# Product Environmental Profile

## X-Bus Rack Expansion Module

# General information

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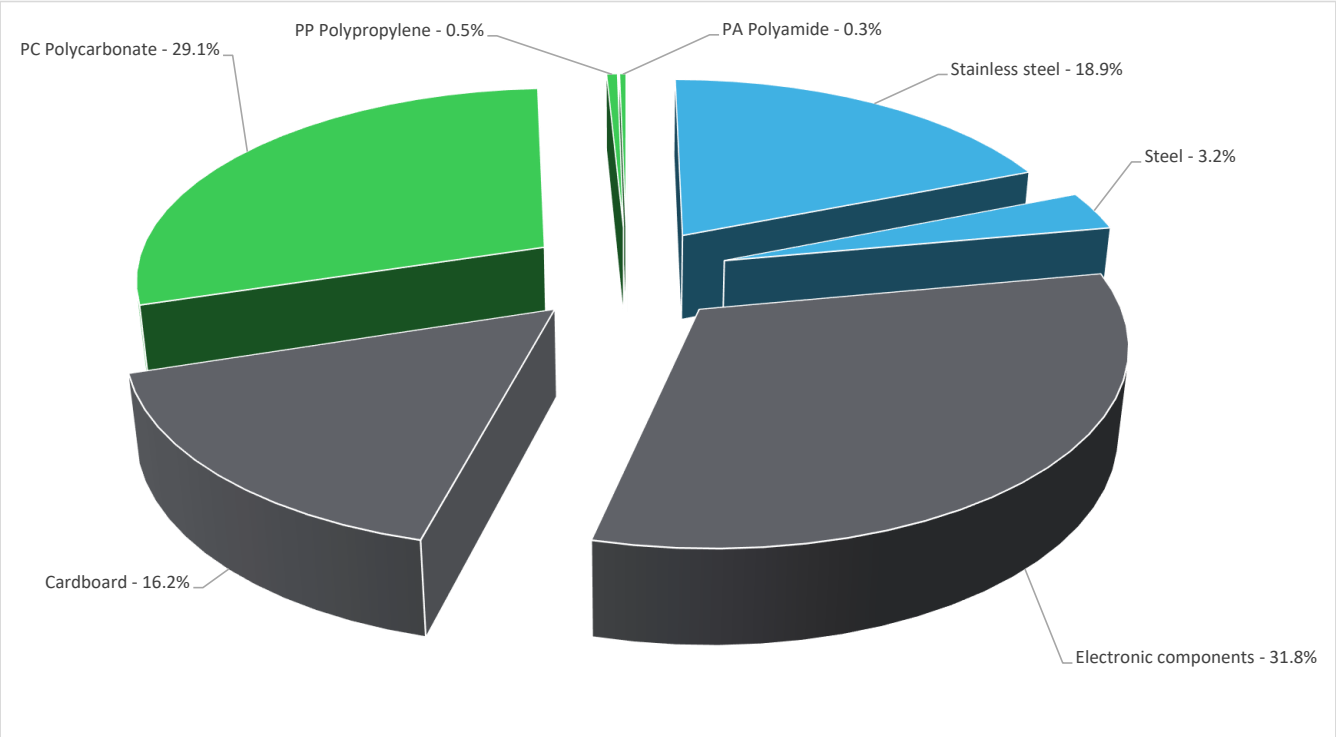
|---|---|
| **Reference product** | X-Bus Rack Expansion Module - BMXXBE1000 |
| **Description of the product** | This standard Backplane extender, is to extend the configuration using additional racks, users can use a bus extender module and X-bus cables. The backplane extender should be plugged into the dedicated connector on the right side of the backplane. It does not occupy any module slot to transmit data packets across two backplane at 3.3V DC over a distance of up to 100 m |
| **Functional unit** | The X-Bus Rack Expansion Module has a long life cycle for about more than 10 years with a 100% use rate. Typical electrical power is 4W (160 mA at 24 V DC).<br><br>IP degree of protection: IP20<br>IEC 61000-6-5, IEC 61850-3,UL 61010-2-201<br>CSA C22.2 No 61010-2-201 |

