

Product Environmental Profile

Modicon M580 Communication Module

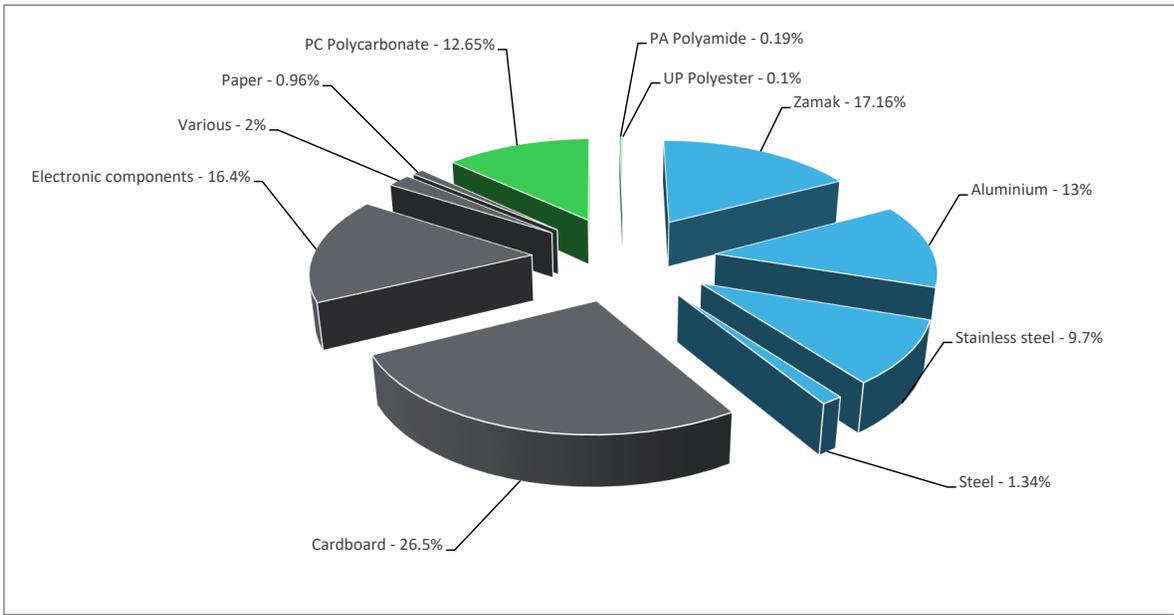


General information

Reference product	Modicon M580 Communication Module - BMENUA0100
Description of the product	This communication module is part of the Modicon M580 range, providing an ethernet Programmable Automation Controller (ePAC) for Process control and Safety. Thus, the M580 ePAC with this OPC UA module (Open Platform Communications for Unified Architecture) offers a modern, secure, open, and reliable standard for industrial communications.
Functional unit	The OPC UA module allows data communication with any Client in accordance with the OPC UA Client/Server standard. This module as the Modicon M580 range has a long life cycle for about more than 10 years with a 100% use rate. Typical electrical power is 3,36W (140 mA at 24 V DC). IEC 61000-6-5, IEC 61850-3

Constituent materials

Reference product mass	500 g including the product, its packaging and additional elements and accessories.
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Plastics	12.94%
Metals	41.20%
Others	45.86%

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

End Of Life	Recyclability potential:	32%	Recyclability rate has been calculated based on REEECYLAB 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	The Modicon M580 Communication Module does not require any installation operations.			
Use scenario	The product is in active mode 90% of the time with a power use of 3.36W and in off mode 10% of the time with a power use of 0W 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	Europe, United States, Asia-Pacific, Australia			
Energy model used	[A1 - A3]	[A5]	[B6]	[C1 - C4]
	Electricity Mix; Production mix; Low voltage; FR	Electricity Mix; Production mix; Low voltage; UE-27	Electricity Mix; Production mix; Low voltage; UE-27	Electricity Mix; Production mix; Low voltage; UE-27
		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; APAC	Electricity Mix; Production mix; Low voltage; APAC	Electricity Mix; Production mix; Low voltage; APAC
		Electricity Mix; Production mix; Low voltage; AUS	Electricity Mix; Production mix; Low voltage; AUS	Electricity Mix; Production mix; Low voltage; AUS

