

PRODUCTS FAMILY DECLARATION FOR S2C SERIES SIGNAL / AUXILIARY CONTACT  
OF ABB

**PEP ecopassport®**  
Product Environmental Profile



Document in compliance with ISO 14025: 2006 "Environmental labels and declarations. Type III environmental declarations"

|                                                                                        |                |                                                             |      |       |      |
|----------------------------------------------------------------------------------------|----------------|-------------------------------------------------------------|------|-------|------|
| CONTACT INFORMATION                                                                    |                | Leon-Lixiong Huang, leon-lixiong.huang@cn.abb.com           |      |       |      |
| ADDRESS                                                                                |                | WEBSITE                                                     |      |       |      |
| No.17 Kangding Street, Beijing Economic-Technological Development Area, Beijing, China |                | <a href="https://new.abb.com/cn">https://new.abb.com/cn</a> |      |       |      |
| STATUS                                                                                 | SECURITY LEVEL | REGISTRATION NUMBER                                         | REV. | LANG. | PAGE |
| Approved                                                                               | Public         | PEP ecopassport® ABBG-00569-V01.01-EN                       | 1    | en    | 1/12 |



## ABB Purpose & Embedding Sustainability

ABB is committed to continually promoting and embedding sustainability across its operations and value chain, aspiring to become a role model for others to follow. With its ABB Purpose, ABB is focusing on reducing harmful emissions, preserving natural resources and championing ethical and humane behavior.

More information on the topic about Sustainability strategy 2030 — ABB Group see the website: "<https://global.abb/group/en/sustainability/sustainability-strategy-2030>"



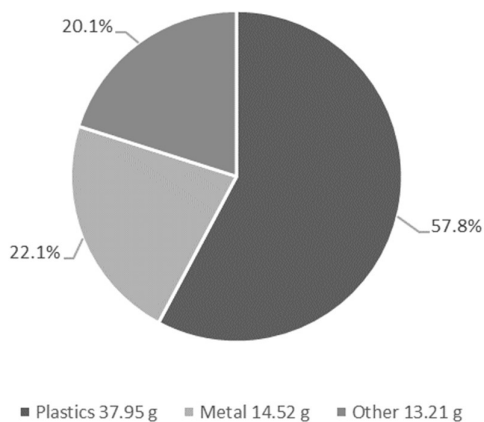
## General Information

|                                                      |                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reference product</b>                             | One unit of Signal / Auxiliary Contact - produced by ABB, the representative product is S2C-H11R.                                                                                                                                                                                                                                                                           |
| <b>Description of the product</b>                    | Signal / auxiliary contact products are accessories to indicate the contacts position (open or closed) or fault tripping of the associated device in accordance with IEC/EN60947-5-1 standard. This protection is ensured in accordance with the following parameters:<br>AC-14: Ue /Ie 400V/1A,230V/2A;<br>DC-12: Ue /Ie 220V/1A,110V/1.5A;<br>DC-13: Ue /Ie 60V/2A,24V/4A |
| <b>Functional unit of the representative product</b> | To indicate the contacts position (open or closed) or fault tripping of the associated device like MCBs, according to the appropriate use scenario (load rate: 30%, use time rate: 100 %), and for the reference service life of the product of 20 years.                                                                                                                   |
| <b>Products concerned</b>                            | The products covered by this PEP are:<br>S2C series                                                                                                                                                                                                                                                                                                                         |

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# Constituent materials



|                                   |                                                                                                         |
|-----------------------------------|---------------------------------------------------------------------------------------------------------|
| Total weight of Reference product | Gross weight of packaged product is 65.68 g (including product packaging and transportation packaging). |
|-----------------------------------|---------------------------------------------------------------------------------------------------------|

| Components               | Mass (g) | Product weight, incl. product pack (g) | Product weight, incl. product pack and transportation pack (g) |
|--------------------------|----------|----------------------------------------|----------------------------------------------------------------|
| Product                  | 42.53    |                                        |                                                                |
| Product packaging        | 17.78    | 60.31                                  | 65.68                                                          |
| Transportation packaging | 5.37     |                                        |                                                                |

| Plastics as % of weight |          | Metals as % of weight |          | Other as % of weight |          |
|-------------------------|----------|-----------------------|----------|----------------------|----------|
| Name and CAS number     | Weight-% | Name and CAS number   | Weight-% | Name and CAS number  | Weight-% |
| PA66                    | 39.0     | Steel                 | 21.2     | Paper                | 12.3     |
| Other plastic           | 18.8     | Copper                | 0.6      | Wood                 | 7.8      |
|                         |          | Silver                | 0.3      |                      |          |

