

S3C-UA; 12-230V; AC and DC

PEP ecopassport®

Product Environmental Profile



Registration number:	ABBG-00830-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:	<input type="checkbox"/>	External:	<input checked="" type="checkbox"/>
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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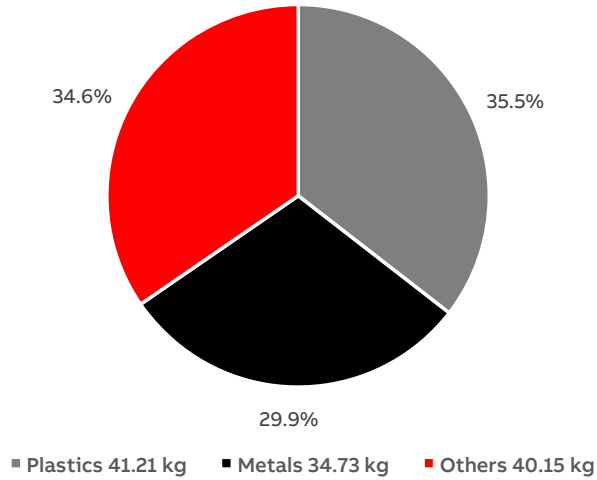


General information

Reference product	Reference product identification: S3C-UA 230V, 2CDS200985R0045 PSR product category: Contactors, remote control switch
Description of the product	The S3C-UA undervoltage release has the function to protect the load in case of a voltage drop included between 70% and 35% of its rated value. Positive safety (device tripping when the voltage is disconnected) emergency stop by means of a button.
Functional unit	Establish and cut off the supply of a downstream installation from an electrical and/or mechanical control characterised by a rated voltage of 230 V DC, with 1 poles in all application areas according to the appropriate use scenario, and during the reference service life of the product of 20 years.
Other products covered	The product series consists of five products for different voltages. Each product can be used with AC or DC resulting in different power losses. 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 **116.1** kg

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%
GFRP	34.0	Steel	14.6	Cardboard	28.0
Other plastic	1.5	Copper	7.2	Paper	6.6
		Other metals	5.6	Other nec	0.0
		Copper alloys	2.5		

Constituent Materials.
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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



