

Environmental Product Declaration

HID Signo™ 40/40K Reader

Non-Keypad Models: 40NxS and 40TxS

Keypad Models: 40KNxS and 40KTxS



ASSA ABLOY is committed to providing products and services that are environmentally sound throughout the entire production process and the product lifecycle. Our unconditional aim is to make sustainability a central part of our business philosophy and culture, but even more important is the job of integrating sustainability into our business strategy. The employment of EPDs will help architects, designers and LEED-APs select environmentally preferable door openings.

ASSA ABLOY will continue our efforts to protect the environment and health of our customers/end users and will utilize the EPD as one means to document those efforts.



Wall switch RFID Reader with 13.56 MHz (HF), 125 kHz (LF), and 2.4 GHz (Bluetooth) support.

Models covered by this EPD include:

Keypad version - Terminal Strip / Pigtail

Non-Keypad version - Terminal Strip / Pigtail

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According to
ISO 14025 and ISO
21930:2017

This declaration is an environmental product declaration (EPD) in accordance with ISO 14025 and ISO 21930:2017. EPDs rely on Life Cycle Assessment (LCA) to provide information on a number of environmental impacts of products over their life cycle. Exclusions: EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds – e.g. Type 1 certifications, health assessments and declarations, environmental impact assessments, etc. Accuracy of Results: EPDs regularly rely on estimations of impacts, and the level of accuracy in estimation of effect differs for any particular product line and reported impact. Comparability: EPDs are not comparative assertions and are either not comparable or have limited comparability when they cover different life cycle stages, are based on different product category rules or are missing relevant environmental impacts. EPDs from different programs may not be comparable.

| | |
|--|---|
| EPD PROGRAM AND PROGRAM OPERATOR NAME, ADDRESS, LOGO, AND WEBSITE | UL Environment |
| GENERAL PROGRAM INSTRUCTIONS AND VERSION NUMBER | UL Environment, General Program Instructions, 2022, v2.7. |
| MANUFACTURER NAME AND ADDRESS | HID Global 611 Center Ridge Drive Austin, TX 78753 |
| DECLARATION NUMBER | |
| DECLARED PRODUCT & FUNCTIONAL UNIT OF DECLARED UNIT | HID Signo™ 40/40K Reader Functional Unit = 1 piece over a 75 year building lifetime |
| REFERENCE PCR AND VERSION NUMBER | Part B: Builders Hardware EPD Requirements, Version 1.0, UL Environment, Published November 2019. |
| DESCRIPTION OF PRODUCT APPLICATION/USE | ASSA ABLOY products are primarily used in commercial, residential, and educational settings. |
| PRODUCT RSL DESCRIPTION | 25 Years |
| MARKETS OF APPLICABILITY | Global |
| DATE OF ISSUE | December 18, 2023 |
| PERIOD OF VALIDITY | 5 Years |
| EPD TYPE | Product Specific |
| RANGE OF DATASET VARIABILITY | N/A |
| EPD SCOPE | Cradle to Grave |
| YEAR(S) OF REPORTED PRIMARY DATA | 2022 |
| LCA SOFTWARE & VERSION NUMBER | LCA for Experts (formerly GaBi) 10.6 |
| LCI DATABASE(S) & VERSION NUMBER | Sphera Managed LCA Content (formerly GaBi) databases & USLCI v2.0 |
| LCIA METHODOLOGY & VERSION NUMBER | TRACI 2.1; CML 4.1 |
| The sub-category PCR review was conducted by: | |
| This declaration was independently verified in accordance with ISO 14025: 2006. The UL Environment "Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report," v3.2 (Dec 2018), based on ISO 21930:2017, serves as the core PCR, with additional considerations from CEN Norm EN 15804 (2013) and the USGBC/UL Environment Part A Enhancement (2017) | |
| <input type="checkbox"/> INTERNAL <input checked="" type="checkbox"/> EXTERNAL | |
| This life cycle assessment was conducted in accordance with ISO 14044 and the reference PCR by: | |
| This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by: | |

¹ Exclusions: EPDs do not indicate that any environmental or social performance benchmarks are met, and there may be impacts that they do not encompass. LCAs do not typically address the site-specific environmental impacts of raw material extraction, nor are they meant to assess human health toxicity. EPDs can complement but cannot replace tools and certifications that are designed to address these impacts and/or set performance thresholds, e.g., Type 1 certifications, health assessments and declarations, environmental impact assessments, etc. Accuracy of Results: EPDs regularly rely on estimations of impacts, and the level of accuracy in estimation of effect differs for any particular product line and reported impact. Comparability: EPDs are not comparative assertions and are either not comparable or have limited comparability when they cover different life cycle stages, are based on different product category rules or are missing relevant environmental impacts. EPDs from different programs may not be comparable.



