Product Environmental Profile

Occupancy detector
PD4N-1C-C-AP

Registration number: BEGL-00041-V01.01-EN	Drafting rules: PCR-4-ed4-EN-2021 09 06 Supplemented by PSR-0005-ed3.1-EN-2023 12 08
Verifier accreditation number: VH08	Information and reference documents: **www.pep-ecopassport.org**
Date of issue: 06-2025	Validity period: **5 years**
Independent verification of the declaration and data in compliance with ISO 14025: 2006	
Independent external review	
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”	

GENERAL INFORMATION

COMPANY INFORMATION

B.E.G. Brück Electronic Gmbh
https://www.beg-luxomat.com
info@begfrance.fr
42, Rue Eugène Dupuis
94000 CRETEIL - France

Location of the final assembly site(s): China

REFERENCE PRODUCT AND METHODOLOGY

Name of the product	Occupancy detector PD4N-1C-C-AP
Identification of the product	92270
Product type	Occupancy detector
Product description	Voltage: 110 – 240 V AC 50 / 60 Hz Dimensions: Ø 109 x 65 mm Power consumption: env. 0.4 W Detection angle: horizontal 360° (Ceiling mounting) Detection area :max. Ø 40 m accross Range: max. Ø 20 m accross max. Controlled surface for tangential approach: 250 m² / 2.5 m mounting height Mounting height min./max./recommended: 2,4 m / 2,6 m / 2.5 m Degree / class of protection: IP44 / Classe II Impact strength: IK04
Product category	Other equipment - active product
Functional unit	Detect a presence at 360° causing the light to turn on, for 10 years
Mathematical relation between functional unit and declared unit	1
Declared unit	Manufacture, distribute, install and use an occupancy detector for 10 years

CONSTITUENT MATERIALS

Total mass (g)	269,40 g including 206,42g of the reference product and 62,98g of packaging

CONSTITUENT MATERIALS	METALS		PLASTICS		OTHERS	
	Stainless steel with chrome	4,0%	Polycarbonate (PC)	46,5%	Cardboard	17,0%
	Copper	3,3%	Polyethylene low density (LDPE)	4,9%	Paper	6,1%
	Nickel	1,9%	Polyethylene high density (HDPE)	2,8%	Glass fibre	2,7%
	Iron	1,8%	Epoxy resin	1,9%	Electrolyte	0,5%
	Aluminium	1,0%	Silicone rubber	0,8%		
	Tin	0,7%				
	Miscellaneous	1,0%	Miscellaneous	1,5%	Miscellaneous	1,6%
	Total	**13,8%**	**Total**	**58,4%**	**Total**	**27,9%**

ENVIRONMENTAL IMPACTS

REPRESENTATIVENESS

Geographical	Manufacturing: China ; Distribution, Installation, Use and End of life: Europe
Time	The collected data are representative of the year 2024
Technological	The datasets used are representative of the life cycle of the product

LIFE CYCLE STAGES

Reference service life: 10 years
Applicable product standards: No applicable product standards

[A1-A3] - Manufacturing

Manufacturing phase takes into account:
- Production, transportation and packaging of raw materials necessary to manufacture the the reference product, including the flows associated with the wastes generated by the manufacturing processes up to their disposal,
- Industrial transformation and manufacturing processes,
- Transportation from the supplier's production site to the assembly site(s) and/or packaging site(s).
- Production of packaging and transportation of the packaging from its manufacturing site to the product packaging site.
- Industrial processes used to assemble the reference product and packaging components.
- Transportation of the packaged product to the manufacturer's last logistics platform.

Energy dataset	Electricity Mix; Low voltage; 2020; China, CN

[A4] - Distribution

Transportation of the product in its packaging from the manufacturer's last logistics platform (Germany) to the installation place (Europe) has been modeled by : Heavy truck (12t-32t); technology mix; diesel, EURO 6; RER on 3500 km

[A5] - Installation

Nothing is need for installation in Europe
The end of life of packaging is included in the installation stage.

Energy dataset	No primary dataset has been used

[B1-B7] - Use

Maintenance scenario	No maintenance is needed.

Energy consumption scenario	The product is used over 10 years. For 20% of the time it's on active mode with 0,88 W of power and 80% on passive mode at 0,32 W of consumption.

Energy dataset	Electricity Mix; Low voltage; 2020; Europe; EU-27
Electricity consumption (kWh)	37,84

[C1-C4] - End of life

The modelling of the End-of-life is made according to the PSR-005 ed 3.1-EN-2023 12 08 and using the ESR database and scenario.

Energy dataset	No primary dataset has been used

[D] - Module D

The recycling benefits occurring throughout the life cycle [C1-C4] have been considered in the module D. These benefits correspond to the avoided impacts related to the material recycling. The impacts generated by the production of primary material are counted negatively

SOFTWARE AND DATABASE

The Life Cycle Assessment was carried out with the EIME software and the CODDE® database.
Created in 1996, EIME is a Life Cycle Assessment and Ecodesign software developed by LCIE Bureau Veritas.
The CODDE® base meets the requirements of the ISO 14040/44/67, EN 15804+A2 standards as well as the ILCD “entry level” requirements.

