Product Environmental Profile

Modicon Edge I/O NTS Screw Terminal Block

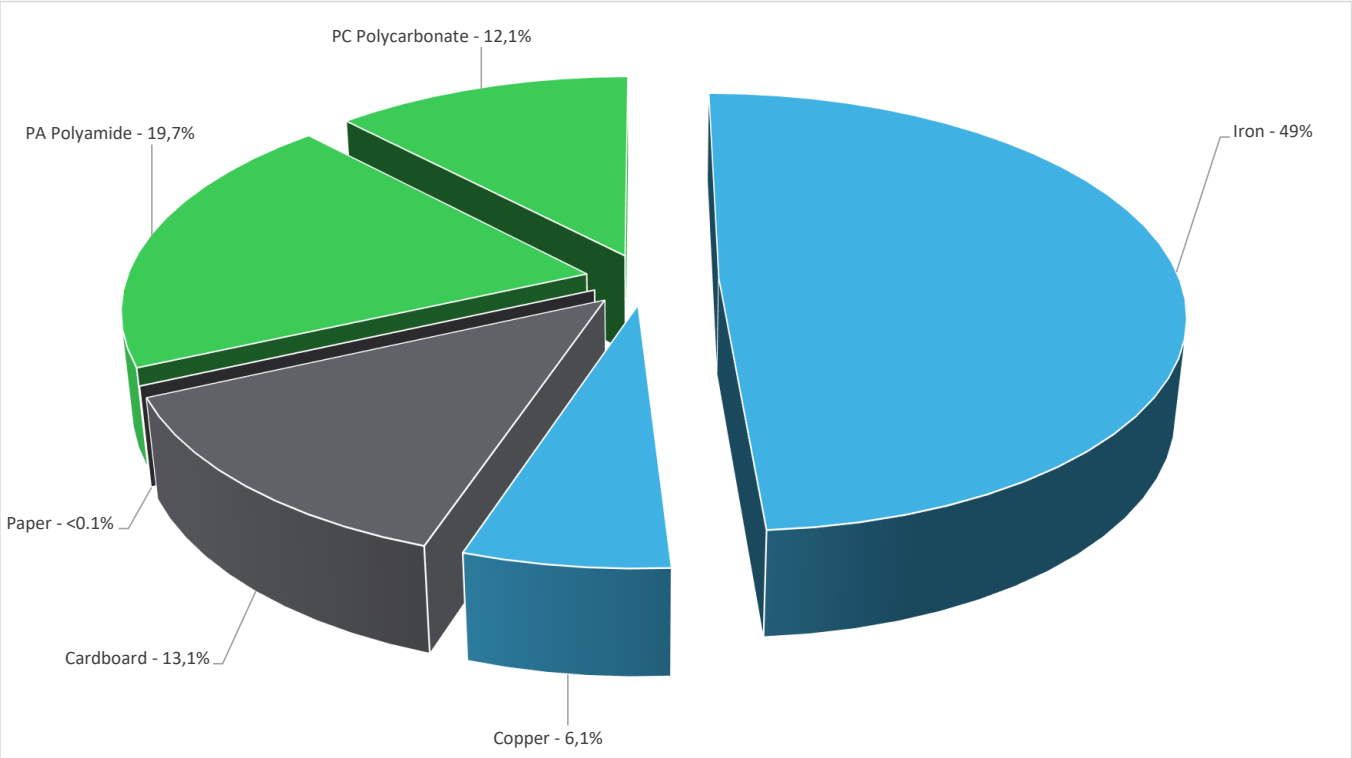
Modicon Edge I/O NTS

General information

Reference product	Modicon Edge I/O NTS Screw Terminal Block - NTSXTB18001XH
Description of the product	The Modicon Edge I/O NTS Terminal Block is an accessory designed to support I/O modules and allow secure connection for wiring and help organizing them, making it easier to manage connections and maintain the Modicon Edge I/O System.
Description of the range	The products of the range are: Modicon Edge I/O NTS is a robust distributed I/O system with wide choice of modules, it provides flexibility allowing customers to answer from simple to high demanding applications. Using open IP protocols, Edge I/O NTS embeds latest technologies to deliver best of performance, availability and cybersecurity. The System enables the creation of separate groups of industrial I/Os in distributed architecture, each positioned as close as possible to the machine/process, managed by a master controller via a fieldbus or communication network. The offer is delivered by kits: a preassembly of a base (for mounting and communication transmission) combined to an electronic module (main function). The type of connection can be selected between Spring or screw Terminal blocks, equipped with or without articulated transparent plastic cover. The environmental impacts of this reference product are representative of the impacts of the other products of the range which are developed with a similar technology.
Functional unit	To provide a secure connection for wiring and facilitate the transmission of electrical signals between the Modicon Edge I/O and connected devices during 20 years with a 100% use rate.
Specifications are:	Technical data : -18 points Screw Terminal Block for Input/Output Module - 3.81mm Pitch -Hardened

