FLUSH MOUNTED DALI DIMMER INSERTS

PEP ecopassport®
Product Environmental Profile

Registration number:	**ABBG-00487-V01.01-EN**	Drafting rules:	**PCR-ed4-EN-2021 09 06**
Contact information:	**Pia Denninghoff (pia.denninghoff@de.abb.com) & L**	Supplemented by:	**PSR-0005-ed3-EN-2023 06 06**
Verifier accreditation number:	**VH08**	Information and reference documents:	**www.pep-ecopassport.org**
Date of issue:	**January-25**	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"

ABB Purpose & Embedding Sustainability

ABB is committed to continually promoting and embedding sustainability across its operations and value chain, aspiring to become a role model for others to follow.
With its ABB Purpose, ABB is focusing on reducing harmful emissions, preserving natural resources and championing ethical and humane behavior.
The contect of this PEP cannot be compared with the content based on another program/database.
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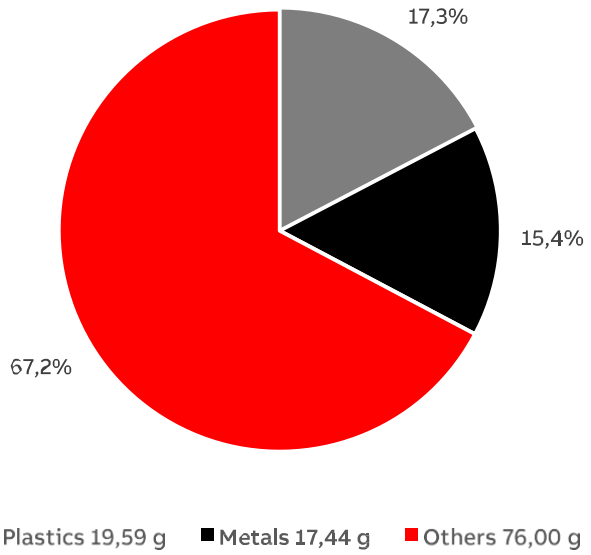
General information

Reference product	2CKA006599A2986 2117/11 U DALI-Power-Poti BC w. PS
Description of the product	For DALI broadcast service (via central telegram). With integrated DALI power adaptor. For switching and dimming up to 64 DALI-devices like electronic ballasts and transformers with DALI-interface. With rotary control and ON/OFF push operation. With electronic short-circuit protection. With electronic overload protection. Brightness power-on level and backround brightness level adjustable, buffered. With integrated LED illumination for orientation
Functional unit	Establish, support and interrupt the rated current 0,075A and rated voltage 230 V, with IP20 degree of protection for a wall-mounted installation according to the appropriate use scenario, and for the reference service life of the product of 20 years.
Other products covered	List of other products covered or a reference to page 9.10.11
Manufacturing address	Busch-Jaeger Elektro GmbH, Freisenbergstraße 2, 58513 Lüdenscheid, Germany

Constituent Materials



Total weight of reference product and packaging	**113,03**	**g**

Plastics as % of weight		**Metals as % of weight**		**Others as % of weight**	
Name and CAS number	Weight%	Name and CAS number	Weight%	Name and CAS number	Weight%
Polycarbonate (PC)	2,3	**Stainless steel**	1,2	**PCB**	23,9
Polyamide 66 GF30	15,0	**Steel low-alloyed**	5,8	**Polyethylene film**	0,0
		Aluminium band	8,4	**Paper**	26,5
				Cardboard	16,8

The reference product and other products in this range are in conformity with the provisions of Low Voltage Directive 2014/35/EU, RoHS directive 2011/65/EU, covering 2015/863(EU), REACH regulation No 1907/2006, and national legislation. Plastics used for the reference product are halogen-free materials (IEC/61249-2-21) and they are also recyclable.

