

Surge Protective Device (SPD) T2-T3

PEP ecopassport®

Product Environmental Profile



Registration number:	ABBG-00989-V01.01.EN	Drafting rules:	PCR-ed4-EN-2021 09 06
		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:	01-2026	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 (Ddmain)			
PEP are compliant with EN 50693:2019 The components of the present PEP cannot be compared with components from another program			
Document complies with ISO 14025:2006 "Environmental labels and declarations. Type III environmental declarations"			



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

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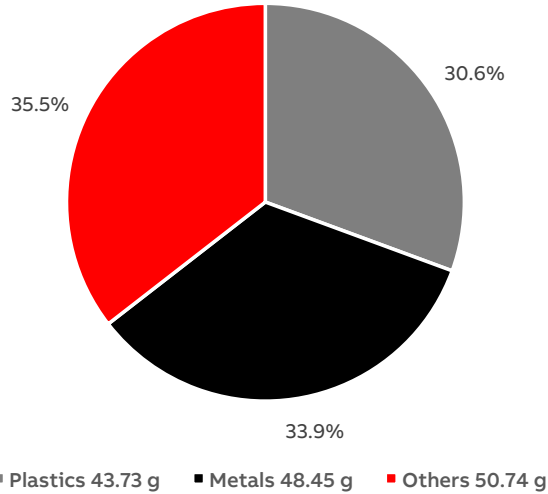


General information

Reference product	2CTB803871R2400 - OVR T2-T3 20-275 P QS
Description of the product	Surge protective devices SPD type 2- type 3 , Commercial buildings as well as for industrial applications.
Functional unit	Protect, against direct and indirect effects of lightning or against transient overvoltages, electronic equipment connected to networks with a rated operational voltage of up to 230/400 V AC, via a surge arrester of type T2- Type T3, with 1 poles, according to the appropriate use scenario (Load rate = 100% I _c , Use rate = 100 % RLT), and for the reference service life of the product of 20 years.
Other products covered	It is a "Product family declaration" which covers the Surge Protection Devices (SPDs) designed to safeguard low-voltage consumer systems from both direct and indirect lightning effects, as well as transient overvoltages. They comply with IEC 61643-11 standards, enabling their use across all application areas. This protection is provided in accordance with the parameters defined for the product family covered by this PEP. Surge protective device type according to the standard IEC 61643-11. T= T2-T3 Number of poles N _p = N, 1P, 1P+N, 3P+N Maximum continuous operating voltage U _c = 275V, 440V AC Rated discharge current for class 2 test (I _n) =5, 30 kA Impulse discharge current for class 1 test (I _{imp}) = NA Voltage protection level (U _p) = 0.9, 1.4, 1.5 kV Current drawn by the surge protective device and his related functions I _c) = 100, 300 μA
Manufacturing address / PEP owner Information	ABB Bulgaria Ltd. - branch Rakovski 14 and 18, Industrial Road 1, Industrial, zone Rakovski, region Plovdiv, 4142, Stryama, Bulgaria email: EPD_ELSB@abb.com go.abb/contact ; www.new.abb.com ,



Constituent Materials



Total weight of reference product and packaging

142.92

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%
PA Glass Reinforced	17.6	Copper	17.7	Carton	24.6
PC Glass Reinforced	11.8	Steel	14.9	Ceramic	10.9
Miscellaneous Plastics	1.2	Miscellaneous Metals	1.3	Miscellaneous Other material	

The weight includes the packaging material



Additional Information

Manufacturing	Manufacturing location is certified with ISO 14001, ISO 9001, ISO 45001, ISO 50001 and a site Certifide with Environmental Claim Validation to Zero Waste to Landfill Classifications, First Edition, July 20, 2018 (UL 2799A)
Distribution	Includes the transportation of product including packaging from the manufacturer's last logistic platform to the End User. Is modelled by considering the average distances from manufacturing site to distance at delivery end user.
Installation	No energy required during installation. End of life of product packaging considered in installation phase.
Use	This product does not required any maintenance and consumables or spares during its life time. Total consumption of energy during its life is 1.4016kWh calculated as per PSR
End of life	PCR Default scenario considered. A value of 1000 km transport by lorry is used for transportation from the installation site to the final end of life treatment as per PCR.



