Powering Business Worldwide	**Product Environmental Profile**	PEP ecopassport®

	**M22 Front Element with Key to release Button**

Representative product	M22S-WRS3-RS (171154)
Description of the product	Eaton Moeller series M22 Front Element with Key to release Button has 2 or 3 key withdrawable positions: (I, 0) or (I, 0, II) which has life span of 100,000 Operations with operating frequency of 100 Operations/h. This element is fitted with Front ring and can connect to Smart Wire-DT. They are shipped with 2 keys which are included with the product.
Homogeneous Environmental Families Covered	The PEP concerns following product offerings from Eaton Moeller series M22 Accessory as mentioned below: 171154 M22S-WRS3-RS 171156 M22S-WRS3-RS-A1 171150 M22S-WRS-RS 171152 M22S-WRS-RS-A1 171148 M22S-WS-RS 171153 M22-WRS3-RS 171155 M22-WRS3-RS-A1 171149 M22-WRS-RS 171151 M22-WRS-RS-A1 171147 M22-WS-RS
Functional unit	'To allow the switching off button by key-operated button with 2 or 3 withdrawable positions, for installation at device for reference lifespan of the product of 20 years.
Company information	EATON INDUSTRIES GMB Kompetenzzentrum Baederstrasse, Holzhausen, Germany, 56357 Email: productstewardship-es@eaton.com

Constituent Materials			
Reference product mass	**5.78E-02 kg** (With packaging)		
Category PEP Material	**Material constituent**	**Mass (kg)**	**% Contribution**
Metals	Stainless Steel With 15% Chromium	2.31E-02	40.0%
Other	Cardboard	9.13E-03	15.8%
Other	Wood	7.00E-03	12.1%
Plastics	Polyamide 6 Glass Fiber 30	5.17E-03	8.9%
Plastics	Polyoxymethylene	4.38E-03	7.6%
Plastics	Polyamide 6.6 Glass Fiber 30	3.57E-03	6.2%
Plastics	Polyamide 6.6	1.82E-03	3.2%
Plastics	Polycarbonate	1.63E-03	2.8%
Plastics	Polyamide 6	9.50E-04	1.6%
Plastics	Low density Polyethylene	5.02E-04	0.9%
Other	Label	2.70E-04	0.5%
Metals	Steel	2.48E-04	0.4%
Total		**5.78E-02**	**100.00%**

Substance Assessment
The representative product is compliant with the EU-RoHS Directive (2011/65/EU) and the product contain Lead and Perfluoro butane sulfonic acid (PFBS) and its salts as substance 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 an Eaton plant in Holzhausen, Germany 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 process does not require any energy consumption and there is no waste other than the obsolete product packaging generated during this step.
Use	The product requires energy consumption during operation.
End of life	The recyclability rate of the overall product is 32.4% if it is properly dismantled prior to shredding. The rate is calculated based on “WEEE 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 the commercial LCA software EIME v6.2.5-3 with database version CODDE-2024-04 - updated on 2024-06-04 Indicators Set: PEF EF 3.1 (Compliance: PEP ed.4, EN15804+A2) v2.0

Manufacturing Phase	The product is assembled as well as packed at EATON INDUSTRIES GMB Kompetenzzentrum Baederstrasse, Holzhausen, Germany plant. Energy model used: Germany
Distribution Phase	Distribution of the product in its packaging from the Eaton's last logistics platform to the installation place in Europe is considered as per PCR rules.
Installation Phase	Product is installed in Europe. Installation of product and treatment of packaging waste are considered in this phase. There is no energy consumption for reference product. Energy model used: Europe
Use Phase	Reference lifetime: 20 Years Usage profile: No energy consumption by the product during its useful life. Energy model used: Europe
End of life Phase	Product disposed with WEEE guidelines. Energy model used: Europe
Module-D	Module D is calculated according to PCR-ed4-EN-2021 09 06 based on the materials recycled and the modelled end-of-life scenario. It expresses the net benefits and loads beyond the boundaries of the system and are not to be included in the life cycle totals.

Environmental Impact Indicators: Mandatory

Mandatory environmental impact indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7- Use Phase	C1-C4 - End of life	D - Benefits and loads beyond the system boundaries
Climate change – total (GWP)	kg CO2 eq.	4.61E-01	3.54E-01	1.38E-02	3.40E-02	0.00E+00	6.00E-02	-8.84E-02
Climate change - fossil fuels (GWP-f)	kg CO2 eq.	4.57E-01	3.75E-01	1.38E-02	8.85E-03	0.00E+00	5.99E-02	-8.82E-02
Climate change – biogenics (GWP-b)	kg CO2 eq.	4.30E-03	-2.08E-02	0.00E+00	2.51E-02	0.00E+00	2.04E-05	-2.08E-04
Climate change - land use and land use transformation (GWP-lu)	kg CO2 eq.	2.27E-06	2.27E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ozone depletion (ODP)	kg eq. CFC-11	5.37E-08	5.27E-08	2.11E-11	1.93E-10	0.00E+00	8.24E-10	-2.70E-08
Acidification (AP)	mole of H+ eq.	2.22E-03	1.86E-03	8.74E-05	3.43E-05	0.00E+00	2.40E-04	-4.77E-04
Freshwater eutrophication (EP-fw)	kg P eq.	3.09E-06	2.89E-06	5.17E-09	2.29E-08	0.00E+00	1.65E-07	-2.69E-07
Marine aquatic eutrophication (EP-m)	kg of N eq.	4.14E-04	3.16E-04	4.09E-05	8.69E-06	0.00E+00	4.76E-05	-4.83E-05
Terrestrial eutrophication (EP-t)	mole of N eq.	4.41E-03	3.30E-03	4.49E-04	1.11E-04	0.00E+00	5.49E-04	-5.40E-04
Photochemical ozone formation (POCP)	kg of NMVOC eq.	1.30E-03	9.89E-04	1.13E-04	2.52E-05	0.00E+00	1.73E-04	-2.07E-04
Depletion of abiotic resources – elements (ADPe)	kg eq. Sb	2.37E-05	2.37E-05	5.43E-10	4.06E-10	0.00E+00	2.66E-09	-1.28E-05
Depletion of abiotic resources - fossil fuels (ADP-f)	MJ	1.20E+01	7.58E+00	1.92E-01	1.05E-01	0.00E+00	4.11E+00	-1.24E+00
Water scarcity (WDP)	m3 of eq. deprivation worldwide	1.50E-01	1.29E-01	5.24E-05	2.58E-04	0.00E+00	2.11E-02	-3.94E-02

