Product Environmental Profile

Compact NSX400N 3P3T Circuit Breaker with Micrologic 2.3 Trip unit and Motor Mechanism MT400/630
This product (Circuit Breaker with Motor mechanism) is having combination of functions. The Compact NSX400N 3 pole circuit breaker equipped with Micrologic 2.3 trip units is designed to provide protection against overloads and short-circuits for industrial and commercial electrical distribution systems with assigned voltage up to 690VAC and rated current of 400A. The Motor mechanism module is designed to control, operate, Open, Close and Reset the circuit breakers by manually or electrical remote order.

Functional unit:
- Number of poles = 3
- Rated service breaking capacity Ics at 380/415 V AC = 50 kA (according to IEC 60947-2)
- Tripping curve = Long time and instantaneous protections

Reference product mass: 9320 g including the product, its packaging and additional elements and accessories.
The Compact NSX400N 3P3T Circuit Breaker with Micrologic 2.3 Trip unit and Motor Mechanism MT400/630 presents the following relevant environmental aspects:

**Manufacturing**
- Manufactured at a Schneider Electric production site ISO14001 certified

**Distribution**
- Weight and volume of the packaging optimized, based on the European Union's packaging directive
- Packaging weight is 730.3 g, consisting of Cardboard (93.1%), PE film (4.2%) and Paper (2.7%).
- Product distribution optimised by setting up local distribution centres

**Installation**
- The product does not require special installation procedure and requires little to no energy to install. The disposal of the packaging materials are accounted for during the installation phase (including transport to disposal).

**Use**
- The end user must refer to maintenance guide of the product in order to do the appropriate maintenance operations. The Motor mechanism unit has to be replaced every 10 years.

**End of life**
- End of life optimized to decrease the amount of waste and allow recovery of the product components and materials.
- This product contains Printed Circuit Board Assembly (35g) in Micrologic unit, that should be separated from the stream of waste so as to optimize end-of-life treatment.
- The location of these components and other recommendations are given in the End of Life Instruction document which is available on the Schneider Electric Green Premium website [http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page](http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page)
- Recyclability potential: 69%

**Reference life time**
- 20 years

**Product category**
- Passive products - non-continuous operation

**Installation elements**
- No special components needed

**Use scenario**
- Product dissipation is 14.4 W, loading rate is 50% and service uptime percentage is 30%

**Geographical representativeness**
- China

**Technological representativeness**
- This product (Circuit Breaker with Motor mechanism) is having combination of functions. The Compact NSX400N 3 pole circuit breaker equipped with Micrologic 2.3 trip units is designed to provide protection against overloads and short-circuits for industrial and commercial electrical distribution systems with assigned voltage upto 690VAC and rated current of 400A. The Motor mechanism module is designed to control, operate, Open, Close and Reset the circuit breakers by manually or electrical remote order.

**Energy model used**
- Energy model used: SBMLV, China
- Electricity mix; AC; consumption mix, at consumer; 220V; CN
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- Electricity mix; AC; consumption mix, at consumer; 220V; CN

**Environmental impacts**
- Manufactured at a Schneider Electric production site ISO14001 certified
- Weight and volume of the packaging optimized, based on the European Union's packaging directive
- Packaging weight is 730.3 g, consisting of Cardboard (93.1%), PE film (4.2%) and Paper (2.7%).
- Product distribution optimised by setting up local distribution centres
- The product does not require special installation procedure and requires little to no energy to install. The disposal of the packaging materials are accounted for during the installation phase (including transport to disposal).
- The end user must refer to maintenance guide of the product in order to do the appropriate maintenance operations. The Motor mechanism unit has to be replaced every 10 years.
- End of life optimized to decrease the amount of waste and allow recovery of the product components and materials.
- This product contains Printed Circuit Board Assembly (35g) in Micrologic unit, that should be separated from the stream of waste so as to optimize end-of-life treatment.
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- Recyclability potential: 69%
### Compulsory Indicators

#### Contribution to mineral resources depletion
- **Unit**: kg Sb eq
  - **Total**: 2.76E-02 kg Sb eq
  - **Manufacturing**: 2.37E-02 kg Sb eq
  - **Distribution**: 0 kg Sb eq
  - **Installation**: 0 kg Sb eq
  - **Use**: 3.88E-03 kg Sb eq
  - **End of Life**: 0 kg Sb eq

#### Contribution to the soil and water acidification
- **Unit**: kg SO₄²⁻ eq
  - **Total**: 1.01E+00 kg SO₄²⁻ eq
  - **Manufacturing**: 1.12E-01 kg SO₄²⁻ eq
  - **Distribution**: 9.21E-03 kg SO₄²⁻ eq
  - **Installation**: 0 kg SO₄²⁻ eq
  - **Use**: 0 kg SO₄²⁻ eq
  - **End of Life**: 8.83E-01 kg SO₄²⁻ eq

