

AP45/AP9/AP10 RECYCLED

Product Environmental Profile

Environmental Product Declaration



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

ORGANIZATION		CONTACT INFORMATION			
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STATUS	SECURITY LEVEL	REGISTRATION NUMBER	REV.	LANG.	PAGE
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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.

Scan QR code for more information



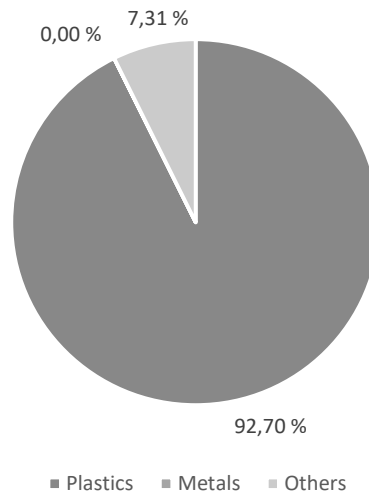
General Information

Reference product	2TKA140014G1 - AP9/G
Description of the product	The square junction box AP9/G (2,5 mm ² , 500 V) is equipped with 12 membrane cable entries for cables up to Ø 17 mm in the sides, and two at the bottom for cables up to Ø 19 mm. Cables are easy to connect by simply inserting the stripped ends through the inlets. The box locks by snapping and can be opened by inserting a screwdriver (for example) into the opening slots - no screws are needed. VDE-approved. Mounting temperature -25...+60 °C.
Functional unit	Protect persons during 20 years against direct contact with live parts and allow grouping monitoring, control and protection devices in a single enclosure or a cabinet having the following dimensions 39 x 89 x 89 (mm), while protecting against the penetration of solid objects and liquids (IP65) in accordance with IEC 60529.
Other products covered	Other products covered by this PEP are listed on page 9.

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Constituent materials



Total weight of Reference product

60,22 g including the product and its main packaging

Plastics as % of weight		Metals as % of weight		Others as % of weight	
Description	Weight-%	Description	Weight-%	Description	Weight-%
Recycled Polypropylene	78,15	-	-	Carton	7,31
SEBS	13,45	-	-	-	-
Plastic film	1,10	-	-	-	-

The reference product and other products in this range comply with the RoHS Directive 2011/65/EU (covering 2015/863(EU)) and national legislation. The plastic materials used in the products are also halogen free materials (IEC/61249-2-21) and recyclable.

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Additional Environmental Information

Manufacturing	Manufactured at ABB Oy, Wiring Accessories ISO 14001 certified production site. Corresponds to modules A1-A3.
Distribution	Product distribution optimised by setting up local distribution centres. Corresponds to module A4.
Installation	The product does not require special installation procedure and requires little to no energy to install. The disposal of the packaging materials is accounted during the installation phase. Corresponds to module A5.
Use	The product does not require special maintenance operations. Corresponds to modules B1-B7.
End of life	No special end-of-life treatment required. This product can enter the usual end-of-life treatment process according to countries' best practices. Corresponds to modules C1-C4.
Benefits and loads beyond the system boundaries	Net benefits and loads calculated according to PCR ed 4 and formulas given in Annex G of the EN 50693. Corresponds to module D.



Environmental impacts

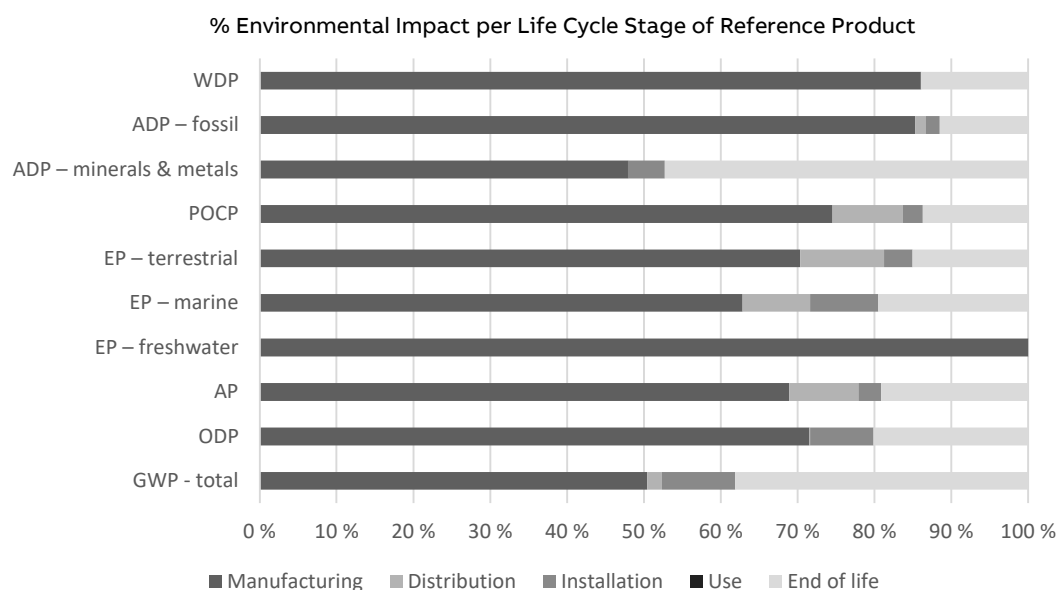
Reference lifetime	20 years
Product category	Unequipped enclosures and cabinets
Installation elements	Installation requires 2 screws, max 3,5mm scw cap
Use scenario	Non applicable for unequipped enclosures and cabinets
Geographical representativeness	Europe, with emphasis on Nordic countries
Technological representativeness	The manufacturing processes considered are representative of the products production
Software and database used	Software: SimaPro version 9.4.0.2 Database: ecoinvent 3.8, Industry data 2.0, and ELCD

