Product Environmental Profile

TBUX297378 - Expansion Model 5414-24 D/I module





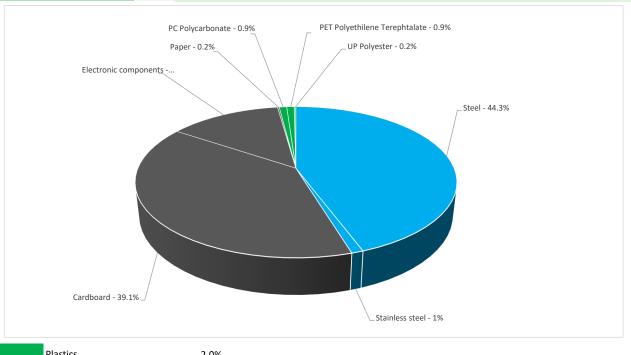
ENVPEP2005004_V2 10-2024

General information

Reference product	TBUX297378 - Expansion Model 5414-24 D/I module
Description of the product	The SCADAPack 5414 Compact digital input module is part of the SCADAPack family of I/O Expansion and Communication modules, providing flexible I/O and telemetry options.
Functional unit	To read up to 16 digital inputs with a very low power requires (max of 0.2W) for operation of 10 years within adverse environments.

Constituent materials

Reference product mass 459.6 g including the product, its packaging and additional elements and accessories



 Plastics
 2.0%

 Metals
 45.3%

 Others
 52.7%

Substance assessment

Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website https://www.se.com/ww/en/work/support/green-premium/

(19) Additional environmental information

End Of Life

Recyclability potential:

75%

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 REEECY'LAB tool developped by Ecosystem.

ENVPEP2005004_V2 10-2024

P Environmental impacts

Reference service life time	10 years						
Product category	Other equipments - Active product						
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 v	The product is in active mode 100% of the time with a power use of max 0.2 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 5606-24 I/O module.						
Geographical representativeness	NA-19%, LATAM-35%, MENA-8%, EU-25%, APAC-13%						
	[A1 - A3] [A5] [B6] [C1 - C4]						
Energy model used	Electricity Mix; 2018; Mexico, MX	Europe	Electricity Mix; Production mix; Low voltage; US, CA, MX, BR, APAC, UE-27, TR.				

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.schneiderelectric.com/contact

Mandatory Indicators	TBUX297378 - Expansion Model 5414-24 D/I module							
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	3.39E+01	1.69E+01	8.98E+00	1.87E-02	7.11E+00	8.01E-01	-8.03E-01
Contribution to climate change-fossil	kg CO2 eq	3.38E+01	1.69E+01	8.98E+00	1.87E-02	7.10E+00	8.01E-01	-8.01E-01
Contribution to climate change-biogenic	kg CO2 eq	3.45E-02	2.65E-02	0*	0*	7.62E-03	3.66E-04	-2.07E-03
Contribution to climate change-land use and land use change	kg CO2 eq	6.24E-06	6.23E-06	0*	0*	0*	7.29E-09	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	1.50E-05	6.96E-06	8.04E-06	0*	2.95E-08	0*	-1.19E-07
Contribution to acidification	mol H+ eq	1.72E-01	9.12E-02	3.52E-02	9.63E-05	4.32E-02	2.34E-03	-5.00E-03
Contribution to eutrophication, freshwater	kg (PO4) ³⁻ eq	5.02E-05	2.73E-05	1.07E-06	3.48E-08	8.23E-06	1.36E-05	-1.21E-06
Contribution to eutrophication marine	kg N eq	3.77E-02	1.78E-02	1.45E-02	4.51E-05	4.76E-03	5.31E-04	-4.64E-04
Contribution to eutrophication, terrestrial	mol N eq	4.24E-01	1.89E-01	1.56E-01	4.62E-04	7.23E-02	5.73E-03	-5.41E-03
Contribution to photochemical ozone formation - human health	kg COVNM eq	1.40E-01	6.62E-02	5.61E-02	1.10E-04	1.53E-02	1.87E-03	-1.90E-03
Contribution to resource use, minerals and metals	kg Sb eq	1.50E-03	1.50E-03	0*	0*	4.16E-07	3.93E-07	-2.53E-04
Contribution to resource use, fossils	MJ	5.31E+02	2.37E+02	1.13E+02	8.38E-02	1.37E+02	4.37E+01	-1.84E+01
Contribution to water use	m3 eq	4.46E+00	3.49E+00	4.62E-01	1.76E-02	2.52E-01	2.35E-01	-3.44E-01

