



### Eaton 93PS Three Phase (8-10) kW UPS With Battery (10KW Frame)

| Representative product                     | 93PS10MBSI<br>Product Category: Uninterruptible Power Supply (UPS) with energy storage system                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |       |             |                        |                       |           |                      |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------|-------------|------------------------|-----------------------|-----------|----------------------|
| Description of the product                 | Eaton 93PS Three Phase Uninterruptible Power Supply (UPS) is a high-performance, three-phase uninterruptible power supply engineered to deliver maximum efficiency, reliability, and flexibility for small to medium-sized critical applications. Designed with cutting-edge technology, it ensures continuous power protection for IT infrastructure, healthcare systems, and industrial operations. Eaton 93PS UPS is available in different power ratings from 8 kVA to 40 kVA with an input voltage of 380/400/415V. The models included in this PEP are available with a power rating of 8 or 10 kVA. |  |       |             |                        |                       |           |                      |
| Product specifications                     | Power kVA & kW: 8 kVA/kW or 10 kVA/kW<br>UPS Configuration: Three phase, operating in Double conversion mode/ Energy Saver System mode.<br>UPS performance classification: UPS - VFI ≤ 10kW (Online double conversion)<br>Technology of the energy storage system: Valve regulated lead acid batteries (VRLA)<br>Product dimensions (D X W X H): 750 x 335 x 950 mm<br>Mass of the equipment: 163 kg<br>Power factor: 1<br>Reference service life (Years): 10                                                                                                                                              |  |       |             |                        |                       |           |                      |
| Homogeneous Environmental Families Covered | The PEP concerns product offerings from Eaton 93PS10MBSI series as mentioned below: <table><tr><th>Model</th><th>Description</th></tr><tr><td>93PS10MBSI (Reference)</td><td>93PS-10(10)-1x9Ah-MBS</td></tr><tr><td>93PS8MBSI</td><td>93PS-8(10)-1x9Ah-MBS</td></tr></table>                                                                                                                                                                                                                                                                                                                               |  | Model | Description | 93PS10MBSI (Reference) | 93PS-10(10)-1x9Ah-MBS | 93PS8MBSI | 93PS-8(10)-1x9Ah-MBS |
| Model                                      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |       |             |                        |                       |           |                      |
| 93PS10MBSI (Reference)                     | 93PS-10(10)-1x9Ah-MBS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |       |             |                        |                       |           |                      |
| 93PS8MBSI                                  | 93PS-8(10)-1x9Ah-MBS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |       |             |                        |                       |           |                      |
| Functional unit                            | “To ensure the supply of power without interruption to equipment with load of 100 watts for a RSL of 1 years, including a backup time capacity of 5 minutes during power shortages.”                                                                                                                                                                                                                                                                                                                                                                                                                       |  |       |             |                        |                       |           |                      |
| Declared unit                              | “To ensure the supply of power without interruption to equipment with load of 10000 watts for a RSL of 10 years, including a backup time capacity of 15 minutes during power shortages.”                                                                                                                                                                                                                                                                                                                                                                                                                   |  |       |             |                        |                       |           |                      |
| Company information                        | Eaton Electric Oy Riistakuja 1, 01740 Vantaa, Finland;<br>Email: <a href="mailto:productstewardship-es@eaton.com">productstewardship-es@eaton.com</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |       |             |                        |                       |           |                      |

| Constituent Materials of |                             |           |                |
|--------------------------|-----------------------------|-----------|----------------|
| Reference Product:       | 1.88E+02kg (with packaging) |           |                |
| Materials                | Category PEP Material       | Mass (kg) | Percentage (%) |
| Others                   | Lead acid Battery           | 8.00E+01  | 42.5%          |
| Metals                   | Stainless Steel             | 2.79E+01  | 14.8%          |
| Metals                   | Steel                       | 2.43E+01  | 12.9%          |
| Others                   | Wood                        | 1.68E+01  | 8.9%           |
| Others                   | Electronics                 | 1.62E+01  | 8.6%           |
| Others                   | Carton                      | 8.44E+00  | 4.5%           |
| Others                   | Cables                      | 4.53E+00  | 2.4%           |
| Plastics                 | ABS                         | 3.10E+00  | 1.6%           |
| Metals                   | Aluminum                    | 2.84E+00  | 1.5%           |
| Plastics                 | Polybutylene terephthalate  | 8.27E-01  | 0.4%           |
| Plastics                 | Polyamide 66 Glass fiber30  | 6.38E-01  | 0.3%           |
| Plastics                 | Polyamide 66                | 5.59E-01  | 0.3%           |
| Others                   | Paper                       | 4.61E-01  | 0.2%           |
| Metals                   | Copper                      | 3.98E-01  | 0.2%           |
| Metals                   | Zinc                        | 3.21E-01  | 0.2%           |
| Others                   | miscellaneous               | 7.96E-01  | 0.4%           |
| Total                    |                             | 1.88E+02  | 100.00%        |

| Substance Assessment                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The representative product is compliant with the EU-RoHS Directive (2011/65/EU) by application of exemptions and the product contains 1,2-dimethoxyethane, lead and lead monoxide, which are listed as Substance-of-Very-High-Concern (SVHC) on the Candidate List of the EU-REACH Regulation (1907/2006/EC). |