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## Additional Environmental Information

|                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Manufacturing</b>                                   | The components are transported by lorry from the suppliers to the manufacturing site and product is assembled in ABB's sub-contracting plant, and then packed the product in ABB plant. The electricity mix on the manufacturing sites are thermal power, photovoltaic power and hydropower of China. Production waste is assumed to be transported by lorry (100 km by default in the PCR) and treated by disposal. Specific one-year data from 2023 on the two manufacturing sites level was collected and allocated to the product by monetary. ISO 14001 compliant plant. |
| <b>Distribution</b>                                    | 100% distribution in China                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Installation</b>                                    | For the installation of the product, only standard tools (electric screw) are needed. For treatment of packaging waste, the scenario set by the PSR is followed.                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Use</b>                                             | This product requires no servicing, no maintenance or additional products. The only energy used is low voltage electricity of China electricity mix.                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>End of life</b>                                     | The reference product is assumed to be partly recycled and recovered. And the remaining part is treated to the end-of-life stage.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Benefits and loads beyond the system boundaries</b> | /                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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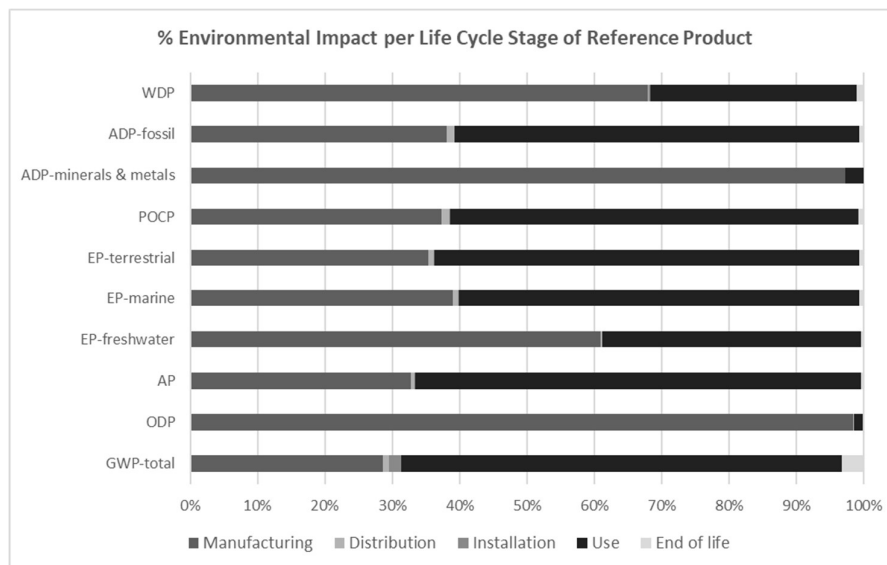


# Environmental impacts

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reference lifetime</b>               | 20 years.                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Product category</b>                 | PSR-0005-ed3-EN-2023 06 06, 3.15. Other Equipment, passive product-continuous operation                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Installation elements</b>            | Electric screw is used for installation, not other material is needed.                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Use scenario</b>                     | According to PSR 5.15.2.1, "Passive product - continuous operation" scenario: products through which the main current passes during continuous operation:<br>Load rate / rated current (In)=30%, Use rate = 100 % RLT                                                                                                                                                                                                                                     |
| <b>Geographical representativeness</b>  | China                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Technological representativeness</b> | 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 3.9.1 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. |
| <b>Time representativeness</b>          | The generic data were extracted from databases (mainly Ecoinvent). Furthermore, the reference years of the datasets are between 2011 – 2022 and no data used in the model are older than 10 years. The primary data is from 2023.                                                                                                                                                                                                                         |
| <b>Software and database used</b>       | SimaPro version 9.5.0.2. & databases ecoinvent 3.9.1 & EF3.1                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Energy model used</b>                |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Manufacturing</b>                    | Materials and parts production: Global electricity mix<br>Product assembly: thermal power, photovoltaic power and hydropower of China                                                                                                                                                                                                                                                                                                                     |
| <b>Installation</b>                     | Average electricity mix of China                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Use</b>                              | Average electricity mix of China                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>End of life</b>                      | Global electricity mix                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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## Common base of mandatory indicators



