

# Product Environmental Profile

## SPD T2 MA MODULE 160KA 480V DELTA





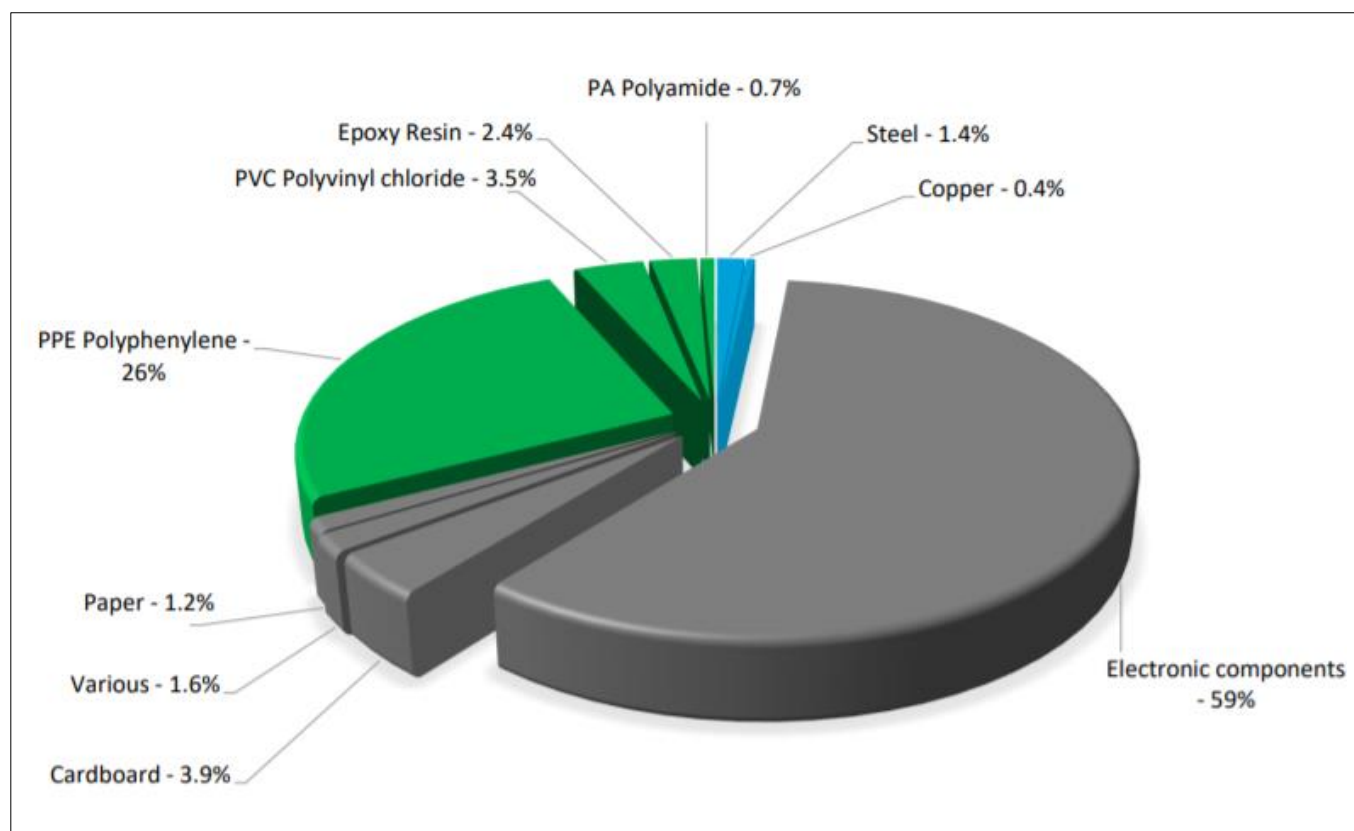
## General information

|                            |                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Representative product     | SPD T2 MA MODULE 160KA 480V DELTA - MA5IMA16                                                                                                                                                                                                                                                                                                                                             |
| Description of the product | Modular Surge Protective Device (SPD) Replacement. 3 phases, 160 kA per phase. 480 V delta AC                                                                                                                                                                                                                                                                                            |
| Functional unit            | <p>Protect during 20 years against direct or indirect effects of lightning or against transient overvoltages electrical equipments connected to electrical networks with a rated operational voltage is 3 phases, 160 kA per phase. 480 V delta AC</p> <p>-UL 1449:ed. 4 and UL 1283:ed. 5</p> <p>-CSA C22.2 No 8:1986</p> <p>-ANSI/IEEE C62.41 and ANSI/IEEE C62.45</p> <p>-NEC 285</p> |