#### Contribution to water eutrophication
- **Unit**: kg PO₄³⁻ eq
  - **Total**: 3.16E-01 kg PO₄³⁻ eq
  - **Manufacturing**: 5.54E-02 kg PO₄³⁻ eq
  - **Distribution**: 2.12E-03 kg PO₄³⁻ eq
  - **Installation**: 1.85E-03 kg PO₄³⁻ eq
  - **Use**: 2.56E-01 kg PO₄³⁻ eq
  - **End of Life**: 7.00E-04 kg PO₄³⁻ eq

#### Contribution to global warming
- **Unit**: kg CO₂ eq
  - **Total**: 8.41E+02 kg CO₂ eq
  - **Manufacturing**: 4.73E+01 kg CO₂ eq
  - **Distribution**: 2.03E+00 kg CO₂ eq
  - **Installation**: 1.02E+00 kg CO₂ eq
  - **Use**: 7.89E+02 kg CO₂ eq
  - **End of Life**: 1.22E+00 kg CO₂ eq

#### Contribution to ozone layer depletion
- **Unit**: kg CFC₁₁₁₂ eq
  - **Total**: 1.58E-05 kg CFC₁₁₁₂ eq
  - **Manufacturing**: 7.00E-06 kg CFC₁₁₁₂ eq
  - **Distribution**: 4.11E-09 kg CFC₁₁₁₂ eq
  - **Installation**: 0 kg CFC₁₁₁₂ eq
  - **Use**: 8.75E-06 kg CFC₁₁₁₂ eq
  - **End of Life**: 5.89E-08 kg CFC₁₁₁₂ eq

#### Contribution to photochemical oxidation
- **Unit**: kg C₂H₄ eq
  - **Total**: 1.18E-01 kg C₂H₄ eq
  - **Manufacturing**: 1.34E-02 kg C₂H₄ eq
  - **Distribution**: 6.56E-03 kg C₂H₄ eq
  - **Installation**: 2.19E-03 kg C₂H₄ eq
  - **Use**: 1.04E-01 kg C₂H₄ eq
  - **End of Life**: 2.79E-04 kg C₂H₄ eq

### Resources Use

#### Net use of freshwater
- **Unit**: m³
  - **Total**: 2.00E+00 m³
  - **Manufacturing**: 8.30E-01 m³
  - **Distribution**: 0 m³
  - **Installation**: 0 m³
  - **Use**: 1.17E+00 m³
  - **End of Life**: 1.15E-03 m³

#### Total Primary Energy
- **Unit**: MJ
  - **Total**: 1.38E+04 MJ
  - **Manufacturing**: 7.75E+02 MJ
  - **Distribution**: 2.87E+01 MJ
  - **Installation**: 0 MJ
  - **Use**: 1.30E+04 MJ
  - **End of Life**: 1.30E+01 MJ

### Optional Indicators

#### Contribution to fossil resources depletion
- **Unit**: MJ
  - **Total**: 1.29E+04 MJ
  - **Manufacturing**: 5.91E+02 MJ
  - **Distribution**: 2.85E+01 MJ
  - **Installation**: 0 MJ
  - **Use**: 1.23E+04 MJ
  - **End of Life**: 1.19E+01 MJ

#### Contribution to air pollution
- **Unit**: MJ
  - **Total**: 6.77E+04 MJ
  - **Manufacturing**: 6.76E+03 MJ
  - **Distribution**: 3.33E+02 MJ
  - **Installation**: 5.30E+01 MJ
  - **Use**: 4.04E+04 MJ
  - **End of Life**: 1.08E+02 MJ

#### Contribution to water pollution
- **Unit**: MJ
  - **Total**: 1.88E+01 MJ
  - **Manufacturing**: 1.40E+01 MJ
  - **Distribution**: 0 MJ
  - **Installation**: 4.74E+00 MJ
  - **Use**: 4,74E+00 MJ
  - **End of Life**: 0 MJ

#### Use of secondary material
- **Unit**: kg
  - **Total**: 5.50E-01 kg
  - **Manufacturing**: 4.57E-01 kg
  - **Distribution**: 0 kg
  - **Installation**: 9.37E-02 kg
  - **Use**: 9.37E-02 kg
  - **End of Life**: 0 kg

#### Total use of renewable primary energy resources
- **Unit**: MJ
  - **Total**: 6.77E+02 MJ
  - **Manufacturing**: 2.31E+01 MJ
  - **Distribution**: 0 MJ
  - **Installation**: 6.54E+02 MJ
  - **Use**: 6.54E+02 MJ
  - **End of Life**: 0 MJ

#### Total use of non-renewable primary energy resources
- **Unit**: MJ
  - **Total**: 1.31E+04 MJ
  - **Manufacturing**: 7.52E+02 MJ
  - **Distribution**: 2.86E+01 MJ
  - **Installation**: 0 MJ
  - **Use**: 1.23E+04 MJ
  - **End of Life**: 1.30E+01 MJ

