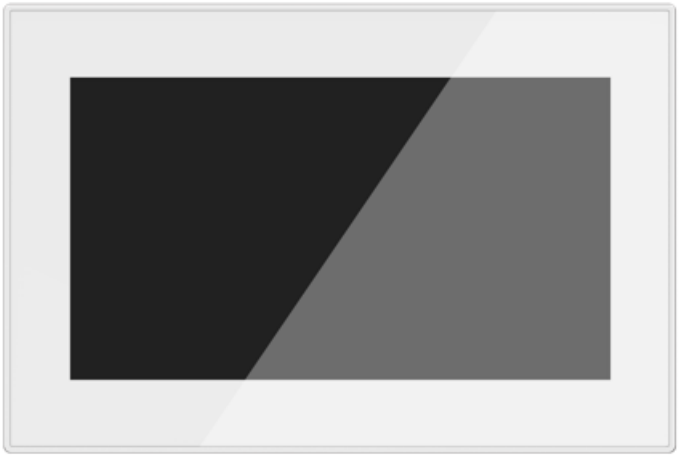
PRODUCTS FAMILY DECLARATION FOR ONETOUCH SERIES FROM INDOOR STATION OF ABB

PEP ecopassport®

Product Environmental Profile



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DATE: 2024-09-24

Document in compliance with ISO 14025: 2006 "Environmental labels and declarations. Type III environmental declarations"

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ABB Purpose & Embedding Sustainability

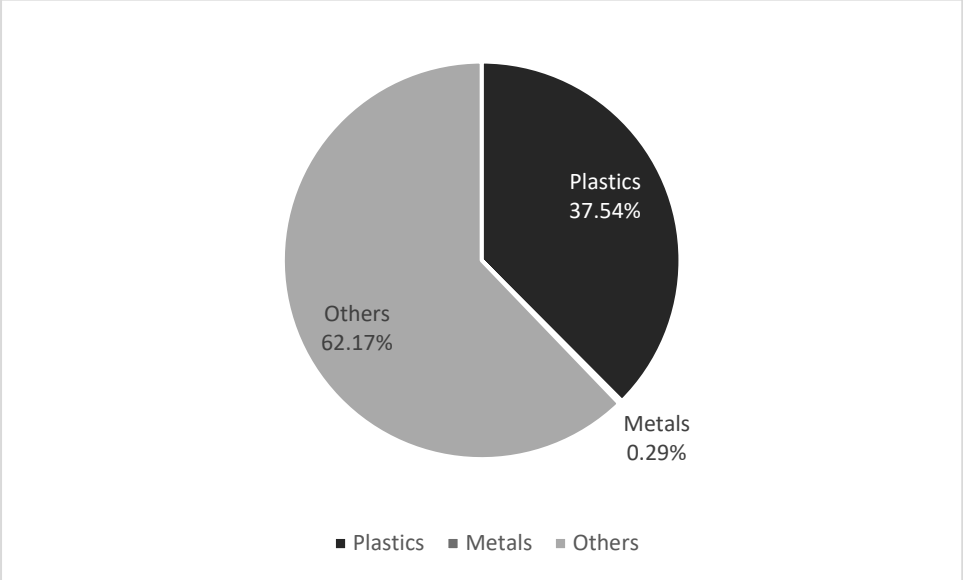
ABB is committed to continually promoting and embedding sustainability across its operations and value chain, aspiring to become a role model for others to follow. With its ABB Purpose, ABB is focusing on reducing harmful emissions, preserving natural resources and championing ethical and humane behavior.

More information on the topic about Sustainability strategy 2030 — ABB Group see the website: “https://global.abb/group/en/sustainability/sustainability-strategy-2030”

General Information

Reference product	One unit of OneTouch panel - produced by ABB, the representative product is M2249-2W-03 (2TMA320050W0001)
Description of the product	OneTouch (ASI29), which is an important device of door entry system and free-home system. It’s with impressed industry design. Through video, audio and screen, it acts as the indoor station in door entry system and can also be used as central control panel for building automation.
Functional unit of the representative product	To receive and send sounds and videos between people outside the building and inside of the building so that to achieve the effective communication between the visitors (outdoor) and residents (indoor), can also be used as central control panel for building automation, according to the appropriate use scenario (Standby: 81.25%, On: 0.42%, Wait: 18.33%), and for the reference lifetime of 10 years.
Products concerned	The products covered by this PEP are: M2249-2W-03 (2TMA320050W0001), M2249-2B-03 (2TMA320050B0001), M2249-2W (2TMA320051W0001), M2249-2B (2TMA320051B0001)

Constituent materials



Total weight of Reference product	Net weight of the product is 426.67 g, net weight of the product packaging is 251.85g, net weight of the transport packaging is 378.43g. Gross weight of packaged product (include product packaging and transport packaging) is 1056.95 g.