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General Information

Description of Company/Organization

HID Signo™ readers are manufactured by certified manufacturers. The manufacturer is located in Mexico and has an ISO 14001 certified environmental management system in place.

HID remains committed to the principles of the UN Global Compact in the areas of human rights, labor, the environment and anti-corruption.

Product Description

Product name: HID Signo™ 40/40K Reader

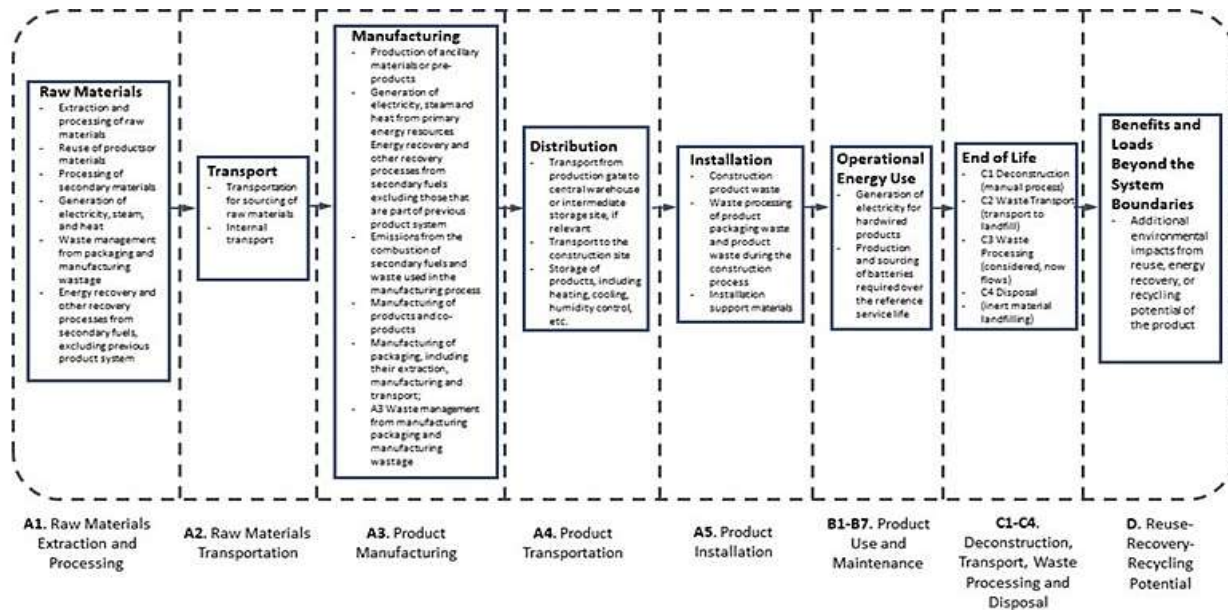
Product characteristics: Wall switch RFID Reader with 13.56 MHz (HF), 125 kHz (LF), and 2.4 GHz (Bluetooth) support.

Models covered by this EPD include:

Keypad version - Terminal Strip / Pigtail

Non-Keypad version - Terminal Strip / Pigtail

Flow Diagram



Manufacturer Specific EPD

This product-specific EPD was developed based on the cradle-to-grave (modules A1-D) Life Cycle Assessment. The EPD accounts for raw material extraction and processing, transport, product manufacturing, distribution, installation, use, maintenance, disposal, and potential benefits and loads following the end of life disposal. Manufacturing data were gathered directly from company personnel. When updated company-specific data were not available the ratio of production units, between the 2022 calendar year and 2015 baseline year, was used as a proxy. For any product group EPDs, an impact assessment was completed for each product and the highest impacts were reported as conservative representations of the product group. Product grouping was considered appropriate if the individual product impacts differed by no more than ±10% in any impact category.