Information:

www.codde.fr

Name of the software	EIME
Version of the software	6.3.0.1-17
Database version	11/06/2024
Tool	All'in PEP - EIME add-on
EF method	3.1
Carbon biogenic storage methodology	-1/+1

MANDATORY INDICATORS		FUNCTIONAL UNIT						
Impact indicators	Unit	Total without [D]	[A1 - A3] Manufacturing	[A4] Distribution	[A5] Installation	[B1 - B7] Use	[C1 - C4] End of life	[D] Benefits/Loads
Climate change - total	kg CO2 eq	1,73E+01	3,44E+00	5,70E-02	1,79E-01	1,33E+01	2,70E-01	-2,89E-01
Climate change - fossil fuels	kg CO2 eq	1,72E+01	3,49E+00	5,70E-02	7,82E-02	1,33E+01	2,62E-01	-3,60E-01
Climate change - biogenics	kg CO2 eq	7,68E-02	-5,73E-02	2,33E-07	1,01E-01	2,45E-02	8,36E-03	7,11E-02
Climate change - land use and land use transformation	kg CO2 eq	1,86E-04	1,86E-04	8,62E-08	8,60E-10	0,00E+00	2,79E-09	0,00E+00
Ozone depletion	kg CFC-11 eq	5,00E-07	4,03E-07	6,92E-10	1,00E-09	6,46E-08	3,08E-08	-7,39E-09
Acidification (AP)	mol H+ eq	9,81E-02	2,63E-02	9,01E-05	2,13E-04	6,83E-02	3,13E-03	-8,02E-04
Freshwater eutrophication	kg $(PO4)^{3-}$ eq	4,81E-05	7,86E-06	2,13E-07	9,38E-07	3,51E-05	3,98E-06	-3,60E-05
Marine aquatic eutrophication	kg N eq	1,37E-02	3,57E-03	1,63E-05	9,74E-05	8,32E-03	1,67E-03	-1,91E-04
Terrestrial eutrophication	mol N eq	1,76E-01	3,85E-02	1,79E-04	6,42E-04	1,34E-01	2,86E-03	-1,96E-03
Photochemical ozone formation	kg COVNM eq	3,97E-02	1,23E-02	5,79E-05	1,50E-04	2,62E-02	9,46E-04	-5,49E-04
Abiotic resource depletion - elements	kg Sb eq	6,98E-04	6,92E-04	2,03E-08	3,44E-09	4,72E-06	1,53E-06	-6,89E-06
Abiotic resource depletion - fossil fuels	MJ	4,02E+02	6,00E+01	1,01E+00	6,97E-01	3,37E+02	3,93E+00	-1,56E+00
Water requirement	m3 eq	6,20E+01	7,95E-01	2,05E-03	5,78E-03	1,02E+00	6,02E+01	-1,13E+01

OPTIONAL INDICATORS		FUNCTIONAL UNIT						
Impact indicators	Unit	Total without [D]	[A1 - A3] Manufacturing	[A4] Distribution	[A5] Installation	[B1 - B7] Use	[C1 - C4] End of life	[D] Benefits/Loads
Total use of primary energy during the life cycle	MJ	4,95E+02	6,28E+01	1,02E+00	7,93E-01	4,26E+02	4,22E+00	-4,92E+00
Emission of fine particles	Incidence of diseases	7,31E-07	1,63E-07	7,73E-10	1,25E-09	5,50E-07	1,63E-08	-1,40E-08
Ionizing radiation	kBq U235 eq	4,25E+01	2,33E+01	2,02E-03	9,69E-03	1,92E+01	1,57E-02	-2,88E-02
Ecotoxicity (fresh water)	CTUe	5,22E+01	2,28E+01	1,66E+00	1,04E+00	2,52E+01	1,51E+00	-1,64E+00
Human toxicity, carcinogenic effects	CTUh	1,46E-07	1,37E-07	1,12E-11	7,45E-09	1,68E-09	2,29E-10	-8,93E-09
Human toxicity, non-carcinogenic effects	CTUh	1,06E-07	4,85E-08	2,13E-10	2,25E-10	4,01E-08	1,73E-08	-2,66E-09
Impacts related to land use/soil quality	without dimension	1,58E+00	5,26E-01	2,44E-04	2,08E-04	3,69E-01	6,86E-01	-1,81E+01

