LIGHTSWITCH ROCKER

Product Environmental Profile

Environmental Product Declaration

Document in compliance with ISO 14025: 2006 "Environmental labels and declarations. Type III environmental declarations"

ORGANIZATION		CONTACT INFORMATION			
Busch-Jaeger Elektro GmbH		pia.denninghoff@de.abb.com			
ADDRESS		WEBSITE			
Freisenbergstrasse 2,58513 Lüdenscheid, Germany		busch-jaeger.com			
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Approved	Public	ABBG-00155-V01.01-EN	1.1	en	1/10

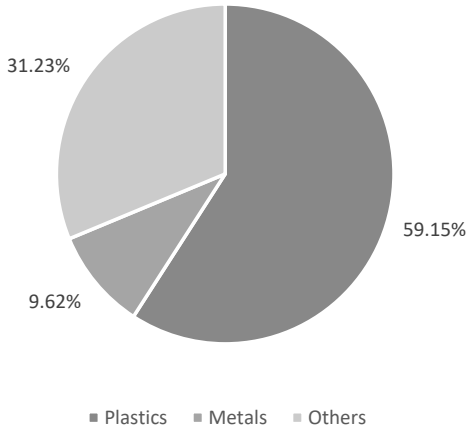
ABB Purpose & Embedding Sustainability

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.

General Information

Reference product	Lightswitch rocker Busch-Balance SI (2CKA001731A2002).
Description of the product	PC based rockers that provide protection and aesthetics to 1-gang BJE switch inserts
Functional unit	Protects persons during 20 years against direct contact with live parts of the “rocker switch mechanism”, having the following dimensions 54.4x55.2x20.4 mm.
Other products covered	Rocker Reflex SI (2CKA001731A0876) Rocker future linear (2CKA001751A2749)

Constituent materials



Total weight of Reference product	29.114 g - including the product and its packaging 18.05 g - for the product only

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	37.61	Stainless steel	9.62	Cardboard	31.23
Polycarbonate with glass fibre	14.76	–	–	–	–
Polyethylene	6.78	–	–	–	–

Additional Environmental Information

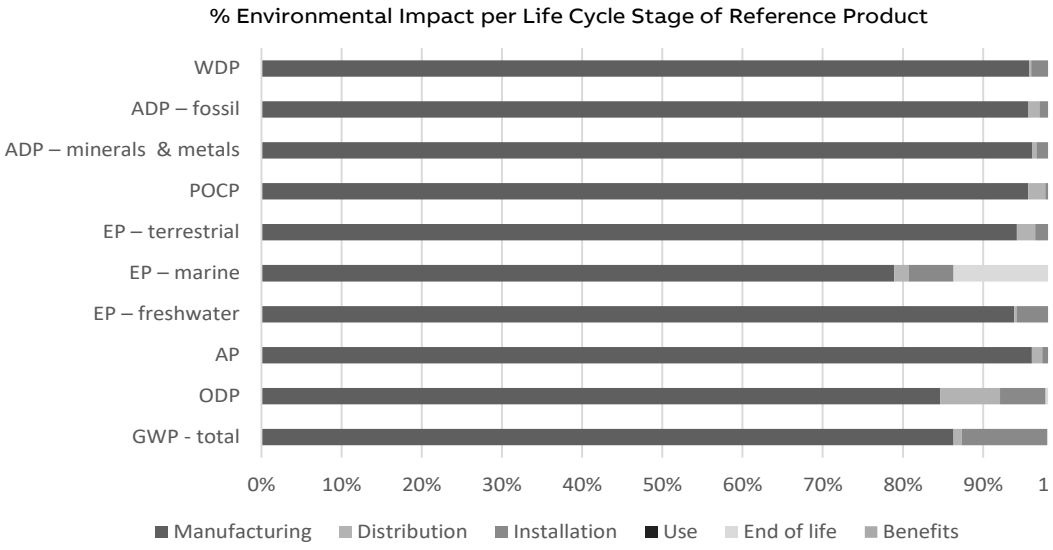
Manufacturing	Manufactured by Busch-Jaeger Elektro GmbH at the Luedenscheid factory, ISO 14001 certified.
Distribution	Transport between the last group distribution centre and an average delivery point in the sales area in Germany, Austria and Netherland.
Installation	For the installation of the product, only standard tools are needed.The installation stage includes the disposal of the packaging and the transport of packaging material to disposal.
Use	The product does not require special maintanence operations
End of life	The end-of-life stage is modelled according to PCR-ed4-EN-2021 09 06 and IEC/TR 62635.
Benefits and loads beyond the system boundaries	n.a.