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Application

HID Signo™ 40/40K Readers provide the widest range of credential technologies, including support for HID Mobile Access, Seos, iCLASS, iCLASS SE, MIFARE DESFire and legacy HID Proximity, Indala Proximity, and EM Proximity. Common applications include, but are not limited to, buildings in the commercial, industrial, financial, educational, government, and healthcare industries.

Material Composition

| Material | Percentage in mass (%) |
|-----------------|------------------------|
| Brass | 0.62% |
| Stainless Steel | 4.36% |
| Plastics | 63.86% |
| Other | 31.16% |
| Total | 100.00% |

Technical Data

For the declared product, the following technical data in the delivery status must be provided with reference to the test standard:

| Technical Data | |
|----------------|----------|
| Depth | 21.5 mm |
| Width | 80 mm |
| Height | 121.5 mm |

Placing on the Market / Application Rules

The standards that can be applied for HID Signo™ 40/40K Reader are:

- UL 294 - The Standard of Safety for Access Control System Units
- C22.2 No. 205 Signal Equipment
- CB Certificate US-21166-UL
- US FCC Radio Certification 47 CFR Part 15, Subpart C
- Canada Radio Certification RSS-210 Issue 8: 2010
- EN 60950-1: 2006/ All: 2009 +A1:2010 +A12:2011 - Information technology equipment - Safety - Part1: General requirements
- EN 301 489-1 V1.9.2 - Common Technical Requirements
- EN 301 489-3 V1.6.1 - Specific conditions for ShortRange Devices (SRD) operating on frequencies between 9 kHz and 40 GHz
- EN 50130-4:2011 - Alarm systems – Electromagnetic Compatibility and Environmental test methods
- ETSI EN 300 330-2 V1.5.1 Electromagnetic Compatibility and Radio spectrum Matters (ERM)
- EN 50581:2012 – RoHS2 Conformity

Additional and applicable regional certifications may be found at: <https://www.hidglobal.com/compliance-certifications>

Properties of Declared Product as Shipped

HID Signo™ 40/40K Readers are delivered as a complete unit, inclusive of all installation materials and instructions. Delivered in a box size: 180mm (7.08") x 120mm (4.72") x 45mm (1.77") 2.8mm (0.11") thick card (F Flute).

Delivery Status

Shipments of HID products are delivered in a cardboard box.

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Methodological Framework

Functional Unit

The declaration refers to the functional unit of 1 unit (or piece) of Card Reader, as specified in the Builders Hardware PCR.

| Name | Value | Unit |
|---------------------------|-------|------------------------|
| Functional unit | 1 | 1 piece of Card Reader |
| Reference Service Life | 25 | Years |
| Mass | 0.161 | kg |
| Conversion factor to 1 kg | 6.228 | - |

System Boundary

This is a cradle to grave Environmental Product Declaration. The following life cycle phases were considered:

| 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 gate to the site | Construction/ installation process | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | Deconstruction /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 | X | X | X | X | X | X | X | X | X | X | X | X |

Description of the System Boundary Stages Corresponding to the PCR

(X = Included; MND = Module Not Declared)

*This includes provision of all materials, products and energy, packaging processing and its transport, as well as waste processing up to the end-of waste state or disposal of final residues.

Product Maintenance

This product requires no maintenance over its reference service life.

Reference Service Life

The reference service life of the HID Signo™ 40/40K Reader is 25 years, as specified in the Builders Hardware PCR.

Allocation

Allocation was determined on a per unit basis.



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Cut-off Criteria

Processes whose total contribution to the final result, with respect to their mass and in relation to all considered impact categories, is less than 1% can be neglected. The sum of the neglected processes may not exceed 5% by mass of the considered impact categories. For that a documented assumption is admissible.

For Hazardous Substances the following requirements apply:

- The Life Cycle Inventory (LCI) of hazardous substances will be included, if the inventory is available.
- If the LCI for a hazardous substance is not available, the substance will appear as an input in the LCI of the product, if its mass represents more than 0.1% of the product composition.
- If the LCI of a hazardous substance is approximated by modeling another substance, documentation will be provided.

