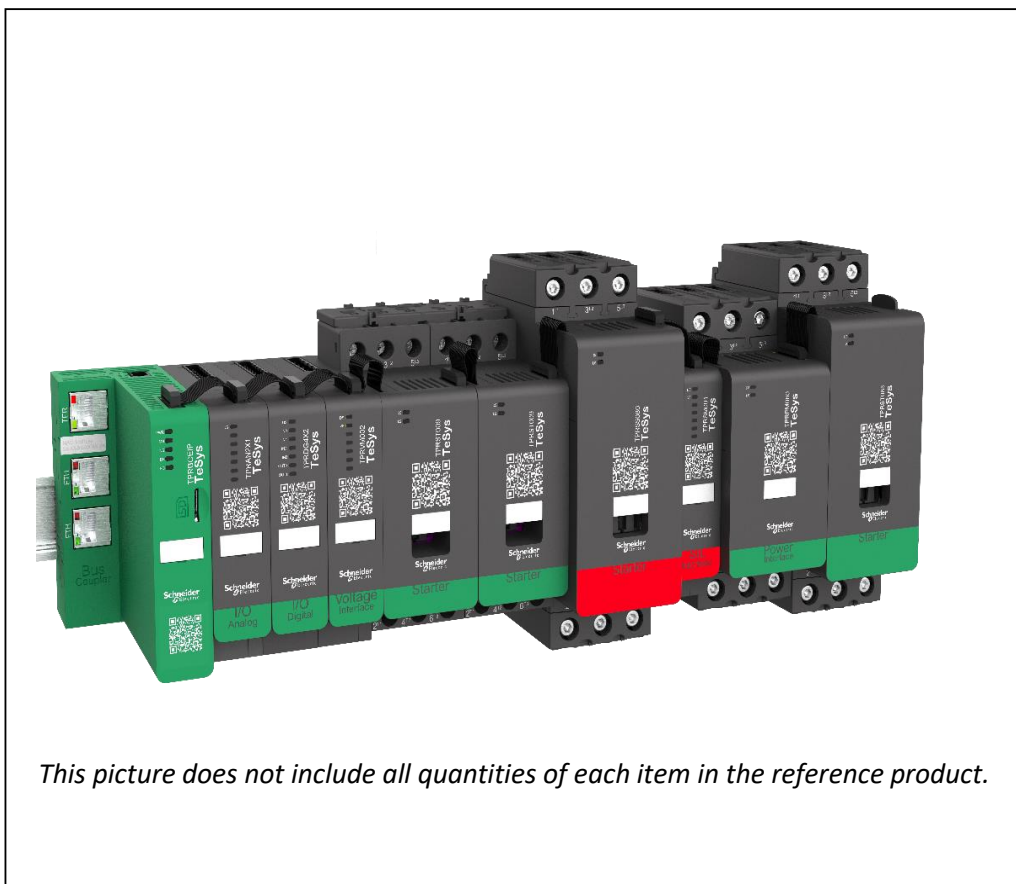


Product Environmental Profile

TeSys island-Digital multifunctional load management solution up to 80A





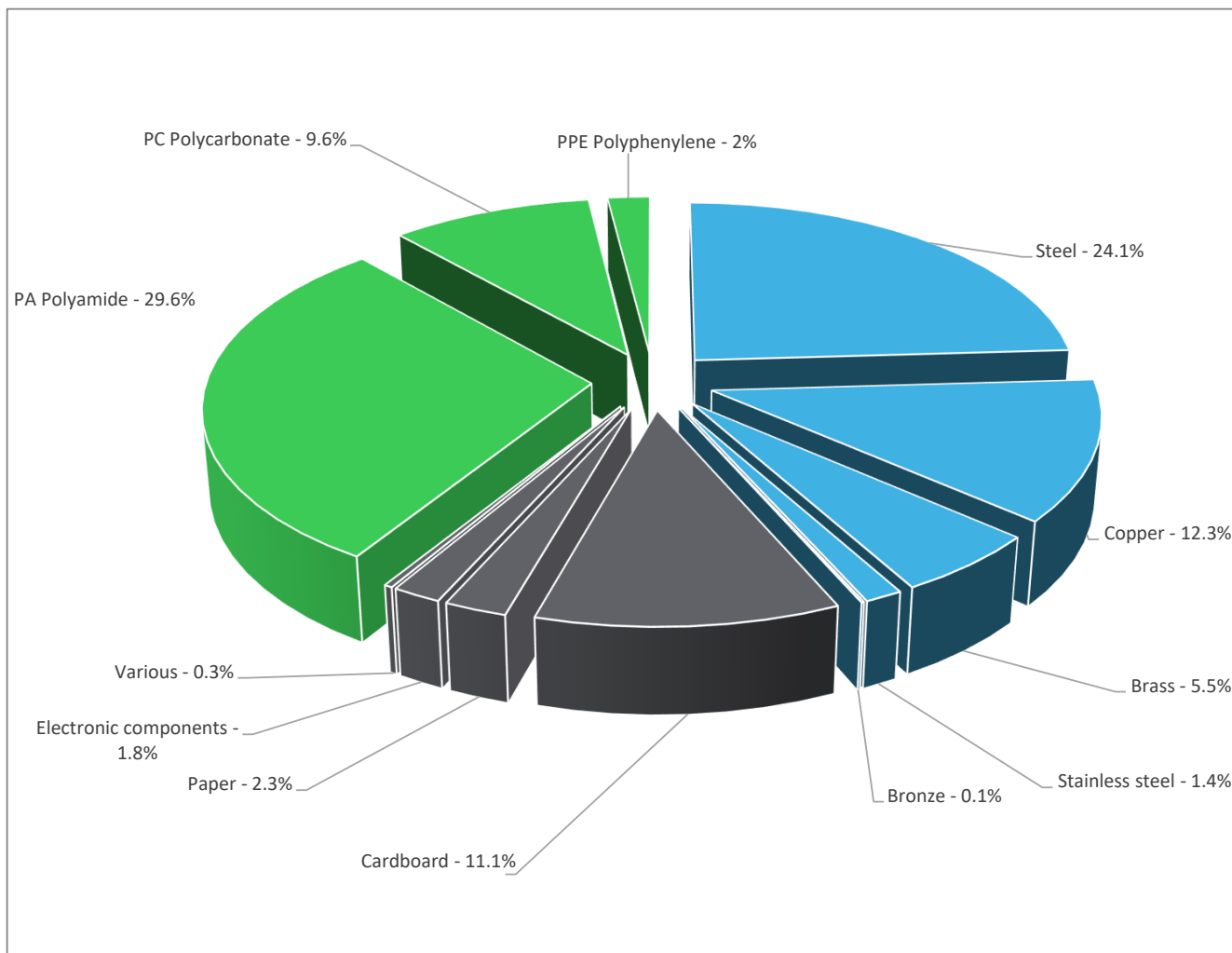
General information

<p>Representative product</p>	<p>TeSys island - Digital multifunctional load management solution up to 80A - TeSys island Bus Coupler Ethernet Switch: TPRBCEIP QTY 1 TeSys island Digital IO Module:TPRDG4X2 QTY3 TeSys island Analog IO Module:TPRAN2X1 QTY2 TeSys island Voltage Interface:TPRVM001 QTY1 TeSys island Starter 9 A / 4 kW:TPRST009 QTY4 TeSys island Starter 38 A / 18,5 kW:TPRST038 QTY1 TeSys island Starter 65 A / 30 kW:TPRST065 QTY1 TeSys island SIL Starter 9 A / 4 kW :TPRSS009 QTY2 TeSys island SIL Starter 38 A / 18,5 kW:TPRSS038 QTY1 TeSys island SIL Starter 65 A / 30 kW:TPRSS065 QTY1 TeSys island SIL Interface:TPRSM001 QTY1 TeSys island Power Interface 9 A / 4 kW:TPRPM009 QTY1</p>
<p>Description of the product</p>	<p>TeSys island is designed to switch, protect, and manage motors and other electrical loads up to 80 (AC3) in an electrical control panel. It includes Ethernet switch, I/O modules, starters, SIL starts, and interfaces.