# Product Environmental Profile

ISO 14025 COMPLIANT

## SIRCO DC IEC 3200A

Manual load break switch

**Socomec is member of :**

ecosystem

**Member of WEEE Europe**

THE GLOBAL COMPACT

Gimélec

**Environment and sustainable development commisions**

PEP eco PASS PORT®

## The commitments of Socomec to respect the environment

As part of its environmental policy, Socomec is committed to:

- Incorporate the principles of the circular economy into the design of new products and services
- Promote longer product lifetimes
- Promote the use of environmentally responsible materials
- Design and develop solutions to further improve the energy efficiency of our products and services
- Inform our customers in a transparent manner about the environmental impact of our products throughout their life cycle.

To this end, Socomec is committed to constantly monitoring, anticipating and complying with environmental regulations as well as customer expectations relating to its products, and to ensuring that all those involved adhere to and take responsibility for its commitments.

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Innovative Power Solutions

## ● Product information :

**Reference product**
The representative product is the SIRCO DC IEC 3200A with sales reference 26DC4320 with the following description: Manual load break switch

**References covered by this PEP :**
26DC4320 SIRCO DC IEC 3200A

**Functional unit**
Make and break currents by separating part of the installation from a source of electrical energy, with a rated current of 3200A and rated voltage of 1500VDC, for enclosure installation, in industrial applications areas, according to the appropriate use scenario, and during the reference life of 20 years of the product.
Provide isolation to ensure the disconnection of the circuit according to the appropriate use scenario.

## ● Materials and substances

**Declaration of the constitutives materials**
Total mass of the reference product (including packaging): 36,5 kg among which packaging: 12,5 kg

For the SIRCO DC IEC 3200A

| Metals | % weight | Plastics | %weight | Others | % weight |
|---|---|---|---|---|---|
| Copper and its alloys | 14,7% | Others thermoplastics | 38,6% | Other organics | 34,9% |
| Other ferrous alloys - non stainless steels | 10,4% | Other plastics | <0,1% | Ceramics and glass | <0,1% |
| Stainless steel | 1,4% | PVC | <0,1% | Other inorganics | <0,1% |
| Nickel and its alloys | <0,1% | | | | |
| Other non-ferrous metals and alloys | <0,1% | | | | |
| Aluminium and its alloys | <0,1% | | | | |
| Magnesium and its alloys | <0,1% | | | | |
| Precious metals | <0,1% | | | | |
| Zinc and its alloys | <0,1% | | | | |

**Substances management**
Socomec is leading a program to limit the use of hazardous substances in the design of new products and to monitor the presence of substances of concern in its supplies to anticipate future use restrictions.

Directive 2011/65/EU : Product references covered by this PEP meet the requirements of the RoHS Directive on the restriction of substances such as lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyl (PBB), polybrominated diphenyl ethers (PBDEs) and phthalates (DIBP, DEHP, BBP, DBP).

REACH 1907/2006 regulation: To the best of our knowledge, based on the supplier declarations, at the publication date of this document, the product do not contain any other SVHC in a concentration above 0,1% per weight.

## ● Manufacturing

The products covered by this PEP are manufactured on the production site of Benfeld, France whose environmental management system has been ISO 14001 certified. Impacts on the environment are reduced by optimizing its energy consumption and by practicing a rigorous waste management.

## ● Distribution

As part of its distribution policy aiming to respect the environment, Socomec is in favor of groupage transports and ISO 14001 certified logistic partners.

No reconditionning is planned for the product. This phase is consequently neglected.

The sizing of the packaging has been optimized to ensure the best possible protection of the product at the lowest possible volume in order to reduce the impact of the transport stage on the environment.

## ● Installation

The installation phase consists in connecting the product to the existing electrical installation.

The installation does not generate any significant impacts on the environment, except impacts from packaging waste.

## ● Use phase

**Consumption scenario**

Use phase scenario: European energy mix

| Product | Mode | Dissipated power per pole at Ith [W] | Total dissipated power for the corresponding load rate [W] | Load rate [% of Ith] | Time distribution [% of RSL] |
|---|---|---|---|---|---|
| SIRCO DC IEC 3200A | In use | 261 W | 130,5 W | 50% | 30% |
| | Stop | 0 W | 0 W | 50% | 70% |

The energy consumed in the life of the reference product (20 years) is 6859,08 kWh.

**Care and maintenance**

The product does not require any maintenance under normal conditions of use.

**Consumables**

The product does not require consumables.

