SENTINEL HOLDING
INSTITUT

SHI PRODUCT PASSPORT

Find products. Certify buildings.

SHI Product Passport No.:

15138-10-1018

Busch-Welcome®

Product group: Electrical installation - Systems

BUSCH-JAEGER

ABB AG BUSCH-JAEGER
Freisenbergstrasse 2
58513 Lüdenscheid

Product qualities:

- QNG Qualitätssiegel Nachhaltiges Gebäude ✓
- DGNB NEW CONSTRUCTION 2023.2 ✓
- DGNB NEW CONSTRUCTION 2023 ✓
- DGNB NEW CONSTRUCTION 2018 ✓
- BNB-BN NEUBAU V2015 ✓
- EU TAXONOMY ✓
- BREEAM DE NEUBAU 2018 ✓
- LEED v4.1 (outside US) ✓

CERTIFIED SUSTAINABLE PRODUCT
SHI PRODUCT PASSPORT
SENTINEL HOLDING INSTITUT
www.sentinel-holding.eu

Köttner

Helmut Köttner
Scientific Director
Freiburg, 26 August 2026

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Product:
Busch-Welcome®

SHI Product Passport no.:
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BUSCH-JAEGER

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The SHI Database is the first and only database for construction products whose comprehensive processes and data accuracy are regularly verified by the independent auditing company SGS-TÜV Saar

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QNG - Qualitätssiegel Nachhaltiges Gebäude

The Qualitätssiegel Nachhaltiges Gebäude (Quality Seal for Sustainable Buildings), developed by the German Federal Ministry for Housing, Urban Development and Building (BMWSB), defines requirements for the ecological, socio-cultural, and economic quality of buildings. The Sentinel Holding Institut evaluates construction products in accordance with QNG requirements for certification and awards the QNG ready label. Compliance with the QNG standard is a prerequisite for eligibility for the KfW funding programme. For certain product groups, the QNG currently has no specific requirements defined. Although classified as not assessment-relevant, these products remain suitable for QNG-certified projects.

Criteria	Pos. / product group	Considered substances	QNG assessment
3.1.3 Schadstoffvermeidung in Baumaterialien			QNG ready - Not relevant for assessment

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DGNB New Construction 2023.2

Criteria	No. / Relevant building components / construction materials / surfaces	Considered substances / aspects	Quality level
ENV 1.2 Local environmental impact			Not relevant for assessment

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DGNB New Construction 2023

The DGNB System (German Sustainable Building Council) assesses the sustainability of various types of buildings. It can be applied to both large-scale private and commercial projects as well as smaller residential buildings. The 2023 version sets high standards for ecological, economic, socio-cultural, and functional aspects throughout the entire life cycle of a building.

Criteria	Assessment
SOC2.1 Barrier-free design (*)	May positively contribute to the overall building score
Verification: Busch-Welcome ermöglicht barrierefreien Zugang durch Hörschleifen in Innen- und Außenstationen sowie visuelle Rufstatusanzeige an der Außenstation für bessere Wahrnehmung und Nutzung direkt.	

Criteria	Assessment
ENV1.1 Climate action and energy (*)	May positively contribute to the overall building score
Verification: EPDs	

Criteria	No. / Relevant building components / construction materials / surfaces	Considered substances / aspects	Quality level
ENV 1.2 Local environmental impact, 03.05.2024 (3rd edition)			Not relevant for assessment

Criteria	No. / Relevant building components / construction materials / surfaces	Considered substances / aspects	Quality level
ENV 1.2 Local environmental impact, 29.05.2025 (4th edition)			Not relevant for assessment

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BUSCH-JAEGER

DGNB New Construction 2018

The DGNB System (German Sustainable Building Council) assesses the sustainability of various types of buildings. It can be applied to both large-scale private and commercial projects as well as smaller residential buildings.

Criteria	No. / Relevant building components / construction materials / surfaces	Considered substances / aspects	Quality level
ENV 1.2 Local environmental impact			Not relevant for assessment

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Product:
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BUSCH-JAEGER

BNB-BN Neubau V2015

The Bewertungssystem Nachhaltiges Bauen (Assessment System for Sustainable Building) is a tool for evaluating public office and administrative buildings, educational facilities, laboratory buildings, and outdoor areas in Germany. The BNB was developed by the former Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) and is now overseen by the Federal Ministry for Housing, Urban Development and Building (BMWSB).

Criteria	Pos. / product type	Considered substance group	Quality level
1.1.6 Risiken für die lokale Umwelt			Not relevant for assessment

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EU taxonomy

The EU Taxonomy classifies economic activities and products according to their environmental impact. At the product level, the EU regulation defines clear requirements for harmful substances, formaldehyde and volatile organic compounds (VOCs). The Sentinel Holding Institut GmbH labels qualified products that meet this standard.

Criteria	Product type	Considered substances	Assessment
DNSH - Pollution prevention and control			Not relevant for assessment

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BREEAM DE Neubau 2018

BREEAM (Building Research Establishment Environmental Assessment Methodology) is a UK-based building assessment system that evaluates the sustainability of new constructions, refurbishments, and conversions. Developed by the Building Research Establishment (BRE), the system aims to assess and improve the environmental, economic, and social performance of buildings.

Criteria	Product category	Considered substances	Quality level
Hea 02 Indoor Air Quality			Not relevant for assessment

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Product:
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SHI Product Passport no.:
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LEED v4.1

LEED (Leadership in Energy and Environmental Design) is an internationally recognised building certification system developed by the U.S. Green Building Council. It is one of the most widely used sustainability standards for buildings worldwide and is particularly applied in internationally oriented projects. LEED assesses buildings holistically across categories such as energy efficiency, resource conservation, material selection, indoor environmental quality and site sustainability. Depending on the number of points achieved, projects are awarded one of the certification levels: LEED Certified, Silver, Gold or Platinum.

Criteria	Product category	Considered substances	Assessment
EQ Credit: Low-Emitting Materials			Not relevant for assessment

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Product:
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Product labels

In the construction industry, high-quality materials are crucial for a building's indoor air quality and sustainability. Product labels and certificates offer guidance to meet these requirements. However, the evaluation criteria of these labels vary, and it is important to carefully assess them to ensure products align with the specific needs of a construction project.

Products bearing the Sentinel Holding Institute QNG-ready seal are suitable for projects aiming to achieve the "Qualitätssiegel Nachhaltiges Gebäude" (Quality Seal for Sustainable Buildings). QNG-ready products meet the requirements of QNG Appendix Document 3.1.3, "Avoidance of Harmful Substances in Building Materials." The KfW loan program Climate-Friendly New Construction with QNG may allow for additional funding.

Product:
Busch-Welcome®

SHI Product Passport no.:
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BUSCH-JAEGER

Legal notices

(*) These criteria apply to the construction project as a whole. While individual products can positively contribute to the overall building score through proper planning, the evaluation is always conducted at the building level. The information was provided entirely by the manufacturer.

Find our criteria here: https://www.sentinel-holding.eu/de/Themenwelten/Pr%C3%BCfkriterien%20f%C3%BCr%20Produkte

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SGS TÜV SAAR

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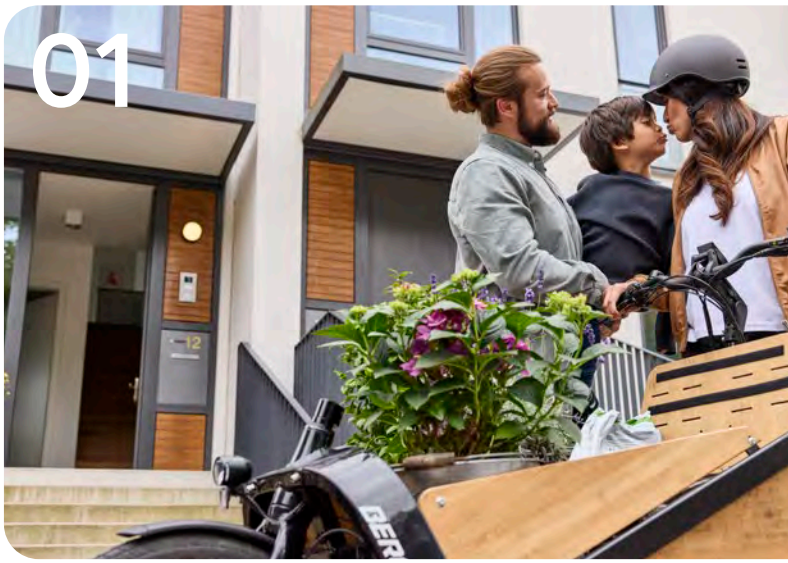
#smartertogether
Smarter Home

Busch-Welcome®
2-Draht-Türkommunikation_



BUSCH-JAEGER

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01 Outdoor





BUSCH-WELCOME® AUSSENSTATIONEN

Funktion empfängt Design

Oft beginnen Geschichten und Momente des Lebens an der Tür. Hier treffen Außenwelt und Zuhause aufeinander. Viele alltägliche Begegnungen finden hier statt. Und das am besten so sicher wie möglich.

Die Busch-Welcome® Außenstationen sorgen täglich dafür. Ob mit Video oder Audio. Ob als Aufputz- oder Unterputz-Variante. In zeitlosem Design. Immer überzeugend durch innovative Funktionen für mehr Komfort und Sicherheit. So erhalten nur die angenehmen Überraschungen einfachen Zutritt in das eigene Zuhause.



+ Hochwertige Materialien
+ Zeitloses Design
+ Einfache Montage
+ Vollduplex/Störgeräuschunterdrückung
+ Videovariante wahlweise mit Kameramodul 130 oder Kameramodul 180 erhältlich
+ Automatische Tag- und Nachtumschaltung

Sprechen, hören und auf Wunsch sehen

Immer ein offenes Ohr für Besuch: Bei beiden Stationen bietet die integrierte Freisprechfunktion optimale Verständlichkeit – durch Vollduplexbetrieb und Störgeräuschunterdrückung. Zum leichten Montieren an jedem Gebäude sind die Stationen für Aufputz oder Unterputz erhältlich. Mit hohem Schutz vor unberechtigtem Zugriff. Die Busch-Welcome® Außenstationen gibt es in verschiedenen Ausführungen und Materialien.

Der modulare Aufbau ermöglicht hierbei vollste Individualität. Für jede Art von Fassade und Anwendung passend. Dank der optionalen Funktionsmodule lassen sich die Außenstationen so hervorragend ergänzen, um z. B. den Zutritt via Fingerprint oder PIN-Code zu regeln oder die Hausnummer mit einem Infomodul zu integrieren.



01



02



03



04

01 Busch-Welcome® Außenstation Video, edelstahl
02 Busch-Welcome® Außenstation Video mit Fingerprint-Modul, Metall, studioweiß matt
03 Busch-Welcome® Außenstation Audio, aluminium
04 Busch-Welcome® Außenstation Video, anthrazit

Komfort in jeder Hinsicht

Zur Freude aller. Die Busch-Welcome® Außenstationen sind aus jedem Blickwinkel sehenswert. Mit vielen Funktionen, die das Leben zu Hause einfach komfortabler und sicherer machen. Bei Tag und bei Nacht. Das Ergebnis ist immer dasselbe – optimale Türkommunikation für jeden Bewohner und jeden Besucher.



+ Automatische Tag- und Nachtumschaltung
+ Zusätzliche Gesichtsfeld-ausleuchtung
+ Kratzresistentes Kameramodul
+ Integriertes Zustandsmodul



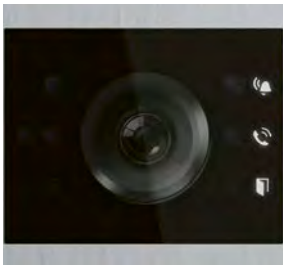
Großer Erfassungswinkel
Dank der unterschiedlichen Kameramodule bietet Busch-Welcome® für jede Einbausituation die ideale Sicht.

Kameramodul 130

Diagonal: 130°
Horizontal: 100°
Vertikal: 70°

Kameramodul 180

Diagonal: 180°
Horizontal: 170°
Vertikal: 135°



Beste Nachtausleuchtung
Intelligenter Sensor: Abhängig vom Umgebungslicht schalten sich die sechs Infrarot-LEDs ein oder aus. Und die Kamera schaltet auf Schwarz-Weiß um. Das garantiert optimales Erkennen des Gesichtsfelds. So ist dein Besuch selbst bei völliger Dunkelheit bestens erkennbar.



Sehr gute Verständlichkeit
Integrierte Freisprechfunktion: Durch Vollduplexbetrieb ist gleichzeitiges Sprechen und Hören möglich. Für klaren Klang auf beiden Seiten der Haustür sorgt die Störgeräusch-unterdrückung.

Busch-Welcome® Außenstationen

Außenstationen im Überblick. Dank der großen Vielfalt und Modularität bietet Busch-Welcome® für nahezu jeden Kunden die ideale Lösung an. Die Video-Außenstationen gibt es wahlweise in Edelstahl, Aluminium, Weiß matt oder Anthrazit, die reinen Audio-Außenstationen ebenso. Busch-Jaeger bietet per Katalog sowohl vorgefertigte Außenstationen für Audio- und Videokommunikation an als auch individuell konfigurierbare. Durch die modulare Technik lassen sich die Außenstationen nach Belieben zusammenbauen.

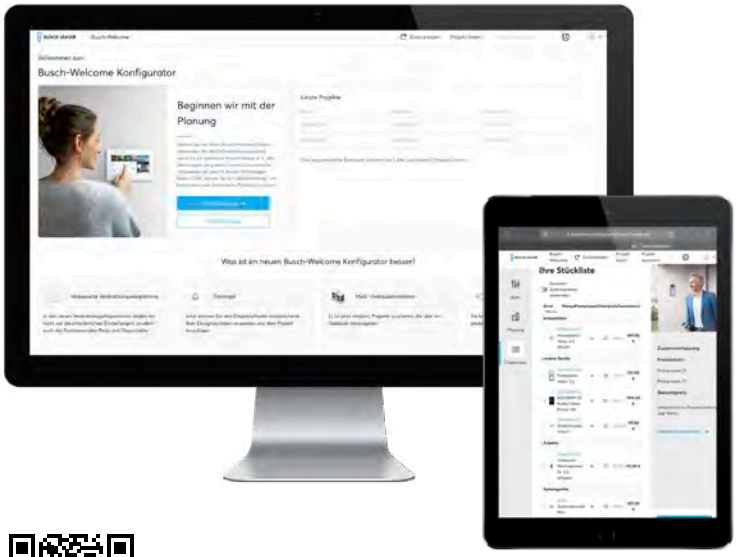


01 Vorgefertigte Busch-Welcome® Außenstation Video, 1-fach, in Edelstahl
Art.-Nr.: A21381P1-S-03



02 Vorgefertigte Busch-Welcome® Außenstation Audio, 1-fach, in Aluminium
Art.-Nr.: A21051P1-A-03

Hilfe bei der Planung bietet der Busch-Welcome® Konfigurator. Ausführliche Informationen dazu findest du auf Seite 32.



Besuch direkt unseren Busch-Welcome® Konfigurator via QR-Code oder unter:
busch-jaeger-konfigurator.de

PRODUKTINFOS

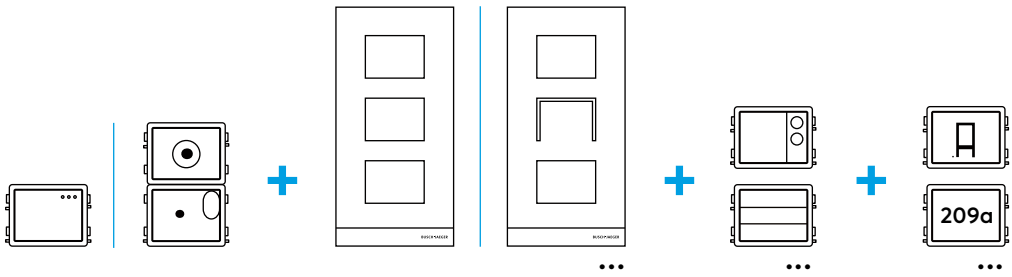
am Beispiel von zwei Busch-Welcome® Außenstationen

Art.-Nr.	**01** A21381P1-S-03 **02** A21051P1-A-03
Bestell-Nr.	**01** 2TMA200010X0003 **02** 2TMA200010A0001
Preis	**01** 1.508,00 € (zzgl. MwSt.) **02** 471,00 € (zzgl. MwSt.)

AUSSENSTATION NACH WUNSCH

Busch-Welcome® Modular

Die modulare Bauweise von Busch-Welcome® bietet eine Vielzahl von Kombinationsmöglichkeiten. In nur wenigen Schritten lassen sich so individuelle Außenstationen ganz einfach konfigurieren:



01

Wähle zwischen Audio- und Videomodul.



01 Audiomodul
02 Kameramodul

02

Wähle die gewünschte Größe und das gewünschte Material aus.

AUDIO	aluminium	weiß	anthrazit	edelstahl
Frontplatte Audio 1/2	x	x	x	x
Frontplatte Audio 1/3	x	x	x	x
Frontplatte Audio 1/4	x	x	x	x
Frontplatte Audio 1/5	x	x	x	x
Frontplatte Audio 2/3	x	x	x	x
Frontplatte Audio 2/4	x	x	x	x
Frontplatte Audio 2/5	x	x	x	x
Frontplatte Audio 3/4	x	x	x	x
VIDEO	**aluminium**	**weiß**	**anthrazit**	**edelstahl**
Frontplatte Video 1/2	x	x	x	x
Frontplatte Video 1/3	x	x	x	x
Frontplatte Video 1/4	x	x	x	x
Frontplatte Video 1/5	x	x	x	x
Frontplatte Video 2/3	x	x	x	x
Frontplatte Video 2/4	x	x	x	x
Frontplatte Video 2/5	x	x	x	x
Frontplatte Video 3/4	x	x	x	x

Hier findest du mehr zum Thema modulare Außenstationen

03

Wähle die gewünschte Klingeltaste aus.