Constituent materials

Reference product mass	76 g	including the product, its packaging, additional elements and accessories



	Plastics	31,80%
	Metals	55,10%
	Others	13,10%

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:	**62%**	The recyclability rate was calculated from the recycling rates of each material making up the product based on REEECY'LAB tool developed by Ecosystem, for components/materials not covered by the tool, data from the EIME database and the related PSR was taken. If no data was found a conservative assumption was used (0% recyclability).

Environmental impacts

Reference service life time	20 years
Product category	Other equipments - Passive product - continuous operation
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 consumtion	The electricity consumed during manufacturing processes is considered for each part of the product individually, the final assembly generates a negligable consumption
Installation elements	The product does not require any installation operations.
Use scenario	Load rate : 30% In. Use time rate : 100%. Power dissipation in a typical configuration : 0,0009mW.
Time representativeness	The collected data are representative of the year 2024
Technological representativeness	The Modules of Technologies such as material production, manufacturing processes and transport technology used in the PEP analysis (LCA EIME in the case) are Similar and Representative of the actual type of technologies used to make the product.
Geographical representativeness	Rest of the World

Energy model used	[A1 - A3]	[A5]	[B6]	[C1 - C4]
	Electricity Mix; Low voltage; 2020; China, CN	Electricity Mix; Low voltage; 2018; Europe, EU-27 Electricity Mix; Low voltage; 2020; China, CN Electricity Mix; Low voltage; 2018; United States, US	Electricity Mix; Low voltage; 2018; Europe, EU-27 Electricity Mix; Low voltage; 2020; China, CN Electricity Mix; Low voltage; 2018; United States, US	Electricity Mix; Low voltage; 2018; Europe, EU-27 Electricity Mix; Low voltage; 2020; China, CN Electricity Mix; Low voltage; 2018; United States, US

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		Modicon Edge I/O NTS Screw Terminal Block - NTSXTB18001XH						
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	4,64E-01	2,46E-01	3,74E-02	3,88E-04	2,93E-03	1,78E-01	3,44E-02
Contribution to climate change-fossil	kg CO2 eq	4,64E-01	2,47E-01	3,74E-02	3,78E-04	2,93E-03	1,77E-01	3,52E-02
Contribution to climate change-biogenic	kg CO2 eq	-2,11E-04	-1,15E-03	0*	0*	0*	0*	-7,98E-04
Contribution to climate change-land use and land use change	kg CO2 eq	1,40E-05	1,40E-05	0*	0*	0*	1,54E-08	0,00E+00
Contribution to ozone depletion	kg CFC-11 eq	6,64E-08	3,29E-08	3,29E-08	1,54E-11	1,70E-11	5,51E-10	-4,61E-08
Contribution to acidification	mol H+ eq	4,97E-03	4,26E-03	1,54E-04	5,21E-06	2,21E-05	5,32E-04	-6,60E-04
Contribution to eutrophication, freshwater	kg $(PO4)^{3-}$ eq	3,40E-05	4,93E-06	4,37E-09	0*	0*	2,91E-05	3,28E-06
Contribution to eutrophication, marine	kg N eq	9,84E-04	7,99E-04	7,01E-05	2,46E-06	2,36E-06	1,10E-04	7,65E-05
Contribution to eutrophication, terrestrial	mol N eq	1,07E-02	8,69E-03	7,60E-04	2,51E-05	2,71E-05	1,25E-03	6,41E-04
Contribution to photochemical ozone formation - human health	kg COVNM eq	3,05E-03	2,40E-03	2,53E-04	6,02E-06	7,88E-06	3,85E-04	1,33E-04
Contribution to resource use, minerals and metals	kg Sb eq	8,22E-06	7,27E-06	0*	0*	0*	9,47E-07	-3,13E-05
Contribution to resource use, fossils	MJ	1,21E+01	3,66E+00	4,64E-01	4,44E-03	4,81E-02	7,94E+00	4,70E-01
Contribution to water use	m3 eq	1,49E-01	7,65E-02	1,89E-03	9,18E-04	1,70E-04	6,95E-02	-7,47E-02