Energy model used

Manufacturing	Electricity, low voltage {FI} market for Cut-off, S
Installation	Electricity, low voltage {Europe without Switzerland} market for Cut-off, S
Use	-
End of life	Electricity, low voltage {Europe without Switzerland} market for Cut-off, S

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Common base of mandatory indicators



Environmental impact indicators

Indicator	Unit	Total	Manu- facturing	Distri- bution	Instal- lation	Use	End of life	Bene- fits
GWP-total	kg CO ₂ eq.	1,13E-01	5,72E-02	2,17E-03	1,08E-02	0,00E+00	4,33E-02	6,75E-03
GWP-fossil	kg CO ₂ eq.	1,27E-01	7,90E-02	2,17E-03	3,26E-03	0,00E+00	4,30E-02	2,82E-04
GWP-biogenic	kg CO ₂ eq.	-1,40E-02	-2,18E-02	-2,81E-07	7,50E-03	0,00E+00	2,94E-04	6,48E-03
GWP-luluc	kg CO ₂ eq.	1,28E-04	8,41E-05	0,00E+00	1,55E-05	0,00E+00	2,85E-05	-1,82E-05
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 CFC-11 eq.	3,6E-09	2,6E-09	3,1E-12	2,9E-10	0,0E+00	7,2E-10	1,7E-10
ODP = Depletion potential of the stratospheric ozone layer								
AP	H+ eq.	3,96E-04	2,73E-04	3,55E-05	1,17E-05	0,00E+00	7,58E-05	-3,01E-06
AP = Acidification potential, Accumulated Exceedance								
EP-freshwater	kg P eq.	8,18E-02	8,18E-02	7,87E-10	1,20E-06	0,00E+00	1,06E-05	-8,33E-07
EP-marine	kg N eq.	1,19E-04	7,46E-05	1,04E-05	1,05E-05	0,00E+00	2,31E-05	-5,84E-06
EP-terrestrial	mol N eq.	1,05E-03	7,36E-04	1,14E-04	3,87E-05	0,00E+00	1,58E-04	-3,10E-05
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.	3,19E-04	2,38E-04	2,90E-05	8,55E-06	0,00E+00	4,36E-05	1,53E-05
POCP = Formation potential of tropospheric ozone								
ADP-minerals & metals	kg Sb eq.	3,13E-07	1,50E-07	8,23E-11	1,49E-08	0,00E+00	1,48E-07	-2,33E-08
ADP-fossil	MJ	2,04E+00	1,74E+00	2,91E-02	3,65E-02	0,00E+00	2,35E-01	4,08E-01
ADP-minerals & metals = Abiotic depletion potential for non-fossil resources ADP-fossil = Abiotic depletion for fossil resources potential								
WDP	m ³ e depr.	3,28E-02	2,82E-02	7,82E-06	7,82E-06	0,00E+00	4,57E-03	1,28E-02
WDP = Water Deprivation potential								
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Common base of mandatory indicators

Inventory flows indicator – Resource use indicators

Indicator	Unit	Total	Manu- facturing	Distri- bution	Instal- lation	Use	End of life	Bene- fits
PERE	MJ	3,10E-01	2,61E-01	3,26E-05	5,61E-03	0,00E+00	4,35E-02	-1,12E-01
PERM	MJ	1,86E-01	1,86E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	4,96E-01	4,47E-01	3,26E-05	5,61E-03	0,00E+00	4,35E-02	-1,12E-01
PENRE	MJ	2,45E+00	2,14E+00	2,91E-02	3,65E-02	0,00E+00	2,35E-01	4,08E-01
PENRM	MJ	2,49E+00	2,49E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	4,94E+00	4,64E+00	2,91E-02	3,65E-02	0,00E+00	2,35E-01	4,08E-01

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

Indicator	Unit	Total	Manu- facturing	Distri- bution	Instal- lation	Use	End of life	Bene- fits
SM	kg	5,47E-02	5,47E-02	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	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m ³	1,07E-02	1,06E-02	2,53E-07	2,26E-05	0,00E+00	1,49E-04	-6,39E-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

