

Product Environmental Profile

TeSys Deca thermal overload relays 48-65A, class 10A

TeSys Deca





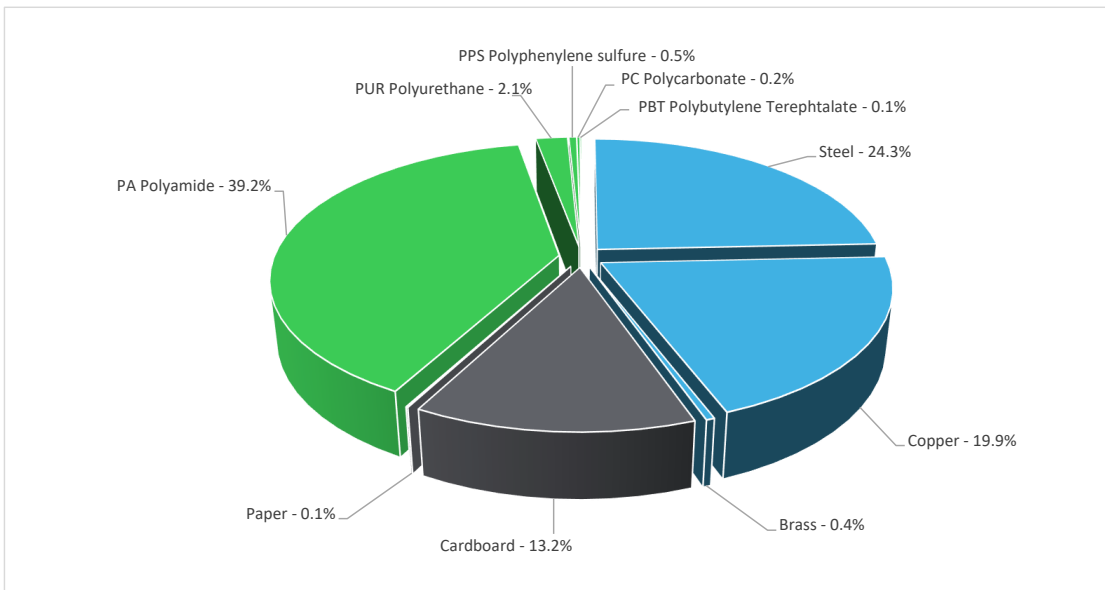
General information

| | |
|----------------------------|---|
| Reference product | TeSys Deca thermal overload relays 48-65A, class 10A - LRD365 |
| Description of the product | The main purpose of the thermal overload relays is to detect overload currents in order to protect the motor. |
| Description of the range | The products of the range are: This range consists of TeSys Deca thermal overload relays 9-414A class, the representative product used for analysis is TeSys Deca thermal overload relays (LRD365). The environmental impacts of this reference product are representative of the impacts of the other products of the range which are developed with a similar technology. |
| Functional unit | Other switchgear and controlgear solutions mentioned in the scope (e.g. fuses TC32, all-or-nothing relays TC94, Measuring relays and protection equipment TC95), apply the general rules of PCR and mention in the accompanying report the functional unit, the reference product characteristics, the reference lifetime and the use scenario which are applied consistently with the relevant IEC technical standards. |
| Specifications are: | The functional unit of the LRD365 is to detect overload currents in order to protect the load for 20 years. Standardized product characteristics to provide: rated insulation voltage[U _i]: 690V conventional free air thermal current[I _{th}]: 5A rated operational voltage[U _e]: 690V AC rated impulse withstand voltage:[U _{imp}]: 6KV thermal protection adjustment range[I _e]: 48-65A tripping class: 10A |



Constituent materials

| | |
|------------------------|--|
| Reference product mass | 432 g including the product, its packaging and additional elements and accessories |
|------------------------|--|



| | |
|----------|--------|
| Plastics | 42.10% |
| Metals | 44.60% |
| Others | 13.30% |



Substance assessment

Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website
<https://www.se.com/ww/en/work/support/green-premium/>



Additional environmental information

| | | | |
|-------------|--------------------------|-----|---|
| End Of Life | Recyclability potential: | 19% | The recyclability rate was calculated from the recycling rates of each material making up the product with the exception of data using the ESR database. For materials or components using the ESR database or the absence of data the conservative hypothesis "0% recyclability" was used. |
|-------------|--------------------------|-----|---|



