

# Product Environmental Profile

**TM5ACBM11 - reference product for TM5 System Bus Bases range**

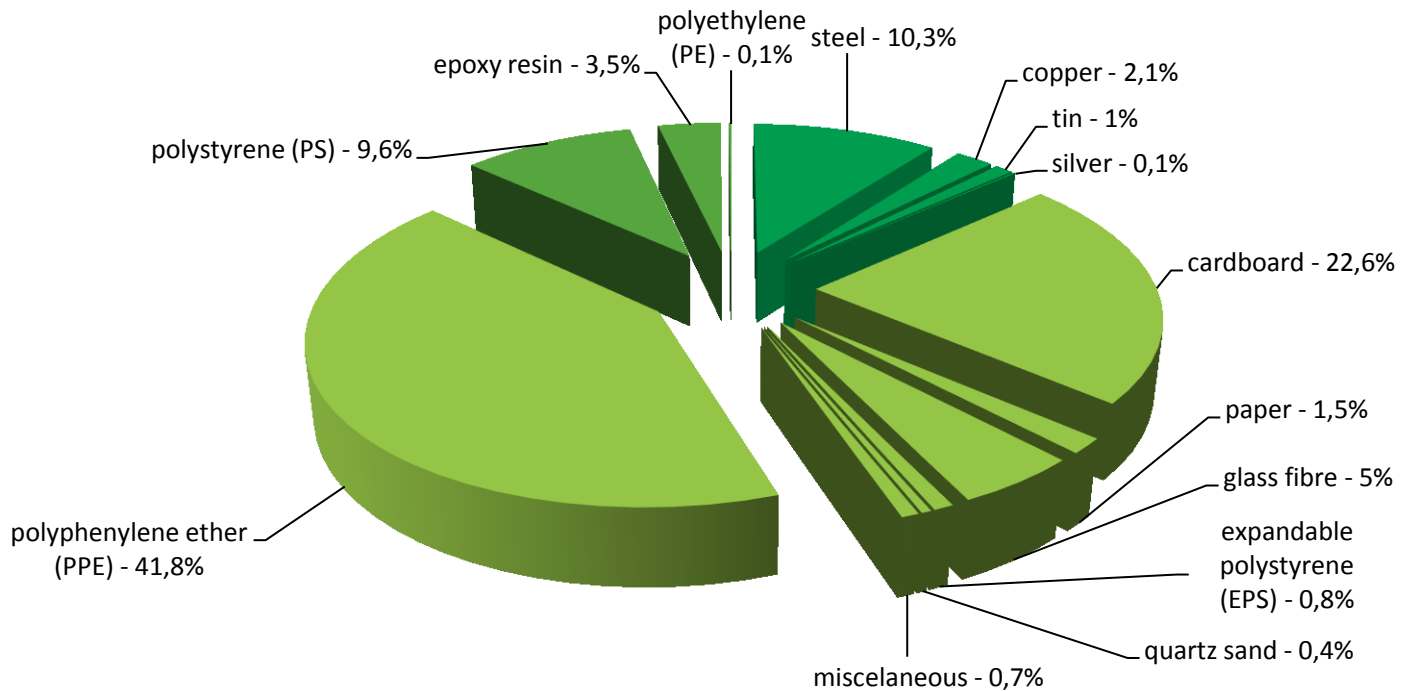


## General information

<b>Representative product</b>	TM5ACBM11 - reference product for TM5 System Bus Bases range -TM5ACBM11
<b>Description of the product</b>	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
<b>Description of the range</b>	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
<b>Functional unit</b>	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 relevant environmental aspects

<b>Design</b>	Product is not ecodesigned
<b>Manufacturing</b>	Manufactured at a production site complying with the regulations
<b>Distribution</b>	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%)
<b>Installation</b>	The product range does not require any installation operation
<b>Use</b>	The product does not require special maintenance operation
<b>End of life</b>	<p>End of life is optimized to decrease the amount of waste and allow recovery of the product components and materials</p> <p>This product contains Electronic cards (2g) that should be separated from the stream of waste so as to optimize end-of-life treatment</p> <p>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</p> <p><a href="http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page">http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page</a></p> <p>Recyclability potential: <b>11%</b> 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)</p>