Components	**Mass (g)**	**Product weight, incl. product pack (g)**
Product	426.67	
Product packaging	251.85	1056.95
Transport packaging	378.43	

Plastics as % of weight		**Metals as % of weight**		**Other as % of weight**	
Name and CAS number	Weight-%	Name and CAS number	Weight-%	Name and CAS number	Weight-%
PE	13.0	Steel	0.2	Electronic component	30.3
PP	14.9	Copper	0.1	Paper	23.8
PC	8.2			Wood	7.9
ASA	1.4			Other	0.2

Additional Environmental Information

Manufacturing	The components are transported by lorry from the suppliers to the manufacturing site and product is assembled and packed in ABB's plant before distribution. The electricity on the manufacturing site is electricity mix of China. Non-hazardous production waste is assumed to be transported by lorry (100 km by default in the PSR) and treated by disposal. Specific one-year data from 2023 on the manufacturing site level was collected and allocated to the product by mass allocation.
Distribution	100% to Germany.
Installation	The product is installed manually. For treatment of packaging waste, the scenario set by the PSR is followed.
Use	This product requires no servicing, no maintenance or additional products. The only energy used is low voltage electricity. The product was solely sold to Germany. Thus, the use stage has been modeled using the corresponding low voltage electricity mix of Germany.
End of life	The reference product is assumed to be partly recycled and recovered. And the remaining part is treated to the end-of-life stage.
Benefits and loads beyond the system boundaries	/

