Product Environmental Profile

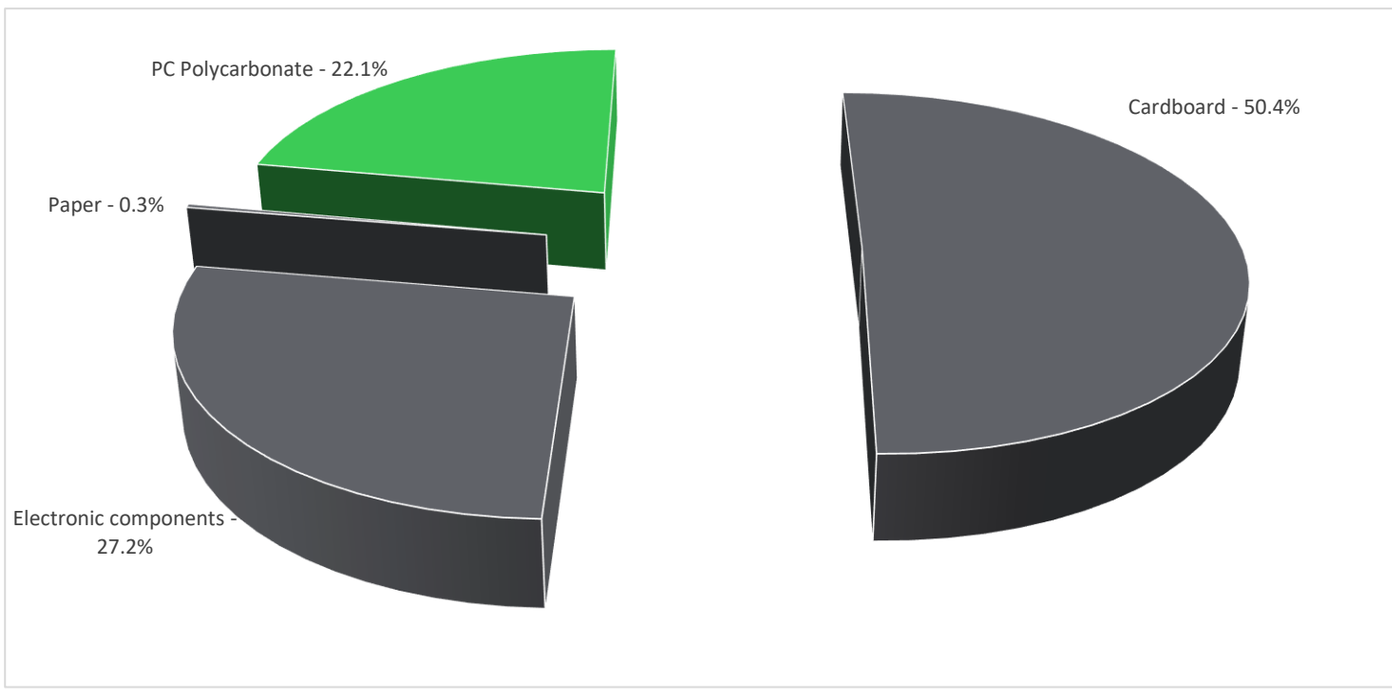
IP20 I/O Distributed Optimized TM3 Bus Coupler Module Ethernet Interface

General information

Representative product	IP20 I/O Distributed Optimized TM3 Bus Coupler Module Ethernet Interface - TM3BCEIP
Description of the product	The TM3BC Bus Coupler is a solution which enables the creation of separate groups of industrial I/Os, each positioned as a near to the machine as possible, that are managed by a master controller (PLC, PC or variable speed drive) via a fieldbus or communication network (EtherNet/IP, Modbus TCP, CANopen & Modbus Serial Lien) . TM3BC is IIoT Ready with Web server, Cybersecurity & Plug & Work concept inside. The most compact on the market & simple to integrate, TM3BC reduce the cabling & installation costs.
Functional unit	To communicate I/Os data coming from TM3 I/O Modules connected on the right side of the TM3 Bus Controller, up to the main controller via the Fieldbus Ethernet at 3.6 W 100% of the time.

Constituent materials

Reference product mass	180.53 g	including the product, its packaging and additional elements and accessories



