

	Product Environmental Profile	
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	Intrusion System Sounder
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Eaton product	SDR-REXT-G2
Description of the product	Sounder is used to alert the user in the event of an intrusion by emitting of general alarm signal via an audible and/or visual signal. Sounders act as front-line deterrents against the threat of intrusion whether located on a semi-detached house or large warehouse.
Homogeneous Environmental Families Covered	The PEP covers below offerings in the sounder – SDR-REXT-G2 SDR-WEXT-G2 SDR-WEXT-G3 SDR-DEXT SDR-RINT SDR-REXT-G2-NC SDR-WEXT-G2-NC
Functional unit	To Protect during 10 years of the installation against an event of intrusion powered by batteries with maximum intensity of audible signal of 100 dB(A) at 1m
Company information	Eaton Electrical Ltd. Xinmin District, Chang'an Town, Dongguan City, Guangdong Province, China 523879 Email: productstewardship-es@eaton.com

Constituent Materials			
Reference product mass	2.71E+03 g (with packaging)		
Category PEP Material	Materials	Masse (kg)	Percentage (%)
Plastic	Polycarbonate	9.32E-01	34.4%
Others	cardboard	6.31E-01	23.3%
Others	manganese dioxide	2.44E-01	9.0%
Plastic	acrylonitrile Butadiene Styrene (ABS)	1.85E-01	6.8%
Metal	Steel	1.64E-01	6.1%
Others	wood	1.36E-01	5.0%
Metal	Zinc	1.05E-01	3.9%
Plastic	Polyethylene	6.09E-02	2.2%
Others	Water	5.81E-02	2.1%
Others	potassium hydroxide	4.03E-02	1.5%
Metal	ferite	3.60E-02	1.3%
Plastic	Epoxy resin	1.52E-02	0.6%
Others	Paper	1.31E-02	0.5%
Metal	Brass	1.25E-02	0.5%
Metal	copper	1.45E-02	0.5%
Others	Miscellaneous	5.98E-02	2.2%
Total		2.71E+03	100.00%

Substance Assessment

The representative product is compliant with the EU-RoHS Directive (2011/65/EU) by application of exemptions and the product contains lead (Pb) which is listed as Substance-of-Very-High-Concern (SVHC) on the Candidate List of the EU-REACH Regulation (1907/2006/EC).

Additional Environmental Information

Manufacturing	The reference product is assembled at Eaton plant holding management system certifications according to ISO9001 & 14001 standards.
Distribution	Eaton is committed to minimizing weight and volume of product and packaging with focus to optimize transport efficiency.
Installation	Product installation need standard tools which do not require any additional energy source and no waste other than the obsolete product packaging is generated during this step.
Use	The reference product comprises of replaceable batteries having maintenance frequency of 2 years during whole life time of product.
End of life	Recyclability of product is equal to 32% based on the method described in IEC/TR 62635, Edition 1.0/2012-10 "Guidelines for end-of-life information provided by manufacturers and recyclers and for recyclability rate calculation of electrical and electronic equipment".

Environmental Impacts

The calculation of environmental impacts is the result of a Product Life Cycle Analysis in accordance with ISO 14040/44, covering the entire product lifecycle, i.e. "Cradle-to-Grave" including the following life cycle phases: production, distribution, installation, use and end of life.

System modelling was carried out using the commercial LCA software EIME v5.9.3 with database version CODDE-2022-01.