This EPD is in compliance with the cut-off criteria. No processes were neglected or excluded. Capital items for the production processes (machine, buildings, etc.) were not taken into consideration.

Data Sources

Primary data were collected for every process in the product system under the control of ASSA ABLOY Corporate. Secondary data from the Sphera Managed LCA Content (formerly GaBi) databases & USLCI v2.0 were utilized. These data were evaluated and have temporal, geographic, and technical coverage appropriate to the scope of the Builder's Hardware product category.

Data Quality

The data sources used are complete and representative of North America in terms of the geographic and technological coverage and are a recent vintage (i.e. less than ten years old). The data used for primary data are based on direct information sources of the manufacturer. Secondary data sets were used for raw materials extraction and processing, end of life, transportation, and energy production flows. Wherever secondary data are used, the study adopts critically reviewed data for consistency, precision, and reproducibility to limit uncertainty.

Period Under Review

The period under review is the full calendar year of 2022.

Comparability and Benchmarking

A comparison or an evaluation of EPD data is only possible if all data sets to be compared were created according to ISO 21930 and the building context, specifically the product-specific characteristics of performance, are taken into account. Environmental declarations from different programs may not be comparable. Full conformance with the PCR for North American Builders Hardware products allows EPD comparability only when all stages of a Builders Hardware product's life cycle have been considered. However, variations and deviations are possible.

Estimates and Assumptions

End of Life

In the End of Life phase, metal materials were assumed to have an 85% recycling rate while all other materials were assumed to have a 0% recycling rate, in accordance with the Builder's Hardware PCR.

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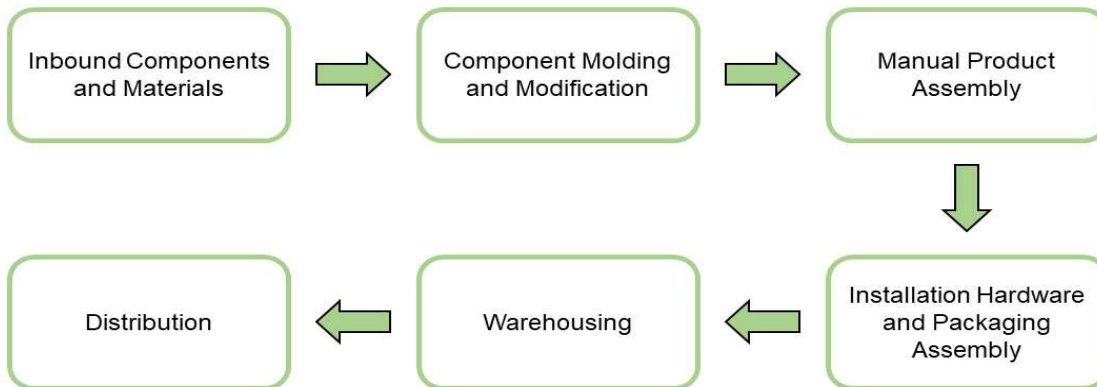
Additional Environmental Information

Background data

For life cycle modeling of the considered products, the LCA for Experts (formerly GaBi) 10.6 Software System for Life Cycle Engineering, developed by Sphera, is used. The Sphera Managed LCA Content (formerly GaBi) databases contain consistent and documented datasets which are documented in the online Sphera Managed LCA Content-documentation. To ensure comparability of results in the LCA, the basic data of Sphera Managed LCA Content (formerly GaBi) databases were used for energy, transportation and auxiliary materials.

Manufacturing

The primary manufacturing processes are completed by Tier 1 suppliers and the final manufacturing processes occur in Mexico.



Packaging

All packaging is fully recyclable. The packaging materials are composed by cardboard (app. 90%) and paper (app. 10%).

| Material | Quantity (% By Weight) |
|--------------|------------------------|
| Cardboard | 90% |
| Paper | 10% |
| Plastics | 0% |
| Total | 100% |



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Transformation

| Transport to Building Site (A4) | | |
|---|-------|-------------------|
| Name | Value | Unit |
| Liters of fuel | 38 | l/100km |
| Transport distance | 800 | km |
| Capacity utilization (including empty runs) | 90 | % |
| Gross density of products transported | - | kg/m ³ |
| Capacity utilization volume factor | 1.00 | - |

