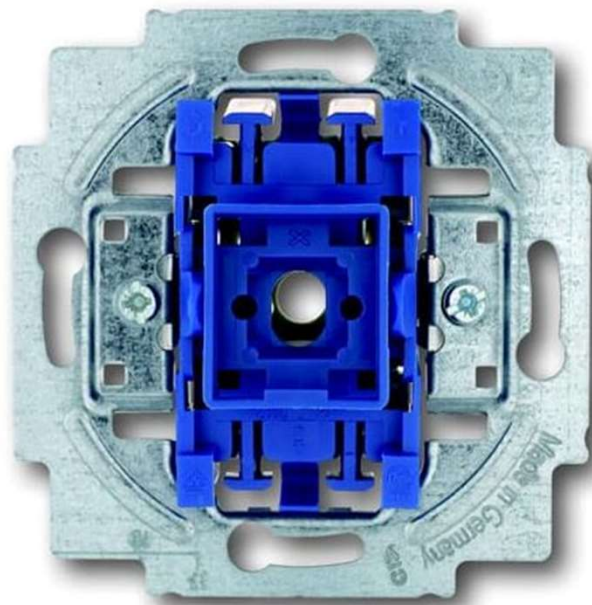


ROCKER SWITCH MECHANISM (2000/6)

Product Environmental Profile

Environmental Product Declaration



Document in compliance with ISO 14025: 2010 "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

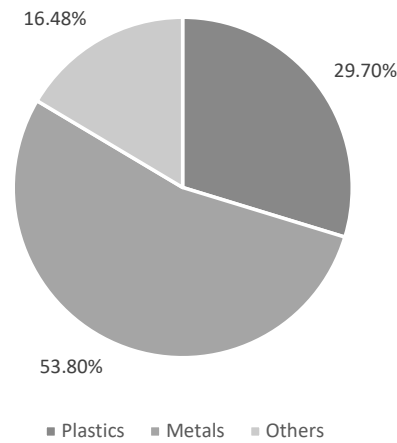
Reference product	Rocker Switch Mechanism (2000/6) (2CKA001012A1069).
Description of the product	Change-over switch mechanism for light control. It can be combined with various frames/covers designs.
Functional unit	Establish, support and interrupt for 20 years rated currents in normal conditions of circuit characterized by the current 10A, for the operating voltage 250V. Protecting the user from direct contact with live parts and with a protection class IP20 in accordance with the standard IEC 60529.
Other products covered	0

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Constituent materials



Total weight of Reference product

64.17g - including an average weight of packaging.
54.99g - for the switch insert 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-%
Polyamid PA6	17.3	Galvanized steel	38.6	Carton	14.2
aminoplast	12.4	steel	6.6	other	2.3
-	-	stainless steel	5.4	-	-
-	-	Brass	3.1	-	-
-	-	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 9.1g, consisting of a cardboard boxes as a primary and secondary packaging.
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 loss of 0.036 W, which corresponds to the total energy consumption of 1866 Wh calculated according to PSR-0005-ed2-EN-2016 03 29.
End of life	The end-of-life stage is modelled according to PCR-ed4-EN-2021 09 06 and IEC/TR 62635. The percentages for end-of-life treatments of the switch insert are taken from IEC/TR 62635.
Benefits and loads beyond the system boundaries	n.a.



Environmental impacts

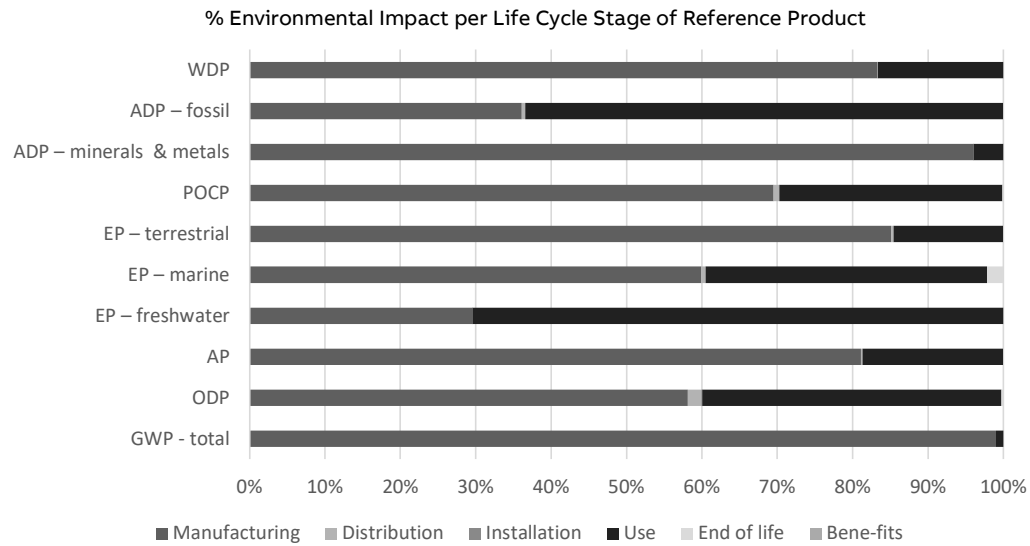
Reference lifetime	20 years
Product category	Other equipment, passive product - non-continuous operation
Installation elements	Installation requires 2 screws
Use scenario	Reference life time (RLT): 20 years Load factor : 3A (30% of rated current) Use rate: 6.7 years (30% of the RLT)
Geographical representativeness	Manufacturing: Germany. Distribution, installation, use and end of life : Germany, Austria, Netherland.
Technological representativeness	Technological representativeness : manufacturing of 2000/6 US Rocker Switch Mechanism representative of the year 2022"
Software and database used	SimaPro 9.3, ecoinvent 3.8