| Additional Environmental Information |                                                                                                                                                                                                                                                                                                              |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manufacturing                        | The reference product is assembled at an Eaton plant Santak Electronic (Shenzhen) Co., LTD No.8, Baoshi Rd., Block 72, Bao'an District, Shenzhen, Guangdong, P.R. China holding management system certifications according to ISO 14001 standards.                                                           |
| Distribution                         | Eaton is committed to minimizing weight and volume of product and its associated packaging material with focus to optimize transport efficiency.                                                                                                                                                             |
| Installation                         | During installation of the product only standard tools are needed, which do not require any additional energy source and no waste other than the obsolete product packaging is generated during this step.                                                                                                   |
| Use                                  | Product consumes energy during useful life which is considered to be 10 years (as per actual designed life). During the reference service life of product, the product requires the maintenance of one DC filtering capacitors, One AC filtering capacitors, Two Fans, One Power supply PCB and One Battery. |
| End of life                          | Recyclability of product is equal to 30.7% based on the method described in IEC/TR 62635, Edition 1.0/2012-10 "Guidelines for end-of-life information provided by manufacturers and recyclers and for recyclability rate calculation of electrical and electronic equipment".                                |

| Environmental Impacts                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The calculation of the environmental impacts is the result of the Product's Life Cycle Analysis in accordance with ISO 14040/44, covering the entire lifecycle, i.e., "Cradle-to-Grave" including the following life cycle phases: production, distribution, installation, use and end of life. |

|                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                  |  |      |      |      |      |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------|------|------|------|
| System modelling was carried out using the commercial LCA software EIME v6.2.5 with database version CODDE-2024-04 - updated on 2024-06-04. |                                                                                                                                                                                                                                                                                                                                                                                                  |  |      |      |      |      |
| Indicators Set used: PEF EF 3.1 (Compliance: PEP ed.4, EN15804+A2) v2.0                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                  |  |      |      |      |      |
| Manufacturing Phase                                                                                                                         | Product is assembled and prepared for shipment at the Eaton facility Santak Electronic (Shenzhen) Co., LTD No.8, Baoshi Rd., Block 72, Bao'an District, Shenzhen, Guangdong, P.R. China.<br>Upstream transportation of the product from manufacturing plant location to the Eaton warehouse location in Rheinbach is considered in the manufacturing stage.<br>Energy model used: China & Europe |  |      |      |      |      |
| Distribution Phase                                                                                                                          | Customer location is assumed to be Europe. Intracontinental transport of 3500 km by lorry is considered as transport scenario from Eaton location to end user for this study based on PCR-ed4-EN-2021 09 06.                                                                                                                                                                                     |  |      |      |      |      |
| Installation Phase                                                                                                                          | Product is installed in any European country. Hence, packaging waste treatment is considered in this phase considering country specific statistics as per PSR.<br>Energy model used: Europe                                                                                                                                                                                                      |  |      |      |      |      |
| Use Phase                                                                                                                                   | Reference lifetime: 10 years<br>Energy model used: Europe.<br>Usage profile: It has an average energy efficiency of 98.129% in Energy Saver System mode and 94.18% in Double conversion mode. The methodology for the calculation of the electricity consumption is based on Uninterruptible Power Supplies (UPS) PSR.                                                                           |  |      |      |      |      |
|                                                                                                                                             | Operating loads                                                                                                                                                                                                                                                                                                                                                                                  |  | 25%  | 50%  | 75%  | 100% |
|                                                                                                                                             | Proportion of Time spent at                                                                                                                                                                                                                                                                                                                                                                      |  | 0.00 | 0.30 | 0.40 | 0.30 |
|                                                                                                                                             | Total energy losses are calculated to be equal to 26280 kWh over the 10 years for Double conversion Mode. Product requires one DC filtering capacitors, One AC filtering capacitors, Two Fans, One Power supply PCB and one Battery replacement during its use life.                                                                                                                             |  |      |      |      |      |
| End of life Phase                                                                                                                           | Product disposed according to European WEEE guidelines.<br>Energy model used: Europe                                                                                                                                                                                                                                                                                                             |  |      |      |      |      |
| Module-D                                                                                                                                    | The recyclability rate of the overall product is 66.9% if it is properly dismantled prior to shredding. The rate is calculated based on “WEEE recyclability and recoverability calculation method” (version V1, 20 Sep. 2008 presented to the French Agency for Environment and Energy Management: ADEME)..                                                                                      |  |      |      |      |      |

All environmental impacts are calculated for the declared unit, then data should be divided by the Factor calculated with below formulas to get functional unit result.

