

PRODUCT ENVIRONMENTAL PROFILE



LUXA 103 S360 and PIRA Dx & Tx range

Holder of the declaration

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PEP directed by

Qweeko

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Covered references

1030052; 1030053; 1030062; 1030063; 1030072;
1030082; 1039052; 1039072; 1039053; 1039073;
1030200; 1030201; 1030202; 1030203; 1030204;
1030205

Methodology

This PEP has been produced in compliance with the PCR version PCR-ed4-FR-2021 09 06 and the PSR version PSR-0005-ed3.1-FR-2023 12 08 of the PEP ecopassport program. For more information, visit the program website www.pep-ecopassport.org

Reference product

Identification of the reference product:
1030052

Product category (PSR):
Family: Electrical switchgear and control gear solutions
Sub-family: Other equipment

Functional unit

Detect a 360 ° presence to switch on the lights, for 10 years

Declared Unit

Detect a 360 ° presence to switch on the lights, for 10 years

UD = UF

Technical characteristics

Product service life	10 year(s)
Rate of uptime in on mode	20 %
Rate of uptime in standby mode	80 %
Detector detection angle	360 °
Power consumption in on mode	0.5 W
Power consumption in standby mode	0.5 W
Detector function	Light switch

Materials and substances

All useful measures have been taken to ensure that the materials used in the composition of the product do not contain substances prohibited by the regulations in force when it was placed on the market. The mass of the reference product is 0.0823 kg. The mass of the product packaging is 0.0467kg. The constituent materials are:

Plastics	g	%	Metals	g	%	Others	g	%
PA6	2.76	2.13	Copper	4.67	3.60	Electronic	26.36	20.34
PC	40.42	31.20	Steel	4.50	3.47	Cardboard	34.63	26.73
PE	5.06	3.91				Paper	9.86	7.61
EVA	1.29	1.00						
Total	49.53	38.24	Total	9.17	7.07	Total	70.85	54.68
Total mass of the reference product: 0,129 kg								

The masses indicated correspond to the masses modeled within the framework of the PEP and may present slight variations with the masses indicated in the technical documentation of the products, due to the assumptions made for the study. These masses do not include the packaging materials of the raw materials, which are modeled according to the recommendations of the PCR-ed4-FR-2021 09 06.

Additional environmental information

Manufacturing	Manufactured in a factory in China and transported to warehouses in Germany. The components are sourced from China. The raw materials, transport to the production site, manufacturing components and parts, assembly, packaging, as well as the treatment of generated waste have all been considered.
Distribution	The main market is France. Consequently, the current model includes intercontinental transport in accordance with the PEP-PCR-ed4-FR-2021 09 06 rules: Truck: 3,500 km.
Installation	The product does not require any specific installation procedure, and its installation does not consume energy. The transport and disposal of the product packaging are included in this stage, in accordance with the European scenarios defined in the PSR-0005-ed3.1-FR-2023 12 08 rules.
Use	No use or application of the installed product (B1), standard repair (B3, B4), or refurbishment (B5) is expected for this product. The use of the product does not require water (B7). There is no maintenance (B2), as the components of the luminaire have a lifetime exceeding that of the product itself. The use of the product results in electricity consumption (B6): $C = (\text{active\_power} * \text{active\_time} / 100 + \text{standby\_power} * \text{standby\_time} / 100) * \text{dvr} * \text{operating\_hours} / 1000 = 43.83 \text{ kWh}$ The main market is Europe. Therefore, the European electricity mix was used in this scenario.
End of life	The end-of-life scenarios for this product were calculated using the Ecosystem database.

Environmental impacts

The environmental impact assessment covers the following stages of the product life cycle: Manufacturing (A1-A3), Distribution (A4), Installation (A5), Use (B1-B7), End of life (C1-C4) and Benefits and burdens across system boundaries (D).

The calculations were carried out with the OpenLCA software version 2.0.2 associated with the Ecoinvent database version 3.91 and the Ecosystem database.