Energy model used

Manufacturing	Energy mix of hydropower, solar and CHP for Germany.
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

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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.	1.57E+00	5.50E-01	5.45E-03	2.75E-03	1.00E+00	5.24E-03	-
GWP-fossil	kg CO ₂ eq.	1.48E+00	5.43E-01	5.44E-03	6.43E-04	9.31E-01	5.18E-03	-
GWP-biogenic	kg CO ₂ eq.	7.85E-02	3.55E-03	5.58E-06	2.11E-03	7.28E-02	5.81E-05	-
GWP-luluc	kg CO ₂ eq.	4.75E-03	3.55E-03	1.97E-06	2.45E-07	1.19E-03	3.07E-07	-
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.	7.24E-08	4.21E-08	1.31E-09	1.06E-10	2.87E-08	2.05E-10	-
ODP = Depletion potential of the stratospheric ozone layer								
AP	H ⁺ eq.	1.30E-02	1.05E-02	2.77E-05	3.66E-06	2.42E-03	4.93E-06	-
AP = Acidification potential, Accumulated Exceedance								
EP-freshwater	kg P eq.	1.88E-03	5.55E-04	3.42E-07	8.17E-08	1.32E-03	7.29E-08	-
EP-marine	kg N eq.	1.84E-03	1.10E-03	9.49E-06	1.51E-06	6.87E-04	4.00E-05	-
EP-terrestrial	mol N eq.	3.51E-02	2.99E-02	1.04E-04	1.44E-05	5.10E-03	1.92E-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.	4.41E-03	3.07E-03	3.10E-05	4.58E-06	1.30E-03	6.01E-06	-
POCP = Formation potential of tropo-spheric ozone								
ADP-minerals & metals	kg Sb eq.	2.08E-04	1.99E-04	1.26E-08	3.68E-09	8.22E-06	3.21E-09	-
ADP-fossil	MJ	2.02E+01	7.31E+00	8.54E-02	7.50E-03	1.28E+01	1.35E-02	-
ADP-minerals & metals = Abiotic depletion potential for non-fossil resources ADP-fossil = Abiotic depletion for fossil resources potential								
WDP	m ³ e depr.	3.93E-01	3.27E-01	2.96E-04	5.52E-05	6.53E-02	8.56E-05	-
WDP = Water Deprivation potential								

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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	4.41E+00	1.17E+00	1.09E-03	2.44E-04	3.24E+00	0.00E+00	0.00E+00
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	4.41E+00	1.17E+00	1.09E-03	2.44E-04	3.24E+00	0.00E+00	0.00E+00
PENRE	MJ	2.02E+01	7.31E+00	8.54E-02	7.50E-03	1.28E+01	0.00E+00	0.00E+00
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	2.02E+01	7.31E+00	8.54E-02	7.50E-03	1.28E+01	0.00E+00	0.00E+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 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	5.81E-03	5.81E-03	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	1.73E-02	1.00E-02	1.02E-05	2.50E-06	7.29E-03	0.00E+00	0.00E+00
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	4.71E-04	4.51E-04	2.07E-07	2.04E-08	1.97E-05	0.00E+00	0.00E+00
Non- hazardous waste disposed	kg	2.50E-01	1.57E-01	8.00E-03	3.37E-04	6.20E-02	0.00E+00	0.00E+00
Radioactive waste disposed	kg	7.49E-05	2.27E-05	5.78E-07	4.81E-08	5.15E-05	0.00E+00	0.00E+00

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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	5.10E-02	1.12E-02	0.00E+00	7.90E-03	0.00E+00	3.20E-02	-
Materials for energy recovery	kg	3.97E-03	1.76E-03	0.00E+00	1.19E-03	0.00E+00	1.02E-03	-
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	1.24E-02
Biogenic carbon content of the associated packaging	kg of C	1.82E-03

Registration number:	Drafting Rules:	PCR-ed4-EN-2021 09 06
ABBG-00106-V01.01-EN	Supplemented by:	PSR-000 - 5-ed2-EN-2016 03 29
Verifier accreditation number:	Information and reference documents:	
VH49	www.pep-ecopassport.org	
Date of issue:	12/2022	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 Philippe Osset (SOLINNEN)		
PEP are compliant with XP C08-100-1: 2016 The elements of the present PEP cannot be compared with elements from another program		
Document in compliance with ISO 14025: 2006 "Environmental labels and declarations. Type III environmental declarations"		



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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)

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