## Environmental impact indicators

| Indicators                                                                                                                                                                                                                                                              | Unit               | Total    | Manufacturing | Distribution | Installation | Use      | End of life |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|---------------|--------------|--------------|----------|-------------|
| <b>GWP-total</b>                                                                                                                                                                                                                                                        | <b>kg CO2 eq</b>   | 2.40E+00 | 6.88E-01      | 2.01E-02     | 4.57E-02     | 1.57E+00 | 7.81E-02    |
| <b>GWP-fossil</b>                                                                                                                                                                                                                                                       | <b>kg CO2 eq</b>   | 2.39E+00 | 7.02E-01      | 2.01E-02     | 2.37E-02     | 1.57E+00 | 7.81E-02    |
| <b>GWP-biogenic</b>                                                                                                                                                                                                                                                     | <b>kg CO2 eq</b>   | 8.00E-03 | -1.43E-02     | 6.64E-06     | 2.20E-02     | 3.04E-04 | 1.08E-05    |
| <b>GWP-luluc</b>                                                                                                                                                                                                                                                        | <b>kg CO2 eq</b>   | 1.41E-03 | 7.49E-04      | 1.00E-05     | 4.42E-07     | 6.41E-04 | 8.01E-06    |
| GWP-fossil = Global Warming Potential fossil fuels<br>GWP-biogenic = Global Warming Potential biogenic<br>GWP-luluc = Global Warming Potential land use and land use change                                                                                             |                    |          |               |              |              |          |             |
| <b>ODP</b>                                                                                                                                                                                                                                                              | <b>kg CFC11 eq</b> | 2.54E-07 | 2.50E-07      | 2.92E-10     | 3.97E-11     | 3.36E-09 | 2.27E-10    |
| ODP = Depletion potential of the stratospheric ozone layer                                                                                                                                                                                                              |                    |          |               |              |              |          |             |
| <b>AP</b>                                                                                                                                                                                                                                                               | <b>mol H+ eq</b>   | 1.31E-02 | 4.29E-03      | 6.97E-05     | 8.84E-06     | 8.66E-03 | 5.49E-05    |
| AP = Acidification potential, Accumulated Exceedance                                                                                                                                                                                                                    |                    |          |               |              |              |          |             |
| <b>EP-freshwater</b>                                                                                                                                                                                                                                                    | <b>kg P eq</b>     | 8.19E-04 | 4.99E-04      | 1.61E-06     | 1.34E-07     | 3.14E-04 | 3.70E-06    |
| <b>EP-marine</b>                                                                                                                                                                                                                                                        | <b>kg N eq</b>     | 3.00E-03 | 1.17E-03      | 2.31E-05     | 4.58E-06     | 1.78E-03 | 2.06E-05    |
| <b>EP-terrestrial</b>                                                                                                                                                                                                                                                   | <b>mol N eq</b>    | 3.01E-02 | 1.06E-02      | 2.44E-04     | 4.02E-05     | 1.90E-02 | 2.00E-04    |
| EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment<br>EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment<br>EP-terrestrial = Eutrophication potential, Accumulated Exceedance |                    |          |               |              |              |          |             |
| <b>POCP</b>                                                                                                                                                                                                                                                             | <b>kg NMVOC eq</b> | 8.31E-03 | 3.10E-03      | 9.37E-05     | 1.07E-05     | 5.04E-03 | 6.61E-05    |
| <b>ADP-minerals &amp; metals</b>                                                                                                                                                                                                                                        | <b>kg Sb eq</b>    | 2.41E-04 | 2.34E-04      | 6.22E-08     | 2.80E-09     | 6.42E-06 | 3.29E-08    |
| <b>ADP-fossil</b>                                                                                                                                                                                                                                                       | <b>MJ</b>          | 2.55E+01 | 9.71E+00      | 2.74E-01     | 1.11E-02     | 1.53E+01 | 1.53E-01    |

