Product Environmental Profile

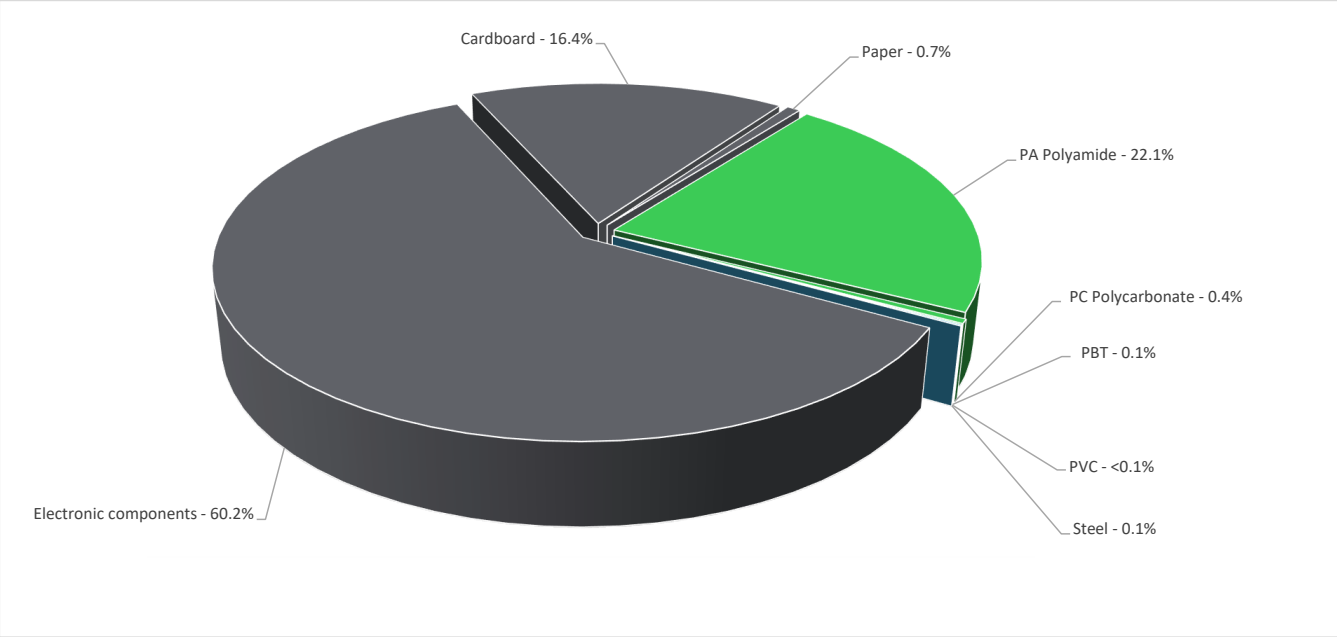
TeSys Tera - Motor Management MODBUS RTU 24 Vdc

General information

Reference product	TeSys Tera - Motor Management MODBUS RTU 24 Vdc - LTMTMBD
Description of the product	The TeSys Tera Motor Management MODBUS RTU is a motor controller unit designed for motor management and protection. It features four digital input modules and three digital output modules, operating with an auxiliary voltage supply of 24 Vdc. This unit complies with the IEC 60947-4-1 standard, ensuring reliability and safety in motor control applications.
Description of the range	Single product
Functional unit	The TeSys Tera Motor Management MODBUS RTU features four digital inputs and three outputs, along with an auxiliary supply of 24 Vdc for motor protection relays. The unit has dimensions of 45 mm x 112 mm x 90 mm and is designed to accommodate continuous current for the connected devices. It complies with the IEC 60947-4-1 standard and is engineered for a lifespan of 10 years, ensuring reliability and performance in motor management applications.
Specifications are:	The product used for the analysis is a TeSys Tera - Motor Management Profibus DP with following specifications, ● Ue : Rated Operational Voltage - 240V AC ● In : Rated operating current (A) - 10A ● IP degree of protection: IP30 conforming to IEC 60529 ● IK degree of protection : IK08 conforming to IEC 62262 ● LED for Indication ● Reset key for Fault Reset

Constituent materials

Reference product mass	334 g	Including the product and its packaging.