## ● End of life

**End of life treatment**

The following parts require specific care and selective treatment in accordance with Annex VII of the WEEE Directive 2012/19/EU - Waste of electrical and electronic equipment : *Printed circuit board.*

Other parts that require specific care when handled but are not subject to WEEE: *Neodymium magnets*

Maintenance and disassembly should always be conducted by qualified personnel.

**Recovery potential of the product according to IEC TR 62635**

The recovery potential of the product is 53,23%.

This covers material and energy recovery potentials.

## ● Environmental impacts

**Calculation methodology: life cycle assessment (LCA)**

The calculation of the impacts on the environment was made using a life cycle assessment methodology in accordance with the ISO 14040 requirements and with PEP eco passport product category rules. For more details follow the link:

www.pep-ecopassport.org

This study was carried out with the following version of the software EIME and of the database:

EIME version: EIME© v5.9.4

Database version: CODDE-2022-01

For biogenic carbon storage the following methodology was used : 0/0

The whole life cycle has been taken into account:

| Step | Geographical representativeness | Scenario |
|---|---|---|
| **Manufacturing (M) (A1-A3)** | Production of other components and packaging : Europe<br>Assembly : France | From the raw material extraction to the last Socomec logistic platform, including packaging<br>Waste generated during manufacturing phase are taken into account. |
| **Distribution (D) (A4)** | Distribution scenario : Europe | From the last Socomec logistic platform to the final customer. |
| **Installation (I) (A5)** | Transport and treatment of packaging wastes : Local | Local road transport of 1000 km of generated wastes to the treatment site, end of life treatment. |
| **Use phase (U) (B1-B7)** | Energy mix : Europe | Power consumption required during 20 years and maintenance according to consumption scenario above mentionned. |
| **End of life (EOL) (C1-C4)** | Transport and treatment : Local | Road transport of 1000 km from the final customer to the treatment sites.<br>End of life treatment. |

**Environmental impacts of the SIRCO DC IEC 3200A, per FU**

The following impacts have been calculated to best represent geographically, temporally and technologically each step of the life cycle.

