

Product Environmental Profile

SmartX Controller Terminal Base TB-IO-W1





General information

Representative product

SmartX Controller Terminal Base TB-IO-W1 -SXWTBIOW110001

Description of the product

The main purpose of the SmartX Controller Terminal Base is to allow the site to be wired prior to installation of the electronics. It also includes an auto-addressing feature which eliminates the need for setting DIP switches or pressing commission buttons. With the SmartX Controller family, each module automatically knows its order in the chain and assigns itself accordingly - significantly reducing engineering and maintenance time. Because critical applications require 24-hour operation, Schneider Electric designed the SmartX Controller and its family of I/O modules for hot-connection of terminal bases and hot swapping of servers and modules to their bases. This design ensures continuous power and communication during service operations.

Functional unit

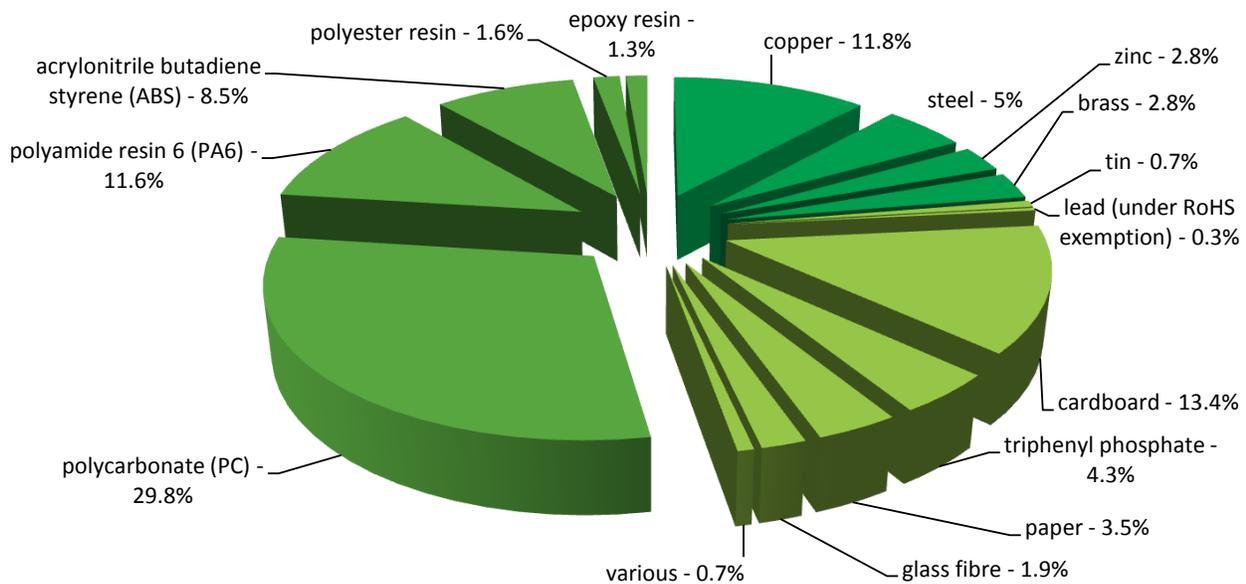
To transceive data between I/O Module, other Terminal Bases and Controller, and signals between I/O Module and up to 16 external devices, transmit power (max 30W) between Power Supply, I/O Module and other Terminal Bases during 10 years.



Constituent materials

Reference product mass

148 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

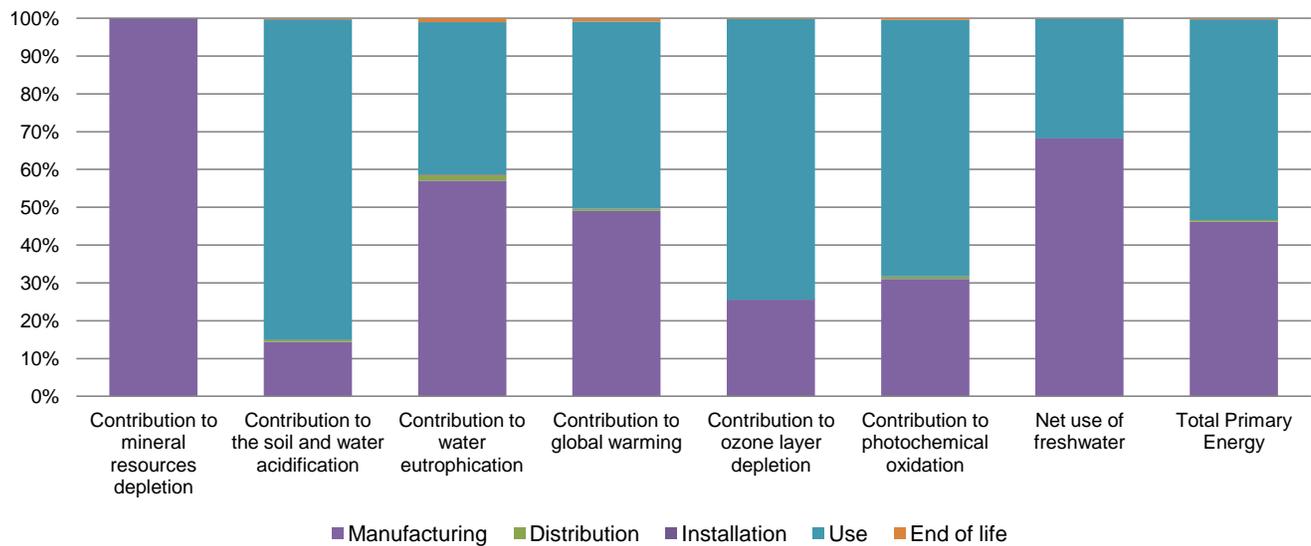
The SmartX Controller Terminal Base TB-IO-W1 presents the following relevant environmental aspects