Inventory Flow Indicators: Mandatory

Inventory flow indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7- Use Phase	C1-C4 - End of life	D - Benefits and loads beyond the system boundaries
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	2.41E-01	2.23E-01	2.57E-04	7.70E-03	0.00E+00	1.01E-02	-8.31E-03
Use of renewable primary energy resources used as raw materials	MJ	4.44E-01	4.44E-01	0.00E+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	6.85E-01	6.66E-01	2.57E-04	7.70E-03	0.00E+00	1.01E-02	-8.31E-03
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	MJ	1.15E+01	7.10E+00	1.92E-01	1.05E-01	0.00E+00	4.11E+00	-1.24E+00
Use of non-renewable primary energy resources used as raw materials	MJ	4.79E-01	4.79E-01	0.00E+00	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	1.20E+01	7.58E+00	1.92E-01	1.05E-01	0.00E+00	4.11E+00	-1.24E+00
Use of secondary materials	kg	0.00E+00	0.00E+00	0.00E+00	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	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	0.00E+00
Net use of fresh water	m3	3.51E-03	3.01E-03	1.22E-06	9.53E-06	0.00E+00	4.94E-04	-9.17E-04
Hazardous waste disposed of	kg	1.78E+00	1.73E+00	0.00E+00	5.58E-03	0.00E+00	4.80E-02	-9.29E-01
Non-hazardous waste disposed of	kg	2.21E-01	2.09E-01	4.84E-04	2.89E-03	0.00E+00	8.54E-03	-3.08E-02
Radioactive waste disposed of	kg	3.89E-05	3.73E-05	3.45E-07	3.98E-07	0.00E+00	8.92E-07	-1.47E-05
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	2.76E-02	8.93E-03	0.00E+00	0.00E+00	0.00E+00	1.87E-02	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ by energy vector	1.52E-03	0.00E+00	0.00E+00	1.52E-03	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon content of the product	kg of C.	0.00E+00	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 of C.	1.02E-02	1.02E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Optional

Optional Environmental impact indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B1-B7- Use Phase	C1-C4 - End of life	D - Benefits and loads beyond the system boundaries
Emission of fine particles	incidence of diseases	4.89E-08	4.66E-08	7.10E-10	2.37E-10	0.00E+00	1.31E-09	-2.20E-08
Ionizing radiation, human health	kBq of U235 eq.	4.24E-01	4.18E-01	3.36E-05	2.29E-03	0.00E+00	3.73E-03	-1.43E-03
Ecotoxicity, fresh water	CTUe	9.47E+01	9.43E+01	9.04E-03	1.30E-01	0.00E+00	2.70E-01	-2.58E-01
Human toxicity, cancer effects	CTUh	1.84E-04	1.84E-04	2.42E-13	9.84E-13	0.00E+00	7.97E-12	-1.34E-07
Human toxicity, non-cancer effects	CTUh	6.70E-09	6.09E-09	4.69E-12	3.97E-11	0.00E+00	5.63E-10	-1.86E-09
Impacts related to land use/soil quality	-	7.71E-03	7.40E-03	0.00E+00	1.06E-04	0.00E+00	2.04E-04	0.00E+00
Total use of primary energy during the life cycle	MJ	1.27E+01	8.25E+00	1.93E-01	1.13E-01	0.00E+00	4.12E+00	-1.25E+00

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

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

Product Number	Product Number	Phases	GWP (kg CO_2 eq.)	GWP-f (kg CO_2 eq.)	GWP-b (kg CO_2 eq.)	GWP-lu (kg CO_2 eq.)	ODP (kg CFC-11 eq.)	AP (mol H+ eq.)	EP-fw (kg P eq.)	EP-m (kg N eq.)	EP-t (mol N eq.)	POCP (kg NMVOC eq.)	ADP-e (kg Sb eq.)	ADP-f (MJ)	WDP (m3 eq.)
171154 (Reference)	M22S-WRS3-RS (Reference)	All Phases	1.00												
171156	M22S-WRS3-RS-A1	All Phases	1.00												
171150	M22S-WRS-RS	All Phases	1.00												
171152	M22S-WRS-RS-A1	All Phases	1.00												
171148	M22S-WS-RS	All Phases	1.00												
171153	M22-WRS3-RS	All Phases	1.00												
171155	M22-WRS3-RS-A1	All Phases	1.00												
171149	M22-WRS-RS	All Phases	1.00												
171151	M22-WRS-RS-A1	All Phases	1.00												
171147	M22-WS-RS	All Phases	1.00												

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Registration Number	EATO-00327-V01.01-EN	*Drafting rules*	PCR-ed4-EN-2021 09 06
Verifier accreditation Number	VH56	Supplemented by	-
Date of issue	04-2025	*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 »			