**Factor for use stage energy consumption B6:**

$$\frac{\text{Declared Unit Power (10000 W)} * \text{Declared Unit Lifetime (10 year)}}{100 \text{ W} * 1 \text{ year}} = 10000$$

**Factor for all other stages (excepted B6 of use stage):**

$$\frac{\text{Declared Unit Power (3000 W)} * \text{Declared Unit Lifetime (10 year)} * \text{Declared Unit Backuptime (15 min)}}{100 \text{ W} * 1 \text{ year} * 5 \text{ min}} = 3000$$

## Environmental Impact considering for Functional Unit

### Environmental Impact Indicators: Mandatory

| Mandatory environmental impact indicators             | Units                            | Sum      | A1-A3 - Manufacturing | A4 - Distribution | A5 - Installation | B1-B7 – Use* | C1-C4 - End of life | B2 - Maintenance | B6 - Operational energy use | D - Benefits and loads beyond the system boundaries |
|-------------------------------------------------------|----------------------------------|----------|-----------------------|-------------------|-------------------|--------------|---------------------|------------------|-----------------------------|-----------------------------------------------------|
| Climate change - total                                | kg CO2 eq.                       | 1.00E+01 | 4.51E-01              | 1.41E-02          | 1.36E-02          | 9.48E+00     | 7.90E-02            | 2.18E-01         | 9.26E+00                    | -6.06E-02                                           |
| Climate change - fossil fuels                         | kg CO2 eq.                       | 1.00E+01 | 4.59E-01              | 1.41E-02          | 4.51E-03          | 9.46E+00     | 7.67E-02            | 2.18E-01         | 9.25E+00                    | -6.63E-02                                           |
| Climate change - biogenics                            | kg CO2 eq.                       | 2.05E-02 | -8.09E-03             | 5.78E-08          | 9.11E-03          | 1.73E-02     | 2.22E-03            | 2.25E-04         | 1.70E-02                    | 5.71E-03                                            |
| Climate change - land use and land use transformation | kg CO2 eq.                       | 2.05E-07 | 1.17E-07              | 2.13E-08          | 3.22E-10          | 6.08E-08     | 5.65E-09            | 6.08E-08         | 0.00E+00                    | 0.00E+00                                            |
| Ozone depletion                                       | kg eq. CFC-11                    | 1.76E-07 | 7.89E-08              | 1.71E-10          | 9.60E-11          | 9.03E-08     | 6.53E-09            | 4.54E-08         | 4.49E-08                    | -1.49E-08                                           |
| Acidification (AP)                                    | mole of H+ eq.                   | 5.42E-02 | 3.99E-03              | 2.23E-05          | 1.85E-05          | 4.95E-02     | 6.31E-04            | 2.07E-03         | 4.75E-02                    | -3.85E-04                                           |
| Freshwater eutrophication                             | kg P eq.                         | 2.76E-05 | 1.27E-06              | 5.27E-08          | 4.45E-08          | 2.51E-05     | 1.07E-06            | 7.29E-07         | 2.44E-05                    | -2.03E-07                                           |
| Marine aquatic eutrophication                         | kg of N eq.                      | 6.77E-03 | 4.66E-04              | 4.04E-06          | 5.93E-06          | 6.05E-03     | 2.50E-04            | 2.66E-04         | 5.78E-03                    | -4.18E-05                                           |
| Terrestrial eutrophication                            | mole of N eq.                    | 1.01E-01 | 5.07E-03              | 4.44E-05          | 5.57E-05          | 9.53E-02     | 5.59E-04            | 2.42E-03         | 9.29E-02                    | -4.62E-04                                           |
| Photochemical ozone formation                         | kg of NMVOC eq.                  | 2.09E-02 | 1.68E-03              | 1.43E-05          | 1.23E-05          | 1.90E-02     | 2.21E-04            | 8.26E-04         | 1.82E-02                    | -1.64E-04                                           |
| Depletion of abiotic resources - elements             | kg eq. Sb                        | 8.46E-05 | 6.41E-05              | 5.03E-09          | 3.34E-10          | 2.05E-05     | 4.32E-08            | 1.72E-05         | 3.28E-06                    | -1.34E-05                                           |
| Depletion of abiotic resources - fossil fuels         | MJ                               | 2.50E+02 | 7.98E+00              | 2.51E-01          | 6.74E-02          | 2.38E+02     | 3.71E+00            | 4.26E+00         | 2.34E+02                    | -1.16E+00                                           |
| Water scarcity                                        | m3 of eq.. deprivation worldwide | 5.60E+00 | 1.98E-01              | 5.08E-04          | 3.00E-04          | 1.67E+00     | 3.74E+00            | 9.60E-01         | 7.10E-01                    | -3.92E-02                                           |

**\*Note:** B2 (Maintenance) and B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1, B3-B5, B7) are equal to zero. So, it is not listed in the result tables.

### Inventory Flow Indicators: Mandatory

| Inventory flow indicators                                                                           | Units | Sum      | A1-A3 - Manufacturing | A4 - Distribution | A5 - Installation | B1-B7 – Use* | C1-C4 - End of life | B2 - Maintenance | B6 - Operational energy use | D - Benefits and loads beyond the system boundaries |
|-----------------------------------------------------------------------------------------------------|-------|----------|-----------------------|-------------------|-------------------|--------------|---------------------|------------------|-----------------------------|-----------------------------------------------------|
| Use of renewable primary energy, excluding renewable primary energy resources used as raw materials | MJ    | 6.21E+01 | 1.11E-01              | 7.90E-04          | 3.26E-02          | 6.19E+01     | 2.10E-02            | 4.39E-02         | 6.19E+01                    | -5.03E-03                                           |
| Use of renewable primary energy resources used as raw materials                                     | MJ    | 1.76E-01 | 1.76E-01              | 0.00E+00          | 0.00E+00          | 0.00E+00     | 0.00E+00            | 0.00E+00         | 0.00E+00                    | -7.59E-02                                           |

