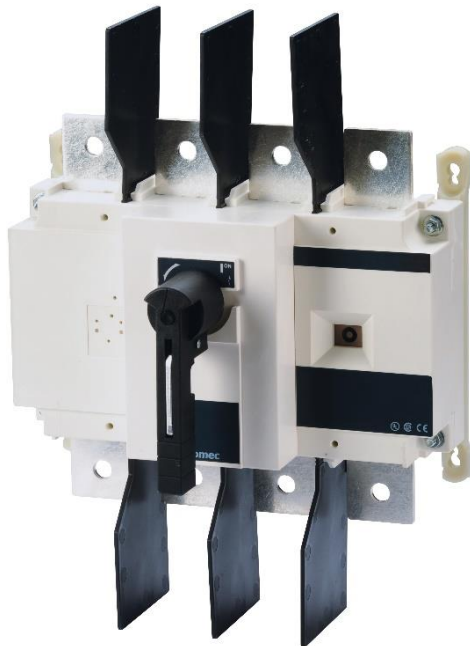


Product Environmental Profile



SIRCO UL

Manual load break switches for power distribution from 125A to 1800A
3-pole & 4-pole UL versions



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.

Socomec is member of :

ecosystem

Member of WEEE Europe



Gimélec

Environment and sustainable development commissions



PEP ecopassport® Registration number: SOCO-00073-V01.01-EN

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socomec
Innovative Power Solutions

● Product information :

Reference product

The representative product is the SIRCO 4x400A F UL with sales reference 27004041 with the following description: SIRCO are manually operated multipolar load break switches. They make and break under load conditions and provide safety isolation.

Other covered references

This PEP covers other references listed in the table at the end of the document.

Functional unit

Make and break currents by separating part of the installation from a source of electrical energy, with a rated current from 100A to 1200A and rated voltage of 690VAC, 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): 7,32 kg among which packaging: 0,56 kg

For the reference product:

| Plastics as % of weight | | Metals as % of weight | | Other as % of weight | |
|--------------------------------|---------------|------------------------------|---------------|------------------------------|--------------|
| Polyester | 44,35% | Copper and its alloys | 21,61% | Cardboard | 7,21% |
| Polyamide | 4,27% | Steel | 13,05% | Paper | 0,60% |
| | | Stainless steel | 6,34% | Other organics | <0,1% |
| | | Zamak | 2,55% | | |
| | | Zinc and its alloys | <0,1% | | |
| | | Precious metals | <0,1% | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Other plastics | <0,1% | | | | |
| Total Plastics: 3,44 kg | 48,63% | Total Metals: 3,08 kg | 43,56% | Total Others: 0,55 kg | 7,81% |

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 reconditioning 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

Use phase was modelised according to the following scenario:

Geography: European energy mix

Load rate: 50% of 400A (In)

Use time rate: 30% of the time over 20 years (RLT)

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

SIRCO references covered by this PEP do not contain hazardous components as defined in Annex VII of the WEEE Directive 2012/19/EU - Waste of electrical and electronic equipment.

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 46,58%.

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: 6.0.4

Database version: CODDE-2023-02

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 Assembly : France | From the raw material extraction to the last Socomec logistic platform, including packaging 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 mentioned. |
| End of life (EOL) (C1-C4) | Transport and treatment : Local | Road transport of 1000 km from the final customer to the treatment sites. End of life treatment. |