Environmental impacts

| | | | |
|----------------------------------|---|--|--|
| Reference service life time | 20 years | | |
| Product category | Other equipments - Passive product - non-continuous operation | | |
| Installation elements | No special components needed | | |
| Use scenario | load rate / rated current (In): 30 % of In percentage of utilization time: 30% | | |
| Time representativeness | The collected data are representative of the year 2023 | | |
| Technological representativeness | The Modules of Technologies such as material production, manufacturing processes and transport technology used in the PEP analysis (LCA EIME in the case) are Similar and représentative of the actual type of technologies used to make the product. | | |
| Geographical representativeness | France | | |
| Energy model used | [A1 - A3] | [A5] | [B6] |
| | Electricity Mix; Low voltage; 2018; France, FR | Electricity Mix; Low voltage; 2018; France, FR | Electricity Mix; Low voltage; 2018; France, FR |

Detailed results of the optional indicators mentioned in PCRed4 are available in the LCA report and on demand in a digital format - Country Customer Care Center - <http://www.schneider-electric.com/contact>

| Mandatory Indicators | | TeSys Deca thermal overload relays 48-65A, class 10A - LRD365 | | | | | | |
|--|---------------------------|---|---------------------------|---------------------|---------------------|-----------------|-------------------------|--------------------------|
| Impact indicators | Unit | Total (without Module D) | [A1 - A3] - Manufacturing | [A4] - Distribution | [A5] - Installation | [B1 - B7] - Use | [C1 - C4] - End of life | [D] - Benefits and loads |
| Contribution to climate change | kg CO2 eq | 6.65E+00 | 2.42E+00 | 5.23E-02 | 6.43E-02 | 1.90E+00 | 2.22E+00 | 0.00E+00 |
| Contribution to climate change-fossil | kg CO2 eq | 6.57E+00 | 2.36E+00 | 5.23E-02 | 6.11E-02 | 1.89E+00 | 2.20E+00 | 0.00E+00 |
| Contribution to climate change-biogenic | kg CO2 eq | 8.80E-02 | 6.07E-02 | 0* | 3.20E-03 | 4.89E-03 | 1.92E-02 | 0.00E+00 |
| Contribution to climate change-land use and land use change | kg CO2 eq | 3.97E-07 | 4.52E-08 | 0* | 0* | 0* | 3.51E-07 | 0.00E+00 |
| Contribution to ozone depletion | kg CFC-11 eq | 2.98E-07 | 2.40E-07 | 8.01E-11 | 8.65E-10 | 2.79E-08 | 2.90E-08 | 0.00E+00 |
| Contribution to acidification | mol H+ eq | 4.35E-02 | 2.62E-02 | 3.31E-04 | 1.95E-04 | 1.10E-02 | 5.81E-03 | 0.00E+00 |
| Contribution to eutrophication, freshwater | kg (PO4) ³⁻ eq | 7.65E-04 | 1.26E-04 | 0* | 1.19E-06 | 9.02E-05 | 5.48E-04 | 0.00E+00 |
| Contribution to eutrophication marine | kg N eq | 5.22E-03 | 1.96E-03 | 1.55E-04 | 8.37E-05 | 1.51E-03 | 1.51E-03 | 0.00E+00 |
| Contribution to eutrophication, terrestrial | mol N eq | 6.18E-02 | 2.00E-02 | 1.70E-03 | 5.84E-04 | 2.17E-02 | 1.78E-02 | 0.00E+00 |
| Contribution to photochemical ozone formation - human health | kg COVNM eq | 1.69E-02 | 7.38E-03 | 4.29E-04 | 1.33E-04 | 4.47E-03 | 4.51E-03 | 0.00E+00 |
| Contribution to resource use, minerals and metals | kg Sb eq | 5.07E-03 | 5.05E-03 | 0* | 0* | 8.97E-07 | 1.76E-05 | 0.00E+00 |
| Contribution to resource use, fossils | MJ | 4.43E+02 | 4.89E+01 | 7.29E-01 | 6.64E-01 | 3.64E+02 | 2.90E+01 | 0.00E+00 |
| Contribution to water use | m3 eq | 5.38E+00 | 1.35E+00 | 0* | 4.92E-03 | 1.37E-01 | 3.88E+00 | 0.00E+00 |

