

# Product Environmental Profile

## SWITCH TI TIM 20A 2P+RED LIGHT





## General information

### Representative product

SWITCH TI TIM 20A 2P+RED LIGHT -A9S61220

### Description of the product

The main function of the 20/32 A SWITCH product is the opening and closure in charge of a circuit already protected against the overload. Provides also the severing function.

### Functional unit

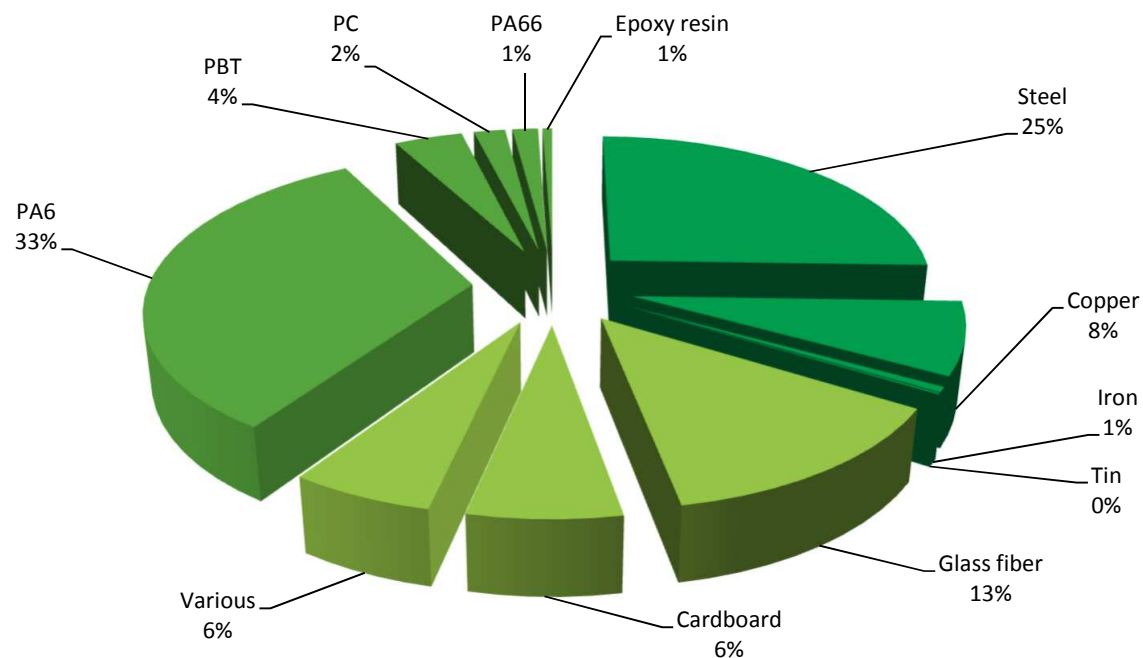
Establish, support and interrupt for 20 years rated currents in normal conditions of circuit characterized by the current  $I_{th}=20A$ , including any conditions specified for overload in operation characterized by the current  $I_e=20A$ , for the operating voltage  $U_e=230V$  and a current for short-circuit  $I_{cw}=384A$  for a specified time.



## Constituent materials

### Reference product mass

72.5 g including the product and its packaging



## Substance assessment

Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2011/65/EU of 8 June 2011) and do not contain, or only contain in the authorised proportions, lead, mercury, cadmium, hexavalent chromium or flame retardants (polybrominated biphenyls - PBB, polybrominated diphenyl ethers - PBDE) as mentioned in the Directive

As the products of the range are designed in accordance with the RoHS Directive (European Directive 2002/95/EC of 27 January 2003), they can be incorporated without any restriction in an assembly or an installation subject to this Directive.

Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website

<http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page>



## Additional environmental information

The SWITCH TI TIM 20A 2P+RED LIGHT presents the following relevant environmental aspects

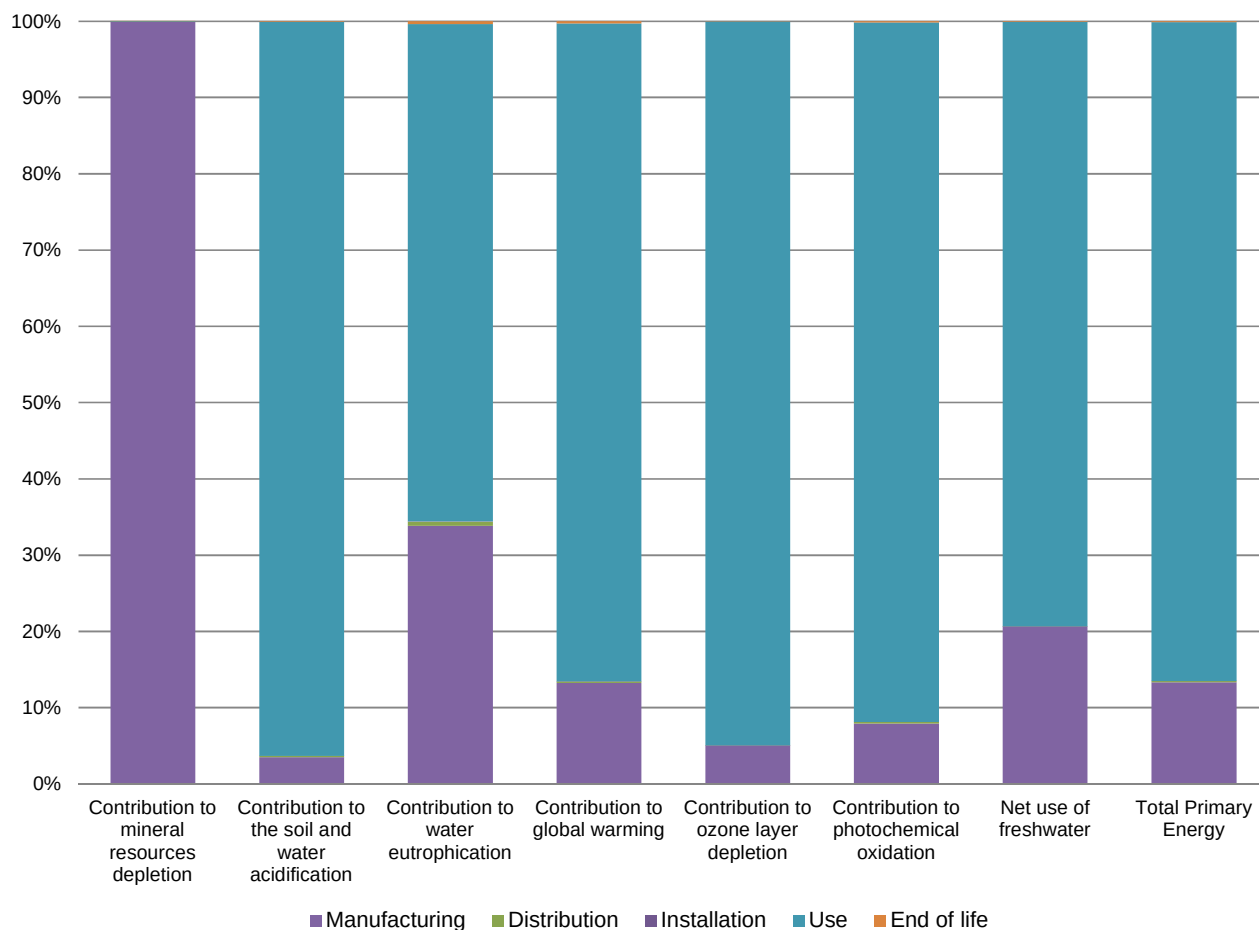
|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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<br>Packaging weight is 4.5 g, consisting of cardboard (4,5g), paper (0.1g)<br>Product distribution optimised by setting up local distribution centres                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Installation  | SWITCH TI TIM 20A 2P+RED LIGHT - A9S61220 does not require any installation operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Use           | The product does not require special maintenance operations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| End of life   | End of life optimized to decrease the amount of waste and allow recovery of the product components and materials<br><br>This product contains porte pont inter- PAA with brominate FR (3.05g); that should be separated from the stream of waste so as to optimize end-of-life treatment.<br><br>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<br><br><a href="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</a><br><br>Recyclability potential: <b>32%</b> Based on "ECO'DEEE recyclability and recoverability calculation method" (version V1, 20 Sep. 2008 presented to the French Agency for Environment and Energy Management: ADEME). |