| Inventory flow indicators                                                                                               | Units               | Sum      | A1-A3 -<br>Manufacturing | A4 -<br>Distribution | A5 -<br>Installation | B1-B7 –<br>Use* | C1-C4 -<br>End of life | B2 -<br>Maintenance | B6 -<br>Operational<br>energy use | D -<br>Benefits<br>and loads<br>beyond<br>the system<br>boundaries |
|-------------------------------------------------------------------------------------------------------------------------|---------------------|----------|--------------------------|----------------------|----------------------|-----------------|------------------------|---------------------|-----------------------------------|--------------------------------------------------------------------|
| Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials)     | MJ                  | 6.23E+01 | 2.86E-01                 | 7.90E-04             | 3.26E-02             | 6.19E+01        | 2.10E-02               | 4.39E-02            | 6.19E+01                          | -8.09E-02                                                          |
| Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials             | MJ                  | 2.50E+02 | 7.79E+00                 | 2.51E-01             | 6.74E-02             | 2.38E+02        | 3.71E+00               | 4.20E+00            | 2.34E+02                          | -1.15E+00                                                          |
| Use of non-renewable primary energy resources used as raw materials                                                     | MJ                  | 2.48E-01 | 1.88E-01                 | 0.00E+00             | 0.00E+00             | 6.06E-02        | 0.00E+00               | 6.06E-02            | 0.00E+00                          | -9.43E-03                                                          |
| Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) | MJ                  | 2.50E+02 | 7.98E+00                 | 2.51E-01             | 6.74E-02             | 2.38E+02        | 3.71E+00               | 4.26E+00            | 2.34E+02                          | -1.16E+00                                                          |
| Use of secondary materials                                                                                              | kg                  | 2.75E-05 | 1.09E-07                 | 0.00E+00             | 0.00E+00             | 2.74E-05        | 0.00E+00               | 2.74E-05            | 0.00E+00                          | 0.00E+00                                                           |
| Use of renewable secondary fuels                                                                                        | MJ                  | 0.00E+00 | 0.00E+00                 | 0.00E+00             | 0.00E+00             | 0.00E+00        | 0.00E+00               | 0.00E+00            | 0.00E+00                          | 0.00E+00                                                           |
| Use of non-renewable secondary fuels                                                                                    | MJ                  | 0.00E+00 | 0.00E+00                 | 0.00E+00             | 0.00E+00             | 0.00E+00        | 0.00E+00               | 0.00E+00            | 0.00E+00                          | 0.00E+00                                                           |
| Net use of fresh water                                                                                                  | m3                  | 1.44E-01 | 4.60E-03                 | 1.18E-05             | 8.02E-06             | 4.16E-02        | 9.77E-02               | 2.49E-02            | 1.67E-02                          | -1.01E-03                                                          |
| Hazardous waste disposed of                                                                                             | kg                  | 1.49E+00 | 8.79E-01                 | 5.90E-05             | 1.71E-03             | 5.24E-01        | 8.47E-02               | 1.18E-01            | 4.06E-01                          | -1.01E+00                                                          |
| Non-hazardous waste disposed of                                                                                         | kg                  | 1.78E+00 | 1.76E-01                 | 1.31E-03             | 1.03E-03             | 1.59E+00        | 9.90E-03               | 2.30E-02            | 1.56E+00                          | -3.91E-02                                                          |
| Radioactive waste disposed of                                                                                           | kg                  | 4.17E-04 | 3.80E-05                 | 1.04E-06             | 2.69E-07             | 3.72E-04        | 5.63E-06               | 1.29E-05            | 3.59E-04                          | -1.63E-05                                                          |
| Components for re-use                                                                                                   | kg                  | 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                                                           |
| Materials for recycling                                                                                                 | kg                  | 1.63E-02 | 1.43E-05                 | 0.00E+00             | 1.87E-03             | 1.09E-10        | 1.44E-02               | 1.09E-10            | 0.00E+00                          | 0.00E+00                                                           |
| Materials for energy recovery                                                                                           | kg                  | 1.86E-10 | 1.86E-10                 | 0.00E+00             | 0.00E+00             | 0.00E+00        | 0.00E+00               | 0.00E+00            | 0.00E+00                          | 0.00E+00                                                           |
| Exported energy                                                                                                         | MJ by energy vector | 8.82E-04 | 0.00E+00                 | 0.00E+00             | 2.04E-06             | 0.00E+00        | 8.80E-04               | 0.00E+00            | 0.00E+00                          | 0.00E+00                                                           |
| Biogenic carbon content of the product                                                                                  | kg of C.            | 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                                                           |

| Inventory flow indicators                           | Units    | Sum      | A1-A3 - Manufacturing | A4 - Distribution | A5 - Installation | B1-B7 - Use* | C1-C4 - End of life | B2 - Maintenance | B6 - Operational energy use | D - Benefits and loads beyond the system boundaries |
|-----------------------------------------------------|----------|----------|-----------------------|-------------------|-------------------|--------------|---------------------|------------------|-----------------------------|-----------------------------------------------------|
| Biogenic carbon content of the associated packaging | kg of C. | 3.51E-03 | 3.51E-03              | 0.00E+00          | 0.00E+00          | 8.54E-08     | 0.00E+00            | 8.54E-08         | 0.00E+00                    | 0.00E+00                                            |

**\*Note:** B2 (Maintenance) and B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1, B3-B5, B7) are equal to zero. So, it is not listed in the result tables.

