

SU200DC; 1-2 poles; 0.5-63A (Z); 0.2-63A (K)

PEP ecopassport®
Product Environmental Profile



Registration number:	ABBG-00752-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:	VH45	Information and reference documents:	www.pep-ecopassport.org
Date of issue:	May-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 (Ddomain)			
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"			





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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 context of this PEP cannot be compared with the content based on another program/database.

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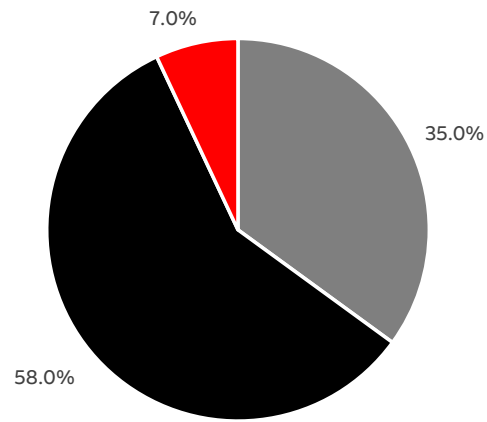


General information

Reference product	Reference product identification: MCB SU202DC-K15, 2CDS272527R0457 PSR product category: Circuit-breakers
Description of the product	SU200DC MCB is designed to be used in DC applications where high breaking capacity is required to protect against short-circuit and overload.
Functional unit	Protect the household/commercial installation from overloads and short circuits in a circuit with rated voltage 250V DC, rated current 15 A, with 2 poles, a rated breaking capacity 14kA, and the tripping curve K, according to the appropriate use scenario, and during the reference service life of the product of 20 years.
Other products covered	The product series offers 1-2 pole options, with Z characteristic models ranging from 0.5 to 63 A and K characteristic models from 0.2 to 63 A. 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	Heidelberg Germany www.abb.de/stotz-kontakt



Constituent Materials



■ Plastics 90.70 g ■ Metals 150.22 g ■ Others 18.07 g

Total weight of reference product and packaging

259.0

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	33.0	Steel	49.9	Cardboard	6.9
GFRP	2.0	Copper	6.4	Paper	0.1
		Aluminium	1.6		
		Other metals	0.1		



Additional Information

Manufacturing	The product is manually assembled in Bulgaria and finalized in Germany. 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 in North America.
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

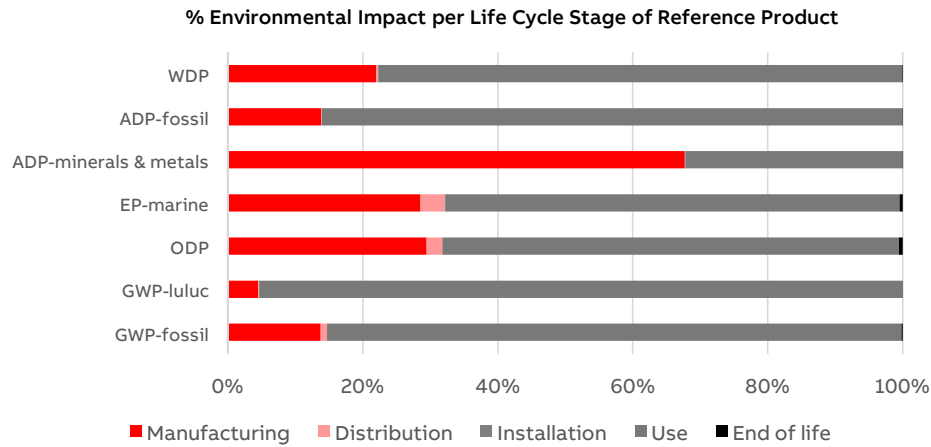


Environmental Impacts

Reference lifetime	20 years
Product category	Circuit-breakers
Installation elements	Does not require any special installation elements.
Use scenario	The scenario is modelled with a use rate of 50% and a load rate of 30%.
Geographical representativeness	Production in Europe and use in North America
Technological representativeness	Represents the actual production technology of the mcb series SU200DC. The reference year is 2024.
Software and database used	SimaPro 10.2 with ecoinvent 3.11, cut-off and industry data 2.0

