Product Environmental Profile

MicroLogic 6.0X control unit, MasterPact MTZ

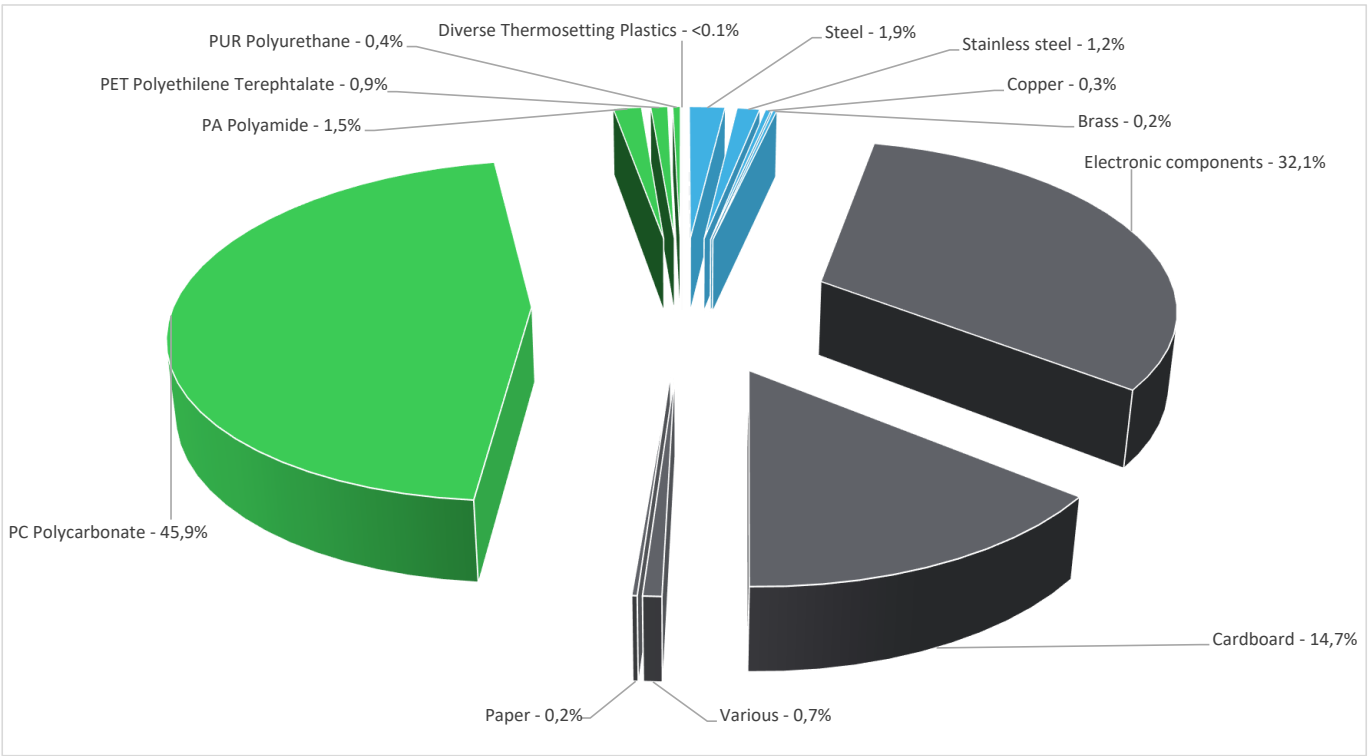
Representative of all MasterPacT MTZ Control Units

General information

Reference product	MicroLogic 6.0X control unit, MasterPact MTZ - LV847603
Description of the product	MasterPacT MTZ circuit breakers are designed to guarantee the protection of a low voltage electrical distribution system (industrial) with assigned voltage up to 690V AC and rated current up to 6300A. This protection is ensured thanks to the monitoring, control and action of the MicroLogic control units. The MicroLogic 6.0X control unit is a LSIG protection type control unit that offers 4 basic protection functions and some advanced protections: * L = long time protection against overloads * S = short time protection against short-circuits * I = instantaneous protection against short-circuits * G = ground fault protection * Additional measurement = power
Description of the range	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. The products of the range are: All MasterPacT MTZ Control Units
Functional unit	Other switchgear and controlgear solutions mentioned in the scope (e.g. fuses TC32, all-or-nothing relays TC94, Measuring relays and protection equipment TC95), apply the general rules of PCR and mention in the accompanying report the functional unit, the reference product characteristics, the reference lifetime and the use scenario which are applied consistently with the relevant IEC technical standards.
Specifications are:	Protect the installation against overloads and short circuits and protect people and premises at risk of fire or explosion against insulation defects in a circuit with rated voltage up to 690V AC, rated current up to 6300A, with Np (3D, 3D + N/2, 4D) poles, a rated breaking capacity up to 150 kA rms, in the Industrial application area, according to the appropriate use scenario, and during the reference service life of the product of 10 years. The specifications mentioned previously will vary depending on the type of circuit breaker (MasterPacT MTZ range of products) the control unit is connected to.

