SAGA BLIND PUSH SWITCH SEMI COMPLETE

PEP ecopassport®

Product Environmental Profile

Product Environmental Profile - PEP Ecopassport.
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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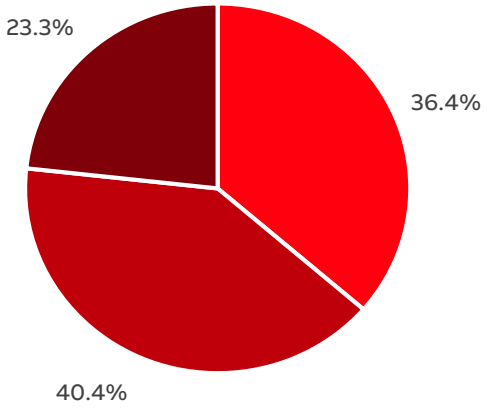
ABB Purpose & Embedding Sustainability

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	The SAGA blind push switch semi complete is designed for the manual control of blinds and shutters 2CKA001413A1120
Description of the product	The SAGA blind push switch is designed for the manual control of blinds and shutters
Functional unit	Establish, support and interrupt the rated current 10A and rated voltage 250V, according to the appropriate use scenario, and for the reference service life of the product of 20 years.
Other products covered	N/A

Constituent Materials



Total weight of Reference product with packaging	105.17	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%
Plastics - Polycarbonate (PC)	14.8	**Metal - Galvanized steel**	24.5	**Cardboard**	21.9
Plastics - Polyamid PA6	11.5	**Metal - Stainless steel**	10.4	**Glue**	0.1
Plastics - Aminoplast	7.4	**Metal - Brass**	2.7	**Paint**	1.3
Plastics - PE	1.4	**Metal - Steel**	2.6	–	x
Plastics - Other	1.3	**Metal – Silver alloy**	0.1	–	–

Additional Environmental Information

Manufacturing	Manufactured by Busch-Jaeger Elektro GmbH at the Lüdenscheid factory, ISO 14001 certified.
Distribution	Transport between the last Group distribution centre and an average delivery point in the sales area. Average packaging weight is 24.44g, consisting of a cardboard box and thePE foil
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 has an average power consumption of 11.83 mW, which corresponds to the total energy consumption of 621.8 Wh, calculated according to PSR-0005-ed3.1-EN-2023 12 08
End of life	The end-of-life stage is modelled according to PCR-ed4-EN-2021 09 06 and PSR-0005-ed3.1-EN-2023 12 08
Benefits and loads beyond the system boundaries	The Module D formula from the PCR was used to calculate the benefits and loads beyond the system boundaries

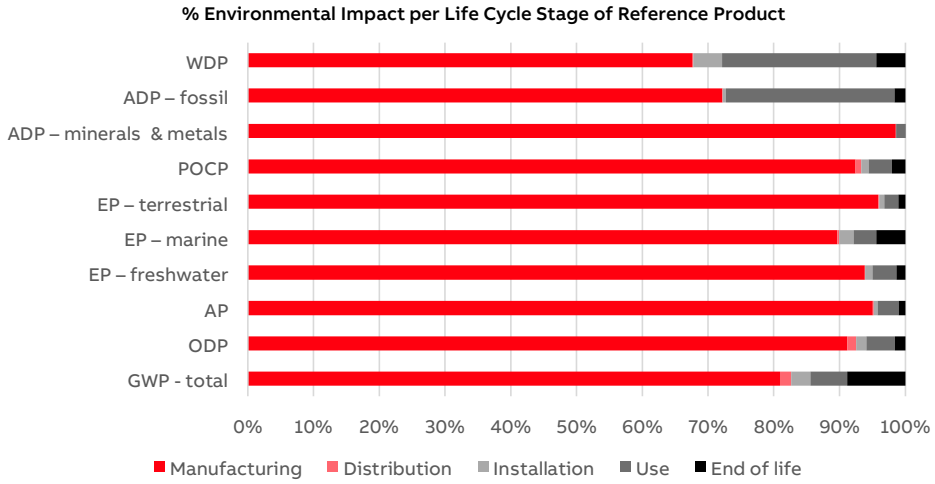
Environmental Impacts

Reference lifetime	20 years
Product category	Switches - Wall-mounted
Installation elements	No additional elements needed during installation
Use scenario	Reference life time (RLT): 20 years Load rate = 10%, Use rate = 30% The power consumption equals 621.8 Wh for 20 years
Geographical representativeness	Manufacturing: Germany Distribution, Installation, Use and End-of-life: Finland, Norway, Sweden
Technological representativeness	Manfacturing of Saga Rotary Switch representative of the year 2023
Software and database used	SimaPro 9.6.0.1, ecoinvent 3.10, Industry Data 2.0