Others	77.3%
Plastics	22.6%
Metals	0.1%

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:	**0%**	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 Product does not need any special installation operation.
Use scenario	The Product is in active mode 100% of the life time with the power consumption of 8W for the reference service life time of 10 years.
Time representativeness	The collected data are representative of the year 2025
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 representaive of the actual type of technologies used to make the product.

Geographical representativeness	**Final assembly site**	**Use phase**		**End-of-life**
	India	APAC, Europe, Australia		APAC, Europe, Australia
Energy model used	**[A1 - A3]**	**[A5]**	**[B6]**	**[C1 - C4]**
	Electricity Mix; Low voltage; 2020; India, IN	No energy used	Electricity Mix; Low voltage; 2020; Asia Pacific, APAC Electricity Mix; Low voltage; 2020; Europe, EU-27 Electricity Mix; Low voltage; 2020; Australia, AU	Global, European and French datasets are used.

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		**TeSys Tera - Motor Management MODBUS RTU 24 Vdc - LTMTMBD**						
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	4.41E+02	3.14E+01	1.20E-01	6.07E-02	4.08E+02	8.34E-01	7.75E-03
Contribution to climate change-fossil	kg CO2 eq	4.37E+02	3.15E+01	1.20E-01	5.79E-02	4.04E+02	8.34E-01	-5.52E-02
Contribution to climate change-biogenic	kg CO2 eq	3.87E+00	1.00E-02	0*	2.89E-03	3.86E+00	0*	6.29E-02
Contribution to climate change-land use and land use change	kg CO2 eq	1.01E-07	1.01E-07	0*	0*	0*	0*	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	6.33E-06	4.31E-06	0*	7.88E-10	2.02E-06	6.65E-10	-1.35E-09
Contribution to acidification	mol H+ eq	2.81E+00	2.15E-01	7.63E-04	0*	2.59E+00	5.63E-04	-2.89E-04
Contribution to eutrophication, freshwater	kg P eq	5.25E-04	1.14E-04	0*	1.39E-06	4.06E-04	4.56E-06	-8.81E-07
Contribution to eutrophication, marine	kg N eq	3.12E-01	2.28E-02	3.57E-04	7.74E-05	2.88E-01	2.81E-04	-8.96E-05
Contribution to eutrophication, terrestrial	mol N eq	3.97E+00	2.42E-01	3.92E-03	5.39E-04	3.72E+00	2.86E-03	-7.30E-04
Contribution to photochemical ozone formation - human health	kg COVNM eq	1.03E+00	8.15E-02	9.89E-04	1.23E-04	9.47E-01	6.93E-04	-1.86E-04
Contribution to resource use, minerals and metals	kg Sb eq	1.99E-02	1.98E-02	0*	0*	7.41E-05	0*	-3.65E-07
Contribution to resource use, fossils	MJ	8.16E+03	3.94E+02	1.68E+00	0*	7.76E+03	1.06E+00	-6.48E-01
Contribution to water use	m3 eq	3.87E+01	1.30E+01	0*	4.69E-03	2.56E+01	2.60E-02	-1.11E-02