Manufacturing Phase	The product is manufactured at Eaton Dong Guan, China plant. Energy modelled used: China
Distribution Phase	Distribution of the product in its packaging from the manufacturer's last logistics platform to the installation place is considered as per PCR rules.
Installation Phase	Product installed in United Kingdom (60%) & France (40%). Only treatment of packaging waste is considered in this phase. <u>Energy model used:</u> Europe
Use Phase	<u>Reference lifetime:</u> 10 Years <u>Usage profile:</u> No electricity grid consumption during use phase (Works on replaceable batteries) <u>Maintenance:</u> Maintenance of batteries considered during 10 years of life of a product. (Maintenance freq.- every 2 years)
End of life Phase	Product disposed with WEEE guidelines. <u>Energy model used:</u> Europe

Environmental Impact Indicators: Mandatory

Impact Indicators	Unit	Total	Manufacturing	Distribution	Installation	Use*(B4 Only)	End of life
Global warming (GWP100)	kg CO ₂ eq.	3.74E+01	1.96E+01	9.44E-01	6.71E-02	1.35E+01	3.29E+00
Ozone layer depletion	kg CFC-11 eq.	4.66E-06	1.94E-06	1.70E-09	1.86E-10	2.55E-06	1.70E-07
Acidification potential	kg SO ₂ eq.	7.60E-02	2.90E-02	2.37E-02	3.00E-04	1.37E-02	9.39E-03
Eutrophication	kg PO ₄ ³⁻ eq.	8.33E-02	7.39E-02	2.46E-03	7.82E-05	4.46E-03	2.43E-03
Photochemical oxidation	kg ethylene eq.	7.63E-03	3.51E-03	1.19E-03	2.14E-05	2.03E-03	8.76E-04
Abiotic depletion (elements)	kg antimony eq.	2.05E-03	8.52E-04	3.47E-08	2.74E-09	1.20E-03	9.19E-08
Abiotic depletion (fossil fuels)	MJ	4.72E+02	2.72E+02	1.22E+01	9.33E-01	1.51E+02	3.54E+01
Water Pollution	m ³	5.95E+03	3.42E+03	1.42E+02	1.09E+01	1.73E+03	6.51E+02
Air pollution	m ³	5.72E+03	1.94E+03	1.19E+02	2.95E+00	3.47E+03	1.86E+02

*B4 is energy requirements during the use stage. Other sub modules in the use stage (B1-B3, B5-B7) are not applicable for this product.

Environmental Impact Indicators: Optional

Impact Indicators	Unit	Total	Manufacturing	Distribution	Installation	Use*(B4 Only)	End of life
Total use of renewable primary energy resources	MJ	1.16E+01	1.12E+01	1.54E-02	3.31E-03	3.12E-01	4.72E-02
Total use of non-renewable primary energy resources	MJ	6.09E+02	3.20E+02	1.20E+01	1.15E+00	2.36E+02	4.05E+01
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	5.96E+00	5.59E+00	1.54E-02	3.31E-03	3.12E-01	4.72E-02
Use of renewable primary energy resources used as raw material	MJ	5.65E+00	5.65E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable primary energy excluding non-renewable primary energy used as raw material	MJ	5.60E+02	2.75E+02	1.22E+01	9.40E-01	2.31E+02	4.05E+01
Use of non-renewable primary energy resources used as raw material	MJ	4.90E+01	4.48E+01	0.00E+00	0.00E+00	4.16E+00	0.00E+00
Use of secondary material	kg	8.14E-01	8.14E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of freshwater	m3	3.09E-01	1.06E-01	7.32E-05	1.10E-05	2.01E-01	2.63E-03
Total use of primary energy during the life cycle	MJ	6.21E+02	3.31E+02	1.20E+01	1.15E+00	2.36E+02	4.05E+01
Hazardous waste disposed	kg	1.95E+01	8.06E+00	0.00E+00	4.17E-05	7.41E+00	4.03E+00
Non-hazardous waste disposed	kg	1.52E+01	1.44E+01	2.91E-02	1.70E-01	4.98E-01	1.14E-01
Radioactive waste disposed	kg	5.84E-03	5.00E-03	2.03E-05	3.21E-06	6.50E-04	1.63E-04
Materials for recycling	kg	1.39E+00	0.00E+00	0.00E+00	0.00E+00	7.81E-01	6.10E-01


*B4 is energy requirements during the use stage. Other sub modules in the use stage (B1-B3, B5-B7) are not applicable for this product.