</p> <ol style="list-style-type: none"> 1. Ethernet Switch: One single 24V DC power supply for the complete island ;Full integration with SoMove/Machine Expert for the programming of the island; Two fieldbus ports for communication with an automation controller ;One service port with an embedded webserver for maintenance. 2. I/O modules: Control of 2 sink/source digital outputs with common point; Control of 4 sink/source digital inputs with common point ;Measurement of voltage, current or temperature on 2 configurable analog inputs;Driving voltage or current source on 1 configurable analog output. 3. Starters: Power and energy monitoring when connected with TPRVM voltage module; Upstream voltage presence detection ;Electrical line and load protection. 4. SIL starters: Safe stop function available when connected with a TPRSM module ;Power and energy monitoring when connected with TPRVM voltage module; Upstream voltage presence detection; Electrical line and load protection. 5. Interfeace: Monitoring of voltages in single phase systems L-N or L-L; Monitoring of voltages in 3-phase systems without neutral N connection; Calculation of RMS phase voltages, voltage phase sequence, fundamental frequency; Identification of dip and swell events level and duration. 6. SIL Interface module: Safe stop with 1NC or 2NC contacts monitoring.
<p>Functional unit</p>	<p>TeSys island is designed to switch, protect, and manage motors and other electrical loads up to 80 (AC3) in an electrical control panel for 10 years.</p>

Constituent materials

Reference product mass

9397 g including the product, its packaging and additional elements and accessories



Plastics	41.2%
Metals	43.4%
Others	15.4%

Substance assessment

Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2011/65/EU of 8 June 2011 and EU 2015/863) and do not contain, or only contain in the authorised proportions, lead, mercury, cadmium, hexavalent chromium flame retardants (polybrominated biphenyls - PBB, polybrominated diphenyl ethers – PBDE, Bis(2-ethylhexyl) phthalate -DEHP, Butyl benzyl phthalate -BBP, Dibutyl phthalate – DBP, Diisobutyl phthalate - DIBP) as mentioned in the Directive

As the products of the range are designed in accordance with the RoHS Directive (European Directive 2002/95/EC of 27 January 2003), they can be incorporated without any restriction in an assembly or an installation subject to this Directive.

Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website
<http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page>

Additional environmental information

The TeSys island - Digital multifunctional load management solution up to 80A presents the following relevant environmental aspects