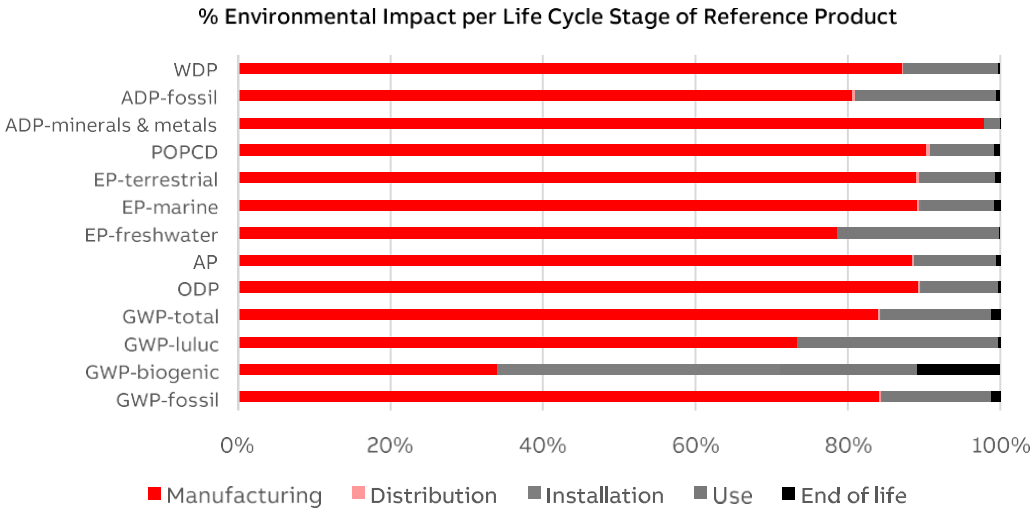
Additional Information

Manufacturing	Includes the environmental impacts associated with extraction and processing of the raw materials used to produce the product and its packaging, transport to the manufacturing site and assembly; as well as the generated wastes during the manufacturing process.
Distribution	Includes the transportation of the packaged product from the manufacturer's last logistic platform to the distributor and then to end users.
Installation	Includes the manual installation of the products and the end-of-life of packaging.
Use	Energy consumption is calculated by following the use scenario of the corresponding PSR: the loss of energy at a 10% of the load rate with a use time rate of 30% during 20 years
End of life	Includes the transportation of the product to the final end-of-life treatment site and treatment processes. A value of 100 km transport by lorry is used for the transportation.
Benefits and loads beyond the system boundaries	Prevented impacts of recycling materials.

Environmental Impacts

Reference lifetime	20 years
Product category	Switches Wall-mounted section (3.7)
Installation elements	Installation carried out manually. End of life of packaging.
Use scenario	Europe
Geographical representativeness	Europe
Technological representativeness	Technological representativeness
Software and database used	SimaPro 9.6.0.1 & Ecoinvent 3.10
Energy model used	
Manufacturing	Germany Energy Mix at low voltage obtained from IEA data
Installation	Manually done.
Use	Customers' electricity mix at low voltage (DE, NL, AT and CZ).
End of life	Recycling of product and packaging (Europe).

