kg	1,37E+00	9,25E-01	0*	0*	4,42E-01	0*
Radioactive waste disposed	kg	7,45E-04	1,21E-04	9,02E-08	0*	6,23E-04	1,80E-07
Other environmental information	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	7,66E-02	6,84E-02	0*	5,60E-03	0*	2,61E-03
Components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	2,10E-02	1,82E-02	0*	1,40E-03	0*	1,37E-03
Exported Energy	MJ	0,00E+00	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 v5.5, database version 2015-04

The use phase is the life cycle phase which has the greatest impact on the majority of environmental indicators (based on compulsory indicators)

According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range

To extrapolate the impact to another product from the range, apply the following extrapolation rules to each indicator per life cycle stage:
MANUFACTURING(i) = Mass of electronics in grams / (3,29/nb of units in box)
DISTRIBUTION (i) = Mass of (product+packaging) in grams / (27,6/nb of units in box)
INSTALLATION (i) = Mass of (packaging) in grams / (7/nb of units in box)
USE (i) = Power dissipated in Watts / (0,13/nb of units in box)
END OF LIFE (i))= Mass of (product) in grams / (20,6/nb of units in box)
TOTAL (i) = ∑ Life Cycle Stages (i)

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 N°	SCHN-00091-V01.01-EN	*Drafting rules*	PCR-ed3-EN-2015 04 02
Verifier accreditation N°	VH08		
Date of issue	01/09/2016	*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 Philippe Osset (SOLINNEN).

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 »

Environmental data in alignment with EN 15804 : 2012 + A1 : 2013

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