### Environmental Impact Indicators: Optional

| Optional Environmental impact indicators          | Units                 | Sum      | A1-A3 - Manufacturing | A4 - Distribution | A5 - Installation | B1-B7 - Use | C1-C4 - End of life | B2 - Maintenance | B6 - Operational energy use | D - Benefits and loads beyond the system boundaries |
|---------------------------------------------------|-----------------------|----------|-----------------------|-------------------|-------------------|-------------|---------------------|------------------|-----------------------------|-----------------------------------------------------|
| Emission of fine particles                        | incidence of diseases | 4.31E-07 | 3.50E-08              | 1.91E-10          | 1.21E-10          | 3.93E-07    | 2.42E-09            | 1.13E-08         | 3.82E-07                    | -2.28E-08                                           |
| Ionizing radiation, human health                  | kBq of U235 eq.       | 3.26E+01 | 1.06E+01              | 4.99E-04          | 1.21E-03          | 2.20E+01    | 1.11E-02            | 8.66E+00         | 1.33E+01                    | -3.37E-02                                           |
| Ecotoxicity, fresh water                          | CTUe                  | 1.52E+03 | 5.70E+00              | 4.12E-01          | 8.30E-02          | 1.94E+01    | 1.50E+03            | 1.94E+00         | 1.75E+01                    | -7.04E-01                                           |
| Human toxicity, cancer effects                    | CTUh                  | 1.30E-07 | 8.91E-08              | 2.77E-12          | 3.36E-10          | 2.13E-08    | 1.96E-08            | 2.01E-08         | 1.16E-09                    | -1.44E-07                                           |
| Human toxicity, non-cancer effects                | CTUh                  | 1.15E-07 | 4.10E-08              | 5.27E-11          | 2.09E-11          | 5.39E-08    | 2.01E-08            | 2.61E-08         | 2.78E-08                    | -2.54E-09                                           |
| Impacts related to land use/soil quality          | -                     | 3.09E-01 | 6.56E-04              | 6.04E-05          | 4.30E-05          | 2.66E-01    | 4.23E-02            | 9.26E-03         | 2.56E-01                    | -2.99E-02                                           |
| Total use of primary energy during the life cycle | MJ                    | 3.12E+02 | 8.26E+00              | 2.51E-01          | 1.00E-01          | 3.00E+02    | 3.73E+00            | 4.30E+00         | 2.96E+02                    | -1.24E+00                                           |

### Environmental Impact considering for Declared Unit

### Environmental Impact Indicators: Mandatory

| Mandatory environmental impact indicators             | Units          | Sum      | A1-A3 - Manufacturing | A4 - Distribution | A5 - Installation | B1-B7 - Use* | C1-C4 - End of life | B2 - Maintenance | B6 - Operational energy use | D - Benefits and loads beyond the system boundaries |
|-------------------------------------------------------|----------------|----------|-----------------------|-------------------|-------------------|--------------|---------------------|------------------|-----------------------------|-----------------------------------------------------|
| Climate change - total                                | kg CO2 eq.     | 1.16E+04 | 1.35E+03              | 4.23E+01          | 4.08E+01          | 9.92E+03     | 2.37E+02            | 6.55E+02         | 9.26E+03                    | -1.82E+02                                           |
| Climate change - fossil fuels                         | kg CO2 eq.     | 1.16E+04 | 1.38E+03              | 4.23E+01          | 1.35E+01          | 9.90E+03     | 2.30E+02            | 6.54E+02         | 9.25E+03                    | -1.99E+02                                           |
| Climate change - biogenics                            | kg CO2 eq.     | 2.74E+01 | -2.43E+01             | 1.73E-04          | 2.73E+01          | 1.77E+01     | 6.65E+00            | 6.75E-01         | 1.70E+01                    | 1.71E+01                                            |
| Climate change - land use and land use transformation | kg CO2 eq.     | 6.15E-04 | 3.51E-04              | 6.40E-05          | 9.65E-07          | 1.83E-04     | 1.69E-05            | 1.83E-04         | 0.00E+00                    | 0.00E+00                                            |
| Ozone depletion                                       | kg eq. CFC-11  | 4.38E-04 | 2.37E-04              | 5.14E-07          | 2.88E-07          | 1.81E-04     | 1.96E-05            | 1.36E-04         | 4.49E-05                    | -4.47E-05                                           |
| Acidification (AP)                                    | mole of H+ eq. | 6.76E+01 | 1.20E+01              | 6.69E-02          | 5.55E-02          | 5.37E+01     | 1.89E+00            | 6.20E+00         | 4.75E+01                    | -1.15E+00                                           |

