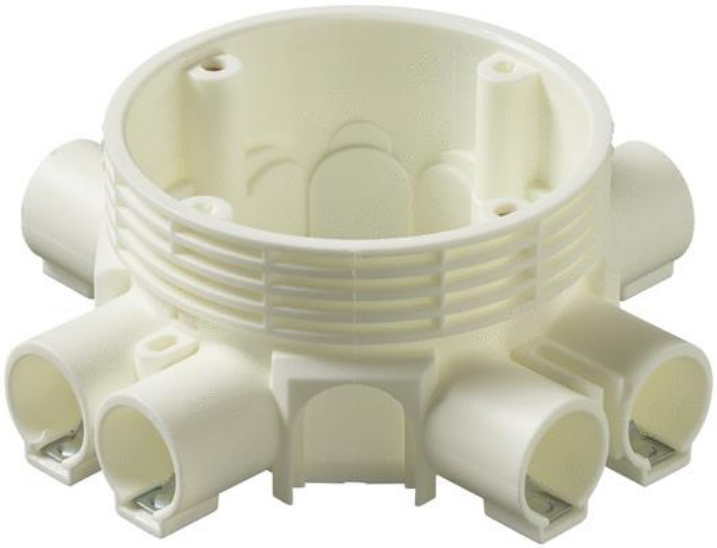
SYSTEM ABB JUNCTION BOXES

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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STATUS	SECURITY LEVEL	REGISTRATION NUMBER	REV.	LANG.	PAGE
Approved	Public	ABBG-00153-V01.01-EN	1	en	1/11

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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	2TKA130033G1 - AU8
Description of the product	The AU8 junction box is 53 mm high and has eight inlets for Ø 20 conduits. The box also has knock-outs for 4 side inlets and 4 bottom inlets.
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 94 x 53 x 49 (mm).
Other products covered	The PEP covers other products from System ABB boxes product range. Other products covered in this PEP are listed in page 9.

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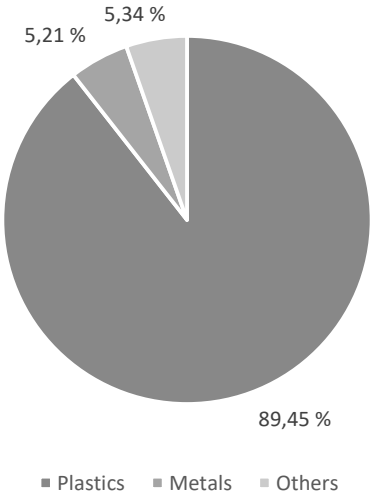
Constituent materials



Total weight of Reference product	106,55 g including the product and its packaging

Plastics as % of weight		**Metals as % of weight**		**Others as % of weight**	
Description	Weight-%	Description	Weight-%	Description	Weight-%
Polypropylene	89,45	Brass	2,29	Carton	5,34
–	–	Steel	2,92	–	–

The reference product and the other 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.

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Additional Environmental Information

Manufacturing	Manufactured at ABB Oy, Wiring Accessories ISO 14001 certified production site, with renewable energy: Hydro- and wind power (50/50)
Distribution	Product distribution optimised by setting up local distribution centres. Packaging weight 5,69 g, consisting of cardboard (100%).
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. This product can enter the usual end-of-life treatment process according to countries' best practices.
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

Environmental impacts

Reference lifetime	20 years
Product category	Unequipped enclosures and cabinets
Installation elements	No additional elements needed
Use scenario	Non applicable for unequipped enclosures and cabinets
Geographical representativeness	Europe, with great emphasis on Finland
Technological representativeness	The manufactruing 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	Manufacturing plant: Porvoo, Finland
Installation	Electricity, low voltage {FI}| market for | Cut-off, S
Use	-
End of life	Electricity, low voltage {FI}| market for | Cut-off, S