Energy model used

Manufacturing	Busch-Jaeger Elektro GmbH energy mix in 2023. Almost 90% and 67% of electricity consumed in BJE plant in Aue and Lüdenscheid comes from hydropower plants in Norway (confirmed by certificate of origin).
Installation	No energy consumption occur during the installation stage.
Use	Electricity low voltage, consumption mix at consumer.
End of life	The energy-related processes used for the inputs of the end-of-life stage are those included in the ecoinvent datasets selected for the analysis.

Common base of mandatory indicators



Environmental impact indicators

Indicator	Unit	Total	Manu-facturing	Distri-bution	Installation	Use	End of life	Bene-fits
GWP-total	**kg CO_2 eq.**	8.81E-01	6.72E-01	1.43E-02	2.41E-02	4.66E-02	7.33E-02	-1.79E-01
GWP-fossil	**kg CO_2 eq.**	8.74E-01	7.28E-01	1.43E-02	1.45E-02	4.42E-02	7.30E-02	-2.09E-01
GWP-biogenic	**kg CO_2 eq.**	2.99E-03	-3.73E-02	4.56E-06	3.91E-02	9.17E-04	2.42E-04	2.99E-02
GWP-luluc	**kg CO_2 eq.**	4.16E-03	2.62E-03	7.96E-07	1.14E-04	1.40E-03	2.29E-05	-2.53E-04
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.**	2.16E-08	1.97E-08	2.91E-10	3.38E-10	9.44E-10	3.41E-10	-1.96E-09
ODP = Depletion potential of the stratospheric ozone layer								
AP	**H+ eq.**	9.74E-03	9.26E-03	1.78E-05	5.06E-05	3.15E-04	9.95E-05	-2.35E-03
AP = Acidification potential, Accumulated Exceedance								
EP-freshwater	**kg P eq.**	6.47E-04	6.07E-04	1.86E-07	7.61E-06	2.34E-05	8.77E-06	-2.57E-04
EP-marine	**kg N eq.**	1.37E-03	1.23E-03	4.03E-06	2.98E-05	4.67E-05	6.09E-05	-3.54E-04
EP-terrestrial	**mol N eq.**	2.33E-02	2.23E-02	4.36E-05	1.77E-04	5.03E-04	2.42E-04	-4.15E-03
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.**	4.13E-03	3.81E-03	3.70E-05	4.49E-05	1.46E-04	8.49E-05	-1.16E-03
POCP = Formation potential of tropospheric ozone								
ADP-minerals & metals	**kg Sb eq.**	1.76E-04	1.73E-04	2.29E-09	4.54E-08	2.45E-06	8.94E-08	-8.20E-05
ADP-fossil	**MJ**	8.39E+00	6.05E+00	3.32E-03	4.19E-02	2.15E+00	1.39E-01	-1.36E+00
ADP-minerals & metals = Abiotic depletion potential for non-fossil resources ADP-fossil = Abiotic depletion for fossil resources potential								
WDP	**m^3 eq. depr.**	1.48E-01	1.00E-01	1.83E-04	6.47E-03	3.48E-02	6.54E-03	-6.05E-02
WDP = Water Deprivation potential								