| Mandatory environmental impact indicators     | Units                            | Sum      | A1-A3 - Manufacturing | A4 - Distribution | A5 - Installation | B1-B7 - Use* | C1-C4 - End of life | B2 - Maintenance | B6 - Operational energy use | D - Benefits and loads beyond the system boundaries |
|-----------------------------------------------|----------------------------------|----------|-----------------------|-------------------|-------------------|--------------|---------------------|------------------|-----------------------------|-----------------------------------------------------|
| Freshwater eutrophication                     | kg P eq.                         | 3.39E-02 | 3.82E-03              | 1.58E-04          | 1.33E-04          | 2.66E-02     | 3.22E-03            | 2.19E-03         | 2.44E-02                    | -6.08E-04                                           |
| Marine aquatic eutrophication                 | kg of N eq.                      | 8.76E+00 | 1.40E+00              | 1.21E-02          | 1.78E-02          | 6.58E+00     | 7.50E-01            | 7.98E-01         | 5.78E+00                    | -1.25E-01                                           |
| Terrestrial eutrophication                    | mole of N eq.                    | 1.17E+02 | 1.52E+01              | 1.33E-01          | 1.67E-01          | 1.00E+02     | 1.68E+00            | 7.27E+00         | 9.29E+01                    | -1.39E+00                                           |
| Photochemical ozone formation                 | kg of NMVOC eq.                  | 2.64E+01 | 5.03E+00              | 4.30E-02          | 3.70E-02          | 2.07E+01     | 6.62E-01            | 2.48E+00         | 1.82E+01                    | -4.93E-01                                           |
| Depletion of abiotic resources - elements     | kg eq. Sb                        | 2.47E-01 | 1.92E-01              | 1.51E-05          | 1.00E-06          | 5.50E-02     | 1.30E-04            | 5.17E-02         | 3.28E-03                    | -4.01E-02                                           |
| Depletion of abiotic resources - fossil fuels | MJ                               | 2.83E+05 | 2.39E+04              | 7.52E+02          | 2.02E+02          | 2.47E+05     | 1.11E+04            | 1.28E+04         | 2.34E+05                    | -3.48E+03                                           |
| Water scarcity                                | m3 of eq.. deprivation worldwide | 1.54E+04 | 5.93E+02              | 1.52E+00          | 9.01E-01          | 3.59E+03     | 1.12E+04            | 2.88E+03         | 7.10E+02                    | -1.18E+02                                           |

\*Note: B2 (Maintenance) and B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1, B3-B5, B7) are equal to zero. So, it is not listed in the result tables.

### Inventory Flow Indicators: Mandatory

| Inventory flow indicators                                                                                           | Units | Sum      | A1-A3 - Manufacturing | A4 - Distribution | A5 - Installation | B1-B7 - Use | C1-C4 - End of life | B2 - Maintenance | B6 - Operational energy use | D - Benefits and loads beyond the system boundaries |
|---------------------------------------------------------------------------------------------------------------------|-------|----------|-----------------------|-------------------|-------------------|-------------|---------------------|------------------|-----------------------------|-----------------------------------------------------|
| Use of renewable primary energy, excluding renewable primary energy resources used as raw materials                 | MJ    | 6.25E+04 | 3.32E+02              | 2.37E+00          | 9.78E+01          | 6.20E+04    | 6.30E+01            | 1.32E+02         | 6.19E+04                    | -1.51E+01                                           |
| Use of renewable primary energy resources used as raw materials                                                     | MJ    | 5.27E+02 | 5.27E+02              | 0.00E+00          | 0.00E+00          | 0.00E+00    | 0.00E+00            | 0.00E+00         | 0.00E+00                    | -2.28E+02                                           |
| Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) | MJ    | 6.30E+04 | 8.59E+02              | 2.37E+00          | 9.78E+01          | 6.20E+04    | 6.30E+01            | 1.32E+02         | 6.19E+04                    | -2.43E+02                                           |
| Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials         | MJ    | 2.82E+05 | 2.34E+04              | 7.52E+02          | 2.02E+02          | 2.46E+05    | 1.11E+04            | 1.26E+04         | 2.34E+05                    | -3.45E+03                                           |
| Use of non-renewable primary energy resources used as raw materials                                                 | MJ    | 7.45E+02 | 5.63E+02              | 0.00E+00          | 0.00E+00          | 1.82E+02    | 0.00E+00            | 1.82E+02         | 0.00E+00                    | -2.83E+01                                           |

