

Product Environmental Profile



SIRCO DC / SIRCO DC ESS

Load break switches for direct current applications from 2000 to 3600 A, up to 1500 VDC



Socomec is member of :



Member of WEEE Europe



Environment and sustainable development commissions



PEP ecopassport® Registration number: SOCO-00060-V02.01-EN

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 ENVIRONMENTAL PROFILE

• Product information :

Reference product

The representative product is the SIRCO DC ESS UL 2000A B7DS with sales reference 27ES4200 with the following description: Load break switches for direct current applications from 2000 to 3600 A, up to 1500 VDC

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 of 2000A and rated voltage of 415VAC, 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 constitutive materials

Total mass of the reference product (including packaging): 35 kg among which packaging: 10,88 kg

For the reference product:

Plastics as % of weight		Metals as % of weight		Other as % of weight	
Polyester	37,04%	Copper and its alloys	15,12%	Wood	29,03%
Polyamide	2,19%	Stainless steel	9,02%	Cardboard	2,25%
PC	0,54%	Precious metals	4,63%	Paper	0,14%
POM	<0,1%			Other inorganics	<0,1%
				Other organics	<0,1%
Other plastics	<0,1%				
Total Plastics: 13,76 kg	39,78%	Total Metals: 9,95 kg	28,77%	Total Others: 10,88 kg	31,45%

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 SVHC in a concentration above 0,1% per weight.

PRODUCT ENVIRONMENTAL PROFILE

• 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

Use phase was modelised according to the following scenario:

Geography: European energy mix

Load rate: 50% of 2000A (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

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 : *None*.

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.

Recyclability potential of the product according to IEC TR 62635

The recyclability potential of the product is 25,42%.

This covers material and energy recovery potentials.

PRODUCT ENVIRONMENTAL PROFILE

• 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 v6.3.2

Database version: CODDE-2025-04

For biogenic carbon storage the following methodology was used : -1/+1

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.