Energy model used	
Manufacturing	Electricity, medium voltage {BG} market for electricity, medium voltage Cut-off, S Electricity, medium voltage {DE} market for electricity, medium voltage Cut-off, S
Installation	Global
Use	Electricity, low voltage {RNA} market for electricity, low voltage Cut-off, S
End of life	Global

Common base of mandatory indicators



Environmental impact indicators

Indicator		Unit	Total	Manu- facturing	Distri- bution	Installation	Use	End of life	Benefits
GWP	Total	kg CO2 eq.	1.76E+01	2.42E+00	1.67E-01	2.89E-02	1.49E+01	3.68E-02	0.00E+00
	Fossil	kg CO2 eq.	1.75E+01	2.41E+00	1.66E-01	8.20E-04	1.49E+01	3.68E-02	0.00E+00
	Biogenic	kg CO2 eq.	5.95E-02	1.72E-02	5.30E-05	2.81E-02	1.41E-02	1.22E-05	0.00E+00
	Luluc	kg CO2 eq.	4.66E-02	2.10E-03	7.49E-05	2.52E-07	4.45E-02	1.04E-05	0.00E+00
ODP		kg CFC-11 eq.	1.04E-07	3.06E-08	2.45E-09	1.23E-11	7.03E-08	6.10E-10	0.00E+00
AP		H+ eq.	7.04E-02	2.10E-02	1.13E-03	5.76E-06	4.81E-02	1.18E-04	0.00E+00
EP	Freshwater	kg P eq.	1.47E-03	1.94E-04	1.76E-06	8.39E-09	1.28E-03	2.18E-07	0.00E+00
	Marine	kg N eq.	9.51E-03	2.71E-03	3.45E-04	2.46E-06	6.40E-03	4.68E-05	0.00E+00
	Terrestrial	mol N eq.	1.08E-01	2.98E-02	3.82E-03	2.57E-05	7.36E-02	4.80E-04	0.00E+00
POPCD		kg NMVOC eq.	4.01E-02	9.17E-03	1.26E-03	6.90E-06	2.95E-02	1.82E-04	0.00E+00
ADP	Minerals & metals	kg SB eq.	3.96E-04	2.68E-04	4.21E-07	1.62E-09	1.27E-04	7.48E-08	0.00E+00
	Fossil	MJ	1.78E+02	2.45E+01	2.54E-01	1.27E-03	1.53E+02	3.28E-02	0.00E+00
WDP		m³ eq. depr.	3.74E+00	8.22E-01	1.09E-02	1.34E-03	2.91E+00	3.62E-03	0.00E+00

Resource use indicators

Indicator	Unit	Total	Manu- facturing	Distribution	Installation	Use	End of life	Benefits
PERE	MJ	4.69E+01	3.30E+00	2.99E-02	2.11E-04	4.36E+01	6.14E-03	0.00E+00
PERM	MJ	2.33E-01	2.33E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	4.71E+01	3.53E+00	2.99E-02	2.11E-04	4.36E+01	6.14E-03	0.00E+00
PENRE	MJ	2.98E+02	3.07E+01	2.31E+00	7.10E-03	2.64E+02	4.19E-01	0.00E+00
PENRM	MJ	2.58E+00	2.58E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	3.00E+02	3.32E+01	2.31E+00	7.10E-03	2.64E+02	4.19E-01	0.00E+00

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	N/A	N/A	N/A	N/A	N/A	0.00E+00
NRSF	MJ	0.00E+00	N/A	N/A	N/A	N/A	N/A	0.00E+00
FW	m³	1.69E-01	2.30E-02	2.98E-04	3.14E-05	1.46E-01	9.83E-05	0.00E+00

Waste category indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
HWD	kg	6.36E-01	3.56E-01	3.45E-03	3.06E-04	2.76E-01	4.37E-04	0.00E+00
N-HWD	kg	1.28E+01	1.04E+01	2.04E-02	1.88E-02	2.03E+00	3.09E-01	0.00E+00
RWD	kg	0.00E+00	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	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	5.85E-02	5.85E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MfER	kg	4.55E-03	4.55E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EE	MJ	5.27E-02	5.27E-02	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	7.66E-03