# Constituent materials

| | | |
|---|---|---|
| **Reference product mass** | 172 g | including the product, its packaging and additional elements and accessories |




| | | |
|---|---|---|
| Plastics | 29.9% | |
| Metals | 22.1% | |
| Others | 48.0% | |

# 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: | **26%** | Recyclability rate has been calculated based on REEECY'LAB tool developed by Ecosystem, for components/materials not covered by the tool, data from the “ECO’DEEE recyclability and recoverability calculation method” was taken. If no data was found a conservative assumption was used (0% recyclability). |

# Environmental impacts

| | |
|---|---|
| **Reference service life time** | 10 years |
| **Product category** | Other equipments - Active product |
| **Installation elements** | The X-Bus Rack Expansion Module does not require any installation operations |
| **Use scenario** | The product is in active mode 90% of the time with a power use of 4W and in off mode 10% of the time with a power use of 0W for 10 years |
| **Technological representativeness** | The Modules of Technologies such as material production, manufacturing process and transport technology used in this PEP analysis (LCA-EIME in this case) are Similar and representative of the actual type of technologies used to make the product in production. |
| **Geographical representativeness** | Europe, United States, Asia-Pacific |

| | [A1 - A3] | [A5] | [B6] | [C1 - C4] |
|---|---|---|---|---|
| **Energy model used** | Electricity Mix; Production mix; Low voltage; FR | Electricity Mix; Production mix; Low voltage; US | Electricity Mix; Production mix; Low voltage; US | Electricity Mix; Production mix; Low voltage; US |
| | | Electricity Mix; Production mix; Low voltage; UE-27 | Electricity Mix; Production mix; Low voltage; UE-27 | Electricity Mix; Production mix; Low voltage; UE-27 |
| | | Electricity Mix; Production mix; Low voltage; APAC | Electricity Mix; Production mix; Low voltage; APAC | Electricity Mix; Production mix; Low voltage; APAC |

Detailed results, including all the optional indicators mentioned in PCRed4, and the split of the Use Phase (B1 to B7), 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** | | **X-Bus Rack Expansion Module - BMXXBE1000** | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Impact indicators** | **Unit** | **Total** | **Manufacturing [A1 - A3]** | **Distribution [A4]** | **Installation [A5]** | **Use [B1 - B7]** | **End of Life [C1 - C4]** | **Benefits [D]** |
| Contribution to climate change | kg CO2 eq | 1.91E+02 | 5.35E+00 | 2.25E-02 | 3.42E-02 | 1.85E+02 | 3.59E-01 | -1.52E-01 |
| Contribution to climate change-fossil | kg CO2 eq | 1.91E+02 | 5.34E+00 | 2.25E-02 | 3.42E-02 | 1.85E+02 | 3.53E-01 | -1.52E-01 |
| Contribution to climate change-biogenic | kg CO2 eq | 1.66E-01 | 9.88E-03 | 0* | 0* | 1.51E-01 | 5.41E-03 | -3.28E-04 |
| Contribution to climate change-land use and land use change | kg CO2 eq | 6.25E-09 | 6.25E-09 | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to ozone depletion | kg CFC-11 eq | 1.57E-06 | 6.97E-07 | 0* | 0* | 8.60E-07 | 7.58E-09 | -2.23E-08 |
| Contribution to acidification | mol H+ eq | 1.17E+00 | 3.77E-02 | 1.45E-04 | 0* | 1.13E+00 | 3.14E-03 | -8.94E-04 |
| Contribution to eutrophication, freshwater | kg $(PO4)^{3-}$ eq | 2.37E-04 | 1.06E-05 | 0* | 5.90E-07 | 2.24E-04 | 1.92E-06 | -2.30E-07 |
| Contribution to eutrophication marine | kg N eq | 1.34E-01 | 4.46E-03 | 6.79E-05 | 0* | 1.27E-01 | 2.05E-03 | -8.73E-05 |
| Contribution to eutrophication, terrestrial | mol N eq | 1.60E+00 | 4.76E-02 | 7.45E-04 | 0* | 1.55E+00 | 1.72E-03 | -1.02E-03 |
| Contribution to photochemical ozone formation - human health | kg COVNM eq | 4.37E-01 | 1.60E-02 | 1.88E-04 | 0* | 4.20E-01 | 6.56E-04 | -3.56E-04 |
| Contribution to resource use, minerals and metals | kg Sb eq | 6.54E-04 | 6.47E-04 | 0* | 0* | 6.61E-06 | 0* | -4.76E-05 |
| Contribution to resource use, fossils | MJ | 3.76E+03 | 7.00E+01 | 0* | 0* | 3.68E+03 | 9.28E+00 | -3.48E+00 |
| Contribution to water use | m3 eq | 4.38E+01 | 1.36E+00 | 0* | 0* | 7.05E+00 | 3.54E+01 | -6.27E-02 |