Product Installation

HID Signo™ 40/40K Reader products are distributed through and installed by trained installation technicians, such as locksmiths, carpenters etc. adhering to local/national standards and requirements.

| Installation into the building (A5) | | |
|---|-------|--------------------|
| Name | Value | Unit |
| Auxiliary materials | - | kg |
| Water consumption | - | m ³ |
| Other resources | - | kg |
| Electricity consumption | 0.01 | kWh |
| Other energy carriers | - | MJ |
| Waste materials at construction site | 0.05 | kg |
| Output substance (recycle) | 0.04 | kg |
| Output substance (landfill) | 0.01 | kg |
| Output substance (incineration) | 0.00 | kg |
| Direct emissions to ambient air*, soil, and water | 0.06 | kg CO ₂ |

*CO2 emissions to air from disposal of packaging

| Reference Service Life | | |
|---------------------------------|-------|--------|
| Name | Value | Unit |
| Reference Service Life | 25 | years |
| Estimated Building Service Life | 75 | years |
| Number of Replacements | 2 | number |

Product Use

No cleaning or annual maintenance is required. 128.7 kWh of electricity is used according to HID expert opinion.

| Operational Energy Use (B6) | | |
|--|-------|----------------|
| Name | Value | Unit |
| Water consumption (from tap, to sewer) | - | m ³ |
| Electricity consumption | 149.4 | kWh |
| Other energy carriers | - | MJ |
| Equipment output | - | kW |
| Direct emissions to ambient air, soil, and water | - | kg |



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Disposal

HID Signo™ readers can be recycled according to local electronics recycling options offered by municipalities, electronics recyclers or garbage haulers. In this case, a conservative assumption is used and the readers are assumed to be sent to landfill.

| End of life (C1-C4) | | |
|---------------------------------------|-------|------|
| Name | Value | Unit |
| Collected separately | 0.01 | kg |
| Collected as mixed construction waste | 0.15 | kg |
| Reuse | 0.00 | kg |
| Recycling | 0.01 | kg |
| Energy recovery | 0.00 | kg |
| Landfilling | 0.15 | kg |

Re-use Phase

The product can be moved from one door to another during the reference service life, thus enabling re-use.

| Re-Use, recovery, And/Or Recycling Potential (D) | | |
|---|-------|------|
| Name | Value | Unit |
| Net energy benefit from energy recovery from waste treatment declared as exported energy in C3 (R>0.6) | 0.00 | MJ |
| Net energy benefit from thermal energy due to treatment of waste declared as exported energy in C4 (R<0.6) | 0.00 | MJ |
| Net energy benefit from material flow declared in C3 for energy recovery | 0.00 | MJ |
| Process and conversion efficiencies | | |
| Further assumptions for scenario development (e.g. further processing technologies, assumptions on correction factors); | | |



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LCA Results per Functional Unit Over the Building Lifetime of 75 Years - Including 2 Replacements

Results shown below were calculated using TRACI 2.1 Methodology.

TRACI 2.1 Impact Assessment

| Parameter | Parameter | Unit | A1-A3 | A4 | A5 | B4 | B6 | C2 | C3 | C4 | D |
|-----------|--|-------------------------|---------|---------|---------|---------|---------|---------|---------|----------|----------|
| GWP | Global warming potential | kg CO ₂ -Eq. | 1.2E+01 | 1.2E-02 | 8.2E-03 | 2.6E+02 | 1.2E+02 | 7.4E-04 | 1.2E-03 | 8.0E-02 | -6.0E-02 |
| ODP | Depletion potential of the stratospheric ozone layer | kg CFC-11 Eq. | 2.9E-10 | 4.5E-13 | 7.8E-15 | 3.2E-09 | 1.2E-09 | 2.8E-14 | 4.2E-14 | -3.6E-16 | 1.4E-10 |
| AP Air | Acidification potential for air emissions | kg SO ₂ -Eq. | 7.2E-02 | 7.2E-05 | 4.8E-05 | 2.2E+00 | 1.0E+00 | 4.5E-06 | 7.4E-06 | 3.7E-04 | -7.8E-05 |
| EP | Eutrophication potential | kg N-Eq. | 3.0E-03 | 4.0E-06 | 8.1E-06 | 3.5E-02 | 1.4E-02 | 2.5E-07 | 3.6E-07 | 1.4E-04 | -3.9E-06 |
| SP | Smog formation potential | kg O ₃ -Eq. | 6.0E-01 | 2.0E-03 | 4.5E-04 | 1.7E+01 | 7.9E+00 | 1.2E-04 | 1.8E-04 | 1.4E-03 | -1.7E-03 |
| FFD | Fossil fuel depletion | MJ-surplus | 1.3E+01 | 2.1E-02 | 2.8E-03 | 1.7E+02 | 7.1E+01 | 1.3E-03 | 2.0E-03 | 1.2E-02 | -8.3E-02 |