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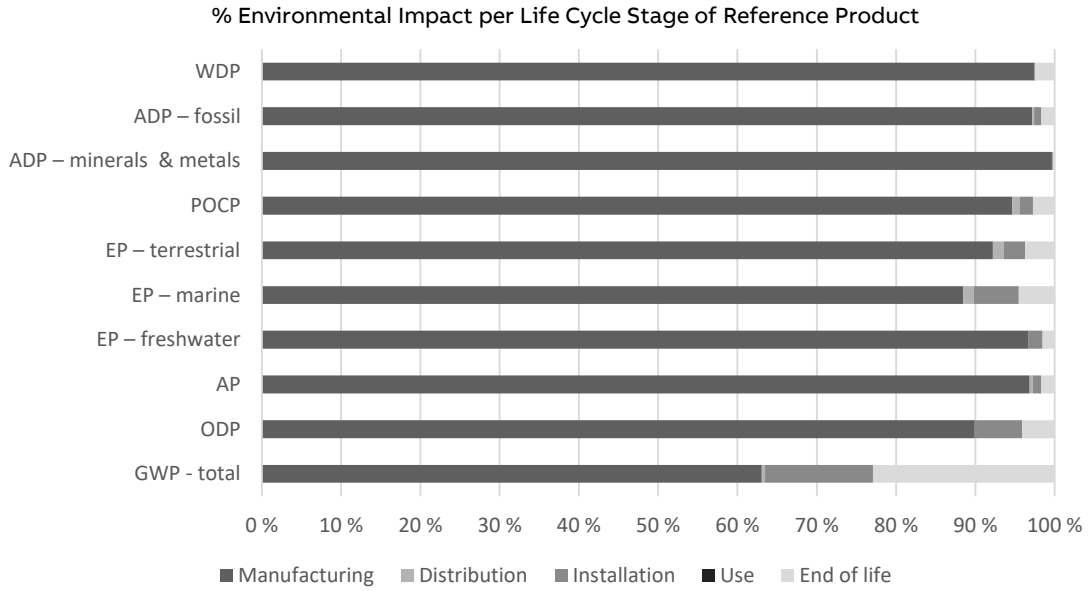
Common base of mandatory indicators



Environmental impact indicators

Indicator	Unit	Total	Manu-facturing	Distri-bution	Instal-lation	Use	End of life	Bene-fits
GWP-total	kg CO_2 eq.	2,195E-01	1,384E-01	9,560E-04	2,979E-02	0,000E+00	5,034E-02	-9,957E-02
GWP-fossil	kg CO_2 eq.	2,253E-01	1,700E-01	9,561E-04	4,038E-03	0,000E+00	5,028E-02	-1,030E-01
GWP-biogenic	kg CO_2 eq.	-6,322E-03	-3,208E-02	-1,312E-07	2,572E-02	0,000E+00	3,800E-05	3,654E-03
GWP-luluc	kg CO_2 eq.	5,377E-04	4,898E-04	0,000E+00	2,388E-05	0,000E+00	2,400E-05	-2,371E-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 CFC-11 eq.	7,280E-09	6,547E-09	1,459E-12	4,326E-10	0,000E+00	2,997E-10	-4,238E-09
ODP = Depletion potential of the stratospheric ozone layer								
AP	H+ eq.	1,679E-03	1,626E-03	6,675E-06	1,818E-05	0,000E+00	2,823E-05	-1,300E-03
AP = Acidification potential, Accumulated Exceedance								
EP-freshwater	kg P eq.	1,029E-04	9,954E-05	3,576E-10	1,785E-06	0,000E+00	1,584E-06	-9,201E-05
EP-marine	kg N eq.	2,227E-04	1,971E-04	2,951E-06	1,267E-05	0,000E+00	1,004E-05	-1,249E-04
EP-terrestrial	mol N eq.	2,395E-03	2,209E-03	3,237E-05	6,458E-05	0,000E+00	8,941E-05	-1,433E-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.	8,224E-04	7,782E-04	8,104E-06	1,363E-05	0,000E+00	2,246E-05	-4,767E-04
POCP = Formation potential of tropospheric ozone								
ADP-minerals & metals	kg Sb eq.	2,626E-05	2,617E-05	3,752E-11	2,105E-08	0,000E+00	6,488E-08	-2,471E-05
ADP-fossil	MJ	5,850E+00	5,685E+00	1,330E-02	5,366E-02	0,000E+00	9,849E-02	-3,412E+00
ADP-minerals & metals = Abiotic depletion potential for non-fossil resources ADP-fossil = Abiotic depletion for fossil resources potential								
WDP	m^3 e depr.	1,409E-01	1,373E-01	3,616E-06	3,616E-06	0,000E+00	3,527E-03	-8,178E-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	9,406E-01	9,117E-01	1,503E-05	8,262E-03	0,000E+00	2,065E-02	-3,000E-01
PERM	MJ	7,320E-02	7,320E-02	0,000E+00	0,000E+00	0,000E+00	0,000E+00	0,000E+00
PERT	MJ	1,014E+00	9,849E-01	1,503E-05	8,262E-03	0,000E+00	2,065E-02	-3,000E-01
PENRE	MJ	2,459E+00	2,295E+00	1,330E-02	5,368E-02	0,000E+00	9,759E-02	-3,405E+00
PENRM	MJ	3,389E+00	3,389E+00	0,000E+00	0,000E+00	0,000E+00	0,000E+00	0,000E+00
PENRT	MJ	5,848E+00	5,684E+00	1,330E-02	5,368E-02	0,000E+00	9,759E-02	-3,405E+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