01 Tastenmodul, 1-fach
02 Tastenmodul, 2-fach
03 Tastenmodul, 3-fach
04 Tastenmodul, 3/6-fach
05 Tastenmodul, 4/8-fach
06 Tastenmodul, 1-fach, RFID
07 Tastenmodul, 2-fach, RFID
08 Tastenmodul, 3-fach, RFID

04

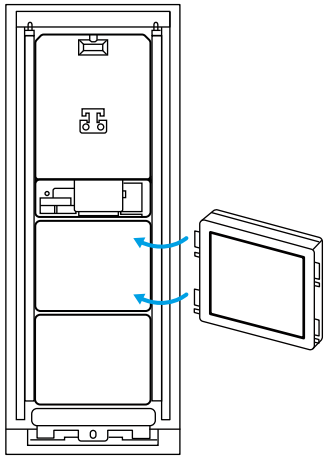
Wähle das gewünschte Funktionsmodul aus (Mehrfachauswahl möglich).



09 Blindmodul-Ersatzteil
10 Fingerprint-Modul
11 Tastatur-Modul
12 Infomodul-Ersatzteil

Hier findest du mehr zum Thema modulare Außenstationen

Montage
Die einzelnen Module werden in die Frontplatte eingeklickt und mit einem besonders robusten Flachbandkabel verbunden.



+ Neben den hier gezeigten modularen Außenstationen bietet Busch-Jaeger weitere Größen, Farb- und Materialvarianten an. Diese findest du in unserem Online-Katalog auf busch-jaeger.de.

Ganz ohne Schlüssel

Zutrittskontrolle gewährleisten. Mit den drei Zutrittskontroll-Modulen Transponder, Tastatur und Fingerprint stellt Busch-Jaeger eine interessante Lösung für den Wohn- oder Zweckbau vor.

Für das Transponder-Modul sind Schlüsselkarten separat erhältlich. Das Tastatur-Modul erlaubt das Öffnen der Tür per PIN-Code-Eingabe sowie das direkte Klingeln bei einer bestimmten Wohnung im Mehrfamilienhaus. Das Fingerprint-Modul erteilt dem Besuch die Berechtigung durch Scannen des Fingerabdrucks. Alles integriert in die Sprechanlage oder als Standalone-Version.



Modulare Busch-Welcome® Außenstation mit PIN-Code und 3-fach-Klingeltasten

Art.-Nr.: 83122/71/3-660



Transponder-Modul
Für programmierbare Schlüsselkarten

+ Es können 256 Karten genutzt werden
+ Direkte Inbetriebnahme ohne Zusatzgeräte möglich
+ Komfortable Inbetriebnahme per Webbrowser via Busch-Welcome® IP-Gateway möglich
+ Schutzart IP44

Art.-Nr.: 83100/72-660



Fingerprint-Modul
Stellt die Berechtigung durch Scannen des Fingerabdrucks fest

+ Es können 64 Nutzer eingelernt werden
+ Zeilensensor
+ Direkte Inbetriebnahme ohne Zusatzgeräte möglich
+ Komfortable Inbetriebnahme per Webbrowser via Busch-Welcome® IP-Gateway möglich
+ Schutzart IP44

Art.-Nr.: 83100/70-660



Tastatur-Modul
Erlaubt das Öffnen der Tür per PIN-Code-Eingabe

+ Es können 256 Nutzer eingelernt werden
+ Über die Eingabe der Wohnungsnummer kann bei größeren Wohngebäuden gezielt geklingelt werden
+ Direkte Inbetriebnahme ohne Zusatzgeräte möglich
+ Komfortable Inbetriebnahme per Webbrowser via Busch-Welcome® IP-Gateway möglich
+ Schutzart IP44

Art.-Nr.: 83100/71-660

Individuelle Frontplatten für jeden Geschmack

Personalisierte Außenstationen. Dank der innovativen Klick-Modulbauweise von Busch-Welcome® 2-Draht/Busch-Welcome® IP können Außenstationen ganz individuell zusammengestellt werden. Ergänzt wird die Flexibilität nun durch die individuellen Frontplatten, die in der gewünschten RAL-Farbe lackiert werden können.







Die verwendeten Lacke sind seeluftbeständig und daher ideal für den korrosionsfreien Einsatz in Küsten- oder Seenähe.

\+ Die Frontplatten lassen sich nicht nur farbig gestalten. Auf Wunsch kann auch die Abschlussleiste mit einem kundenindividuellen Namen und/oder Logo gelasert werden. Zudem können wir das Fingerprint-Modul in der passenden Farbe mitlackieren.

Bestellbar in der gewünschten RAL-Farbe.



Bsp. RAL 8023
Orangebraun



Bsp. RAL 3027
Himbeerrot

Busch-Welcome® – immer eine passende Lösung, auch für Briefkästen



Briefkastenintegration. Es besteht die Möglichkeit, die Technik von Busch-Welcome® in Briefkastenlösungen und Stelen zu integrieren.

Die Busch-Welcome® Einbaumodule wurden speziell für den Einbau und Einsatz in Briefkasten, Klingeltableau und Türseitenteilen entwickelt.

Das Basismodul Audio mit Mikrofon und Lautsprecher sorgt für eine einwandfreie Kommunikation – auch bei lauten Umgebungsbedingungen. Das Kameramodul sorgt für ein stabiles Bild bei Tag und Nacht.

Dank eines kaskadierbaren Systems lassen sich bis zu 99 Klingeln mit den Busch-Welcome® Einbaumodulen für Briefkastenanlagen integrieren.

Die optionalen Zusatzmodule wie beispielsweise Fingerprint-, Tastatur- oder Zustandsmodul komplementieren das Angebot von Busch-Welcome® für Briefkastenanlagen.




01


02


03


04



05


06


07

01 Zustandsmodul-Ersatzteil
02 Kameramodul 180°
03 Fingerprint-Modul
04 Tastatur-Modul
05 Infomodul-Ersatzteil
06 Einbau-Audiomodul
07 Einbau-Tastenerweiterung

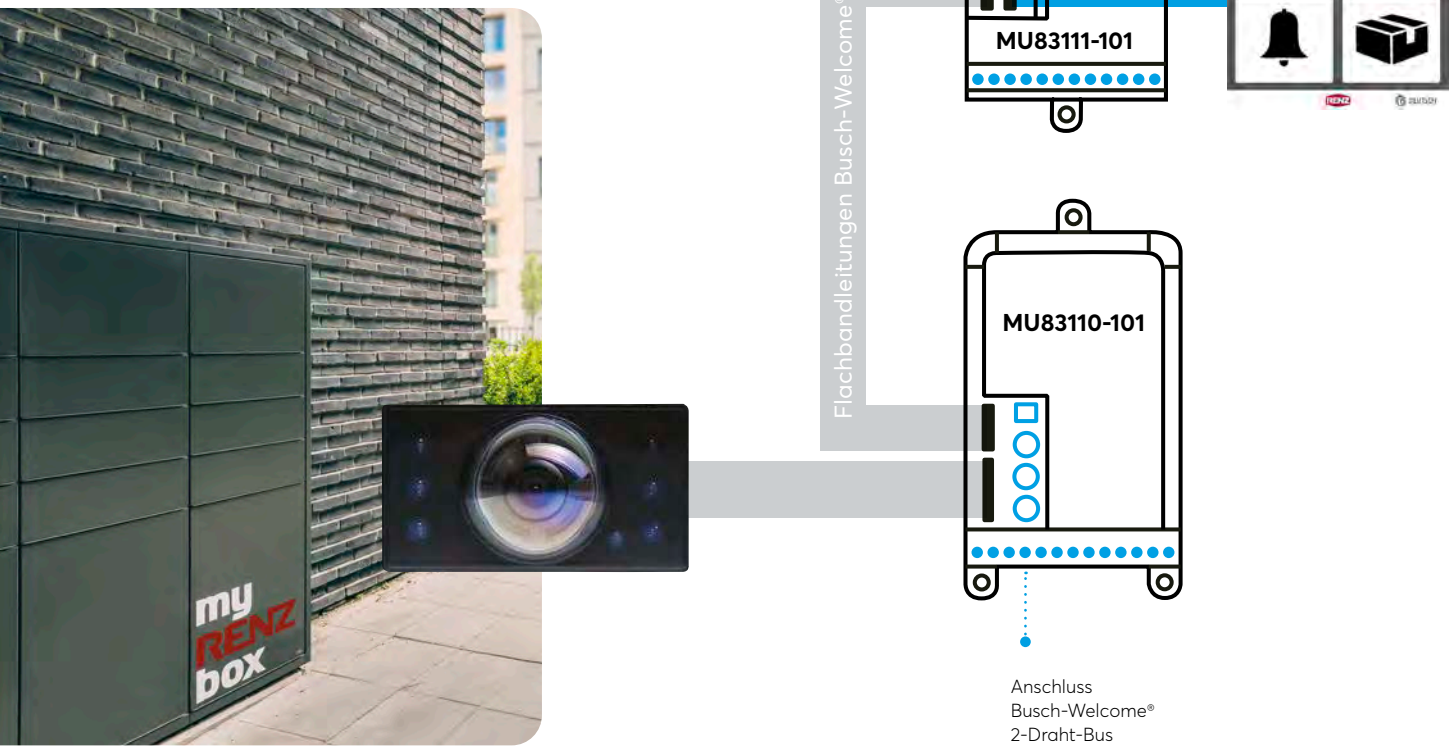
Komfort durch Interoperabilität



Busch-Welcome® 2-Draht-Integration in die myRENZbox. Das Display der myRENZbox lässt sich sehr einfach in Busch-Welcome® integrieren. Dabei übernimmt es die Funktion der (digitalen) Klingeltasten. Dementsprechend müssen an der myRENZbox keine weiteren physischen Klingeltasten mehr verbaut werden.

Die Kopplung der Systeme erfolgt über die spezielle Einbau-Tastenerweiterung (Art.-Nr. MU83111-101), die an dem gesonderten Einbau-Audiomodul (Art.-Nr. MU83110-101) angeschlossen wird. Sollte eine Videokommunikation gewünscht sein, muss dann wahlweise noch das Kameramodul (Art.-Nr. 83501-101) oder das Kameramodul 180 (Art.-Nr. 83503) mit eingeplant werden.

Alle notwendigen Einstellungen erfolgen über das myRENZbox-Portal. Eine entsprechende Anleitung wird durch RENZ bereitgestellt. Der Support erfolgt direkt über den RENZ-Service.



Zusammenarbeit mit besten Perspektiven

Kamera-Interface. Da bauseits der Blickwinkel der Kamera nicht immer optimal ist, kann die Türkommunikation von Busch-Welcome® dank des Kamera-Interface (Art.-Nr. 83327) mit externen analogen Kameras verbunden werden. Mit bis zu 16 externen Kameras hast du mehr Flexibilität und einen besseren Überblick. Das Kamera-Interface wird eingebunden in das Busch-Welcome® System, unabhängig davon, welche Variante der Außenstation gewählt wurde. Die externen Kameras von Busch-Welcome® 2-Draht lassen sich stets nahtlos integrieren.



Artikel-Nr.: 83327

Parallel zum Kamera-Interface bietet Busch-Jaeger drei analoge Kameras: eine klassische Videokamera, eine Dome- und eine Mini-Dome-Kamera. Diese Kameras arbeiten hervorragend mit dem Kamera-Interface zusammen.

Wichtig: Die externen Kameras von Busch-Welcome® dienen nicht der Videoüberwachung, sondern fungieren rein als zusätzlicher Betrachtungswinkel für die Busch-Welcome® Türkommunikationsanlage. Dementsprechend nehmen sie nicht ständig einen Videostream auf, sondern werden nur aktiv bei einem Türruf oder einem manuellen Zugriff auf die analoge Kamera.



01

Art.-Nr.: 83550/3



02

Art.-Nr.: 83550/2

01 Mini-Dome-Kamera
02 Dome-Kamera
03 Videokamera

+ Bessere Sicht im Eingangsbereich dank der externen Busch-Welcome® Kameras und des Kamera-Interface



03

Art.-Nr.: 83550/1

Hier findest du mehr zum Thema Kamera-Interface

02 Indoor





BUSCH-WELCOME® INNENSTATIONEN

Ein ganzheitliches Konzept

Für jeden Anspruch die richtige Lösung. Die Produktserie Busch-Welcome® ergänzt das umfassende Busch-Jaeger Sortiment auf sinnvolle Weise. Mit der breiten Palette durchdachter Produkte kann für jede Art von Gebäude die optimale Türkommunikation verwirklicht werden.

So können nicht nur dieselben Bedienpanels sowohl für die Türkommunikation als auch für die Hausautomation genutzt werden, sondern auch hilfreiche Interaktionen zwischen beiden Systemen programmiert werden. Abrundend bietet die Busch-Welcome® App für iOS- und Android-Geräte mobilen Zugriff auf deine Busch-Welcome® Anlage (ob zu Hause oder aus der Ferne). Sollte eine Anbindung an die lokale Telefonanlage gewünscht sein, kann sie jederzeit alternativ über das Telefon-Gateway realisiert werden.



01



02



03



04



05

01 Busch-OneTouch 7", LAN + Wi-Fi, schwarz
02 Busch-Welcome® App; für iOS und Android mit kostenlosem Fernzugriff dank myBUSCH-JAEGER
03 Anbindung an analoge Telefonanlage via Telefon-Gateway
04 Busch-SmartTouch® 10", Edelstahlrahmen mit weißem Glas
05 Busch-SmartTouch® 10", Edelstahlrahmen mit schwarzem Glas

Farbauswahl Rahmenkanten

Graphit Edelstahl Gold Roségold

Anbindung an die Hausautomation und das Internet

Interaktion leicht gemacht. Dank des breiten Produktportfolios von Busch-Jaeger gibt es Integrationsmöglichkeiten zu Busch-free@home® oder zum Busch-Installationsbus® KNX.

Ohne großen Installationsaufwand durch die 2-Draht-Bus-Technik für Audio und Video. Stets mit hochwertigen und sorgfältig aufeinander abgestimmten Materialien. So eignet sich Busch-Welcome® für den Ersteinsatz im Neubau genauso wie für die nachträgliche Integration bei der Modernisierung jeder Art von Immobilie. Ein breites Portfolio bietet maximale Flexibilität.



01



02



03

01 Busch-OneTouch 7", LAN + Wi-Fi, weiß
02 Innenstation Video 4.3", weiß
03 Innenstation Video 4.3", Glas weiß
04 Innenstation Video mit 12,6 cm (5") großem Touchdisplay, weiß
05 Innenstation Video mit 12,6 cm (5") großem Touchdisplay, schwarz
06 Innenstation Audio mit Hörer, studioweiß matt
07 Innenstation Audio mit Hörer, alusilber
08 Innenstation Audio mit Hörer, anthrazit matt
09 Innenstation Audio, studioweiß matt
10 Innenstation Audio, alusilber
11 Innenstation Audio, anthrazit matt



04



05



06



07



08



09



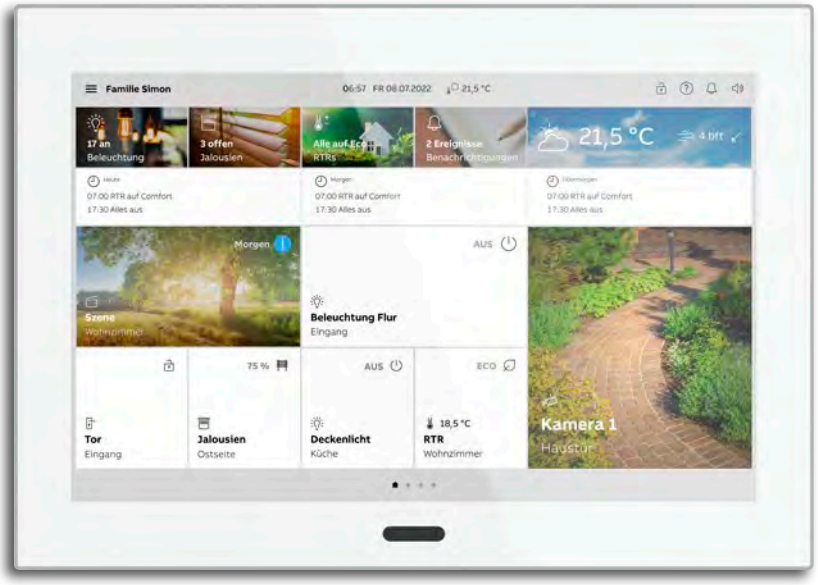
10



11

Design wird zum Erlebnis

Busch-SmartTouch® 10". Noch nie war Raumsteuerung ein schöneres Erlebnis. Denn in seiner zurückhaltenden Eleganz ist das neue Busch-SmartTouch® 10" eine beeindruckende Attraktion in jedem Ambiente.