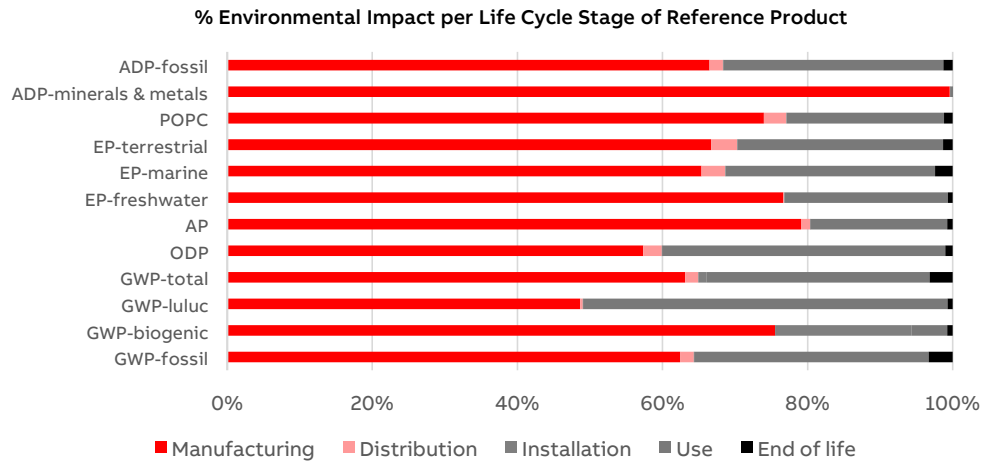
Environmental Impacts

Reference lifetime	20 years
Product category	Surge Protective Devices PSR-0005-ed3.1-EN-2023 12 08, 3.13. Specific rules for the 'Surge arresters' family
Installation elements	Installation carried out manually. Packaging material generated as waste
Use scenario	Load rate = 100% , Use rate = 100 % RLT, Total Energy consumption is 1.4016 kWh
Geographical & Time representativeness	Geographical – Global Time representativeness – 2024
Technological representativeness	Technology is specific to ABB SPDs which is common for all ABB manufacturing factories at global level
Software and database used	SimaPro 10.2.0.2 & Ecoinvent 3.11 & Method EN 15804 + A2 V1.03, biogenic carbon storage -1/+1

Energy model used

Manufacturing	Raw material - Global- Electricity Medium Voltage, Production & Assembly - Bulgaria - Electricity Medium Voltage
Installation	Electricity Low Voltage, Medium & High Voltage, Global
Use	Electricity Low Voltage, Global
End of life	Electricity Low Voltage, Medium & High Voltage, Global

Common base of mandatory indicators



Environmental impact indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life	
GWP	Total	kg CO2 eq.	3.06E+00	1.93E+00	5.52E-02	3.39E-02	9.44E-01	9.69E-02
	Fossil	kg CO2 eq.	2.88E+00	1.80E+00	5.51E-02	1.39E-03	9.32E-01	9.56E-02
	Biogenic	kg CO2 eq.	1.73E-01	1.30E-01	1.72E-05	3.25E-02	8.46E-03	1.31E-03
	Luluc	kg CO2 eq.	5.58E-03	2.71E-03	2.09E-05	6.03E-07	2.80E-03	3.98E-05
ODP	kg CFC-11 eq.	3.75E-08	2.15E-08	9.64E-10	1.77E-11	1.47E-08	3.78E-10	
AP	H+ eq.	3.96E-02	3.13E-02	4.98E-04	7.64E-06	7.48E-03	3.04E-04	
EP	Freshwater	kg P eq.	3.15E-03	2.41E-03	3.56E-06	2.27E-07	7.09E-04	2.17E-05
	Marine	kg N eq.	4.03E-03	2.63E-03	1.32E-04	4.47E-06	1.16E-03	9.81E-05
	Terrestrial	mol N eq.	4.05E-02	2.70E-02	1.45E-03	2.94E-05	1.15E-02	5.40E-04
POCP	kg NMVOC eq.	1.53E-02	1.13E-02	4.72E-04	9.22E-06	3.32E-03	1.80E-04	
ADP	Minerals & metals	kg SB eq.	3.63E-04	3.62E-04	1.11E-07	5.86E-09	1.08E-06	2.29E-07
	Fossil	MJ	4.16E+01	2.77E+01	7.78E-01	1.30E-02	1.26E+01	5.40E-01
WDP	m ³ eq. depr.	1.07E+00	9.14E-01	2.93E-03	4.11E-04	1.51E-01	2.93E-03	

Resource use indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
PERE	MJ	5.23E+00	3.06E+00	8.71E-03	6.30E-04	2.11E+00	5.46E-02
PERM	MJ	8.53E-01	8.53E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	6.09E+00	3.91E+00	8.71E-03	6.30E-04	2.11E+00	5.46E-02
PENRE	MJ	4.06E+01	2.66E+01	7.78E-01	1.30E-02	1.26E+01	5.40E-01
PENRM	MJ	1.06E+00	1.06E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	4.16E+01	2.77E+01	7.78E-01	1.30E-02	1.26E+01	5.40E-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	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
FW	m ³	3.04E-02	2.44E-02	8.98E-05	1.75E-05	5.67E-03	1.48E-04