Indicator set : Indicators for PEF EF 3.1 (Compliance: PEP ed.4, EN15804+A2) v2.0

PEP representative of the products covered, installed and marketed in: Europe

Energy models considered for each phase:

Manufacturing (A1 - A3)	Distribution (A4)	Installation (A5)	Use (B1-B7)	End of life (C1-C4)
China	Europe	Europe	Europe	Europe

Environmental impact of the reference product calculated for the functional unit

This environmental declaration has been developed considering the following functional unit: Detect a 360 ° presence to switch on the lights, for 10 years

Mandatory environmental impact indicators

Indicators	Unit	A1-A3	A4	A5	B1-B7*	C1-C4	Total (excluding D)	D
Environment: Global warming potential (total) GWPT	kg CO2 eq	3.84E+00	7.69E-02	1.33E-02	1.61E+01	1.52E-01	2.02E+01	-8.99E-02
Environment: Global warming potential (fossil) GWPF	kg CO2 eq	3.82E+00	7.68E-02	5.82E-03	1.55E+01	1.53E-01	1.96E+01	-9.44E-02
Environment: Global warming potential (biogenic) GWPB	kg CO2 eq	9.82E-03	6.72E-05	7.51E-03	5.33E-01	-4.37E-05	5.50E-01	4.53E-03
Environment: Global warming potential (land use) GWPL	kg CO2 eq	6.99E-03	3.73E-05	1.50E-06	3.87E-02	0	4.57E-02	0
Environment: Ozone depletion potential ODP	kg CFC-11 eq	1.86E-07	1.67E-09	5.02E-11	2.95E-07	7.17E-09	4.90E-07	-7.94E-09
Environment: Acidification potential AP	mol H+ eq	3.78E-02	2.51E-04	3.71E-05	8.90E-02	1.19E-03	1.28E-01	-6.29E-03
Environment: Eutrophication potential (freshwater) EPF	kg P eq	5.24E-03	5.38E-06	4.24E-07	1.47E-02	1.91E-09	1.99E-02	-3.21E-08
Environment: Eutrophication potential (marine) EPM	kg N eq	5.95E-03	8.62E-05	1.62E-05	1.44E-02	1.04E-06	2.04E-02	-9.97E-06
Environment: Eutrophication potential (terrestrial) EPT	mol N eq	6.60E-02	9.10E-04	1.57E-04	1.30E-01	1.43E-04	1.97E-01	-1.45E-03
Environment: Photochemical ozone creation potential POCP	kg NMVOC eq	2.01E-02	3.74E-04	5.79E-05	4.18E-02	9.04E-05	6.24E-02	-5.22E-04
Environment: Abiotic depletion potential (elements) ADPE	kg Sb eq	1.13E-03	2.52E-07	1.41E-08	1.89E-04	9.62E-10	1.32E-03	-1.42E-04
Environment: Abiotic depletion potential (fossils) ADPF	MJ (net calorific)	5.14E+01	1.10E+00	4.27E-02	3.59E+02	0	4.12E+02	0
Environment: Water deprivation potential WDP	m3 world eq	1.45E+00	5.38E-03	4.71E-04	8.91E+00	0	1.04E+01	0

*The detailed results of module B can be found in the tables located at this end of this section.

Optional environmental impact indicators

Indicators	Unit	A1-A3	A4	A5	B1-B7*	C1-C4	Total (excluding D)	D
Environment: Particulate matter formation PMF	disease incidence	2.47E-07	6.12E-09	6.37E-09	3.26E-07	4.32E-09	5.90E-07	-1.56E-08
Environment: Ionising radiation (human health) IRH	kBq U235 eq	4.03E-01	1.46E-03	1.38E-04	9.94E+00	3.56E-03	1.04E+01	-3.71E-03
Environment: Ecotoxicity potential (freshwater) ETPF	CTUe	1.08E+02	5.38E-01	5.98E-02	5.93E+01	1.13E-01	1.68E+02	-1.17E+00
Environment: Human toxicity (carcinogenic) HTC	CTUh	3.97E-09	3.50E-11	1.11E-10	7.76E-09	7.91E-11	1.20E-08	-6.95E-10
Environment: Human toxicity (non-carcinogenic) HTNC	CTUh	1.64E-07	7.73E-10	2.26E-10	3.11E-07	9.05E-09	4.86E-07	-7.17E-08
Environment: Land use and land use change LULUC	dimensionless	2.10E+01	6.48E-01	1.91E-02	6.87E+01	5.30E-02	9.04E+01	-7.61E-01

*The detailed results of the module B can be found in the tables located at this end of this section.

