ENVIRONMENTAL PRODUCT DECLARATION

as per *ISO 14025* and *EN 15804+A2*

Owner of the Declaration	dormakaba International Holding GmbH
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-DOR-20210315-CBA10-EN
Issue date	25.02.2022
Valid to	24.02.2028

ARGUS AIR sensor barriers

dormakaba

www.ibu-epd.com | https://epd-online.com



General Information

dormakaba

Programme holder

IBU – Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

Declaration number

EPD-DOR-20210315-CBA10-EN

This declaration is based on the product category rules:

Electronic and physical Access Control Systems, 01.08.2021
(PCR checked and approved by the SVR)

Issue date

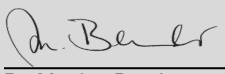
25.02.2022

Valid to

24.02.2028



Dipl.-Ing. Hans Peters
(Chairman of Institut Bauen und Umwelt e.V.)



Dr. Martina Bender
(Managing Director Institut Bauen und Umwelt e.V.)

ARGUS AIR sensor barriers

Owner of the declaration

dormakaba International Holding GmbH
DORMA Platz 1
58256 Ennepetal
Germany

Declared product / declared unit

1 piece of the product: one (1) dormakaba ARGUS Air Lounge sensor barrier, consisting of the following items:
- housing
- tempered safety glasses (6mm)
- cover plates
- glass door leaves (10mm)
- drive unit
- sensor technology
- LED status display
- product packaging

Scope:

This EPD is a specific product decalaration for the ARGUS AIR Lounge sensor barriers. It is also representative for the ARGUS AIR Security and ARGUS AIR Boarding sensor barriers. The underlying life cycle assessment is based on the entire life cycle of this specific ARGUS Air Lounge sensor barrier. The products are manufactured at the dormakaba production facility in Bühl (Germany). Green electricity is being used at this production site.
Data represents the year 2021.
The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

The EPD was created according to the specifications of EN 15804+A2. In the following, the standard will be simplified as *EN 15804*.

Verification

The standard EN 15804 serves as the core PCR
Independent verification of the declaration and data according to ISO 14025:2011
☐ internally ☒ externally



Dr.-Ing. Wolfram Trinius,
(Independent verifier)

Product

Product description/Product definition

Argus Air

eGates Argus Air for fast, safe passenger flow at airports. Argus Air supports passengers and staff during the entire process, from entering the airport to the aircraft. The sensor barriers with their narrow and short design ensure a fast flow of passengers at the airports and smooth, comfortable processes.
The Argus Air series includes the gates for boarding pass control Argus Air Security, lounge access Argus Air Lounge and for self-boarding Argus Air Boarding.

Argus Air Boarding

The Argus Air Boarding ensures effective, comfortable boarding for passengers.

Argus Air Security

Argus Air Security with its biometric face recognition, combines a high level of security with a smooth and effective passenger flow.

Argus Air Lounge

The Argus Air Lounge with its intuitive, contactless operation guarantees easy access to lounges, even with luggage, children or wheelchairs. For the placing on the market in the European Union/European Free Trade Associaton (EU/EFTA) (with the exception of Switzerland) the following legal provisions apply:

- *Machinery Directive 2006/42/EC*
- *2014/30/EU Electromagnetic Compatibility Directive*
- *2011/65/EU ROHS2 Directive*
- *DIN EN ISO 12100:2011-03 Safety of machinery*
- *DIN EN 16005: 2013-01 and Amendment 2015-10 Power operated pedestrian doorsets*
- *DIN EN ISO 13849- 1:2016-06 Safety of machinery*
- *DIN EN ISO 13849- 2:2013-02 Safety of machinery*
- *DIN EN 60335-2-103: 2016-05 Household and similar electrical appliances*
- *DIN EN 61000-3-2:2015-03 Electromagnetic compatibility (EMC)*
- *DIN EN 61000-6-2: 2005 and Amendment:2011 Electromagnetic Compatibility (EMC)*
- *DIN EN 61000-6-3:2007 and A1:2011 Electromagnetic Compatibility (EMC)*

The CE-marking takes into account the proof of conformity with the respective harmonized standards based on the legal provisions above.

For the application and use the respective national provisions apply.

