



DILH1400/22 Series Contactors

Representative product	DILH1400/22(RAC500) (144054) Product Category: Contactors, remote control switch
Description of the product	Eaton Moeller series DILH1400/22 Series Contactors are designed to establish and cut off the supply of a downstream installation from electrical and/or mechanical control in industrial application areas. The reference product has 3 poles; specification includes rated Current 1400A with the Rated Voltage of 1000V AC
Homogeneous Environmental Families Covered	The PEP concerns the following product offerings from Eaton Moeller series DILH1400/22 Series Contactors as mentioned below: • 168618 DILH1400/22(RA250) • 179529 DILH1400/22(RA110) • 272441 DILH1400/22(RAW250) • EP-401427 DILH1400/22-SP(RAW250)
Functional unit	“Establish and cut off the supply of a downstream installation from an electrical and/or mechanical control characterized by the composition of the poles or type of contacts 3, a rated voltage of 1000V AC, a rated current 1400A, a control circuit voltage 500V, with number poles 3, and is applicable in the Industrial application areas, according to the appropriate use scenario, and during the reference service life of the product of 20 years.”
Company information	Eaton Electro Productie s.r.l, Independentei 8, Sarbi, Romania, 437157 Email: productstewardship-es@eaton.com

Constituent materials			
Reference product mass	2.29E+01 kg (with packaging)		
Category pep material	Material constituent	Mass (kg)	% contribution
Plastic	Unsaturated polyester resin	7.18E+00	31.3%
Metal	Copper	5.50E+00	24.0%
Metal	Steel	4.30E+00	18.7%
Metal	Stainless steel	1.48E+00	6.4%
Other	Cardboard	1.21E+00	5.3%
Other	Electronic	1.03E+00	4.5%
Plastic	Polyamide 66 with Glass fiber 30%	7.02E-01	3.1%
Plastic	Polyamide 6	5.87E-01	2.6%
Other	Wood	5.17E-01	2.3%
Metal	Brass	1.31E-01	0.6%
Plastic	Polyethylene low density	1.01E-01	0.4%
Plastic	Polyamide 66	9.57E-02	0.4%
Plastic	Polybutylene terephthalate	3.63E-02	0.2%
Plastic	Styrene Butadiene Rubber	2.95E-02	0.1%
Plastic	Polyamide 6 with Glass fiber 30%	2.20E-02	0.1%
Other	Miscellaneous	2.09E-02	0.1%
Total		2.29E+01	100.0%

Substance Assessment

The representative product is compliant with the EU-RoHS Directive (2011/65/EU) with exemption and the product does contain Lead, as Substance-of-Very-High-Concern (SVHC) on the Candidate List of the EU-REACH Regulation (1907/2006/EC).

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Additional Environmental Information

Manufacturing	The reference product is assembled at an Eaton plant Sarbi, Romania 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 41% 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 v6.3.0 with database version CODDE-2024-04-Updated on 2025-01-29. 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 facility Eaton Electro Productie s.r.l, Independentei 8, Sarbi, Romania plant. Energy model used: Romania
Distribution Phase	Distribution of the product in its packaging from 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: The product has power loss of 63 W at full load condition. For Industrial applications considering 50% of the loading rate and 50% of the use time rate, total losses are 1379.7 kWh over the 20 years. Product do not require any maintenance/replacement during useful life. Industrial application is considered as per PSR-0005 section 3.2.2. 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.	6.80E+02	1.59E+02	5.49E+00	4.78E+00	4.86E+02	2.38E+01	-2.51E+01
Climate change - fossil fuels (GWP-f)	kg CO2 eq.	6.76E+02	1.60E+02	5.49E+00	2.01E+00	4.85E+02	2.31E+01	-2.60E+01
Climate change – biogenics (GWP-b)	kg CO2 eq.	3.92E+00	-5.04E-01	0.00E+00	2.77E+00	8.95E-01	7.50E-01	9.84E-01
Climate change - land use and land use transformation (GWP-lu)	kg CO2 eq.	2.70E-05	1.44E-05	0.00E+00	2.52E-08	0.00E+00	1.26E-05	0.00E+00
Ozone depletion (ODP)	kg eq. CFC-11	2.82E-05	2.50E-05	8.43E-09	2.71E-08	2.36E-06	8.17E-07	-4.02E-06
Acidification (AP)	mole of H+ eq.	4.56E+00	1.86E+00	3.48E-02	4.96E-03	2.49E+00	1.70E-01	-6.12E-01
Freshwater eutrophication (EP-fw)	kg P eq.	3.27E-02	9.72E-03	2.06E-06	2.06E-05	1.28E-03	2.17E-02	-5.46E-05
Marine aquatic eutrophication (EP-m)	kg of N eq.	4.65E-01	1.08E-01	1.63E-02	2.23E-03	3.03E-01	3.50E-02	-1.84E-02
Terrestrial eutrophication (EP-t)	mole of N eq.	6.43E+00	1.09E+00	1.79E-01	1.48E-02	4.88E+00	2.78E-01	-2.04E-01
Photochemical ozone formation (POCP)	kg of NMVOC eq.	1.53E+00	4.50E-01	4.52E-02	3.57E-03	9.55E-01	7.58E-02	-1.02E-01
Depletion of abiotic resources – elements (ADPe)	kg eq. Sb	3.06E-01	3.05E-01	2.16E-07	8.39E-08	1.72E-04	7.05E-04	-5.58E-03

