



M22 Front Element with Push to Release or Turn to Release Button

Representative product	M22-PVLT (Y7-263469)												
Description of the product	The Eaton Moeller series M22 Created and designed to work alongside a contact block, forming part of Eaton's RMQ Titan range of emergency buttons, the M22 emergency buttons provide a solution for control circuit devices within a multitude of applications. It can sometimes be referred to as controlled stop emergency button, this is because of the nature of what it has been designed to do - stop, in the case of an emergency through the push to release or turn to release button.												
Homogeneous Environmental Families Covered	The PEP concerns the following product offerings from Eaton Moeller series M22 Accessory as mentioned below: <table data-bbox="365 1333 812 1543"> <tr> <td>Y7-263467</td> <td>M22-PVT</td> </tr> <tr> <td>Y7-171880</td> <td>M22-PVT-GVP50</td> </tr> <tr> <td>Y7-216877</td> <td>M22-PV-GVP</td> </tr> <tr> <td>Y7-216876</td> <td>M22-PV</td> </tr> <tr> <td>Y7-178983</td> <td>M22-PV-ESS</td> </tr> <tr> <td>Y7-216878</td> <td>M22-PVL</td> </tr> </table>	Y7-263467	M22-PVT	Y7-171880	M22-PVT-GVP50	Y7-216877	M22-PV-GVP	Y7-216876	M22-PV	Y7-178983	M22-PV-ESS	Y7-216878	M22-PVL
Y7-263467	M22-PVT												
Y7-171880	M22-PVT-GVP50												
Y7-216877	M22-PV-GVP												
Y7-216876	M22-PV												
Y7-178983	M22-PV-ESS												
Y7-216878	M22-PVL												
Functional unit	'To allow the Emergency stop/emergency switching off push button by simple pressure on the Push button, 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	4.50E-02 kg (With packaging)		
Category PEP Material	Material constituent	Mass (kg)	% Contribution
Plastics	Polyamide 66	1.50E-02	33.4%
Plastics	Polyamide66 Glassfiber30	9.26E-03	20.6%
Other	Cardboard	7.66E-03	17.0%
Plastics	Polycarbonate	4.16E-03	9.2%
Other	Paper	3.60E-03	8.0%
Metals	Steel wire rod	2.48E-03	5.5%
Other	Wood	2.00E-03	4.4%
Plastics	Low density polyethylene	5.02E-04	1.1%
Metals	Stainless steel	2.18E-04	0.5%
Other	Label	1.00E-04	0.2%
Plastics	Polyamide	1.50E-02	33.4%
Total		4.50E-02	100.00%

Substance Assessment

The representative product is compliant with the EU-RoHS Directive (2011/65/EU) and the product doesn't contain any 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 does not require any energy consumption during operation.
End of life	The recyclability rate of the overall product is 27.3% 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 products. 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	B6* - Operational energy use	C1-C4 - End of life	D - Benefits and loads beyond the system boundaries
Climate change – total (GWP)	kg CO2 eq.	3.18E-01	2.55E-01	1.07E-02	3.41E-02	0.00E+00	1.89E-02	-6.01E-03
Climate change - fossil fuels (GWP-f)	kg CO2 eq.	3.13E-01	2.71E-01	1.07E-02	1.26E-02	0.00E+00	1.88E-02	-2.19E-02
Climate change – biogenics (GWP-b)	kg CO2 eq.	5.20E-03	-1.63E-02	0.00E+00	2.14E-02	0.00E+00	2.83E-05	1.59E-02
Climate change - land use and land use transformation (GWP-lu)	kg CO2 eq.	5.78E-06	5.78E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ozone depletion (ODP)	kg eq. CFC-11	6.14E-09	4.25E-09	1.65E-11	9.06E-10	0.00E+00	9.64E-10	-1.50E-09
Acidification (AP)	mole of H+ eq.	1.24E-03	1.01E-03	6.81E-05	5.78E-05	0.00E+00	1.08E-04	-1.08E-04
Freshwater eutrophication (EP-fw)	kg P eq.	5.31E-06	4.92E-06	4.03E-09	1.36E-07	0.00E+00	2.52E-07	-1.64E-07
Marine aquatic eutrophication (EP-m)	kg of N eq.	3.52E-04	2.76E-04	3.19E-05	1.80E-05	0.00E+00	2.60E-05	-2.35E-05
Terrestrial eutrophication (EP-t)	mole of N eq.	3.09E-03	2.27E-03	3.50E-04	1.42E-04	0.00E+00	3.25E-04	-2.24E-04
Photochemical ozone formation (POCP)	kg of NMVOC eq.	8.51E-04	6.47E-04	8.83E-05	3.63E-05	0.00E+00	7.91E-05	-6.70E-05
Depletion of abiotic resources – elements (ADPe)	kg eq. Sb	2.90E-07	2.87E-07	4.23E-10	1.70E-09	0.00E+00	1.12E-09	-1.23E-07
Depletion of abiotic resources - fossil fuels (ADP-f)	MJ	6.30E+00	5.32E+00	1.50E-01	1.42E-01	0.00E+00	6.91E-01	-4.83E-01
Water scarcity (WDP)	m3 of eq. deprivation worldwide	1.00E-01	9.01E-02	4.08E-05	6.63E-03	0.00E+00	3.33E-03	-9.58E-03