Application

Argus Air sensor gates can be used for convenient entry into:

- Airports

The different sensor gates ensure a reliable boarding, control when entering the business lounge or access control at the passenger entrance to the security area.

Technical Data

The sensor barriers Argus Air Security, Boarding and Lounge have the following technical properties:

Argus Air Security / Boarding / Lounge		
Power supply / supply voltage	100 - 240 VAC, 50/60 Hz, 300VA	-
Operating temperature	20° - 30°	°C
Operating Humidity	up to 90°relative , non-condensing	%
Transit Frequecy	No Transit Frequency	kHz
Power consumption "operating"	inkl. IPC = 0,061	KW
Power consumption "standby"	inkl. IPC = 0,061	KW
Ambient temperature	5°C to max. 40°C	°C
Interlock height	990	mm
Interlock length	1650	mm
Passage width	540	mm
Total width	991 / 1051	mm
For indoor or outdoor use	indoor use	-

Control system and power supply integrated into the unit.

Dimensions of Argus Air Lounge

Name	Value	Unit
Height Dimension	990	mm
Length Dimension	1650	mm
Passege width Dimension	540	mm
Overall width Dimension	1051	mm
Guiding element width Dimension	180	mm

The Argus Air Lounge includes the following components:
- two (2) housing
- two (2) tempered safety glasses (6mm)
- two (2) cover plates
- two (2) glass door leaves (10mm)
- one (1) drive unit
- sensor technology
- LED status display
- packaging material

The total weight of all components is 256,05 kg including packaging 294,95 kg.

Product not harmonised in accordance with the *CPR* but in accordance with other provisions for harmonisation of the EU:

- *Machinery Directive 2006/42/EC*
- *2014/30/EU Electromagnetic Compatibility Directive*
- *2011/65/EU ROHS2 Directive*
- *DIN EN ISO 12100:2011-03 Safety of machinery*
- *DIN EN 16005: 2013-01 and Amendment 2015-10 Power operated pedestrian doorsets*
- *DIN EN ISO 13849- 1:2016-06 Safety of machinery*
- *DIN EN ISO 13849- 2:2013-02 Safety of machinery*
- *DIN EN 60335-2-103: 2016-05 Household and similar electrical appliances*
- *DIN EN 61000-3-2:2015-03 Electromagnetic compatibility (EMC)*
- *DIN EN 61000-6-2: 2005 and Amendment:2011 Electromagnetic Compatibility (EMC)*
- *DIN EN 61000-6-3:2007 and A1:2011 Electromagnetic Compatibility (EMC)*

Base materials/Ancillary materials

For the main Argus Air Lounge product components the composition is the following. The same product composition applies for Argus Air Boarding and Argus Air Security:

The composition of the Argus Air Lounge is listed in the following table:

Name	Value	Unit
Aluminium	53	%
Glass	32	%
Stainless steel	6	%
Others	6	%
Plastic	2	%
Steel	1	%

The product contains partial articles which contain substances listed in the *Candidate List of REACH* Regulation 1907/2006/EC (date: 19.01.2021)
exceeding 0.1 percentage by mass: yes

- Lead (Pb): 7439-921-1 (CAS-No.) is included in some of the alloys used. The concentration of lead in each individual alloy does not exceed 0,35 % (by mass).

The Candidate List can be found on the /ECHA/ website address: https://echa.europa.eu/de/home.

Reference service life

The life cycle of an ARGUS Air is about 10 years, depending on the application and frequency of use. The ARGUS Air is tested according to EN 16005.

LCA: Calculation rules

Declared Unit

The declared unit is 1 piece of product: 256.05 kg

Name	Value	Unit
Declared unit	1	pce.
Mass (total system excluding packaging)	256	kg

System boundary

Type of EPD:
cradle to gate with options, modules C1–C4, and module D (A1–A3 + C + D and additional modules: A4 + A5 + B6)

Production - Module A1-A3

The product stage includes:
— A1, raw material extraction, processing and mechanical treatments, processing of secondary material input (e.g. recycling processes),
— A2, transport to the manufacturer,
— A3, manufacturing and assembly including provision of all materials, products and energy, as well as waste processing up to the end-of waste state.

