

PRODUCT ENVIRONMENTAL PROFILE



theLuxa S180 white

Holder of the declaration

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Reference covered

1010505; 1010500; 1010501; 1010506; 1010510;
1010511; 1019610; 1019611; 1030206; 1010100;
1010101; 1010110; 1010111; 1010105; 1010106;
1030207; 1010200; 1010201; 1010220; 1010221;
1010520; 1010521; 1010522; 1010523; 1010587;
1010588; 1010605; 1010606; 1010610; 1010611;
9080041; 9080042

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:
1010505

Product category (PSR) :
Family: Electrical switchgear and control gear solutions, PSR-0005-ed3.1-FR-2023 12 08
Sub-family: Active product (motion or presence detectors)

Functional unit

Detect a 180 ° presence to Switch on the light, for 10 years

Declared unit

Detect presence at 180°, causing the light to switch on for 10 years

DU = FU

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	180 °
Power consumption in on mode	0.9 W
Power consumption in standby mode	0.9 W
Detector function	Switch on the light

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 0.213 kg. The mass of the product packaging is 0.089 kg.

The constituent materials are:

Plastics	g	%	Metals	g	%	Others	g	%
ASA	94.9	31.8	Copper	13.6	4.6	Cardboard	72.84	24.4
TPE	34.0	11.4	Steel	8.48	2.8	Paper	15.61	5.2
PC	10.2	3.4				PCB FR04	14.57	4.9
PA6	10.0	3.4				Relay	11.4	3.8
HDPE	4.8	1.6				cms capacitor	1.89	0.6
Others	2.41	0.8				Others	3.52	1.2
Total	156.31	52.4	Total	22.08	7.4	Total	119.83	40.1
Total mass of the reference product : 0.298 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 a storage facility in Germany. The components are sourced from China. Raw materials, transport to the production site, manufacturing of components and parts, assembly, packaging, and waste disposal were all taken into account.
Distribution	The main market is Europe. 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	Only when the product is in use does it consume electricity (B6): $C = (\text{active\_power} * \text{active\_time} / 100 + \text{standby\_power} * \text{standby\_time} / 100) * \text{dvr} * \text{number\_of\_hours} / 1000 = 78.894 \text{ kWh}$ The main market is Europe. The european energy mix has therefore been used here.
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 180 ° presence to Switch on the light, 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	5.67E+00	1.97E-01	1.65E-02	2.89E+01	2.22E-01	3.50E+01	-6.09E-02
Environment: Global warming potential (fossil) GWPF	kg CO2 eq	5.70E+00	1.97E-01	2.14E-03	2.79E+01	2.22E-01	3.40E+01	-1.23E-01
Environment: Global warming potential (biogenic) GWPB	kg CO2 eq	-4.66E-02	1.72E-04	1.44E-02	9.59E-01	-7.55E-05	9.27E-01	6.23E-02
Environment: Global warming potential (land use) GWPL	kg CO2 eq	1.05E-02	9.54E-05	9.59E-07	6.96E-02	0	8.02E-02	0
Environment: Ozone depletion potential ODP	kg CFC-11 eq	2.02E-07	4.27E-09	4.80E-11	5.32E-07	2.31E-08	7.61E-07	-7.83E-09
Environment: Acidification potential AP	mol H+ eq	6.06E-02	6.41E-04	8.32E-06	1.60E-01	2.14E-03	2.23E-01	-8.92E-03
Environment: Eutrophication potential (freshwater) EPF	kg P eq	7.30E-03	1.38E-05	1.70E-07	2.64E-02	2.74E-09	3.38E-02	-4.82E-20
Environment: Eutrophication potential (marine) EPM	kg N eq	8.39E-03	2.20E-04	6.61E-06	2.59E-02	1.48E-06	3.45E-02	-1.21E-05

Indicators	Unit	A1-A3	A4	A5	B1-B7*	C1-C4	Total (excluding D)	D
Environment: Eutrophication potential (terrestrial) EPT	mol N eq	9.40E-02	2.33E-03	3.21E-05	2.34E-01	1.97E-04	3.31E-01	-1.77E-03
Environment: Photochemical ozone creation potential POCP	kg NMVOC eq	3.03E-02	9.57E-04	1.20E-05	7.52E-02	2.14E-04	1.07E-01	-7.93E-04
Environment: Abiotic depletion potential (elements) ADPE	kg Sb eq	1.19E-03	6.46E-07	6.34E-09	3.40E-04	2.83E-09	1.53E-03	-2.57E-05
Environment: Abiotic depletion potential (fossils) ADPF	MJ (net calorific)	7.94E+01	2.81E+00	2.73E-02	6.46E+02	0	7.28E+02	0
Environment: Water deprivation potential WDP	m3 world eq	3.78E+00	1.38E-02	6.82E-04	1.60E+01	0	1.98E+01	0