*Only B6 (Energy Consumption) is taken into account, the other sub-modules of the use phase (B1-B5, B7) are zero.

Inventory Flow Indicators: Mandatory

Inventory flow indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B6* - Operational energy use	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	2.67E-01	1.29E-01	2.00E-04	1.24E-01	0.00E+00	1.39E-02	2.35E-02
Use of renewable primary energy resources used as raw materials	MJ	3.80E-01	3.80E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.91E-01
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	6.47E-01	5.09E-01	2.00E-04	1.24E-01	0.00E+00	1.39E-02	-1.68E-01
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	MJ	5.42E+00	4.44E+00	1.50E-01	1.42E-01	0.00E+00	6.91E-01	-4.63E-01
Use of non-renewable primary energy resources used as raw materials	MJ	8.74E-01	8.74E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.07E-02
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	6.30E+00	5.32E+00	1.50E-01	1.42E-01	0.00E+00	6.91E-01	-4.83E-01
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	2.42E-03	2.14E-03	9.51E-07	1.94E-04	0.00E+00	8.27E-05	-2.23E-04
Hazardous waste disposed of	kg	7.18E-02	3.16E-02	0.00E+00	6.87E-04	0.00E+00	3.94E-02	-1.15E-02
Non-hazardous waste disposed of	kg	6.51E-02	5.03E-02	3.77E-04	4.52E-03	0.00E+00	9.87E-03	-5.53E-03
Radioactive waste disposed of	kg	1.61E-05	1.41E-05	2.69E-07	6.28E-07	0.00E+00	1.09E-06	-2.80E-06
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	2.16E-02	8.06E-03	0.00E+00	1.14E-02	0.00E+00	2.16E-03	0.00E+00
Materials for energy recovery	kg	2.32E-03	1.07E-03	0.00E+00	1.25E-03	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ by energy vector	3.42E-04	0.00E+00	0.00E+00	3.42E-04	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.	9.10E-03	9.10E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

*Only B6 (Energy Consumption) is taken into account, the other sub-modules of the use phase (B1-B5, B7) are zero.

Environmental Impact Indicators: Optional

Optional Environmental impact indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B6* - Operational energy use	C1-C4 - End of life	D - Benefits and loads beyond the system boundaries
Emission of fine particles	incidence of diseases	8.47E-09	6.88E-09	5.54E-10	3.37E-10	0.00E+00	6.97E-10	-7.56E-10
Ionizing radiation, human health	kBq of U235 eq.	3.61E+00	1.80E-01	2.62E-05	3.42E+00	0.00E+00	4.70E-03	-1.16E-01