Inventory flows Indicators	TBUX297378 - Expansion Model 5414-24 D/I module							
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 use of renewable primary energy excluding renewable primary energy used as raw material	MJ	5.27E+01	1.98E+00	0*	0*	5.07E+01	1.04E-02	-1.52E-01
Contribution to use of renewable primary energy resources used as raw material	MJ	3.74E+00	3.74E+00	0*	0*	0*	0*	0.00E+00
Contribution to total use of renewable primary energy resources	MJ	5.64E+01	5.72E+00	0*	0*	5.07E+01	1.04E-02	-1.52E-01
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	5.30E+02	2.36E+02	1.13E+02	8.38E-02	1.37E+02	4.37E+01	-1.84E+01

ENVPEP2005004_V2 10-2024

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 use of non renewable primary energy resources used as raw material	MJ	1.01E+00	1.01E+00	0*	0*	0*	0*	0.00E+00
Contribution to total use of non-renewable primary energy resources	MJ	5.31E+02	2.37E+02	1.13E+02	8.38E-02	1.37E+02	4.37E+01	-1.84E+01
Contribution to use of secondary material	kg	2.04E-05	2.04E-05	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 freshwater	m³	1.04E-01	8.14E-02	1.08E-02	4.10E-04	5.86E-03	5.47E-03	-8.01E-03
Contribution to hazardous waste disposed	kg	1.56E+01	1.54E+01	5.72E-03	0*	1.40E-01	5.41E-02	-2.00E+01
Contribution to non hazardous waste disposed	kg	8.68E+00	7.39E+00	1.12E-02	1.86E-01	1.07E+00	1.74E-02	-6.46E-01
Contribution to radioactive waste disposed	kg	4.53E-03	2.53E-03	1.81E-03	0*	1.84E-04	2.07E-06	-2.91E-04
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	2.37E-01	3.07E-02	0*	0*	0*	2.07E-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	2.91E-03	8.85E-04	0*	0*	0*	2.02E-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 de C	0.00E+00
Contribution to biogenic carbon content of the associated packaging	kg de C	5.08E-02

Life cycle assessment performed with EIME version v6.2.1, database version 2023-02 in compliance with ISO14044, EF 3.0 method is applied, for biogenic carbon storage, assessment methodology 0/0 is used

The Manufacturing stage has the largest impact on the environment, followed by the Distribution stage. In the Manufacturing phase, the Resource Use, Minerals and Metals indicator is entirely affected. On the other hand, the Ozone Depletion indicator attributes 54% 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.

Registration number :	ENVPEP2005004_V2	Drafting rules	PCR-4-ed4-EN-2021 09 06					
		Supplemented by	PSR-0005-ed3-EN-2023 06 06					
Date of issue	10-2024	Information and reference documents	www.pep-ecopassport.org					
		Validity period	5 years					
Independent verification of the declaration and data, in compliance with ISO 14025 : 2006								
Internal X 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 14025:2006 "Environmental labels and declarations. Type III environmental declarations"								

Schneider Electric Industries SAS

Country Customer Care Center http://www.schneider-electric.com/contact
+001 508 549 3992

70 Mechanic Street
MA 02035

Foxboro

USA

www.se.com

Published by Schneider Electric

ENVPEP2005004_V2 ©2024 - Schneider Electric – All rights reserved

10-2024