SD200; 16 to 63A, 1 to 4 Poles

PEP ecopassport®

Product Environmental Profile

Registration number:	**ABBG-00733-V01.01-EN**	Drafting rules:	**PCR-ed4-EN-2021 09 06**
Contact information:	**EPD_ELSB@abb.com**	Supplemented by:	**PSR-0005-ed3.1-EN-2023 12 08**
Verifier accreditation number:	**VH51**	Information and reference documents:	**www.pep-ecopassport.org**
Date of issue:	**March-25**	Validity period:	**5 years**

Independent verification of the declaration and data in compliance with ISO 14025: 2006

Internal: ☐ **External:** ☒ (X)

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

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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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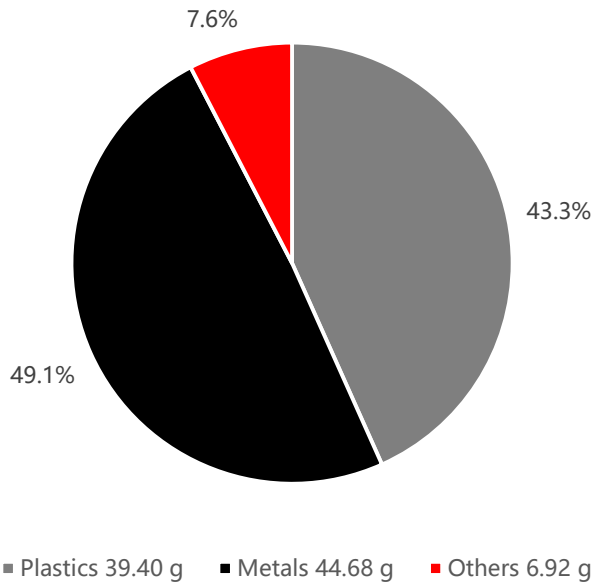
General information

Reference product	Reference product identification: SD201/40, 2CDD281101R0040 PSR product category: Disconnectors
Description of the product	The SD200 product family is a disconnector series to switch and safely disconnect resistive loads
Functional unit	Turn off all or part of an installation by separating the installation or part of the in-stallation of all electrical energy, for safety reasons with a rated voltage U of 240V and rated current of 40A and 1 pole ensuring insulation characterised by a rated insulation voltage of 10kA during the reference service life of the product of 20 years at a use rate of 30% and a load rate of 50%.
Other products covered	Other products of the series cover rated currents from 16 A to 63 A and between 1 and 4 poles. They differ regarding weight of the devices and power consumption. To obtain the environmental impacts of the different variants, the value of the life cycle phase of the reference product is multiplied with the extrapolation factor for that phase.
Manufacturing address	Stara Zagora Bulgaria www.abb.de/stotz-kontakt

Constituent Materials



Total weight of reference product and packaging	**91.00**	**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%
Other plastic	40.7	**Steel**	33.5	**Cardboard**	7.5
GFRP	2.6	**Copper**	13.5	**Paper**	0.1
		Aluminium	2.1		
		Other metals			

