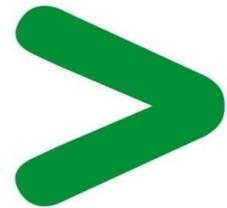


Product Environmental Profile

WLBL ONE WAY SWITCH





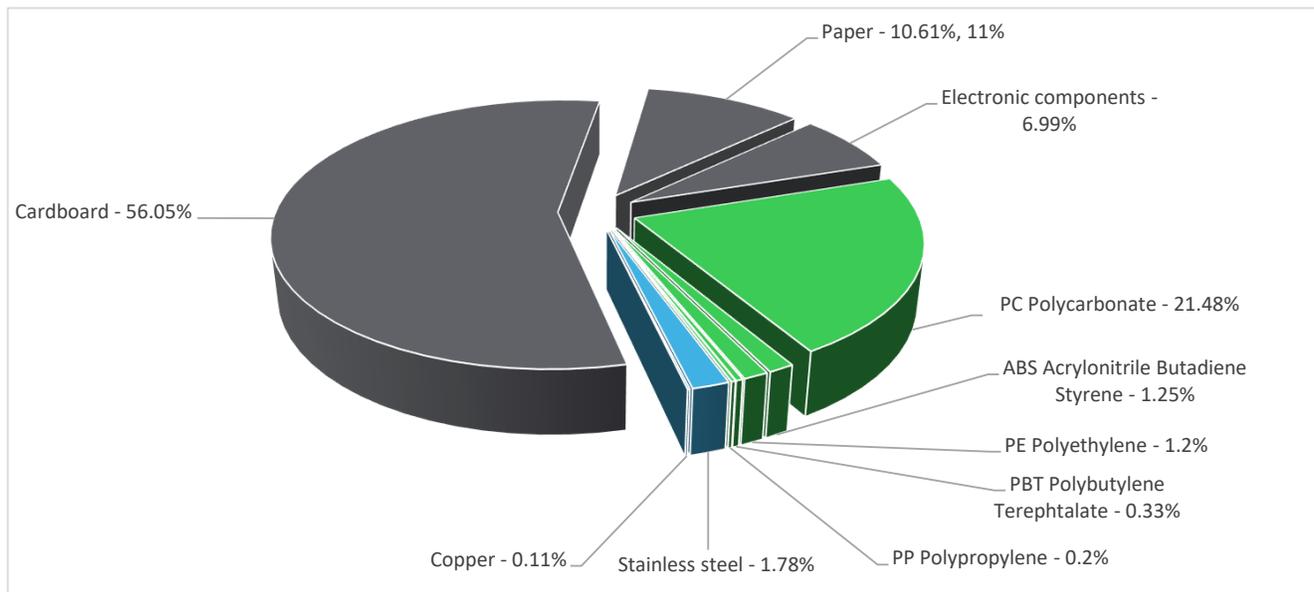
General information

Representative product	WLBL ONE WAY SWITCH - S520104
Description of the product	Connected wireless batteryless (WLBL) switch is powered by an cinectic energy harvester and commands a lighting load through actuators, using by BLE protocol of communication.
Functional unit	During 20 years of life time, a (WLBL) switch is due to command the lighting load state (ON-OFF) by a minimum consumption of energy generated by a component placed its own electronic unit - a harvester. Bascally, the harvester captures the cinetic energy form rocking motion of switch´s key and produces an electric energy in between 320 to 500µJ; this amount of energy is enough for the WLBL swith to send a signal to a DCL or Generic Module Actuators, physically connected to the lighting load. Moreover, device is designed to protect against mechanical impacts (IK04 conforming to IEC 62262) and the penetration of solid objects and liquids (IP20 conforming to IEC 60529) with the following standards IEC60669-1, RED, EU EMC directive, IEC60664-1.