*Additional indicators for the French regulation are available as well*

| Inventory flows Indicators | | X-Bus Rack Expansion Module - BMXXBE1000 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Inventory flows | Unit | Total | Manufact. [A1 - A3] | Distribution [A4] | Installation [A5] | Use [B1 - B7] | End of Life [C1 - C4] | Benefits [D] |
| Contribution to use of renewable primary energy excluding renewable primary energy used as raw material | MJ | 4.88E+02 | 1.41E+00 | 0* | 0* | 4.87E+02 | 1.54E-01 | -2.75E-02 |
| Contribution to use of renewable primary energy resources used as raw material | MJ | 5.76E-01 | 5.76E-01 | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to total use of renewable primary energy resources | MJ | 4.89E+02 | 1.99E+00 | 0* | 0* | 4.87E+02 | 1.54E-01 | -2.75E-02 |
| Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material | MJ | 3.76E+03 | 6.74E+01 | 0* | 0* | 3.68E+03 | 9.28E+00 | -3.48E+00 |
| Contribution to use of non renewable primary energy resources used as raw material | MJ | 2.57E+00 | 2.57E+00 | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to total use of non-renewable primary energy resources | MJ | 3.76E+03 | 7.00E+01 | 0* | 0* | 3.68E+03 | 9.28E+00 | -3.48E+00 |
| Contribution to use of secondary material | kg | 4.89E-06 | 4.89E-06 | 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 | $m^3$ | 1.12E+00 | 3.16E-02 | 0* | 0* | 1.64E-01 | 9.26E-01 | -1.46E-03 |
| Contribution to hazardous waste disposed | kg | 1.89E+01 | 1.46E+01 | 0* | 0* | 4.18E+00 | 1.52E-01 | -3.76E+00 |
| Contribution to non hazardous waste disposed | kg | 3.09E+01 | 2.26E+00 | 0* | 3.24E-02 | 2.86E+01 | 5.88E-02 | -1.23E-01 |
| Contribution to radioactive waste disposed | kg | 4.87E-03 | 8.36E-04 | 5.62E-07 | 1.11E-06 | 4.03E-03 | 2.92E-06 | -5.52E-05 |
| Contribution to components for reuse | kg | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to materials for recycling | kg | 3.89E-02 | 0* | 0* | 0* | 0* | 3.89E-02 | 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 | 1.66E-02 | 0* | 0* | 1.66E-02 | 0* | 0* | 0.00E+00 |
| Contribution to biogenic carbon content of the product | kg de C | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to biogenic carbon content of the associated packaging | kg de C | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |

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

*Life cycle assessment performed with EIME version v5.9.4, database version 2022-01 in compliance with ISO14044.*

*Detailed results, including all the optional indicators mentioned in PCRed4, and the split of the Use Phase (B1 to B7), are available in the LCA report and on demand in a digital format - Country Customer Care Center - http://www.schneider-electric.com/contact*

*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 :* | ENVPEP2310002_V1 | *Drafting rules* | PEP-PCR-ed4-2021 09 06 |
| | | *Supplemented by* | PSR-0005-ed2-2016 03 29 |
| *Date of issue* | 11/2023 | *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

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

*PEP are compliant with XP C08-100-1 :2016*

*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. Type II environmental declarations »*

*Schneider Electric Industries SAS*

*Country Customer Care Center*
*http://www.schneider-electric.com/contact*

*35, rue Joseph Monier*

*CS 30323*

*F- 92500 Rueil Malmaison Cedex*

*RCS Nanterre 954 503 439*
*Capital social 896 313 776 €*



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