JUNCTION BOX

Product Environmental Profile

Environmental Product Declaration

Document in compliance with ISO 14025: 2010 "Environmental labels and declarations. Type III environmental declarations"

ORGANIZATION		CONTACT INFORMATION			
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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.

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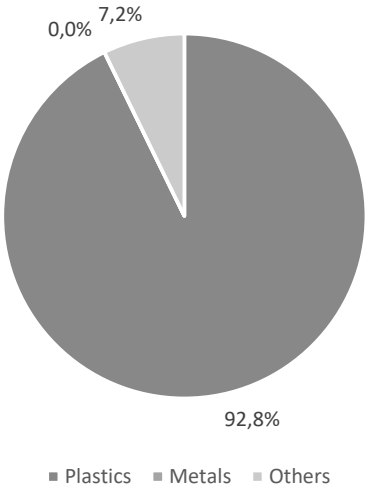
General Information

Reference product	2TKA140012G1 - AP9
Description of the product	The square junction box AP9 (2,5 mm², 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	AP9P, AP9PP, AP9/W.CH, AP9/G, AP9/G.CH, AP9M, AP9MP, AP9MPP, AP9V, AP9R, AP10, AP10P, AP10PP, AP10/W.CH, AP10/G, AP10/G.CH, AP10M

Constituent materials



Total weight of Reference product	60,7 g including the product and its packaging

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-%**
Polypropylene	78,0	–	–	Carton	7,2
SEBS	13,8	–	–	–	–
Packaging film	1,0	–	–	–	–

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

Additional Environmental Information

Manufacturing	Manufactured at ABB Oy, Wiring Accessories production site ISO 14001 certified, with renewable energy: Hydro (70%) and wind and solar (30%)
Distribution	Product distribution optimised by setting up local distribution centres. Packaging weight 4,9g, consisting of cardboard (88%) and plastic (12%).
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.
Use	The product does not require special maintanence operations
End of life	No special end-of-life treatment required. According to countries' practices this product can enter the usual end-of-life treatment process.
Software and database used	OpenLCA version 10, ecoinvent 3.6 and ELCD
Standards	Products in conformity with the provisions of Low Voltage Directive 2014/35/EU

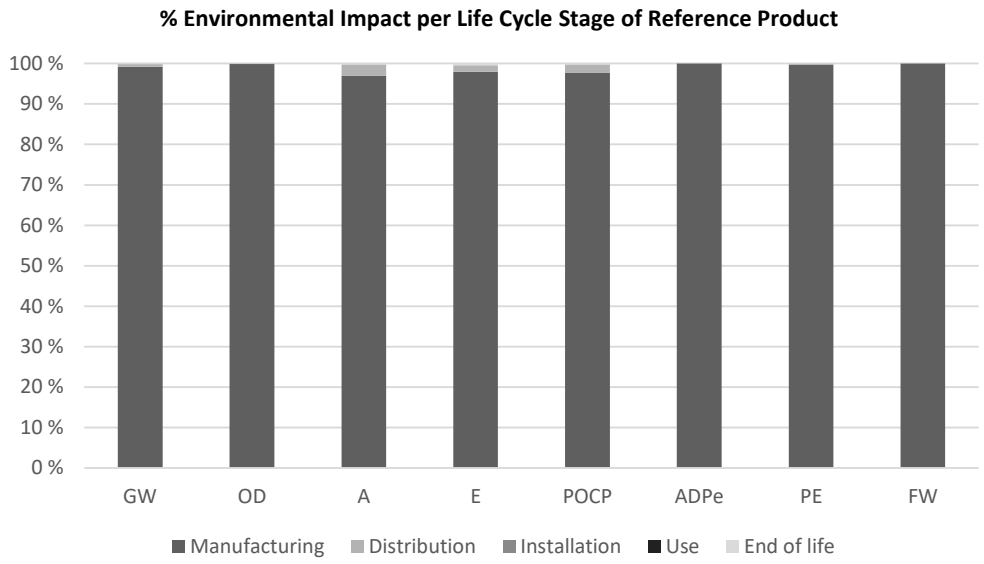
Environmental impacts

Reference lifetime	20 years
Product category	Unequipped enclosures and cabinets
Installation elements	Installation requires 2 screws, max 3,5mm scew cap
Use scenario	Non applicable for unequipped enclosures and cabinets
Geographical representativeness	Nordic countries and Europe
Technological representativeness	The manufactruing processes considered are representative of the products production
Energy model used	
Manufacturing	Manufacturing plant: Porvoo, Finland
Installation	-
Use	-
End of life	-

Compulsory Indicators

Impact indicators	Unit	Total	Manu-facturing	Distri-bution	Instal-lation	Use	End of life
Global warming (GW)	kg CO_2 eq.	1,357E-01	1,346E-01	7,831E-04	2,326E-05	0,000E+00	2,880E-04
Ozone depletion (OD)	kg CFC-11 eq.	2,397E-09	2,394E-09	1,480E-12	7,916E-14	0,000E+00	1,724E-12
Acidification of soil and water (A)	kg SO_2 eq.	4,275E-04	4,148E-04	1,137E-05	1,033E-07	0,000E+00	1,218E-06
Eutrophication (E)	kg $(PO_4)^3$ eq.	9,205E-05	9,020E-05	1,382E-06	2,827E-08	0,000E+00	4,461E-07
Photochemical ozone creation (POCP)	kg C_2H_4 eq.	2,980E-05	2,909E-05	6,071E-07	7,375E-09	0,000E+00	8,783E-08
Depletion of abiotic resources – elements (ADPe)	kg Sb eq.	9,778E-07	9,778E-07	2,989E-11	9,548E-13	0,000E+00	1,219E-11