## Environmental impacts

|                                  |                                                                                                                                                                                |                                                                 |                                                                 |                                                                 |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|
| Reference life time              | 20 years                                                                                                                                                                       |                                                                 |                                                                 |                                                                 |
| Product category                 | Passive products - non-continuous operation                                                                                                                                    |                                                                 |                                                                 |                                                                 |
| Installation elements            | No special components needed                                                                                                                                                   |                                                                 |                                                                 |                                                                 |
| Use scenario                     | Product dissipation is 0.125 W full load, loading rate is 50% and service uptime percentage is 30%                                                                             |                                                                 |                                                                 |                                                                 |
| Geographical representativeness  | Europe                                                                                                                                                                         |                                                                 |                                                                 |                                                                 |
| Technological representativeness | The main function of the 20/32 A SWITCH product is the opening and closure in charge of a circuit already protected against the overload. Provides also the severing function. |                                                                 |                                                                 |                                                                 |
| Energy model used                | Manufacturing                                                                                                                                                                  | Installation                                                    | Use                                                             | End of life                                                     |
|                                  | Energy model used: Belgium                                                                                                                                                     | Electricity Mix; AC; consumption mix, at consumer; < 1kV; EU-27 | Electricity Mix; AC; consumption mix, at consumer; < 1kV; EU-27 | Electricity Mix; AC; consumption mix, at consumer; < 1kV; EU-27 |

| Compulsory indicators                            |                                     | SWITCH TI TIM 20A 2P+RED LIGHT - A9S61220 |               |              |              |          |             |
|--------------------------------------------------|-------------------------------------|-------------------------------------------|---------------|--------------|--------------|----------|-------------|
| Impact indicators                                | Unit                                | Total                                     | Manufacturing | Distribution | Installation | Use      | End of Life |
| Contribution to mineral resources depletion      | kg Sb eq                            | 0*                                        | 2.65E-04      | 0*           | 0*           | 1.77E-07 | 0*          |
| Contribution to the soil and water acidification | kg SO <sub>2</sub> eq               | 0*                                        | 1.07E-03      | 4.27E-05     | 0*           | 2.93E-02 | 2.04E-05    |
| Contribution to water eutrophication             | kg PO <sub>4</sub> <sup>3-</sup> eq | 0*                                        | 5.71E-04      | 9.84E-06     | 3.05E-07     | 1.10E-03 | 6.11E-06    |
| Contribution to global warming                   | kg CO <sub>2</sub> eq               | 0*                                        | 5.95E-01      | 9.35E-03     | 0*           | 3.88E+00 | 1.27E-02    |
| Contribution to ozone layer depletion            | kg CFC11 eq                         | 0*                                        | 5.04E-08      | 0*           | 0*           | 9.42E-07 | 4.82E-10    |
| Contribution to photochemical oxidation          | kg C <sub>2</sub> H <sub>4</sub> eq | 0*                                        | 1.19E-04      | 3.05E-06     | 0*           | 1.39E-03 | 2.10E-06    |
| Resources use                                    | Unit                                | Total                                     | Manufacturing | Distribution | Installation | Use      | End of Life |
| Net use of freshwater                            | m3                                  | 0*                                        | 2.64E-03      | 0*           | 0*           | 1.01E-02 | 9.94E-06    |
| Total Primary Energy                             | MJ                                  | 0*                                        | 1.21E+01      | 1.32E-01     | 0*           | 7.86E+01 | 1.09E-01    |