Resource utilisation indicators

Indicators	Unit	A1-A3	A4	A5	B1-B7*	C1-C4	Total (excluding D)	D
Primary energy: Renewable (energy use) PERE	MJ (PERE)	5.74E+00	1.69E-02	1.36E-03	7.91E+01	0	8.49E+01	0
Primary energy: Renewable (material use) PERM	MJ (PERM)	0	0	0	0	0	0	0
Primary energy: Renewable (total) PERT	MJ (PERT)	5.74E+00	1.69E-02	1.36E-03	7.91E+01	0	8.49E+01	0
Primary energy: Non-renewable (energy use) PENRE	MJ (PENRE)	4.97E+01	1.00E+00	3.93E-02	3.54E+02	1.90E-01	4.05E+02	-1.02E-01
Primary energy: Non-renewable (material use) PENRM	MJ (PENRM)	1.74E+00	9.52E-02	3.35E-03	5.16E+00	0	6.99E+00	0
Primary energy: Non-renewable (total) PENRT	MJ (PENRT)	5.14E+01	1.10E+00	4.27E-02	3.59E+02	1.90E-01	4.12E+02	-1.02E-01
Resource: Secondary materials SM	kg (SM)	1.41E-01	1.19E-03	3.75E-02	4.62E+00	0	4.80E+00	0

Indicators	Unit	A1-A3	A4	A5	B1-B7*	C1-C4	Total (excluding D)	D
Resource: Renewable secondary fuels RSF	MJ (RSF)	4.85E-02	3.21E-04	5.23E-05	2.68E+00	0	2.73E+00	0
Resource: Non-renewable secondary fuels NRSF	MJ (NRSF)	1.38E-01	6.30E-04	4.56E-05	2.66E+00	0	2.80E+00	0
Resource: Net use of fresh water FW	m3 (FW)	3.16E-02	1.31E-04	9.31E-06	2.85E-01	5.17E-01	8.33E-01	-1.19E+00

*The detailed results of module B can be found in the tables located at this end of this section.

Waste category indicators

Indicators	Unit	A1-A3	A4	A5	B1-B7*	C1-C4	Total (exluding D)	D
Hazardous waste disposed HWD	kg (HWD)	2.39E-01	1.02E-03	1.01E-04	3.51E-01	-2.27E-01	3.64E-01	2.26E-02
Non-hazardous waste disposed NHWD	kg (NHWD)	1.91E-01	5.23E-02	5.90E-03	1.09E+00	-2.27E-01	1.11E+00	2.36E-02
Radioactive waste disposed RWD	kg (RWD)	9.93E-05	3.54E-07	3.47E-08	2.55E-03	-4.68E-06	2.64E-03	3.73E-06

*The detailed results of module B can be found in the tables located at this end of this section.

Output flow indicators

Indicators	Unit	A1-A3	A4	A5	B1-B7*	C1-C4	Total (exluding D)	D
Output: Components for reuse CRU	kg (CRU)	0	0	0	0	0	0	0
Output: Materials for recycling MFR	kg (MFR)	4.22E-01	1.08E-03	1.18E-04	4.49E+00	0	4.92E+00	0
Output: Materials for energy recovery MER	kg (MER)	0	0	0	0	0	0	0
Output: Exported energy (electrical) EEE	MJ (EEE)	0	0	0	0	0	0	0
Output: Exported energy (thermal) EET	MJ (EET)	0	0	0	0	0	0	0

*The detailed results of module B can be found in the tables located at this end of this section.

Biogenic Carbon Inventory Flow

Indicators	Unit	Total
Biogenic carbon content of the product	Kg of C	0
Biogenic Carbon content of associated packaging	Kg of C	1,54 E-02

Indicators calculated based on the following values :

Wood : 39.5% (EN16485), Paper : 37.8% (APSESA/RECORD) and Cardboard : 28% (ADEME)