*The detailed results of the 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	3.52E-07	1.56E-08	1.61E-10	5.87E-07	1.13E-08	9.66E-07	-2.42E-08
Environment: Ionising radiation (human health) IRH	kBq U235 eq	5.24E-01	3.73E-03	3.86E-05	1.79E+01	1.31E-02	1.84E+01	-3.78E-03
Environment: Ecotoxicity potential (freshwater) ETPF	CTUe	1.27E+02	1.37E+00	2.96E-02	1.07E+02	3.31E-01	2.36E+02	-1.66E+00
Environment: Human toxicity (carcinogenic) HTC	CTUh	5.54E-09	8.95E-11	1.56E-12	1.40E-08	1.54E-10	1.97E-08	-9.99E-10
Environment: Human toxicity (non-carcinogenic) HTNC	CTUh	2.39E-07	1.98E-09	4.92E-11	5.60E-07	1.45E-08	8.15E-07	-9.84E-08
Environment: Land use and land use change LULUC	dimensionless	3.36E+01	1.66E+00	1.75E-02	1.24E+02	1.02E-01	1.59E+02	-7.08E-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)	9.28E+00	4.32E-02	4.80E-04	1.42E+02	0	1.52E+02	-8.07E-02
Primary energy: Renewable (material use) PERM	MJ (PERM)	0	0	0	0	0	0	0
Primary energy: Renewable (total) PERT	MJ (PERT)	9.28E+00	4.32E-02	4.80E-04	1.42E+02	0	1.52E+02	-8.07E-02
Primary energy: Non-renewable (energy use) PENRE	MJ (PENRE)	7.59E+01	2.56E+00	2.50E-02	6.37E+02	7.08E-01	7.16E+02	-2.47E-01
Primary energy: Non-renewable (material use) PENRM	MJ (PENRM)	3.55E+00	2.44E-01	2.28E-03	9.28E+00	0	1.31E+01	0
Primary energy: Non-renewable (total) PENRT	MJ (PENRT)	7.94E+01	2.81E+00	2.73E-02	6.46E+02	7.08E-01	7.29E+02	-2.47E-01
Resource: Secondary materials SM	kg (SM)	1.76E-01	3.04E-03	3.40E-05	8.32E+00	0	8.50E+00	0
Resource: Renewable secondary fuels RSF	MJ (RSF)	6.37E-02	8.20E-04	7.88E-06	4.83E+00	0	4.90E+00	0
Resource: Non-renewable secondary fuels NRSF	MJ (NRSF)	1.74E-01	1.61E-03	1.66E-05	4.79E+00	0	4.97E+00	0
Resource: Net use of fresh water FW	m3 (FW)	8.71E-02	3.35E-04	1.25E-05	5.13E-01	1.45E+00	2.05E+00	-2.37E+00

*The detailed results of the 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 (excluding D)	D
Hazardous waste disposed HWD	kg (HWD)	3.92E-01	2.60E-03	1.82E-04	6.32E-01	3.57E-01	1,38E+00	3.44E-02
Non-hazardous waste disposed NHWD	kg (NHWD)	3.02E-01	1.34E-01	9.37E-03	1.96E+00	3.58E-01	2,76E+00	3.58E-02
Radioactive waste disposed RWD	kg (RWD)	1.29E-04	9.05E-07	9.40E-09	4.58E-03	1.75E-05	4,73E-03	3.47E-06

*The detailed results of the 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 (excluding D)	D
Output: Components for reuse CRU	kg (CRU)	0	0	0	0	0	0	0
Output: Materials for recycling MFR	kg (MFR)	4.42E-01	2.75E-03	2.79E-05	8.09E+00	0	8.53E+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 the 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	3.09E-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	2.89E+01	0	2.89E+01
Environment: Global warming potential (fossil) GWPF	kg CO2 eq	0	0	0	0	0	2.79E+01	0	2.79E+01
Environment: Global warming potential (biogenic) GWPB	kg CO2 eq	0	0	0	0	0	9.59E-01	0	9.59E-01
Environment: Global warming potential (land use) GWPL	kg CO2 eq	0	0	0	0	0	6.96E-02	0	6.96E-02
Environment: Ozone depletion potential ODP	kg CFC-11 eq	0	0	0	0	0	5.32E-07	0	5.32E-07

