



Eaton Rack PDU G4

Representative product	EVMAF332X [Eaton Rack Power Distribution Unit]
Description of the product	Eaton Rack PDU G4 rack mounted power distribution units (PDUs) provide best-in-class power distribution to information technology (IT) equipment within a rack, enabling data center and IT managers to simplify installation, enhance operation and maximize control of their environment.
Homogeneous Environmental Families Covered	The PEP concerns following product offerings from Eaton Rack PDU series: EVMAF332X (Reference), EVSWF332X
Functional unit	To distribute, measure and control power for max 32A, 240 V/415 V, three phase IT equipment cabinets during 20 years of lifetime with 24 (C13) socket outlets + 18 (C39) socket outlets.
Company information	Eaton Industries Morocco, Nouaceur, Morocco. Email: productstewardship-es@eaton.com

Constituent Materials			
Reference product mass	9.38E+00 kg (including product packaging)		
Category PEP Material	Materials	Mass (kg)	Percentage (%)
Others	Corrugated cardboard	2.26E+00	24.1%
Metals	Aluminium	1.33E+00	14.2%
Others	Wood	1.31E+00	14.0%
Metals	Copper	1.28E+00	13.7%
Others	Printed Wire Board	1.21E+00	12.9%
Plastics	Ethylene Propylene copolymer (EPM)	5.98E-01	6.4%
Others	Connector	3.84E-01	4.1%
Others	Switch	1.79E-01	1.9%
Plastics	Polyester	1.58E-01	1.7%
Others	Integrated Circuits	1.47E-01	1.6%
Metals	Steel	1.33E-01	1.4%
Others	LED	8.61E-02	0.9%
Plastics	Polyvinyl Chloride	8.54E-02	0.9%
Metals	Silver	3.86E-02	0.4%
Metals	Stainless steel	3.27E-02	0.3%
Others	Miscellaneous	1.40E-01	1.5%
Total		9.38E+00	100%

Additional Environmental Information	
Manufacturing	The reference product is assembled at an Eaton plant holding management system certifications according to ISO 14001 standards.
Distribution	Eaton is committed to minimizing weight and volume of product and packaging with focus to optimize transport efficiency.
Installation	The installation of the product does not require any additional energy source and no waste other than the obsolete product packaging is generated during this step.
Use	The product does not have maintenance during operation.
End of life	The recyclability rate of the overall product is 47.3% if properly dismantled prior to further processing at a recycling facility. The rate is calculated 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	
The calculation of the environmental impacts is the result of the Product's Life Cycle Analysis in accordance with ISO 14040/44, covering the entire 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 commercial LCA software EIME v6.1.3 with database version CODDE-2023-02 Indicators Set used: PEF EF 3.0 (Compliance: PEP ed.4, EN15804+A2) v2.0	
Manufacturing Phase	The product is assembled as well as packed at Eaton plant in Morocco. The product is then transported from Eaton's manufacturing facility in MPO to Eaton warehouse location in Rheinbach (By ship 3568 km and by road 360 km). Energy model used: Morocco, Europe
Distribution Phase	Distribution of the product with its packaging from the Eaton's last logistics platform to the installation place in Europe (3500 km by Road) is considered as per PCR rules.
Installation Phase	Product is installed in Europe. Only treatment of packaging waste is considered in this phase. Energy model used : Europe
Use Phase	Usage profile: 100% active during its useful life at 50% of load Power loss at 50% load is 48.6 W (including cable losses) during the 20 years working life. Total power losses are equal to 8514.72 kWh during reference service life. Energy model used : Europe
End of life Phase	Product disposed according to European WEEE guidelines. Energy model used: Europe

Environmental Impact Indicators: Mandatory

Environmental impact indicators	Units	Total	Manufacturing	Distribution	Installation	Use(B6)	End of Life
Resource use, minerals and metals (ADPe)	kg Sb eq.	2.63E-02	2.59E-02	9.01E-08	6.34E-08	2.53E-04	2.05E-04
Resource use, fossils (ADPf)	MJ	9.31E+04	4.05E+03	3.19E+01	2.42E+01	8.89E+04	1.20E+02
Acidification Potential (AP)	mole of H ⁺ eq.	2.22E+01	2.18E+00	1.45E-02	8.75E-03	1.99E+01	8.94E-02
Eutrophication, freshwater (Epf)	kg P eq.	1.63E-02	2.35E-04	8.58E-07	2.97E-05	9.55E-03	6.51E-03
Eutrophication marine (Epm)	kg N eq.	2.52E+00	2.01E-01	6.79E-03	5.72E-03	2.26E+00	4.57E-02
Eutrophication, terrestrial (Ept)	mol N eq.	3.63E+01	2.18E+00	7.45E-02	3.33E-02	3.40E+01	6.59E-02
Climate change-Total (GWP)	kg CO ₂ eq.	3.75E+03	2.45E+02	2.29E+00	4.85E+00	3.49E+03	5.77E+00
Climate change-Biogenic (GWPb)	kg CO ₂ eq.	6.32E+00	1.26E+00	0.00E+00	8.24E-02	4.66E+00	3.17E-01