Common base of mandatory indicators



Environmental impact indicators

Indicator		Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
GWP	Total	kg CO2 eq.	5,42E+00	4,55E+00	1,56E-02	1,11E-02	7,79E-01	6,69E-02	-1,77E+00
	Fossil	kg CO2 eq.	5,40E+00	4,54E+00	1,56E-02	4,43E-03	7,73E-01	6,49E-02	-1,76E+00
	Biogenic	kg CO2 eq.	1,80E-02	6,13E-03	2,80E-06	6,69E-03	3,25E-03	1,96E-03	-1,68E-03
	Luluc	kg CO2 eq.	8,60E-03	6,31E-03	5,11E-06	1,17E-06	2,26E-03	2,50E-05	-2,37E-03
ODP		kg CFC-11 eq.	1,17E-07	1,04E-07	3,11E-10	5,27E-11	1,18E-08	3,91E-10	-5,80E-08
AP		H+ eq.	2,38E-02	2,11E-02	4,89E-05	1,68E-05	2,54E-03	1,37E-04	-1,22E-02
EP	Freshwater	kg P eq.	4,49E-04	3,53E-04	1,20E-07	4,22E-08	9,56E-05	5,01E-07	-2,09E-04
	Marine	kg N eq.	4,24E-03	3,77E-03	1,63E-05	1,08E-05	4,04E-04	3,43E-05	-2,05E-03
	Terrestrial	mol N eq.	4,84E-02	4,31E-02	1,79E-04	6,63E-05	4,76E-03	3,45E-04	-2,35E-02
POPCD		kg NMVOC eq.	1,79E-02	1,62E-02	7,66E-05	2,70E-05	1,50E-03	1,37E-04	-9,11E-03
ADP	Minerals & metals	kg SB eq.	4,88E-04	4,78E-04	5,00E-08	1,43E-08	1,00E-05	1,70E-07	-3,88E-04
	Fossil	MJ	7,45E+01	6,00E+01	2,20E-01	4,34E-02	1,38E+01	3,73E-01	-2,29E+01
WDP		m^3 eq. depr.	9,03E-01	7,87E-01	9,00E-04	2,02E-04	1,13E-01	1,96E-03	-4,68E-01

Resource use indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
PERE	MJ	8,05E+00	3,76E+00	3,60E-03	1,58E-03	4,26E+00	2,14E-02	-2,21E+00
PERM	MJ	6,68E-01	6,68E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	8,72E+00	4,43E+00	3,60E-03	1,58E-03	4,26E+00	2,14E-02	-2,21E+00
PENRE	MJ	7,41E+01	5,97E+01	2,20E-01	4,34E-02	1,38E+01	3,73E-01	-2,29E+01
PENRM	MJ	3,30E-01	3,30E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	7,45E+01	6,00E+01	2,20E-01	4,34E-02	1,38E+01	3,73E-01	-2,29E+01

Common base of mandatory indicators

Use of secondary materials, water, and energy resources

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m^3	5,09E-02	4,18E-02	3,01E-05	-6,33E-06	8,93E-03	8,14E-05	-1,54E-02

Waste category indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
HWD	kg	3,49E-04	3,09E-04	1,48E-06	3,07E-07	3,65E-05	2,16E-06	-1,76E-04
N-HWD	kg	2,49E-01	1,56E-01	1,04E-02	5,95E-03	6,37E-02	1,20E-02	-6,14E-02
RWD	kg	1,90E-04	1,10E-04	7,00E-08	3,33E-08	7,95E-05	2,56E-07	-4,43E-05

Output flow indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
CfRu	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MfR	kg	3,08E-01	2,15E-01	0,00E+00	4,05E-02	0,00E+00	5,23E-02	0,00E+00
MfER	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Other indicators

Indicator		Unit	Total
Biogenic Carbon	Product	kg of C	0,00E+00
	Packaging	kg of C	2,09E-02

Extrapolation Factors

For products other than the Reference product covered by this PEP, the environmental impacts for each phase of the life cycle are obtained by multiplying the values of the Reference product by the extrapolation factors provided in the tables below, with the following formulas:

$$y = a * x0$$

Where:
y is the selected impact category
a is the extrapolation factor from the tables below
x0 is the environmental indicator of the reference product