| Inventory flow indicators                                                                                               | Units               | Sum      | A1-A3 - Manufacturing | A4 - Distribution | A5 - Installation | B1-B7 - Use | C1-C4 - End of life | B2 - Maintenance | B6 - Operational energy use | D - Benefits and loads beyond the system boundaries |
|-------------------------------------------------------------------------------------------------------------------------|---------------------|----------|-----------------------|-------------------|-------------------|-------------|---------------------|------------------|-----------------------------|-----------------------------------------------------|
| Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) | MJ                  | 2.83E+05 | 2.39E+04              | 7.52E+02          | 2.02E+02          | 2.47E+05    | 1.11E+04            | 1.28E+04         | 2.34E+05                    | -3.48E+03                                           |
| Use of secondary materials                                                                                              | kg                  | 8.25E-02 | 3.26E-04              | 0.00E+00          | 0.00E+00          | 8.22E-02    | 0.00E+00            | 8.22E-02         | 0.00E+00                    | 0.00E+00                                            |
| Use of renewable secondary fuels                                                                                        | MJ                  | 0.00E+00 | 0.00E+00              | 0.00E+00          | 0.00E+00          | 0.00E+00    | 0.00E+00            | 0.00E+00         | 0.00E+00                    | 0.00E+00                                            |
| Use of non-renewable secondary fuels                                                                                    | MJ                  | 0.00E+00 | 0.00E+00              | 0.00E+00          | 0.00E+00          | 0.00E+00    | 0.00E+00            | 0.00E+00         | 0.00E+00                    | 0.00E+00                                            |
| Net use of fresh water                                                                                                  | m3                  | 3.99E+02 | 1.38E+01              | 3.55E-02          | 2.41E-02          | 9.14E+01    | 2.93E+02            | 7.47E+01         | 1.67E+01                    | -3.02E+00                                           |
| Hazardous waste disposed of                                                                                             | kg                  | 3.66E+03 | 2.64E+03              | 1.77E-01          | 5.14E+00          | 7.60E+02    | 2.54E+02            | 3.54E+02         | 4.06E+02                    | -3.04E+03                                           |
| Non-hazardous waste disposed of                                                                                         | kg                  | 2.20E+03 | 5.29E+02              | 3.93E+00          | 3.08E+00          | 1.63E+03    | 2.97E+01            | 6.89E+01         | 1.56E+03                    | -1.17E+02                                           |
| Radioactive waste disposed of                                                                                           | kg                  | 5.32E-01 | 1.14E-01              | 3.11E-03          | 8.07E-04          | 3.98E-01    | 1.69E-02            | 3.88E-02         | 3.59E-01                    | -4.89E-02                                           |
| Components for re-use                                                                                                   | kg                  | 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                                            |
| Materials for recycling                                                                                                 | kg                  | 4.90E+01 | 4.30E-02              | 0.00E+00          | 5.60E+00          | 3.26E-07    | 4.33E+01            | 3.26E-07         | 0.00E+00                    | 0.00E+00                                            |
| Materials for energy recovery                                                                                           | kg                  | 5.58E-07 | 5.58E-07              | 0.00E+00          | 0.00E+00          | 0.00E+00    | 0.00E+00            | 0.00E+00         | 0.00E+00                    | 0.00E+00                                            |
| Exported energy                                                                                                         | MJ by energy vector | 2.65E+00 | 0.00E+00              | 0.00E+00          | 6.11E-03          | 0.00E+00    | 2.64E+00            | 0.00E+00         | 0.00E+00                    | 0.00E+00                                            |
| Biogenic carbon content of the product                                                                                  | kg of C.            | 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                                            |
| Biogenic carbon content of the associated packaging                                                                     | kg of C.            | 1.05E+01 | 1.05E+01              | 0.00E+00          | 0.00E+00          | 2.56E-04    | 0.00E+00            | 2.56E-04         | 0.00E+00                    | 0.00E+00                                            |

**\*Note:** B2 (Maintenance) and B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1, B3-B5, B7) are equal to zero. So, it is not listed in the result tables.

### Environmental Impact Indicators: Optional

| Optional Environmental impact indicators | Units                 | Sum      | A1-A3 - Manufacturing | A4 - Distribution | A5 - Installation | B1-B7 - Use | C1-C4 - End of life | B2 - Maintenance | B6 - Operational energy use | D - Benefits and loads beyond the system boundaries |
|------------------------------------------|-----------------------|----------|-----------------------|-------------------|-------------------|-------------|---------------------|------------------|-----------------------------|-----------------------------------------------------|
| Emission of fine particles               | incidence of diseases | 5.29E-04 | 1.05E-04              | 5.74E-07          | 3.63E-07          | 4.16E-04    | 7.25E-06            | 3.38E-05         | 3.82E-04                    | -6.84E-05                                           |
| Ionizing radiation, human health         | kBq of U235 eq.       | 7.11E+04 | 3.18E+04              | 1.50E+00          | 3.64E+00          | 3.93E+04    | 3.34E+01            | 2.60E+04         | 1.33E+04                    | -1.01E+02                                           |
| Ecotoxicity, fresh water                 | CTUe                  | 4.53E+06 | 1.71E+04              | 1.24E+03          | 2.49E+02          | 2.33E+04    | 4.49E+06            | 5.83E+03         | 1.75E+04                    | -2.11E+03                                           |
| Human toxicity, cancer effects           | CTUh                  | 3.89E-04 | 2.67E-04              | 8.30E-09          | 1.01E-06          | 6.15E-05    | 5.89E-05            | 6.03E-05         | 1.16E-06                    | -4.33E-04                                           |