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ADP-minerals & metals = Abiotic depletion potential for non-fossil resources

ADP-fossil = Abiotic depletion for fossil resources potential

|            |                           |          |          |          |          |          |          |
|------------|---------------------------|----------|----------|----------|----------|----------|----------|
| <b>WDP</b> | <b>m3 world eq. depr.</b> | 5.94E-01 | 4.03E-01 | 1.18E-03 | 1.35E-03 | 1.82E-01 | 6.18E-03 |
|------------|---------------------------|----------|----------|----------|----------|----------|----------|

WDP = Water Deprivation potential

## Common base of mandatory indicators

### Inventory flows indicator - Resource use indicators

| Indicators   | Unit      | Total    | Manufacturing | Distribution | Installation | Use      | End of life |
|--------------|-----------|----------|---------------|--------------|--------------|----------|-------------|
| <b>PERE</b>  | <b>MJ</b> | 2.82E+00 | 9.72E-01      | 3.49E-03     | 3.43E-04     | 1.84E+00 | 4.33E-03    |
| <b>PERM</b>  | <b>MJ</b> | 1.84E-01 | 1.84E-01      | 0.00E+00     | 0.00E+00     | 0.00E+00 | 0.00E+00    |
| <b>PERT</b>  | <b>MJ</b> | 3.00E+00 | 1.16E+00      | 3.49E-03     | 3.43E-04     | 1.84E+00 | 4.33E-03    |
| <b>PENRE</b> | <b>MJ</b> | 2.44E+01 | 8.62E+00      | 2.74E-01     | 1.11E-02     | 1.53E+01 | 1.53E-01    |
| <b>PENRM</b> | <b>MJ</b> | 1.09E+00 | 1.09E+00      | 0.00E+00     | 0.00E+00     | 0.00E+00 | 0.00E+00    |
| <b>PENRT</b> | <b>MJ</b> | 2.55E+01 | 9.71E+00      | 2.74E-01     | 1.11E-02     | 1.53E+01 | 1.53E-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

### Inventory flows indicator - Indicators describing the use of secondary materials, water, and energy resources

| Indicators  | Unit                 | Total    | Manufacturing | Distribution | Installation | Use      | End of life |
|-------------|----------------------|----------|---------------|--------------|--------------|----------|-------------|
| <b>SM</b>   | <b>kg</b>            | 0.00E+00 | 0.00E+00      | 0.00E+00     | 0.00E+00     | 0.00E+00 | 0.00E+00    |
| <b>RSF</b>  | <b>MJ</b>            | 0.00E+00 | 0.00E+00      | 0.00E+00     | 0.00E+00     | 0.00E+00 | 0.00E+00    |
| <b>NRSF</b> | <b>MJ</b>            | 0.00E+00 | 0.00E+00      | 0.00E+00     | 0.00E+00     | 0.00E+00 | 0.00E+00    |
| <b>FW</b>   | <b>M<sup>3</sup></b> | 1.49E-02 | 1.03E-02      | 3.78E-05     | 4.34E-05     | 4.41E-03 | 1.77E-04    |

SM = Use of secondary material

RSF = Use of renewable secondary fuels

NRSF = Use of non-renewable secondary fuels

FW = Use of net fresh water

### Inventory flows indicator - Waste category indicators

| Indicators                          | Unit      | Total    | Manufacturing | Distribution | Installation | Use      | End of life |
|-------------------------------------|-----------|----------|---------------|--------------|--------------|----------|-------------|
| <b>Hazardous waste disposed</b>     | <b>kg</b> | 4.33E-03 | 2.56E-03      | 4.43E-05     | 2.77E-04     | 6.48E-04 | 7.94E-04    |
| <b>Non-hazardous waste disposed</b> | <b>Kg</b> | 2.98E-01 | 9.84E-02      | 1.33E-02     | 8.44E-04     | 1.31E-01 | 5.44E-02    |
| <b>Radioactive waste disposed</b>   | <b>Kg</b> | 2.57E-05 | 9.05E-06      | 5.56E-08     | 4.41E-09     | 1.65E-05 | 8.26E-08    |

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## Common base of mandatory indicators

### Inventory flows indicator – Output flow indicators

| 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   | 1.15E-02 | 0.00E+00      | 0.00E+00     | 0.00E+00     | 0.00E+00 | 1.15E-02    |
| Materials for energy recovery | Kg   | 1.40E-02 | 0.00E+00      | 0.00E+00     | 0.00E+00     | 0.00E+00 | 1.40E-02    |
| Exported energy               | MJ   | 0.00E+00 | 0.00E+00      | 0.00E+00     | 0.00E+00     | 0.00E+00 | 0.00E+00    |

**Note:** In manufacturing stage, the recycled content of raw materials is 0, and scrap value is considered according to PSR. In EoL stage, recovery rate and disposal rate is based on PCR.