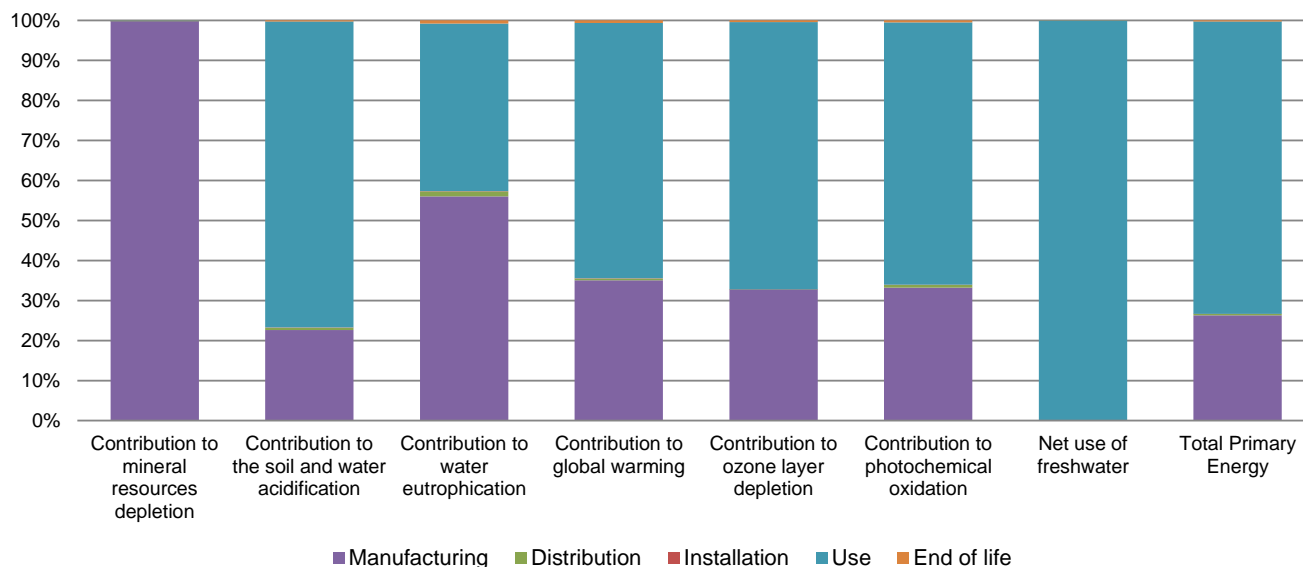
Design	<p>TeSys island has followed Schneider approach of ecoDesign Way: For well-being performance, this range is now with halogen-free plastic parts. For the resource performance, this range is using 30% less cabling. For circularity performance, this range is improved in digitalization of services.</p>
Manufacturing	<p>Manufactured at a Schneider Electric production site ISO14001 certified</p>
Distribution	<p>Weight and volume of the packaging optimized, based on the European Union's packaging directive Packaging weight is 1160 g, consisting of cardboard (93.1%), Paper (6.9%)</p>
Installation	<p>TeSys island does not require any installation operations. Packaging waste is considered in installation.</p>
Use	<p>The product does not require special maintenance operations.</p>
End of life	<p>End of life optimized to decrease the amount of waste and allow recovery of the product components and materials</p> <p>This product contains electronic card (682g) that should be separated from the stream of waste so as to optimize end-of-life treatment.</p> <p>The location of these components and other recommendations are given in the End of Life Instruction document which is available on the Schneider-Electric Green Premium website</p> <p>Recyclability potential: 44% Based on "ECO'DEEE recyclability and recoverability calculation method" (version V1, 20 Sep. 2008 presented to the French Agency for Environment and Energy Management: ADEME).</p>


Environmental impacts

Reference life time	10 years			
Product category	Other equipments - Active product			
Installation elements	No special components needed			
Use scenario	TeSys island is in active mode 20% of the time with a power use of 35W and in stand-by mode 80% of the time with a power use of 10.5W, for 10 years.			
Geographical representativeness	Europe			
Technological representativeness	<p>TeSys island is designed to switch, protect, and manage motors and other electrical loads up to 80 (AC3) in an electrical control panel. It includes Ethernet switch, I/O modules, starters, SIL starts, and interfaces.</p> <ol style="list-style-type: none"> 1. Ethernet Switch: One single 24V DC power supply for the complete island ;Full integration with SoMove/Machine Expert for the programming of the island; Two fieldbus ports for communication with an automation controller ;One service port with an embedded webserver for maintenance. 2. I/O modules: Control of 2 sink/source digital outputs with common point; Control of 4 sink/source digital inputs with common point ;Measurement of voltage, current or temperature on 2 configurable analog inputs;Driving voltage or current source on 1 configurable analog output. 3. Starters: Power and energy monitoring when connected with TPRVM voltage module; Upstream voltage presence detection ;Electrical line and load protection. 4. SIL starters: Safe stop function available when connected with a TPRSM module ;Power and energy monitoring when connected with TPRVM voltage module; Upstream voltage presence detection; Electrical line and load protection. 5. Interface: Monitoring of voltages in single phase systems L-N or L-L; Monitoring of voltages in 3-phase systems without neutral N connection; Calculation of RMS phase voltages, voltage phase sequence, fundamental frequency; Identification of dip and swell events level and duration. 6. SIL Interface module: Safe stop with 1NC or 2NC contacts monitoring. 			
Energy model used	Manufacturing	Installation	Use	End of life
	Energy model used: Indonesia and France	Electricity grid mix; AC; consumption mix, at consumer; < 1kV; EU-27	Electricity grid mix; AC; consumption mix, at consumer; < 1kV; EU-27	Electricity grid mix; AC; consumption mix, at consumer; < 1kV; EU-27