Environmental impact indicators	Units	Total	Manufacturing	Distribution	Installation	Use(B6)	End of Life
Climate change-Fossil (GWPf)	kg CO ₂ eq.	3.74E+03	2.44E+02	2.29E+00	4.77E+00	3.49E+03	5.46E+00
Climate change-Land use and land use change (GWPlu)	kg CO ₂ eq.	1.05E-05	7.02E-06	0.00E+00	0.00E+00	0.00E+00	3.47E-06
Ozone depletion (ODP)	kg CFC-11 eq.	3.05E-05	1.51E-05	3.51E-09	2.88E-08	1.49E-05	4.41E-07
Photochemical ozone formation - human health (POCP)	kg NMVOC eq.	8.04E+00	7.23E-01	1.88E-02	8.77E-03	7.26E+00	2.06E-02
Water use (WU)	m ³ eq.	9.52E+02	5.58E+01	8.69E-03	2.08E-01	1.23E+02	7.73E+02

Inventory Flow Indicators: Mandatory

Inventory flow indicators	Units	Total	Manufacturing	Distribution	Installation	Use(B6)	End of Life
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	1.73E+04	2.61E+02	4.26E-02	2.28E+00	1.71E+04	8.24E+00
Use of renewable primary energy resources used as raw material	MJ	7.06E+01	7.06E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renewable primary energy resources	MJ	1.74E+04	3.31E+02	4.26E-02	2.28E+00	1.71E+04	8.24E+00
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	9.31E+04	3.97E+03	3.19E+01	2.42E+01	8.89E+04	1.20E+02
Use of non renewable primary energy resources used as raw material	MJ	7.28E+01	7.28E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of non-renewable primary energy resources	MJ	9.31E+04	4.05E+03	3.19E+01	2.42E+01	8.89E+04	1.20E+02
Use of secondary material	kg	4.24E-02	4.24E-02	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 freshwater	m ³	2.45E+01	1.30E+00	2.02E-04	4.84E-03	2.88E+00	2.03E+01
Components for reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	3.13E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.13E+00
Materials for energy recovery	kg	9.66E-01	0.00E+00	0.00E+00	8.15E-01	0.00E+00	1.52E-01
Exported Energy	MJ	6.15E-01	0.00E+00	0.00E+00	5.82E-01	0.00E+00	3.34E-02
Hazardous waste disposed	kg	3.85E+02	3.11E+02	0.00E+00	4.46E-02	6.52E+01	8.16E+00
Non hazardous waste disposed	kg	6.45E+02	1.39E+02	8.03E-02	2.77E+00	5.02E+02	1.38E+00
Radioactive waste disposed	kg	1.63E-01	5.73E-02	5.72E-05	1.24E-04	1.05E-01	2.14E-04

Inventory flow indicators	Units	Total	Manufacturing	Distribution	Installation	Use(B6)	End of Life
Biogenic carbon content of the product	kg C	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon content of the associated packaging	kg C	1.15E+00	1.15E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Environmental Impact Indicators: Optional

Environmental impact indicators	Units	Total	Manufacturing	Distribution	Installation	Use	End of Life
Ecotoxicity, freshwater	CTUe	4.54E+04	5.57E+03	1.54E+00	3.31E+01	3.76E+04	2.17E+03
Human toxicity, cancer	CTUh-c	3.54E-05	3.47E-05	4.02E-11	2.02E-07	4.07E-07	2.86E-08
Human toxicity, non-cancer	CTUh-nc	2.38E-05	6.67E-06	4.35E-09	1.41E-08	1.61E-05	9.65E-07
Ionising radiation, human health	kBq U235 eq.	6.22E+03	1.03E+03	5.57E-03	2.69E-01	5.19E+03	5.35E-01
Land use	--	9.80E+01	1.22E+00	0.00E+00	4.75E-03	6.94E+01	2.73E+01
EF-particulate Matter	Disease occurrence	1.68E-04	1.26E-05	1.18E-07	5.87E-08	1.55E-04	2.90E-07
Total Primary Energy	MJ	1.11E+05	4.38E+03	3.20E+01	2.65E+01	1.06E+05	1.28E+02

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

Factors for Manufacturing, Distribution, Installation, Use and End-of-Life Phase:

Products	Phases	All impact indicators
EVMAF332X (Reference) EVSWF332X	All Phases	1

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.

Registration Number	EATO-00115-V01.01-EN	Drafting rules	PCR-ed4-EN-2021 09 06
Verifier accreditation Number	VH54	Supplemented by	--
Date of issue	04-2024	Information and reference documents	www.pep-ecopassport.org
		Validity period	5 years
Independent verification of the declaration and data, in compliance with ISO 14025: 2006			
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 The components of the present PEP may not be compared with components from any other program.			
Document complies with ISO 14025: 2006 " Environmental labels and declarations. Type III environmental declarations "			