*All use phase stages have been considered and only those with non-zero values have been reported

Results shown below were calculated using CML 2001 - April 2013 Methodology.

CML 4.1 Impact Assessment

| Parameter | Parameter | Unit | A1-A3 | A4 | A5 | B4 | B6 | C2 | C3 | C4 | D |
|-----------|--|--|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| GWP | Global warming potential | kg CO ₂ -Eq. | 1.2E+01 | 1.2E-02 | 9.0E-03 | 2.6E+02 | 1.2E+02 | 7.5E-04 | 1.2E-03 | 8.4E-02 | -6.1E-02 |
| ODP | Depletion potential of the stratospheric ozone layer | kg CFC-11 Eq. | 2.9E-10 | 4.5E-13 | 7.9E-15 | 2.8E-09 | 9.9E-10 | 2.8E-14 | 4.1E-14 | 3.3E-17 | 1.1E-10 |
| AP Air | Acidification potential for air emissions | kg SO ₂ -Eq. | 7.0E-02 | 5.9E-05 | 3.2E-05 | 2.3E+00 | 1.1E+00 | 3.7E-06 | 6.5E-06 | 1.4E-04 | -6.9E-05 |
| EP | Eutrophication potential | kg(PO ₄) ³ -Eq. | 4.3E-03 | 1.1E-05 | 1.1E-05 | 8.7E-02 | 3.9E-02 | 6.5E-07 | 9.4E-07 | 1.5E-04 | -9.3E-06 |
| POCP | Formation potential of tropospheric ozone photochemical oxidants | kg ethane-Eq. | 4.0E-03 | 6.9E-06 | 6.5E-06 | 2.2E-01 | 1.1E-01 | 4.3E-07 | 7.5E-07 | 3.7E-05 | -1.3E-05 |
| ADPE | Abiotic depletion potential for non-fossil resources | kg Sb-Eq. | 5.1E-04 | 5.0E-12 | 1.4E-09 | 1.0E-03 | 1.3E-06 | 3.1E-13 | 2.1E-12 | 3.6E-09 | -7.4E-08 |
| ADPF | Abiotic depletion potential for fossil resources | MJ | 1.5E+02 | 1.5E-01 | 2.4E-02 | 3.8E+03 | 1.7E+03 | 9.5E-03 | 1.6E-02 | 9.7E-02 | -7.7E-01 |

*All use phase stages have been considered and only those with non-zero values have been reported

Results below contain the resource use throughout the life cycle of the product.

Resource Use

| Parameter | Parameter | Unit | A1-A3 | A4 | A5 | B4 | B6 | C2 | C3 | C4 | D |
|-------------------|--|----------------|---------|---------|---------|---------|---------|---------|---------|----------|----------|
| RPR _E | Renewable primary energy as energy carrier | MJ | 3.1E+01 | 0.0E+00 | 3.6E-03 | 6.3E+01 | 0.0E+00 | 0.0E+00 | 9.3E-03 | 1.1E-02 | 0.0E+00 |
| RPR _M | Renewable primary energy resources as material utilization | MJ | 9.3E-01 | 0.0E+00 | 0.0E+00 | 1.9E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| NRPR _E | Nonrenewable primary energy as energy carrier | MJ | 1.8E+02 | 1.5E-01 | 2.6E-02 | 3.6E+02 | 9.6E-03 | 1.6E-02 | 1.0E-01 | -7.6E-01 | 0.0E+00 |
| NRPR _M | Nonrenewable primary energy as material utilization | MJ | 4.4E+00 | 0.0E+00 | 0.0E+00 | 8.9E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| SM | Use of secondary material | kg | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| RSF | Use of renewable secondary fuels | MJ | 7.0E-07 | 0.0E+00 | 0.0E+00 | 1.4E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| NRSF | Use of nonrenewable secondary fuels | MJ | 8.9E-06 | 0.0E+00 | 0.0E+00 | 1.8E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| RE | Energy recovered from disposed waste | MJ | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| FW | Use of net fresh water | m ³ | 1.0E-01 | 0.0E+00 | 1.2E-04 | 2.1E-01 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1.3E-04 | -3.5E-05 |