### Inventory flow indicator – other indicators

| Indicators                                          | Unit    | Total    | Manufacturing | Distribution | Installation | Use | End of life |
|-----------------------------------------------------|---------|----------|---------------|--------------|--------------|-----|-------------|
| Biogenic carbon content of the product              | kg of C | 0.00E+00 | /             | /            | /            | /   | /           |
| Biogenic carbon content of the associated packaging | kg of C | 5.99E-03 | /             | /            | /            | /   | /           |

**Note:** 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.



## Family of Products Extrapolation Rules

For other products than the Reference product covered by this PEP, the environmental impacts for each phase of the lifecycle are obtained by multiplying the values of the Reference product by the following coefficients:

The impact for Manufacturing, Distribution, Installation and End of life phases of a product covered by the PEP other than the representative product is proportional to weight of the product, weight of the packaged product, weight of the product packaging and weight of the product, thus, the impacts of these phases should be separately calculated by multiple the coefficients factor\_1, factor\_2, factor\_3, and factor\_1 by the environmental impact for this phase of the representative product.

The environmental impact for Use phase of a product covered by the PEP other than the representative product is proportional to the amount of the electricity used in use stage, thus, the impacts should be calculated by multiple the coefficients factor\_4 by the environmental impact for this phase of the representative product.

### Extrapolation rules for Manufacturing, Distribution, Installation, Use and End of life phases

| Phases     | Manufacturing | Distribution | Installation | Use      | End of life |
|------------|---------------|--------------|--------------|----------|-------------|
| Factors    | Factor_1      | Factor_2     | Factor_3     | Factor_4 | Factor_1    |
| S2C-H11R   | 1.00          | 1.00         | 1.00         | 1.00     | 1.00        |
| S2C-H20R   | 1.00          | 1.00         | 1.00         | 1.70     | 1.00        |
| S2C-H02R   | 1.00          | 1.00         | 1.00         | 0.30     | 1.00        |
| S2C-S11R   | 1.02          | 1.01         | 1.00         | 2.25     | 1.02        |
| S2C-S20R   | 1.02          | 1.01         | 1.00         | 3.83     | 1.02        |
| S2C-S02R   | 1.02          | 1.01         | 1.00         | 0.67     | 1.02        |
| S2C-H6-11R | 0.90          | 0.94         | 1.00         | 0.25     | 0.90        |
| S2C-H6-20R | 0.90          | 0.94         | 1.00         | 0.43     | 0.90        |
| S2C-H6-02R | 0.90          | 0.94         | 1.00         | 0.25     | 0.90        |
| 189-AR11   | 1.00          | 1.00         | 1.00         | 1.00     | 1.00        |
| 189-AR20   | 1.00          | 1.00         | 1.00         | 1.70     | 1.00        |
| 189-AR02   | 1.00          | 1.00         | 1.00         | 0.30     | 1.00        |

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# Environmental Impact Indicator Glossary