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
Depletion of abiotic resources - fossil fuels (ADP-f)	MJ	1.77E+04	4.15E+03	7.67E+01	1.59E+01	1.23E+04	1.14E+03	-8.86E+02
Water scarcity (WDP)	m3 of eq.. deprivation worldwide	4.21E+02	1.12E+02	2.09E-02	1.53E-01	3.73E+01	2.72E+02	-3.24E+01

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	3.41E+03	1.30E+02	1.02E-01	4.82E+00	3.25E+03	2.23E+01	-1.06E+01
Use of renewable primary energy resources used as raw materials	MJ	3.26E+01	3.26E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.10E+01
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	3.44E+03	1.63E+02	1.02E-01	4.82E+00	3.25E+03	2.23E+01	-3.17E+01
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	MJ	1.74E+04	3.91E+03	7.67E+01	1.59E+01	1.23E+04	1.14E+03	-8.84E+02
Use of non-renewable primary energy resources used as raw materials	MJ	2.40E+02	2.40E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.06E+00
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ	1.77E+04	4.15E+03	7.67E+01	1.59E+01	1.23E+04	1.14E+03	-8.86E+02
Use of secondary materials	kg	9.11E-02	9.11E-02	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	1.05E+01	2.61E+00	4.86E-04	9.78E-03	8.75E-01	7.05E+00	-7.54E-01
Hazardous waste disposed of	kg	1.44E+03	1.40E+03	0.00E+00	1.50E-01	2.13E+01	2.54E+01	-4.72E+02
Non-hazardous waste disposed of	kg	1.25E+02	3.93E+01	1.93E-01	7.59E-01	8.21E+01	2.87E+00	-3.29E+00
Radioactive waste disposed of	kg	1.70E-01	1.51E-01	1.37E-04	1.03E-04	1.88E-02	4.04E-04	-1.89E-03
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	1.27E+01	3.47E+00	0.00E+00	1.21E+00	0.00E+00	8.01E+00	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

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
Exported energy	MJ by energy vector	1.75E-01	0.00E+00	0.00E+00	1.75E-01	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.	7.47E-01	7.47E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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	3.47E-05	1.34E-05	2.83E-07	2.95E-08	2.01E-05	8.71E-07	-4.87E-06
Ionizing radiation, human health	kBq of U235 eq.	3.47E+03	2.75E+03	1.34E-02	1.88E+01	6.99E+02	2.77E+00	-9.27E+02
Ecotoxicity, fresh water	CTUe	1.32E+04	1.15E+04	3.60E+00	2.30E+01	9.19E+02	7.88E+02	-1.78E+02
Human toxicity, cancer effects	CTUh	7.54E-03	7.54E-03	9.66E-11	1.45E-07	6.11E-08	1.51E-07	-9.81E-06
Human toxicity, non-cancer effects	CTUh	2.51E-05	2.17E-05	1.87E-09	5.12E-09	1.46E-06	1.98E-06	-7.72E-06
Impacts related to land use/soil quality	-	1.11E+02	2.97E+01	0.00E+00	5.57E-03	1.35E+01	6.79E+01	-3.22E-02
Total use of primary energy during the life cycle	MJ	2.11E+04	4.31E+03	7.68E+01	2.08E+01	1.55E+04	1.16E+03	-9.18E+02

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	Description	Phases	GWP	GWP-f	GWP-b	GWP-lu	ODP	AP	Ep-fw	Ep-m	Ep-t	POCP	ADP-e	ADP-f	WDP
144054	DILH1400/22(RAC500)	All Phase	1												
168618	DILH1400/22(RA250)	All Phase	1												
179529	DILH1400/22(RA110)	All Phase	1												
272441	DILH1400/22(RAW250)	All Phase	1												
EP-401427	DILH1400/22-SP(RAW250)	All Phase	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-00413-V01.01-EN	Drafting rules	PCR-ed4-EN-2021 09 06
Verifier accreditation Number	VH53	Supplemented by	PSR-0005-ed3.1-EN-2023 12 08
Date of issue	06-2025	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 »			