| Inventory flows Indicators | | TeSys Deca thermal overload relays 48-65A, class 10A - LRD365 | | | | | | |
|---|------|---|---------------------------|---------------------|---------------------|-----------------|-------------------------|--------------------------|
| Inventory flows | Unit | Total (without Module D) | [A1 - A3] - Manufacturing | [A4] - Distribution | [A5] - Installation | [B1 - B7] - Use | [C1 - C4] - End of life | [D] - Benefits and loads |
| Contribution to use of renewable primary energy excluding renewable primary energy used as raw material | MJ | 3.47E+01 | 5.02E-01 | 0* | 8.77E-02 | 3.37E+01 | 4.57E-01 | 0.00E+00 |
| Contribution to use of renewable primary energy resources used as raw material | MJ | 1.19E+00 | 1.19E+00 | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to total use of renewable primary energy resources | MJ | 3.59E+01 | 1.69E+00 | 0* | 8.77E-02 | 3.37E+01 | 4.57E-01 | 0.00E+00 |
| Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material | MJ | 4.39E+02 | 4.44E+01 | 7.29E-01 | 6.64E-01 | 3.64E+02 | 2.90E+01 | 0.00E+00 |
| Contribution to use of non renewable primary energy resources used as raw material | MJ | 4.48E+00 | 4.48E+00 | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to total use of non-renewable primary energy resources | MJ | 4.43E+02 | 4.89E+01 | 7.29E-01 | 6.64E-01 | 3.64E+02 | 2.90E+01 | 0.00E+00 |

| Inventory flows Indicators | | TeSys Deca thermal overload relays 48-65A, class 10A - LRD365 | | | | | | |
|--|------|---|---------------------------|---------------------|---------------------|-----------------|-------------------------|--------------------------|
| Inventory flows | Unit | Total (without Module D) | [A1 - A3] - Manufacturing | [A4] - Distribution | [A5] - Installation | [B1 - B7] - Use | [C1 - C4] - End of life | [D] - Benefits and loads |
| Contribution to use of secondary material | kg | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to use of renewable secondary fuels | MJ | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to use of non renewable secondary fuels | MJ | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to net use of freshwater | m³ | 2.18E-01 | 3.15E-02 | 0* | 1.15E-04 | 3.20E-03 | 1.83E-01 | 0.00E+00 |
| Contribution to hazardous waste disposed | kg | 2.51E+01 | 2.45E+01 | 0* | 0* | 2.82E-02 | 5.30E-01 | 0.00E+00 |
| Contribution to non hazardous waste disposed | kg | 2.91E+00 | 2.32E+00 | 1.83E-03 | 2.23E-02 | 1.82E-01 | 3.82E-01 | 0.00E+00 |
| Contribution to radioactive waste disposed | kg | 1.70E-03 | 1.59E-03 | 1.31E-06 | 3.47E-06 | 7.66E-05 | 2.16E-05 | 0.00E+00 |
| Contribution to components for reuse | kg | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to materials for recycling | kg | 2.27E-01 | 2.82E-02 | 0* | 0* | 0* | 1.99E-01 | 0.00E+00 |
| Contribution to materials for energy recovery | kg | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to exported energy | MJ | 5.39E-03 | 2.42E-03 | 0* | 1.11E-03 | 0* | 1.86E-03 | 0.00E+00 |

* represents less than 0.01% of the total life cycle of the reference flow

Contribution to biogenic carbon content of the product kg de C 0.00E+00

Contribution to biogenic carbon content of the associated packaging kg de C 1.60E-02

| Mandatory Indicators | | TeSys Deca thermal overload relays 48-65A, class 10A - LRD365 | | | | | | | |
|--|---------------------------|---|------|------|------|------|------|----------|------|
| Impact Indicators | Unit | [B1 - B7] - Use | [B1] | [B2] | [B3] | [B4] | [B5] | [B6] | [B7] |
| Contribution to climate change | kg CO2 eq | 1.90E+00 | 0* | 0* | 0* | 0* | 0* | 1.90E+00 | 0* |
| Contribution to climate change-fossil | kg CO2 eq | 1.89E+00 | 0* | 0* | 0* | 0* | 0* | 1.89E+00 | 0* |
| Contribution to climate change-biogenic | kg CO2 eq | 4.89E-03 | 0* | 0* | 0* | 0* | 0* | 4.89E-03 | 0* |
| Contribution to climate change-land use and land use change | kg CO2 eq | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to ozone depletion | kg CFC-11 eq | 2.79E-08 | 0* | 0* | 0* | 0* | 0* | 2.79E-08 | 0* |
| Contribution to acidification | mol H+ eq | 1.10E-02 | 0* | 0* | 0* | 0* | 0* | 1.10E-02 | 0* |
| Contribution to eutrophication, freshwater | kg (PO4) ³⁻ eq | 9.02E-05 | 0* | 0* | 0* | 0* | 0* | 9.02E-05 | 0* |
| Contribution to eutrophication marine | kg N eq | 1.51E-03 | 0* | 0* | 0* | 0* | 0* | 1.51E-03 | 0* |
| Contribution to eutrophication, terrestrial | mol N eq | 2.17E-02 | 0* | 0* | 0* | 0* | 0* | 2.17E-02 | 0* |
| Contribution to photochemical ozone formation - human health | kg COVNM eq | 4.47E-03 | 0* | 0* | 0* | 0* | 0* | 4.47E-03 | 0* |
| Contribution to resource use, minerals and metals | kg Sb eq | 8.97E-07 | 0* | 0* | 0* | 0* | 0* | 8.97E-07 | 0* |
| Contribution to resource use, fossils | MJ | 3.64E+02 | 0* | 0* | 0* | 0* | 0* | 3.64E+02 | 0* |
| Contribution to water use | m3 eq | 1.37E-01 | 0* | 0* | 0* | 0* | 0* | 1.37E-01 | 0* |