All stages

Order code	Manufacturing stage	Distribution stage	Installation stage	Use stage	End-of-life stage	Benefits stage
2CKA006599A2986 / 2117/11 U DALI-Power-Poti BC w. PS	**1.00E+00**	**1.00E+00**	**1.00E+00**	**1.00E+00**	**1.00E+00**	**1.00E+00**
2CKA006599A2985 / 2117 U DALI-Poti BC	8.83E-01	8.33E-01	1.01E+00	1.05E+00	7.83E-01	8.83E-01
2CKA006599A2987 / 2117 U-500 DALI-Poti BC	7.77E-01	7.33E-01	7.69E-01	1.05E+00	7.83E-01	7.77E-01
2CKA006599A2988 / 2117/11 U-500 DALI-Power-Poti BC w. PS	8.94E-01	8.94E-01	7.69E-01	1.00E+00	9.89E-01	8.94E-01
2CKA006599A3025 / 2116 U DALI-Poti TW BC	9.71E-01	9.15E-01	1.22E+00	1.05E+00	7.82E-01	9.71E-01
2CKA006599A3026 / 2116/11 U DALI-Power-Poti TW BC PS	1.10E+00	1.10E+00	1.22E+00	1.00E+00	1.00E+00	1.10E+00

Extrapolation Factors

Manufacturing stage

Impact category	2CKA006599A2986 (reference product)	2CKA006599A2986	2CKA006599A2986	2CKA006599A2986	2CKA006599A2986	2CKA006599A2986
GWP-total	1.000	0.883	0.777	0.894	0.971	1.100
GWP- fossil	1.000	0.883	0.777	0.894	0.971	1.100
GWP-biogenic	1.000	0.883	0.777	0.894	0.971	1.100
GWP-luluc	1.000	0.883	0.777	0.894	0.971	1.100
ODP	1.000	0.883	0.777	0.894	0.971	1.100
AP	1.000	0.883	0.777	0.894	0.971	1.100
EP-freshwater	1.000	0.883	0.777	0.894	0.971	1.100
EP-marine	1.000	0.883	0.777	0.894	0.971	1.100
EP-terrestrial	1.000	0.883	0.777	0.894	0.971	1.100
POCP	1.000	0.883	0.777	0.894	0.971	1.100
ADP-minerals	1.000	0.883	0.777	0.894	0.971	1.100
ADP-fossil	1.000	0.883	0.777	0.894	0.971	1.100
WDP	1.000	0.883	0.777	0.894	0.971	1.100
PERE	1.000	0.883	0.777	0.894	0.971	1.100
PERM	1.000	0.883	0.777	0.894	0.971	1.100
PERT	1.000	0.883	0.777	0.894	0.971	1.100
PENRE	1.000	0.883	0.777	0.894	0.971	1.100
PENRM	1.000	0.883	0.777	0.894	0.971	1.100
PENRT	1.000	0.883	0.777	0.894	0.971	1.100
SM	1.000	0.883	0.777	0.894	0.971	1.100
RSF	1.000	0.883	0.777	0.894	0.971	1.100
NRSF	1.000	0.883	0.777	0.894	0.971	1.100
FW	1.000	0.883	0.777	0.894	0.971	1.100
HWD	1.000	0.883	0.777	0.894	0.971	1.100
NHWD	1.000	0.883	0.777	0.894	0.971	1.100
RWD	1.000	0.883	0.777	0.894	0.971	1.100
CRU	1.000	0.883	0.777	0.894	0.971	1.100
MFR	1.000	0.883	0.777	0.894	0.971	1.100
MER	1.000	0.883	0.777	0.894	0.971	1.100
EE	1.000	0.883	0.777	0.894	0.971	1.100
Biogenic C, product	1.000	0.883	0.777	0.894	0.971	1.100
Biogenic C, packaging	1.000	0.883	0.777	0.894	0.971	1.100