Constituent materials

Reference product mass	89 g including the product, its packaging and additional elements and accessories
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Plastics	24.5%
Metals	1.9%
Others	73.7%



Substance assessment

Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2011/65/EU of 2 January 2013, amended in March 2015, 2015/863/EU and in November 2017, 2017/2102/EU) and do not contain, or only contain in the authorised proportions, lead, mercury, cadmium, hexavalent chromium or flame retardants (polybrominated biphenyls - PBB, polybrominated diphenyl ethers – PBDE), Bis (2-ethylhexyl)phthalate - DEHP, Benzyl butyl phthalate– BBP, Dibutyl phthalate - DBP, Diisobutyl phthalate - DIBP) as mentioned in the 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 WLBL ONE WAY SWITCH presents the following relevant environmental aspects

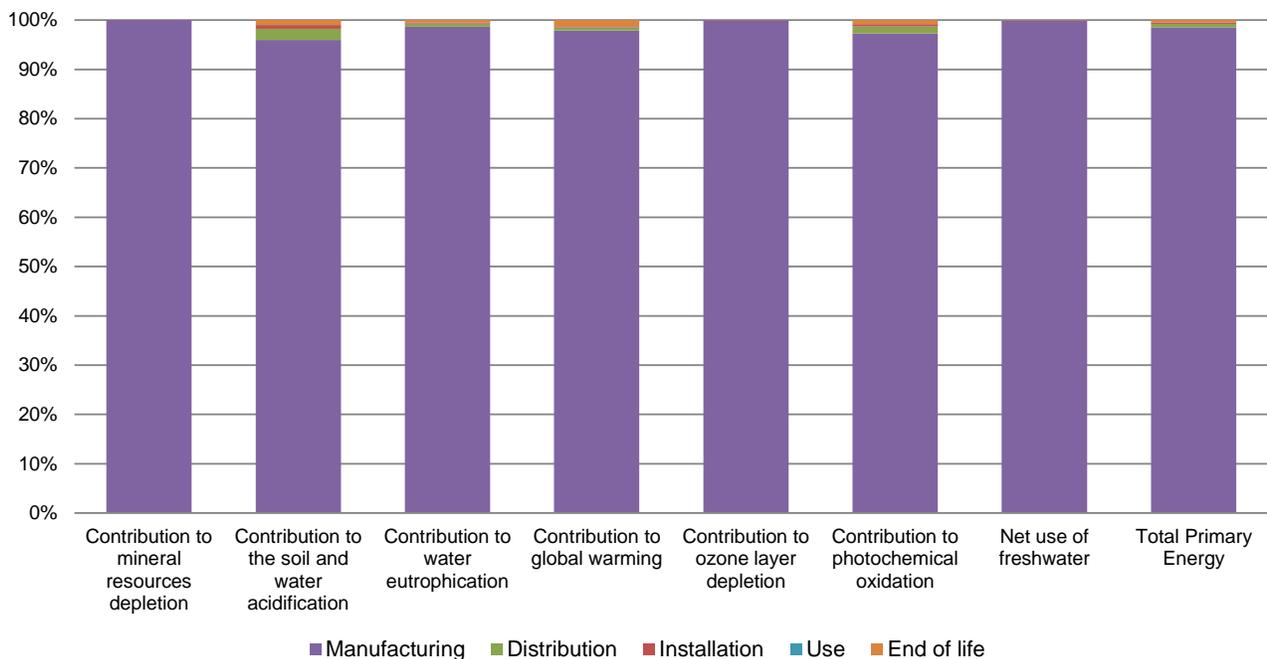
Manufacturing	Manufactured at a Schneider Electric production site ISO14001 certified
Distribution	Weight and volume of the packaging optimized, based on the European Union's packaging directive Packaging weight is 50.6 g, consisting of Cardboard (99.1%) & Paper (0.9%) Product distribution optimised by setting up local distribution centres
Installation	The product does not require special installation procedure and requires no energy from domestic electrical network. The disposal of the packaging materials are accounted for during the installation phase (including transport to disposal).
Use	The product does not require special maintenance operations.
End of life	End of life optimized to decrease the amount of waste and allow recovery of the product components and materials This product contains Harvester Assembly + Switch PCBA (6.4g) and Plastic parts with brominated flame retardants (13.1g) that should be separated from the stream of waste so as to optimize end-of-life treatment. 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 http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page Recyclability potential: 41% 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).



