

Product Environmental Profile

Discrete input module

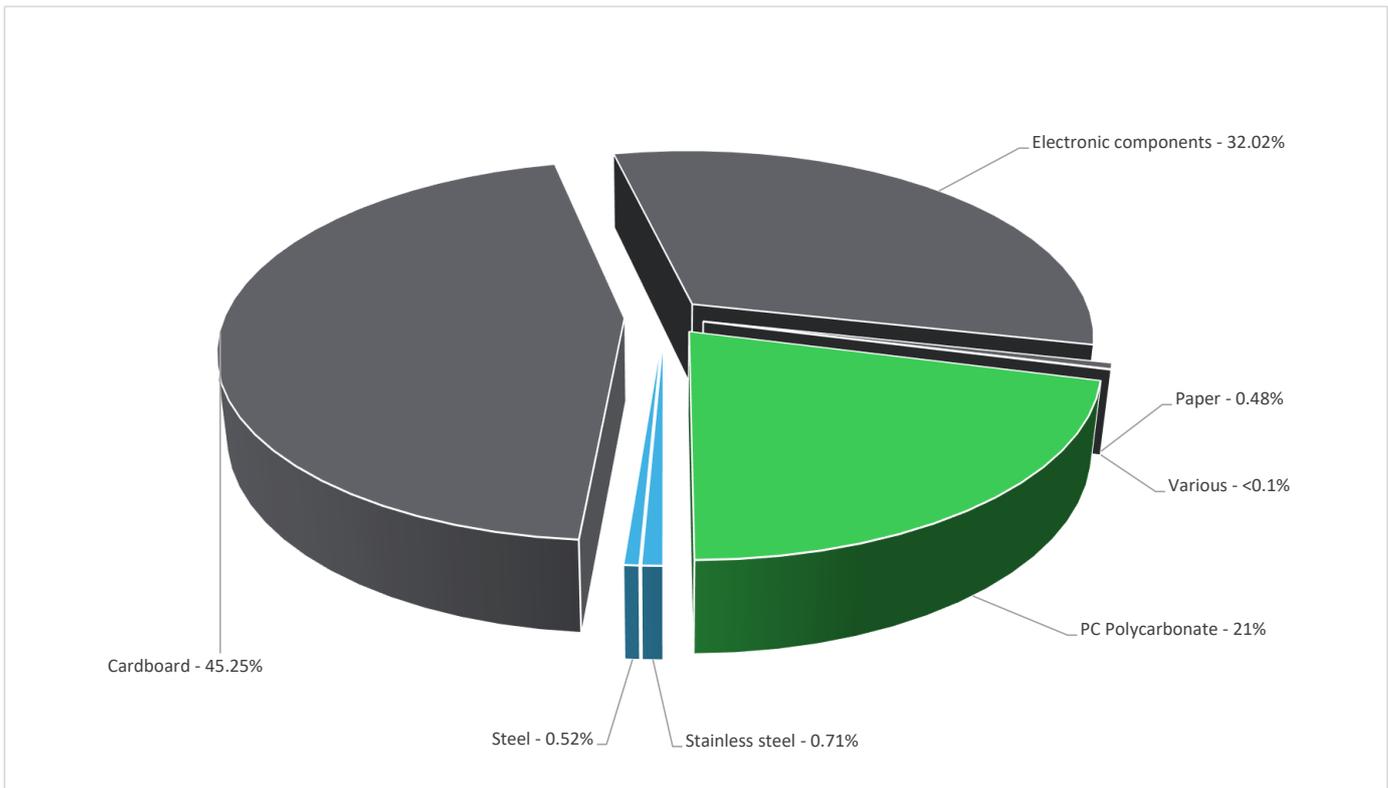


General information

Reference product	Discrete input module - BMXDAI1614
Description of the product	This discrete Input module is part of the Modicon X80 range. It's a standard module with 16 channels occupying a single slot on the rack. The input receive signals from the sensors then send it to the processor while protecting against interference signals.
Functional unit	The module detect the AC discrete input signal and convert it to the logic state , to be processed by PLC processor. This module as the Modicon X80 range has a long life cycle for about more than 10 years with a 100% use rate. Typical electrical power is 0.2508W (0.76 mA at 3.3 V DC). UL 61010-2-201 CSA C22.2 No 61010-2-201