Extrapolation Factors

Installation stage

Impact category	2CKA006599A2986 (reference product)	2CKA006599A2986	2CKA006599A2986	2CKA006599A2986	2CKA006599A2986	2CKA006599A2986
GWP-total	1.000	0.883	0.777	0.894	0.915	1.100
GWP- fossil	1.000	0.883	0.777	0.894	0.915	1.100
GWP-biogenic	1.000	0.883	0.777	0.894	0.915	1.100
GWP-luluc	1.000	0.883	0.777	0.894	0.915	1.100
ODP	1.000	0.883	0.777	0.894	0.915	1.100
AP	1.000	0.883	0.777	0.894	0.915	1.100
EP-freshwater	1.000	0.883	0.777	0.894	0.915	1.100
EP-marine	1.000	0.883	0.777	0.894	0.915	1.100
EP-terrestrial	1.000	0.883	0.777	0.894	0.915	1.100
POCP	1.000	0.883	0.777	0.894	0.915	1.100
ADP-minerals	1.000	0.883	0.777	0.894	0.915	1.100
ADP-fossil	1.000	0.883	0.777	0.894	0.915	1.100
WDP	1.000	0.883	0.777	0.894	0.915	1.100
PERE	1.000	0.883	0.777	0.894	0.915	1.100
PERM	1.000	0.883	0.777	0.894	0.915	1.100
PERT	1.000	0.883	0.777	0.894	0.915	1.100
PENRE	1.000	0.883	0.777	0.894	0.915	1.100
PENRM	1.000	0.883	0.777	0.894	0.915	1.100
PENRT	1.000	0.883	0.777	0.894	0.915	1.100
SM	1.000	0.883	0.777	0.894	0.915	1.100
RSF	1.000	0.883	0.777	0.894	0.915	1.100
NRSF	1.000	0.883	0.777	0.894	0.915	1.100
FW	1.000	0.883	0.777	0.894	0.915	1.100
HWD	1.000	0.883	0.777	0.894	0.915	1.100
NHWD	1.000	0.883	0.777	0.894	0.915	1.100
RWD	1.000	0.883	0.777	0.894	0.915	1.100
CRU	1.000	0.883	0.777	0.894	0.915	1.100
MFR	1.000	0.883	0.777	0.894	0.915	1.100
MER	1.000	0.883	0.777	0.894	0.915	1.100
EE	1.000	0.883	0.777	0.894	0.915	1.100
Biogenic C, product	1.000	0.883	0.777	0.894	0.915	1.100
Biogenic C, packaging	1.000	0.883	0.777	0.894	0.915	1.100

Extrapolation Factors

Distribution stage

Impact category	2CKA006599A2986 (reference product)	2CKA006599A2986	2CKA006599A2986	2CKA006599A2986	2CKA006599A2986	2CKA006599A2986
GWP-total	1.000	1.010	0.769	0.769	1.220	1.220
GWP- fossil	1.000	1.010	0.769	0.769	1.220	1.220
GWP-biogenic	1.000	1.010	0.769	0.769	1.220	1.220
GWP-luluc	1.000	1.010	0.769	0.769	1.220	1.220
ODP	1.000	1.010	0.769	0.769	1.220	1.220
AP	1.000	1.010	0.769	0.769	1.220	1.220
EP-freshwater	1.000	1.010	0.769	0.769	1.220	1.220
EP-marine	1.000	1.010	0.769	0.769	1.220	1.220
EP-terrestrial	1.000	1.010	0.769	0.769	1.220	1.220
POCP	1.000	1.010	0.769	0.769	1.220	1.220
ADP-minerals	1.000	1.010	0.769	0.769	1.220	1.220
ADP-fossil	1.000	1.010	0.769	0.769	1.220	1.220
WDP	1.000	1.010	0.769	0.769	1.220	1.220
PERE	1.000	1.010	0.769	0.769	1.220	1.220
PERM	1.000	1.010	0.769	0.769	1.220	1.220
PERT	1.000	1.010	0.769	0.769	1.220	1.220
PENRE	1.000	1.010	0.769	0.769	1.220	1.220
PENRM	1.000	1.010	0.769	0.769	1.220	1.220
PENRT	1.000	1.010	0.769	0.769	1.220	1.220
SM	1.000	1.010	0.769	0.769	1.220	1.220
RSF	1.000	1.010	0.769	0.769	1.220	1.220
NRSF	1.000	1.010	0.769	0.769	1.220	1.220
FW	1.000	1.010	0.769	0.769	1.220	1.220
HWD	1.000	1.010	0.769	0.769	1.220	1.220
NHWD	1.000	1.010	0.769	0.769	1.220	1.220
RWD	1.000	1.010	0.769	0.769	1.220	1.220
CRU	1.000	1.010	0.769	0.769	1.220	1.220
MFR	1.000	1.010	0.769	0.769	1.220	1.220
MER	1.000	1.010	0.769	0.769	1.220	1.220
EE	1.000	1.010	0.769	0.769	1.220	1.220
Biogenic C, product	1.000	1.010	0.769	0.769	1.220	1.220
Biogenic C, packaging	1.000	1.010	0.769	0.769	1.220	1.220