Construction stage - Modules A4-A5

The construction process stage includes:
— A4, transport to the building site;
— A5, installation into the building; including provision of all materials, products and energy, as well as waste processing up to the end of waste state or disposal of final residues during the construction process stage.

Use stage - Module B6

The use stage related to the operation of the building includes:
— B6, operational energy use

End-of-life stage– Modules C1-C4 and D

The end-of-life stage includes:
— C1, de-construction, demolition;
— C2, transport to waste processing;
— C3, waste processing for reuse, recovery and/or recycling;
— C4, disposal; including provision and all transport, provision of all materials, products and related energy and water use.
— D, (Benefits and loads beyond the system boundary) includes: recycling potentials, expressed as net impacts and benefits.

Geographic Representativeness

Land or region, in which the declared product system is manufactured, used or handled at the end of the product´s lifespan: Germany

Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account.

LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

Information on describing the biogenic Carbon Content at factory gate

Name	Value	Unit
Biogenic carbon content in product	1.69	kg C
Biogenic carbon content in accompanying packaging	14.45	kg C

The following technical scenario information is required for the declared modules

Transport to the building site (A4)

Name	Value	Unit
Litres of fuel (per 1 kg)	0.00276	l/100km
Capacity utilisation (including empty runs)	55	%
Transport distance via medium truck	100	km

Installation into the building (A5)

Name	Value	Unit
Waste packaging (paper and plastic)	38.9	kg

Reference service life

Name	Value	Unit
Life Span according to the manufacturer	10	a

Operational energy use (B6)

The use stage is declared for 10 years

Name	Value	Unit
Days per year in use	365	days
On mode per day	2	hours
Idle mode per day	22	hours
On mode power	78	W
Idle mode power	64	W
Electricity consumption (per 1 year)	570.86	kWh

End of life (C1-C4)

Name	Value	Unit
Recycling	163.89	kg
Energy recovery	4.46	kg
Landfilling	87.7	kg
Transport to waste management	50	km

The product is disassembled in a recycling process. Material recycling is then assumed for the metals, electronic and electromechanics. The plastic components are assumed to be incinerated with energy recovery. Minor proportions of residues arising from the recycling process are landfilled (1%). Region for the End of Life is: Global.

Reuse, recovery and/or recycling potentials (D), relevant scenario information
Collection rate is 100%.

LCA: Results

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

Product stage			Construction process stage		Use stage							End of life stage				Benefits and loads beyond the system boundaries
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	MND	MND	MNR	MNR	MNR	X	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 piece Argus Air sensor barriers

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq	1.54E+03	2.58E+00	6.3E+01	2.31E+03	0	1.12E+00	1.97E+01	1.34E+00	-9.18E+02
GWP-fossil	kg CO_2 eq	1.59E+03	2.47E+00	8.53E+00	2.3E+03	0	1.07E+00	1.15E+01	1.33E+00	-9.15E+02
GWP-biogenic	kg CO_2 eq	-5.76E+01	1.14E-01	5.45E+01	7.66E+00	0	4.95E-02	8.24E+00	4.55E-03	-2.47E+00
GWP-luluc	kg CO_2 eq	8.83E-01	5.87E-05	1.2E-03	3.33E+00	0	2.55E-05	7.21E-04	3.83E-03	-2.64E-01
ODP	kg CFC11 eq	7.25E-09	2.6E-16	1.25E-14	5.05E-11	0	1.13E-16	6.73E-15	4.93E-15	-6.69E-09
AP	mol H^+ eq	8.19E+00	2.47E-03	1.29E-02	5.07E+00	0	1.07E-03	3.22E-03	9.54E-03	-3.64E+00
EP-freshwater	kg P eq	1.85E-03	5.28E-07	2.21E-06	6.14E-03	0	2.29E-07	1.06E-06	2.29E-06	-5.29E-04
EP-marine	kg N eq	1.22E+00	7.85E-04	4.01E-03	1.13E+00	0	3.41E-04	8.45E-04	2.46E-03	-4.86E-01
EP-terrestrial	mol N eq	1.34E+01	8.73E-03	5.55E-02	1.18E+01	0	3.79E-03	1.48E-02	2.7E-02	-5.28E+00
POCP	kg NMVOC eq	3.5E+00	2.22E-03	1.08E-02	3.09E+00	0	9.65E-04	2.32E-03	7.44E-03	-1.52E+00
ADPE	kg Sb eq	3.83E-02	7.39E-08	1.9E-07	6.65E-04	0	3.21E-08	9.46E-08	1.19E-07	-2.07E-02
ADPF	MJ	2.1E+04	3.5E+01	1.87E+01	4.04E+04	0	1.52E+01	7.05E+00	1.75E+01	-1.31E+04
WDP	m^3 world eq deprived	2.53E+02	4.83E-03	7.15E+00	5.01E+02	0	2.1E-03	2.02E+00	1.39E-01	-6.59E+01

GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources; WDP = Water (user) deprivation potential)

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 piece Argus Air sensor barriers

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	8.17E+03	1.1E-01	4.58E+02	1.79E+04	0	4.79E-02	5.69E+01	2.29E+00	-5.97E+03
PERM	MJ	5.09E+02	0	-4.54E+02	0	0	0	-5.52E+01	0	0
PERT	MJ	8.68E+03	1.1E-01	3.72E+00	1.79E+04	0	4.79E-02	1.7E+00	2.29E+00	-5.97E+03
PENRE	MJ	2.07E+04	3.5E+01	1.43E+02	4.04E+04	0	1.52E+01	1.65E+02	1.75E+01	-1.31E+04
PENRM	MJ	2.83E+02	0	-1.25E+02	0	0	0	-1.58E+02	0	0
PENRT	MJ	2.1E+04	3.5E+01	1.87E+01	4.04E+04	0	1.52E+01	7.05E+00	1.75E+01	-1.31E+04
SM	kg	1.32E+01	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m^3	1.93E+01	1.98E-04	1.69E-01	2.07E+01	0	8.6E-05	4.8E-02	4.4E-03	-1.1E+01

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 piece Argus Air sensor barriers

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
HWD	kg	7.47E-05	3.39E-09	3.32E-08	1.67E-05	0	1.48E-09	2.13E-08	2.66E-07	-1.19E-05
NHWD	kg	3.72E+02	3.58E-03	2.09E+00	2.87E+01	0	1.56E-03	1.24E+00	8.78E+01	-2.29E+02
RWD	kg	1.14E+00	3.76E-05	9.6E-04	6.13E+00	0	1.63E-05	2.98E-04	1.99E-04	-1.39E+00
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	1.6E+02	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	9.35E+01	0	0	0	0	0	0
EET	MJ	0	0	1.76E+02	0	0	0	0	0	0

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional:
1 piece Argus Air sensor barriers

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PM	Disease incidence	8.64E-05	1.3E-08	8.83E-08	4.26E-05	0	5.64E-09	3.18E-08	1.18E-07	-5.82E-05
IR	kBq U235 eq	2.19E+02	5.37E-03	1.41E-01	1.01E+03	0	2.33E-03	3.38E-02	2.04E-02	-2.79E+02
ETP-fw	CTUe	9.76E+03	2.48E+01	8.54E+00	1.73E+04	0	1.08E+01	2.76E+00	9.97E+00	-5.03E+03
HTP-c	CTUh	2.13E-05	4.66E-10	5.96E-10	4.77E-07	0	2.03E-10	2.23E-10	1.48E-09	-2.71E-07
HTP-nc	CTUh	2.23E-05	1.99E-08	3.86E-08	1.76E-05	0	8.67E-09	1.91E-08	1.63E-07	1.94E-06
SQP	SQP	8.97E+03	8.99E-02	5.19E+00	1.29E+04	0	3.91E-02	2.07E+00	3.64E+00	-5.12E+02

PM = Potential incidence of disease due to PM emissions; IR = Potential Human exposure efficiency relative to U235; ETP-fw = Potential comparative Toxic Unit for ecosystems; HTP-c = Potential comparative Toxic Unit for humans (cancerogenic); HTP-nc = Potential comparative Toxic Unit for humans (not cancerogenic); SQP = Potential soil quality index

Disclaimer 1 – for the indicator 'Potential Human exposure efficiency relative to U235'.
This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from someconstruction materials is also not measured by this indicator.