Inventory flows Indicators		Modicon Edge I/O NTS Screw Terminal Block - NTSXTB18001XH						
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	5,92E-02	3,09E-02	0*	0*	5,08E-03	2,32E-02	-3,21E-02
Contribution to renewable primary energy used as raw material	MJ	2,67E-01	2,67E-01	0*	0*	0*	0*	0,00E+00
Contribution to total renewable primary energy	MJ	3,26E-01	2,98E-01	0*	0*	5,08E-03	2,32E-02	-3,21E-02
Contribution to non renewable primary energy used as energy	MJ	1,18E+01	3,32E+00	4,64E-01	4,44E-03	4,81E-02	7,94E+00	1,96E-02
Contribution to non renewable primary energy used as raw material	MJ	3,39E-01	3,39E-01	0*	0*	0*	0*	4,50E-01
Contribution to total non renewable primary energy	MJ	1,21E+01	3,66E+00	4,64E-01	4,44E-03	4,81E-02	7,94E+00	4,70E-01
Contribution to use of secondary material	kg	5,98E-02	5,98E-02	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	m^3	3,47E-03	1,78E-03	4,41E-05	2,14E-05	3,96E-06	1,62E-03	-1,74E-03
Contribution to hazardous waste disposed	kg	6,56E-01	6,56E-01	0*	0*	9,11E-05	0*	-2,38E+00
Contribution to non hazardous waste disposed	kg	3,80E-01	3,42E-01	0*	1,00E-02	5,46E-04	2,72E-02	-4,97E-02
Contribution to radioactive waste disposed	kg	4,88E-05	4,02E-05	7,42E-06	8,22E-09	2,21E-08	1,23E-06	-2,71E-05
Contribution to components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*	0,00E+00
Contribution to materials for recycling	kg	4,72E-02	6,15E-03	0*	0*	0*	4,10E-02	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	4,68E-04	6,22E-05	0*	0*	0*	4,06E-04	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	2,80E-03

** 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		Modicon Edge I/O NTS Screw Terminal Block - NTSXTB18001XH							
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to climate change	kg CO2 eq	2,93E-03	0*	0*	0*	0*	0*	2,93E-03	0*
Contribution to climate change-fossil	kg CO2 eq	2,93E-03	0*	0*	0*	0*	0*	2,93E-03	0*
Contribution to climate change-biogenic	kg CO2 eq	0*	0*	0*	0*	0*	0*	0*	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	1,70E-11	0*	0*	0*	0*	0*	1,70E-11	0*
Contribution to acidification	mol H+ eq	2,21E-05	0*	0*	0*	0*	0*	2,21E-05	0*
Contribution to eutrophication, freshwater	kg $(PO4)^{3-}$ eq	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to eutrophication marine	kg N eq	2,36E-06	0*	0*	0*	0*	0*	2,36E-06	0*
Contribution to eutrophication, terrestrial	mol N eq	2,71E-05	0*	0*	0*	0*	0*	2,71E-05	0*
Contribution to photochemical ozone formation - human health	kg COVNM eq	7,88E-06	0*	0*	0*	0*	0*	7,88E-06	0*
Contribution to resource use, minerals and metals	kg Sb eq	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to resource use, fossils	MJ	4,81E-02	0*	0*	0*	0*	0*	4,81E-02	0*
Contribution to water use	m3 eq	1,70E-04	0*	0*	0*	0*	0*	1,70E-04	0*

Inventory flows Indicators		Modicon Edge I/O NTS Screw Terminal Block - NTSXTB18001XH							
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	5,08E-03	0*	0*	0*	0*	0*	5,08E-03	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	5,08E-03	0*	0*	0*	0*	0*	5,08E-03	0*
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	4,81E-02	0*	0*	0*	0*	0*	4,81E-02	0*
Contribution to use of non renewable primary energy resources used as raw material	MJ	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to total use of non-renewable primary energy resources	MJ	4,81E-02	0*	0*	0*	0*	0*	4,81E-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	m^3	3,96E-06	0*	0*	0*	0*	0*	3,96E-06	0*
Contribution to hazardous waste disposed	kg	9,11E-05	0*	0*	0*	0*	0*	9,11E-05	0*
Contribution to non hazardous waste disposed	kg	5,46E-04	0*	0*	0*	0*	0*	5,46E-04	0*
Contribution to radioactive waste disposed	kg	2,21E-08	0*	0*	0*	0*	0*	2,21E-08	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 v6.2.2, database version 2024-01 in compliance with ISO14044, EF3.1 method is applied, for biogenic carbon storage, assessment methodology 0/0 is used

According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range, ratios to apply can be provided upon request

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 :	ENVPEP2409007_V1	*Drafting rules*	PCR-4-ed4-EN-2021 09 06
		Supplemented by	PSR-0005-ed3.1-EN-2023 12 08
Date of issue	12-2024		
		Validity period	5 years

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

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 14021:2016 "Environmental labels and declarations. Type II environmental declarations"

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