To evaluate the environmental impact of other product covered by this PEP, multiply the impact figures by –

Product	All life cycle phases	Acidification Potential (kg SO ₂ eq.)	Abiotic Depletion Potential - Elements (kg antimony eq.)	Abiotic Depletion Potential - Fuel (MJ)	Air Pollution(m ³)	Eutrophication Potential (kg PO ₄ ³⁻ eq.)	Global Warming Potential (kg CO ₂ eq.)	Ozone Depletion Potential (kg CFC-11 eq.)	Photochemical Oxidation Potential (kg ethylene eq.)	Water Pollution(m ³)
SDR-REXT-G2(Baseline)	All phases	1	1	1	1	1	1	1	1	1
SDR-WEXT-G2	Manufacturing	1.47	0.52	0.81	0.73	0.91	0.81	1.16	1.29	0.97
	Distribution	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
	Installation	1.14								
	Use	4.90	0.007	3.39	0.48	3.12	2.35	0.05	1.43	0.39
	End of life	0.99	0.90	0.82	0.53	0.93	0.82	0.13	0.76	0.54
SDR-WEXT-G3	Manufacturing	1.47	0.53	0.81	0.75	0.91	0.82	1.16	1.30	0.97
	Distribution	0.72	0.73	0.72	0.73	0.73	0.72	0.72	0.73	0.72
	Installation	0.95								
	Use	4.90	0.01	3.39	0.48	3.12	2.35	0.05	1.43	0.39
	End of life	0.63	0.57	0.53	0.37	0.59	0.52	0.12	0.49	0.34
SDR-REXT-G2-NC	Manufacturing	0.94	1.00	0.90	0.96	0.85	0.93	0.95	0.90	0.92
	Distribution	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
	Installation	1.14								
	Use	9.93								
	End of life	0.92	0.92	0.93	0.95	0.92	0.93	0.98	0.93	0.96
SDR-WEXT-G2-NC	Manufacturing	1.36	0.52	0.70	0.70	0.75	0.73	1.11	1.18	0.85
	Distribution	0.66	0.66	0.65	0.66	0.66	0.66	0.66	0.66	0.66
	Installation	1.14								
	Use	4.90	0.01	3.39	0.48	3.12	2.35	0.05	1.43	0.39
	End of life	0.05	0.05	0.05	0.09	0.09	0.20	0.09	0.05	0.05
SDR-RINT	Manufacturing	0.28	0.30	0.26	0.37	0.03	0.35	0.38	0.40	0.23
	Distribution	0.44	0.45	0.45	0.44	0.44	0.45	0.45	0.44	0.45
	Installation	0.08	0.09	0.08	0.14	0.17	0.08	0.19	0.08	0.08
	Use	0.0096								
	End of life	0.44	0.40	0.36	0.22	0.41	0.36	0.05	0.33	0.24
SDR-DEXT-NC	Manufacturing	0.52	0.32	0.47	0.42	0.62	0.43	0.32	0.49	0.60
	Distribution	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
	Installation	1.1								
	Use	0.00								
	End of life	0.64	0.62	0.61	0.56	0.63	0.61	0.50	0.60	0.58

Disclaimer

This Product Environmental Profile and its content is based on information available to us. It refers to the product at the date of issue. We make no express or implied representations or warranties with respect to the information contained herein.

<i>Registration N°</i>	EATO-00038-V01.01-EN	<i>Drafting rules</i>	PCR-ed3-EN-2015 04 02
<i>Verifier accreditation N°</i>	VH32	<i>Supplemented by</i>	
<i>Date of issue</i>	4-2022	<i>Information and reference documents</i>	www.pep-ecopassport.org
		<i>Validity period</i>	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)			
<i>The elements of the present PEP cannot be compared with elements from another program.</i>			
<i>Document in compliance with ISO 14025: 2010 « Environmental labels and declarations. Type III environmental declarations »</i>			