01

Busch-SmartTouch® 10"

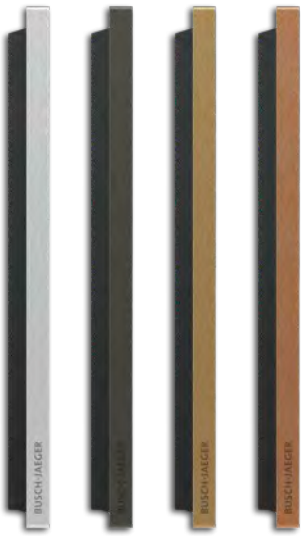
+ 25,4 cm (10") hochauflösendes IPS-Display
+ Anbindung an den Busch-Installationsbus® KNX (mit bis zu 450 Kontrollelementen, angezeigt auf maximal 25 Seiten) oder Busch-free@home® (automatische Übernahme aller Busch-free@home® Controlframes mit Raumstruktur)
+ Intuitive Touchbedienung
+ 2-Draht-Anschlüsse für Busch-Welcome®, Busch-Installationsbus® KNX und Busch-free@home®

Das leistungsstarke 10"-Panel wird akzentuiert von einem extrem schmalen Rahmen, der in vier attraktiven Farben erhältlich ist: Edelstahl, Graphit, Gold und Roségold. Kombiniert mit schwarzem oder weißem Glas, fügt sich das Busch-SmartTouch® 10" harmonisch in jedes Einrichtungskonzept ein.

Artikel-Nr.:
ST/U10.1.11-825



02



01 Busch-SmartTouch® 10", Edelstahlrahmen mit weißem Glas
02 Busch-SmartTouch® 10", Edelstahlrahmen mit schwarzem Glas

Busch-Welcome®
Innenstation Video 4.3" WLAN

Schickes Design mit Funktionalität. Neben der Draht-Anbindung an Busch-Welcome® bietet die Innenstation Video 4.3" WLAN die Möglichkeit, bis zu acht mobile Endgeräte mit myBUSCH-JAEGER zu verbinden.

Dank der WLAN-Anbindung und der Konnektivität zu myBUSCH-JAEGER ermöglicht die Innenstation Innenstation Video 4.3" WLAN die Nutzung der Busch-Welcome® App (lokal und aus der Ferne). So besteht jederzeit und von jedem Ort eine gesicherte Verbindung zur eigenen Türkommunikationsanlage.

Die Innenstation Video 4.3" WLAN besticht durch ihre intuitive und minimalistische Benutzeroberfläche. Das Bedienkonzept wurde darauf ausgelegt, dass die Nutzer der Anlagen selbstständig mobile Endgeräte koppeln und entkoppeln können. QR-Codes im Gerätemenü verlinken anwenderfreundliche Videos für die Inbetriebnahme und Kopplung dieser Endgeräte.



01



Busch-Welcome®
Innenstation Video 4.3" WLAN

+ Aufputz-Installation 12 mm
+ Dimensionen:
  131 mm x 122 mm x 18 mm (B × H x T)
+ Intuitive minimalistische Benutzeroberfläche
+ Induktionsschleife für Schwerhörige
+ 2-Draht-Anschluss an den Busch-Welcome® Bus ist erforderlich
+ Integration in das Heimnetzwerk via WLAN
+ Integration der Busch-Welcome® App ohne zusätzliches Systemgerät
+ Display mit Glasoberfläche
+ Farbe: weiß

Artikel-Nr.:
M22401-W-03

01 Busch-Welcome® Innenstation Video 4.3" WLAN, Glas weiß

Busch-Welcome® Innenstation Video 4.3"

Die Busch-Welcome® Innenstation Video 4,3" bietet dir eine smarte und benutzerfreundliche Lösung für die Türkommunikation. Dank des kompakten Designs und der intuitiven Schnellzugriffstasten kannst du bequem Anrufe entgegennehmen, Türen öffnen und die Überwachung aktivieren – alles mit nur einem Tastendruck. Die Freisprechfunktion und das klare 4,3"-Display (None-Touch) machen sie zur idealen Wahl für dein Zuhause.

Die neue Busch-Welcome® Innenstation Video 4,3" bietet einen preiseffizienten Einstieg in die Welt der Türkommunikation von Busch-Jaeger. Das Aufputz-Display kann aufgrund der Maße von 152 mm × 124 mm × 22,5 mm (L × B × T) nahezu überall mühelos integriert werden und liefert dank seines 4,3"-Displays ein perfektes Bild ab.



01

Busch-Welcome®
Innenstation Video 4.3"

+ Basisvariante ohne App-Anbindung
+ Verbrauchseinheiten: vier
+ Aktivierung der Türöffnerautomatik durch drei Sekunden langes Drücken der Türöffnertaste
+ Speicherung der Rufhistorie im Display
+ Ausgestattet mit einer Hörschleife zur Einkopplung des Audiosignals in Hörgeräte
+ Mit Freisprechfunktion; Freisprechlautstärke einstellbar
+ Klingeltöne und Lautstärke direkt am Panel einstellbar

Artikel-Nr.:
M22483-W-03

01 Busch-Welcome® Innenstation Video 4,3"

Busch-OneTouch 7″

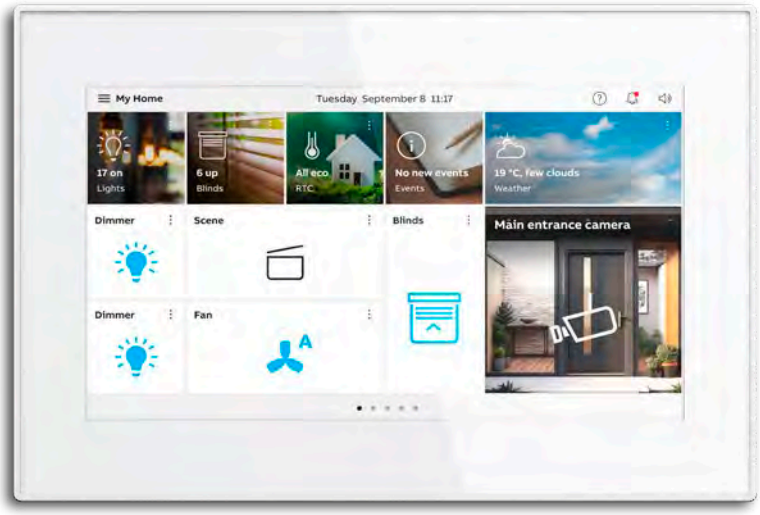
Das neue Busch-OneTouch 7″ ist die ideale Lösung für jede funkbasierte Smart-Home-Anlage. Dank eingebautem Busch-free@home® wireless System Access Point ermöglicht es die Inbetriebnahme und Fernsteuerung eines Busch-free@home® wireless Systems sowie den Zugriff auf die Busch-Welcome® 2-Draht-Türkommunikation.

Durch das neue Firmware-Update kann das Busch-OneTouch zudem nun alternativ mit Busch-Welcome® IP verbunden werden. Das Busch-OneTouch 7″ besitzt einen Klemmenanschluss für Busch-Welcome® 2-Draht und eine LAN-Buchse für die Integration in das lokale Netzwerk bzw. alternativ in Busch-Welcome® IP.

Die letztere Verbindung kann auch alternativ über WLAN hergestellt werden. Durch den eingebauten Busch-free@home® wireless System Access Point kann sowohl die Busch-free@home® App als auch die Busch-free@home® Next App verbunden werden. Dank der integrierten App-Schnittstelle für die Türkommunikation kann das Busch-OneTouch 7″ zudem die Verbindung (lokal und extern) zur Busch-Welcome® App aufbauen.

Zukunft eingebaut

Dank eines kommenden Firmware-Updates wird das Busch-OneTouch 7″ die Funktionalität eines Matter-Border-Routers übernehmen können sowie Thread unterstützen. Somit ist auch für die Zukunft sichergestellt, dass das Busch-OneTouch 7″ die richtige Wahl für dein Projekt ist. Das angesprochene Firmware-Update soll in Q2/2025 erscheinen.



01

Busch-OneTouch 7″

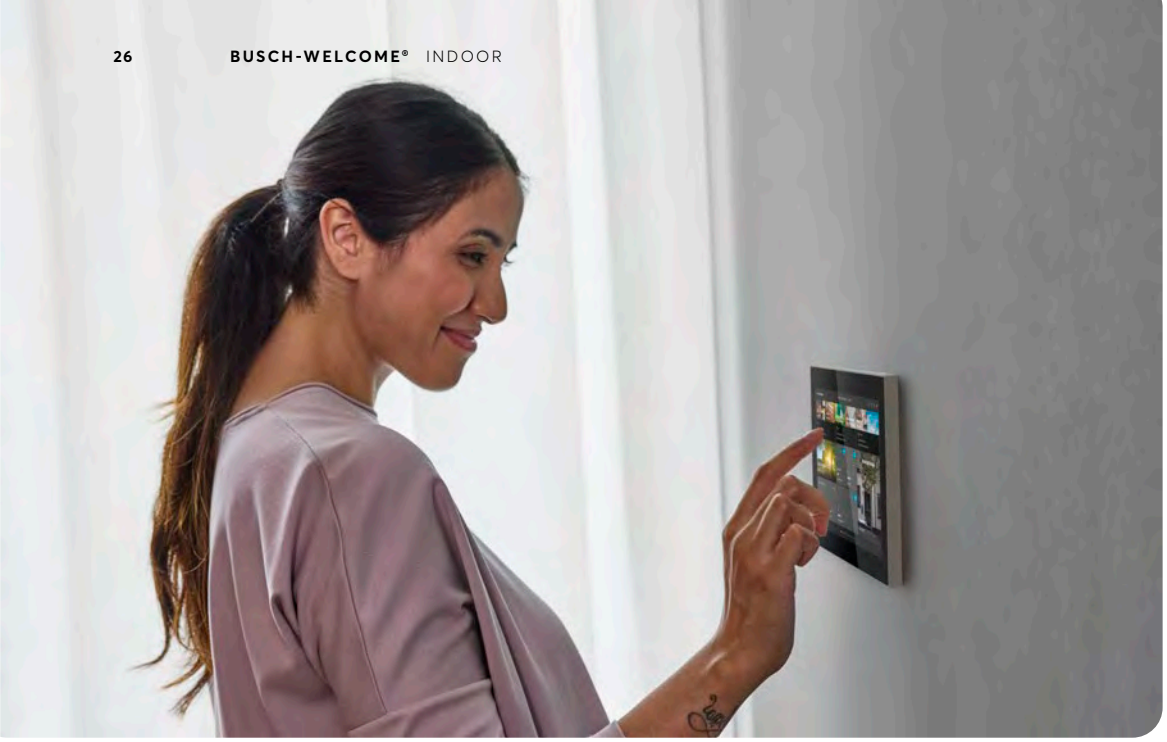
+ Zentrales Bedienpanel für Busch-Welcome® 2-Draht oder Busch-Welcome® IP mit eingebautem Busch-free@home® wireless System Access Point
+ Produktdimensionen:
  Displaygröße: 7″, Breite: 192 mm, Höhe: 128 mm
  - Aufputz-Installationshöhe: 22,5 mm
  - Unterputz-Installationshöhe: 10 mm



02

01 Busch-OneTouch 7″, LAN + Wi-Fi, weiß
02 Busch-OneTouch 7″, LAN + Wi-Fi, schwarz

Artikel-Nr.:
M2249-2W-03



Immer gesprächsbereit



Die Busch-Welcome® Innenstation Audio mit Hörer

+ Störgeräuschunterdrückung
+ Intuitive Bedienung durch Schnellzugriffstasten
+ Beste Sprachverbindung durch Vollduplexbetrieb

Art.-Nr.:
83205 AP-624



Die Busch-Welcome® Innenstation Video mit Touchdisplay

+ Schmales Hochformat
+ Hochauflösendes Touchdisplay
+ Videohistorie
+ Induktionsschleife für Schwerhörige
+ Für UP-Standarddose
+ Aufputz-Montage mithilfe des mitgelieferten Rahmens möglich

Artikel-Nr.:
83222 U-611



Die Busch-Welcome® Innenstation Audio

+ Freisprechfunktion
+ Einfache Montage
+ Optimale Übertragungsqualität

Art.-Nr.:
83210 AP-624

Konnektivität zu jeder Zeit und von jedem Ort

Die Busch-Welcome® App. Bei Einsatz eines IP-Gateways (Art.-Nr. 83342) oder einer der Innenstationen mit eingebauter App-Schnittstelle kann das System schnell und einfach mit der kostenlosen Busch-Welcome® App verbunden werden.

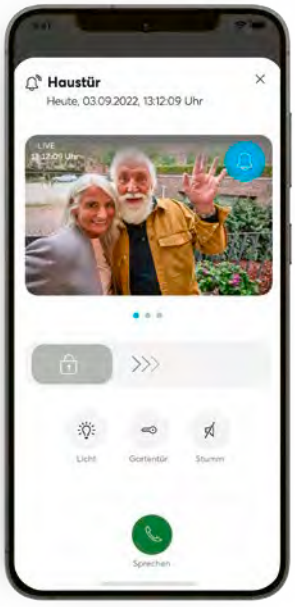
Mit Smartphone oder Tablet begrüßt du Besuch vor der Tür nicht nur vom Sofa oder aus dem Bad, sondern auch vom Büro oder Hotelzimmer aus. Und das alles ganz einfach und unkompliziert.

Einzige Voraussetzung:
Ein Busch-Jaeger IP-Gateway 83342 oder eine Innenstation mit integrierter App-Schnittstelle (z. B. das Busch-OneTouch 7" oder das Busch-SmartTouch® 10"). Spezielle Einstellungen am Router sind nicht erforderlich, da die Verbindung zwischen dem System und den Apps über die Server des myBUSCH-JAEGER Portals abgewickelt wird. Sind mehrere Nutzer mit Smartphone oder Tablet an das Türkommunikationssystem angebunden, können unterschiedliche Nutzungsberechtigungen vergeben werden (z. B. ohne Freigabe der Türöffnungsfunktion). Das sorgt für ein Höchstmaß an Sicherheit. Der Ereignisspeicher der Anlage wird regelmäßig mit dem myBUSCH-JAEGER Portal synchronisiert.

Bei Anrufen in Abwesenheit verschickt das System Benachrichtigungen an die mobilen Geräte. Bilder des Besuchs vor der Tür, die von der stationären Busch-Welcome® Anlage aufgenommen wurden, können vom myBUSCH-JAEGER Portal auf den eigenen PC heruntergeladen werden.



01



02

01 Busch-Welcome® App
02 Busch-Welcome® Integration in die App Busch-free@home® Next

App-Funktionen auf Smartphone oder Tablet
+ Ruf annehmen bzw. Ruf beenden
+ Tür öffnen (Schlüssel-Symbol)
+ Licht ein-/ausschalten (Licht-Symbol)
+ Stumm schalten (Mikrofon-Symbol)
+ Überwachungsruf
+ Ansicht der Rufhistorie

Laden im App Store

JETZT BEI Google Play

Die dazugehörigen Apps sind kostenlos.

my.busch-jaeger.de
busch-jaeger.de

Gut bewährt – die Anbindung der Türkommunikation an das Festnetztelefon oder die TK-Anlage

Das Telefon als Türöffner. Über eine Anbindung des Busch-Welcome® Telefon-Gateways an eine Telefonzentrale werden die Türrufe an die daran angeschlossenen Telefone weitergereicht. Auch eine Rufweiterleitung an andere Amtsanschlüsse oder Mobilfunktelefone ist möglich.



ISDN-Telefon,
TK-Anlage



LAN



FRITZ!Fon
oder andere
DECT-Telefone



Art.-Nr.: 83350

+ Telefon wird zur Innenstation
+ Anbindung erfolgt über den analogen Anschluss
+ Über TK-Anlage Nutzung mit allen anderen Anschlüssen möglich (DECT, ISDN, IP-Telefone oder Mobilfunk)
+ Komfortable Konfiguration über die Weboberfläche des IP-Gateways
+ Einfache Inbetriebnahme ohne PC möglich
+ Optimaler Einsatz durch kleine Bauform (nur 4 TE)

Hier findest du mehr
zum Thema
Telefon-Gateway



Das Busch-Welcome® Telefon-Gateway kann die Funktion einer Busch-Welcome® Innenstation ergänzen und Türrufe entgegennehmen. Wird das Telefon-Gateway an eine Telefonzentrale angebunden, können alle daran angeschlossenen Telefone zur Türkommunikation genutzt werden, unabhängig davon, ob es sich um analoge, DECT-, ISDN- oder IP-Telefone handelt. Wird das Telefon-Gateway an einen analogen Festanschluss angeschlossen, können, ebenso wie über die Telefonzentrale, beliebige Telefonanschlüsse über das öffentliche Telefonnetz angesprochen werden. So können Nutzer am Telefon mit dem Besuch an der Außenstation sprechen, die Tür öffnen oder das Flurlicht anschalten. Ebenso kann auch vom Telefon über das Telefon-Gateway die Außenstation angerufen werden. Busch-Welcome® Innenstationen Audio oder Video sollten selbstverständlich parallel zum Telefon-Gateway betrieben werden, damit eine Kommunikation zur Türstation jederzeit gewährleistet werden kann. Die Programmierung ist ohne Computer möglich. Einstellungen können über DTMF-Tastentöne vorgenommen werden. Mit einem optionalen IP-Gateway, das weitere Funktionen zur Verfügung stellt, kann außerdem die Inbetriebnahme und Konfiguration auch komfortabel per portablem Computer oder Tablet vorgenommen werden.