Constituent materials

Reference product mass	300 g including the product, its packaging and additional elements and accessories
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Plastics	21%
Metals	1.23%
Others	77.78%

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/>

Additional environmental information

0.0307272

End Of Life	Recyclability potential:	3%	Recyclability rate has been calculated based on REEECY*LAB tool developed by Ecosystem, for components/materials not covered by the tool, data from the "ECO'DEEE recyclability and recoverability calculation method" was taken. If no data was found a conservative assumption was used (0% recyclability).
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Environmental impacts

Reference service life time	10 years			
Product category	Other equipments - Active product			
Installation elements	No special installation components need during installation phase			
Use scenario	The product is in active mode 90% of the time with a power use of 0.2508W and 0W in off mode for 10* years			
Technological representativeness	The Modules of Technologies such as material production, manufacturing process and transport technology used in this PEP analysis (LCA-EIME in this case) are Similar and representative of the actual type of technologies used to make the product in production.			
Geographical representativeness	USA (68%), Canada (16%), Australia (11%), ASIA (5%)			
Energy model used	[A1 - A3]	[A5]	[B6]	[C1 - C4]
	Electricity Mix; Production mix; Low voltage; FR	Electricity Mix; Production mix; Low voltage; US	Electricity Mix; Production mix; Low voltage; US	Electricity Mix; Production mix; Low voltage; US
		Electricity Mix; Production mix; Low voltage; CA	Electricity Mix; Production mix; Low voltage; CA	Electricity Mix; Production mix; Low voltage; CA
		Electricity Mix; Production mix; Low voltage; AUS	Electricity Mix; Production mix; Low voltage; AUS	Electricity Mix; Production mix; Low voltage; AUS
		Electricity Mix; Production mix; Low voltage; APAC	Electricity Mix; Production mix; Low voltage; APAC	Electricity Mix; Production mix; Low voltage; APAC

Detailed results, including all the optional indicators mentioned in PCRed4, and the split of the Use Phase (B1 to B7), are available in the LCA report and on demand in a digital format - Country Customer Care Center - <http://www.schneider-electric.com/contact>

Mandatory Indicators			Discrete input module - BMXDAI1614					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life	Loads and Benefits
			[A1 - A3]	[A4]	[A5]	[B1 - B7]	[C1 - C4]	[D]
Contribution to climate change	kg CO2 eq	2.82E+01	1.70E+01	3.92E-02	2.55E-01	1.06E+01	3.52E-01	-3.46E-01
Contribution to climate change-fossil	kg CO2 eq	2.81E+01	1.69E+01	3.92E-02	2.44E-01	1.06E+01	3.43E-01	-3.36E-01
Contribution to climate change-biogenic	kg CO2 eq	5.26E-02	2.21E-02	0*	1.13E-02	9.65E-03	9.52E-03	-1.07E-02
Contribution to climate change-land use and land use change	kg CO2 eq	2.45E-08	2.45E-08	0*	0*	0*	0*	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	2.36E-06	2.28E-06	0*	1.69E-08	4.71E-08	1.26E-08	-1.74E-08
Contribution to acidification	mol H+ eq	1.80E-01	1.14E-01	2.52E-04	1.01E-03	5.98E-02	4.81E-03	-1.64E-03
Contribution to eutrophication, freshwater	kg (PO4) ³⁻ eq	5.56E-05	3.67E-05	1.47E-08	1.84E-06	1.37E-05	3.32E-06	-3.19E-06
Contribution to eutrophication marine	kg N eq	2.38E-02	1.30E-02	1.19E-04	2.68E-04	6.94E-03	3.44E-03	-3.98E-04
Contribution to eutrophication, terrestrial	mol N eq	2.24E-01	1.38E-01	1.30E-03	2.02E-03	8.17E-02	1.68E-03	-3.38E-03
Contribution to photochemical ozone formation - human health	kg COVNM eq	7.03E-02	4.58E-02	3.28E-04	5.41E-04	2.30E-02	6.79E-04	-9.12E-04
Contribution to resource use, minerals and metals	kg Sb eq	2.46E-03	2.46E-03	0*	0*	4.08E-07	0*	-4.57E-06
Contribution to resource use, fossils	MJ	4.24E+02	2.05E+02	5.47E-01	2.66E+00	2.14E+02	2.67E+00	-3.26E+00
Contribution to water use	m3 eq	6.63E+01	4.35E+00	0*	1.09E-01	3.92E-01	6.14E+01	-2.02E-01