## Impact indicators

| Indicator                                                   | Description                                                                                                                                                                                                                                                                              | Distribution                         |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| <b>Global warming potential (GWP) - total</b>               | Indicator of potential global warming caused by emissions to air contributing to the greenhouse effect. The total global warming potential GWP-total) is the sum of three sub-categories of climate change.<br>GWP-total = GWP-fossil + GWP-biogenic + GWP- land use and land use change | kg CO <sub>2</sub> eq.               |
| <b>Ozone depletion (ODP)</b>                                | Emissions to air that contribute to the destruction of the stratospheric ozone layer                                                                                                                                                                                                     | kg CFC-11 eq.                        |
| <b>Acidification of soil and water (A)</b>                  | Acidification of soils and water caused by the release of certain gases to the atmosphere, such as nitrogen oxides and sulphur oxides                                                                                                                                                    | H+ eq.                               |
| <b>Eutrophication (E)</b>                                   | Indicator of the contribution to eutrophication of water by the enrichment of the aquatic ecosystem with nutritional elements, e.g. industrial or domestic effluents, agriculture, etc. This indicator is divided to three: freshwater, marine and terrestrial.                          | kg P eq.,<br>kg N eq.,<br>mole N eq. |
| <b>Photochemical ozone creation (POCP)</b>                  | Indicator of emissions of gases that affect the creation of photochemical ozone in the lower atmosphere (smog) because of the rays of the sun.                                                                                                                                           | kg NMVOC eq.                         |
| <b>Depletion of abiotic resources - elements (ADPe)</b>     | Indicator of the depletion of natural non-fossil resources                                                                                                                                                                                                                               | kg Sb eq.                            |
| <b>Depletion of abiotic resources - fossil fuels (ADPf)</b> | The use of non-renewable fossil resources in an unsustainable way (e.g. from material to waste)                                                                                                                                                                                          | MJ (lower heating value)             |
| <b>Water Deprivation potential (WDP)</b>                    | Deprivation-weighted water consumption. Assesses the potential of water deprivation, to either humans or ecosystems, building on the assumption that the less water remaining available per area, the more likely another user will be deprived.                                         | m <sup>3</sup> world eq. depr.       |

## Resource use indicators

| Indicator                          | Description                                                                                                                                                                                                                                    | Distribution             |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| <b>Total use of primary energy</b> | Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) + Total use of renewable primary energy re-sources (primary energy and primary energy resources used as raw materials) | MJ (lower heating value) |

## References

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- PEP Ecopassport PROGRAM PCR-Product Category Rules for Electrical, Electronic and HVAC-R Products (PCR-ed4-EN-2021 09 06).
  - PEP Ecopassport PROGRAM PSR-SPECIFIC RULES FOR Electrical switchgear and control gear Solutions (PSR-0005-ed3-EN-2023 06 06).
  - ISO (2006a). ISO 14025:2006, Environmental labels and declarations – Type III environmental declarations – Principles and procedures.
  - ISO (2006b). ISO 14040:2006/Amd 1:2020, Environmental management – Life cycle assessment – Principles and framework— Amendment 1.
  - ISO 14044:2006/Amd 1:2017/Amd 2:2020 Environmental management – Life cycle assessment – Requirements and guidelines.
  - ISO 14020:2000, Environmental labels and declarations — General principles.
  - ISO 14025:2006 “Environmental labels and declarations. Type III environmental declarations.
  - EN 50693:2019, Product category rules for life cycle assessments of electronic and electrical products and systems.
  - EN 15804 +A2:2019, Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products.
  - LCA report – S2C Series of Signal / Auxiliary Contact Products, 10-07-2024.
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| STATUS   | SECURITY LEVEL | DOCUMENT ID.                          | REV. | LANG. | PAGE  |
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| <b>Registration number:</b>                                                                                                                                  | <b>Drafting Rules:</b> <i>PCR-ed4-EN-2021 09 06</i>                                                                 |
| ABBG-00569-V01.01-EN                                                                                                                                         | <b>Supplemented by:</b> <i>PSR-0005-ed3-EN-2023 06 06</i>                                                           |
| <b>Verifier accreditation number:</b><br>VH51                                                                                                                | <b>Information and reference documents:</b><br><a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a> |
| <b>Date of issue:</b> 05-2024                                                                                                                                | <b>Validity period:</b> 5 years                                                                                     |
| Independent verification of the declaration and data, in compliance with ISO 14025: 2006                                                                     |                                                                                                                     |
| Internal: <input type="checkbox"/>                                                                                                                           | External: <input checked="" type="checkbox"/>                                                                       |
| The PCR review was conducted by a panel of experts chaired by Julie ORGELET (DDemain)                                                                        |                                                                                                                     |
| PEP are compliant with XP C08-100-1: 2016 and EN 50693:2019<br>The components of the present PEP may not be compared with components from any other program. |                                                                                                                     |
| Document in compliance with ISO 14025: 2006, Environmental labels and declarations. Type III environmental declarations                                      |                                  |

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