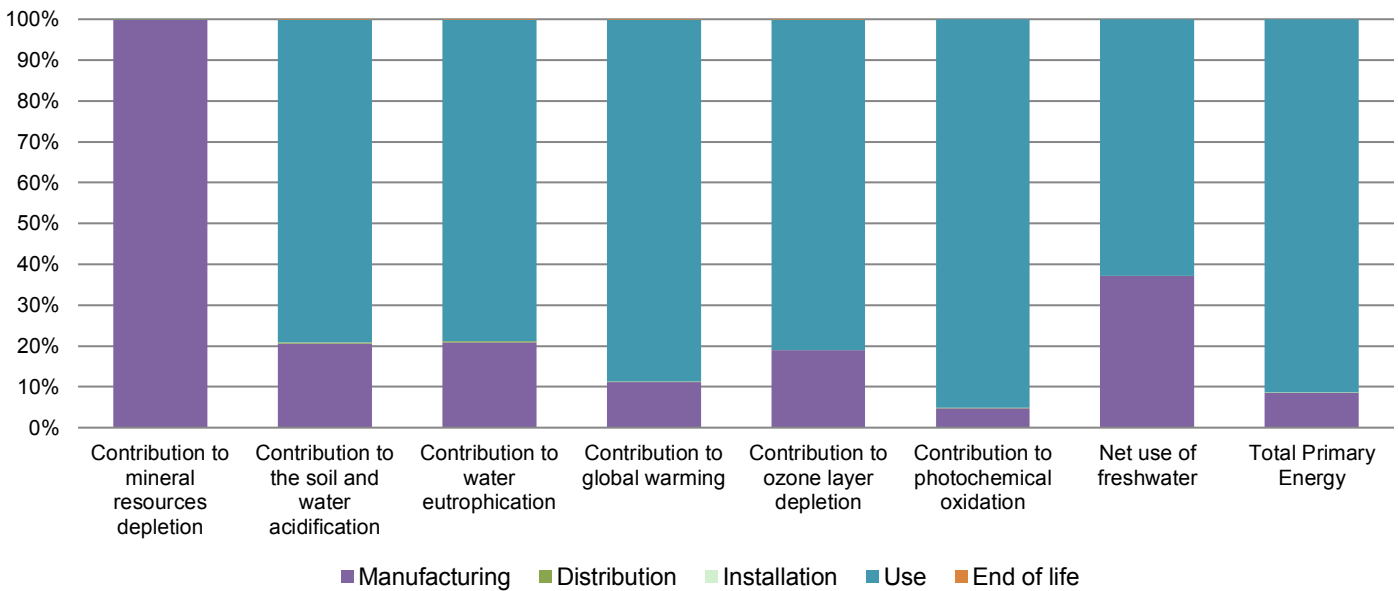
## Environmental impacts

<b>Reference life time</b>	10 years			
<b>Product category</b>	Active products			
<b>Installation elements</b>	There is no special component needed for the product range installation			
<b>Use scenario</b>	The product is active 100% of the time for 10 years with a reference power dissipation of 0,13W			
<b>Geographical representativeness</b>	Europe			
<b>Technological representativeness</b>	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			
<b>Energy model used</b>	<b>Manufacturing</b>	<b>Installation</b>	<b>Use</b>	<b>End of life</b>
	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 <sub>2</sub> 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 <sub>4</sub> <sup>3-</sup> 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 <sub>2</sub> 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 <sub>2</sub> H <sub>4</sub> 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) =  $\sum$  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	Information and reference documents	<a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>
Date of issue	01/09/2016	Validity period	5 years
Independent verification of the declaration and data, in compliance with ISO 14025 : 2010			
Internal	External	X	
<p>The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN).</p> <p>The elements of the present PEP cannot be compared with elements from another program.</p> <p>Document in compliance with ISO 14025 : 2010 « Environmental labels and declarations. Type III environmental declarations »</p> <p>Environmental data in alignment with EN 15804 : 2012 + A1 : 2013</p>			

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