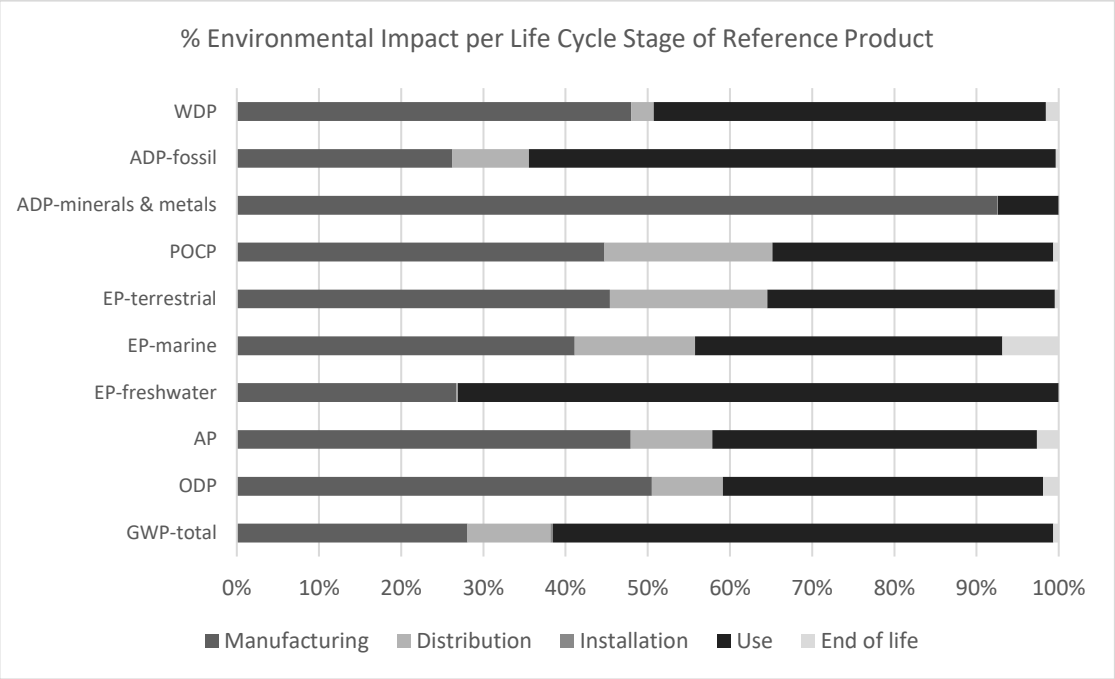
Environmental impacts

Reference lifetime	10 years.
Product category	OneTouch, PSR-0005-ed3.1-EN-2023 12 08, 3.15. Other Equipment, active products - continuous operation
Installation elements	Manually installation.
Use scenario	36.5h talk, 1606h operation and wait, 7117.5h standby each year, for 10 years reference service life.
Geographical representativeness	Raw materials and Manufacturing: Global. Assembly: China. Distribution: China to Germany. Use: Germany. EoL: Global
Technological representativeness	In the manufacturing stage, specific data was collected to calculate the environmental impact caused by the manufacturing process. To produce raw materials and parts, datasets from Ecoinvent 3.9.1 were used. During the dataset selection, the technological representation was considered carefully. Datasets with the same production processes were preferred. If not available, datasets with similar production processes were chosen.
Time representativeness	The generic data were extracted from databases (mainly Ecoinvent). Furthermore, the reference years of the datasets are between 2011 – 2022 and no data used in the model are older than 10 years. The primary data is from 2023.
Software and database used	SimaPro version 9.5.0.2. & databases ecoinvent 3.9.1 & EF3.1

Energy model used

Manufacturing	Materials and parts production: Global electricity mix Product assembly: Average electricity mix of China
Installation	/
Use	Average electricity mix of Germany
End of life	Average electricity mix of Global

Common base of mandatory indicators



Environmental impact indicators

Indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
GWP-total	**kg CO_2 eq**	1.06E+02	2.96E+01	1.06E+01	3.52E-01	6.43E+01	7.02E-01
GWP-fossil	**kg CO_2 eq**	1.04E+02	2.98E+01	1.06E+01	2.52E-02	6.32E+01	7.02E-01
GWP-biogenic	**kg CO_2 eq**	1.02E+00	-2.44E-01	1.07E-02	3.27E-01	9.23E-01	3.49E-04
GWP-luluc	**kg CO_2 eq**	1.55E-01	4.81E-02	8.69E-04	3.32E-05	1.05E-01	1.76E-04
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 CFC11 eq**	1.88E-06	9.51E-07	1.62E-07	4.14E-10	7.34E-07	3.58E-08
ODP = Depletion potential of the stratospheric ozone layer							
AP	**mol H+ eq**	4.65E-01	2.23E-01	4.60E-02	1.40E-04	1.84E-01	1.23E-02
AP = Acidification potential, Accumulated Exceedance							
EP-freshwater	**kg P eq**	1.25E-01	3.36E-02	1.62E-04	2.74E-06	9.17E-02	1.49E-05
EP-marine	**kg N eq**	1.28E-01	5.24E-02	1.87E-02	5.59E-05	4.76E-02	8.76E-03
EP-terrestrial	**mol N eq**	1.05E+00	4.75E-01	2.00E-01	5.43E-04	3.66E-01	5.13E-03
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**	3.05E-01	1.37E-01	6.22E-02	1.90E-04	1.04E-01	2.05E-03
ADP-minerals & metals	**kg Sb eq**	9.52E-03	8.82E-03	3.03E-06	9.10E-08	7.04E-04	3.29E-07
ADP-fossil	**MJ**	1.48E+03	3.87E+02	1.37E+02	3.15E-01	9.46E+02	5.45E+00
ADP-minerals & metals = Abiotic depletion potential for non-fossil resources ADP-fossil = Abiotic depletion for fossil resources potential							
WDP	**m^3 world eq. depr.**	9.86E+00	4.73E+00	2.66E-01	2.62E-03	4.70E+00	1.52E-01
WDP = Water Deprivation potential							

Common base of mandatory indicators

Inventory flows indicator - Resource use indicators

Indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
PERE	**MJ**	3.18E+02	4.37E+01	4.83E-01	7.42E-03	2.73E+02	7.10E-01
PERM	**MJ**	4.63E+00	4.63E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	**MJ**	3.22E+02	4.84E+01	4.83E-01	7.42E-03	2.73E+02	7.10E-01
PENRE	**MJ**	1.46E+03	3.72E+02	1.37E+02	3.15E-01	9.46E+02	5.45E+00
PENRM	**MJ**	1.57E+01	1.57E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	**MJ**	1.48E+03	3.87E+02	1.37E+02	3.15E-01	9.46E+02	5.45E+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 resources

Inventory flows indicator - Indicators describing the use of secondary materials, water, and energy resources