Environmental impacts of the reference product, 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) |
|-------------------------------------------------------------------------------------------------|--------------------|--------------|-----------|----------|----------|-----------|-------------|
| Acidification | mol H+ eq. | 2,23E+00 | 6,75E-01 | 8,18E-03 | 1,85E-03 | 1,54E+00 | 8,58E-03 |
| Climate change - Total | kg CO2 eq. | 3,19E+02 | 4,44E+01 | 1,29E+00 | 6,77E-01 | 2,69E+02 | 3,36E+00 |
| Climate change - Biogenic | kg CO2 eq. | 1,11E+00 | 7,23E-01 | 0* | 2,80E-02 | 3,59E-01 | 0* |
| Climate change - Fossil | kg CO2 eq. | 3,18E+02 | 4,37E+01 | 1,29E+00 | 6,49E-01 | 2,69E+02 | 3,36E+00 |
| Climate change - Land use and land use transformation | kg CO2 eq. | 1,97E-07 | 0* | 0* | 1,97E-07 | 0* | 0* |
| Ecotoxicity, freshwater | CTUe | 6,54E+03 | 3,63E+03 | 8,70E-01 | 7,37E+00 | 2,90E+03 | 2,23E+00 |
| Particulate matter | disease occurrence | 1,59E-05 | 3,87E-06 | 6,65E-08 | 1,15E-08 | 1,19E-05 | 4,87E-09 |
| Eutrophication, freshwater | kg P eq. | 9,98E-04 | 1,95E-04 | 4,84E-07 | 8,52E-06 | 7,37E-04 | 5,73E-05 |
| Eutrophication, marine | kg N eq. | 2,51E-01 | 6,58E-02 | 3,83E-03 | 8,85E-04 | 1,75E-01 | 5,75E-03 |
| Eutrophication, terrestrial | mol N eq. | 3,44E+00 | 7,11E-01 | 4,20E-02 | 5,84E-03 | 2,62E+00 | 6,29E-02 |
| Human toxicity, cancer | CTUh | 3,65E-05 | 3,64E-05 | 0* | 6,67E-08 | 3,14E-08 | 0* |
| Human toxicity, non-cancer | CTUh | 7,69E-06 | 6,45E-06 | 2,45E-09 | 2,64E-09 | 1,25E-06 | 0* |
| Ionising radiation, human health | kBq U235 eq. | 9,34E+02 | 5,33E+02 | 0* | 0* | 4,00E+02 | 0* |
| Land use | No dimension | 6,26E+00 | 8,76E-01 | 0* | 3,06E-02 | 5,36E+00 | 0* |
| Ozone depletion | kg CFC-11 eq. | 3,48E-06 | 2,27E-06 | 1,98E-09 | 8,07E-09 | 1,15E-06 | 5,53E-08 |
| Photochemical ozone formation, human health | kg NMVOC eq. | 8,37E-01 | 2,51E-01 | 1,06E-02 | 1,37E-03 | 5,60E-01 | 1,37E-02 |
| Abiotic resource depletion - fossil fuels or resource depletion - fossils | MJ | 7,78E+03 | 9,07E+02 | 1,80E+01 | 6,10E+00 | 6,86E+03 | 0* |
| Abiotic resource depletion - elements or resource depletion - metals and minerals | kg Sb eq. | 2,80E-03 | 2,87E-03 | 0* | 0* | 1,95E-05 | 0* |
| Water use | m³ eq. | 3,40E+01 | 2,37E+01 | 4,90E-03 | 5,23E-02 | 9,53E+00 | 7,79E-01 |
| Net use of freshwater | m³ | 7,92E-01 | 5,51E-01 | 1,14E-04 | 1,22E-03 | 2,22E-01 | 1,81E-02 |
| Total Primary Energy | MJ | 9,13E+03 | 9,30E+02 | 1,80E+01 | 6,86E+00 | 8,18E+03 | 0* |
| Total use of non-renewable primary energy resources | MJ | 7,78E+03 | 9,07E+02 | 1,80E+01 | 6,10E+00 | 6,86E+03 | 0* |
| Total use of renewable primary energy resources | MJ | 1,34E+03 | 2,28E+01 | 0* | 7,67E-01 | 1,32E+03 | 0* |
| Use of non renewable primary energy excluding non renewable primary energy used as raw material | MJ | 7,66E+03 | 7,82E+02 | 1,80E+01 | 6,10E+00 | 6,86E+03 | 0* |
| Use of non renewable primary energy resources used as raw material | MJ | 1,25E+02 | 1,25E+02 | 0* | 0* | 0* | 0* |
| Use of non renewable secondary fuels | MJ | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |
| Use of renewable primary energy excluding renewable primary energy used as raw material | MJ | 1,33E+03 | 8,84E+00 | 0* | 7,67E-01 | 1,32E+03 | 0* |
| Use of renewable primary energy resources used as raw material | MJ | 1,39E+01 | 1,39E+01 | 0* | 0* | 0* | 0* |
| Use of renewable secondary fuels | MJ | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |
| Use of secondary material | kg | 9,07E-01 | 9,07E-01 | 0* | 0* | 0* | 0* |
| Hazardous waste disposed | kg | 2,31E+02 | 2,28E+02 | 0* | 0* | 5,03E+00 | 0* |
| Non hazardous waste disposed | kg | 6,71E+01 | 2,84E+01 | 4,53E-02 | 2,56E-01 | 3,87E+01 | 0* |
| Radioactive waste disposed | kg | 1,84E-02 | 9,29E-03 | 3,23E-05 | 3,09E-05 | 8,11E-03 | 9,53E-04 |
| Components for reuse | kg | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |
| Exported Energy | MJ | 0,00E+00 | 0* | 0* | 0* | 0* | 0* |