Inventory flows Indicators		TeSys Tera - Motor Management MODBUS RTU 24 Vdc - LTMTMBD						
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	1.22E+03	1.28E+01	0*	0*	1.21E+03	0*	1.95E-01
Contribution to renewable primary energy used as raw material	MJ	2.88E-01	2.88E-01	0*	0*	0*	0*	-8.09E-01
Contribution to total renewable primary energy	MJ	1.22E+03	1.31E+01	0*	0*	1.21E+03	0*	-6.14E-01
Contribution to non renewable primary energy used as energy	MJ	8.15E+03	3.91E+02	1.68E+00	0*	7.76E+03	1.06E+00	-6.48E-01
Contribution to non renewable primary energy used as raw material	MJ	3.63E+00	3.63E+00	0*	0*	0*	0*	0.00E+00
Contribution to total non renewable primary energy	MJ	8.16E+03	3.94E+02	1.68E+00	0*	7.76E+03	1.06E+00	-6.48E-01
Contribution to use of secondary material	kg	6.44E-02	6.44E-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	9.01E-01	3.02E-01	0*	1.09E-04	5.98E-01	6.05E-04	-2.58E-04
Contribution to hazardous waste disposed	kg	3.43E+02	3.32E+02	0*	0*	1.15E+01	2.01E-01	-2.84E-02
Contribution to non hazardous waste disposed	kg	7.54E+01	6.92E+00	0*	2.60E-02	6.84E+01	8.33E-02	-3.54E-02
Contribution to radioactive waste disposed	kg	1.18E-02	3.28E-03	3.01E-06	3.22E-06	8.53E-03	4.29E-06	-1.60E-05
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	2.59E-03	2.30E-03	0*	0*	0*	2.94E-04	0.00E+00
Contribution to materials for energy recovery	kg	1.44E-08	1.44E-08	0*	0*	0*	0*	0.00E+00
Contribution to exported energy	MJ	2.49E-03	6.33E-06	0*	2.48E-03	0*	2.91E-06	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	1.61E-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		TeSys Tera - Motor Management MODBUS RTU 24 Vdc - LTMTMBD							
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to climate change	kg CO2 eq	4.08E+02	0*	0*	0*	0*	0*	4.08E+02	0*
Contribution to climate change-fossil	kg CO2 eq	4.04E+02	0*	0*	0*	0*	0*	4.04E+02	0*
Contribution to climate change-biogenic	kg CO2 eq	3.86E+00	0*	0*	0*	0*	0*	3.86E+00	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	2.02E-06	0*	0*	0*	0*	0*	2.02E-06	0*
Contribution to acidification	mol H+ eq	2.59E+00	0*	0*	0*	0*	0*	2.59E+00	0*
Contribution to eutrophication, freshwater	kg P eq	4.06E-04	0*	0*	0*	0*	0*	4.06E-04	0*
Contribution to eutrophication marine	kg N eq	2.88E-01	0*	0*	0*	0*	0*	2.88E-01	0*
Contribution to eutrophication, terrestrial	mol N eq	3.72E+00	0*	0*	0*	0*	0*	3.72E+00	0*
Contribution to photochemical ozone formation - human health	kg COVNM eq	9.47E-01	0*	0*	0*	0*	0*	9.47E-01	0*
Contribution to resource use, minerals and metals	kg Sb eq	7.41E-05	0*	0*	0*	0*	0*	7.41E-05	0*
Contribution to resource use, fossils	MJ	7.76E+03	0*	0*	0*	0*	0*	7.76E+03	0*
Contribution to water use	m3 eq	2.56E+01	0*	0*	0*	0*	0*	2.56E+01	0*

Inventory flows Indicators		TeSys Tera - Motor Management MODBUS RTU 24 Vdc - LTMTMBD							
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	1.21E+03	0*	0*	0*	0*	0*	1.21E+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	1.21E+03	0*	0*	0*	0*	0*	1.21E+03	0*
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	7.76E+03	0*	0*	0*	0*	0*	7.76E+03	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	7.76E+03	0*	0*	0*	0*	0*	7.76E+03	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	5.98E-01	0*	0*	0*	0*	0*	5.98E-01	0*
Contribution to hazardous waste disposed	kg	1.15E+01	0*	0*	0*	0*	0*	1.15E+01	0*
Contribution to non hazardous waste disposed	kg	6.84E+01	0*	0*	0*	0*	0*	6.84E+01	0*
Contribution to radioactive waste disposed	kg	8.53E-03	0*	0*	0*	0*	0*	8.53E-03	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 v6.2.4, database version 2024-01 in compliance with ISO14044, EF3.1 method is applied, for biogenic carbon storage, assessment methodology -1/1 is used

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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		Supplemented by	PSR-0005-ed3-2023 06 06
Date of issue	01-2025	*Information and reference documents*	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)			
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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