## Constituent materials

|                        |       |                                                                              |
|------------------------|-------|------------------------------------------------------------------------------|
| Reference product mass | 501 g | including the product, its packaging and additional elements and accessories |
|------------------------|-------|------------------------------------------------------------------------------|



|          |       |
|----------|-------|
| Plastics | 32.5% |
| Metals   | 1.8%  |
| Others   | 65.7% |



## 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 EU 2015/863) and do not contain, or only contain in the authorised proportions, lead, mercury, cadmium, hexavalent chromium flame retardants (polybrominated biphenyls - PBB, polybrominated diphenyl ethers - PBDE, Bis(2-ethylhexyl) phthalate -DEHP, Butyl benzyl phthalate -BBP, Dibutyl phthalate - DBP, Diisobutyl phthalate - DIBP) as mentioned in the 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

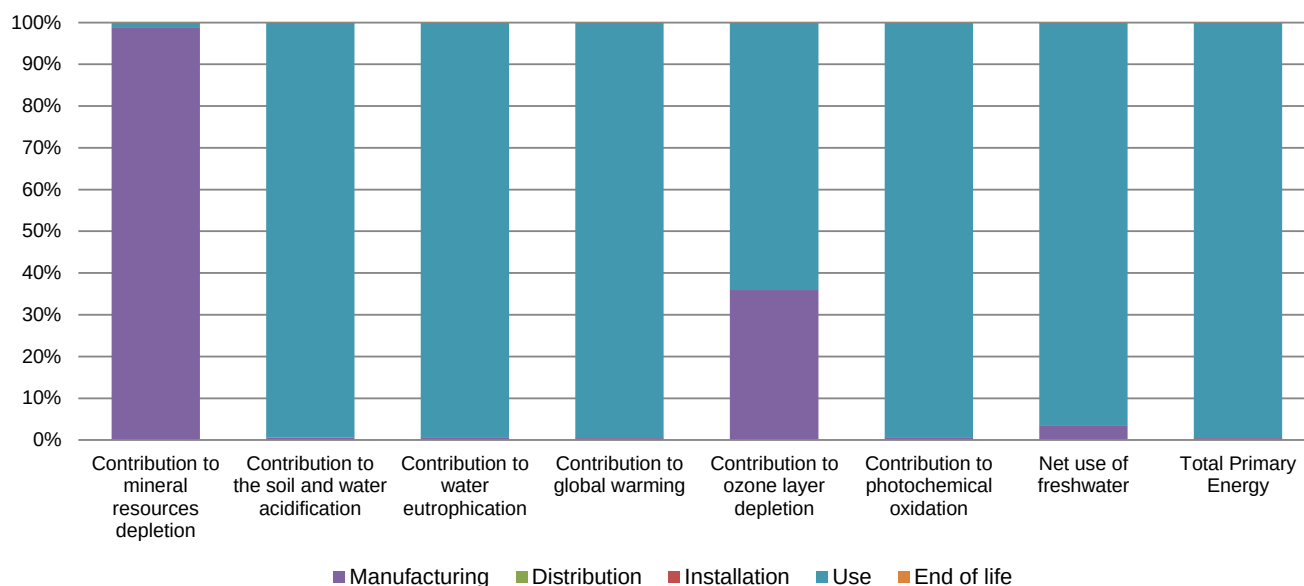
The SPD T2 MA MODULE 160KA 480V DELTA presents the following relevant environmental aspects

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Manufacturing</b> | Manufactured at a Schneider Electric production site ISO14001 certified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Distribution</b>  | Weight and volume of the packaging optimized, based on the European Union's packaging directive<br>Packaging weight is 29 g, consisting of cardboard (69%), paper (21%),polyester fiber (10%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Installation</b>  | Ref MA5IMA16 does not require any installation operations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Use</b>           | The product does not require special maintenance operations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>End of life</b>   | <p>End of life optimized to decrease the amount of waste and allow recovery of the product components and materials</p> <p>This product contains electronic card (324.25g),Aluminium electrolyte capacitance(4.5 g) that should be separated from the stream of waste so as to optimize end-of-life treatment.</p> <p>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</p> <p><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></p> <p>Recyclability potential: <b>39%</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).</p> |



