Product Environmental Profile

XCSRC30M12 Single Safety RFID contactless switch
The main purpose of XCSR30M12 and more generally of any RFID Safety Switch of the range, is to monitor the access to a hazardous area through door control. The basic applications include the monitoring of the position of movable safety guards to prevent hazardous situations from occurring when the safety guard is opened.

A XCSR® RFID Safety Switch is a contactless radio-frequency system that consists of a reader and a transponder paired in factory with an unique code. The main characteristics are:

- Rated Voltage (Ue): 24 V
- Rated current in continuous operation (Ith): 60 mA
- Protection to external short-circuits: up to 100 A
- Compatible with operation under harsh industrial environments: IP65, IP66, IP67, following IEC60529 and IP69K following DIN 40050, IK04 following IEC62262
- Sensing distance:
  - Assured Operating Distance (Sao): 10 mm
  - Assured Released Distance (Sar): 35 mm
- Risk time: < 120 ms (+ 18 ms per each additional safety switch in chained solutions).

Monitor the access to a hazardous area through door control during 20 years (reference lifetime following ISO 13849-1).
The XCSRC30M12 Single Safety RFID contactless switch 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 26.7 g, consisting of 85% paper and 15% plastics.

Installation
- For fixing the mounting support on the machine, the use of M4 tamper-proof screws is strongly recommended. The mounting support and screws - references XCSRZSRC1 and XCSRZSTK1 - are not provided with the XCSRC30M12.

Use
- The product does not require special maintenance operations.
- End of life is optimized to decrease the amount of waste and to allow the recovery of the product components and materials.
- No special end-of-life treatment is required. According to countries’ practices this product can enter the usual end-of-life treatment process.


Environmental impacts

Reference life time
- 20 years.

Installation elements
- One each of XCSRZSRC1 and XCSRZSTK1 references is considered. Production of the references (materials) as well as packaging and transports are taken into account.

Use scenario
- The product is in use 100% of its 20 years reference lifetime whether door opened (10% of the time) at a 60mA intensity, or door closed (90% of the time) at a 90mA intensity, with a 24V power supply voltage.
- No other elements are necessary out of Electricity consumption (no maintenance).

Geographical representativeness
- Europe.

Technological representativeness
- The main purpose of XCSRC30M12 and more generally of any RFID Safety Switch of the range, is to monitor the access to an hazardous area through door control. The basic applications include the monitoring of the position of movable safety guards to prevent hazardous situations from occurring when the safety guard is opened.
- A XCSR* RFID Safety Switch is a contactless radio-frequency system that consists of a reader and a transponder paired in factory with an unique code. The main characteristics are:
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Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website:
## Compulsory indicators

<table>
<thead>
<tr>
<th>Impact indicators</th>
<th>Unit</th>
<th>XCSRC30M12 Single Safety RFID contactless switch - XCSRC30M12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribution to mineral resources depletion</td>
<td>kg Sb eq</td>
<td>2,05E-03 2,03E-03 0* 9,34E-06 1,48E-05 0*</td>
</tr>
<tr>
<td>Contribution to the soil and water acidification</td>
<td>kg SO₂ eq</td>
<td>7,05E-01 2,30E-03 0* 2,13E-03 7,01E-01 0*</td>
</tr>
<tr>
<td>Contribution to water eutrophication</td>
<td>kg PO₄³⁻ eq</td>
<td>4,37E-02 6,58E-04 4,80E-06 2,17E-04 4,29E-02 0*</td>
</tr>
<tr>
<td>Contribution to global warming</td>
<td>kg CO₂ eq</td>
<td>1,73E+02 1,78E+00 0* 7,27E-01 1,71E+02 0*</td>
</tr>
<tr>
<td>Contribution to ozone layer depletion</td>
<td>kg CFC11 eq</td>
<td>1,11E-05 1,97E-07 0* 0* 1,09E-05 0*</td>
</tr>
<tr>
<td>Contribution to photochemical oxidation</td>
<td>kg C₅H₈ eq</td>
<td>3,92E-02 3,00E-04 0* 2,78E-04 3,86E-02 0*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resources use</th>
<th>Unit</th>
<th>Total</th>
<th>Manufacturing</th>
<th>Distribution</th>
<th>Installation</th>
<th>Use</th>
<th>End of Life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net use of freshwater</td>
<td>m³</td>
<td>6,18E+02</td>
<td>0*</td>
<td>0*</td>
<td>0*</td>
<td>6,18E+02</td>
<td>0*</td>
</tr>
<tr>
<td>Total Primary Energy</td>
<td>MJ</td>
<td>3,47E+03</td>
<td>2,35E+01</td>
<td>0*</td>
<td>4,42E+01</td>
<td>3,40E+03</td>
<td>0*</td>
</tr>
</tbody>
</table>

## Impact indicators

- Contribution to mineral resources depletion
- Contribution to the soil and water acidification
- Contribution to water eutrophication
- Contribution to global warming
- Contribution to ozone layer depletion
- Contribution to photochemical oxidation
- Net use of freshwater
- Total Primary Energy

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**Resources use**

- Net use of freshwater
- Total Primary Energy

**Energy model used**

Energy model used: France (Limoges)