Constituent materials

Reference product mass	342 g	including the product, its packaging, additional elements and accessories



	Plastics	48,7%
	Others	47,7%
	Metals	3,6%

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:	4%	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	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 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 commercial reference LV947603 does not require any special installation procedures.
Use scenario	Load rate = 50% In Use rate = 30% RLT
Time representativeness	The collected data are representative of the year 2023
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.
Final assembly site	Les Agriers, FR
Geographical representativeness	Europe

Energy model used	[A1 - A3]	[A5]	[B6]	[C1 - C4]
	Electricity Mix; Low voltage; 2020; France, FR	Electricity Mix; Low voltage; 2020; Europe, EU-27	Electricity Mix; Low voltage; 2020; Europe, EU-27	Electricity Mix; Low voltage; 2020; Europe, EU-27

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		MicroLogic 6.0X control unit, MasterPact MTZ - LV847603						
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	5,06E+01	2,93E+01	4,04E-02	5,39E-02	2,04E+01	8,21E-01	-4,57E-02
Contribution to climate change-fossil	kg CO2 eq	5,06E+01	2,94E+01	4,04E-02	5,14E-02	2,03E+01	8,21E-01	-5,45E-02
Contribution to climate change-biogenic	kg CO2 eq	1,38E-03	0*	0*	2,56E-03	3,75E-02	2,30E-04	8,85E-03
Contribution to climate change-land use and land use change	kg CO2 eq	1,86E-04	1,86E-04	0*	0*	0*	0*	0,00E+00
Contribution to ozone depletion	kg CFC-11 eq	3,84E-06	3,74E-06	0*	7,00E-10	9,88E-08	7,91E-10	-8,12E-09
Contribution to acidification	mol H+ eq	2,98E-01	1,92E-01	2,56E-04	1,58E-04	1,04E-01	6,74E-04	-4,86E-04
Contribution to eutrophication, freshwater	kg $(PO4)^{3-}$ eq	1,58E-04	9,30E-05	0*	1,24E-06	5,36E-05	9,72E-06	-2,02E-07
Contribution to eutrophication marine	kg N eq	3,32E-02	2,00E-02	1,20E-04	6,88E-05	1,27E-02	2,74E-04	-4,11E-05
Contribution to eutrophication, terrestrial	mol N eq	4,22E-01	2,13E-01	1,32E-03	4,78E-04	2,04E-01	2,96E-03	-4,35E-04
Contribution to photochemical ozone formation - human health	kg COVNM eq	1,13E-01	7,20E-02	3,32E-04	1,10E-04	4,00E-02	7,38E-04	-1,52E-04
Contribution to resource use, minerals and metals	kg Sb eq	9,05E-03	9,04E-03	0*	0*	7,21E-06	0*	-1,51E-05
Contribution to resource use, fossils	MJ	8,83E+02	3,64E+02	5,64E-01	5,35E-01	5,14E+02	3,46E+00	-1,14E+00
Contribution to water use	m3 eq	1,54E+01	1,38E+01	0*	4,17E-03	1,56E+00	6,01E-02	-3,01E-02