03 Planung

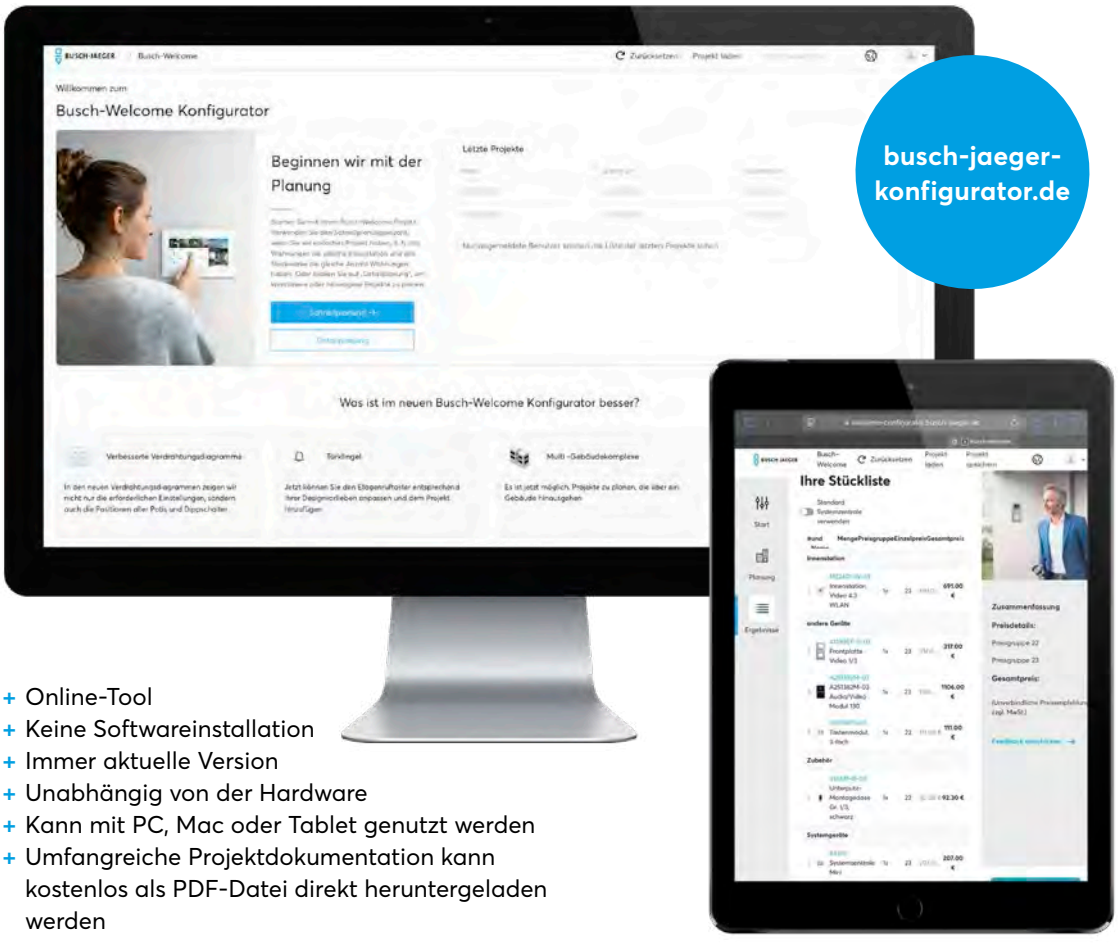



Haustür

BUSCH-WELCOME® SOFTWARE

Detaillierte Planungshilfe mit dem Busch-Welcome® Konfigurator

Der Busch-Welcome® Konfigurator.
Die Türkommunikation von Busch-Jaeger eröffnet neue Perspektiven: für umfassende Sicherheit, mehr Komfort und modernes, stilistisch passendes Design. Gerade die Möglichkeiten der modularen Bauweise eröffnen eine große Variantenvielfalt. Mit dem Busch-Welcome® Konfigurator bieten wir dir auch für die Planung einer Türkommunikationsanlage eine innovative Lösung.



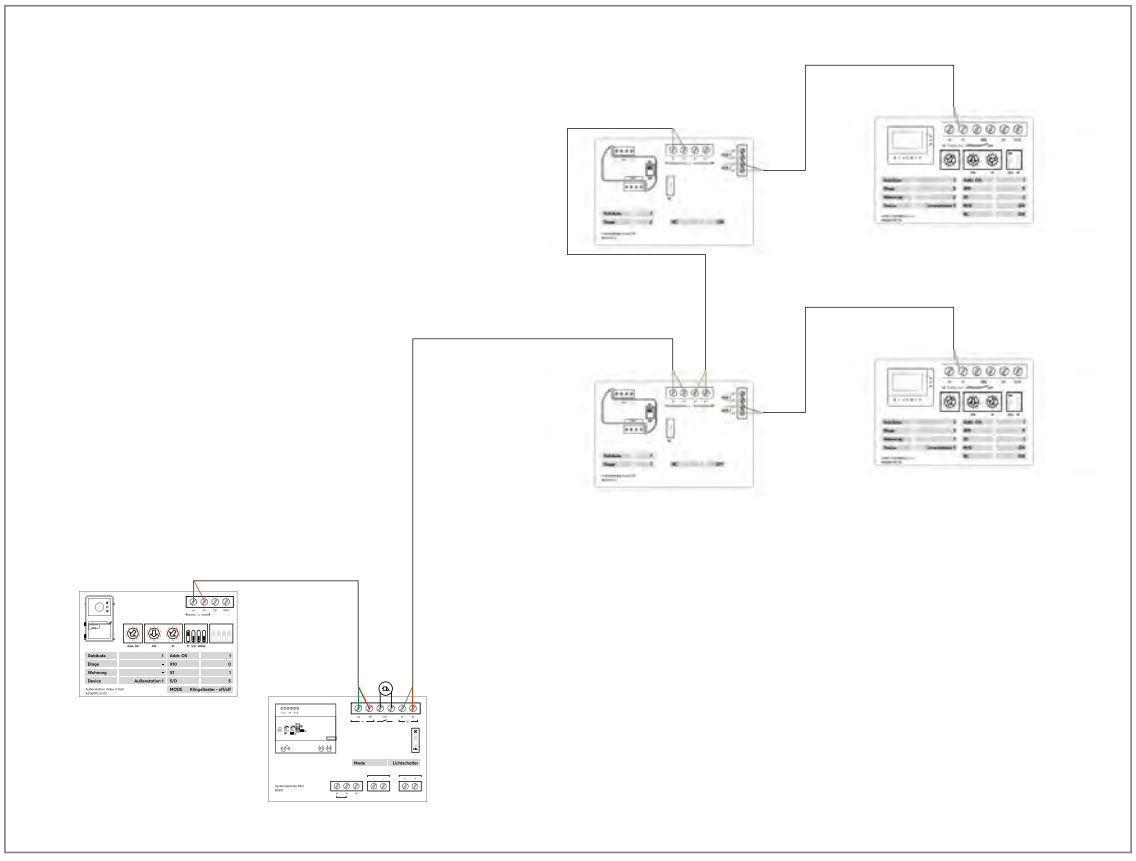
+ Online-Tool
+ Keine Softwareinstallation
+ Immer aktuelle Version
+ Unabhängig von der Hardware
+ Kann mit PC, Mac oder Tablet genutzt werden
+ Umfangreiche Projektdokumentation kann kostenlos als PDF-Datei direkt heruntergeladen werden

Planung von jedem Ort mit jedem Gerät
Der Busch-Welcome® Konfigurator ist eine Web-Applikation und läuft in jedem Browser. Nachdem du dich für die Detail- oder Schnellplanung entschieden hast, erfolgen die weiteren Planungsschritte von der Innenstation über die Außenstation bis hin zum Ergebnis. Bei der Detailplanung gibst du noch die Verkabelungsart an, um später die projektspezifischen Übersichts- und Außenschaltpläne zu bekommen.

Ausführliche Planungsdokumentation
Alle Informationen stehen dir in der Projektdokumentation am Ende einer Planung kompakt zur Verfügung. Über eine Auswahl kannst du die für dich relevanten Dokumentationsteile, wie z. B. Stücklisten, Schaltbilder oder Montagehinweise, auswählen und als eigens für deine Anlage erstelltes Dokument als PDF herunterladen.

Diese Unterlage ist nicht nur für die Planung der Anlage, sondern auch zukünftig als Nachschlagewerk wertvoll.

www.busch-jaeger-konfigurator.de



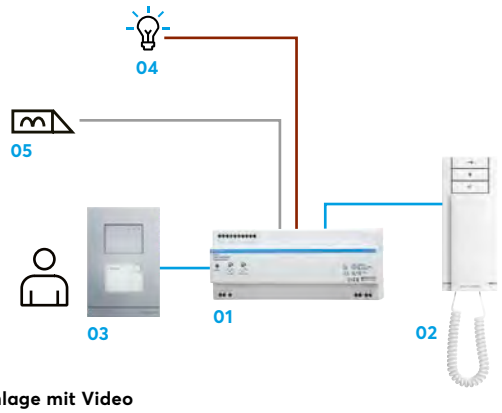
Außenschaltplan

Allgemeine Planungshinweise

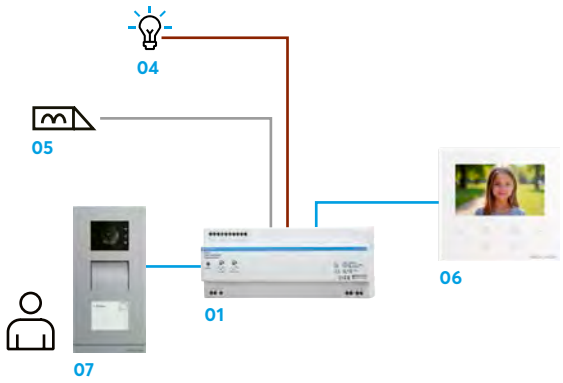
Busch-Welcome®: der 2-Draht-Bus für den Neubau und die Renovierung. Eine Busch-Welcome® Anlage ist sehr einfach und strukturiert aufgebaut und besteht aus mindestens drei Geräten: einer Außenstation, einer Systemzentrale und einer Innensprechstelle. Egal ob Video- oder Audiokommunikation geplant ist: Busch-Welcome® ist zu jeder Zeit ein durchgängiger 2-Draht-Bus.

01 Systemzentrale
02 Innenstation Audio mit Hörer
03 Außenstation Audio
04 Lichtquelle
05 Elektrischer Türöffner
06 Busch-Welcome® Innenstation Video 7"
07 Außenstation Video
08 Etagenruftaste
09 Videoverteiler bauneutral
10 Busch-Welcome® Innenstation Video mit 12,6 cm (5"), Art.-Nr.: 83222 U-611, Bauform: REG, UP

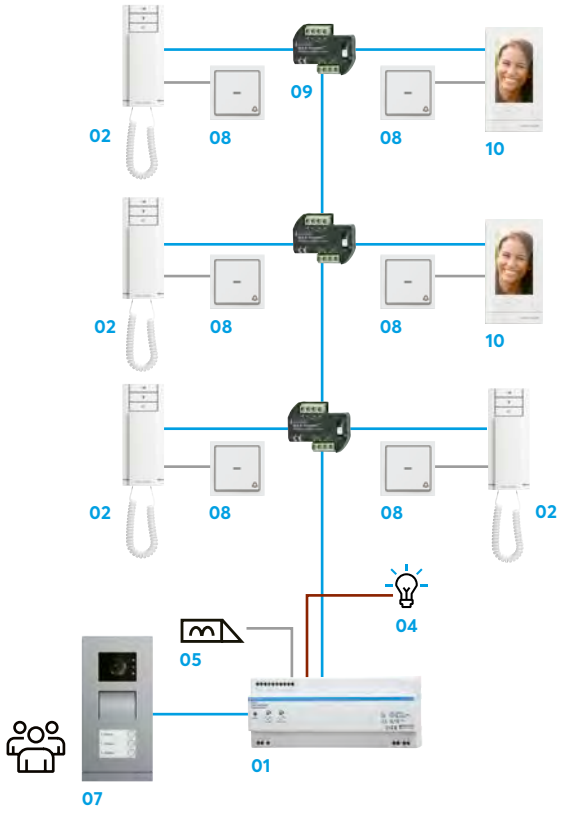
Anlage mit Audio



Anlage mit Video



Anlage mit Audio und Video



Allgemeine Planungshinweise

+ Typisches Kabel J-Y(St)-Y 2 x 2 x 0,8
+ 1-Mann-Inbetriebnahme, keine Software nötig
+ Max. vier Innensprechstellen (Video oder Audio) pro Wohneinheit
+ Kombination von Video- und Audiosprechstellen
+ Bei reinen Audioanlagen sind Stern- und Linienstruktur (Durchschleifen) möglich
+ Bei Videoanlagen müssen an Knotenpunkten Videoverteiler eingesetzt werden
+ Linienstruktur bei Videoanlagen möglich
+ Bei reinen Audioanlagen können dennoch Videoverteiler bereits eingebaut oder für die Nachrüstung genutzt werden, damit eine Erweiterung von Audio nach Video möglich ist

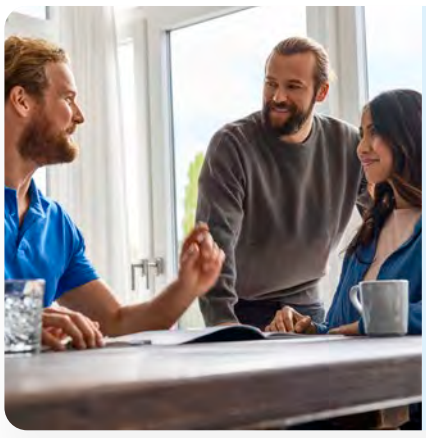
Unser Produktportfolio in 3D

Mit dem AR-Feature auf der Busch-Jaeger Website können Produkte wie Lichtschalter, Touchpanels oder Außenstationen in einem 3D-Modell angezeigt werden. Die interaktive Darstellung der Produkte ermöglicht, das jeweilige Produkt aus verschiedenen Blickwinkeln zu betrachten. Nutzer können sich so die Artikel digital anschauen und bekommen eine Idee von Farbe, Form und Material der Produkte, ohne diese physisch in der Hand zu halten.

Mit dem Augmented-Reality(AR)-Feature und der Kamerafunktion eines Smartphones oder Tablets kann ein Bildausschnitt der Wand gescannt werden. Die Kamera erkennt die Wandfläche und ermöglicht es, das gewünschte 3D-Modell des Produktes virtuell an dieser Stelle zu platzieren. Durch das AR-Erlebnis kann der Nutzer das 3D-Modell in Echtzeit und aus verschiedenen Blickwinkeln betrachten, während es nahtlos in die reale Umgebung integriert ist.



busch-jaeger.de/produkt/busch-welcome-aussenstation-video



Mehr Informationen und alle Details

Busch-Jaeger leistet einen aktiven Beitrag zum Umweltschutz. Deshalb stehen einige Broschüren nur als PDF-Datei zum Download bereit. Das geht sogar noch schneller als mit der Post. Einfach den QR-Code scannen und die gewünschte Broschüre digital als E-Paper oder unter **www.busch-jaeger.de/mediathek** erleben.

Busch-Jaeger Elektro GmbH

Freisenbergstraße 2
58513 Lüdenscheid

busch-jaeger.de
info.bje@de.abb.com

Kundenservice:
Tel.: +49 2351 956-1600

Busch-Jaeger Produkte gibt
es beim Elektroinstallateur



BJE 2CKA000001A1820/4.25/0502-BO, dpi P24-0479

Hinweis: Nachdruck und fotomechanische Wiedergabe sind nur mit unserer ausdrücklichen Genehmigung gestattet. Die Druckerzeugnisse von Busch-Jaeger informieren nach bestem Wissen, die Aussagen sind jedoch nicht rechtsverbindlich. Alle Abbildungen und Fotografien der dargestellten Produkte sind in Bezug auf Farbigkeit, Abmessungen und Ausstattung nicht verbindlich. Die meisten Busch-Jaeger Produkte sind eingetragene Warenzeichen. Die Angaben in diesem Katalog sind ohne Gewähr. Änderungen und Aktualisierungen, die dem Fortschritt dienen, bleiben vorbehalten. Alle Produkte in diesem Druckerzeugnis, die den CE-Richtlinien entsprechen, tragen auf der Verpackung und dem Produkt die entsprechende Kennzeichnung.