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</tr>
</thead>
<tbody>
<tr>
<td>Contribution to fossil resources depletion</td>
<td>MJ</td>
<td>1.97E+03</td>
<td>2.40E+01</td>
<td>0*</td>
<td>8.03E+00</td>
<td>1.94E+03</td>
<td>0*</td>
</tr>
<tr>
<td>Contribution to air pollution</td>
<td>m³</td>
<td>7.58E+03</td>
<td>1.64E+02</td>
<td>0*</td>
<td>1.05E+02</td>
<td>7.31E+03</td>
<td>0*</td>
</tr>
<tr>
<td>Contribution to water pollution</td>
<td>m³</td>
<td>7.46E+03</td>
<td>3.84E+02</td>
<td>0*</td>
<td>1.42E+01</td>
<td>7.06E+03</td>
<td>0*</td>
</tr>
</tbody>
</table>

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<tr>
<th>Resources use</th>
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<th>End of Life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of secondary material</td>
<td>kg</td>
<td>1.15E-01</td>
<td>2.63E-02</td>
<td>0*</td>
<td>8.82E-02</td>
<td>0*</td>
<td>0*</td>
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<tr>
<td>Total use of renewable primary energy resources</td>
<td>MJ</td>
<td>4.36E+02</td>
<td>1.27E+00</td>
<td>0*</td>
<td>0*</td>
<td>4.35E+02</td>
<td>0*</td>
</tr>
<tr>
<td>Total use of non-renewable primary energy resources</td>
<td>MJ</td>
<td>3.03E+03</td>
<td>2.22E+01</td>
<td>0*</td>
<td>4.42E+01</td>
<td>2.97E+03</td>
<td>0*</td>
</tr>
<tr>
<td>Use of renewable primary energy excluding renewable</td>
<td>MJ</td>
<td>4.36E+02</td>
<td>1.27E+00</td>
<td>0*</td>
<td>0*</td>
<td>4.35E+02</td>
<td>0*</td>
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<tr>
<td>primary energy used as raw material</td>
<td>MJ</td>
<td>0.00E+00</td>
<td>0*</td>
<td>0*</td>
<td>0*</td>
<td>0*</td>
<td>0*</td>
</tr>
<tr>
<td>Use of non renewable primary energy excluding non</td>
<td>MJ</td>
<td>3.03E+03</td>
<td>1.98E+01</td>
<td>0*</td>
<td>4.39E+01</td>
<td>2.97E+03</td>
<td>0*</td>
</tr>
<tr>
<td>renewable primary energy used as raw material</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of non renewable primary energy resources used as</td>
<td>MJ</td>
<td>2.72E+00</td>
<td>2.46E+00</td>
<td>0*</td>
<td>2.69E-01</td>
<td>0*</td>
<td>0*</td>
</tr>
<tr>
<td>raw material</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of non renewable secondary fuels</td>
<td>MJ</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>Use of renewable secondary fuels</td>
<td>MJ</td>
<td>0.00E+00</td>
<td>0*</td>
<td>0*</td>
<td>0*</td>
<td>0*</td>
<td>0*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Waste categories</th>
<th>Unit</th>
<th>Total</th>
<th>Manufacturing</th>
<th>Distribution</th>
<th>Installation</th>
<th>Use</th>
<th>End of Life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazardous waste disposed</td>
<td>kg</td>
<td>6.69E-01</td>
<td>5.76E-01</td>
<td>0*</td>
<td>1.41E-04</td>
<td>8.95E-02</td>
<td>2.75E-03</td>
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<tr>
<td>Non hazardous waste disposed</td>
<td>kg</td>
<td>6.37E+02</td>
<td>3.58E-01</td>
<td>0*</td>
<td>0*</td>
<td>6.37E+02</td>
<td>0*</td>
</tr>
<tr>
<td>Radioactive waste disposed</td>
<td>kg</td>
<td>4.22E-01</td>
<td>1.71E-04</td>
<td>0*</td>
<td>0*</td>
<td>4.22E-01</td>
<td>0*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other environmental information</th>
<th>Unit</th>
<th>Total</th>
<th>Manufacturing</th>
<th>Distribution</th>
<th>Installation</th>
<th>Use</th>
<th>End of Life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials for recycling</td>
<td>kg</td>
<td>2.62E-02</td>
<td>0*</td>
<td>0*</td>
<td>2.62E-02</td>
<td>0*</td>
<td>0*</td>
</tr>
<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>
</tr>
<tr>
<td>Materials for energy recovery</td>
<td>kg</td>
<td>6.87E-05</td>
<td>0*</td>
<td>0*</td>
<td>0*</td>
<td>6.87E-05</td>
<td></td>
</tr>
<tr>
<td>Exported Energy</td>
<td>MJ</td>
<td>0.00E+00</td>
<td>0*</td>
<td>0*</td>
<td>0*</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 v5.6.0.1, database version 2016-11 in compliance with ISO14044.

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

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.

To know the accurate environmental impacts of other products in XCSR* series, complementary calculation has to be done. Please contact us at: global-green-sensors@schneider-electric.com

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 number :</th>
<th>SCHN-00343-V01.01-EN</th>
<th>Drafting rules</th>
<th>PCR-ed3-EN-2015 04 02</th>
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</thead>
<tbody>
<tr>
<td>Verifier accreditation N°</td>
<td>VH26</td>
<td>Information and reference documents</td>
<td><a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a></td>
</tr>
<tr>
<td>Date of issue</td>
<td>10/2018</td>
<td>Validity period</td>
<td>5 years</td>
</tr>
</tbody>
</table>

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)

PEP are compliant with XP C08-100-1 :2014

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 »