Extrapolation Factors

Use stage

Impact category	2CKA006599A2986 (reference product)	2CKA006599A2986	2CKA006599A2986	2CKA006599A2986	2CKA006599A2986	2CKA006599A2986
GWP-total	1.000	1.050	1.050	1.000	1.050	1.000
GWP- fossil	1.000	1.050	1.050	1.000	1.050	1.000
GWP-biogenic	1.000	1.050	1.050	1.000	1.050	1.000
GWP-luluc	1.000	1.050	1.050	1.000	1.050	1.000
ODP	1.000	1.050	1.050	1.000	1.050	1.000
AP	1.000	1.050	1.050	1.000	1.050	1.000
EP-freshwater	1.000	1.050	1.050	1.000	1.050	1.000
EP-marine	1.000	1.050	1.050	1.000	1.050	1.000
EP-terrestrial	1.000	1.050	1.050	1.000	1.050	1.000
POCP	1.000	1.050	1.050	1.000	1.050	1.000
ADP-minerals	1.000	1.050	1.050	1.000	1.050	1.000
ADP-fossil	1.000	1.050	1.050	1.000	1.050	1.000
WDP	1.000	1.050	1.050	1.000	1.050	1.000
PERE	1.000	1.050	1.050	1.000	1.050	1.000
PERM	1.000	1.050	1.050	1.000	1.050	1.000
PERT	1.000	1.050	1.050	1.000	1.050	1.000
PENRE	1.000	1.050	1.050	1.000	1.050	1.000
PENRM	1.000	1.050	1.050	1.000	1.050	1.000
PENRT	1.000	1.050	1.050	1.000	1.050	1.000
SM	1.000	1.050	1.050	1.000	1.050	1.000
RSF	1.000	1.050	1.050	1.000	1.050	1.000
NRSF	1.000	1.050	1.050	1.000	1.050	1.000
FW	1.000	1.050	1.050	1.000	1.050	1.000
HWD	1.000	1.050	1.050	1.000	1.050	1.000
NHWD	1.000	1.050	1.050	1.000	1.050	1.000
RWD	1.000	1.050	1.050	1.000	1.050	1.000
CRU	1.000	1.050	1.050	1.000	1.050	1.000
MFR	1.000	1.050	1.050	1.000	1.050	1.000
MER	1.000	1.050	1.050	1.000	1.050	1.000
EE	1.000	1.050	1.050	1.000	1.050	1.000
Biogenic C, product	1.000	1.050	1.050	1.000	1.050	1.000
Biogenic C, packaging	1.000	1.050	1.050	1.000	1.050	1.000