Environmental impacts

Reference lifetime	20 years
Product category	Other equipments
Installation elements	No additional elements needed during installation
Use scenario	Reference life time (RLT): 20 years
Geographical representativeness	Manufacturing: Germany. Distribution, installation, use and end of life : Germany, Austria, Netherland.
Technological representativeness	Technological representativness : manfacturing of lightswitch rocker representative of the year 2022"
Software and database used	SimaPro 9.4, ecoinvent 3.8, methodology PEF3.0

Energy model used	
Manufacturing	Energy mix of medium voltage, solar and CHP for DE.
Installation	Data used to model installation element are representative of european electricity mix.
Use	Electricity, low voltage, consumption mix at consumer.
End of life	Data used to model installation element are representative of european electricity mix.

Common base of mandatory indicators



Environmental impact indicators

Indicator	Unit	Total	Manu-facturing	Distri-bution	Instal-lation	Use	End of life	Bene-fits
GWP-total	kg CO_2 eq.	2.42E-01	2.09E-01	2.47E-03	2.58E-02	0.00E+00	4.91E-03	-
GWP-fossil	kg CO_2 eq.	2.31E-01	2.20E-01	2.47E-03	4.31E-03	0.00E+00	4.88E-03	-
GWP-biogenic	kg CO_2 eq.	1.09E-02	-1.06E-02	2.53E-06	2.14E-02	0.00E+00	2.02E-05	-
GWP-luluc	kg CO_2 eq.	1.69E-04	1.16E-04	8.95E-07	5.01E-05	0.00E+00	1.87E-06	-
GWP-fossil = Global Warming Potential fossil fuels GWP-biogenic = Global Warming Potential biogenic GWP-luluc = Global Warming Potential land use and land use change								
ODP	kg CFC-11 eq.	7.99E-09	6.76E-09	5.94E-10	4.54E-10	0.00E+00	1.76E-10	-
ODP = Depletion potential of the stratospheric ozone layer								
AP	H+ eq.	9.65E-04	9.27E-04	1.25E-05	1.67E-05	0.00E+00	8.60E-06	-
AP = Acidification potential, Accumulated Exceedance								
EP-freshwater	kg P eq.	5.25E-05	4.93E-05	1.55E-07	2.25E-06	0.00E+00	8.14E-07	-
EP-marine	kg N eq.	2.39E-04	1.89E-04	4.30E-06	1.34E-05	0.00E+00	3.27E-05	-
EP-terrestrial	mol N eq.	2.03E-03	1.92E-03	4.71E-05	4.83E-05	0.00E+00	2.29E-05	-
EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment EP-terrestrial = Eutrophication potential, Accumulated Exceedance								
POCP	kg NMVOC eq.	6.59E-04	6.30E-04	1.41E-05	7.91E-06	0.00E+00	6.85E-06	-
POCP = Formation potential of tropo-spheric ozone								
ADP-minerals & metals	kg Sb eq.	1.11E-06	1.07E-06	5.71E-09	2.49E-08	0.00E+00	1.22E-08	-
ADP-fossil	MJ	2.87E+00	2.75E+00	3.88E-02	6.13E-02	0.00E+00	2.44E-02	-
ADP-minerals & metals = Abiotic depletion potential for non-fossil resources ADP-fossil = Abiotic deple-tion for fossil resources potential								
WDP	m^3 e depr.	5.75E-02	5.51E-02	1.34E-04	1.60E-03	0.00E+00	6.94E-04	-
WDP = Water Deprivation potential								

Common base of mandatory indicators

Inventory flows indicator – Resource use indicators

Indicator	Unit	Total	Manu-facturing	Distri-bution	Instal-lation	Use	End of life	Bene-fits
PERE	MJ	3.99E-01	3.85E-01	4.94E-04	1.08E-02	0.00E+00	2.74E-03	-
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-
PERT	MJ	3.99E-01	3.85E-01	4.94E-04	1.08E-02	0.00E+00	2.74E-03	-
PENRE	MJ	2.87E+00	2.74E+00	3.88E-02	6.13E-02	0.00E+00	2.44E-02	-
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-
PENRT	MJ	2.87E+00	2.74E+00	3.88E-02	6.13E-02	0.00E+00	2.44E-02	-