## Environmental impacts

|                                                  |                                                                                                                                                                                                                                                |                                                             |               |                                                             |              |                                                             |             |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|---------------|-------------------------------------------------------------|--------------|-------------------------------------------------------------|-------------|
| Reference life time                              | 20 years                                                                                                                                                                                                                                       |                                                             |               |                                                             |              |                                                             |             |
| Product category                                 | Surge arresters and Surge protective devices type 1, 2 or 3 connected to low voltage power systems                                                                                                                                             |                                                             |               |                                                             |              |                                                             |             |
| Installation elements                            | No special components needed                                                                                                                                                                                                                   |                                                             |               |                                                             |              |                                                             |             |
| Use scenario                                     | Load factor : 100% of I <sub>c</sub><br>Use rate: 100 % of the RLT                                                                                                                                                                             |                                                             |               |                                                             |              |                                                             |             |
| Geographical representativeness                  | US                                                                                                                                                                                                                                             |                                                             |               |                                                             |              |                                                             |             |
| Technological representativeness                 | The modules of PEP are similar as product actual of technologies and it can representative the actual of technologies used to make the product in production, all the technologies pertaining to product manufacturing are represented in here |                                                             |               |                                                             |              |                                                             |             |
| Energy model used                                | Manufacturing                                                                                                                                                                                                                                  | Installation                                                |               | Use                                                         |              | End of life                                                 |             |
|                                                  | Energy model used: MEXICO                                                                                                                                                                                                                      | Electricity mix; AC; consumption mix, at consumer; 120V; US |               | Electricity mix; AC; consumption mix, at consumer; 120V; US |              | Electricity mix; AC; consumption mix, at consumer; 120V; US |             |
| Compulsory indicators                            |                                                                                                                                                                                                                                                | SPD T2 MA MODULE 160KA 480V DELTA - MA5IMA16                |               |                                                             |              |                                                             |             |
| Impact indicators                                | Unit                                                                                                                                                                                                                                           | Total                                                       | Manufacturing | Distribution                                                | Installation | Use                                                         | End of Life |
| Contribution to mineral resources depletion      | kg Sb eq                                                                                                                                                                                                                                       | 1.45E-03                                                    | 1.43E-03      | 0*                                                          | 0*           | 1.62E-05                                                    | 0*          |
| Contribution to the soil and water acidification | kg SO <sub>2</sub> eq                                                                                                                                                                                                                          | 1.59E+00                                                    | 8.70E-03      | 2.95E-04                                                    | 0*           | 1.58E+00                                                    | 2.87E-04    |
| Contribution to water eutrophication             | kg PO <sub>4</sub> <sup>3-</sup> eq                                                                                                                                                                                                            | 4.19E-01                                                    | 2.19E-03      | 6.80E-05                                                    | 0*           | 4.17E-01                                                    | 1.56E-04    |
| Contribution to global warming                   | kg CO <sub>2</sub> eq                                                                                                                                                                                                                          | 1.66E+03                                                    | 7.11E+00      | 0*                                                          | 0*           | 1.65E+03                                                    | 5.09E-01    |
| Contribution to ozone layer depletion            | kg CFC11 eq                                                                                                                                                                                                                                    | 4.68E-05                                                    | 1.68E-05      | 0*                                                          | 0*           | 2.99E-05                                                    | 1.78E-08    |
| Contribution to photochemical oxidation          | kg C <sub>2</sub> H <sub>4</sub> eq                                                                                                                                                                                                            | 2.55E-01                                                    | 1.34E-03      | 0*                                                          | 0*           | 2.53E-01                                                    | 0*          |
| Resources use                                    | Unit                                                                                                                                                                                                                                           | Total                                                       | Manufacturing | Distribution                                                | Installation | Use                                                         | End of Life |
| Net use of freshwater                            | m3                                                                                                                                                                                                                                             | 3.03E+00                                                    | 1.07E-01      | 0*                                                          | 0*           | 2.92E+00                                                    | 0*          |
| Total Primary Energy                             | MJ                                                                                                                                                                                                                                             | 2.23E+04                                                    | 9.53E+01      | 0*                                                          | 0*           | 2.22E+04                                                    | 0*          |