PRODUCTS FAMILY DECLARATION FOR FLUSH-MOUNTED BOX OF ABB

PRODUCT ENVIRONMENTAL PROFILE

Environmental Product Declaration



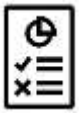
ORGANIZATION	WEBSITE
ABB Xiamen Smart Technology Co., Ltd	https://new.abb.com/cn/en/about/businesses/electrification/xiamen-smart-technology-co
ADDRESS	CONTACT INFORMATION
No.7,Fangshan South Road, Hi-tech area, Torch park, XiangAn District, Xiamen, China (assembly sites)	Mr. Jock -zhao Wu, jock-zhao.wu@cn.abb.com

STATUS	SECURITY LEVEL	Registration number	REV.	LANG.	PAGE
Approved	Public	PEP ecopassport® ABBG-00247-V01.01-EN	A	en	1/8

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ABB Purpose & Embedding Sustainability

ABB is demonstrating their commitment to sustainability by making themselves sustainable. Across their own operations and value chain, aspiring to become a role model for others to follow. With **ABB Purpose** ABB is focusing on reducing harmful emissions, preserving natural resources, and championing ethical and humane behavior to achieve this. Detail info see the website: Sustainability strategy 2030 — ABB Group (global.abb)



General Information

Reference product	The reference product is one unit of Flush-mounted box produced by ABB; the representative product is 41383F-B-03 (2TMA130160B0053).
Description of the product	The product is a mounting accessory for outdoor station, named mounted box. Through the mounted box, different size OS frames can be fixed and be protected from water and finally support indirectly to the communication between the visitors outside the building and the residents in the buildings.
Functional unit of the representative product	Protect people from direct contact with live active parts and ensure the grouping of control, command and protection devices in a single unequipped cabinet having the following dimensions 0.052 m x 0.275 m x 0.133 m while protecting them against mechanical impacts (IK07) and the penetration of solid objects and liquids (IP54), according to the appropriate use scenario, and for the reference service life of the product of 20 years.
Products concerned	The products covered by this PEP are: 41381F-B (2TMA130160B0001), 41381F-H (2TMA130160H0001) 41381F-B-03 (2TMA130160B0051), 41381F-H-03 (2TMA130160H0033) 41382F-B (2TMA130160B0002), 41382F-H (2TMA130160H0002) 41382F-B-03 (2TMA130160B0052), 41382F-H-03 (2TMA130160H0034) 41383F-B (2TMA130160B0003), 41383F-H (2TMA130160H0003) 41383F-B-03 (2TMA130160B0053), 41383F-H-03 (2TMA130160H0035) 41384F-B (2TMA130160B0004), 41384F-H (2TMA130160H0004) 41384F-B-03 (2TMA130160B0054), 41384F-H-03 (2TMA130160H0036) 41385F-B (2TMA130160B0005), 41385F-H (2TMA130160H0005) 41385F-B-03 (2TMA130160B0055), 41385F-H-03 (2TMA130160H0037) 41386F-B (2TMA130160B0006), 41386F-H (2TMA130160H0006) 41386F-B-03 (2TMA130160B0056), 41386F-H-03 (2TMA130160H0038) 41381S-B (2TMA130160B0009), 41381S-H (2TMA130160H0009) 41381S-B-03 (2TMA130160B0059), 41381S-H-03 (2TMA130160H0041) 41382S-H (2TMA130160B0010), 41382S-H (2TMA130160H0010) 41382S-B-03 (2TMA130160B0060), 41382S-H-03 (2TMA130160H0042) 41383S-B (2TMA130160B0011), 41383S-H (2TMA130160H0011) 41383S-B-03 (2TMA130160B0061), 41383S-H-03 (2TMA130160H0043) 41384S-B (2TMA130160B0012), 41384S-H (2TMA130160H0012) 41384S-B-03 (2TMA130160B0062), 41384S-H-03 (2TMA130160H0044) 41385S-B (2TMA130160B0013), 41385S-H (2TMA130160H0013) 41385S-B-03 (2TMA130160B0063), 41385S-H-03 (2TMA130160H0045) 41386S-B (2TMA130160B0014), 41386S-H (2TMA130160H0014) 41386S-B-03 (2TMA130160B0064), 41386S-H-03 (2TMA130160H0046) 41381PB (2TMA130160B0017), 41381PB-03 (2TMA130160B0067) 41382PB (2TMA130160B0018), 41382PB-03 (2TMA130160B0068) 41383PB (2TMA130160B0019), 41383PB-03 (2TMA130160B0069) 41384PB (2TMA130160B0020), 41384PB-03 (2TMA130160B0070)

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	41385PB (2TMA130160B0021), 41385PB-03 (2TMA130160B0071) 41386PB (2TMA130160B0022), 41386PB-03 (2TMA130160B0072)

Constituent materials

Total weight of Reference product	Net weight of the product is 414.4 g. The total weight of packaged product is 641.5 g (including product packaging and transportation packaging).

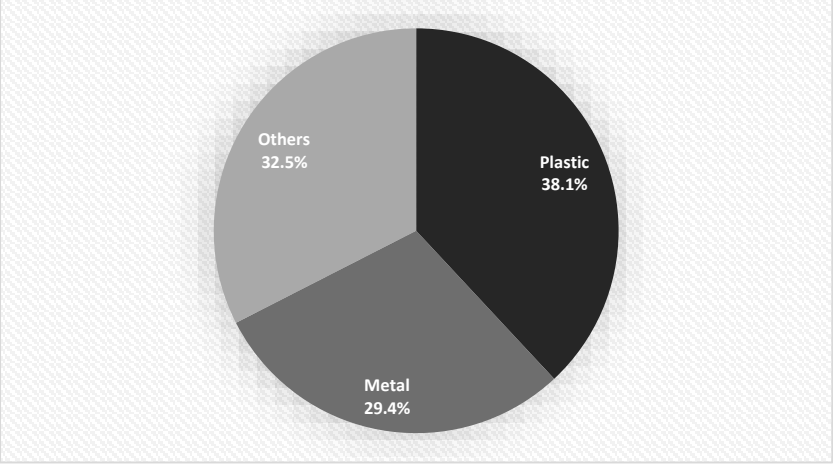


Figure 1 Constituent materials of the reference product (2TMA130160B0053)

Table 1 Information on mass of reference product and its packaging

Components	2TMA130160B0053	Product weight, incl. product pack (g)	Product weight, incl. product pack and transportation pack (g)
Product (g)	414.4	636.2	641.5
Product packaging (g)	221.8		
Transportation packaging (g)	5.3		

Detailed constituent materials of the reference product were shown in Figure 1 and then listed in Table 2.

Table 2 Materials distribution of the reference product

Plastics as % of weight		Metals as % of weight		Paper as % of weight		Other as % of weight	
Name and CAS number	Weight-%	Name and CAS number	Weight-%	Name and CAS number	Weight-%	Name and CAS number	Weight-%
ASA	35.2%	Low carbon steel	28.3%	Paper	32.4%	Others	<0.1%
PE	2.4%	Magnet	1.1%				
Silicon rubber	0.3%	Stainless steel 304	<0.1%				
PA66	0.2%						

Environmental impacts

Reference lifetime		20 years

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Product category		Flush-mounted box. According to the Specific rules for electrical switchgear and control gear Solutions (PSR-0005-ed3-EN-2023 06 06), the product is covered by Unequipped enclosures and Cabinets-cabinet.
Installation elements		The product is installed manually. There is no input of materials / accessories and energy during the installation. The main environmental impact was caused by the waste generated in this stage.
Use scenario		No energy consumption in the RSL of reference product
Geographical representativeness		The studied product is produced in China but used in Germany
Technological representativeness		In the manufacturing stage, specific data was collected to calculate the environmental impact caused by the manufacturing process. For the production of raw materials and parts, datasets from Ecoinvent 3.8 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.
Software and databases used		Simapro version 9.4.04 & databases Ecoinvent 3.8 & EF3.0
Standards applied in ABB		ABB had used many recycling materials, e.g., plastic and metal. The products' standards applied include: EN 62368-1:2014/A11:2017 EN IEC 61000-6-1:2019 EN 61000-6-3:2007/A1:2011

Energy model used	**Manufacturing**	**Distribution**	**Installation**	**Use**	**End of life**
	Average electricity mix in China	Global	Non-applicable	Non-applicable	Global

Table 3 Environmental impact indicators of life cycle Impact assessment

Compulsory Indicators

Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
Climate change	kg CO2 eq	1.13E+01	4.49E+00	5.81E+00	3.73E-01	0.00E+00	6.52E-01
Climate change – Fossil	kg CO2 eq	1.10E+01	4.53E+00	5.81E+00	4.69E-02	0.00E+00	6.52E-01
Climate change – Biogenic	kg CO2 eq	2.81E-01	-4.73E-02	1.86E-03	3.26E-01	0.00E+00	2.23E-04
Climate change – Land use and LU change	kg CO2 eq	5.41E-03	4.98E-03	3.49E-04	4.21E-06	0.00E+00	7.13E-05
Ozone depletion	kg CFC11 eq	1.57E-06	2.26E-07	1.32E-06	1.50E-09	0.00E+00	1.88E-08
Acidification	mol H+ eq	5.38E-02	2.27E-02	3.03E-02	8.19E-05	0.00E+00	7.25E-04
Eutrophication, freshwater	kg P eq	1.47E-03	1.35E-03	7.35E-05	1.21E-06	0.00E+00	4.42E-05
Eutrophication, marine	kg N eq	1.68E-02	5.32E-03	1.12E-02	3.88E-05	0.00E+00	2.82E-04
Eutrophication, terrestrial	mol N eq	1.72E-01	4.66E-02	1.22E-01	3.48E-04	0.00E+00	2.91E-03
Photochemical ozone formation	kg NMVOC eq	4.67E-02	1.44E-02	3.15E-02	8.87E-05	0.00E+00	7.91E-04
Resource use, minerals and metals	kg Sb eq	5.04E-05	4.84E-05	1.62E-06	3.41E-08	0.00E+00	3.39E-07
Resource use, fossils	MJ	1.46E+02	6.33E+01	8.14E+01	1.11E-01	0.00E+00	1.46E+00

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Water use	m3 depriv.	2.09E+00	1.96E+00	5.38E-02	9.58E-03	0.00E+00	7.25E-02

Note: the recycled content and the scrape rates of raw materials of the products and products' packaging are adjusted to 0% and 30% respectively according to the PSR.

Table 4 Resource use indicators of life cycle Impact assessment

Compulsory Indicators

Resource use indicators	Unit	Total	Manufac-turing	Distribu-tion	Installa-tion	Use	End of life
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	9.36E+00	9.06E+00	2.44E-01	2.79E-03	0.00E+00	4.69E-02
Use of renewable primary energy resources as raw materials	MJ	2.95E+00	2.95E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renewable primary energy resources	MJ	1.23E+01	1.20E+01	2.44E-01	2.79E-03	0.00E+00	4.69E-02
Use of non-renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	1.39E+02	5.64E+01	8.14E+01	1.11E-01	0.00E+00	1.46E+00
Use of non-renewable primary energy resources as raw materials	MJ	6.75E+00	6.75E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of non-renewable primary energy resources	MJ	1.46E+02	6.32E+01	8.14E+01	1.11E-01	0.00E+00	1.46E+00
Use of secondary materials	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Freshwater	m^3	5.54E-02	5.08E-02	2.33E-03	3.17E-04	0.00E+00	1.98E-03

Table 5 Waste category indicators of life cycle Impact assessment

Compulsory Indicators

Waste category indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
Hazardous waste disposed	kg	1.46E-03	1.24E-03	2.17E-04	2.72E-07	0.00E+00	3.28E-06
Non-hazardous waste disposed	kg	2.60E+00	1.96E+00	1.31E-01	2.30E-01	0.00E+00	2.82E-01
Radioactive waste disposed	kg	6.84E-04	9.81E-05	5.78E-04	4.96E-07	0.00E+00	8.33E-06

Table 6 Output flow indicators

Compulsory Indicators

Output flow 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	1.50E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-01
Materials for energy recovery	kg	1.14E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-01
Exported energy	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Note: The recovery of materials for materials and energy was calculated according to Annex D of the PCR.

Biogenic Carbon of product and packaging

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.

Table 7 Amount of biogenic carbon of product and packaging

Item	Unit (kg of C)	Total
Biogenic carbon content of the product	0.00E+00	0.00E+00
Biogenic carbon content of the associated packaging	9.44E-02	9.44E-02

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Extrapolation to a homogeneous environmental family

To determine the environmental impact of a product covered by the PEP other than the representative product, the following rules apply:

1) Manufacturing stage

The impact for this phase of a product covered by the PEP other than the representative product is proportional to weight of the product, thus, the impacts should be calculated by multiple the coefficients factor_1 in Table 8 by the environmental impact for this phase of the representative product.

2) Distribution

The impact for this phase of a product covered by the PEP other than the representative product is proportional to the packaged product weight, thus, the impacts should be calculated by multiple the coefficients factor_2 in Table 8 by the environmental impact for those phases of the representative product.

3) Installation

The impact for this phase of a product covered by the PEP other than the representative product is proportional to weight of the product packaging, thus, the impacts should be calculated by multiple the coefficients factor_3 in Table 8 by the environmental impact for those phases of the representative product.

4) Use

For the stages of use: as no input of energy and material and output of waste as well as emissions to water and air, no environmental impact in this stage. Thus, the factor (namely factor_4) is 1.

5) End of life phases

The impacts of the representing product from the end-of-life are less than 2% of the total impact. However, the impact for this phase of a product covered by the PEP other than the representative product is calculated by multiple the coefficients factor_1 in Table 8 by the environmental impact for this phase of the representative product.

Table 8 Extrapolation rules for homogeneous family products

SAP Number	Article Number	Factor_1	Factor_2	Factor_3
2TMA130160B0017	41381PB	0.34	0.42	0.57
2TMA130160B0067	41381PB-03	0.34	0.42	0.57
2TMA130160B0018	41382PB	0.45	0.48	0.53
2TMA130160B0068	41382PB-03	0.45	0.48	0.53
2TMA130160B0019	41383PB	0.58	0.85	1.36
2TMA130160B0020	41384PB	0.68	0.90	1.32
2TMA130160B0069	41383PB-03	0.58	0.85	1.36
2TMA130160B0009	41381S-B	0.66	0.70	0.77
2TMA130160B0059	41381S-B-03	0.66	0.70	0.77
2TMA130160H0009	41381S-H	0.66	0.70	0.77
2TMA130160H0041	41381S-H-03	0.66	0.70	0.77
2TMA130160B0070	41384PB-03	0.68	0.90	1.32
2TMA130160B0051	41381F-B-03	0.76	0.77	0.78
2TMA130160H0033	41381F-H-03	0.76	0.77	0.78
2TMA130160B0001	41381F-B	0.76	0.77	0.78

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2TMA130160H0001	41381F-H	0.76	0.77	0.78
2TMA130160B0010	41382S-B	0.78	0.65	0.40
2TMA130160B0060	41382S-B-03	0.78	0.65	0.40
2TMA130160H0010	41382S-H	0.78	0.65	0.40
2TMA130160H0042	41382S-H-03	0.78	0.65	0.40
2TMA130160B0021	41385PB	0.84	1.19	1.86
2TMA130160B0071	41385PB-03	0.84	1.19	1.86
2TMA130160B0022	41386PB	0.87	1.32	2.17
2TMA130160B0072	41386PB-03	0.87	1.32	2.17
2TMA130160B0052	41382F-B-03	0.88	0.77	0.58
2TMA130160H0034	41382F-H-03	0.88	0.77	0.58
2TMA130160B0002	41382F-B	0.88	0.77	0.58
2TMA130160H0002	41382F-H	0.88	0.77	0.58
2TMA130160B0011	41383S-B	0.91	0.75	0.45
2TMA130160B0061	41383S-B-03	0.91	0.75	0.45
2TMA130160H0011	41383S-H	0.91	0.75	0.45
2TMA130160H0043	41383S-H-03	0.91	0.75	0.45
2TMA130160B0053	41383F-B-03	1.00	1.00	1.00
2TMA130160B0003	41383F-B	1.02	1.00	0.98
2TMA130160H0003	41383F-H	1.02	1.00	0.98
2TMA130160B0012	41384S-B	1.03	0.86	0.55
2TMA130160B0062	41384S-B-03	1.03	0.86	0.55
2TMA130160H0012	41384S-H	1.03	0.86	0.55
2TMA130160H0044	41384S-H-03	1.03	0.86	0.55
2TMA130160H0035	41383F-H-03	1.04	1.01	0.98
2TMA130160B0004	41384F-B	1.14	1.05	0.88
2TMA130160H0004	41384F-H	1.14	1.05	0.88
2TMA130160B0054	41384F-B-03	1.15	1.05	0.88
2TMA130160H0036	41384F-H-03	1.15	1.05	0.88
2TMA130160B0013	41385S-B	1.15	1.06	0.88
2TMA130160B0063	41385S-B-03	1.15	1.06	0.88
2TMA130160H0013	41385S-H	1.15	1.06	0.88
2TMA130160H0045	41385S-H-03	1.15	1.06	0.88
2TMA130160B0005	41385F-B	1.32	1.18	0.93
2TMA130160H0005	41385F-H	1.32	1.18	0.93
2TMA130160B0055	41385F-B-03	1.33	1.19	0.93
2TMA130160H0037	41385F-H-03	1.33	1.19	0.93
2TMA130160B0014	41386S-B	1.57	1.29	0.76
2TMA130160B0064	41386S-B-03	1.57	1.29	0.76
2TMA130160H0014	41386S-H	1.57	1.29	0.76
2TMA130160H0046	41386S-H-03	1.57	1.29	0.76
2TMA130160B0006	41386F-B	1.87	1.80	1.66
2TMA130160H0006	41386F-H	1.87	1.80	1.66
2TMA130160B0056	41386F-B-03	1.88	1.80	1.66
2TMA130160H0038	41386F-H-03	1.88	1.80	1.66

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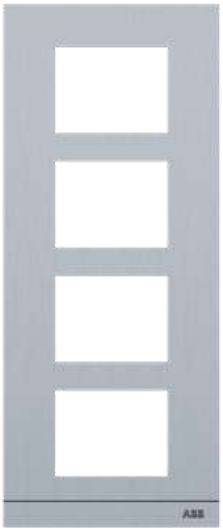
Registration number: ABBG-00247-V01.01-EN	Drafting Rules : ”PCR-ed4-EN-2021 09 06 **Supplemented by** “PSR-0005-ed3-EN-2023 06 06”
Verifier accreditation number: VH50	Information and reference documents: www.pep-ecopassport.org
Date of issue: 09-2023	Validity period: 5 years
Independent verification 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.	
Document complies with ISO 14025:2006 “Environmental labels and declarations. Type III environmental declarations”	