Common base of mandatory indicators

Inventory flows indicator – Resource use indicators

Indicator	Unit	Total	Manu-facturing	Distri-bution	Installation	Use	End of life	Bene-fits
PERE	**MJ**	3.85E+00	1.82E+00	8.45E-04	2.89E-02	1.96E+00	3.90E-02	-4.87E-01
PERM	**MJ**	4.29E-01	4.29E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.43E-01
PERT	**MJ**	4.28E+00	2.25E+00	8.45E-04	2.89E-02	1.96E+00	3.90E-02	-7.30E-01
PENRE	**MJ**	1.21E+01	9.04E+00	1.90E-01	1.72E-01	2.36E+00	3.28E-01	-2.43E+00
PENRM	**MJ**	8.65E-01	8.65E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	**MJ**	1.30E+01	9.91E+00	1.90E-01	1.72E-01	2.36E+00	3.28E-01	-2.43E+00

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 resources

Inventory flows indicator – Indicators describing the use of secondary materials, water, and energy resources

Indicator	Unit	Total	Manu-facturing	Distri-bution	Installation	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	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**	1.65E-02	7.51E-03	7.73E-06	2.21E-04	8.50E-03	2.62E-04	-1.77E-03

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	Installation	Use	End of life	Bene-fits
Hazardous waste disposed	**kg**	1.05E-04	9.95E-05	1.27E-06	8.05E-07	2.05E-06	1.29E-06	-2.57E-05
Non- hazardous waste disposed	**kg**	1.83E-01	8.37E-02	7.20E-05	2.34E-02	1.44E-02	6.17E-02	-1.40E-02
Radioactive waste disposed	**kg**	4.31E-05	1.03E-05	2.04E-08	2.71E-07	3.15E-05	1.06E-06	-4.15E-06

Common base of mandatory indicators

Inventory flows indicator – Output flow indicators

Indicator	Unit	Total	Manu-facturing	Distri-bution	Installation	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	0.00E+00
Materials for recycling	kg	8.52E-02	3.29E-02	0.00E+00	1.95E-02	0.00E+00	3.28E-02	0.00E+00
Materials for energy recovery	kg	2.03E-02	0.00E+00	0.00E+00	2.60E-03	0.00E+00	1.77E-02	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

Inventory flow indicator – other indicators

Indicator	Unit	Total	Manu-facturing	Distri-bution	Installation	Use	End of life	Bene-fits
Biogenic carbon content of the product	kg of C	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon content of the associated packaging	kg of C	1.22E-02	1.22E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-7.85E-03

Optional indicators

Environmental indicators

Indicator	Unit	Total	Manu-facturing	Distri-bution	Installation	Use	End of life	Bene-fits
Total use of primary energy during the life cycle	MJ	1.72E+01	1.22E+01	1.90E-01	2.01E-01	4.32E+00	3.67E-01	-3.16E+00
Emissions of fine particles	incidence of diseases	7.29E-08	6.70E-08	1.09E-09	4.53E-10	2.15E-09	2.20E-09	-1.68E-08
Ionizing radiation, human health	kBq U235 eq.	1.98E-01	4.62E-02	8.26E-05	1.06E-03	1.47E-01	4.15E-03	-1.64E-02
Ecotoxicity (fresh water)	CTUe	1.80E+01	1.70E+01	2.75E-02	2.58E-01	4.19E-01	3.10E-01	-5.30E+00
Human toxicity, car-cinogenic effects	CTUh	2.38E-08	2.33E-08	1.41E-11	4.01E-11	2.87E-10	2.11E-10	-8.11E-09
Human toxicity, non-carcinogenic effects	CTUh	5.05E-08	4.58E-08	1.36E-10	1.00E-09	2.28E-09	1.31E-09	-1.63E-08
Impact related to land use/soil quality		9.24E+00	8.29E+00	1.12E-02	1.24E-01	7.10E-01	1.03E-01	-3.74E+00

Other indicators

Indicator	Unit	Total	Manu-facturing	Distri-bution	Installation	Use	End of life	Bene-fits
No Other indicators used								

Environmental Impact Indicator Glossary

Impact indicators

Indicator	Description	Distri-bution
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 eq. depr.

Resource use indicators

Indicator	Description	Distri-bution
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)

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Date of issue: ***10-2024***	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)	
PEP are compliant with XP C08-100-1 :2016 or EN 50693:2019 or NE E38-500 :2022 The components of the present PEP may not be compared with elements from any other program.	
Document in compliance with ISO 14025: 2006 "Environmental labels and declarations. Type III environmental declarations"	