Optional Environmental impact indicators	Units	Sum	A1-A3 - Manufacturing	A4 - Distribution	A5 - Installation	B6* - Operational energy use	C1-C4 - End of life	D - Benefits and loads beyond the system boundaries
Ecotoxicity, fresh water	CTUe	2.75E+02	2.75E+02	7.04E-03	1.51E-01	0.00E+00	3.37E-01	-2.23E-01
Human toxicity, cancer effects	CTUh	8.55E-09	7.62E-09	1.89E-13	9.31E-10	0.00E+00	3.99E-12	-2.33E-09
Human toxicity, non-cancer effects	CTUh	1.37E-08	1.35E-08	3.65E-12	3.57E-11	0.00E+00	2.03E-10	-1.23E-10
Impacts related to land use/soil quality	-	1.71E-02	1.67E-02	0.00E+00	2.93E-05	0.00E+00	2.82E-04	0.00E+00
Total use of primary energy during the life cycle	MJ	6.94E+00	5.82E+00	1.50E-01	2.66E-01	0.00E+00	7.05E-01	-6.51E-01

*Only B6 (Energy Consumption) is taken into account, the other sub-modules of the use phase (B1-B5, B7) are zero.

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


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

Part Number	Product Description	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 (m ³ eq.)
Y7-263469	M22-PVLT (Reference)	All Phases	1												
Y7-216878	M22-PVL	All Phases	1												
Y7-263467	M22-PVT	All Phases	1												
Y7-171880	M22-PVT-GVP50	All Phases	1												
Y7-216876	M22-PV	Manufacturing	1.05	1.14	2.41	0.00	2.06	1.19	1.34	1.15	1.22	1.25	1.10	1.11	0.78
		Distribution	1.30	1.30	1.00	1.00	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	0.77
		Installation	1.88	1.53	2.09	1.00	4.43	2.77	1.49	1.79	2.02	2.24	3.94	2.17	0.22
		Use	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
		End of Life	1.00	1.00	1.18	1.00	1.08	1.02	1.01	1.03	1.04	1.01	1.03	0.85	1.21
		Module D	1.16	1.89	2.16	1.00	3.38	2.25	1.93	1.98	2.14	2.26	1.05	1.80	0.31
Y7-178983	M22-PV-ESS	Manufacturing	1.05	1.14	2.41	0.00	2.06	1.19	1.34	1.15	1.22	1.25	1.10	1.11	0.78
		Distribution	1.30	1.30	1.00	1.00	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	0.77
		Installation	1.88	1.53	2.09	1.00	4.43	2.77	1.49	1.79	2.02	2.24	3.94	2.17	0.22
		Use	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
		End of Life	1.00	1.00	1.18	1.00	1.08	1.02	1.01	1.03	1.04	1.01	1.03	0.85	1.21
		Module D	1.16	1.89	2.16	1.00	3.38	2.25	1.93	1.98	2.14	2.26	1.05	1.80	0.31
Y7-216877	M22-PV-GVP	Manufacturing	1.05	1.14	2.41	0.00	2.06	1.19	1.34	1.15	1.22	1.25	1.10	1.11	0.78
		Distribution	1.30	1.30	1.00	1.00	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	0.77

Part Number	Product Description	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 (m ³ eq.)
		Installation	1.88	1.53	2.09	1.00	4.43	2.77	1.49	1.79	2.02	2.24	3.94	2.17	0.22
		Use	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
		End of Life	1.00	1.00	1.18	1.00	1.08	1.02	1.01	1.03	1.04	1.01	1.03	0.85	1.21
		Module D	1.16	1.89	2.16	1.00	3.38	2.25	1.93	1.98	2.14	2.26	1.05	1.80	0.31

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 Number</i>	EATO-00328-V01.01-EN	<i>Drafting rules</i>	PCR-ed4-EN-2021 09 06
<i>Verifier accreditation Number</i>	VH56	<i>Supplemented by</i>	-
<i>Date of issue</i>	05-2025	<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: 2006			
Internal	X	External	
The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain)			
<i>PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019</i>			
<i>The components of the present PEP may not be compared with components from any other program.</i>			
<i>Document complies with ISO 14025: 2006 « Environmental labels and declarations. Type III environmental declarations »</i>			