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PRODUCTS FAMILY DECLARATION FOR OS FRAME(ALUMINUM) OF ABB

PRODUCT ENVIRONMENTAL PROFILE

Environmental Product Declaration



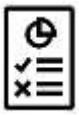
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ABB Purpose & Embedding Sustainability

ABB is demonstrating their commitment to sustainability by making themselves sustainable. Across their own operations and value chain, aspiring to become a role model for others to follow. With **ABB Purpose** ABB is focusing on reducing harmful emissions, preserving natural resources, and championing ethical and humane behavior to achieve this. Detail info see the website: Sustainability strategy 2030 — ABB Group (global.abb)



General Information

Reference product	The refence product is one unit of OS frame produced by ABB, the representative product is 41394CF-A (SAP Number: 2TMA200160A0015).
Description of the product	The OS frame is an important part of video outdoor station which is the component of the wire bus door entry system produced by ABB XM. Through the OS frame, different functional modules (e.g., touch screen, transponder, keypad) can be fixed in the video outdoor station and to achieve the function of communication between the guests outside the building and the residents in the buildings.
Functional unit of the representative product	Protect people from direct contact with live active parts and ensure the grouping of control, command and protection devices in a single unequipped cabinet having the following dimensions 0.349 m x 0.135 m x 0.205 m while protecting them against mechanical impacts (IK07) and the penetration of solid objects and liquids (IP54), according to the appropriate use scenario, and for the reference service life of the product of 20 years.
Products concerned	Aluminum alloy is the main raw material of the product, accounting over 80% of the net weight of the product. The products covered by this PEP are: 41393CF-A(2TMA200160A0013),41393CF-A-03(2TMA200160A0033), 41393CF-B(2TMA220161B1002),41393CF-B-03(2TMA220160B1002), 41393CF-W-03(2TMA220160W0008),41394CF-A(2TMA200160A0015), 41394CF-A-03(2TMA200160A0034),41394CF-B(2TMA220161B1003), 41394CF-B-03(2TMA220160B1003),41395CF-A(2TMA200160A0017), 41395CF-A-03(2TMA200160A0035),41383CF-A(2TMA200160A0003), 41383CF-A-03(2TMA200160A0028),41383CF-B(2TMA220161B1004), 41383CF-B-03(2TMA220160B1004),41384CF-A(2TMA200160A0005), 41384CF-A-03(2TMA200160A0029),41384CF-B(2TMA220161B1005), 41384CF-B-03(2TMA220160B1005),41385CF-A(2TMA200160A0007), 41385CF-A-03(2TMA200160A0030),41385CF-B(2TMA220161B1006), 41385CF-B-03(2TMA220160B1006),41386CF-A(2TMA200160A0009), 41386CF-A-03(2TMA200160A0031),41386CF-W-03(2TMA220160W0012), 41388CF-A(2TMA220161A0010),41388CF-W-03(2TMA220160W0013), 41388CF-A-03(2TMA220160A0008),413810CF-A(2TMA220161A0011), 413810CF-A-03(2TMA220160A0009),413812CF-A-03(2TMA220160A0010), 413812CF-W-03(2TMA220160W0014),41391CF-A(2TMA220160A0003), 41392CF-A(2TMA200160A0011),41392CF-A-03(2TMA200160A0032), 41392CF-B(2TMA220161B1001),41392CF-B-03(2TMA220160B1001), 41392CF-W-03(2TMA220160W0007),41396CF-A(2TMA200160A0019), 41396CF-A-03(2TMA200160A0036),41396CF-W-03(2TMA220160W0009), 41398CF-A(2TMA220160A0004),41398CF-A(2TMA220161A0008), 41398CF-A-03(2TMA220160A0005),41398CF-W-03(2TMA220160W0010), 413910CF-A(2TMA220161A0009),413910CF-A-03(2TMA220160A0006), 413912CF-A-03(2TMA220160A0007),413912CF-W-03(2TMA220160W0011).

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Constituent materials

Total weight of Reference product	Net weight of the product is 405.2 g. The total weight of packaged product is 558.2 g (including product packaging and transportation packaging).

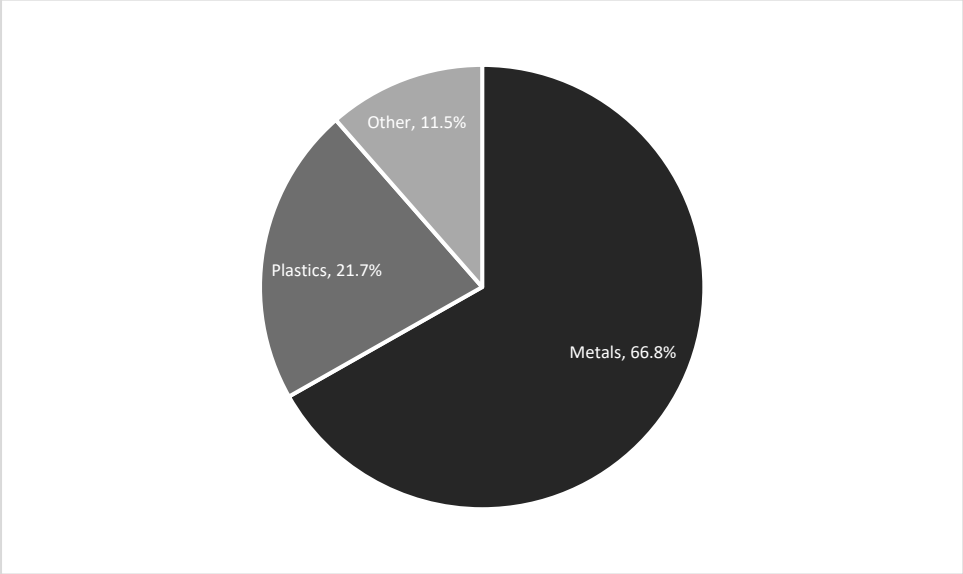


Figure 1 Constituent materials of the reference product (2TMA200160A0015)

Table 1 Information on mass of reference product and its packaging

Components	2TMA200160A0015	Product weight, incl. product pack (g)	Product weight, incl. product pack and transportation pack (g)
Product (g)	405.22	553.02	558.20
Product packaging (g)	147.80		
Transportation packaging (g)	5.19		

Detailed constituent materials of the reference product were shown in Figure 1 and then listed in Table 2.

Table 2 Materials distribution of the reference product

Plastics as % of weight		Metals as % of weight		Paper as % of weight		Other as % of weight	
Name and CAS number	Weight-%	Name and CAS number	Weight-%	Name and CAS number	Weight-%	Name and CAS number	Weight-%
PE	15.3%	Stainless steel	6.9%	Paper	11.4%	Others	<0.1%
PA66	5.1%	Aluminum alloy	59.3%				
EPDM	0.6%	Low carbon steel	0.6%				
PC	0.4%						
PU foam	0.3%						

Environmental impacts

Reference lifetime		20 years

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Product category		Frame. According to the Specific rules for electrical switchgear and control gear Solutions (PSR-0005-ed3-EN-2023 06 06), the product is covered by Unequipped enclosures and Cabinets-cabinet.			
Installation elements		The product is installed manually. There is no input of materials / accessories and energy during the installation. The main environmental impact was caused by the waste generated in this stage.			
Use scenario		No energy consumption in the RSL of reference product			
Geographical representativeness		The studied product is produced in China but used in worldwide.			
Technological representativeness		In the manufacturing stage, specific data was collected to calculate the environmental impact caused by the manufacturing process. For the production of raw materials and parts, datasets from Ecoinvent 3.8 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.			
Software and databases used		Simapro version 9.4.04 & databases ecoinvent 3.8 & EF3.0			
Standards applied in ABB		ABB had used many recycling materials, e.g., plastic and metal. The products' standards applied include: EN 62368-1:2014/A11:2017 EN IEC 61000-6-1:2019 EN 61000-6-3:2007/A1:2011			
Energy model used	**Manufacturing**	**Distribution**	**Installation**	**Use**	**End of life**
	Average electricity mix in China	Global	Non-applicable	Non-applicable	Global

Table 3 Environmental impact indicators of life cycle Impact assessment

Compulsory Indicators

Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
Climate change	kg CO2 eq	1.64E+01	1.26E+01	3.25E+00	2.53E-01	0.00E+00	3.54E-01
Climate change - Fossil	kg CO2 eq	1.62E+01	1.26E+01	3.25E+00	4.34E-02	0.00E+00	3.50E-01
Climate change - Biogenic	kg CO2 eq	1.61E-01	-5.30E-02	1.04E-03	2.09E-01	0.00E+00	3.77E-03
Climate change - Land use and LU change	kg CO2 eq	3.09E-02	3.04E-02	2.21E-04	2.85E-06	0.00E+00	2.64E-04
Ozone depletion	kg CFC11 eq	1.25E-06	4.87E-07	7.35E-07	1.01E-09	0.00E+00	2.72E-08
Acidification	mol H+ eq	9.71E-02	7.68E-02	1.74E-02	5.60E-05	0.00E+00	2.84E-03
Eutrophication, freshwater	kg P eq	4.21E-03	3.97E-03	4.38E-05	8.24E-07	0.00E+00	1.96E-04
Eutrophication, marine	kg N eq	2.02E-02	1.35E-02	6.31E-03	2.67E-05	0.00E+00	3.23E-04
Eutrophication, terrestrial	mol N eq	2.09E-01	1.36E-01	6.91E-02	2.39E-04	0.00E+00	3.73E-03
Photochemical ozone formation	kg NMVOC eq	5.93E-02	4.03E-02	1.78E-02	6.08E-05	0.00E+00	1.10E-03
Resource use, minerals and metals	kg Sb eq	9.97E-05	5.29E-05	1.04E-06	2.31E-08	0.00E+00	4.58E-05
Resource use, fossils	MJ	1.76E+02	1.28E+02	4.53E+01	7.48E-02	0.00E+00	3.06E+00
Water use	m3 depriv.	2.43E+00	2.23E+00	3.21E-02	6.77E-03	0.00E+00	1.58E-01

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Note: the recycled content and the scrape rates of raw materials of the products and products' packaging are adjusted to 0% and 30% respectively according to the PSR.

Table 4 Resource use indicators of life cycle Impact assessment

Compulsory Indicators

Resource use indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	1.68E+01	1.63E+01	1.42E-01	1.90E-03	0.00E+00	3.17E-01
Use of renewable primary energy resources as raw materials	MJ	1.47E+00	1.47E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renewable primary energy resources	MJ	1.83E+01	1.78E+01	1.42E-01	1.90E-03	0.00E+00	3.17E-01
Use of non-renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	1.74E+02	1.26E+02	4.53E+01	7.48E-02	0.00E+00	3.06E+00
Use of non-renewable primary energy resources as raw materials	MJ	1.94E+00	1.94E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of non-renewable primary energy resources	MJ	1.76E+02	1.28E+02	4.53E+01	7.48E-02	0.00E+00	3.06E+00
Use of secondary materials	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Freshwater	m^3	8.79E-02	8.20E-02	1.36E-03	2.23E-04	0.00E+00	4.28E-03

Table 5 Waste category indicators of life cycle Impact assessment

Compulsory Indicators

Waste category indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
Hazardous waste disposed	kg	4.37E-03	2.23E-03	1.20E-04	1.86E-07	0.00E+00	2.02E-03
Non-hazardous waste disposed	kg	2.99E+00	2.56E+00	1.02E-01	5.65E-03	0.00E+00	3.25E-01
Radioactive waste disposed	kg	5.48E-04	2.15E-04	3.21E-04	3.33E-07	0.00E+00	1.20E-05

Table 6 Output flow indicators

Compulsory Indicators

Output flow 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	2.63E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.63E-01
Materials for energy recovery	kg	1.79E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02
Exported energy	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Note: The recovery of materials for materials and energy was calculated according to Annex D of the PCR.

Biogenic Carbon of product and packaging

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.

Table 7 Amount of biogenic carbon of product and packaging

Item	Unit (kg of C)	Total
Biogenic carbon content of the product	0.00E+00	0.00E+00
Biogenic carbon content of the associated packaging	6.05E-02	6.05E-02

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Extrapolation to a homogeneous environmental family

To determine the environmental impact of a product covered by the PEP other than the representative product, the following rules apply:

1) Manufacturing stage

The impact for this phase of a product covered by the PEP other than the representative product is proportional to weight of the product, thus, the impacts should be calculated by multiple the coefficients factor_1 in Table 8 by the environmental impact for this phase of the representative product.

2) Distribution

The impact for this phase of a product covered by the PEP other than the representative product is proportional to the packaged product weight, thus, the impacts should be calculated by multiple the coefficients factor_2 in Table 8 by the environmental impact for those phases of the representative product.

3) Installation

The impact for this phase of a product covered by the PEP other than the representative product is proportional to weight of the product packaging, thus, the impacts should be calculated by multiple the coefficients factor_3 in Table 8 by the environmental impact for those phases of the representative product.

4) End of life phases

The impacts of the representing product from the end-of-life are less than 2% of the total impact. However, the impact for this phase of a product covered by the PEP other than the representative product is calculated by multiple the coefficients factor_1 in Table 8 by the environmental impact for this phase of the representative product.

Table 8 Extrapolation rules homogeneous family products

SAP Number	Article Number	Factor_1	Factor_2	Factor_3
2TMA200160A0013	41393CF-A	0.89	0.89	0.90
2TMA200160A0033	41393CF-A-03	0.89	0.89	0.90
2TMA220161B1002	41393CF-B	0.89	0.89	0.90
2TMA220160B1002	41393CF-B-03	0.89	0.89	0.90
2TMA220160W0008	41393CF-W-03	0.89	0.89	0.90
2TMA200160A0015	41394CF-A	1.00	1.00	1.00
2TMA200160A0034	41394CF-A-03	1.04	1.00	0.90
2TMA220161B1003	41394CF-B	1.04	1.00	0.90
2TMA220160B1003	41394CF-B-03	1.04	1.00	0.90
2TMA200160A0017	41395CF-A	1.21	1.02	0.50
2TMA200160A0035	41395CF-A-03	1.21	1.02	0.50
2TMA200160A0003	41383CF-A	0.82	0.84	0.90
2TMA200160A0028	41383CF-A-03	0.82	0.84	0.90
2TMA220161B1004	41383CF-B	0.82	0.84	0.90
2TMA220160B1004	41383CF-B-03	0.82	0.84	0.90
2TMA200160A0005	41384CF-A	0.92	0.92	0.90
2TMA200160A0029	41384CF-A-03	0.92	0.92	0.90
2TMA220161B1005	41384CF-B	0.92	0.92	0.90

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2TMA220160B1005	41384CF-B-03	0.92	0.92	0.90
2TMA200160A0007	41385CF-A	1.04	0.89	0.50
2TMA200160A0030	41385CF-A-03	1.04	0.89	0.50
2TMA220161B1006	41385CF-B	1.04	0.89	0.50
2TMA220160B1006	41385CF-B-03	1.04	0.89	0.50
2TMA200160A0009	41386CF-A	1.25	1.24	1.21
2TMA200160A0031	41386CF-A-03	1.25	1.24	1.21
2TMA220160W0012	41386CF-W-03	1.25	1.24	1.21
2TMA220161A0010	41388CF-A	2.43	2.26	1.79
2TMA220160W0013	41388CF-W-03	2.43	2.26	1.79
2TMA220160A0008	41388CF-A-03	2.43	2.26	1.79
2TMA220161A0011	413810CF-A	2.68	2.44	1.79
2TMA220160A0009	413810CF-A-03	2.68	2.44	1.79
2TMA220160A0010	413812CF-A-03	3.66	4.38	6.38
2TMA220160W0014	413812CF-W-03	3.66	4.38	6.38
2TMA220160A0003	41391CF-A	0.55	0.57	0.62
2TMA200160A0011	41392CF-A	0.69	0.67	0.62
2TMA200160A0032	41392CF-A-03	0.69	0.67	0.62
2TMA220161B1001	41392CF-B	0.69	0.67	0.62
2TMA220160B1001	41392CF-B-03	0.69	0.67	0.62
2TMA220160W0007	41392CF-W-03	0.69	0.67	0.62
2TMA200160A0019	41396CF-A	1.40	1.35	1.21
2TMA200160A0036	41396CF-A-03	1.40	1.35	1.21
2TMA220160W0009	41396CF-W-03	1.40	1.35	1.21
2TMA220160A0004	41398CF-A	1.66	1.64	1.59
2TMA220161A0008	41398CF-A	2.36	3.45	6.47
2TMA220160A0005	41398CF-A-03	2.36	2.21	1.79
2TMA220160W0010	41398CF-W-03	2.36	2.21	1.79
2TMA220161A0009	413910CF-A	2.65	2.42	1.79
2TMA220160A0006	413910CF-A-03	2.65	2.42	1.79
2TMA220160A0007	413912CF-A-03	3.58	4.32	6.38
2TMA220160W0011	413912CF-W-03	3.58	4.32	6.38
2TMA220160A0007	413912CF-A-03	0.89	0.89	0.90
2TMA220160W0011	413912CF-W-03	0.89	0.89	0.90

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Registration number: ABBG-00238-V01.01-EN	Drafting Rules: "PCR-ed4-EN-2021 09 06 Supplemented by “PSR-0005-ed3-EN-2023 06 06”
Verifier accreditation number: VH50	Information and reference documents: www.pep-ecopassport.org
Date of issue: 09-2023	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.	
Document complies with ISO 14025:2006 “Environmental labels and declarations. Type III environmental declarations”	

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PRODUCTS FAMILY DECLARATION FOR POWER SUPPLY OF ABB

PRODUCT ENVIRONMENTAL PROFILE

Environmental Product Declaration



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STATUS	SECURITY LEVEL	Registration number	REV.	LANG.	PAGE
Approved	Public	PEP ecopassport® ABBG-00044-V01.01-EN	A	en	1/7

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ABB Purpose & Embedding Sustainability

ABB is demonstrating their commitment to sustainability by making themselves sustainable. Across their own operations and value chain, aspiring to become a role model for others to follow. With **ABB Purpose** ABB is focusing on reducing harmful emissions, preserving natural resources, and championing ethical and humane behavior to achieve this. Detail info see the website: Sustainability strategy 2030 — ABB Group (global.abb)

General Information

Reference product	The reference product is one unit of power supply produced by ABB; the representative product is 83301 (2TMA020080H0001).
Description of the product	The product is power supply and system controller. It supplies power and controls the operation of the door entry system.
Functional unit of the representative product	To provide power and control the operation of the door entry system over a reference lifetime of 10 years.
Products concerned	The homogeneous family products covered in this PEP are power supply. Their composition, functions and use scenarios are almost the same. The main differences among them are: 1) Product colors 2) Product names and article numbers The products concerned: 83301 (2TMA020080H0001), 83301-500 (2TMA020080H0002), 83301-500 (2TMA020080H0003), M2300-02 (2TMA210160H0001), M2300 (2TMA070080W0011), M2300-101 (2TMA210161W0001), 83310-500-02 (2TMA020080W0002), 83310-500 (2TMA020080N0004), 83310-500 (2TMA020080N0006), 83310 (2TMA020080N0002), M2301-02 (2TMA210160H0002), M2301 (2TMA070080W0012), M2301-101 (2TMA210161W0002), YSM01-PS (2TMA130160H0085)

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Constituent materials

Total weight of Reference product	Net weight of the product is 344.3 g. The total weight of packaged product is 744.9 g (including product packaging and transportation packaging).