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials
PERM = Use of renewable primary energy resources used as raw materials
PERT = Total Use of renewable primary energy resources
PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials
PENRM = Use of non-renewable primary energy resources used as raw materials
PENRT = Total Use of non-renewable primary energy re-sources)

Inventory flows indicator – Indicators describing the use of secondary materials, water, and energy re-sources

Indicator	Unit	Total	Manu-facturing	Distri-bution	Instal-lation	Use	End of life	Bene-fits
SM	kg	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	-
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-
FW	m^3	1.66E-03	1.56E-03	4.61E-06	6.06E-05	0.00E+00	2.84E-05	-

SM = Use of secondary material
RSF = Use of renewable secondary fuels
NRSF = Use of non-renewable secondary fuels
FW = Use of net fresh water

Inventory flows indicator – Waste category indicators

Indicator	Unit	Total	Manu-facturing	Distri-bution	Instal-lation	Use	End of life	Bene-fits
Hazardous waste disposed	kg	1.96E-06	1.76E-06	9.38E-08	8.07E-08	0.00E+00	2.50E-08	-
Non- hazardous waste disposed	kg	7.37E-02	5.20E-02	3.63E-03	2.08E-03	0.00E+00	1.59E-02	-
Radioactive waste disposed	kg	4.74E-06	4.21E-06	2.62E-07	1.23E-07	0.00E+00	1.50E-07	-

Common base of mandatory indicators

Inventory flows indicator – Output flow indicators

Indicator	Unit	Total	Manu-facturing	Distri-bution	Instal-lation	Use	End of life	Bene-fits
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-
Materials for recycling	kg	1.50E-02	3.77E-03	0.00E+00	8.57E-03	0.00E+00	2.63E-03	-
Materials for energy recovery	kg	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	-

Inventory flow indicator – other indicators

Indicator	Unit	Total
Biogenic carbon content of the product	kg of C	0.00E+00
Biogenic carbon content of the associated packaging	kg of C	5.53E-03

For other products than the Reference product covered by this PEP, the environmental impacts for each phase of the lifecycle are obtained by multiplying the values of the Reference product by the following coefficients:

Product name	Manufacturing	Distribution	Instal-lation	Use	End of life	Benefits
Rocker Reflex SI	0.958	0.951	0.979	-	0.977	-
Rocker future linear	1.156	1.131	1.004	-	1.091	-
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VH32		www.pep-ecopassport.org	
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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)

PEP are compliant with XP C08-100-1: 2016 or EN 50693:2019
The components of the present PEP cannot be compared with components from another program

Document in compliance with ISO 14025: 2006 "Environmental labels and declarations. Type III environmental declarations"

Environmental Impact Indicator Glossary

Impact indicators

Indicator	Description	Unit
Global warming potential (GWP) - total	Indicator of potential global warming caused by emissions to air contributing to the greenhouse effect. The total global warming potential (GWP-total) is the sum of three sub-categories of climate change. GWP-total = GWP-fossil + GWP-biogenic + GWP- land use and land use change	kg CO_2 eq.
Ozone depletion (ODP)	Emissions to air that contribute to the destruction of the stratospheric ozone layer	kg CFC-11 eq.
Acidification of soil and water (A)	Acidification of soils and water caused by the release of certain gases to the atmosphere, such as nitrogen oxides and sulphur oxides	H+ eq.
Eutrophication (E)	Indicator of the contribution to eutrophication of water by the enrichment of the aquatic ecosystem with nutritional elements, e.g. industrial or domestic effluents, agriculture, etc. This indicator is divided to three: freshwater, marine and terrestrial.	kg P eq., kg N eq., mole N eq.
Photochemical ozone creation (POCP)	Indicator of emissions of gases that affect the creation of photochemical ozone in the lower atmosphere (smog) because of the rays of the sun.	kg NMVOC eq.
Depletion of abiotic resources – elements (ADPe)	Indicator of the depletion of natural non-fossil resources	kg Sb eq.
Depletion of abiotic resources – fossil fuels (ADPf)	The use of non-renewable fossil resources in an unsustainable way (e.g. from material to waste)	MJ (lower heating value)
Water Deprivation potential (WDP)	Deprivation-weighted water consumption. Assesses the potential of water deprivation, to either humans or ecosystems, building on the assumption that the less water remaining available per area, the more likely another user will be deprived.	m^3 e depr.

Resource use indicators

Indicator	Description	Unit
Total use of primary energy	Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) + Total use of renewable primary energy re-sources (primary energy and primary energy resources used as raw materials)	MJ (lower heating value)