Inventory flows Indicators		MicroLogic 6.0X control unit, MasterPact MTZ - LV847603						
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	1,50E+02	1,34E+01	0*	7,02E-02	1,36E+02	0*	1,43E-02
Contribution to use of renewable primary energy resources used as raw material	MJ	6,01E-01	6,01E-01	0*	0*	0*	0*	-1,17E-01
Contribution to total use of renewable primary energy resources	MJ	1,50E+02	1,40E+01	0*	7,02E-02	1,36E+02	0*	-1,02E-01
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	8,77E+02	3,58E+02	5,64E-01	5,35E-01	5,14E+02	3,46E+00	-1,14E+00
Contribution to use of non renewable primary energy resources used as raw material	MJ	5,59E+00	5,59E+00	0*	0*	0*	0*	0,00E+00
Contribution to total use of non-renewable primary energy resources	MJ	8,83E+02	3,64E+02	5,64E-01	5,35E-01	5,14E+02	3,46E+00	-1,14E+00
Contribution to use of secondary material	kg	3,96E-02	3,96E-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	m^3	3,58E-01	3,20E-01	0*	9,71E-05	3,67E-02	1,40E-03	-7,00E-04
Contribution to hazardous waste disposed	kg	1,72E+02	1,71E+02	0*	0*	8,93E-01	1,10E-01	-1,21E+00
Contribution to non hazardous waste disposed	kg	1,20E+01	8,36E+00	1,42E-03	2,31E-02	3,44E+00	1,80E-01	-4,00E-02
Contribution to radioactive waste disposed	kg	5,62E-03	4,82E-03	1,01E-06	2,86E-06	7,90E-04	7,41E-06	-1,82E-05
Contribution to components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*	0,00E+00
Contribution to materials for recycling	kg	1,76E-02	5,06E-03	0*	0*	0*	1,26E-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	2,35E-03	2,05E-05	0*	2,21E-03	0*	1,24E-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	1,42E-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		MicroLogic 6.0X control unit, MasterPact MTZ - LV847603							
Impact indicators	**Unit**	**[B1 - B7] - Use**	**[B1]**	**[B2]**	**[B3]**	**[B4]**	**[B5]**	**[B6]**	**[B7]**
Contribution to climate change	kg CO2 eq	2,04E+01	0*	0*	0*	0*	0*	2,04E+01	0*
Contribution to climate change-fossil	kg CO2 eq	2,03E+01	0*	0*	0*	0*	0*	2,03E+01	0*
Contribution to climate change-biogenic	kg CO2 eq	3,75E-02	0*	0*	0*	0*	0*	3,75E-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	9,88E-08	0*	0*	0*	0*	0*	9,88E-08	0*
Contribution to acidification	mol H+ eq	1,04E-01	0*	0*	0*	0*	0*	1,04E-01	0*
Contribution to eutrophication, freshwater	kg $(PO4)^{3-}$ eq	5,36E-05	0*	0*	0*	0*	0*	5,36E-05	0*
Contribution to eutrophication marine	kg N eq	1,27E-02	0*	0*	0*	0*	0*	1,27E-02	0*
Contribution to eutrophication, terrestrial	mol N eq	2,04E-01	0*	0*	0*	0*	0*	2,04E-01	0*
Contribution to photochemical ozone formation - human health	kg COVNM eq	4,00E-02	0*	0*	0*	0*	0*	4,00E-02	0*
Contribution to resource use, minerals and metals	kg Sb eq	7,21E-06	0*	0*	0*	0*	0*	7,21E-06	0*
Contribution to resource use, fossils	MJ	5,14E+02	0*	0*	0*	0*	0*	5,14E+02	0*
Contribution to water use	m3 eq	1,56E+00	0*	0*	0*	0*	0*	1,56E+00	0*

Inventory flows Indicators		MicroLogic 6.0X control unit, MasterPact MTZ - LV847603							
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	1,36E+02	0*	0*	0*	0*	0*	1,36E+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	1,36E+02	0*	0*	0*	0*	0*	1,36E+02	0*
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	5,14E+02	0*	0*	0*	0*	0*	5,14E+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	5,14E+02	0*	0*	0*	0*	0*	5,14E+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	3,67E-02	0*	0*	0*	0*	0*	3,67E-02	0*
Contribution to hazardous waste disposed	kg	8,93E-01	0*	0*	0*	0*	0*	8,93E-01	0*
Contribution to non hazardous waste disposed	kg	3,44E+00	0*	0*	0*	0*	0*	3,44E+00	0*
Contribution to radioactive waste disposed	kg	7,90E-04	0*	0*	0*	0*	0*	7,90E-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 v6.2.2, database version 2024-01 in compliance with ISO14044, EF3.1 method is applied, for biogenic carbon storage, assessment methodology -1/1 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.

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Verifier accreditation N°	VH08	*Information and reference documents*	www.pep-ecopassport.org
Date of issue	09-2024	*Validity period*	5 years
Independent verification of the declaration and data, in compliance with ISO 14025 : 2006			
Internal	External X		
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.se.com/contact

35, rue Joseph Monier

CS 30323

F- 92500 Rueil Malmaison Cedex
RCS Nanterre 954 503 439
Capital social 928 298 512 €

www.se.com

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