# **ENVIRONMENTAL PRODUCT DECLARATION**

as per ISO 14025 and EN 15804+A2

Owner of the Declaration dormakaba International Holding GmbH

Programme holder Institut Bauen und Umwelt e.V. (IBU)

Publisher Institut Bauen und Umwelt e.V. (IBU)

Declaration number EPD-DOR-20210181-CBA1-EN

Valid to 07.10.202

# Access manager 92 30 dormakaba



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# **General Information**

#### dormakaba

# Programme holder

IBU – Institut Bauen und Umwelt e.V. Panoramastr. 1 10178 Berlin Germany

#### **Declaration number**

EPD-DOR-20210181-CBA1-EN

# This declaration is based on the product category rules:

Electronic and physical Access Control Systems, 07.2019 (PCR checked and approved by the SVR)

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Issue date

07.10.2021

Valid to

06.10.2026

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

Dr. Alexander Röder

(Managing Director Institut Bauen und Umwelt e.V.))

# Access manager 92 30

### Owner of the declaration

dormakaba International Holding GmbH DORMA Platz 1 58256 Ennepetal Germany

#### Declared product / declared unit

1 piece of the product: Access manager 92 30

#### Scope:

This EPD refers to a specific product manufactured by dormakaba. The production site is located in Villingen-Schwenningen (Germany).

The data represents the year 2020.

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 14025:2010* 

internally

] externally



Dr.-Ing. Wolfram Trinius (Independent verifier)

#### **Product**

#### **Product description/Product definition**

The dormakaba access manager 92 30 is a highperformance access control system, optimised for single access points. Thanks to its intelligent decision logic and ability to be freely parametrised, the access manager can control simple types of access as well as more complex entrance and exit door configurations. Based on the latest operating system and TLS encryption between the controller and host system, the IT security is state-of-the-art. With integrated mobile access, the access system allows access via smartphone. The control electronics integrate everything that is required to enable a connection to cloud services via IoT. Power supply via PoE allows easy integration and the compact and discreet design allows installation in full view. Up to two registration units can be connected directly and further access readers via the RS-485 sub-bus. Optionally, a version with two Wiegand interfaces offers maximum flexibility and connectivity.

For the placing on the market in the European Union/European Free Trade Association (EU/EFTA) (with the exception of Switzerland) the following legal provisions apply:

- Electromagnetic Compatibility Directive (EMC)
- Low Voltage Directive (LVD)
- Restriction of Hazardous Substances (RoHS)
- Radio Equipment Directive (RED)
- EN 50581:2012

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**

# Flexible access control

An access manager is installed in a protected environment and uses local or online decision logic to check whether an access request via connected card readers is granted or rejected.

#### **Door management**

Personnel interlock control



- Door activation
- · Monitoring of door opening
- · Monitoring of door opening time
- Access monitoring

# **Alarm Management**

The access manager reports irregularities in access control or door management to the host computer. Tampering and burglary attempts are reliably identified.

#### **Technical Data**

The access manager 92 30 has the following technical properties:

Name	Value	Unit
Operating Temperature	0 - 50	°C
Operating Humidity	5 - 85	%
Width Dimension	208	mm
Height Dimension	208	mm
Depth Dimension	48	mm
Weight (without packaging)	0,675	kg
Weight (with packaging)	0,923	kg
Power consumption "idle mode"	5	W
Power consumption "on mode"	12	W

#### **Host Interface**

• Ethernet 10/100 Mbit/s

# **Peripherals Interface**

Variant MRD

- · 2x coaxial for registration units (LEGIC / MIFARE)
- 1x RS-485
- 1x RS-232
- 3x potential-free relays, 30 V AC/DC; max. 2 A
- 4x digital inputs
- 1x tamper contact

# Variant Wiegand

- · 2x Wiegand
- 1x RS232
- 3x potential-free relays, 30 V AC/DC; max. 2 A
- 4x digital inputs
- 1x tamper contact

### **Power supply**

- · PoE, as per IEEE 802.3af
- PoE+, as per IEEE 802.3at

#### **Output voltage**

Reader: 5/12 V DC

• Elec. door opener: 12/24 V DC

Class of protection as per EN 60529:IP40.

The product is not harmonised in accordance with the Construction Product Regulations (CPR) but in accordance with other provisions for harmonisation of

the EU. Compliance with the European Union Directive and technical specifications:

- EN 55032:2015
- EN 55024:2010 + A1:2015
- EN 50364:2010
- EN 62368-1:2014 + A11:2017
- EN 60529:2014
- EN 301489-1 V2.2.1 Draft
- EN 301489-3 V2.1.1
- EN 300330 V2.1.1

The product is subject to CE marking according to the relevant harmonization legislation.