Waste category indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
HWD	kg	5.92E-04	5.59E-04	4.97E-06	1.06E-07	2.50E-05	3.17E-06
N-HWD	kg	2.92E-01	1.52E-01	4.36E-02	2.58E-03	2.46E-02	6.88E-02
RWD	kg	9.92E-05	7.94E-05	1.49E-07	1.26E-08	1.89E-05	7.73E-07

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	5.52E-02	6.63E-03	0.00E+00	1.51E-02	0.00E+00	3.35E-02
MfER	kg	4.23E-02	1.95E-03	0.00E+00	1.85E-02	0.00E+00	2.19E-02
EE	MJ	0.00E+00	0.00E+00	0.00E+00	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	1.76E-02

Optional indicators

Indicator	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
Tot PE	MJ	4.77E+01	3.16E+01	7.87E-01	1.36E-02	1.47E+01	5.94E-01
Efp	Dise inc	1.52E-07	1.14E-07	3.76E-09	9.66E-11	2.92E-08	4.89E-09
IrHH	kBq U-235 eq	4.05E-01	3.23E-01	6.07E-04	4.96E-05	7.81E-02	2.79E-03
ETX FW	CTUe	3.12E+01	2.92E+01	8.45E-02	1.04E-01	1.49E+00	3.66E-01
HTX CE	CTUh	3.57E-09	3.30E-09	8.72E-12	1.83E-12	1.38E-10	1.17E-10
HTX N-CE	CTUh	3.10E-07	2.92E-07	4.47E-10	7.85E-11	8.41E-09	8.76E-09
IrLS	Pt	4.15E+00	3.39E+00	1.10E-01	2.45E-03	5.66E-01	8.35E-02

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
2CTB803871R1100	1.01	1.01	0.71	5.63	1.11
2CTB803871R1300	1.01	1.01	0.71	5.63	1.11
2CTB803871R2400	1.00	1.00	1.00	1.00	1.00
2CTB803871R2500	1.01	1.01	0.71	1.00	1.11
2CTB803872R1200	1.75	1.75	0.28	2.13	2.23
2CTB803872R1400	1.75	1.75	0.28	2.13	2.23
2CTB803873R1200	3.50	3.50	0.57	3.63	4.45
2CTB803873R1400	3.50	3.50	0.57	3.63	4.45
2CTB803873R1700	3.50	3.50	0.57	19.50	4.45
2CTB803873R3400	2.62	2.62	0.43	2.13	3.34
2CTB803873R3500	2.62	2.62	0.43	2.13	3.34
2CTB803876R0600	0.98	0.98	0.57	5.63	1.11
2CTB803876R1200	0.98	0.98	0.57	1.00	1.11
2CTB803972R1200	1.75	1.75	0.28	2.13	2.23
2CTB803972R1300	1.75	1.75	0.28	2.13	2.23
2CTB803973R1200	3.50	3.50	0.57	3.63	4.45
2CTB803973R1300	3.50	3.50	0.57	19.50	4.45
2CTB803973R1600	3.50	3.50	0.57	3.63	4.45
2CTB803973R1900	1.01	1.01	0.71	1.00	1.11
2CTB803973R2000	1.01	1.01	0.71	5.63	1.11

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
POCP	Tropospheric ozone creation potential
ADP-m&m	Abiotic Depletion for non-fossil resources potential
ADP-fossil	Abiotic Depletion for fossil resources potential
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		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	Efp	Emissions of Fine particles
MfER	Materials for energy recovery	IrHH	Ionizing radiation, human health
EE	Exported Energy	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

- [1] PCR “PEP-PCR-ed4-EN-2021_09_06” - Product Category Rules for Electrical, Electronic and HVAC-R Products (published: 6th September 2022)
- [2] PSR “PSR-0005-ed3.1-EN-2023 12 08” - SPECIFIC RULES FOR Electrical switchgear and control gear Solutions (Circuit breakers)
- [3] EN 50693:2019 - Product category rules for life cycle assessments of electronic and electrical products and systems
- [4] ISO 14040:2006 - Environmental management -Life cycle assessment - Principles and framework
- [5] ISO 14044:2006 - Environmental management - Life cycle assessment - Requirements and guidelines
- [6] ecoinvent v3.10 (2024). ecoinvent database version 3.10 - (<https://ecoinvent.org/>)
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- [9] IEC/TR 62635 - Guidelines for end-of-life information provided by manufacturers and recyclers and for recyclability rate calculation of electrical and electronic equipment - Edition 1.0 2012-10
- [10] <https://www.ecosystemspa.com/>
- [11] ISO 14025 - Environmental management — Life cycle assessment — Principles and framework