Optional indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
Tot PE	MJ	3.47E+02	3.68E+01	2.34E+00	7.31E-03	3.08E+02	4.25E-01	0.00E+00
Efp	Dise inc	4.16E-07	1.53E-07	1.50E-08	6.15E-11	2.44E-07	2.93E-09	0.00E+00
IrHH	kBq U-235 eq	2.58E+00	1.66E-01	7.53E-04	4.20E-06	2.42E+00	1.68E-04	0.00E+00
ETX FW	CTUe	2.08E+02	4.30E+01	5.81E-01	3.40E-02	1.64E+02	5.90E-01	0.00E+00
HTX CE	CTUh	6.32E-09	3.56E-09	2.73E-11	1.51E-12	2.73E-09	4.95E-12	0.00E+00
HTX N-CE	CTUh	4.40E-07	2.59E-07	1.80E-09	6.91E-11	1.75E-07	3.99E-09	0.00E+00
IrLS	Pt	5.50E+01	1.74E+01	2.09E+00	4.09E-03	3.50E+01	4.77E-01	0.00E+00

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	Manu- facturing EP Freshwater, Marine, Terrestrial, POPCD, ETX	Manu- facturing ADP Minerals & Metals	Manu- facturing WDP, Efp, IrLS	Manu- facturing HTX N-CE, HTC CE	Manu- facturing Other environ- mental indicators	Distribution	Installation	Use	End of Life	Net-benefits
SU201DC-K0.2	0.45	0.30	0.50	0.50	0.50	0.50	0.50	0.25	0.50	1.00
SU201DC-K0.3	0.45	0.30	0.50	0.50	0.50	0.50	0.50	0.27	0.50	1.00
SU201DC-K0.5	0.45	0.30	0.50	0.50	0.50	0.50	0.50	0.27	0.50	1.00
SU201DC-K0.75	0.45	0.30	0.50	0.50	0.50	0.50	0.50	0.27	0.50	1.00
SU201DC-K1	0.45	0.30	0.50	0.50	0.50	0.50	0.50	0.31	0.50	1.00
SU201DC-K1.6	0.45	0.30	0.50	0.50	0.50	0.50	0.50	0.30	0.50	1.00
SU201DC-K2	0.45	0.30	0.50	0.50	0.50	0.50	0.50	0.32	0.50	1.00
SU201DC-K3	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.30	0.50	1.00
SU201DC-K4	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.30	0.50	1.76
SU201DC-K5	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.27	0.50	1.76
SU201DC-K6	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.40	0.50	1.76
SU201DC-K8	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.30	0.50	1.76
SU201DC-K10	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.38	0.50	1.76
SU201DC-K13	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.55	0.50	1.76
SU201DC-K15	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.76
SU201DC-K16	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.54	0.50	2.71
SU201DC-K20	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.53	0.50	2.71
SU201DC-K25	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.61	0.50	2.71
SU201DC-K30	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.75	0.50	2.71
SU201DC-K32	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.86	0.50	2.71
SU201DC-K35	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.00	0.50	2.71
SU201DC-K40	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.94	0.50	2.71
SU201DC-K50	0.70	0.95	0.70	1.00	0.55	0.55	0.50	0.88	0.55	2.71
SU201DC-K60	0.70	0.95	0.70	1.00	0.55	0.55	0.50	1.12	0.55	3.69
SU201DC-K63	0.70	0.95	0.70	1.00	0.55	0.55	0.50	1.27	0.55	3.69
SU201DC-Z0.5	0.45	0.30	0.50	0.50	0.50	0.50	0.50	0.53	0.50	3.69
SU201DC-Z1	0.45	0.30	0.50	0.50	0.50	0.50	0.50	0.56	0.50	3.69
SU201DC-Z1.6	0.45	0.30	0.50	0.50	0.50	0.50	0.50	0.55	0.50	3.69
SU201DC-Z2	0.45	0.30	0.50	0.50	0.50	0.50	0.50	0.57	0.50	3.69
SU201DC-Z3	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.54	0.50	3.69
SU201DC-Z4	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.54	0.50	3.69
SU201DC-Z5	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.49	0.50	4.36
SU201DC-Z6	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.72	0.50	4.36

