

# Product Environmental Profile

## Expansion Model 5506 A/I module

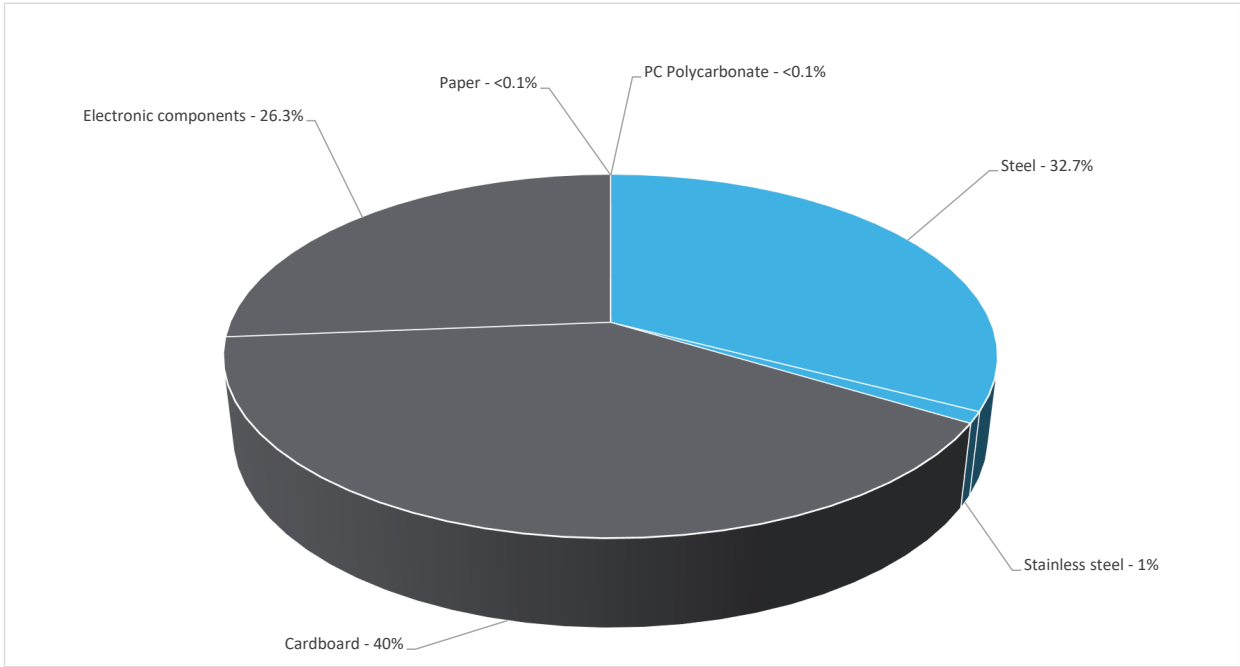


## General information

Reference product	Expansion Model 5506 A/I module - TBUX297319	
Description of the product	The SCADA Pack 5506 AI module is part of the SCADAPack family of I/O Expansion and Communication modules, providing flexible I/O and telemetry options	
Description of the range	Single product	
Functional unit	The SCADA Pack 5506 Smart RTU is easily expandable from its base I/O configuration to more than 700 process I/O points. Maximum of twenty I/O modules may be connected for an expansion of up to 512 DO, 512 DI, 128 AI, 64 counters and 64 AO, on some models, during its 10 years lifetime with a power use of 0.489 W at 100% use rate, in accordance with the standards.	

## Constituent materials

Reference product mass	447.11 g including the product, its packaging, additional elements and accessories
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Plastics	0.00%
Metals	33.70%
Others	66.30%

## Substance assessment

Details of ROHS and REACH substances information are available on the Schneider-Electric website <https://www.se.com>

## Additional environmental information

End Of Life	Recyclability potential:	<b>56%</b>	The recyclability rate was calculated from the recycling rates of each material making up the product with the exception of data using the ESR database. For materials or components using the ESR database or the absence of data the conservative hypothesis "0% recyclability" was used. Schneider specific rates have been calculated based on REEECYLAB tool developed by Ecosystem
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## Environmental impacts

Reference service life time	10 years			
Product category	Other equipments - Active product			
Life cycle of the product	The manufacturing, the distribution, the installation, the use and the end of life were taken into consideration in this study			
Electricity consumption	The electricity consumed during manufacturing processes is considered for each part of the product individually, the final assembly generates a negligible consumption			
Installation elements	Installation will vary based on the client's specific situation. It is not expected to involve significant physical operations or materials.			
Use scenario	The product is in active mode 100% of the time with a power use of 0.489 W for 10 years			
Time representativeness	The collected data are representative of the year 2024			
Technological representativeness	Manufacturing process of Electronics parts by using soldering process, Metal parts by using forging and Casting process and Plastic parts by using Injection moulding process for Expansion Model 5506 A/I module			
Geographical representativeness	NA-19%, LATAM-35%, MENA-8%, EU-25%, APAC-13%			
Energy model used	[A1 - A3]	[A5]	[B6]	[C1 - C4]
	Electricity Mix; Low voltage; 2020; Mexico, MX	Europe	Electricity Mix; Production mix; Low voltage; APAC, BR, US, CA, MX, TR & UE-27	Europe