Indicators	Unit	B1	B2	B3	B4	B5	B6	B7	Total module B
Environment: Acidification potential AP	mol H+ eq	0	0	0	0	0	1.60E-01	0	1.60E-01
Environment: Eutrophication potential (freshwater) EPF	kg P eq	0	0	0	0	0	2.64E-02	0	2.64E-02
Environment: Eutrophication potential (marine) EPM	kg N eq	0	0	0	0	0	2.59E-02	0	2.59E-02
Environment: Eutrophication potential (terrestrial) EPT	mol N eq	0	0	0	0	0	2.34E-01	0	2.34E-01
Environment: Photochemical ozone creation potential POCP	kg NMVOC eq	0	0	0	0	0	7.52E-02	0	7.52E-02
Environment: Abiotic depletion potential (elements) ADPE	kg Sb eq	0	0	0	0	0	3.40E-04	0	3.40E-04
Environment: Abiotic depletion potential (fossils) ADPF	MJ (net calorific)	0	0	0	0	0	6.46E+02	0	6.46E+02
Environment: Water deprivation potential WDP	m3 world eq	0	0	0	0	0	1.60E+01	0	1.60E+01
Environment: Particulate matter formation PMF	disease incidence	0	0	0	0	0	5.87E-07	0	5.87E-07
Environment: Ionising radiation (human health) IRH	kBq U235 eq	0	0	0	0	0	1.79E+01	0	1.79E+01
Environment: Ecotoxicity potential (freshwater) ETPF	CTUe	0	0	0	0	0	1.07E+02	0	1.07E+02
Environment: Human toxicity (carcinogenic) HTC	CTUh	0	0	0	0	0	1.40E-08	0	1.40E-08
Environment: Human toxicity (non-carcinogenic) HTNC	CTUh	0	0	0	0	0	5.60E-07	0	5.60E-07
Environment: Land use and land use change LULUC	dimensionless	0	0	0	0	0	1.24E+02	0	1.24E+02
Primary energy: Renewable (energy use) PERE	MJ (PERE)	0	0	0	0	0	1.42E+02	0	1.42E+02
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	1.42E+02	0	1.42E+02
Primary energy: Non-renewable (energy use) PENRE	MJ (PENRE)	0	0	0	0	0	6.37E+02	0	6.37E+02
Primary energy: Non-renewable (material use) PENRM	MJ (PENRM)	0	0	0	0	0	9.28E+00	0	9.28E+00
Primary energy: Non-renewable (total) PENRT	MJ (PENRT)	0	0	0	0	0	6.46E+02	0	6.46E+02
Resource: Secondary materials SM	kg (SM)	0	0	0	0	0	8.32E+00	0	8.32E+00
Resource: Renewable secondary fuels RSF	MJ (RSF)	0	0	0	0	0	4.83E+00	0	4.83E+00
Resource: Non-renewable secondary fuels NRSF	MJ (NRSF)	0	0	0	0	0	4.79E+00	0	4.79E+00
Resource: Net use of fresh water FW	m3 (FW)	0	0	0	0	0	5.13E-01	0	5.13E-01
Hazardous waste disposed HWD	kg (HWD)	0	0	0	0	0	6.32E-01	0	6.32E-01

Indicators	Unit	B1	B2	B3	B4	B5	B6	B7	Total module B
Non-hazardous waste disposed NHWD	kg (NHWD)	0	0	0	0	0	1.96E+00	0	1.96E+00
Radioactive waste disposed RWD	kg (RWD)	0	0	0	0	0	4.58E-03	0	4.58E-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	8.09E+00	0	8.09E+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 environmental family and extrapolation factors

References covered

	Product designation	Commercial reference
TECTA	TECTA D 180 WH	1010100
	TECTA D 180 AN	1010101
	TECTA D 180i WH	1010105
	TECTA D 180i AN	1010106
	TECTA D 280i WH	1010110
	TECTA D 280i AN	1010111
LUXA	theLuxa R180 WH	1010200
	theLuxa R180 BK	1010201
	theLuxa R180 WH	1010220
	theLuxa R180 BK	1010221
	theLuxa S150 blanc	1010500
	theLuxa S150 noir	1010501
	theLuxa S180 blanc*	1010505*
	theLuxa S180 noir	1010506
	theLuxa S360 blanc	1010510
	theLuxa S360 noir	1010511
	theLuxa S180 WH	1010520
	theLuxa S180 WH	1010521
	theLuxa S150 BK	1010522
	theLuxa S150 WH	1010523
	theLuxa S180 E WH	1010587
	theLuxa S180 E BK	1010588
	theLuxa P220 WH	1010605
	theLuxa P220 BK	1010606
	theLuxa P300 WH	1010610
	theLuxa P300 BK	1010611
	theLuxa P300 KNX blanc	1019610
	theLuxa P300 KNX noir	1019611
PIRA	PIRA TO AP	1030206
	PIRA T6 Mini RCU	1030207
LEDA B	theLeda B Module Detector WH	9080041
	theLeda B Module Detector BK	9080042