Extrapolation Factors

Use stage

Impact category	2CKA006599A2986 (reference product)	2CKA006599A2986	2CKA006599A2986	2CKA006599A2986	2CKA006599A2986	2CKA006599A2986
GWP-total	1.000	0.783	0.783	0.989	0.782	1.000
GWP- fossil	1.000	0.783	0.783	0.989	0.782	1.000
GWP-biogenic	1.000	0.783	0.783	0.989	0.782	1.000
GWP-luluc	1.000	0.783	0.783	0.989	0.782	1.000
ODP	1.000	0.783	0.783	0.989	0.782	1.000
AP	1.000	0.783	0.783	0.989	0.782	1.000
EP-freshwater	1.000	0.783	0.783	0.989	0.782	1.000
EP-marine	1.000	0.783	0.783	0.989	0.782	1.000
EP-terrestrial	1.000	0.783	0.783	0.989	0.782	1.000
POCP	1.000	0.783	0.783	0.989	0.782	1.000
ADP-minerals	1.000	0.783	0.783	0.989	0.782	1.000
ADP-fossil	1.000	0.783	0.783	0.989	0.782	1.000
WDP	1.000	0.783	0.783	0.989	0.782	1.000
PERE	1.000	0.783	0.783	0.989	0.782	1.000
PERM	1.000	0.783	0.783	0.989	0.782	1.000
PERT	1.000	0.783	0.783	0.989	0.782	1.000
PENRE	1.000	0.783	0.783	0.989	0.782	1.000
PENRM	1.000	0.783	0.783	0.989	0.782	1.000
PENRT	1.000	0.783	0.783	0.989	0.782	1.000
SM	1.000	0.783	0.783	0.989	0.782	1.000
RSF	1.000	0.783	0.783	0.989	0.782	1.000
NRSF	1.000	0.783	0.783	0.989	0.782	1.000
FW	1.000	0.783	0.783	0.989	0.782	1.000
HWD	1.000	0.783	0.783	0.989	0.782	1.000
NHWD	1.000	0.783	0.783	0.989	0.782	1.000
RWD	1.000	0.783	0.783	0.989	0.782	1.000
CRU	1.000	0.783	0.783	0.989	0.782	1.000
MFR	1.000	0.783	0.783	0.989	0.782	1.000
MER	1.000	0.783	0.783	0.989	0.782	1.000
EE	1.000	0.783	0.783	0.989	0.782	1.000
Biogenic C, product	1.000	0.783	0.783	0.989	0.782	1.000
Biogenic C, packaging	1.000	0.783	0.783	0.989	0.782	1.000

Extrapolation Factors

Benefits stage

Impact category	2CKA006599A2986 (reference product)	2CKA006599A2986	2CKA006599A2986	2CKA006599A2986	2CKA006599A2986	2CKA006599A2986
GWP-total	1.000	0.783	0.783	0.989	0.782	1.000
GWP- fossil	1.000	0.783	0.783	0.989	0.782	1.000
GWP-biogenic	1.000	0.783	0.783	0.989	0.782	1.000
GWP-luluc	1.000	0.783	0.783	0.989	0.782	1.000
ODP	1.000	0.783	0.783	0.989	0.782	1.000
AP	1.000	0.783	0.783	0.989	0.782	1.000
EP-freshwater	1.000	0.783	0.783	0.989	0.782	1.000
EP-marine	1.000	0.783	0.783	0.989	0.782	1.000
EP-terrestrial	1.000	0.783	0.783	0.989	0.782	1.000
POCP	1.000	0.783	0.783	0.989	0.782	1.000
ADP-minerals	1.000	0.783	0.783	0.989	0.782	1.000
ADP-fossil	1.000	0.783	0.783	0.989	0.782	1.000
WDP	1.000	0.783	0.783	0.989	0.782	1.000
PERE	1.000	0.783	0.783	0.989	0.782	1.000
PERM	1.000	0.783	0.783	0.989	0.782	1.000
PERT	1.000	0.783	0.783	0.989	0.782	1.000
PENRE	1.000	0.783	0.783	0.989	0.782	1.000
PENRM	1.000	0.783	0.783	0.989	0.782	1.000
PENRT	1.000	0.783	0.783	0.989	0.782	1.000
SM	1.000	0.783	0.783	0.989	0.782	1.000
RSF	1.000	0.783	0.783	0.989	0.782	1.000
NRSF	1.000	0.783	0.783	0.989	0.782	1.000
FW	1.000	0.783	0.783	0.989	0.782	1.000
HWD	1.000	0.783	0.783	0.989	0.782	1.000
NHWD	1.000	0.783	0.783	0.989	0.782	1.000
RWD	1.000	0.783	0.783	0.989	0.782	1.000
CRU	1.000	0.783	0.783	0.989	0.782	1.000
MFR	1.000	0.783	0.783	0.989	0.782	1.000
MER	1.000	0.783	0.783	0.989	0.782	1.000
EE	1.000	0.783	0.783	0.989	0.782	1.000
Biogenic C, product	1.000	0.783	0.783	0.989	0.782	1.000
Biogenic C, packaging	1.000	0.783	0.783	0.989	0.782	1.000