| Optional indicators                                                                             |      | SWITCH TI TIM 20A 2P+RED LIGHT - A9S61220 |               |              |              |          |             |
|-------------------------------------------------------------------------------------------------|------|-------------------------------------------|---------------|--------------|--------------|----------|-------------|
| Impact indicators                                                                               | Unit | Total                                     | Manufacturing | Distribution | Installation | Use      | End of Life |
| Contribution to fossil resources depletion                                                      | MJ   | 0*                                        | 7.58E+00      | 1.31E-01     | 5.96E-03     | 4.00E+01 | 8.96E-02    |
| Contribution to air pollution                                                                   | m³   | 0*                                        | 5.42E+01      | 3.98E-01     | 4.62E-02     | 1.66E+02 | 7.17E-01    |
| Contribution to water pollution                                                                 | m³   | 0*                                        | 3.19E+01      | 1.54E+00     | 4.93E-02     | 1.63E+02 | 1.12E+00    |
| Resources use                                                                                   | Unit | Total                                     | Manufacturing | Distribution | Installation | Use      | End of Life |
| Use of secondary material                                                                       | kg   | 0*                                        | 1.57E-02      | 0*           | 0*           | 0*       | 0*          |
| Total use of renewable primary energy resources                                                 | MJ   | 0*                                        | 2.46E-01      | 0*           | 0*           | 5.62E+00 | 0*          |
| Total use of non-renewable primary energy resources                                             | MJ   | 0*                                        | 1.19E+01      | 1.32E-01     | 0*           | 7.30E+01 | 1.09E-01    |
| Use of renewable primary energy excluding renewable primary energy used as raw material         | MJ   | 0*                                        | 2.27E-01      | 0*           | 0*           | 5.62E+00 | 0*          |
| Use of renewable primary energy resources used as raw material                                  | MJ   | 0*                                        | 1.93E-02      | 0*           | 0*           | 0*       | 0*          |
| Use of non renewable primary energy excluding non renewable primary energy used as raw material | MJ   | 0*                                        | 1.08E+01      | 1.32E-01     | 0*           | 7.30E+01 | 1.09E-01    |
| Use of non renewable primary energy resources used as raw material                              | MJ   | 0*                                        | 1.05E+00      | 0*           | 0*           | 0*       | 0*          |
| Use of non renewable secondary fuels                                                            | MJ   | 0*                                        | 0*            | 0*           | 0*           | 0*       | 0*          |
| Use of renewable secondary fuels                                                                | MJ   | 0*                                        | 0*            | 0*           | 0*           | 0*       | 0*          |
| Waste categories                                                                                | Unit | Total                                     | Manufacturing | Distribution | Installation | Use      | End of Life |
| Hazardous waste disposed                                                                        | kg   | 0*                                        | 1.77E-01      | 0*           | 4.57E-03     | 0*       | 1.11E-01    |
| Non hazardous waste disposed                                                                    | kg   | 0*                                        | 1.85E-01      | 0*           | 0*           | 1.45E+01 | 0*          |
| Radioactive waste disposed                                                                      | kg   | 0*                                        | 1.42E-04      | 0*           | 0*           | 1.18E-02 | 0*          |
| Other environmental information                                                                 | Unit | Total                                     | Manufacturing | Distribution | Installation | Use      | End of Life |
| Materials for recycling                                                                         | kg   | 0*                                        | 0*            | 0*           | 4.50E-03     | 0*       | 2.13E-02    |
| Components for reuse                                                                            | kg   | 0*                                        | 0*            | 0*           | 0*           | 0*       | 0*          |
| Materials for energy recovery                                                                   | kg   | 0*                                        | 0*            | 0*           | 0*           | 0*       | 2.07E-03    |
| Exported Energy                                                                                 | MJ   | 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 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.

|                                                                                                                             |                      |                                     |                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------------|----------------------------------------------------------------------|
| Registration N°                                                                                                             | SCHN-00136-V01.01-EN | Drafting rules                      | PCR-ed3-EN-2015 04 02                                                |
| Verifier accreditation N°                                                                                                   | VH08                 | Supplemented by                     | PSR-0005-ed2-EN - 2016 03 29                                         |
| Date of issue                                                                                                               | 10/2016              | Information and reference documents | <a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a> |
|                                                                                                                             |                      | Validity period                     | 5 years                                                              |
| Independent verification of the declaration and data, in compliance with ISO 14025 : 2010                                   |                      |                                     |                                                                      |
| Internal                                                                                                                    | External X           |                                     |                                                                      |
| 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 » |                      |                                     |                                                                      |





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