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Results below contain the output flows and wastes throughout the life cycle of the product.

| Output Flows and Waste Categories | | | | | | | | | | | |
|-----------------------------------|---|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| Parameter | Parameter | Unit | A1-A3 | A4 | A5 | B4 | B6 | C2 | C3 | C4 | D |
| HWD | Hazardous waste disposed | kg | 5.0E-06 | 0.0E+00 | 6.2E-11 | 9.9E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 3.9E-10 | -1.3E-08 |
| NHWD | Non-hazardous waste disposed | kg | 4.2E-01 | 0.0E+00 | 1.1E-02 | 1.1E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1.1E-01 | 4.7E-04 |
| HLRW | High-level radioactive waste | kg or m ³ | 1.0E-02 | 0.0E+00 | 6.0E-07 | 2.1E-02 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1.7E-06 | -3.7E-07 |
| ILLRW | Intermediate- and low-level radioactive waste | kg or m ³ | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| CRU | Components for re-use | kg | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| MR | Materials for recycling | kg | 0.0E+00 | 0.0E+00 | 3.8E-02 | 1.2E-01 | 0.0E+00 | 0.0E+00 | 1.2E-02 | 1.2E-02 | 0.0E+00 |
| MER | Materials for energy recovery | kg | 0.0E+00 | 0.0E+00 | 2.5E-03 | 5.0E-03 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| EE | Recovered energy exported from system | MJ | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

*All use phase stages have been considered and only those with non-zero values have been reported

Results below contain direct greenhouse gas emissions and removals throughout the life cycle of the product.

| Resource Use | | | | | | | | | | | |
|--------------|--|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Parameter | Parameter | Unit | A1-A3 | A4 | A5 | B4 | B6 | C2 | C3 | C4 | D |
| BCRP | Biogenic carbon removal from product | kg CO ₂ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| BCEP | Biogenic carbon emissions from product | kg CO ₂ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| BCRK | Biogenic carbon removal from packaging | kg CO ₂ | 6.16E-02 | 0.00E+00 | 0.00E+00 | 1.23E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| BCEK | Biogenic carbon emissions from packaging | kg CO ₂ | 0.00E+00 | 0.00E+00 | 6.16E-02 | 1.23E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| BCEW | Biogenic carbon emissions from combustion of waste from renewable sources used in production process | kg CO ₂ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| CCE | Calcination carbon emissions | kg CO ₂ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| CCR | Carbonation carbon removal | kg CO ₂ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| CWNR | Carbon emissions from combustion of waste from non-renewable sources used in production process | kg CO ₂ | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

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Environmental Product Declaration