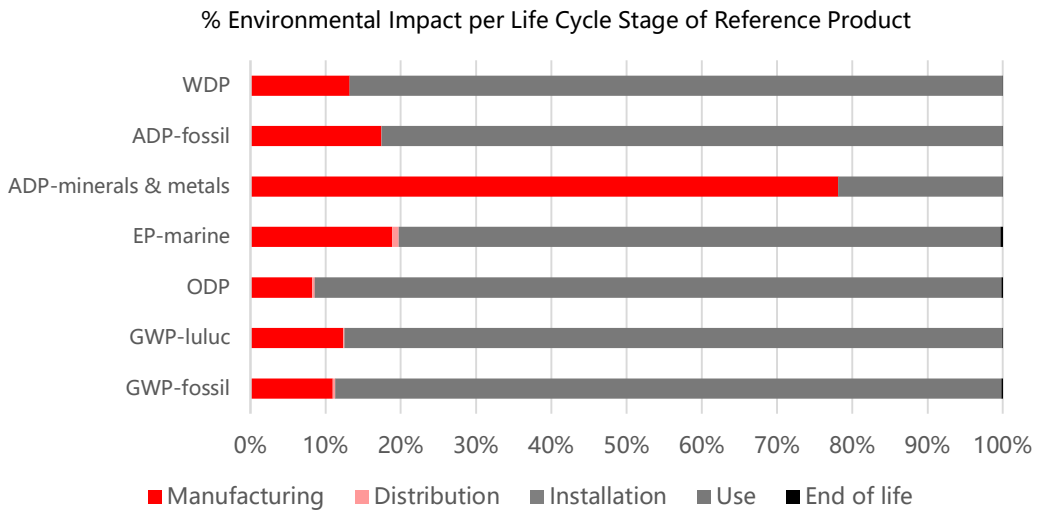
Additional Information

Manufacturing	The product is manually assembled in Bulgaria. The production site of the products is certified according to ISO 14001.
Distribution	Specific transport distances based on sales data are applied to model the distribution.
Installation	As installation is performed manually, no environmental burdens are associated to this phase besides the disposal of product packaging.
Use	The device is sold and then used worldwide.
End of life	Due to the lack of knowledge of the disposal pathway, landfilling as proposed standard scenario in the PCR is considered.
Benefits and loads beyond the system boundaries	Not considered

Environmental Impacts

Reference lifetime	20 years
Product category	Electrical switchgear and control gear solutions (Disconnector)
Installation elements	Does not require any special installation elements.
Use scenario	The scenario is modelled with a use rate of 30% and a load rate of 50%
Geographical representativeness	Global
Technological representativeness	Represents the actual production technology of the switch disconnector series SD200 16 to 63A. The reference year is 2024.
Software and database used	SimaPro 9.6.0.1 with ecoinvent 3.10, cut-off and industry data 2.0
Energy model used	
Manufacturing	Electricity, medium voltage {BG}| market for electricity, medium voltage | Cut-off, S
Installation	Global
Use	Electricity, low voltage mix according to sales data
End of life	Global

Common base of mandatory indicators



Environmental impact indicators

Indicator		Unit	Total	Manufactu-ring	Distri-bution	Installation	Use	End of life
GWP	Total	kg CO2 eq.	7.10E+00	7.73E-01	2.17E-02	1.21E-02	6.28E+00	1.39E-02
	Fossil	kg CO2 eq.	7.07E+00	7.76E-01	2.17E-02	4.83E-04	6.26E+00	1.39E-02
	Biogenic	kg CO2 eq.	2.35E-02	-3.82E-03	5.04E-06	1.17E-02	1.56E-02	7.45E-06
	Luluc	kg CO2 eq.	4.96E-03	6.12E-04	8.09E-06	1.54E-07	4.33E-03	3.58E-06
ODP		kg CFC-11 eq.	1.13E-07	9.29E-09	3.94E-10	6.48E-12	1.03E-07	2.03E-10
AP		H+ eq.	4.20E-02	1.26E-02	1.54E-04	2.37E-06	2.92E-02	4.21E-05
EP	Freshwater	kg P eq.	3.85E-04	8.20E-05	1.60E-07	5.33E-09	3.03E-04	8.29E-08
	Marine	kg N eq.	5.69E-03	1.07E-03	4.71E-05	1.49E-06	4.55E-03	1.87E-05
	Terrestrial	mol N eq.	6.53E-02	1.33E-02	5.21E-04	9.68E-06	5.13E-02	1.69E-04
POPCD		kg NMVOC eq.	2.15E-02	3.98E-03	1.75E-04	3.57E-06	1.73E-02	6.54E-05
ADP	Minerals & metals	kg SB eq.	2.41E-04	1.88E-04	5.28E-08	1.63E-09	5.27E-05	2.60E-08
	Fossil	MJ	4.80E+01	8.36E+00	2.43E-02	8.23E-04	3.96E+01	1.23E-02
WDP		m³ eq. depr.	2.04E+00	2.68E-01	1.14E-03	1.61E-04	1.77E+00	5.94E-04

Resource use indicators

Indicator	Unit	Total	Manufactu-ring	Distri-bution	Installation	Use	End of life
PERE	MJ	2.54E+01	1.04E+00	4.22E-03	1.72E-04	2.44E+01	2.28E-03
PERM	MJ	8.90E-02	8.90E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	2.55E+01	1.13E+00	4.22E-03	1.72E-04	2.44E+01	2.28E-03
PENRE	MJ	9.22E+01	1.02E+01	3.02E-01	5.20E-03	8.15E+01	1.49E-01
PENRM	MJ	1.14E+00	1.14E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	9.33E+01	1.14E+01	3.02E-01	5.20E-03	8.15E+01	1.49E-01