In addition, the product also conforms to the following standards:

- UL 294:2013
- UL62368-1:2014-12
- CAN/CSA-22.2 No. 62368-1:2014-12
- FCC ID NVI-DKAM9230K7

#### Base materials/Ancillary materials

The major material compositions of the product are listed below:

Name	Value	Unit
Plastics	48,5	%
Paper	27	%
Electronics	23,5	%
Steel	1	%

The product includes partial articles which contain substances listed in the Candidate List of REACH Regulation 1907/2006/EC (date: 08.07.2021) exceeding 0.1 percentage by mass in the alloy: yes

 Lead (Pb): 7439-92-1 (CAS No.) is included in some of the alloys used. The concentration of lead in each individual alloy does not exceed 4.0% (by mass).

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

### Reference service life

The reference service life of the dormakaba access manager 92 30 is estimated to be 15 years. This number is based on the support and service life and is not an estimated lifetime.

# LCA: Calculation rules

## **Declared Unit**

The declared unit is 1 piece of the product: Access manager 92 30.

#### **Declared unit**

Name	Value	Unit
Itallic	value .	Oille

Declared unit	1	pce.
Conversion factor to 1 kg (kg per declared unit)	1.0834	ı
Product weight including packaging	0,923	kg



# System boundary

The type of EPD is: 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-ofwaste 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. Module D (Benefits and loads beyond the system boundary) includes:

— D, recycling potentials, expressed as net impacts and benefits.

#### 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.

Background database: GaBi, SP40.

# LCA: Scenarios and additional technical information

### **Characteristic product properties Information on biogenic Carbon**

# Information on describing the biogenic Carbon Content at factory gate

Content at factory gate		
Name	Value	Unit
Biogenic Carbon Content in product	0.01	kg C
Biogenic Carbon Content in accompanying packaging	0.1	kg C

The following technical scenario information is required for the declared modules.

### Transport to the building site (A4)

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Name	Value	Unit						
Litres of fuel per 1 kg (truck)	0.00276	I/100km						
Transport distance (truck)	750	km						
Capacity utilisation (including empty runs)	51	%						
Transort distance (ship)	1000	km						

## Installation into the building (A5)

motunation into the banding (A		
Name	Value	Unit
Waste Packaging (paper)	0.227	kg
Waste Packaging (plastic)	0,022	kg

#### Reference service life

Name	Value	Unit
Life Span according to the manufacturer	15	а

# Operational energy use (B6) and Operational water use (B7)

The use stage is declared for 15 years.

Name	Value	Unit
Energy consumption for 1 year	54.02	kWh
on mode per day	4	h
idle mode	20	h
on mode power	12	W
idle mode	5	W
Days per year in use	365	days

#### End of life (C1-C4)

C1: The product dismantling from the building is done manually without environmental burden.

Name	Value	Unit
Recycling (Steel)	0.01	kg
Energy recovery (Plastic)	0.43	kg
Energy recovery (Paper)	0,02	kg
Recycling and landfilling (Electronics)	0,21	kg
Transportation to Waste	50	km

Region for end of life: Global

# Reuse, recovery and/or recycling potentials (D), relevant scenario information

Collection rate is 100%.



# LCA: Results

#### Disclaimer:

EP-freshwater: This indicator has been calculated as "kg P eq" as required in the characterization model (EUTREND model, Struijs et al., 2009b, as implemented in ReCiPe; http://eplca.jrc.ec.europa.eu/LCDN/developerEF.xhtml).

# DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; ND = MODULE OR INDICATOR NOT

	DECL	JECLARED; MNR = MODULE NOT RELEVANT)															
PRODUCT STAGE CONSTRUCTI ON PROCESS STAGE					Us	SE STAC	GE .			EN	D OF LI	FE STA		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
	<b>A</b> 1	A2	А3	A4	A5	B1	B2	В3	B4	B5	В6	В7	C1	C2	С3	C4	D
	Х	Х	Х	Х	Х	ND	ND	MNR	MNR	MNR	Х	ND	ND	Х	Х	Х	X

# RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 piece Access manager 92 30

Core Indicator	icator Unit A1-A3 A4 A5 B6		В6	C2	C3	C4	D		
GWP-total	WP-total [kg CO <sub>2</sub> -Eq.] 1.59E+1 6.36E		6.36E-2	3.75E-1	4.13E+2	2.98E-3	1.08E+0	4.05E-4	-1.24E+0
GWP-fossil	[kg CO <sub>2</sub> -Eq.]	1.61E+1	6.09E-2	6.16E-2	4.11E+2	2.85E-3	1.08E+0	4.02E-4	-1.24E+0
GWP-biogenic	[kg CO <sub>2</sub> -Eq.]	-2.40E-1	2.68E-3	3.14E-1	8.16E-1	1.32E-4	2.53E-5	1.37E-6	1.69E-4
GWP-luluc	[kg CO <sub>2</sub> -Eq.]	2.31E-2	1.44E-6	8.32E-6	5.78E-1	6.78E-8	6.13E-5	1.16E-6	-1.45E-3
ODP	[kg CFC11-Eq.]	1.75E-9	6.39E-18	8.50E-17	6.20E-12	3.01E-19	5.47E-16	1.49E-18	-8.26E-15
AP	[mol H+-Eq.]	8.57E-2	1.69E-4	9.97E-5	1.83E+0	2.85E-6	1.93E-4	2.88E-6	-1.14E-2
EP-freshwater	[kg P-Eq.]	1.14E-4	1.31E-8	1.56E-8	7.83E-4	6.10E-10	8.73E-8	6.90E-10	-1.18E-6
EP-marine	[kg N-Eq.]	1.52E-2	4.78E-5	3.47E-5	3.00E-1	9.07E-7	4.35E-5	7.42E-7	-9.75E-4
EP-terrestrial	[mol N-Eq.]	1.62E-1	5.26E-4	4.49E-4	3.23E+0	1.01E-5	8.80E-4	8.16E-6	-1.05E-2
POCP	[kg NMVOC-Eq.]	4.47E-2	1.34E-4	9.22E-5	8.67E-1	2.56E-6	1.21E-4	2.25E-6	-3.19E-3
ADPE	[kg Sb-Eq.]	1.31E-1	1.81E-9	1.29E-9	8.48E-5	8.54E-11	7.50E-9	3.61E-11	-4.92E-4
ADPF	[MJ]	2.07E+2	8.57E-1	1.26E-1	6.19E+3	4.04E-2	5.03E-1	5.27E-3	-1.79E+1
WDP	[m³ world-Eq deprived]	3.51E+0	1.19E-4	4.54E-2	8.74E+1	5.58E-6	1.11E-1	4.21E-5	-3.54E-1

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 Access manager 92 30

Indicator	Unit	A1-A3	A4	A5	В6	C2	C3	C4	D
PERE	[MJ]	4.50E+1	2.71E-3	2.75E+0	2.32E+3	1.27E-4	3.95E-1	6.91E-4	-3.05E+0
PERM	[MJ]	4.80E+1	0.00E+0	-2.72E+0	0.00E+0	0.00E+0	-2.64E-1	0.00E+0	0.00E+0
PERT	[MJ]	2.36E+2	2.71E-3	2.49E-2	2.32E+3	1.27E-4	1.31E-1	6.91E-4	-3.05E+0
PENRE	[MJ]	2.07E+2	8.58E-1	1.03E+0	6.20E+3	4.04E-2	1.59E+1	5.28E-3	-1.79E+1
PENRM	[MJ]	2.24E+2	0.00E+0	-9.05E-1	0.00E+0	0.00E+0	-1.54E+1	0.00E+0	0.00E+0
PENRT	[MJ]	2.08E+2	8.58E-1	1.26E-1	6.20E+3	4.04E-2	5.03E-1	5.28E-3	-1.79E+1
SM	[kg]	7.10E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
RSF	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
NRSF	[MJ]	9.51E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
FW	[m³]	9.51E-2	4.86E-6	1.07E-3	3.16E+0	2.28E-7	2.65E-3	1.33E-6	-7.79E-3

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources; security energy resources; per = Total use of renewable primary energy resources; per = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; per = Use of non-renewable primary energy resources; security energy energy energy resources; security energy e

# RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2:

Indicator	Unit	A1-A3	A4	A5	В6	C2	C3	C4	D
HWD	[kg]	1.39E-5	8.33E-11	2.44E-10	2.87E-6	3.92E-12	1.92E-9	8.04E-11	-3.10E-8
NHWD	[kg]	5.21E-1	8.77E-5	1.56E-2	3.87E+0	4.13E-6	1.13E-1	2.65E-2	-1.40E-1
RWD	[kg]	4.80E-3	9.22E-7	6.26E-6	7.18E-1	4.34E-8	1.87E-5	6.00E-8	-7.74E-4
CRU	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.28E-1	0.00E+0	0.00E+0
MER	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EEE	[MJ]	1.07E-1	0.00E+0	5.86E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EET	[MJ]	1.95E-1	0.00E+0	1.11E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0

Caption 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; EEE = Exported thermal energy

# RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 1 piece Access manager 92 30

Indicator	Unit	A1-A3	<b>A</b> 4	A5	В6	C2	C3	C4	D
PM	[Disease Incidence]	8.63E-7	2.20E-9	6.21E-10	2.56E-5	1.50E-11	2.46E-9	3.57E-11	-9.35E-8
IRP	[kBq U235- Eq.]	4.65E-1	1.32E-4	9.09E-4	1.16E+2	6.20E-6	1.68E-3	6.18E-6	-1.24E-1
ETP-fw	[CTUe]	1.35E+2	6.08E-1	5.75E-2	2.28E+3	2.86E-2	1.89E-1	3.01E-3	-6.86E+0
HTP-c	[CTUh]	1.91E-8	1.14E-11	3.36E-12	8.34E-8	5.39E-13	1.63E-11	4.47E-13	-4.78E-10
HTP-nc	[CTUh]	2.96E-7	4.91E-10	1.92E-10	3.32E-6	2.30E-11	1.65E-9	4.92E-11	-3.26E-8
SQP	[-]	7.60E+1	2.21E-3	3.44E-2	1.71E+3	1.04E-4	1.51E-1	1.10E-3	-6.06E+0

PM = Potential incidence of disease due to PM emissions; IR = Potential Human exposure efficiency relative to U235; ETP-fw = Potential Caption 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 IRP

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 due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 - for the indicators ADPE, ADPF, WDP, ETP-fw, HTP-c, HTP-nc, SQP

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**

# CAN/CSA-22.2 No. 62368-1

CAN/CSA-22.2 No. 62368-1:2014, Audio/video, information and communication technologyequipment — Part 1: Safety requirements.

### **Electromagnetic Compatibility Directive (EMC)**

Directive 2014/30/EU of the European Parliamant and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility.

# EN 15804+A2

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

#### EN 300330 V2.1.1

Short Range Devices (SRD) - Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz - Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU.

### EN 301489-1 V2.2.1

ElectroMagnetic Compatibility (EMC) standard for radio equipment and services - Part 1: Common technical requirements - Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU and the essential requirements of article 6 of Directive 2014/30/EU.

### EN 301489-3 V2.1.1

ElectroMagnetic Compatibility (EMC) standard for radio equipment and services - Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 246 GHz -

Harmonised standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU.

# EN 50364

EN 50364:2010, Limitation of human exposure to electromagnetic fields from devices operating in the frequency range 0 Hz to 300 GHz, used in Electronic Article Surveillance (EAS), Radio Frequency Identification (RFID) and similar applications.

#### EN 55024+A1

EN 55024:2010+A1:2015, Information technology equipment - Immunity characteristics - Limits and methods of measurement.

#### EN 55032

EN 55032:2015, Electromagnetic compatibility of multimedia equipment - Emission Requirements.

#### EN 60529

EN 60529:2014, Degrees of protection provided by enclosures (IP 20).

#### EN 62368-1+A11

EN 62368-1:2014+A11:2017, Audio/video, information and communication technology equipment - Part 1: Safety requirements.

#### ISO 14025

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

# **Low Voltage Directive (LVD)**

Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits.



### Radio Equipment Directive (RED)

Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC.

# Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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

#### Restriction of Hazardous Substances (RoHS)

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS), Directive (EU) No 2011/65.

#### **UL 294**

UL 294:2013, Standard for Safety Access Control System Unit.

#### UL 62368-1

UL 62368-1:2014, Standard for Audio/video, information and communication technology equipment - Part 1: Safety requirements.

#### **Further References**

#### **IBU 2016**

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

#### 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.gabi-software.com/support/gabi/gabi-database-2020-lci-documentation/).

#### LCA-tool dormakaba

LCA tool, version 1.0. 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.

#### **PCR Part B**

PCR – Part B: Requirements on the EPD for Building Hardware product, version 1.3, Institut Bauen und Umwelt e.V., www.ibu-epd.com, 2019.



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