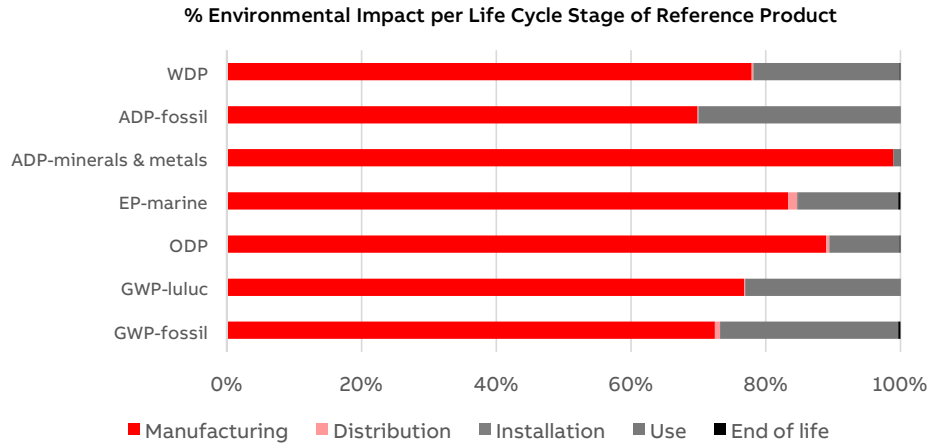
Environmental Impacts

Reference lifetime	20 years
Product category	Contactors, remote control switch
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 20%.
Geographical representativeness	Global
Technological representativeness	Represents the actual production technology of the undervoltage release series S3C-UA 12-230 V. 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
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	Manufacturing	Distribution	Installation	Use	End of life	Benefits
GWP	Total	kg CO2 eq. 3.68E+00	2.61E+00	2.89E-02	6.64E-02	9.66E-01	1.27E-02	0.00E+00
	Fossil	kg CO2 eq. 3.65E+00	2.64E+00	2.89E-02	4.07E-03	9.61E-01	1.27E-02	0.00E+00
	Biogenic	kg CO2 eq. 2.88E-02	-3.72E-02	8.50E-06	6.24E-02	3.61E-03	5.74E-06	0.00E+00
	Luluc	kg CO2 eq. 6.06E-03	4.65E-03	1.10E-05	1.17E-06	1.39E-03	3.25E-06	0.00E+00
ODP	kg CFC-11 eq.	1.39E-07	1.24E-07	5.80E-10	4.13E-11	1.45E-08	1.93E-10	0.00E+00
AP	H+ eq.	3.11E-02	2.71E-02	1.78E-04	1.44E-05	3.77E-03	3.79E-05	0.00E+00
EP	Freshwater	kg P eq. 6.03E-04	5.16E-04	2.17E-07	3.95E-08	8.66E-05	7.15E-08	0.00E+00
	Marine	kg N eq. 4.37E-03	3.64E-03	5.70E-05	6.93E-06	6.49E-04	1.52E-05	0.00E+00
	Terrestrial	mol N eq. 5.09E-02	4.27E-02	6.29E-04	5.80E-05	7.41E-03	1.52E-04	0.00E+00
POPCD	kg NMVOC eq.	1.48E-02	1.22E-02	2.16E-04	2.17E-05	2.25E-03	5.78E-05	0.00E+00
ADP	Minerals & metals	kg SB eq. 9.86E-04	9.75E-04	7.49E-08	1.13E-08	1.01E-05	2.35E-08	0.00E+00
	Fossil	MJ 3.23E+01	2.26E+01	3.27E-02	5.83E-03	9.68E+00	1.03E-02	0.00E+00
WDP	m³ eq. depr.	8.27E-01	6.44E-01	1.84E-03	8.77E-04	1.79E-01	1.09E-03	0.00E+00

Resource use indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
PERE	MJ	8.79E+00	4.36E+00	5.81E-03	1.36E-03	4.42E+00	1.96E-03	0.00E+00
PERM	MJ	5.26E-01	5.26E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	9.31E+00	4.89E+00	5.81E-03	1.36E-03	4.42E+00	1.96E-03	0.00E+00
PENRE	MJ	4.97E+01	3.44E+01	4.07E-01	3.32E-02	1.47E+01	1.32E-01	0.00E+00
PENRM	MJ	9.66E-01	9.66E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	5.06E+01	3.54E+01	4.07E-01	3.32E-02	1.47E+01	1.32E-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	m ³	3.05E-02	2.12E-02	5.27E-05	2.26E-05	9.21E-03	3.27E-05	0.00E+00

Waste category indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
HWD	kg	2.35E-01	2.05E-01	4.43E-04	2.63E-04	2.94E-02	1.38E-04	0.00E+00
N-HWD	kg	3.75E+00	3.39E+00	3.84E-03	1.98E-02	1.71E-01	1.65E-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	3.78E-02	9.06E-03	0.00E+00	2.87E-02	0.00E+00	0.00E+00	0.00E+00
MfER	kg	5.52E-03	2.09E-03	0.00E+00	3.43E-03	0.00E+00	0.00E+00	0.00E+00
EE	MJ	4.60E-02	2.42E-02	0.00E+00	2.18E-02	0.00E+00	0.00E+00	0.00E+00

Other indicators

Indicator	Unit	Total
Biogenic Carbon	kg of C	0.00E+00
Product Packaging	kg of C	1.55E-02

Optional indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	Benefits
Tot PE	MJ	6.00E+01	4.02E+01	4.13E-01	3.45E-02	1.91E+01	1.34E-01	0.00E+00
Efp	Dise inc	1.89E-07	1.60E-07	2.71E-09	2.60E-10	2.52E-08	9.27E-10	0.00E+00
IrHH	kBq U-235 eq	2.08E-01	1.39E-01	1.58E-04	4.00E-05	6.93E-02	5.34E-05	0.00E+00
ETX FW	CTUe	7.32E+01	5.89E+01	8.55E-02	1.89E-01	1.39E+01	2.08E-01	0.00E+00
HTX CE	CTUh	2.92E-09	2.71E-09	4.74E-12	1.59E-12	2.06E-10	1.63E-12	0.00E+00
HTX N-CE	CTUh	2.16E-07	2.01E-07	3.18E-10	1.01E-09	1.29E-08	1.22E-09	0.00E+00
IrLS	Pt	2.40E+01	1.98E+01	3.81E-01	1.76E-02	3.71E+00	1.55E-01	0.00E+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 reaching 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
		IrLS	Impact related to Land use / soil quality

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