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 phases, and module D: based on the weight of products and packaging
- Usage phase: B6: ratio between consumption of the covered product and consumption of the reference product

Characteristics of covered references

Reference	product weight (g)	packaging weight (g)	Energy consumption (operating) (W)	Energy consumption (standby) (W)	Duration (operating) (%)	Duration (standby) (%)
Reference product						
1010505	213	67	0,9	0,9	20	80
Covered references						
1010500	206,5	71	0,9	0,9	20	80
1010501	209	79,5	0,9	0,9	20	80
1010506	210,5	77,5	0,9	0,9	20	80
1010510	207	125,5	0,5	0,5	20	80
1010511	203,5	127	0,5	0,5	20	80
1019610	236,5	231	0,4	0,4	20	80
1019611	231	216,5	0,4	0,4	20	80
1030206	118,5	35	0,5	0,5	20	80
1010100	185	35	0,2	0,2	20	80
1010101	185	35	0,2	0,2	20	80
1010110	272	58	0,4	0,4	20	80
1010111	272	58	0,4	0,4	20	80
1010105	185	35	0,4	0,4	20	80
1010106	185	35	0,4	0,4	20	80
1030207	37,5	18	0,6	0,08	20	80
1010200	161	59	0,5	0,5	20	80
1010201	160	61	0,5	0,5	20	80
1010220	166	48	0,5	0,5	20	80
1010221	166	48	0,5	0,5	20	80
1010520	213	64	0,9	0,9	20	80
1010521	218	59	0,9	0,9	20	80
1010522	188,5	62,5	0,9	0,9	20	80
1010523	188,5	62,5	0,9	0,9	20	80
1010587	200	80	0,9	0,9	20	80
1010588	200	80	0,9	0,9	20	80
1010605	287	179,5	0,3	0,3	20	80
1010606	287	169	0,3	0,3	20	80
1010610	291,5	235,5	0,3	0,3	20	80
1010611	289	223	0,3	0,3	20	80
9080041	98	43	0.5	0.5	20	80
9080042	98	43	0.5	0.5	20	80

Extrapolation factors for covered references

Reference	Manufacturing (A1-A3)	Distribution (A4)	Installation (A5)	Use (B1-B7)	End of life (C1-C4)	Module D
Reference product						
1010505*	1	1	1	1	1	1
Covered references						
1010500	0,99	0,99	1,06	1,00	0,97	0,99
1010501	1,03	1,03	1,19	1,00	0,98	1,03
1010506	1,03	1,03	1,16	1,00	0,99	1,03
1010510	1,19	1,19	1,87	0,56	0,97	1,19
1010511	1,18	1,18	1,90	0,56	0,96	1,18
1019610	1,67	1,67	3,45	0,44	1,11	1,67
1019611	1,60	1,60	3,23	0,44	1,08	1,60
1030206	0,55	0,55	0,52	0,56	0,56	0,55
1010100	0,79	0,79	0,52	0,22	0,87	0,79
1010101	0,79	0,79	0,52	0,22	0,87	0,79
1010110	1,18	1,18	0,87	0,44	1,28	1,18
1010111	1,18	1,18	0,87	0,44	1,28	1,18
1010105	0,79	0,79	0,52	0,44	0,87	0,79
1010106	0,79	0,79	0,52	0,44	0,87	0,79
1030207	0,20	0,20	0,27	0,20	0,18	0,20
1010200	0,79	0,79	0,88	0,56	0,76	0,79
1010201	0,79	0,79	0,91	0,56	0,75	0,79
1010220	0,76	0,76	0,72	0,56	0,78	0,76
1010221	0,76	0,76	0,72	0,56	0,78	0,76
1010520	0,99	0,99	0,96	1,00	1,00	0,99
1010521	0,99	0,99	0,88	1,00	1,02	0,99
1010522	0,90	0,90	0,93	1,00	0,88	0,90
1010523	0,90	0,90	0,93	1,00	0,88	0,90
1010587	1,00	1,00	1,19	1,00	0,94	1,00
1010588	1,00	1,00	1,19	1,00	0,94	1,00
1010605	1,67	1,67	2,68	0,33	1,35	1,67
1010606	1,63	1,63	2,52	0,33	1,35	1,63
1010610	1,88	1,88	3,51	0,33	1,37	1,88
1010611	1,83	1,83	3,33	0,33	1,36	1,83
9080041	0.50	0.50	0.64	0.56	0.46	0.50
9080042	0.50	0.50	0.64	0.56	0.47	0.50

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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"			