Indicator	Unit	Total	Manu-facturing	Distri-bution	Instal-lation	Use	End of life	Bene-fits
SM	kg	2,395E-03	2,395E-03	0,000E+00	0,000E+00	0,000E+00	0,000E+00	0,000E+00
RSF	MJ	0,000E+00	0,000E+00	0,000E+00	0,000E+00	0,000E+00	0,000E+00	0,000E+00
NRSF	MJ	0,000E+00	0,000E+00	0,000E+00	0,000E+00	0,000E+00	0,000E+00	0,000E+00
FW	m^3	1,853E-03	1,707E-03	1,173E-07	2,487E-05	0,000E+00	1,215E-04	-1,335E-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	1,013E-05	9,980E-06	0,000E+00	7,531E-08	0,000E+00	7,744E-08	-8,491E-06
Non-hazardous waste disposed	kg	6,413E-03	6,099E-03	3,343E-05	7,306E-05	0,000E+00	2,074E-04	-9,200E-04
Radioactive waste disposed	kg	7,314E-06	6,433E-06	1,051E-10	1,470E-11	0,000E+00	8,815E-07	-7,265E-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	1,155E-03	0,000E+00	0,000E+00	1,155E-03	0,000E+00	########	0,000E+00
Materials for recycling	kg	1,890E-02	0,000E+00	0,000E+00	5,588E-03	0,000E+00	1,331E-02	0,000E+00
Materials for energy recovery	kg	3,930E-02	2,405E-03	0,000E+00	1,728E-02	0,000E+00	1,962E-02	0,000E+00
Exported energy	MJ	0,000E+00	0,000E+00	0,000E+00	0,000E+00	0,000E+00	0,000E+00	0,000E+00

Inventory flow indicator – other indicators

Indicator	Unit	Total
Biogenic carbon content of the product	kg of C	0,000E+00
Biogenic carbon content of the associated packaging	kg of C	2,560E-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	6,862E+00	6,669E+00	1,331E-02	6,194E-02	0,000E+00	1,182E-01	-3,434E+00
Emissions of fine particles	inci-dence of dis-eases	1,042E-08	9,959E-09	5,229E-11	1,914E-10	0,000E+00	2,179E-10	9,282E-11
Ionizing radiation, human health	kBq U235 eq.	1,401E-02	9,858E-03	2,318E-06	3,098E-04	0,000E+00	3,841E-03	-1,936E-02
Ecotoxicity (fresh water)	CTUe	1,006E+01	9,806E+00	6,417E-04	7,715E-02	0,000E+00	1,788E-01	-6,583E+01
Human toxicity, car-cinogenic effects	CTUh	3,786E-10	3,315E-10	1,673E-14	2,811E-12	0,000E+00	4,425E-11	7,791E-10
Human toxicity, non-carcinogenic effects	CTUh	1,552E-08	1,519E-08	4,086E-13	7,385E-11	0,000E+00	2,593E-10	-1,062E-07
Impact related to land use/soil quality		3,476E+00	3,418E+00	0,000E+00	2,378E-02	0,000E+00	3,471E-02	-2,433E+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	Instal-lation	Use	End of life	Benefits
2TKA00001451 AU19	0,969146339	0,700600627	0,87335133	1	1	0,9323386
2TKA130035G1 AU8PP	1	1,004910145	1	1	0,33	0,99565636
2TKA00001451 AU19P	1,150892102	1,078990652	3,58440372	1	0,7	1,17626577
2TKA00001466 AU8P	1,180993859	1,287203875	3,58440372	1	1	1,23914953
2TKA001736G1 AU19PP	0,969146339	0,644427031	0,87335133	1	0,7	0,92843135
2TKA003967G1 AU8.73	1,039242987	1,833137182	2,18337831	1	1,32	1,06513541
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Verifier accreditation number:		Information and reference documents:	
VH08		www.pep-ecopassport.org	
Date of issue:	04-2023	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
Julie Orgelet (DDemain)

PEP are compliant with XP C08-100-1:2016 or EN 50963:2019
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"

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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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