Resource use indicators	Unit	Total	Manu-facturing	Distri-bution	Instal-lation	Use	End of life
Total use of primary energy (PE)	MJ	4,650E+00	4,635E+00	1,055E-02	3,270E-04	0,000E+00	3,941E-03
Net freshwater use (FW)	m^3	1,020E-01	1,020E-01	9,180E-08	4,399E-09	0,000E+00	1,133E-07



Optional Indicators

Impact indicators	Unit	Total	Manu-facturing	Distri-bution	Instal-lation	Use	End of life
Depletion of abiotic resources – fossil fuels (ADPf)	MJ	4,119E+00	4,105E+00	1,054E-02	3,262E-04	0,000E+00	3,923E-03
Water pollution (WP)	m^3	5,577E-02	5,567E-02	4,840E-06	2,676E-06	0,000E+00	9,234E-05
Air pollution (AP)	m^3	3,537E+00	3,517E+00	1,469E-02	3,422E-04	0,000E+00	4,325E-03
Resource use indicators	**Unit**	**Total**	**Manu-facturing**	**Distri-bution**	**Instal-lation**	**Use**	**End of life**
Total use of renewable primary energy resources	MJ	3,225E-01	3,225E-01	1,389E-05	7,863E-07	0,000E+00	1,781E-05
Total use of non-renewable primary energy resources	MJ	4,328E+00	4,313E+00	1,054E-02	3,262E-04	0,000E+00	3,923E-03

Optional Indicators

Waste category indicators	Unit	Total	Manu-facturing	Distri-bution	Instal-lation	Use	End of life
Non-hazardous waste disposed	kg	4,164E-04	3,318E-04	2,621E-05	2,113E-06	0,000E+00	5,632E-05
Radioactive waste disposed	kg	6,287E-08	2,185E-08	1,849E-08	9,889E-10	0,000E+00	2,154E-08

Output flow indicators	Unit	Total	Manu-facturing	Distri-bution	Instal-lation	Use	End of life
Materials for recycling	kg	2,434E-02	6,500E-04	0,000E+00	3,372E-03	0,000E+00	2,032E-02
Materials for energy recovery	kg	3,661E-02	0,000E+00	0,000E+00	1,616E-03	0,000E+00	3,500E-02

Country specific indicators	Unit	Total	Manu-facturing	Distri-bution	Instal-lation	Use	End of life
No Country specific indicators used							

For other products than the Reference product covered by this PEP, the environmental im-pacts 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
2TKA140014G1 (AP9/G)	1,00	1,00	1,00	1,00	1,00
2TKA140013G1 (AP9M)	1,00	1,00	1,00	1,00	1,00
2TKA00001564 (AP9V)	1,00	1,00	1,00	1,00	1,00
2TKA00001563 (AP9R)	1,00	1,00	1,00	1,00	1,00
2TKA00001446 (AP9MP)	1,28	1,27	4,21	1,00	1,00
2TKA00001447 (AP9P)	1,28	1,27	4,21	1,00	1,00
2TKA001704G1 (AP9/G.CH)	1,00	1,00	1,00	1,00	1,00
2TKA001705G1 (AP9/W.CH)	1,00	1,00	1,00	1,00	1,00
2TKA001706G1 (AP9MPP)	0,98	0,99	0,72	1,00	1,00
2TKA001707G1 (AP9PP)	0,98	0,99	0,72	1,00	1,00
2TKA140002G1 (AP10)	1,71	1,71	1,75	1,00	1,69
2TKA140003G1 (AP10/G)	1,71	1,71	1,75	1,00	1,69
2TKA00004261 (AP10M)	1,71	1,71	1,75	1,00	1,69
2TKA00001443 (AP10P)	2,46	2,35	11,41	1,00	1,69
2TKA001698G1 (AP10/G.CH)	1,71	1,71	1,75	1,00	1,69
2TKA001699G1 (AP10/W.CH)	1,71	1,71	1,75	1,00	1,69
2TKA001700G1 (AP10PP)	1,69	1,71	1,46	1,00	1,69
–	–	–	–	–	–
–	–	–	–	–	–
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Registration number:		Drafting Rules:	PCR-ed3-EN-2015 04 02
ABBG-00026-V01.03-EN		Supplemented by:	PSR-0005-ed2-EN-2016 03 29
Verifier accreditation number: VH08		Information and reference documents: www.pep-ecopassport.org	
Date of issue:	September 2022	Validity period:	5 years
Independent verification of the declaration and data, in compliance with ISO 14025: 2010			
Internal ○		External ◉	
The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN)			
PEP are compliant with XP C08-100-1: 2016 The elements of the present PEP cannot be compared with elements from another program			
Document in compliance with ISO 14025: 2010 "Environmental labels and declarations. Type III environmental declarations"			

Environmental Impact Indicator Glossary

Impact indicators	Description	Unit
Global warming (GW)	Indicator of potential global warming caused by emissions to air contributing to the greenhouse effect. Includes fossil and biogenic	kg CO_2 eq.
Ozone depletion (OD)	Indicator of emissions to air that contribute to the destruction of the ozone layer	kg CFC-11 eq.
Acidification of soil and water (A)	Indicator of the potential acidification of soils and water caused by the release of certain gases to the atmosphere	kg SO_2 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.	kg $(PO_4)^3$ 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 C_2H_4 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)	Indicator of the depletion of natural fossil resources	MJ (lower heating value)
Water pollution (WP)	Indicator of the quantity of water necessary to dilute the toxic elements poured into water in all the stages of the product life cycle.	m^3
Air pollution (AP)	Indicator of the quantity of air necessary to dilute the toxic elements emitted into the air in all the stages of the product life cycle.	m^3

Resource use indicators	Description	Unit
Total use of primary energy (PE)	Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) + Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)	MJ (lower heating value)