Environmental impacts

Reference life time	20 years			
Product category	Switches			
Installation elements	No special installation components need during installation phase, but transport of packaging to disposal, and disposal of packaging accounted for during installation.			
Use scenario	WLBL Switch is powered by an Cinectic Energy Harvester and No external power required.			
Geographical representativeness	France			
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			
Energy model used	Manufacturing	Installation	Use	End of life
	Manufacturing Plant Location: Flex, Romania	The product doesn't require electricity	The product doesn't require electricity	Electricity grid mix; AC; consumption mix, at consumer; 230V; FR

Compulsory indicators		WLBL ONE WAY SWITCH - S520104					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	1.85E-03	1.85E-03	0*	0*	0*	0*
Contribution to the soil and water acidification	kg SO ₂ eq	2.91E-03	2.79E-03	6.64E-05	2.28E-05	0*	2.88E-05
Contribution to water eutrophication	kg PO ₄ ³⁻ eq	2.33E-03	2.29E-03	1.54E-05	5.55E-06	0*	1.08E-05
Contribution to global warming	kg CO ₂ eq	2.24E+00	2.19E+00	1.40E-02	5.48E-03	0*	2.82E-02
Contribution to ozone layer depletion	kg CFC11 eq	7.98E-06	7.98E-06	0*	0*	0*	1.10E-09
Contribution to photochemical oxidation	kg C ₂ H ₄ eq	3.39E-04	3.29E-04	4.78E-06	1.71E-06	0*	2.72E-06
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	2.23E-02	2.23E-02	0*	0*	0*	1.74E-05
Total Primary Energy	MJ	2.70E+01	2.66E+01	1.98E-01	7.15E-02	0*	1.33E-01



Optional indicators		WLBL ONE WAY SWITCH - S520104					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	1.95E+01	1.91E+01	1.97E-01	7.10E-02	0*	1.08E-01
Contribution to air pollution	m³	2.08E+02	2.06E+02	6.46E-01	2.18E-01	0*	9.55E-01
Contribution to water pollution	m³	2.08E+02	2.03E+02	2.31E+00	8.30E-01	0*	1.53E+00
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	8.61E-04	8.61E-04	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	3.04E+00	3.04E+00	0*	0*	0*	0*
Total use of non-renewable primary energy resources	MJ	2.40E+01	2.36E+01	1.98E-01	7.14E-02	0*	1.32E-01
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	7.25E-01	7.24E-01	2.64E-04	1.11E-04	0*	1.36E-04
Use of renewable primary energy resources used as raw material	MJ	2.31E+00	2.31E+00	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	2.26E+01	2.22E+01	1.98E-01	7.14E-02	0*	1.32E-01
Use of non renewable primary energy resources used as raw material	MJ	1.36E+00	1.36E+00	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	3.28E+00	3.15E+00	0*	0*	0*	1.36E-01
Non hazardous waste disposed	kg	7.63E-01	7.61E-01	4.99E-04	7.43E-04	0*	3.83E-04
Radioactive waste disposed	kg	4.60E-04	4.59E-04	3.55E-07	1.46E-07	0*	7.49E-07
Other environmental information	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	1.48E-01	1.50E-02	0*	1.01E-01	0*	3.21E-02
Components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	6.50E-03	0*	0*	0*	0*	6.50E-03
Exported Energy	MJ	3.20E-04	3.01E-05	0*	2.90E-04	0*	0*

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

Life cycle assessment performed with EIME version EIME v5.9.1, database version 2016-11 in compliance with ISO14044.

The manufacturing 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.

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Verifier accreditation N°	VH39	Supplemented by	PSR-0005-ed2-EN-2016 03 29
Date of issue	11/2021	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 :2016			
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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