MANDATORY INDICATORS		FUNCTIONAL UNIT						
Inventory flows indicator	Unit	Total without [D]	[A1 - A3] Manufacturing	[A4] Distribution	[A5] Installation	[B1 - B7] Use	[C1 - C4] End of life	[D] Benefits/Loads
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	9,12E+01	1,68E+00	3,19E-03	9,55E-02	8,91E+01	2,91E-01	-2,45E+00
Use of renewable primary energy resources used as raw materials	MJ	1,19E+00	1,19E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-9,16E-01
Total use of renewable primary energy resources	MJ	9,24E+01	2,87E+00	3,19E-03	9,55E-02	8,91E+01	2,91E-01	-3,37E+00
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	MJ	3,97E+02	5,43E+01	1,01E+00	6,97E-01	3,37E+02	3,93E+00	-1,54E+00
Use of non-renewable primary energy resources used as raw materials	MJ	5,65E+00	5,65E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,73E-02
Total use of non-renewable primary energy resources	MJ	4,02E+02	6,00E+01	1,01E+00	6,97E-01	3,37E+02	3,93E+00	-1,56E+00
Use of secondary materials	kg	5,52E-07	5,52E-07	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	m^3	1,67E+00	1,85E-02	4,78E-05	4,52E-04	2,40E-02	1,63E+00	-2,97E-01
Hazardous waste disposed of	kg	3,34E+00	2,75E+00	2,39E-04	3,97E-03	5,85E-01	7,71E-06	-1,91E-03
Non-hazardous waste disposed of	kg	3,25E+00	9,69E-01	5,29E-03	2,54E-02	2,25E+00	1,71E-04	-3,80E-02
Radioactive waste disposed of	kg	1,01E-03	4,86E-04	4,19E-06	4,50E-06	5,17E-04	1,35E-07	-1,74E-05
Components for reuse	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	5,19E-02	5,92E-04	0,00E+00	5,13E-02	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	1,16E-08	1,16E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

CARBON BIOGENIC CONTENT - FUNCTIONAL UNIT		
Product	kg of C	0,00E+00
Packaging	kg of C	2,65E-02

MANDATORY INDICATORS		FUNCTIONAL UNIT							
Impact indicators	**Unit**	**[B1 - B7] Use**	**[B1]**	**[B2]**	**[B3]**	**[B4]**	**[B5]**	**[B6]**	**[B7]**
Climate change - total	kg CO2 eq	1,33E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,33E+01	0,00E+00
Climate change - fossil fuels	kg CO2 eq	1,33E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,33E+01	0,00E+00
Climate change - biogenics	kg CO2 eq	2,45E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,45E-02	0,00E+00
Climate change - land use and land use transformation	kg CO2 eq	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Ozone depletion	kg CFC-11 eq	6,46E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,46E-08	0,00E+00
Acidification (AP)	mol H+ eq	6,83E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,83E-02	0,00E+00
Freshwater eutrophication	kg $(PO4)^{3-}$eq	3,51E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,51E-05	0,00E+00
Marine aquatic eutrophication	kg N eq	8,32E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,32E-03	0,00E+00
Terrestrial eutrophication	mol N eq	1,34E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,34E-01	0,00E+00
Photochemical ozone formation	kg COVNM eq	2,62E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,62E-02	0,00E+00
Abiotic resource depletion - elements	kg Sb eq	4,72E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,72E-06	0,00E+00
Abiotic resource depletion - fossil fuels	MJ	3,37E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,37E+02	0,00E+00
Water requirement	m3 eq	1,02E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,02E+00	0,00E+00

OPTIONAL INDICATORS		FUNCTIONAL UNIT							
Impact indicators	**Unit**	**[B1 - B7] Use**	**[B1]**	**[B2]**	**[B3]**	**[B4]**	**[B5]**	**[B6]**	**[B7]**
Total use of primary energy during the life cycle	MJ	4,26E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,26E+02	0,00E+00
Emission of fine particles	Incidence of diseases	5,50E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,50E-07	0,00E+00
Ionizing radiation	kBq U235 eq	1,92E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,92E+01	0,00E+00
Ecotoxicity (fresh water)	CTUe	2,52E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,52E+01	0,00E+00
Human toxicity, carcinogenic effects	CTUh	1,68E-09	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,68E-09	0,00E+00
Human toxicity, non-carcinogenic effects	CTUh	4,01E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,01E-08	0,00E+00
Impacts related to land use/soil quality	without dimension	3,69E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,69E-01	0,00E+00

MANDATORY INDICATORS		FUNCTIONAL UNIT							
Inventory flows indicator	**Unit**	**[B1 - B7] Use**	**[B1]**	**[B2]**	**[B3]**	**[B4]**	**[B5]**	**[B6]**	**[B7]**
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	8,91E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,91E+01	0,00E+00
Use of renewable primary energy resources used as raw materials	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources	MJ	8,91E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,91E+01	0,00E+00
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	MJ	3,37E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,37E+02	0,00E+00
Use of non-renewable primary energy resources used as raw materials	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy resources	MJ	3,37E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,37E+02	0,00E+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	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	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	0,00E+00
Net use of fresh water	m^3	2,40E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,40E-02	0,00E+00
Hazardous waste disposed of	kg	5,85E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,85E-01	0,00E+00
Non-hazardous waste disposed of	kg	2,25E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,25E+00	0,00E+00
Radioactive waste disposed of	kg	5,17E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,17E-04	0,00E+00
Components for reuse	kg	0,00E+00	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+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	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

As the functional unit is the same than the declared unit, the impacts are identical for both units.

HOMOGENEOUS ENVIRONMENTAL FAMILIES

Description of the range	The products of the range are: PD4N-1C-AP (92144)

No extrapolation rules are needed because the most impacting product is taken as reference.
The PEP is valid for all products of the homogenous environmental family.

PEP produced by	
Name	CODDE Department - LCIE Bureau Veritas
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