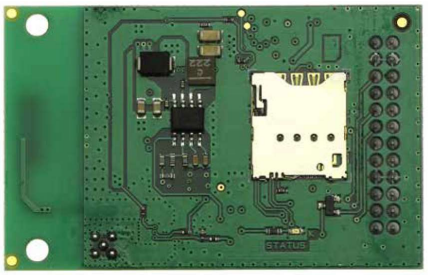
Product Environmental Profile



Intrusion System Cloud Communicator

Eaton product	COM-DATA-4G
Description of the product	Cloud communicators helps to communicate with cloud which bring the convenience and cloud service connectivity to smart intrusion systems using mobile or Wi-Fi network. It enables access to Eaton Installer cloud portal and end-user application. COM-DATA-4G plug-on module which allows a intrusion system control unit to access the Eaton SecureConnect™ service over the internet using 4G and 2G mobile phone networks. It enables access to Eaton Installer cloud portal and end-user application without the need for the customer to have existing internet access in the premises.
Homogeneous Environmental Families Covered	The PEP covers below offerings in the cloud communicator – COM-DATA-4G, COM-DATA-WIFI, COM-DATA-4G-WIFI
Functional unit	To enable communication of intrusion alarm system to the Eaton SecureConnect cloud solution, providing both end users and installers access to all the functions and features of cloud solution over 10 years of life, 24 hrs. a day.
Company information	Digital Lighting (Dongguan) Co Ltd. Xinmin District, Chang'an Town, Dongguan City, Guangdong Province, China 523879 Email: productstewardship-es@eaton.com

Constituent Materials			
Reference product mass	1.25E+02 g (with packaging)		
Category PEP Material	Materials	Masse (g)	Percentage (%)
Others	Cardboard	7.90E-02	63.24%
Others	Wood	1.39E-02	11.09%
Plastic	Low density Polyethylene	5.59E-03	4.48%
Others	Glass fiber	4.58E-03	3.67%
Plastic	Epoxy Resin	4.50E-03	3.61%
Plastic	Nylon 66	4.40E-03	3.52%
Others	Paper	3.77E-03	3.02%
Metal	Copper	3.30E-03	2.64%
Others	Quartz sand	1.62E-03	1.30%
Metal	Silicon	6.92E-04	0.55%
Metal	Tin	6.19E-04	0.50%
Others	Glue	4.64E-04	0.37%
Metal	Brass	4.28E-04	0.34%
Metal	Alumina	2.80E-04	0.22%
Metal	Nickel	2.17E-04	0.17%
Others	Miscellaneous	1.59E-03	1.27%
Total		**1.25E+02**	**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	Product do not require maintenance during operation.
End of life	Recyclability of product is equal to 40% 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 in United Kingdom (60%) & France (40%) is considered. Distances considered are 20,450 km by ship & 2000 km by road for United Kingdom and 17,050 km by ship & 2000 km by road for France.
Installation Phase	Product installed in United Kingdom (60%) & France (40%). Only treatment of packaging waste is considered in this phase. Energy model used: Europe
Use Phase	Reference lifetime: 10 Years Energy model used: United Kingdom, France [Product use is considered for United Kingdom (60%) & France (40%)] Usage profile: The product is in active mode for 50% of the time with 3.12 W consumption and remaining 50% of the time in standby mode with 0.18 W consumption. Total energy losses are 144.5 kWh over the 10 years. Life of the product and usage profile is theoretical. No maintenance required for the product.
End of life Phase	Product disposed with WEEE guidelines. Energy model used: Europe