Common base of mandatory indicators

Use of secondary materials, water, and energy resources

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
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	N/A	N/A	N/A	N/A	N/A
NRSF	MJ	0.00E+00	N/A	N/A	N/A	N/A	N/A
FW	m³	5.48E-02	7.19E-03	3.32E-05	4.02E-06	4.76E-02	1.76E-05

Waste category indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
HWD	kg	2.96E-01	1.05E-01	3.09E-04	4.25E-05	1.90E-01	1.53E-04
N-HWD	kg	2.18E+00	1.13E+00	2.78E-03	4.78E-03	7.85E-01	2.51E-01
RWD	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Output flow indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
CfRu	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MfR	kg	1.76E-02	1.31E-02	0.00E+00	4.57E-03	0.00E+00	0.00E+00
MfER	kg	2.47E-03	1.97E-03	0.00E+00	5.02E-04	0.00E+00	0.00E+00
EE	MJ	2.58E-02	2.28E-02	0.00E+00	2.99E-03	0.00E+00	0.00E+00

Other indicators

Indicator		Unit	Total
Biogenic Carbon	Product	kg of C	0.00E+00
	Packaging	kg of C	2.92E-03

Optional indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
Tot PE	MJ	1.19E+02	1.25E+01	3.06E-01	5.37E-03	1.06E+02	1.51E-01
Efp	Dise inc	2.96E-07	5.21E-08	1.95E-09	4.23E-11	2.40E-07	1.04E-09
IrHH	kBq U-235 eq	2.09E-01	6.40E-02	1.19E-04	4.97E-06	1.45E-01	6.49E-05
ETX FW	CTUe	5.73E+01	2.02E+01	8.95E-02	3.57E-02	3.67E+01	2.81E-01
HTX CE	CTUh	2.62E-08	1.51E-08	1.21E-10	3.60E-12	1.10E-08	6.03E-11
HTX N-CE	CTUh	2.28E-07	1.52E-07	2.31E-10	1.88E-10	7.40E-08	1.78E-09
IrLS	Pt	2.92E+01	6.72E+00	2.73E-01	2.79E-03	2.20E+01	1.72E-01

Extrapolation Factors

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:

* if the coefficient is !1, the impacts of the phase of the life cycle are assimilated to the Reference product, meaning that the impacts are unchanged in comparison to the Reference product

Product name	Manufacturing	Distribution	Installation	Use	End of life
SD201/16	1.00	1.00	1.00	0.13	1.00
SD202/16	2.00	2.00	2.00	0.27	2.00
SD203/16	3.00	3.00	3.00	0.40	3.00
SD204/16	4.00	4.00	4.00	0.53	4.00
SD201/25	1.00	1.00	1.00	0.40	1.00
SD202/25	2.00	2.00	2.00	0.80	2.00
SD203/25	3.00	3.00	3.00	1.20	3.00
SD204/25	4.00	4.00	4.00	1.60	4.00
SD201/32	1.00	1.00	1.00	0.67	1.00
SD202/32	2.00	2.00	2.00	1.33	2.00
SD203/32	3.00	3.00	3.00	2.00	3.00
SD204/32	4.00	4.00	4.00	2.67	4.00
SD201/40	1.00	1.00	1.00	1.00	1.00
SD202/40	2.00	2.00	2.00	2.00	2.00
SD203/40	3.00	3.00	3.00	3.00	3.00
SD204/40	4.00	4.00	4.00	4.00	4.00
SD201/50	1.00	1.00	1.00	1.60	1.00
SD202/50	2.00	2.00	2.00	3.20	2.00
SD203/50	3.00	3.00	3.00	4.80	3.00
SD204/50	4.00	4.00	4.00	6.40	4.00
SD201/63	1.00	1.00	1.00	2.53	1.00
SD202/63	2.00	2.00	2.00	5.07	2.00
SD203/63	3.00	3.00	3.00	7.60	3.00
SD204/63	4.00	4.00	4.00	10.13	4.00

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

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

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

Optional indicators	
Tot PE	Total use of primary energy during the life cycle
Efp	Emissions of Fine particles
IrHH	Ionizing radiation, human health
ETX FW	Ecotoxicity, freshwater
HTX CE	Human toxicity, carcinogenic effects
HTX N-CE	Human toxicity, non-carcinogenic effects
IrLS	Impact related to Land use / soil quality

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