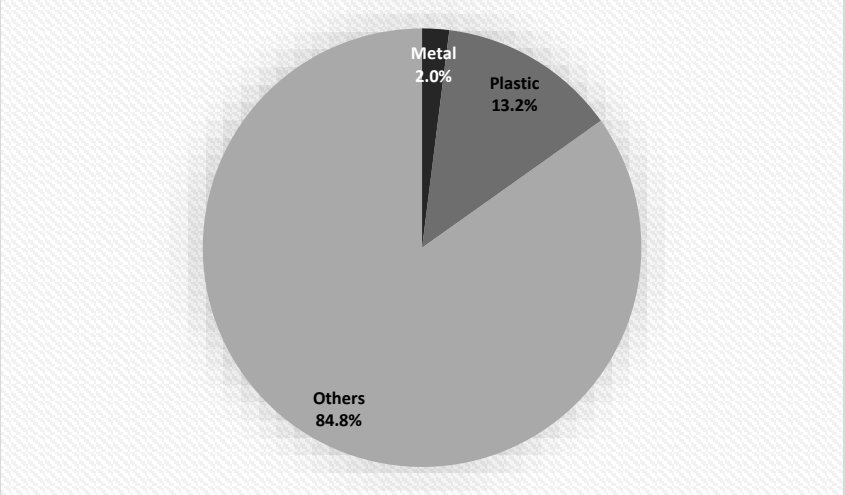


Figure 1 Constituent materials of the reference product (2TMA020080H0001)

Table 1 Information on mass of reference product and its packaging

Components	2TMA020080H0001	Product weight, incl. product pack (g)	Product weight, incl. product pack and transportation pack (g)
Product (g)	344.3	740.6	744.9
Product packaging (g)	396.3		
Transportation packaging (g)	4.3		

Detailed constituent materials of the reference product were shown in Figure 1 and then listed in Table 2.

Table 2 Materials distribution of the reference product

Plastics as % of weight		Metals as % of weight		Paper as % of weight		Other as % of weight	
Name and CAS number	Weight-%	Name and CAS number	Weight-%	Name and CAS number	Weight-%	Name and CAS number	Weight-%
PA 66	12.5%	Al alloy	1.7%	Printed paper	32.7%	Electronic parts	31.8%
PE	0.5%	Steel	0.3%	Folding boxboard carton	14.2%	Others	< 0.1%
PC	0.2%			Corrugated board box	6.0%		

Environmental impacts

Reference lifetime		10 years
Product category		Power supply and system controller. According to the Specific rules for electrical switchgear and control gear Solutions (PSR-0005-ed3-EN-2023 06 06), the product is covered by other equipment - Category 2: active products.

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Installation elements		The product is installed manually. There is no input of materials / accessories and energy during the installation. The main environmental impact was caused by the waste generated in this stage.
Use scenario		The reference product is used in Germany using low voltage electricity.
Geographical representativeness		The studied product is produced in China but used in Germany.
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 3.8 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.
Software and databases used		Simapro version 9.4.04 & databases Ecoinvent 3.8 and EF 3.0
Standards applied in ABB		ABB had used many recycling materials, e.g., plastic and metal. The products' standards applied include: EN 62368-1:2014/A11:2017 EN IEC 61000-6-1:2019 EN 61000-6-3:2007/A1:2011

Energy model used	**Manufacturing**	**Distribution**	**Installation**	**Use**	**End of life**
	Average electricity mix in China	Non-applicable	Non-applicable	Germany	Global

Table 3 Environmental impact indicators of life cycle Impact assessment

Compulsory Indicators

Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
Climate change	**kg CO2 eq**	2.10E+02	1.24E+01	6.75E+00	6.49E-01	1.89E+02	5.73E-01
Climate change - Fossil	**kg CO2 eq**	1.94E+02	1.28E+01	6.74E+00	2.84E-02	1.74E+02	5.71E-01
Climate change - Biogenic	**kg CO2 eq**	1.50E+01	-3.62E-01	2.15E-03	6.20E-01	1.47E+01	2.14E-03
Climate change - Land use and LU change	**kg CO2 eq**	2.60E-01	2.05E-02	4.05E-04	7.31E-06	2.39E-01	1.35E-04
Ozone depletion	**kg CFC11 eq**	6.94E-06	5.89E-07	1.54E-06	2.62E-09	4.77E-06	3.89E-08
Acidification	**mol H+ eq**	6.27E-01	1.35E-01	3.52E-02	1.40E-04	4.47E-01	9.15E-03
Eutrophication, freshwater	**kg P eq**	2.81E-01	1.95E-02	8.54E-05	2.09E-06	2.61E-01	1.85E-05
Eutrophication, marine	**kg N eq**	1.70E-01	2.13E-02	1.30E-02	6.55E-05	1.30E-01	6.45E-03
Eutrophication, terrestrial	**mol N eq**	1.31E+00	2.29E-01	1.42E-01	5.89E-04	9.37E-01	4.01E-03
Photochemical ozone formation	**kg NMVOC eq**	3.39E-01	6.25E-02	3.66E-02	1.51E-04	2.38E-01	1.50E-03
Resource use, minerals and metals	**kg Sb eq**	7.78E-03	6.23E-03	1.88E-06	5.91E-08	1.54E-03	1.99E-06
Resource use, fossils	**MJ**	2.66E+03	1.61E+02	9.45E+01	1.92E-01	2.40E+03	4.13E+00
Water use	**m3 depriv.**	1.67E+01	5.33E+00	6.24E-02	1.53E-02	1.11E+01	1.32E-01

Note: the recycled content and the scrape rates of raw materials of the products and products' packaging are adjusted to 0% and 30% respectively according to the PSR.

Table 4 Resource use indicators of life cycle Impact assessment

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Compulsory Indicators

Resource use indicators	Unit	Total	Manufac-turing	Distri-bution	Instal-lation	Use	End of life
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	5.88E+02	2.49E+01	2.84E-01	4.79E-03	5.62E+02	5.30E-01
Use of renewable primary energy resources as raw materials	MJ	5.25E+00	5.25E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renewable primary energy resources	MJ	5.93E+02	3.02E+01	2.84E-01	4.79E-03	5.62E+02	5.30E-01
Use of non-renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	2.66E+03	1.58E+02	9.45E+01	1.92E-01	2.40E+03	4.13E+00
Use of non-renewable primary energy resources as raw materials	MJ	3.16E+00	3.16E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of non-renewable primary energy resources	MJ	2.66E+03	1.61E+02	9.45E+01	1.92E-01	2.40E+03	4.13E+00
Use of secondary materials	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Freshwater	m^3	1.34E+00	1.55E-01	2.70E-03	5.12E-04	1.17E+00	3.96E-03

Table 5 Waste category indicators of life cycle Impact assessment

Compulsory Indicators

Waste category indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
Hazardous waste disposed	kg	6.74E-03	2.57E-03	2.52E-04	4.64E-07	3.84E-03	8.12E-05
Non-hazardous waste disposed	kg	1.58E+01	1.84E+00	1.50E-01	4.11E-01	1.14E+01	2.07E+00
Radioactive waste disposed	kg	1.11E-02	3.93E-04	6.71E-04	8.74E-07	9.98E-03	2.30E-05

Table 6 Output flow indicators

Compulsory Indicators

Output flow 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	1.06E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-02
Materials for energy recovery	kg	4.71E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.71E-02
Exported energy	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Note: The recovery of materials for materials and energy was calculated according to Annex D of the PCR.

Biogenic Carbon of product and packaging

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.

Table 7 Amount of biogenic carbon of product and packaging

Item	Unit (kg of C)	Total
Biogenic carbon content of the product	0.00E+00	0.00E+00
Biogenic carbon content of the associated packaging	6.87E-02	6.87E-02

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Extrapolation to a homogeneous environmental family

To determine the environmental impact of a product covered by the PEP other than the representative product, the following rules apply:

1) Manufacturing stage

The impact for this phase of a product covered by the PEP other than the representative product is proportional to weight of the product, thus, the impacts should be calculated by multiple the coefficients factor_1 in Table 8 by the environmental impact for this phase of the representative product.

2) Distribution

The impact for this phase of a product covered by the PEP other than the representative product is proportional to the packaged product weight, thus, the impacts should be calculated by multiple the coefficients factor_2 in Table 8Table 8 Extrapolation rules for by the environmental impact for those phases of the representative product.

3) Installation

The impact for this phase of a product covered by the PEP other than the representative product is proportional to weight of the product packaging, thus, the impacts should be calculated by multiple the coefficients factor_3 in Table 8 by the environmental impact for those phases of the representative product.

4) Use

The environmental impact for B1-B6 stage of a product covered by the PEP other than the representative product should be calculated by multiple the factor_4 in Table 8 by the environmental impact for this phase of the representative product. Factor_4 is proportional to the amount of energy consumption.

5) End of life phases

The impacts of the representing product from the end-of-life are less than 2% of the total impact. However, the impact for this phase of a product covered by the PEP other than the representative product is calculated by multiple the coefficients factor_1 in Table 8 by the environmental impact for this phase of the representative product.

Table 8 Extrapolation rules for homogeneous environmental family products

SAP Number	Article Number	Factor_1	Factor_2	Factor_3	Factor_4
2TMA020080H0001	83301	1.00	1.00	1.00	1.00
2TMA020080H0002	83301-500	1.00	1.09	1.18	1.00
2TMA020080H0003	83301-500	1.00	1.09	1.18	1.00
2TMA210160H0001	M2300-02	1.09	0.73	0.42	1.45
2TMA070080W0011	M2300	1.09	0.73	0.42	1.45
2TMA210161W0001	M2300-101	1.09	0.73	0.42	1.45
2TMA020080W0002	83310-500-02	1.36	0.86	0.42	1.11
2TMA020080N0004	83310-500	1.36	0.86	0.42	1.11
2TMA020080N0006	83310-500	1.36	0.86	0.42	1.11
2TMA020080N0002	83310	1.36	0.86	0.42	1.11
2TMA210160H0002	M2301-02	0.47	0.31	0.17	0.98
2TMA070080W0012	M2301	0.47	0.31	0.17	0.98
2TMA210161W0002	M2301-101	0.47	0.31	0.17	0.98
2TMA130160H0085	YSM01-PS	1.51	0.94	0.43	1.59

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Registration number: ABBG-00044-V01.01-EN	Drafting Rules: "PCR-ed4-EN-2021 09 06" Supplemented by "PSR-0005-ed3-EN-2023 06 06"
Verifier accreditation number: VH50	Information and reference documents: www.pep-ecopassport.org
Date of issue: 09-2023	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.	
Document complies with ISO 14025:2006 "Environmental labels and declarations. Type III environmental declarations"	

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ABB – ASI15,ASI22,ASM12,ASO05 WELCOME 2-WIRE BUS DOOR ENTRY SYSTEM

PRODUCT ENVIRONMENTAL PROFILE

Environmental Product Declaration



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STATUS	SECURITY LEVEL	Registration number	REV.	LANG.	PAGE
Approved	Public	PEP ecopassport®ABBG-00042-V01.01-EN	A	en	1/11

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ABB Purpose & Embedding Sustainability

ABB is demonstrating their commitment to sustainability by making themselves sustainable. Across their own operations and value chain, aspiring to become a role model for others to follow. With **ABB Purpose** ABB is focusing on reducing harmful emissions, preserving natural resources, and championing ethical and humane behavior to achieve this. Detail info see the website: Sustainability strategy 2030 — ABB Group (global.abb)

General Information

Reference product	One set of door entry system (Welcome 2-wire bus door entry system including ASI15, ASI22, ASM12 and ASO05).
Description of the product	The Welcome 2-wire bus door entry system consists of one video outdoor station (ASO05), one power supply facility (ASM12) and video indoor stations (ASI15 &ASI22). It offers a system with HD video communication that can be used for outdoor, indoor, and remote monitoring of residential and functional buildings which are manufactured in ABB Xiamen Smart Technology 1. **Video outdoor station (ASO05):** for visitors to use, press the button to call the corresponding resident. The outdoor station with 5-inch touch screen, is integrated with transponder and keypad serves as end device for the communication with IP touch panel, guard unit or property management. 2. **Power supply (ASM12):** power supply, system controller, which supplies power to the system and controls the operation of the entire system. Therefore, electricity consumption in use stage happens on this type of product. 3. **Video indoor stations (ASI15 & ASI22):** used by residents. When a visitor comes to visit, you can see the image of the guest on the indoor machine, and you can talk to the visitor and open the lock for the visitor. There are two sizes of video indoor stations which are ASI15 and ASI22. In addition, it can be a centralized screen for other ABB sub-system, like video surveillance, access control and home automation.
Functional unit	According to the PSR-SPECIFIC RULES FOR Electrical switchgear and control gear Solutions (PSR-0005-ed2-EN-2016), the studied product is covered by 3.13-other equipment, category 2: Active products because the Welcome 2-wire bus door entry system consume energy for its operation. **The Functional unit** is to ensure the Welcome 2-wire bus door entry system provides effective communication between visitors (outdoor) and residents (indoor) over a reference service life of 10 years.
Products concerned	The product includes one ASM12, one ASO05, one ASI15 and one ASI22. ASI15 and ASI22 which are used in two rooms, meaning that the residents can reply to the visitor by ASI15 in one room or ASI22 in another room.

Constituent materials

Table 1 lists the mass of sub-components and weight of packaging for the four components of the reference product-Welcome 2-wire bus door entry system (1 set).

Table 1 Information on mass of sub-components and packaging of each component

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Components	ASO05	ASI15	ASI22	ASM12	Sum
Electronics parts（g）	97.791	202.683	160.519	490.948	951.941
Structural parts （g）	1024.140	124.879	183.827	218.589	1551.435
Package （g）	469.510	158.411	162.097	198.210	988.228
Total Weight（g）	1591.442	485.973	506.443	907.747	3491.604

Detailed constituent materials of the reference product were shown in Figure 1 and then listed in Table 2.