Environmental Impact Indicators: Mandatory

Impact Indicators	Unit	Total	Manufacturing	Distribution	Installation	Use (Only B6*)	End of life
Global warming (GWP100)	kg CO_2 eq.	3.52E+01	8.86E+00	4.91E-02	1.26E-01	2.61E+01	1.50E-02
Ozone layer depletion	kg CFC-11 eq.	1.21E-06	1.11E-06	8.89E-11	3.19E-10	1.00E-07	6.49E-10
Acidification potential	kg SO_2 eq.	6.68E-02	1.04E-02	1.04E-03	6.77E-05	5.52E-02	1.12E-05
Eutrophication	kg PO_4^{3-} eq.	1.48E-02	3.04E-03	1.12E-04	2.22E-04	1.14E-02	5.01E-06
Photochemical oxidation	kg ethylene eq.	3.54E-03	1.06E-03	5.32E-05	3.11E-05	2.39E-03	1.09E-06
Abiotic depletion (elements)	kg antimony eq.	1.63E-03	1.62E-03	1.84E-09	6.21E-10	6.93E-06	9.43E-11
Abiotic depletion (fossil fuels)	MJ	5.13E+02	9.03E+01	6.44E-01	1.85E-01	4.22E+02	4.34E-02
Water Pollution	m^3	1.27E+03	7.09E+02	7.54E+00	6.86E+00	5.50E+02	6.93E-01
Air pollution	m^3	2.05E+03	6.61E+02	5.39E+00	1.46E+00	1.38E+03	4.37E-01

*B6 is energy requirements during the use stage. Other sub modules in the use stage (B1-B5,B7) are equal to zero. So, it is not listed in the table.

Environmental Impact Indicators: Optional

Impact Indicators	Unit	Total	Manufacturing	Distribution	Installation	Use (Only B6*)	End of life
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	2.74E+02	3.09E+00	8.40E-04	9.87E-04	2.71E+02	5.15E-05
Use of renewable primary energy resources used as raw materials	MJ	1.62E+00	1.62E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	2.75E+02	4.71E+00	8.40E-04	9.87E-04	2.71E+02	5.15E-05
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	MJ	1.50E+03	9.74E+01	6.48E-01	1.93E-01	1.40E+03	5.54E-02
Use of non-renewable primary energy resources used as raw materials	MJ	6.92E-01	6.92E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	1.50E+03	9.81E+01	6.48E-01	1.93E-01	1.40E+03	5.54E-02
Use of secondary materials	kg	1.18E-03	1.18E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water	m3	4.78E-01	5.02E-02	3.98E-06	1.06E-05	4.28E-01	9.17E-06
Hazardous waste disposed of	kg	2.87E+01	2.83E+01	0.00E+00	8.12E-05	3.30E-01	6.60E-02
Non-hazardous waste disposed of	kg	5.47E+00	3.50E+00	1.58E-03	9.26E-02	1.88E+00	1.58E-04
Radioactive waste disposed of	kg	1.27E-03	8.56E-04	1.11E-06	1.29E-06	4.07E-04	3.76E-07
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	1.42E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-02
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ by energy vector	1.49E-02	0.00E+00	0.00E+00	1.49E-02	0.00E+00	0.00E+00
Total use of primary energy during the life cycle	MJ	1.78E+03	1.03E+02	6.48E-01	1.94E-01	1.67E+03	5.55E-02

*B6 is energy requirements during the use stage. Other sub modules in the use stage (B1-B5,B7) are equal to zero. So, it is not listed in the table.

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

Product	Life cycle Phases	Acidification Potential	Abiotic Depletion Potential - Elements	Abiotic Depletion Potential - Fuel	Air Pollution	Eutrophication Potential	Global Warming Potential	Ozone Depletion Potential	Photochemical Oxidation Potential	Water Pollution
COM-DATA-4G (Baseline)	All phases	1	1	1	1	1	1	1	1	1
COM-DATA-WIFI	Manufacturing	0.74	0.55	0.73	0.73	0.73	0.72	0.72	0.76	0.74
	Distribution	0.95	0.90	0.91	0.94	0.94	0.91	0.90	0.94	0.90
	Installation	1.15	1.20	1.06	1.51	1.23	1.26	1.20	1.24	1.01
	Use	0.49								
	End of Life	0.68	0.64	0.70	0.62	0.63	0.59	0.83	0.64	0.65
COM-DATA-4G-WIFI	Manufacturing	1.20	1.38	1.21	1.22	1.19	1.20	1.19	1.20	1.18
	Distribution	1.16	1.05	1.05	1.14	1.13	1.06	1.05	1.15	1.05
	Installation	1.15	1.20	1.06	1.51	1.23	1.26	1.20	1.24	1.01
	Use	1.06								
	End of Life	0.77	0.74	0.78	0.72	0.71	0.68	0.88	0.74	0.73

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.

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Verifier accreditation N°	VH32	*Supplemented by*	--
Date of issue	4-2022	*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 chaired by Philippe Osset (SOLINNEN)			
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 »			