#### Use of renewable primary energy excluding renewable primary energy used as raw material
- **Unit**: MJ
  - **Total**: 6.58E+02 MJ
  - **Manufacturing**: 9.06E+00 MJ
  - **Distribution**: 0 MJ
  - **Installation**: 6.49E+02 MJ
  - **Use**: 6.49E+02 MJ
  - **End of Life**: 0 MJ

#### Use of renewable primary energy resources used as raw material
- **Unit**: MJ
  - **Total**: 1.88E+01 MJ
  - **Manufacturing**: 1.40E+01 MJ
  - **Distribution**: 0 MJ
  - **Installation**: 4.74E+00 MJ
  - **Use**: 4.74E+00 MJ
  - **End of Life**: 0 MJ

#### Use of non renewable primary energy excluding non renewable primary energy used as raw material
- **Unit**: MJ
  - **Total**: 1.30E+04 MJ
  - **Manufacturing**: 6.80E+02 MJ
  - **Distribution**: 2.86E+01 MJ
  - **Installation**: 1.23E+04 MJ
  - **Use**: 1.23E+04 MJ
  - **End of Life**: 1.30E+01 MJ

#### Use of non renewable primary energy resources used as raw material
- **Unit**: MJ
  - **Total**: 9.57E+01 MJ
  - **Manufacturing**: 7.18E+01 MJ
  - **Distribution**: 0 MJ
  - **Installation**: 2.38E+01 MJ
  - **Use**: 2.38E+01 MJ
  - **End of Life**: 0 MJ

#### Use of non renewable secondary fuels
- **Unit**: MJ
  - **Total**: 0.00E+00 MJ
  - **Manufacturing**: 0 MJ
  - **Distribution**: 0 MJ
  - **Installation**: 0 MJ
  - **Use**: 0 MJ
  - **End of Life**: 0 MJ
## Waste categories

<table>
<thead>
<tr>
<th>Hazardous waste disposed</th>
<th>kg</th>
<th>9.50E+02</th>
<th>6.42E+02</th>
<th>0*</th>
<th>0*</th>
<th>2.96E+02</th>
<th>1.17E+01</th>
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</thead>
<tbody>
<tr>
<td>Non hazardous waste disposed</td>
<td>kg</td>
<td>2.09E+02</td>
<td>4.78E+01</td>
<td>7.20E-02</td>
<td>5.39E-01</td>
<td>1.60E+02</td>
<td>3.99E-02</td>
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<tr>
<td>Radioactive waste disposed</td>
<td>kg</td>
<td>3.11E-02</td>
<td>1.88E-02</td>
<td>5.13E-05</td>
<td>0*</td>
<td>1.23E-02</td>
<td>6.26E-05</td>
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</table>

### Other environmental information

<table>
<thead>
<tr>
<th>Materials for recycling</th>
<th>kg</th>
<th>7.09E+00</th>
<th>9.91E-01</th>
<th>0*</th>
<th>0*</th>
<th>0*</th>
<th>6.10E+00</th>
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<tbody>
<tr>
<td>Components for reuse</td>
<td>kg</td>
<td>0.00E+00</td>
<td>0*</td>
<td>0*</td>
<td>0*</td>
<td>0*</td>
<td>0*</td>
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<tr>
<td>Materials for energy recovery</td>
<td>kg</td>
<td>1.45E-01</td>
<td>1.66E-02</td>
<td>0*</td>
<td>0*</td>
<td>0*</td>
<td>1.28E-01</td>
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<tr>
<td>Exported Energy</td>
<td>MJ</td>
<td>1.13E-02</td>
<td>0*</td>
<td>0*</td>
<td>1.13E-02</td>
<td>0*</td>
<td>0*</td>
</tr>
</tbody>
</table>

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

Life cycle assessment performed with EIME version EIME v5.5, database version 2015-04.

The use phase is the life cycle phase which has the greatest impact on the majority of environmental indicators (based on compulsory indicators).

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.

<table>
<thead>
<tr>
<th>Registration N°</th>
<th>SCHN-00199-V01.01-EN</th>
</tr>
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<tbody>
<tr>
<td>Verifier accreditation N°</td>
<td>VH08</td>
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<tr>
<td>Date of issue</td>
<td>03/2017</td>
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Independent verification of the declaration and data, in compliance with ISO 14025 : 2010

The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN)

The elements of the present PEP cannot be compared with elements from another program.

Document in compliance with ISO 14025 : 2010 « Environmental labels and declarations. Type III environmental declarations »

Schneider Electric Industries SAS
Country Customer Care Center
http://www2.schneider-electric.com/sites/corporate/en/support/operations/local-operations/local-operations.page
35, rue Joseph Monier
CS 30323
F- 92506 Rueil Malmaison Cedex
RCS Nanterre 954 034 439
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