Detailed results of the optional indicators mentioned in PCRed4 are available in the LCA report and on demand in a digital format - Country Customer Care Center - <http://www.se.com/contact>

Mandatory Indicators		Expansion Model 5506 A/I module - TBUX297319						
Impact indicators	Unit	Total (without Module D)	[A1 - A3] - Manufacturing	[A4] - Distribution	[A5] - Installation	[B1 - B7] - Use	[C1 - C4] - End of life	[D] - Benefits and loads
Contribution to climate change	kg CO2 eq	4.49E+01	2.03E+01	8.42E+00	7.39E-03	1.53E+01	8.00E-01	-5.75E-01
Contribution to climate change-fossil	kg CO2 eq	4.48E+01	2.03E+01	8.42E+00	7.08E-03	1.53E+01	8.00E-01	-5.73E-01
Contribution to climate change-biogenic	kg CO2 eq	2.20E-02	0*	0*	3.16E-04	2.27E-02	3.64E-04	-1.61E-03
Contribution to climate change-land use and land use change	kg CO2 eq	1.70E-07	1.64E-07	0*	0*	0*	6.11E-09	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	1.48E-05	7.17E-06	7.55E-06	0*	6.56E-08	0*	-8.56E-08
Contribution to acidification	mol H+ eq	2.46E-01	1.18E-01	3.31E-02	9.43E-05	9.30E-02	1.86E-03	-3.67E-03
Contribution to eutrophication, freshwater	kg (PO4) <sup>3-</sup> eq	5.97E-05	2.65E-05	1.00E-06	3.46E-08	1.77E-05	1.45E-05	-8.72E-07
Contribution to eutrophication, marine	kg N eq	4.42E-02	1.97E-02	1.36E-02	4.46E-05	1.04E-02	4.66E-04	-3.34E-04
Contribution to eutrophication, terrestrial	mol N eq	5.28E-01	2.10E-01	1.47E-01	4.54E-04	1.66E-01	4.96E-03	-3.90E-03
Contribution to photochemical ozone formation - human health	kg COVNM eq	1.61E-01	7.38E-02	5.28E-02	1.09E-04	3.30E-02	1.55E-03	-1.38E-03
Contribution to resource use, minerals and metals	kg Sb eq	1.77E-03	1.76E-03	0*	0*	6.42E-06	3.92E-07	-1.86E-04
Contribution to resource use, fossils	MJ	7.42E+02	3.00E+02	1.10E+02	8.03E-02	3.00E+02	3.23E+01	-1.35E+01
Contribution to water use	m3 eq	6.30E+00	4.35E+00	4.50E-01	1.66E-02	1.31E+00	1.78E-01	-2.60E-01

Inventory flows Indicators		Expansion Model 5506 A/I module - TBUX297319						
Inventory flows	Unit	Total (without Module D)	[A1 - A3] - Manufacturing	[A4] - Distribution	[A5] - Installation	[B1 - B7] - Use	[C1 - C4] - End of life	[D] - Benefits and loads
Contribution to renewable primary energy used as energy	MJ	1.27E+02	3.17E+00	0*	0*	1.24E+02	0*	-1.14E-01
Contribution to renewable primary energy used as raw material	MJ	3.67E+00	3.67E+00	0*	0*	0*	0*	0.00E+00
Contribution to total renewable primary energy	MJ	1.31E+02	6.84E+00	0*	0*	1.24E+02	0*	-1.14E-01
Contribution to non renewable primary energy used as energy	MJ	7.41E+02	2.98E+02	1.10E+02	8.03E-02	3.00E+02	3.23E+01	-1.35E+01

Inventory flows	Unit	Total (without Module D)	[A1 - A3] - Manufacturing	[A4] - Distribution	[A5] - Installation	[B1 - B7] - Use	[C1 - C4] - End of life	[D] - Benefits and loads
Contribution to non renewable primary energy used as raw material	MJ	1.27E+00	1.27E+00	0*	0*	0*	0*	0.00E+00
Contribution to total non renewable primary energy	MJ	7.42E+02	3.00E+02	1.10E+02	8.03E-02	3.00E+02	3.23E+01	-1.35E+01
Contribution to use of secondary material	kg	4.22E-06	4.22E-06	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 fresh water	m³	1.47E-01	1.01E-01	1.05E-02	3.87E-04	3.05E-02	4.14E-03	-6.05E-03
Contribution to hazardous waste disposed	kg	2.19E+01	2.13E+01	5.56E-03	0*	4.43E-01	1.17E-01	-1.47E+01
Contribution to non hazardous waste disposed	kg	1.13E+01	7.89E+00	1.09E-02	1.81E-01	3.22E+00	5.64E-03	-4.73E-01
Contribution to radioactive waste disposed	kg	5.23E-03	3.00E-03	1.76E-03	0*	4.63E-04	1.72E-06	-2.13E-04
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	1.74E-01	2.21E-02	0*	0*	0*	1.52E-01	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	1.71E-03	2.26E-04	0*	0*	0*	1.48E-03	0.00E+00