Glossary

Environmental impact Indicators	
GWP-total	Global Warming Potential total (Climate change)
GWP-fossil	Global Warming Potential fossil
GWP-biogenic	Global Warming Potential biogenic
GWP-luluc	Global Warming Potential land use and land use change
ODP	Depletion potential of the stratospheric ozone layer
AP	Acidification potential
EP-freshwater	Eutrophication potential - freshwater compartment
EP-marine	Eutrophication potential - fraction of nutrients reachin marine end compartment
EP-terrestrial	Eutrophication potential - Accumulated Exceedance
POPCD	Formation potential of tropospheric ozone
ADP-m&m	Abiotic Depletion for non-fossil resources potential
ADP-fossil	Abiotic Depletion for fossil resources potential, WDP
WDP	Water deprivation potential

Resource indicators	
PENRE	Use of non-renewable primary energy excluding renewable primary energy resources used as raw material
PENRM	Use of non-renewable primary energy resources used as raw material
PENRT	Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials
PERE	Use of renewable primary energy excluding non-renewable primary energy resources used as raw material.
PERM	Use of renewable primary energy resources used as raw material
PERT	Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)

Secondary materials, water and energy resources	
SM	Use of secondary materials
RSF	Use of renewable secondary fuels
NRSF	Use of non-renewable secondary fuels
FW	Net use of fresh water

Output flow indicators	
CfRu	Components for re-use
MfR	Materials for recycling
MfER	Materials for energy recovery
EE	Exported Energy

Waste category indicators	
HWD	Hazardous waste disposed
N-HWD	Non-hazardous waste disposed
RWD	Radioactive waste disposed

References

[1] PCR “PEP-PCR-ed4-EN-2022_09_06” - Product Category Rules for Electrical, Electronic and HVAC-R Products (published: 6th September 2022)

[2] PSR “PSR-0005-ed2-EN-2016 03 29” - SPECIFIC RULES FOR Electrical switchgear and control gear Solutions (Circuit breakers)

[3] EN 50693:2019 - Product category rules for life cycle assessments of electronic and electrical products and systems

[4] ISO 14040:2006 - Environmental management -Life cycle assessment - Principles and framework

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[6] ecoinvent v3.8 (2022). ecoinvent database version 3.8 - (https://ecoinvent.org/)

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[8] UNI EN 15804:2012+A2:2019: Sustainability of constructions - Environmental product declarations (September 2019)

[9] IEC/TR 62635 - Guidelines for end-of-life information provided by manufacturers and recyclers and for recyclability rate calculation of electrical and electronic equipment - Edition 1.0 2012-10

[10] https://www.ecosystemspa.com/

[11] LB-DT 17-21D - RoHS II (MCCBs and ACBs)

[12] LB-DT 18-21D - REACH (MCCBs and ACBs)

[13] 1SDL000571R0 Ver 01 - RoHS Exemptions (MCCBs and ACBs)

[14] 1SDL000572R0 Ver 01 - SVHC present in excess of 0.1% (MCCBs and ACBs)