Indicator	Unit	Total	Manu- facturing	Distri- bution	Instal- lation	Use	End of life	Bene- fits
Hazardous waste disposed	kg	1,22E-05	1,19E-05	0,00E+00	5,13E-08	0,00E+00	2,76E-07	-6,53E-06
Non-hazardous waste disposed	kg	1,24E-02	1,17E-02	7,23E-05	3,06E-04	0,00E+00	3,38E-04	-7,54E-03
Radioactive waste disposed	kg	1,10E-05	9,22E-06	5,09E-08	9,21E-08	0,00E+00	1,60E-06	-5,03E-06

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Common base of mandatory indicators

Inventory flows indicator – Output flow indicators

Indicator	Unit	Total	Manu- facturing	Distri- bution	Instal- lation	Use	End of life	Bene- fits
Components for re-use	kg	3,90E-03	0,00E+00	0,00E+00	3,90E-03	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	4,32E-02	0,00E+00	0,00E+00	3,83E-03	0,00E+00	3,93E-02	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	2,30E-01	5,83E-02	0,00E+00	2,41E-02	0,00E+00	1,48E-01	0,00E+00

Inventory flow indicator – other indicators

Indicator	Unit	Total
Biogenic carbon content of the product	kg of C	0,00E+00
Biogenic carbon content of the associated packaging	kg of C	7,74E-03

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Optional indicators

Environmental indicators

Indicator	Unit	Total	Manu- facturing	Distri- bution	Instal- lation	Use	End of life	Bene- fits
Total use of primary energy during the life cycle	MJ	5,44E+00	5,09E+00	2,92E-02	4,21E-02	0,00E+00	2,79E-01	-3,43E+00
Emissions of fine particles	inci- dence of dis- eases	3,45E-09	2,67E-09	2,13E-10	1,25E-10	0,00E+00	4,45E-10	9,28E-11
Ionizing radiation, human health	kBq U235 eq.	1,98E-02	1,38E-02	4,98E-06	2,38E-04	0,00E+00	5,72E-03	-1,94E-02
Ecotoxicity (fresh water)	CTUe	1,24E+00	9,33E-01	1,41E-03	5,48E-02	0,00E+00	2,52E-01	-6,58E+01
Human toxicity, carcinogenic effects	CTUh	5,47E-11	3,64E-11	3,59E-14	1,79E-12	0,00E+00	1,65E-11	7,79E-10
Human toxicity, non-carcinogenic effects	CTUh	7,56E-10	4,15E-10	9,12E-13	4,02E-11	0,00E+00	3,00E-10	-1,06E-07
Impact related to land use/soil quality		2,46E+00	2,34E+00	0,00E+00	1,91E-02	0,00E+00	9,55E-02	-2,43E+00

Other indicators

Indicator	Unit	Total	Manu- facturing	Distri- bution	Instal- lation	Use	End of life	Bene- fits
No Other indicators used								

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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	Benefits
2TKA140013G1 (AP9M)	1,00	1,00	1,00	1,00	1,00	1,00
2TKA00001446 (AP9MP)	1,00	1,77	4,27	1,00	1,00	-0,90
2TKA001706G1 (AP9MPP)	1,00	0,99	0,95	1,00	1,00	1,14
2TKA00001563 (AP9R)	1,00	1,00	1,00	1,00	1,00	1,00
2TKA00001564 (AP9V)	1,00	1,00	1,00	1,00	1,00	1,00
2TKA001704G1 (AP9/G.CH)	1,00	1,00	1,00	1,00	1,00	1,00
2TKA140003G1 (AP10/G)	1,71	1,77	1,95	1,00	1,71	1,67
2TKA00004261 (AP10M)	1,71	1,77	1,95	1,00	1,71	1,67
2TKA001698G1 (AP10/G.CH)	1,71	1,77	1,95	1,00	1,71	1,67
2TKA00005253 (AP45G)	0,60	0,82	1,63	1,00	0,60	0,15
2TKA00005256 (AP45M)	0,60	0,82	1,63	1,00	0,60	0,15
2TKA00005551 (AP45GPP)	0,60	0,82	1,63	1,00	0,60	0,15
2TKA00005552 (AP45MPP)	0,60	0,82	1,63	1,00	0,60	0,15
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

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		Supplemented by:	PSR-0005-ed2-EN-2016 03 29
Verifier accreditation number:	VH32	Information and reference documents:	www.pep-ecopassport.org
Date of issue:	05-2023	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)

PEPs are compliant with XP C08-100-1:2016 or EN 50693:2019

The components of the present PEP may not be compared with components from any other program.



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Environmental Impact Indicator Glossary

Impact indicators

Indicator	Description	Unit
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 e depr.

Resource use indicators

Indicator	Description	Unit
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)

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