	Plastics	22.1%
	Metals	0.0%
	Others	77.9%

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

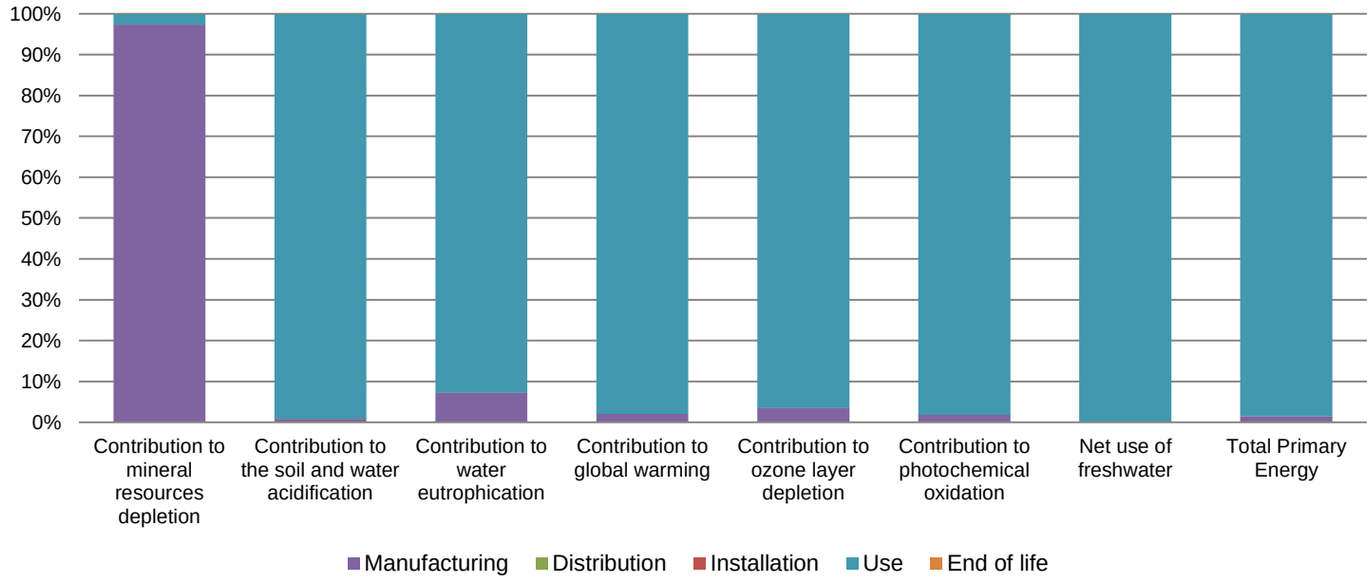
The IP20 I/O Distributed Optimized TM3 Bus Coupler Module Ethernet Interface presents the following relevent environmental aspects	
Design	Indicate all the eco-design improvements brought to the product at the design phase compared to previous offer range, refer to ecoDesign Way results
Manufacturing	Manufactured at a Schneider Electric production site ISO14001 certified
	Packaging weight is 90.9 g, consisting of cardboard (99.50%) and paper (0.50%)
Installation	The TM3BCEIP does not require any specific installation
Use	The product does not require special maintenance operations.
End of life	End of life optimized to decrease the amount of waste and allow recovery of the product components and materials This product contains one electronic card (40g) 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: **8%** 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			
Installation elements	No special components needed			
Use scenario	The product is in active mode 100% of the time with a power use of 3.6 W.			
Geographical representativeness	Europe			
Energy model used	**Manufacturing**	**Installation**	**Use**	**End of life**
	Energy model used: Indonesia	Electricity grid mix; AC; consumption mix, at consumer; < 1kV; EU-27	Electricity grid mix; AC; consumption mix, at consumer; < 1kV; EU-27	Electricity grid mix; AC; consumption mix, at consumer; < 1kV; EU-27

Compulsory indicators		**IP20 I/O Distributed Optimized TM3 Bus Coupler Module Ethernet Interface - TM3BCEIP**					
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	5.11E-04	4.98E-04	0*	0*	1.34E-05	0*
Contribution to the soil and water acidification	kg SO_2 eq	6.50E-01	5.26E-03	1.06E-04	0*	6.45E-01	0*

Contribution to water eutrophication	kg PO_4^{3-} eq	4.20E-02	3.02E-03	2.45E-05	0*	3.89E-02	2.25E-05
Contribution to global warming	kg CO_2 eq	1.58E+02	3.22E+00	2.33E-02	0*	1.55E+02	7.07E-02
Contribution to ozone layer depletion	kg CFC11 eq	1.04E-05	3.63E-07	0*	0*	1.01E-05	2.43E-09
Contribution to photochemical oxidation	kg C_2H_4 eq	3.61E-02	6.56E-04	7.59E-06	0*	3.54E-02	3.70E-06
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	5.60E+02	0*	0*	0*	5.60E+02	0*
Total Primary Energy	MJ	3.13E+03	4.52E+01	3.29E-01	0*	3.09E+03	0*



Optional indicators		**IP20 I/O Distributed Optimized TM3 Bus Coupler Module Ethernet Interface - TM3BCEIP**					
Impact indicators	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	1.80E+03	4.11E+01	3.27E-01	0*	1.75E+03	0*
Contribution to air pollution	m³	6.95E+03	3.02E+02	9.91E-01	0*	6.65E+03	1.39E+00
Contribution to water pollution	m³	6.74E+03	3.55E+02	3.83E+00	0*	6.38E+03	3.02E+00
Resources use	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	6.64E-04	6.64E-04	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	3.95E+02	2.77E+00	0*	0*	3.92E+02	0*
Total use of non-renewable primary energy resources	MJ	2.74E+03	4.24E+01	3.29E-01	0*	2.69E+03	0*
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	3.93E+02	9.05E-01	0*	0*	3.92E+02	0*
Use of renewable primary energy resources used as raw material	MJ	1.87E+00	1.87E+00	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	2.73E+03	4.03E+01	3.29E-01	0*	2.69E+03	0*
Use of non renewable primary energy resources used as raw material	MJ	2.07E+00	2.07E+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	5.28E+00	4.99E+00	0*	8.53E-04	8.06E-02	2.11E-01
Non hazardous waste disposed	kg	5.77E+02	8.14E-01	0*	0*	5.76E+02	0*
Radioactive waste disposed	kg	3.85E-01	5.15E-04	0*	0*	3.85E-01	0*
Other environmental information	**Unit**	Total	Manufacturing	Distribution	Installation	Use	End of Life

Materials for recycling	kg	1.10E-01	1.31E-02	0*	9.01E-02	0*	7.24E-03
Components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	1.96E-02	2.89E-04	0*	1.00E-05	0*	1.93E-02
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 EIME v5.7.0.3, database version 2016-11 in compliance with ISO14044.

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

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-00286-V01.01-EN	*Drafting rules*	PCR-ed3-EN-2015 04 02
Verifier accreditation N°	VH33		
Date of issue	06/2018	*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)			
PEP are compliant with XP C08-100-1 :2014			
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 »			

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Published by Schneider Electric

SCHN-00286-V01.01-EN

06/2018