Detailed Module B

Indicators	Unit	B1	B2	B3	B4	B5	B6	B7	Total module B
Environment: Global warming potential (total) GWPT	kg CO2 eq	0	0	0	0	0	1.61E+01	0	1.61E+01
Environment: Global warming potential (fossil) GWPF	kg CO2 eq	0	0	0	0	0	1.55E+01	0	1.55E+01
Environment: Global warming potential (biogenic) GWPB	kg CO2 eq	0	0	0	0	0	5.33E-01	0	5.33E-01
Environment: Global warming potential (land use) GWPL	kg CO2 eq	0	0	0	0	0	3.87E-02	0	3.87E-02
Environment: Ozone depletion potential ODP	kg CFC-11 eq	0	0	0	0	0	2.95E-07	0	2.95E-07
Environment: Acidification potential AP	mol H+ eq	0	0	0	0	0	8.90E-02	0	8.90E-02
Environment: Eutrophication potential (freshwater) EPF	kg P eq	0	0	0	0	0	1.47E-02	0	1.47E-02
Environment: Eutrophication potential (marine) EPM	kg N eq	0	0	0	0	0	1.44E-02	0	1.44E-02
Environment: Eutrophication potential (terrestrial) EPT	mol N eq	0	0	0	0	0	1.30E-01	0	1.30E-01
Environment: Photochemical ozone creation potential POCP	kg NMVOC eq	0	0	0	0	0	4.18E-02	0	4.18E-02
Environment: Abiotic depletion potential (elements) ADPE	kg Sb eq	0	0	0	0	0	1.89E-04	0	1.89E-04
Environment: Abiotic depletion potential (fossils) ADPF	MJ (net calorific)	0	0	0	0	0	3.59E+02	0	3.59E+02
Environment: Water deprivation potential WDP	m3 world eq	0	0	0	0	0	8.91E+00	0	8.91E+00
Environment: Particulate matter formation PMF	disease incidence	0	0	0	0	0	3.26E-07	0	3.26E-07
Environment: Ionising radiation (human health) IRH	kBq U235 eq	0	0	0	0	0	9.94E+00	0	9.94E+00
Environment: Ecotoxicity potential (freshwater) ETPF	CTUe	0	0	0	0	0	5.93E+01	0	5.93E+01
Environment: Human toxicity (carcinogenic) HTC	CTUh	0	0	0	0	0	7.76E-09	0	7.76E-09
Environment: Human toxicity (non-carcinogenic) HTNC	CTUh	0	0	0	0	0	3.11E-07	0	3.11E-07
Environment: Land use and land use change LULUC	dimensionless	0	0	0	0	0	6.87E+01	0	6.87E+01

Indicators	Unit	B1	B2	B3	B4	B5	B6	B7	Total module B
Primary energy: Renewable (energy use) PERE	MJ (PERE)	0	0	0	0	0	7.91E+01	0	7.91E+01
Primary energy: Renewable (material use) PERM	MJ (PERM)	0	0	0	0	0	0	0	0
Primary energy: Renewable (total) PERT	MJ (PERT)	0	0	0	0	0	7.91E+01	0	7.91E+01
Primary energy: Non-renewable (energy use) PENRE	MJ (PENRE)	0	0	0	0	0	3.54E+02	0	3.54E+02
Primary energy: Non-renewable (material use) PENRM	MJ (PENRM)	0	0	0	0	0	5.16E+00	0	5.16E+00
Primary energy: Non-renewable (total) PENRT	MJ (PENRT)	0	0	0	0	0	3.59E+02	0	3.59E+02
Resource: Secondary materials SM	kg (SM)	0	0	0	0	0	4.62E+00	0	4.62E+00
Resource: Renewable secondary fuels RSF	MJ (RSF)	0	0	0	0	0	2.68E+00	0	2.68E+00
Resource: Non-renewable secondary fuels NRSF	MJ (NRSF)	0	0	0	0	0	2.66E+00	0	2.66E+00
Resource: Net use of fresh water FW	m3 (FW)	0	0	0	0	0	2.85E-01	0	2.85E-01
Hazardous waste disposed HWD	kg (HWD)	0	0	0	0	0	3.51E-01	0	-3.51E-01
Non-hazardous waste disposed NHWD	kg (NHWD)	0	0	0	0	0	1.09E+00	0	-1.09E+00
Radioactive waste disposed RWD	kg (RWD)	0	0	0	0	0	2.55E-03	0	-2.55E-03
Output: Components for reuse CRU	kg (CRU)	0	0	0	0	0	0	0	0
Output: Materials for recycling MFR	kg (MFR)	0	0	0	0	0	4.49E+00	0	4.49E+00
Output: Materials for energy recovery MER	kg (MER)	0	0	0	0	0	0	0	0
Output: Exported energy (electrical) EEE	MJ (EEE)	0	0	0	0	0	0	0	0
Output: Exported energy (thermal) EET	MJ (EET)	0	0	0	0	0	0	0	0