Compulsory indicators		TeSys island - Digital multifunctional load management solution up to 80A					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	6.43E-03	6.43E-03	0*	0*	1.44E-05	0*
Contribution to the soil and water acidification	kg SO ₂ eq	2.12E-01	2.04E-01	5.54E-03	2.62E-04	6.89E-01	2.68E-03
Contribution to water eutrophication	kg PO ₄ ³⁻ eq	5.78E-02	5.57E-02	1.28E-03	6.36E-05	4.16E-02	8.01E-04
Contribution to global warming	kg CO ₂ eq	9.37E+01	9.07E+01	1.21E+00	6.28E-02	1.65E+02	1.66E+00
Contribution to ozone layer depletion	kg CFC11 eq	5.35E-06	5.28E-06	2.46E-09	0*	1.08E-05	6.73E-08
Contribution to photochemical oxidation	kg C ₂ H ₄ eq	1.99E-02	1.92E-02	3.95E-04	1.96E-05	3.79E-02	2.74E-04
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m ³	7.98E-01	7.96E-01	1.09E-04	0*	5.99E+02	1.30E-03
Total Primary Energy	MJ	1.22E+03	1.19E+03	1.63E+01	7.77E-01	3.30E+03	1.25E+01

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Optional indicators		TeSys island - Digital multifunctional load management solution up to 80A -					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	8.42E+02	8.16E+02	1.61E+01	7.71E-01	1.88E+03	1.00E+01
Contribution to air pollution	m³	1.77E+04	1.76E+04	5.16E+01	2.50E+00	7.11E+03	9.34E+01
Contribution to water pollution	m³	1.18E+04	1.15E+04	1.99E+02	9.52E+00	6.82E+03	1.19E+02
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	2.70E-01	2.70E-01	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	2.30E+01	2.30E+01	2.28E-02	0*	4.20E+02	1.41E-02
Total use of non-renewable primary energy resources	MJ	1.19E+03	1.17E+03	1.62E+01	7.76E-01	2.88E+03	1.25E+01
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	-2.98E+00	-3.02E+00	0*	0*	0*	0*
Use of renewable primary energy resources used as raw material	MJ	2.60E+01	2.60E+01	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	1.06E+03	1.03E+03	1.62E+01	7.76E-01	2.88E+03	1.25E+01
Use of non renewable primary energy resources used as raw material	MJ	1.32E+02	1.32E+02	0*	0*	0*	0*
Use of non renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*
Use of renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*
Waste categories	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Hazardous waste disposed	kg	4.58E+02	4.45E+02	0*	0*	8.61E-02	1.36E+01
Non hazardous waste disposed	kg	4.52E+01	4.51E+01	4.31E-02	8.52E-03	6.16E+02	3.91E-02
Radioactive waste disposed	kg	9.41E-03	9.32E-03	3.07E-05	1.68E-06	4.11E-01	6.39E-05
Other environmental information	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	5.85E+00	9.34E-01	0*	1.15E+00	0*	3.76E+00
Components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	2.76E-01	0*	0*	0*	0*	2.76E-01
Exported Energy	MJ	3.67E-03	3.45E-04	0*	3.32E-03	0*	0*

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

Life cycle assessment performed with EIME version EIME v5.8.1, database version 2016-11 in compliance with ISO14044.

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The use phase is the life cycle phase which has the greatest impact on the majority of environmental indicators (based on compulsory indicators).

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 :	SCHN-00487-V01.01-EN_2	Drafting rules	PCR-ed3-EN-2015 04 02
Verifier accreditation N°	VH33	Supplemented by	PSR-0005-ed2-EN-2016 03 29
Date of issue	08/2019	Information and reference documents	www.pep-ecopassport.org
		Validity period	5 years
Independent verification of the declaration and data, in compliance with ISO 14025 : 2010			
Internal	External	X	
The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN)			
PEP are compliant with XP C08-100-1 :2014			
The elements of the present PEP cannot be compared with elements from another program.			
Document in compliance with ISO 14025 : 2010 « Environmental labels and declarations. Type III environmental declarations »			



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