Indicators	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	**M³**	6.68E-01	1.83E-01	9.24E-03	9.25E-05	4.70E-01	5.12E-03

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

Indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
Hazardous waste disposed	kg	1.23E-01	3.55E-02	9.54E-03	2.48E-04	7.54E-02	2.57E-03
Non-hazardous waste disposed	kg	1.25E+01	3.48E+00	6.07E-01	2.86E-01	5.32E+00	2.84E+00
Radioactive waste disposed	kg	5.13E-03	7.19E-04	9.45E-06	1.09E-07	4.38E-03	2.36E-05

Common base of mandatory indicators

Inventory flows indicator – Output flow indicators

Indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
Components for reuse	**kg**	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	**Kg**	2.27E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.27E-03
Materials for energy recovery	**Kg**	5.14E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.14E-02
Exported energy	**MJ**	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Note: In manufacturing stage, the recycled content of raw materials is 0, and scrap value is considered according to PSR. In EoL stage, recovery rate and disposal rate is based on PCR.

Inventory flow indicator – other indicators

Indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
Biogenic carbon content of the product	**kg of C**	0.00E+00	/	/	/	/	/
Biogenic carbon content of the associated packaging	**kg of C**	8.77E-02	/	/	/	/	/

Note: As no biogenic carbon in the product, thus, only the biogenic carbon in the packaging was calculated. Of the product packaging and packaging for transportation, the materials containing biogenic carbon are wood pallet and paper board.

Family of Products Extrapolation Rules

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:
The impact for Manufacturing, Distribution, Installation and End of life phases of a product covered by the PEP other than the representative product is proportional to weight of the product, weight of the packaged product, weight of the product packaging and weight of the product, thus, the impacts of these phases should be separately calculated by multiple the coefficients factor_1, factor_2, factor_3, and factor_1 by the environmental impact for this phase of the representative product.

The environmental impact for Use phase of a product covered by the PEP other than the representative product is proportional to the amount of the electricity used in use stage, thus, the impacts should be calculated by multiple the coefficients factor_4 by the environmental impact for this phase of the representative product.

Extrapolation rules for Manufacturing, Distribution, Installation, Use and End of life phases

Product Model	Manufacturing	Distribution	Installation	Use	End of life
	Factor_1	Factor_2	Factor_3	Factor_4	Factor_1
M2249-2W-03	1.00	1.00	1.00	1.00	1.00
M2249-2B -03	1.01	1.01	1.00	1.00	1.01
M2249-2W	0.96	0.98	1.00	1.00	0.96
M2249-2B	0.97	0.98	1.00	1.00	0.97

Environmental Impact Indicator Glossary

Impact indicators

Indicator	Description	Distribution
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 world eq. depr.

Resource use indicators

Indicator	Description	Distribution
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)

References

- PEP Ecopassport PROGRAM PCR-Product Category Rules for Electrical, Electronic and HVAC-R Products (PCR-ed4-EN-2021 09 06).
- PEP Ecopassport PROGRAM PSR-SPECIFIC RULES FOR Electrical switchgear and control gear Solutions (PSR-0005-ed3.1-EN-2023 12 08).
- ISO (2006a). ISO 14025:2006, Environmental labels and declarations – Type III environmental declarations – Principles and procedures.
- ISO (2006b). ISO 14040:2006/Amd 1:2020, Environmental management – Life cycle assessment – Principles and framework— Amendment 1.
- ISO 14044:2006/Amd 1:2017/Amd 2:2020 Environmental management – Life cycle assessment – Requirements and guidelines.
- ISO 14020:2000, Environmental labels and declarations — General principles.
- ISO 14025:2006 “Environmental labels and declarations. Type III environmental declarations.
- EN 50693:2019, Product category rules for life cycle assessments of electronic and electrical products and systems.
- EN 15804 +A2:2019, Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products.
- LCA report –Video Indoor Station 4.3, OneTouch, Nile 7” and Basic 7” of Indoor station, 20-08-2024.

Registration number:	**Drafting Rules:** *PCR-ed4-EN-2021 09 06*
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Verifier accreditation number: VH51	**Information and reference documents:** www.pep-ecopassport.org
Date of issue: 09-2024	**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 (DDemain)	
PEP are compliant with XP C08-100-1: 2016 and EN 50693:2019 The components of the present PEP may not be compared with components from any other program.	
Document in compliance with ISO 14025: 2006, Environmental labels and declarations. Type III environmental declarations	