Homogeneous coefficients for environmental family and extrapolation

References covered

	Product designation	Commercial reference
LUXA	LUXA 103 S360-100-12 DE-UP WH	1030052
	LUXA 103 S360-101-12 DE-UP WH	1030053
	LUXA 103 S360-100-12 AP WH	1030062
	LUXA 103 S360-101-12 AP WH	1030063
	LUXA 103 S360-100-28 DE-UP WH	1030072
	LUXA 103 S360-100-28 AP WH	1030082
	LUXA 103 S360-12 KNX UP	1039052
	LUXA 103 S360-28 KNX UP	1039072
	LUXA 103 S360-12 KNX DE WH	1039053
	LUXA 103 S360-28 KNX DE WH	1039073
PIRA	PIRA D8 DE	1030200
	PIRA D8-2 DE	1030201
	PIRA T6 MINI	1030202
	PIRA T8 AP	1030203
	PIRA TC DE	1030204
	PIRA TC AP	1030205

Factors extrapolated for the homogeneous family

To calculate the environmental impacts at the declared unit level for products covered by this PEP, multiply the environmental impacts of the reference product by the extrapolation factor for each phase

The extrapolation factors were calculated according to the following rules:

- Manufacturing, distribution, end-of-life, and module D phases: based on the weight of the products and packaging
- Use phase: B6: ratio between the consumption of the covered product and that of the reference product

Characteristics of the references covered

Reference	Product weight (g)	Packaging weight (g)	Energy consumption operating (W)	Energy consumption standby (W)	Duration operating (%)	Duration standby (%)
Reference product						
1030052	80,5	32,5	0,5	0,5	20	80
Covered products						
1030053	84,3	31,4	0,5	0,5	20	80
1030062	127,3	30,5	0,5	0,5	20	80
1030063	129,2	30,5	0,5	0,5	20	80
1030072	87	37	0,5	0,5	20	80
1030082	137,9	35,6	0,5	0,5	20	80
1039052	52	30	0,5	0,5	20	80
1039072	58	34	0,5	0,5	20	80
1039053	53	33	0,5	0,5	20	80
1039073	60	35	0,5	0,5	20	80
1030200	67	28	0,5	0,5	20	80
1030201	71	28	0,5	0,5	20	80
1030202	50	18	0,5	0,5	20	80
1030203	89	27	0,5	0,5	20	80
1030204	73	29	0,5	0,5	20	80
1030205	96	29	0,5	0,5	20	80

Extrapolation factors for covered references

Reference	Manufacturing (A1-A3)	Distribution (A4)	Installation (A5)	Use (B6)	End of Life (C1-C4)
Reference product					
1030052	1	1	1	1	1
Covered products					
1030053	1,02	1,02	0,97	1,00	1,02
1030062	1,40	1,40	0,94	1,00	1,40
1030063	1,41	1,41	0,94	1,00	1,41
1030072	1,10	1,10	1,14	1,00	1,10
1030082	1,54	1,54	1,10	1,00	1,54
1039052	0,73	0,73	0,92	1,00	0,73
1039072	0,81	0,81	1,05	1,00	0,81
1039053	0,76	0,76	1,02	1,00	0,76
1039073	0,84	0,84	1,08	1,00	0,84
1030200	0,84	0,84	0,86	1,00	0,84
1030201	0,88	0,88	0,86	1,00	0,88
1030202	0,60	0,60	0,55	1,00	0,60
1030203	1,03	1,03	0,83	1,00	1,03
1030204	0,90	0,90	0,89	1,00	0,90
1030205	1,11	1,11	0,89	1,00	1,11

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Verifier accreditation number: VH37	Information and reference documents: www.pep-ecopassport.org
Edition date: 08-2025	Validity period: 5 years
Independent verification of the declaration and data in compliance with ISO 14025: 2006 Internal ☒ 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 or NF E38-500 :2022 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"	
	