HID Signo™ 40/40K Reader

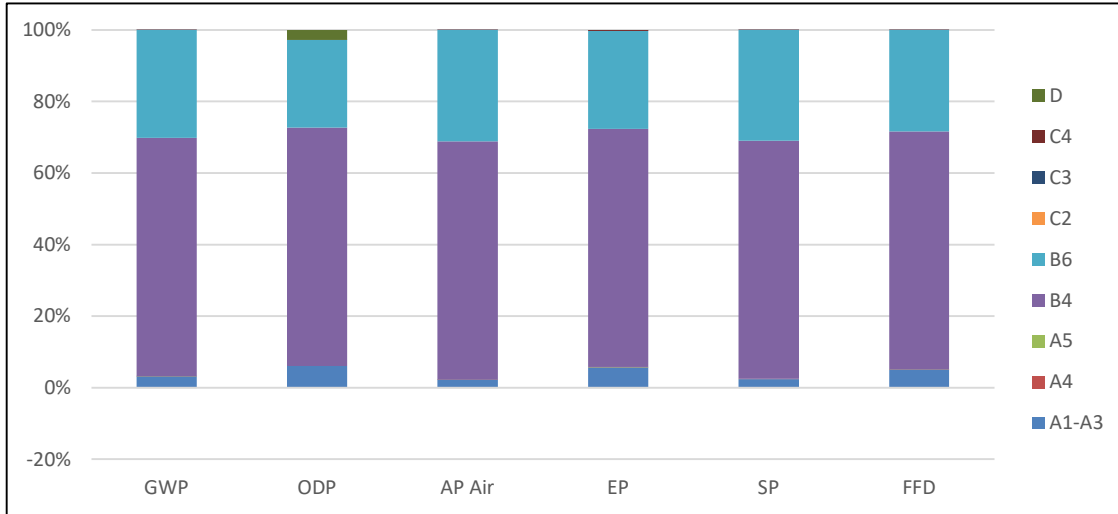
Non-Keypad Models: 40NxS and 40TxS
Keypad Models: 40KNxS and 40KTxS



According to
ISO 14025 and ISO
21930:2017

LCA Interpretation

The production life cycle stages (A1-A3) and life energy usage stage (B6) dominate the impacts across all impact categories. This is due to the upstream production of materials used in the product, along with electricity use in the manufacturing of the product and the consumption of electricity during the card reader's usage. With two replacements required over a life-span of a building, the replacement stage (B4) dominates from duplicating these stages.



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Additional Environmental Information

Environmental and Health During Manufacturing

HID Global is committed to producing and distributing door opening solutions with minimal environmental impact, where health & safety (H&S) is the primary focus for all employees and associates.

- Environmental operations, green house gasses (GHG), energy, water, waste, volatile organic compounds (VOC), surface treatment and H&S are being routinely monitored. Inspections, audits, and reviews are conducted periodically to ensure that applicable standards are met and environment management program effectiveness is evaluated.
- The Code of Conduct covers human rights, labor practices and decent work. Management of ASSA ABLOY is aware of their environmental roles and responsibilities, providing appropriate training, supporting accountability and recognizing outstanding performance.
- Any waste metals during machining are separated and recycled. The waste from the water-based painting process is delivered to waste treatment plant.
- The factory in Mexico has certification of Environmental Management to ISO 14001:2004 and Occupational Health and Safety to OHSAS 18001:2007.

Environmental and Health During Installation

There is no harmful emissive potential. No damage to health or impairment is expected under normal use corresponding to the intended use of the product.

Extraordinary Effects

Fire
The external housing of the HID Signo™ 40/40K Reader, consisting of the bezel and mounting plate, are constructed from polycarbonate resin thermoplastic. The housing material, and thus the reader as a whole unit, has been classified as having a UL94 HB Flame Rating. A UL94 Flame Rating of HB indicates: slow burning on a horizontal specimen; burning rate < 76 mm/min for thickness < 3 mm and burning stops before 100 mm.

Water
HID Signo™ 40/40K Readers are IP65 rated. Product contains no substances that have any impact on water in case of flood.

Mechanical Destruction
No danger to the environment can be anticipated during mechanical destruction.

Delayed Emissions

Global warming potential is calculated using the TRACI 2.1 and CML 4.1 impact assessment methodologies. Delayed emissions are not considered.

Environmental Activities and Certifications

ASSA ABLOY works hard to minimize the environmental impacts of its business activities through various corporate-wide sustainability initiatives. To learn more, please visit: <https://www.assaabloy.com/sv/com/sustainability/sustainability-report/>

Many ASSA ABLOY Group Brands now offer a free Product End-of-Life Recycling program that accepts each brand's products that have reached the end of their life cycle and are beyond the product's warranty period, disposing them in an environmentally-responsible manner.

Further Information

HID Global
611 Center Ridge Drive
Austin, TX 78753
United States



Environmental Product Declaration

HID Signo™ 40/40K Reader

Non-Keypad Models: 40NxS and 40TxS

Keypad Models: 40KNxS and 40KTxS



According to
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References

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Environmental Product Declaration

HID Signo™ 40/40K Reader

Non-Keypad Models: 40NxS and 40TxS
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Contact Information

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LCA Practitioner



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