Additional indicators for the French regulation are available as well

Inventory flows Indicators		Discrete input module - BMXDAI1614						
Inventory flows	Unit	Total	Manufact.	Distribution	Installation	Use	End of Life	Loads and Benefits
			[A1 - A3]	[A4]	[A5]	[B1 - B7]	[C1 - C4]	[D]
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	3.93E+01	4.71E+00	0*	1.91E-01	3.41E+01	2.70E-01	1.52E+00
Contribution to use of renewable primary energy resources used as raw material	MJ	2.81E+00	2.81E+00	0*	0*	0*	0*	-2.55E+00
Contribution to total use of renewable primary energy resources	MJ	4.21E+01	7.52E+00	0*	1.91E-01	3.41E+01	2.70E-01	-1.03E+00
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	4.21E+02	2.01E+02	5.47E-01	2.66E+00	2.14E+02	2.67E+00	-3.26E+00
Contribution to use of non renewable primary energy resources used as raw material	MJ	3.51E+00	3.51E+00	0*	0*	0*	0*	0.00E+00
Contribution to total use of non-renewable primary energy resources	MJ	4.24E+02	2.05E+02	5.47E-01	2.66E+00	2.14E+02	2.67E+00	-3.26E+00
Contribution to use of secondary material	kg	2.60E-05	2.60E-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	1.72E+00	1.01E-01	0*	2.54E-03	9.13E-03	1.61E+00	-4.71E-03
Contribution to hazardous waste disposed	kg	4.32E+01	4.28E+01	0*	0*	2.24E-01	1.71E-01	-3.66E-01
Contribution to non hazardous waste disposed	kg	1.04E+01	7.87E+00	1.38E-03	8.30E-01	1.61E+00	8.01E-02	-3.71E+00
Contribution to radioactive waste disposed	kg	2.47E-03	2.10E-03	9.79E-07	1.11E-04	2.59E-04	4.65E-06	-1.95E-04
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	1.45E-01	0*	0*	1.40E-01	0*	5.21E-03	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	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to biogenic carbon content of the product	kg de C	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to biogenic carbon content of the associated packaging	kg de C	0.00E+00	0*	0*	0*	0*	0*	0.00E+00

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

Life cycle assessment performed with EIME version v5.9.4, database version 2022-01 in compliance with ISO14044.

Detailed results, including all the optional indicators mentioned in PCRed4, and the split of the Use Phase (B1 to B7), are available in the LCA report and on demand in a digital format - Country Customer Care Center - <http://www.schneider-electric.com/contact>

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 :	ENVPEP2402023_V1	Drafting rules	PEP-PCR-ed4-2021 09 06
Date of issue	11/2023	Supplemented by Information and reference documents	PSR-0005-ed2-2016 03 29 www.pep-ecopassport.org
		Validity period	5 years

Independent verification of the declaration and data, in compliance with ISO 14021 : 2016

Internal External

The PCR review was conducted by a panel of experts chaired by Julie ORGELET (DDemain)

PEP are compliant with XP C08-100-1 :2016 or EN 50693:2019

The elements of the present PEP cannot be compared with elements from another program.

Document in compliance with ISO 14021 : 2016 « Environmental labels and declarations. Type II environmental declarations »

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