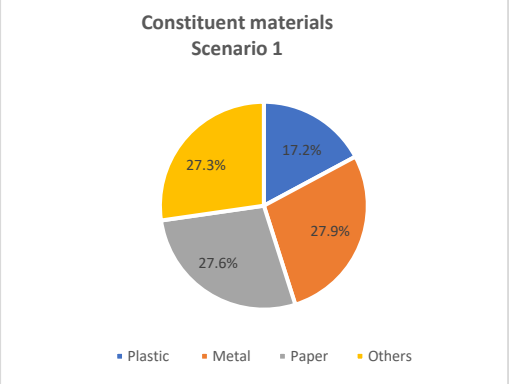


Figure 1 Constituent materials of the reference product

Table 2 Materials distribution of the reference product

Plastics as % of weight		**Metals as % of weight**		**Paper as % of weight**		**Other as % of weight**	
Name and CAS number	Weight-%	Name and CAS number	Weight-%	Name and CAS number	Weight-%	Name and CAS number	Weight-%
PC	8.7%	Stainless steel	20.9	Paper	27.6%	PCBA	27.3%
PA66	5.1%	Al alloy	3.6%			Others	<0.1%
ABS	1.6%	Low carbon steel	3.3.%				
PMMA foam	0.8%	Copper	0.1%				
PE	0.4%						
Rubber	0.3%						
PF foam	0.2%						
PET	<0.1%						
PU foam	<0.1%						
PE foam	<0.1%						

Environmental impacts

Table 3 Environmental Impacts information

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Reference lifetime		10 years			
Product category		According to the Specific rules for electrical switchgear and control gear Solutions (PSR-0005-ed2-EN-2016 03 29), the product is covered by other equipment – Category 2: active products			
Installation elements		The product is installed manually. There is no input of materials / accessories and energy during the installation. The main environmental impact was caused by the waste generated in this stage.			
Use scenario		The studied product can be used in multiple scenarios to meet the requirements of clients. One particular configuration was studied. During the whole reference service life of the studied product, there is no maintenance or replacement needed. The only input is electricity which makes the product operate under normal conditions. So, energy consumption in the whole reference service time of the product was calculated and modeled. Assumptions were made to calculate the energy used in the RSL of product. Assume that there are three times of visiting every day. And for each component (ASO05, ASI15, ASI22 and ASM12-PS), the working time is 2 minutes for every visit. Thus, the total amount of working time and standby time are 36.50 work hours and 8,723.50 hours in one year. The total consumption of energy is the sum of energy consumption in the RSL of reference product (10 years).			
Geographical representativeness		The studied product is produced in China, however, used in Germany. In general, specific data (primary data) is preferred. However, when the specific data is not available, generic data is used instead. For the selection of generic data for the production related activities in China, an order of local data, national data, Asian data, global data and European data is followed. E.g., Chinese average grid mix was used in the manufacturing stage. For the selection of generic data for the use and end-of-life activities in Germany, an order of local data, national data, European data, and global data is followed. In this study, Germany average grid mix was used in use stage.			
Technological representativeness		In the manufacturing stage, specific data was collected to calculate the environmental impact caused by the manufacturing process. However, for the production of raw materials and sub-components, datasets from Ecoinvent 3.8 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.			
Software and databases used		Simapro version 9.4.04 & databases ecoinvent 3.8 and WEEE			
Standards applied in ABB		ABB had used many recycling materials, e.g., plastic and metal. The products' standards applied include: EN 62368-1:2014/A11:2017 EN IEC 61000-6-1:2019 EN 61000-6-3:2007/A1:2011			
Energy model used	**Manufacturing**	**Distribution**	**Installation**	**Use**	**End of life**

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	The dataset representing the country mix electricity in China “Electricity, middle voltage {CN}| market for	Cut-off, U” from Ecoinvent 3.8 was used.	/	/	The dataset representing the country mix electricity in Germany” Electricity, low voltage {DE}| market for	Cut-off, U”, was used in the model.	Primary data for End-of-life management of the product was not available. According to the PCR, the WEEE LCI was used, meaning that the electricity of France was used.

Table 4 Environmental impact indicators of life cycle Impact assessment

Compulsory Indicators

Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
Climate change	kg CO2 eq	3.47E+02	9.08E+01	2.70E+01	1.79E+00	2.24E+02	3.09E+00
Climate change - Fossil	kg CO2 eq	3.28E+02	9.13E+01	2.68E+01	2.60E-01	2.07E+02	3.08E+00
Climate change - Biogenic	kg CO2 eq	1.85E+01	-7.26E-01	2.37E-01	1.53E+00	1.74E+01	1.31E-02
Climate change - Land use and LU change	kg CO2 eq	4.85E-01	1.98E-01	1.83E-03	7.96E-05	2.83E-01	1.15E-03
Ozone depletion	kg CFC11 eq	7.11E-05	5.90E-05	6.11E-06	4.29E-08	5.66E-06	3.42E-07
Photochemical ozone formation	kg NMVOC eq	8.14E-01	3.76E-01	1.44E-01	1.04E-03	2.82E-01	1.04E-02
Acidification	mol H+ eq	1.39E+00	6.78E-01	1.39E-01	9.98E-04	5.29E-01	4.06E-02
Eutrophication, freshwater	kg P eq	3.86E-01	7.65E-02	3.70E-04	1.52E-05	3.09E-01	7.97E-05
Eutrophication, marine	kg N eq	3.73E-01	1.44E-01	5.10E-02	3.74E-04	1.54E-01	2.47E-02
Eutrophication, terrestrial	mol N eq	2.93E+00	1.23E+00	5.58E-01	3.65E-03	1.11E+00	3.16E-02
Water use	m3 depriv.	4.14E+01	2.62E+01	2.67E-01	4.61E-02	1.32E+01	1.76E+00
Abiotic resource depletion-fossil	MJ	4.39E+03	1.12E+03	3.76E+02	2.85E+00	2.85E+03	3.84E+01
Abiotic resource depletion-metals and minerals	Sb eq.	2.05E-02	1.86E-02	9.67E-06	6.91E-07	1.83E-03	9.34E-06
Optional Indicators							
Human toxicity, non-cancer	CTUh	7.84E-06	4.90E-06	3.21E-07	5.98E-09	2.34E-06	2.80E-07
Human toxicity, cancer	CTUh	2.69E-07	1.96E-07	2.77E-09	1.61E-10	6.62E-08	3.50E-09
Ecotoxicity, freshwater	CTUe	9.77E+03	6.51E+03	2.04E+02	4.09E+00	2.20E+03	8.47E+02
Land use	Pt	1.24E+03	5.35E+02	5.67E+01	1.91E+00	6.32E+02	1.06E+01
Ecotoxicity, freshwater - organics	CTUe	6.62E+01	3.37E+01	2.39E+01	1.61E-01	7.32E+00	1.10E+00
Ecotoxicity, freshwater - inorganics	CTUe	1.01E+03	7.96E+02	6.40E+01	2.32E+00	1.40E+02	4.18E+00
Ecotoxicity, freshwater - metals	CTUe	8.69E+03	5.68E+03	1.16E+02	1.61E+00	2.05E+03	8.41E+02

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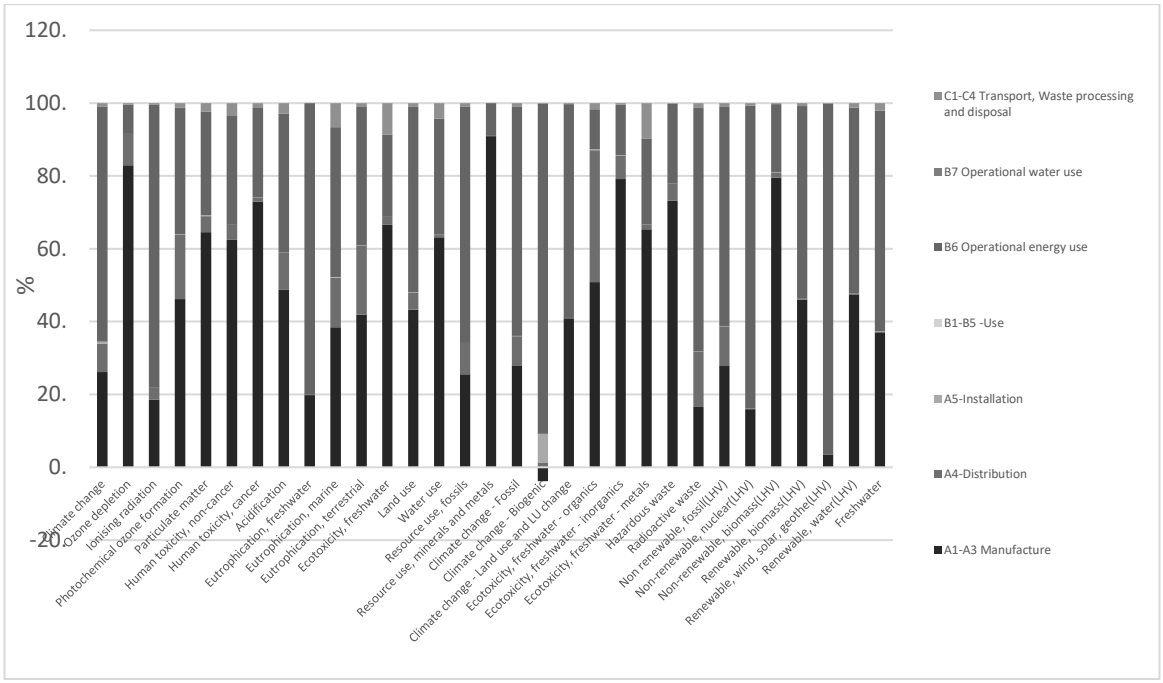


Figure 2 Contributions of life cycle stages to impact indicators (%)

Table 5 Resource use indicators of life cycle Impact assessment

Resource use indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	8.01E+02	1.30E+02	1.27E+00	4.62E-02	6.67E+02	3.40E+00
Use of renewable primary energy resources as raw materials	MJ	1.99E+01	1.99E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renewable primary energy resources	MJ	8.21E+02	1.50E+02	1.27E+00	4.62E-02	6.67E+02	3.40E+00
Use of non-renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	4.37E+03	1.11E+03	3.76E+02	2.85E+00	2.85E+03	3.84E+01
Use of non-renewable primary energy resources as raw materials	MJ	1.24E+01	1.24E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of non-renewable primary energy resources	MJ	4.39E+03	1.12E+03	3.76E+02	2.85E+00	2.85E+03	3.84E+01
Use of secondary materials	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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Freshwater	m3	2.30E+00	8.46E-01	1.16E-02	1.57E-03	1.39E+00	4.62E-02

Table 6 Waste category indicators of life cycle Impact assessment

Waste category indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of life
Hazardous waste disposed	kg	2.08E-02	1.53E-02	1.00E-03	7.34E-06	4.55E-03	3.63E-05
Non-hazardous waste disposed	kg	3.86E+01	1.61E+01	1.30E+00	1.15E+00	1.35E+01	6.60E+00
Radioactive waste disposed	kg	1.76E-02	2.92E-03	2.67E-03	1.83E-05	1.18E-02	2.10E-04

Table 7 Output flow indicators

Output flow 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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	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
Exported energy	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

* Represents less than 0,01% of the total life cycle of the reference flow

Biogenic Carbon of product and packaging

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.

Table 8 Amount of biogenic carbon of product and packaging

Item	Unit (kg of C)	Total
Biogenic carbon content of the product	0.00E+00	0.00E+00
Biogenic carbon content of the associated packaging	4.47E-01	4.47E-01

The results of module D

Table 9 Environmental impact indicators of module D

Impact indicators	Unit	Module D
Climate change	kg CO2 eq	-6.35E+00
Climate change - Fossil	kg CO2 eq	-7.21E+00
Climate change - Biogenic	kg CO2 eq	8.65E-01
Climate change - Land use and LU change	kg CO2 eq	-6.18E-03
Ozone depletion	kg CFC11 eq	-4.11E-07
Photochemical ozone formation	kg NMVOC eq	-5.61E-02
Acidification	mol H+ eq	-1.71E-01
Eutrophication, freshwater	kg P eq	-3.97E-02
Eutrophication, marine	kg N eq	-8.74E-03
Eutrophication, terrestrial	mol N eq	-2.09E-01
Ecotoxicity, freshwater	CTUe	-1.37E+03
Abiotic resource depletion-fossil	MJ	-6.70E+01

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Abiotic resource depletion-metals and minerals	kg Sb eq	-9.36E-03
Water use	m3 depriv.	-4.68E+00
Optional Indicators		
Human toxicity, non-cancer	CTUh	-1.68E-06
Human toxicity, cancer	CTUh	-3.15E-08
Ecotoxicity, freshwater	CTUe	-1.37E+03
Ecotoxicity, freshwater - organics	CTUe	-1.41E+00
Ecotoxicity, freshwater - inorganics	CTUe	-1.67E+01
Ecotoxicity, freshwater - metals	CTUe	-1.35E+03
Land use	Pt	-1.02E+02

Table 10 Resource use indicators of module D

Resource use indicators	Unit	Module D
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	-6.70E+01
Use of renewable primary energy resources as raw materials	MJ	0.00E+00
Total use of renewable primary energy resources	MJ	-6.70E+01
Use of non-renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ	-1.93E+01
Use of non-renewable primary energy resources as raw materials	MJ	0.00E+00
Total use of non-renewable primary energy resources	MJ	-1.93E+01
Use of secondary materials	kg	0.00E+00
Use of renewable secondary fuels	MJ	0.00E+00
Use of non-renewable secondary fuels	MJ	0.00E+00
Freshwater	m3	-1.18E-01

Table 11 Waste category indicators of Module D

Waste category indicators	Unit	Module D
Hazardous waste disposed	kg	-1.90E-04
Non-hazardous waste disposed	kg	1.55E+00
Radioactive waste disposed	kg	-1.83E-04

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Additional Environmental Information

Table 12 The Additional Environmental Information

Manufacturing	*The plant has passed the **ISO** 14001, ISO9001 certification*
Distribution	Packaging weight (product packaging and transportation packaging) is 1146.9 g, consisting of 964.6 g paper, 156.8 g wood and 25.4 g plastic. It indicates that more than 97% of the packaging materials are paper and wood. The paper is from the product packaging which can be recovered as material or energy. Wood is from the packaging for transportation and can be reused several times in practice. After that, it can also be recovered as material or energy.
Installation	The product is installed manually. There is no input of materials / accessories and energy during the installation. So, no extra actions to reduce the environmental impact need to be taken.
Use	Greener electricity (e.g., electricity from PV) can reduce the environmental impact in use stage.
End of life	The recycling of material and recovery of energy can reduce the end-of-life impact. However, as no specific data was provided, in this study, WEEE LCI datasets were used to calculate the load and benefit beyond the studied system boundary.

Additional Product information

Table13 Detailed information of the sales numbers of components

Project No.	Article No.	Description
ASM12-PS	83300 83300-500	System controller
ASO05	A21381P1-S-03 A21381P1-S-04	Outdoor audio station, 1gang
ASI15	83222 U-611 83222 U-625 83222 U-611-500 83222 U-625-500	Indoor video station
ASI22	M22401-W-03	Indoor video station 4.3, WiFi

Environmental Impact Indicator Glossary

Table 14 Environmental Impact Indicator Glossary

Environmental Impact Indicators	Description	Indicators	Unit
Global warming (GW)	Indicator of potential global warming caused by emissions to air contributing to the greenhouse effect. Includes fossil and biogenic	Climate change	kg CO_2 eq.
		Climate change - Fossil	kg CO_2 eq.
		Climate change - Biogenic	kg CO_2 eq.
		Climate change - Land use and LU change	kg CO_2 eq.
Ozone depletion (OD)	Indicator of emissions to air that contribute to the destruction of the ozone layer	Ozone depletion	kg CFC-11 eq.
Acidification (AP)	Indicator of the potential acidification of soils and water caused by the release of certain gases to the atmosphere	Acidification	mol 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.	Eutrophication, freshwater	kg P eq.
		Eutrophication, marine	kg N eq
		Eutrophication, terrestrial	mol N eq

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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.	Photochemical ozone formation	kg NMVOC eq.
Water requirement	Indicator of use of water including water use requirement	Water use	m3 of eq.
Depletion of abiotic resources – elements (ADPe)	Indicator of the depletion of natural non-fossil resources	Resource use, minerals and metals	kg Sb eq.
Depletion of abiotic resources – fossil fuels (ADPf)	Indicator of the depletion of natural fossil resources	Resource use, fossils	MJ (lower heating value)
Optional indicators	Indicator of optional environmental impact indicators	Total use of primary energy during the life cycle	MJ
		Ecotoxicity (fresh water), expressed in,	CTUe
		Human toxicity, carcinogenic effects	CTUh
		Human toxicity, non-carcinogenic effects	CTUh
		Impacts related to land use/soil quality	without dimension
Inventory Flow Indicators	**Description**		**Unit**
Resource use indicators	Use of renewable primary energy	Use of renewable primary energy	MJ (lower heating value)
		Use of renewable primary energy resources used as raw materials	MJ
		Total use of renewable primary energy resource	MJ
	Use of non-renewable primary energy	Use of non-renewable primary energy	MJ (lower heating value)
		Use of non-renewable primary energy resources used as raw materials	MJ
		Total use of non-renewable primary energy resources	MJ
Waste category indicators	Indicator of waste	Hazardous waste	Kg
		Non-hazardous Waste	kg
		Radioactive waste	kg
Secondary use	Indicators of describing the use of secondary materials, water and energy resources (e.g., waste combustion)	Use of secondary materials	Kg
		Use of renewable secondary fuels	MJ
		Use of non-renewable secondary fuels	MJ
		Net use of fresh water	m3
Output flow	Indicators of components for reuse, materials for recycling and energy recovery	Components for reuse	Kg
		Materials for recycling	Kg
		Materials for energy recovery,	kg
Other	Indicators of biogenic carbon content	Biogenic carbon content of the product	kg of C
		Biogenic carbon content of the product	kg of C

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The check-list box: For a PEP compliant with PCR ed4-EN-2021 09 06:

Registration number: ABBG-00042-V01.01-EN	Drafting Rules : "PCR-ed4-EN-2021 09 06" Supplemented by *PSR* -0005-ed2-EN-2016
Verifier accreditation number: VH42	Information and reference documents:www.pep-ecopassport.org
Date of issue: *12-2022*	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.	
Document complies with ISO 14025:2006 "Environmental labels and declarations. Type III environmental declarations"	

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