\* represents less than 0.01% of the total life cycle of the reference flow

Contribution to biogenic carbon content of the product kg of C 0.00E+00

Contribution to biogenic carbon content of the associated packaging kg of C 5.08E-02

\* The calculation of the biogenic carbon is based on the Ademe for the Cardboard (28%), EN16485 for Wood (39,52%), and APESA/RECORD for Paper (37,8%)

Mandatory Indicators		Expansion Model 5506 A/I module - TBUX297319							
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to climate change	kg CO2 eq	1.53E+01	0*	0*	0*	0*	0*	1.53E+01	0*
Contribution to climate change-fossil	kg CO2 eq	1.53E+01	0*	0*	0*	0*	0*	1.53E+01	0*
Contribution to climate change-biogenic	kg CO2 eq	2.27E-02	0*	0*	0*	0*	0*	2.27E-02	0*
Contribution to climate change-land use and land use change	kg CO2 eq	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to ozone depletion	kg CFC-11 eq	6.56E-08	0*	0*	0*	0*	0*	6.56E-08	0*
Contribution to acidification	mol H+ eq	9.30E-02	0*	0*	0*	0*	0*	9.30E-02	0*
Contribution to eutrophication, freshwater	kg (PO4) <sup>3-</sup> eq	1.77E-05	0*	0*	0*	0*	0*	1.77E-05	0*
Contribution to eutrophication marine	kg N eq	1.04E-02	0*	0*	0*	0*	0*	1.04E-02	0*
Contribution to eutrophication, terrestrial	mol N eq	1.66E-01	0*	0*	0*	0*	0*	1.66E-01	0*
Contribution to photochemical ozone formation - human health	kg COVNM eq	3.30E-02	0*	0*	0*	0*	0*	3.30E-02	0*
Contribution to resource use, minerals and metals	kg Sb eq	6.42E-06	0*	0*	0*	0*	0*	6.42E-06	0*
Contribution to resource use, fossils	MJ	3.00E+02	0*	0*	0*	0*	0*	3.00E+02	0*
Contribution to water use	m3 eq	1.31E+00	0*	0*	0*	0*	0*	1.31E+00	0*

Inventory flows Indicators		Expansion Model 5506 A/I module - TBUX297319							
Inventory flows	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	1.24E+02	0*	0*	0*	0*	0*	1.24E+02	0*
Contribution to use of renewable primary energy resources used as raw material	MJ	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to total use of renewable primary energy resources	MJ	1.24E+02	0*	0*	0*	0*	0*	1.24E+02	0*
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	3.00E+02	0*	0*	0*	0*	0*	3.00E+02	0*
Contribution to use of non renewable primary energy resources used as raw material	MJ	0*	0*	0*	0*	0*	0*	0*	0*

Inventory flows	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to total use of non-renewable primary energy resources	MJ	3.00E+02	0*	0*	0*	0*	0*	3.00E+02	0*
Contribution to use of secondary material	kg	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to use of renewable secondary fuels	MJ	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to use of non renewable secondary fuels	MJ	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to net use of freshwater	m³	3.05E-02	0*	0*	0*	0*	0*	3.05E-02	0*
Contribution to hazardous waste disposed	kg	4.43E-01	0*	0*	0*	0*	0*	4.43E-01	0*
Contribution to non hazardous waste disposed	kg	3.22E+00	0*	0*	0*	0*	0*	3.22E+00	0*
Contribution to radioactive waste disposed	kg	4.63E-04	0*	0*	0*	0*	0*	4.63E-04	0*
Contribution to components for reuse	kg	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to materials for recycling	kg	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to materials for energy recovery	kg	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to exported energy	MJ	0*	0*	0*	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 v6.2.3, database version 2024-01 in compliance with ISO14044, EF3.1 method is applied, for biogenic carbon storage, assessment methodology 0/0 is used

To estimate the impact on the environment of other products in this family, you can use two different methods. For the Manufacturing, Distribution, and End-Of-Life phases, you can extrapolate the impact of each indicator based on the product weight (extrapolation by mass). And for the Usage phase, you can estimate the impact by looking at the amount of energy consumed.

The Manufacturing and Distribution phases across all mandatory indicators drive the environmental impacts equally. The Resource Use, Mineral and Metals indicator is 99.6% affected by the Manufacturing phase. On the other hand, the Ozone Depletion indicator attributes 51.1% of the impact to the Distribution phase.

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.

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Date of issue	02-2025	Supplemented by Information and reference documents	PSR-0005-ed3-EN-2023 06 06 <a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>
		Validity period	5 years
Independent verification of the declaration and data, in compliance with ISO 14021 : 2016			
Internal <input checked="" type="checkbox"/> External			
The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain)			
PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019 or NF E38-500 :2022			
The components of the present PEP may not be compared with components from any other program.			
Document complies with ISO 14021:2016 "Environmental labels and declarations. Type II environmental declarations"			

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