Disclaimer 2 – for the indicators 'abiotic depletion potential for non-fossil resources', 'abiotic depletion potential for fossil resources', 'water (user) deprivation potential, deprivation-weighted water consumption', 'potential comparative toxic unit for ecosystems', 'potential comparative toxic unit for humans – cancerogenic', 'Potential comparative toxic unit for humans - not cancerogenic', 'potential soil quality index'.
The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

References

Standards

EN 15804
EN 15804:2012+A1 2013, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products.

EN 15804
EN 15804:2012+A2:2019+AC:2021, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products.

ISO 14025
EN ISO 14025:2011, Environmental labels and declarations — Type III environmental declarations — Principles and procedures.

Further References

IBU 2021
Institut Bauen und Umwelt e.V.: General Instructions for the EPD programme of Institut Bauen und Umwelt e.V., Version 2.0, Berlin: Institut Bauen und Umwelt e.V., 2021 www.ibu-epd.com

Machinery Directive
DIRECTIVE 2006/42/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCILof 17 May 2006on machinery, and amending Directive 95/16/EC

Electromagnetic Compatibility Directive
DIRECTIVE 2014/30/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCILof 26 February 2014on the harmonisation of the laws of the Member States relating to electromagnetic compatibility

ROHS2 Directive
Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment

DIN EN ISO 12100
DIN EN ISO 12100:2011-03 Safety of machinery

DIN EN ISO 13849- 1
DIN EN ISO 13849- 1:2016-06 Safety of machinery

DIN EN ISO 13849- 2
DIN EN ISO 13849- 2:2013-02 Safety of machinery

ISO 14025
DIN EN ISO 14025:2011-10, Environmental labels and declarations — Type III environmental declarations — Principles and procedures.

EN 15804
EN 15804:2019+A2, Sustainability of construction works — Environmental Product
Declarations — Core rules for the product category of construction products.

DIN EN 16005
DIN EN 16005: 2013-01 and Amendment 2015-10 Power operated pedestrian doorsets

DIN EN 60335-2
DIN EN 60335-2-103: 2016-05 Household and similar electrical appliances

DIN EN 61000-3-2
DIN EN 61000-3-2:2015-03 Electromagnetic compatibility (EMC)

DIN EN 61000-6-2
DIN EN 61000-6-2: 2005 and Amendment:2011 Electromagnetic Compatibility (EMC)

DIN EN 61000-6-3
DIN EN 61000-6-3:2007 and A1:2011 Electromagnetic Compatibility (EMC)

REACH
Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

ISO 9001
ISO 9001:2015-09 Quality management systems - Requirements

European Waste Catalogue (EWC)
COMMISSION DECISION of 18 December 2014 amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European Parliament and of the Council

Further References

GaBi ts software
Sphera Solutions GmbH Gabi Software System and Database for Life Cycle Engineering 1992-2020 Version 10.0.0.71

University of Stuttgart Leinfelden-Echterdingen

GaBi ts documentation
GaBi life cycle inventory data documentation (https://www.gabisoftware.com/support/gabi/gabidatabase[1]2020 lci-documentation/).

LCA-tool dormakaba
LCA tool, version 1.0. ESC (Entrance System Control) Developed by Sphera Solutions GmbH.

PCR Part A
PCR – Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project Re-port according to EN 15804+A2:2019, Version 1.0, Institut Bauen und Umwelt e.V., www.ibu-epd.com, 2020.

PCR Part B
PCR – Part B:
Requirements on the EPD for electronic and physical Access Control Systems, version, 08/2021, Institut Bauen und Umwelt e.V., www.ibu-epd.com

Publisher

Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

+49 (0)30 3087748- 0
info@ibu-epd.com
www.ibu-epd.com

Programme holder

Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

+49 (0)30 3087748- 0
info@ibu-epd.com
www.ibu-epd.com

Author of the Life Cycle Assessment

Sphera Solutions GmbH
Hauptstraße 111- 113
70771 Leinfelden-Echterdingen
Germany

+49 711 341817-0
info@sphera.com
www.sphera.com

Owner of the Declaration

dormakaba International Holding GmbH
DORMA Platz 1
58256 Ennepetal
Germany

+49 2333 793-0
info.de@dormakaba.com
www.dormakaba.com