Extrapolation Factors

Product name	Manu- facturing EP Freshwater, Marine, Terrestrial, POPCD, ETX	Manu- facturing ADP Minerals & Metals	Manu- facturing WDP, Efp, IrlS	Manu- facturing HTX N-CE, HTC CE	Manu- facturing Other environ- mental indicators	Distribution	Installation	Use	End of Life	Net-benefits
SU201DC-Z8	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.42	0.50	4.36
SU201DC-Z10	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.56	0.50	4.36
SU201DC-Z15	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.70	0.50	4.36
SU201DC-Z16	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.75	0.50	4.36
SU201DC-Z20	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.68	0.50	4.36
SU201DC-Z25	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.66	0.50	1.77
SU201DC-Z30	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.86	0.50	1.77
SU201DC-Z32	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.98	0.50	1.77
SU201DC-Z35	0.50	0.50	0.50	0.50	0.50	0.50	0.50	1.41	0.50	1.77
SU201DC-Z40	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.98	0.50	1.77
SU201DC-Z50	0.70	0.95	0.70	0.55	0.55	0.55	0.50	0.96	0.55	1.77
SU201DC-Z60	0.70	0.95	0.70	0.55	0.55	0.55	0.50	1.13	0.55	1.77
SU201DC-Z63	0.70	0.95	0.70	0.55	0.55	0.55	0.50	1.24	0.55	1.77
SU202DC-K0.2	0.90	0.60	1.00	1.00	1.00	1.00	1.00	0.50	1.00	2.88
SU202DC-K0.3	0.90	0.60	1.00	1.00	1.00	1.00	1.00	0.55	1.00	2.88
SU202DC-K0.5	0.90	0.60	1.00	1.00	1.00	1.00	1.00	0.53	1.00	2.88
SU202DC-K0.75	0.90	0.60	1.00	1.00	1.00	1.00	1.00	0.54	1.00	2.88
SU202DC-K1	0.90	0.60	1.00	1.00	1.00	1.00	1.00	0.63	1.00	2.88
SU202DC-K1.6	0.90	0.60	1.00	1.00	1.00	1.00	1.00	0.61	1.00	2.88
SU202DC-K2	0.90	0.60	1.00	1.00	1.00	1.00	1.00	0.63	1.00	2.88
SU202DC-K3	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.60	1.00	2.88
SU202DC-K4	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.60	1.00	3.79
SU202DC-K5	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.55	1.00	3.79
SU202DC-K6	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	1.00	3.79
SU202DC-K8	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.60	1.00	3.79
SU202DC-K10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75	1.00	3.79
SU202DC-K13	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	3.79
SU202DC-K15	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.79
SU202DC-K16	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00	1.83
SU202DC-K20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.00	1.83
SU202DC-K25	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.22	1.00	1.83
SU202DC-K30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	1.00	1.83
SU202DC-K32	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.73	1.00	1.83
SU202DC-K35	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.99	1.00	1.83
SU202DC-K40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.87	1.00	1.83
SU202DC-K50	1.40	1.90	1.40	1.10	1.10	1.10	1.00	1.75	1.10	1.83
SU202DC-K60	1.40	1.90	1.40	1.10	1.10	1.10	1.00	2.24	1.10	1.83
SU202DC-K63	1.40	1.90	1.40	1.10	1.10	1.10	1.00	2.53	1.10	1.83

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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		
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		Waste category indicators	
SM	Use of secondary materials	HWD	Hazardous waste disposed
RSF	Use of renewable secondary fuels	N-HWD	Non-hazardous waste disposed
NRSF	Use of non-renewable secondary fuels	RWD	Radioactive waste disposed
FW	Net use of fresh water		
Output flow indicators		Optional indicators	
CfRu	Components for re-use	Tot PE	Total use of primary energy during the life cycle
MfR	Materials for recycling		
MfER	Materials for energy recovery	Efp	Emissions of Fine particles
EE	Exported Energy	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

References

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