| Indicators | Unit | Total impact | M (A1-A3) | D (A4) | I (A5) | U (B1-B7) | EOL (C1-C4) |
|---|---|---|---|---|---|---|---|
| Resource use, minerals and metals (Abiotic resource depletion – Elements) | kg Sb eq. | 9,98E-03 | 1,00E-02 | 0* | 0* | 2,40E-04 | 0* |
| Resource use, fossils (Abiotic resource depletion – Fossil fuels) | MJ | 6,19E+04 | 2,91E+03 | 2,62E+02 | 9,58E+01 | 5,86E+04 | 0* |
| Acidification | mol H+ eq. | 1,97E+01 | 3,04E+00 | 1,19E-01 | 4,04E-02 | 1,64E+01 | 5,23E-02 |
| Ecotoxicity, freshwater | CTUe | 2,19E+04 | 2,59E+03 | 1,27E+01 | 6,89E+01 | 1,92E+04 | 1,08E+01 |
| Human toxicity, cancer | CTUh | 2,06E-02 | 2,06E-02 | 0* | 2,39E-06 | 0* | 0* |
| Human toxicity, non-cancer | CTUh | 3,65E-05 | 1,90E-05 | 3,57E-08 | 5,37E-08 | 1,74E-05 | 0* |
| Eutrophication, freshwater | kg P eq. | 8,78E-04 | 3,84E-04 | 7,04E-06 | 7,38E-05 | 1,83E-04 | 2,30E-04 |
| Eutrophication, marine | kg N eq. | 2,63E+00 | 3,37E-01 | 5,58E-02 | 1,42E-02 | 2,19E+00 | 3,01E-02 |
| Eutrophication, terrestrial | mol N eq. | 2,85E+01 | 3,61E+00 | 6,12E-01 | 1,22E-01 | 2,38E+01 | 3,30E-01 |
| Climate change - total | kg CO2 eq. | 4,01E+03 | 2,22E+02 | 1,88E+01 | 1,01E+01 | 3,74E+03 | 1,66E+01 |
| Climate change - fossil | kg CO2 eq. | 3,02E+02 | 5,59E+00 | 0* | 0* | 3,01E+02 | 0* |
| Climate change - biogenic | kg CO2 eq. | 3,71E+03 | 2,16E+02 | 1,88E+01 | 1,47E+01 | 3,44E+03 | 1,66E+01 |
| Climate change - land use and land transformation | kg CO2 eq. | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |
| Ionising radiation, human health | kBq U235 eq. | 2,80E+03 | 2,14E+03 | 0* | 3,27E-01 | 6,58E+02 | 2,99E-01 |
| Land use | No dimension | 9,91E+02 | 3,37E+00 | 0* | 0* | 9,88E+02 | 0* |
| Ozone depletion | kg CFC-11 éq. | 1,28E-04 | 1,05E-05 | 2,88E-08 | 4,54E-07 | 1,16E-04 | 1,82E-07 |
| Particulate matter | disease occurrence | 1,97E-04 | 1,78E-05 | 9,67E-07 | 2,77E-07 | 1,78E-04 | 1,68E-07 |
| Photochemical ozone formation, human health | kg NMVOC eq. | 8,26E+00 | 1,23E+00 | 1,54E-01 | 3,32E-02 | 6,76E+00 | 7,54E-02 |
| Water use | m³ eq. | 1,18E+03 | 1,04E+02 | 0* | 3,15E+00 | 1,07E+03 | 2,78E+00 |
| Use of renewable primary energy excluding renewable primary energy used as raw material | MJ | 8,59E+03 | 1,26E+01 | 0* | 4,11E+01 | 8,53E+03 | 0* |
| Use of renewable primary energy resources used as raw material | MJ | 3,30E+02 | 3,30E+02 | 0* | 0* | 0* | 0* |
| Total use of renewable primary energy resources | MJ | 8,92E+03 | 3,42E+02 | 0* | 4,11E+01 | 8,53E+03 | 0* |
| Use of non renewable primary energy excluding non renewable primary energy used as raw material | MJ | 6,14E+04 | 2,43E+03 | 2,62E+02 | 9,58E+01 | 5,86E+04 | 0* |
| Use of non renewable primary energy resources used as raw material | MJ | 4,84E+02 | 4,84E+02 | 0* | 0* | 0* | 0* |
| Total use of non-renewable primary energy resources | MJ | 6,19E+04 | 2,91E+03 | 2,62E+02 | 9,58E+01 | 5,86E+04 | 0* |
| Use of secondary material | kg | 1,34E-01 | 1,34E-01 | 0* | 0* | 0* | 0* |
| Use of renewable secondary fuels | MJ | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |
| Use of non renewable secondary fuels | MJ | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |
| Total Primary Energy | MJ | 7,08E+04 | 3,25E+03 | 2,62E+02 | 1,37E+02 | 6,71E+04 | 0* |
| Net use of freshwater | m³ | 2,74E+01 | 2,42E+00 | 0* | 7,34E-02 | 2,48E+01 | 6,47E-02 |
| Hazardous waste disposed | kg | 9,13E+02 | 9,16E+02 | 0* | 0* | 1,75E+00 | 0* |
| Non hazardous waste disposed | kg | 1,29E+04 | 3,71E+02 | 0* | 2,83E+01 | 1,25E+04 | 2,86E+00 |
| Radioactive waste disposed | kg | 8,45E+00 | 7,58E-02 | 0* | 3,05E-03 | 8,37E+00 | 3,12E-03 |
| Components for reuse | kg | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |
| Materials for recycling | kg | 6,14E+00 | 0* | 0* | 6,14E+00 | 0* | 0* |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Materials for energy recovery** | **kg** | **2,90E+00** | **0*** | **0*** | **2,90E+00** | **0*** | **0*** |
| **Exported Energy** | **MJ by energy vector** | **4,17E+00** | **1,50E+00** | **0*** | **2,67E+00** | **0*** | **0*** |

**Biogenic carbon content in the reference product:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Biogenic carbon content of the product** | **kg of C** | **0,00E+00** | **0*** | **N/A** | **N/A** | **N/A** | **N/A** |
| **Biogenic carbon content of the associated packaging** | **kg of C** | **4,43E+00** | **4,43E+00** | **N/A** | **N/A** | **N/A** | **N/A** |

*NB : 0* means that this impact either represents less than 0.01% of the total life cycle of the reference flow, or has no impact (in the case where the total impact is zero).*

*For the use stage (U), the product does not require maintenance therefore the impacts values are representatives of the B6 phase from the use stage : "Energy requirements during the use stage"*

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|---|---|
| Registration number : SOCO-00060-V01.01-EN | Drafting Rules : "PEP-PCR-ed4-EN 2021 09 06"<br>Supplemented by : "PSR-0005-ed3-EN-2023 06 06" |
| Verifier accreditation number : VH46 | Information and reference documents : www.pep-ecopassport.org |
| Date of issue: 07-2023 | Validity period : 5 years |
| Independant verification of the declaration and data in compliance with ISO 14025 : 2006 | |
| Internal : ☑ External : ☐ | |
| The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain)<br><br>PEPs are compliant with XP C08-100-1 : 2016 or EN 50693:2019<br><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” ☐ | |

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