| Optional indicators                                                                             |      | SPD T2 MA MODULE 160KA 480V DELTA - MA5IMA16 |               |              |              |          |             |
|-------------------------------------------------------------------------------------------------|------|----------------------------------------------|---------------|--------------|--------------|----------|-------------|
| Impact indicators                                                                               | Unit | Total                                        | Manufacturing | Distribution | Installation | Use      | End of Life |
| Contribution to fossil resources depletion                                                      | MJ   | 2.02E+04                                     | 6.50E+01      | 0*           | 0*           | 2.01E+04 | 0*          |
| Contribution to air pollution                                                                   | m³   | 1.41E+05                                     | 7.48E+02      | 0*           | 0*           | 1.40E+05 | 0*          |
| Contribution to water pollution                                                                 | m³   | 8.21E+04                                     | 7.22E+02      | 1.06E+01     | 0*           | 8.14E+04 | 2.07E+01    |
| Resources use                                                                                   | Unit | Total                                        | Manufacturing | Distribution | Installation | Use      | End of Life |
| Use of secondary material                                                                       | kg   | 2.36E-03                                     | 2.36E-03      | 0*           | 0*           | 0*       | 0*          |
| Total use of renewable primary energy resources                                                 | MJ   | 1.34E+03                                     | 1.49E+00      | 0*           | 0*           | 1.33E+03 | 0*          |
| Total use of non-renewable primary energy resources                                             | MJ   | 2.10E+04                                     | 9.38E+01      | 0*           | 0*           | 2.09E+04 | 0*          |
| Use of renewable primary energy excluding renewable primary energy used as raw material         | MJ   | 1.34E+03                                     | 9.89E-01      | 0*           | 0*           | 1.33E+03 | 0*          |
| Use of renewable primary energy resources used as raw material                                  | MJ   | 4.99E-01                                     | 4.99E-01      | 0*           | 0*           | 0*       | 0*          |
| Use of non renewable primary energy excluding non renewable primary energy used as raw material | MJ   | 2.10E+04                                     | 8.67E+01      | 0*           | 0*           | 2.09E+04 | 0*          |
| Use of non renewable primary energy resources used as raw material                              | MJ   | 7.05E+00                                     | 7.05E+00      | 0*           | 0*           | 0*       | 0*          |
| Use of non renewable secondary fuels                                                            | MJ   | 0.00E+00                                     | 0*            | 0*           | 0*           | 0*       | 0*          |
| Use of renewable secondary fuels                                                                | MJ   | 0.00E+00                                     | 0*            | 0*           | 0*           | 0*       | 0*          |
| Waste categories                                                                                | Unit | Total                                        | Manufacturing | Distribution | Installation | Use      | End of Life |
| Hazardous waste disposed                                                                        | kg   | 4.82E+01                                     | 2.98E+00      | 0*           | 0*           | 4.41E+01 | 1.12E+00    |
| Non hazardous waste disposed                                                                    | kg   | 2.54E+02                                     | 1.77E+00      | 0*           | 0*           | 2.52E+02 | 0*          |
| Radioactive waste disposed                                                                      | kg   | 2.70E-02                                     | 9.68E-04      | 0*           | 0*           | 2.60E-02 | 8.50E-06    |
| Other environmental information                                                                 | Unit | Total                                        | Manufacturing | Distribution | Installation | Use      | End of Life |
| Materials for recycling                                                                         | kg   | 2.33E-01                                     | 1.73E-02      | 0*           | 2.67E-02     | 0*       | 1.89E-01    |
| Components for reuse                                                                            | kg   | 0.00E+00                                     | 0*            | 0*           | 0*           | 0*       | 0*          |
| Materials for energy recovery                                                                   | kg   | 1.42E-01                                     | 0*            | 0*           | 0*           | 0*       | 1.42E-01    |
| Exported Energy                                                                                 | MJ   | 8.22E-05                                     | 7.73E-06      | 0*           | 7.45E-05     | 0*       | 0*          |

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

Life cycle assessment performed with EIME version EIME v5.8.1, database version 2016-11 in compliance with ISO14044.

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 number                                                                                                                                         | ENVPEP2002011_V1-EN | Drafting rules                      | PCR-ed3-EN-2015 04 02                                                |
| Date of issue                                                                                                                                               | 04/2020             | Supplemented by                     | PSR-0005-ed2-EN-2016 03 29                                           |
| Validity period                                                                                                                                             | 5 years             | Information and reference documents | <a href="http://www.pép-ecopassport.org">www.pép-ecopassport.org</a> |
| Independent verification of the declaration and data                                                                                                        |                     |                                     |                                                                      |
| Internal                                                                                                                                                    | X                   | External                            |                                                                      |
| The elements of the present PEP cannot be compared with elements from another program.                                                                      |                     |                                     |                                                                      |
| Document in compliance with ISO 14021:2016 « Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling) » |                     |                                     |                                                                      |

Schneider Electric Industries SAS

Country Customer Care Center

<http://www.schneider-electric.com/contact>

35, rue Joseph Monier

CS 30323

F- 92506 Rueil Malmaison Cedex

RCS Nanterre 954 503 439

Capital social 896 313 776 €

[www.schneider-electric.com](http://www.schneider-electric.com)

Published by Schneider Electric

ENVPEP2002011\_V1-EN

© 2017 - Schneider Electric – All rights reserved

04/2020