Detailed results, including all the optional indicators mentioned in PCRred4, 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			Modicon M580 Communication Module - BMENUA0100					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life	Benefits
			[A1 - A3]	[A4]	[A5]	[B1 - B7]	[C1 - C4]	[D]
Contribution to climate change	kg CO2 eq	1.86E+02	3.78E+01	6.54E-02	1.68E-01	1.47E+02	5.22E-01	-1.16E+00
Contribution to climate change-fossil	kg CO2 eq	1.85E+02	3.78E+01	6.54E-02	1.67E-01	1.47E+02	5.14E-01	-1.13E+00
Contribution to climate change-biogenic	kg CO2 eq	1.87E-01	4.64E-02	0*	3.25E-04	1.32E-01	7.97E-03	-2.80E-02
Contribution to climate change-land use and land use change	kg CO2 eq	1.13E-08	1.13E-08	0*	0*	0*	0*	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	5.76E-06	5.08E-06	0*	8.04E-10	6.72E-07	1.45E-08	-1.57E-07
Contribution to acidification	mol H+ eq	1.13E+00	2.45E-01	4.21E-04	1.39E-04	8.83E-01	4.77E-03	-7.32E-03
Contribution to eutrophication, freshwater	kg (PO4) ³⁻ eq	2.82E-04	6.69E-05	0*	2.82E-06	2.10E-04	2.83E-06	-3.92E-06
Contribution to eutrophication marine	kg N eq	1.31E-01	2.77E-02	1.98E-04	6.87E-05	9.99E-02	3.06E-03	-6.38E-04
Contribution to eutrophication, terrestrial	mol N eq	1.56E+00	2.94E-01	2.17E-03	5.16E-04	1.26E+00	2.93E-03	-7.05E-03
Contribution to photochemical ozone formation - human health	kg COVNM eq	4.27E-01	9.61E-02	5.47E-04	1.71E-04	3.29E-01	1.10E-03	-2.36E-03
Contribution to resource use, minerals and metals	kg Sb eq	5.07E-03	5.06E-03	0*	0*	6.10E-06	0*	-6.80E-05
Contribution to resource use, fossils	MJ	3.49E+03	4.34E+02	9.11E-01	0*	3.04E+03	1.40E+01	-1.73E+01
Contribution to water use	m3 eq	6.74E+01	9.70E+00	0*	0*	5.52E+00	5.22E+01	-2.67E-01

Additional indicators for the French regulation are available as well

Inventory flows Indicators			Modicon M580 Communication Module - BMENUA0100					
Inventory flows	Unit	Total	Manufact.	Distribution	Installation	Use	End of Life	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	4.49E+02	1.39E+01	0*	0*	4.34E+02	2.28E-01	-5.79E-01
Contribution to use of renewable primary energy resources used as raw material	MJ	2.79E+00	2.79E+00	0*	0*	0*	0*	-7.24E-02
Contribution to total use of renewable primary energy resources	MJ	4.51E+02	1.67E+01	0*	0*	4.34E+02	2.28E-01	-6.51E-01
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	3.49E+03	4.30E+02	9.11E-01	0*	3.04E+03	1.40E+01	-1.73E+01
Contribution to use of non renewable primary energy resources used as raw material	MJ	3.73E+00	3.73E+00	0*	0*	0*	0*	0.00E+00
Contribution to total use of non-renewable primary energy resources	MJ	3.49E+03	4.34E+02	9.11E-01	0*	3.04E+03	1.40E+01	-1.73E+01
Contribution to use of secondary material	kg	3.54E-02	3.54E-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 freshwater	m³	1.72E+00	2.26E-01	0*	0*	1.29E-01	1.37E+00	-6.21E-03
Contribution to hazardous waste disposed	kg	9.09E+01	8.72E+01	0*	0*	3.22E+00	4.77E-01	-5.43E+00
Contribution to non hazardous waste disposed	kg	3.72E+01	1.45E+01	0*	1.76E-01	2.24E+01	7.98E-02	-1.83E+00
Contribution to radioactive waste disposed	kg	9.31E-03	5.89E-03	1.63E-06	8.40E-06	3.41E-03	5.80E-06	-1.31E-03
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	1.25E-01	0*	0*	4.02E-03	0*	1.21E-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	7.79E-02	0*	0*	7.79E-02	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 :	ENVPEP2309052_V1	Drafting rules	PEP-PCR-ed4-2021 09 06
Date of issue	2023/09/27	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	X	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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