| Inventory flows Indicators | | TeSys Deca thermal overload relays 48-65A, class 10A - LRD365 | | | | | | | |
|---|------|---|------|------|------|------|------|----------|------|
| Inventory flows | Unit | [B1 - B7] - Use | [B1] | [B2] | [B3] | [B4] | [B5] | [B6] | [B7] |
| Contribution to use of renewable primary energy excluding renewable primary energy used as raw material | MJ | 3.37E+01 | 0* | 0* | 0* | 0* | 0* | 3.37E+01 | 0* |
| Contribution to use of renewable primary energy resources used as raw material | MJ | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to total use of renewable primary energy resources | MJ | 3.37E+01 | 0* | 0* | 0* | 0* | 0* | 3.37E+01 | 0* |
| Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material | MJ | 3.64E+02 | 0* | 0* | 0* | 0* | 0* | 3.64E+02 | 0* |
| Contribution to use of non renewable primary energy resources used as raw material | MJ | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to total use of non-renewable primary energy resources | MJ | 3.64E+02 | 0* | 0* | 0* | 0* | 0* | 3.64E+02 | 0* |
| Contribution to use of secondary material | kg | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to use of renewable secondary fuels | MJ | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to use of non renewable secondary fuels | MJ | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to net use of freshwater | m³ | 3.20E-03 | 0* | 0* | 0* | 0* | 0* | 3.20E-03 | 0* |
| Contribution to hazardous waste disposed | kg | 2.82E-02 | 0* | 0* | 0* | 0* | 0* | 2.82E-02 | 0* |
| Contribution to non hazardous waste disposed | kg | 1.82E-01 | 0* | 0* | 0* | 0* | 0* | 1.82E-01 | 0* |
| Contribution to radioactive waste disposed | kg | 7.66E-05 | 0* | 0* | 0* | 0* | 0* | 7.66E-05 | 0* |
| Contribution to components for reuse | kg | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to materials for recycling | kg | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to materials for energy recovery | kg | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to exported energy | MJ | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |

* represents less than 0.01% of the total life cycle of the reference flow

Life cycle assessment performed with EIME version v6.1, database version 2023-02 in compliance with ISO14044, EF 3.0 method is applied, for biogenic carbon storage, assessment methodology 0/0 is used

According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range, ratios to apply can be provided upon request

Please note that the values given above are only valid within the context specified and cannot be used directly to draw up the environmental assessment of an installation.

| | | | |
|---|-------------------|-------------------------------------|--|
| Registration number : | ENVPEP080405EN_V3 | Drafting rules | PCR-4-ed4-EN-2021 09 06 |
| Date of issue | 08-2024 | Supplemented by | PSR-0005-ed3.1-EN-2023 12 08 |
| | | Information and reference documents | www.pep-ecopassport.org |
| | | Validity period | 5 years |
| Independent verification of the declaration and data, in compliance with ISO 14021 : 2016 | | | |
| Internal | X | External | |
| <p>The PCR review was conducted by a panel of experts chaired by Julie Orgelet (Ddemail)</p> <p>PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019 or NF E38-500 :2022</p> <p>The components of the present PEP may not be compared with components from any other program.</p> <p>Document complies with ISO 14021:2016 "Environmental labels and declarations. Type II environmental declarations"</p> | | | |

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