PRODUCT ENVIRONMENTAL PROFILE

Environmental impacts of the SIRCO DC ESS UL 2000A B7DS, 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)
Climate change	kg CO2 eq.	2,59E+03	1,83E+02	5,82E+00	1,91E+01	2,38E+03	8,02E+00
Climate change-Biogenic	kg CO2 eq.	5,56E+01	0*	0*	1,64E+01	5,26E+01	3,87E-02
Climate change-Fossil	kg CO2 eq.	2,54E+03	1,96E+02	5,82E+00	2,69E+00	2,33E+03	7,98E+00
Climate change-Land use and land use change	kg CO2 eq.	3,77E-04	3,68E-04	8,79E-06	8,17E-07	0*	2,84E-07
Ozone depletion	kg CFC-11 eq.	1,89E-05	8,12E-06	7,06E-08	7,56E-08	1,02E-05	4,11E-07
Acidification	mol H+ eq.	1,51E+01	2,59E+00	9,28E-03	1,08E-02	1,25E+01	3,57E-02
Eutrophication, freshwater	kg P eq.	6,30E-03	5,53E-04	2,18E-05	1,76E-05	5,70E-03	1,14E-05
Eutrophication, marine	kg N eq.	1,69E+00	2,15E-01	1,71E-03	3,07E-03	1,46E+00	9,09E-03
Eutrophication, terrestrial	mol N eq.	2,60E+01	2,49E+00	1,87E-02	3,30E-02	2,34E+01	1,20E-01
Photochemical ozone formation - human health	kg NMVOC eq.	5,58E+00	9,15E-01	6,02E-03	7,62E-03	4,62E+00	2,62E-02
Resource use, minerals and metals	kg SB eq.	1,66E-02	1,58E-02	2,07E-06	0*	7,71E-04	0*
Resource use, fossils	MJ	6,18E+04	4,51E+03	1,04E+02	4,27E+01	5,71E+04	8,80E+01
Water use	m3 eq.	2,70E+02	8,86E+01	2,10E-01	2,08E-01	1,80E+02	5,67E-01
Particulate matter	Disease occurrence	1,13E-04	1,53E-05	7,91E-08	7,32E-08	9,75E-05	2,39E-07
Ionising radiation, human health	kBq U235 eq.	3,24E+03	1,20E+02	0*	6,80E-01	3,11E+03	1,69E+00
Ecotoxicity, freshwater	CTUe	1,73E+04	1,33E+04	1,70E+02	5,48E+01	3,57E+03	1,85E+02
Human toxicity, cancer	CTUh	2,88E-06	2,48E-06	1,14E-09	1,00E-07	2,94E-07	1,83E-09
Human toxicity, non-cancer	CTUh	2,61E-05	1,90E-05	2,17E-08	1,37E-08	6,97E-06	6,78E-08
Land use	No dimension	6,56E+01	2,34E+00	2,49E-02	3,38E-02	6,31E+01	1,36E-01
Renewable primary energy used as energy	MJ	1,37E+04	3,19E+02	0*	4,84E+01	1,34E+04	6,89E+00
Renewable primary energy used as raw material	MJ	2,94E+02	2,94E+02	0*	0*	0*	0*
Total renewable primary energy	MJ	1,40E+04	6,13E+02	0*	4,84E+01	1,34E+04	6,89E+00
Non renewable primary energy used as energy	MJ	6,13E+04	4,02E+03	1,04E+02	4,27E+01	5,71E+04	8,80E+01
Non renewable primary energy used as raw material	MJ	4,90E+02	4,90E+02	0*	0*	0*	0*
Total non renewable primary energy	MJ	6,18E+04	4,51E+03	1,04E+02	4,27E+01	5,71E+04	8,80E+01
Total primary energy	MJ	7,58E+04	5,13E+03	1,04E+02	9,10E+01	7,04E+04	9,49E+01
Use of secondary material	kg	0,00E+00	0*	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*
Net use of fresh water	m3	6,30E+00	2,06E+00	4,88E-03	8,24E-03	4,22E+00	1,08E-02
Hazardous waste disposed	kg	9,98E+02	9,24E+02	0*	1,22E+00	6,57E+01	6,20E+00
Non hazardous waste disposed	kg	3,86E+02	2,52E+01	5,39E-01	4,77E-01	3,59E+02	6,89E-01
Radioactive waste disposed	kg	9,13E-02	5,87E-03	4,27E-04	1,71E-04	8,45E-02	2,95E-04
Components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*
Materials for recycling	kg	3,80E+00	0*	0*	3,80E+00	0*	0*
Materials for energy recovery	kg	3,19E+00	0*	0*	3,19E+00	0*	0*
Exported Energy	MJ	0,00E+00	0*	0*	0*	0*	0*
Biogenic carbon content - Product	kg of C	0,00E+00	0*	0*	0*	0*	0*
Biogenic carbon content - Packaging	kg of C	4,32E+00	4,32E+00	0*	0*	0*	0*

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"

PRODUCT ENVIRONMENTAL PROFILE

Registration number : SOCO-00060-V02.01-EN	Drafting Rules : "PEP-PCR-ed4-EN 2021 09 06" Supplemented by : "PSR-0005-ed3.1-EN-2023 12 08"
Verifier accreditation number : VH46	Information and reference documents : www.pep-ecopassport.org
Date of issue: 11-2025	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 (DDomain) 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"	

This document is intended to be only informative and non-contractual and does not create any right or obligation or commitment for Socomec towards its associates, customers or any other person or entity. All the values indicated in this document may change depending on many factors (use conditions, applications, installations, environment...). The life time mentioned in this document is only indicative and is not intended to be the minimal, maximal or average life time of the product.

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 DC ESS UL 2000A B7DS	27ES4200
SIRCO DC UL 2000A B7DS	27DC4200
SIRCO DC IEC 2500A B7DS	26DC4250
SIRCO DC ESS IEC 2500A B7DS	26ES4250
SIRCO DC IEC 3200A B7DS	26DC4320
SIRCO DC ESS IEC 3200A B7DS	26ES4320
SIRCO DC IEC 3600A B7DS	26DC4360
SIRCO DC ESS IEC 3600A B7DS	26ES4360