| Optional Environmental impact indicators          | Units | Sum      | A1-A3 - Manufacturing | A4 - Distribution | A5 - Installation | B1-B7 - Use | C1-C4 - End of life | B2 - Maintenance | B6 - Operational energy use | D - Benefits and loads beyond the system boundaries |
|---------------------------------------------------|-------|----------|-----------------------|-------------------|-------------------|-------------|---------------------|------------------|-----------------------------|-----------------------------------------------------|
| Human toxicity, non-cancer effects                | CTUh  | 2.90E-04 | 1.23E-04              | 1.58E-07          | 6.28E-08          | 1.06E-04    | 6.02E-05            | 7.83E-05         | 2.78E-05                    | -7.61E-06                                           |
| Impacts related to land use/soil quality          | -     | 4.13E+02 | 1.97E+00              | 1.81E-01          | 1.29E-01          | 2.84E+02    | 1.27E+02            | 2.78E+01         | 2.56E+02                    | -8.98E+01                                           |
| Total use of primary energy during the life cycle | MJ    | 3.46E+05 | 2.48E+04              | 7.54E+02          | 3.00E+02          | 3.09E+05    | 1.12E+04            | 1.29E+04         | 2.96E+05                    | -3.72E+03                                           |

**\*Note:** B2 (Maintenance) and B6 (energy requirements during the use stage) are considered. Other sub modules in the use stage (B1, B3-B5, B7) are equal to zero. So, it is not listed in the result tables.

Other Products covered in homogeneous family of Eaton 93PS10MBSI and the relevant data are shown in the below table:

| Product family             | Model                  | Description           | UPS Rating (kVA) | Power factor (pf) | UPS Rating (KW) | Backup time at full load (mins) | UPS efficiency (Double conversion Mode) [%] | Use phase losses (DC Mode) (kWh) | Product Net weight (Actual) kg | Packaging weight (Actual) kg |
|----------------------------|------------------------|-----------------------|------------------|-------------------|-----------------|---------------------------------|---------------------------------------------|----------------------------------|--------------------------------|------------------------------|
| Eaton 9PX Single Phase UPS | 93PS10MBSI (Reference) | 93PS-10(10)-1x9Ah-MBS | 10               | 1                 | 10              | 15                              | 95.97                                       | 26280.00                         | 164.48                         | 24.52                        |
|                            | 93PS8MBSI              | 93PS-8(10)-1x9Ah-MBS  | 8                | 1                 | 8               | 15                              | 95.720                                      | 27594.00                         | 164.48                         | 24.52                        |

To evaluate the environmental impact of other product covered by this PEP, apply the following conversion factors to the Environmental Impact shown above. The extrapolation factors are calculated based on the PSR 10 section 3.6.:

**Conversion Factors for Manufacturing, Distribution, Installation, Use and End-of-Life Phase for all environmental impacts for declared unit impacts:**

| Model                  | A1-A3 Manufacturing | A4 Distribution | A5 Installation | B2 Use Phase | B6 Use Phase (Double Conversion Mode) | B6 Use Phase (High Efficiency) | C1-C4 End-of Life | Module - D |
|------------------------|---------------------|-----------------|-----------------|--------------|---------------------------------------|--------------------------------|-------------------|------------|
| 93PS10MBSI (Reference) | 1.00                | 1.00            | 1.00            | 1.00         | 1.00                                  | 0.37                           | 1.00              | 1.00       |
| 93PS8MBSI              | 1.00                | 1.00            | 1.00            | 1.00         | 1.05                                  | 0.43                           | 1.00              | 1.00       |

To get functional unit impacts, the declared unit results of specific part numbers need to be divided by below factors calculated as per PSR10 section 3.1.3:

| Model                  | Factor for use stage energy consumption B6 | Factor for all other stages (excepted B6 of use stage) |
|------------------------|--------------------------------------------|--------------------------------------------------------|
| 93PS10MBSI (Reference) | 1000                                       | 3000                                                   |
| 93PS8MBSI              | 800                                        | 2400                                                   |

## Disclaimer

This Product Environmental Profile and its content is based on information available to us. It refers to the product at the date of issue. We make no express or implied representations or warranties with respect to the information contained herein.

|                                                                                                                                                              |                      |                                     |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------------|-------------------------------------------------------------------------------------|
| Registration Number                                                                                                                                          | EATO-00418-V01.01-EN | Drafting rules                      | PCR-ed4-EN-2021 09 06                                                               |
| Verifier accreditation Number                                                                                                                                | VH53                 | Supplemented by                     | PSR-0010-ed2-EN-2023 12 08                                                          |
| Date of issue                                                                                                                                                | 09-2025              | Information and reference documents | <a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>                |
|                                                                                                                                                              |                      | Validity period                     | 5 years                                                                             |
| Independent verification of the declaration and data, in compliance with ISO 14025: 2006                                                                     |                      |                                     |                                                                                     |
| Internal                                                                                                                                                     | X                    | External                            |                                                                                     |
| The PCR review was conducted by a panel of experts chaired by Julie ORGELET (DDemain)                                                                        |                      |                                     |  |
| PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019<br>The components of the present PEP may not be compared with components from any other program. |                      |                                     |                                                                                     |
| Document complies with ISO 14025: 2006 « Environmental labels and declarations. Type III environmental declarations »                                        |                      |                                     |                                                                                     |