PRODUCT ENVIRONMENTAL PROFILE

| | | | | | | | |
|-------------------------------|----|----------|----|----|----------|----|----|
| Materials for energy recovery | kg | 5,30E-02 | 0* | 0* | 5,30E-02 | 0* | 0* |
| Materials for recycling | kg | 3,00E-03 | 0* | 0* | 3,00E-03 | 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 | 1,55E-01 | 1,55E-01 | 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"

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Registration number : SOCO-00073-V01.01-EN | Drafting Rules : "PEP-PCR-ed4-EN 2021 09 06" Supplemented by : "PSR-0005-ed3-EN-2023 06 06" |
| Verifier accreditation number : VH12 | Information and reference documents : www.pep-ecopassport.org |
| Date of issue: 08-2023 | Validity period : 5 years |
| Independant verification of the declaration and data in compliance with ISO 14025 : 2006 | |
| Internal : <input checked="" type="checkbox"/> | External : <input type="checkbox"/> |
| The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain) PEPs are compliant with XP C08-100-1 : 2016 or EN 50693:2019 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" <input type="checkbox"/> | |



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Other references covered and extrapolation factors

For the products covered by the PEP other than the reference product, the environmental impacts of each phase of the lifecycle may be calculated with extrapolation factors following the proportionality rules that you can find below.

Extrapolation factors are determined as follows and can be provided upon request:

- For the Manufacturing and Distribution phases they are proportional to the mass of the product with its packaging;
- For the Installation phase they are proportional to the mass of the packaging;
- For the Use phase they are proportional to the power losses of the product;
- For the End of Life phase they are proportional to the mass of the product without its packaging.

| Model | Reference |
|--------------------|-----------|
| SIRCO 4x400A F UL | 27004041 |
| SIRCO 3X100A F UL | 27003011 |
| SIRCO 4X100A F UL | 27004011 |
| SIRCO 3X200A F UL | 27003021 |
| SIRCO 4X200A F UL | 27004021 |
| SIRCO 3X400A F UL | 27003040 |
| SIRCO 3X400A F UL | 27003041 |
| SIRCO 4x400A F UL | 27004040 |
| SIRCO 3X600A F UL | 27003060 |
| SIRCO 4X600A F UL | 27004060 |
| SIRCO 3X800A F UL | 27003080 |
| SIRCO 4X800A F UL | 27004080 |
| SIRCO 3X1000A F UL | 27003100 |
| SIRCO 4X1000A F UL | 27004100 |
| SIRCO 3X1200A F UL | 27003120 |
| SIRCO 4X1200A F UL | 27004120 |