Manufacturing	Manufactured at a Schneider Electric production site ISO14001 certified
Distribution	Weight and volume of the packaging optimized, based on the European Union's packaging directive Packaging weight is 25.3 g, consisting of cardboard (80%), paper (20%) Packaging recycled materials is 60% of total packaging mass. Product distribution optimised by setting up local distribution centres
Installation	Ref SXWTBIOW110001 does not require any installation operations.
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 electronic card (13.5g) 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: 81% 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	Disposal of packaging is accounted for in the installation phase.			
Use scenario	The product is in active mode 100% of the time with a power use of 0.036W, for 10 years			
Geographical representativeness	Europe			
Technological representativeness	The main purpose of the SmartX Controller Terminal Base is to allow the site to be wired prior to installation of the electronics. It also includes an auto-addressing feature which eliminates the need for setting DIP switches or pressing commission buttons. With the SmartX Controller family, each module automatically knows its order in the chain and assigns itself accordingly - significantly reducing engineering and maintenance time. Because critical applications require 24-hour operation, Schneider Electric designed the SmartX Controller and its family of I/O modules for hot-connection of terminal bases and hot swapping of servers and modules to their bases. This design ensures continuous power and communication during service operations.			
Energy model used	Manufacturing	Installation	Use	End of life
	Energy model used: Sweden	Electricity Mix; AC; consumption mix, at consumer; < 1kV; EU-27	Electricity Mix; AC; consumption mix, at consumer; < 1kV; EU-27	Electricity Mix; AC; consumption mix, at consumer; < 1kV; EU-27

Compulsory indicators		SmartX Controller Terminal Base TB-IO-W1 - SXWTBIOW110001					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	1,25E-04	1,25E-04	0*	0*	8,48E-08	0*
Contribution to the soil and water acidification	kg SO ₂ eq	1,66E-02	2,40E-03	8,71E-05	7,23E-06	1,41E-02	4,17E-05
Contribution to water eutrophication	kg PO ₄ ³⁻ eq	1,31E-03	7,49E-04	2,01E-05	1,70E-06	5,28E-04	1,38E-05
Contribution to global warming	kg CO ₂ eq	3,76E+00	1,84E+00	1,91E-02	2,35E-03	1,86E+00	3,25E-02
Contribution to ozone layer depletion	kg CFC11 eq	6,10E-07	1,56E-07	0*	1,47E-10	4,52E-07	1,34E-09
Contribution to photochemical oxidation	kg C ₂ H ₄ eq	9,81E-04	3,04E-04	6,21E-06	7,85E-07	6,66E-04	4,13E-06
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	1,54E-02	1,05E-02	1,71E-06	2,87E-06	4,86E-03	2,25E-05
Total Primary Energy	MJ	7,11E+01	3,29E+01	2,70E-01	4,05E-02	3,77E+01	2,20E-01



Optional indicators		SmartX Controller Terminal Base TB-IO-W1 - SXWTBIOW110001					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	4,32E+01	2,35E+01	2,68E-01	3,33E-02	1,92E+01	1,82E-01
Contribution to air pollution	m ³	3,40E+02	2,58E+02	8,11E-01	2,58E-01	7,99E+01	1,41E+00
Contribution to water pollution	m ³	4,72E+02	3,88E+02	3,14E+00	2,75E-01	7,81E+01	2,03E+00
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	2,30E-02	2,30E-02	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	3,26E+00	5,61E-01	3,59E-04	0*	2,70E+00	0*
Total use of non-renewable primary energy resources	MJ	6,79E+01	3,23E+01	2,69E-01	4,04E-02	3,50E+01	2,20E-01
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	3,17E+00	4,73E-01	3,59E-04	0*	2,70E+00	0*
Use of renewable primary energy resources used as raw material	MJ	8,80E-02	8,80E-02	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	6,46E+01	2,90E+01	2,69E-01	4,04E-02	3,50E+01	2,20E-01
Use of non renewable primary energy resources used as raw material	MJ	3,29E+00	3,29E+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	2,41E+00	2,23E+00	0*	2,55E-02	0*	1,60E-01
Non hazardous waste disposed	kg	7,18E+00	2,18E-01	0*	0*	6,96E+00	0*
Radioactive waste disposed	kg	5,83E-03	1,48E-04	0*	0*	5,68E-03	1,05E-06
Other environmental information	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	1,34E-01	9,37E-03	0*	2,51E-02	0*	9,96E-02
Components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	6,60E-03	9,50E-05	0*	0*	0*	6,51E-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 EIME 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).

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-00128-V01.01-EN	Drafting rules	PCR-ed3-EN-2015 04 02
Verifier accreditation N°	VH08	Information and reference documents	www.pep-ecopassport.org
Date of issue	10/2016	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 »			



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