# Product Environmental Profile

## Harmony XD5 Joystick Controller

## General information

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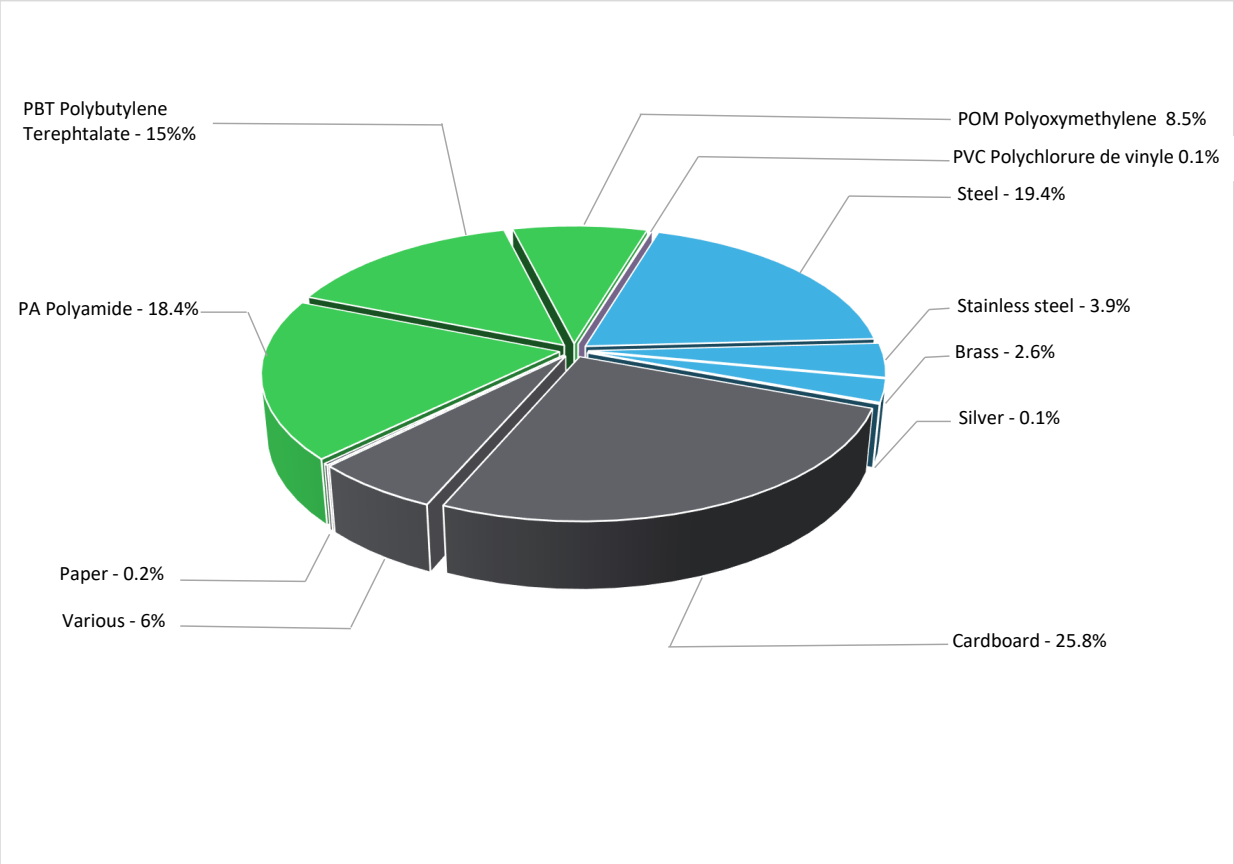
|---|---|
| **Reference product** | Harmony XD5 Joystick Controller - XD5PA22 |
| **Description of the product** | Joysticks are devices that are used to control position and steer a wide range of heavy-duty equipments, machines and systems. These devices have a shaft mounted onto a base which houses an electrical circuit. |
| **Functional unit** | This joystick controller operates with 2 direction spring return to zero position mechanism. It has 1 x NO contact and a plastic bezel. This complete joystick controller provides an ergonomic interface for controlling your machines. It is easily installed into a standard 22mm diameter cut-outs and connected to your control circuits with simple screw-clamp connections with power consumption of 0.002W at active phase 7.2%. The product has a 10-year lifespan and adheres to IEC 60947-5-5 and 60947-5-1 standards. |

## Constituent materials

| | | |
|---|---|---|
| **Reference product mass** | 60.91 g | including the product, its packaging and additional elements and accessories |




| | | |
|---|---|---|
| | Plastics | 42.00% |
| | Others | 32.00% |
| | Metals | 26.00% |

## 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: | **34%** | 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

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|---|---|
| **Reference service life time** | 10 years |
| **Product category** | Other equipments - Active product |
| **Installation elements** | No special installation components need during installation phase, but transport of packaging to disposal, and disposal of packaging accounted for during installation. |
| **Use scenario** | The product is in active mode 7.2% of the time with a power use of 0.002W and in off mode 92.8% of the time with with 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. |
| **Geographical representativeness** | Global |

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

Detailed results, including all the optional indicators mentioned in PCRed4 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** | | **Harmony XD5 Joystick Controller - XD5PA22** | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Impact indicators** | **Unit** | **Total** | **Manufacturing** [A1 - A3] | **Distribution** [A4] | **Installation** [A5] | **Use** [B1 - B7] | **End of Life** [C1 - C4] | **Loads and Benefits** [D] |
| Contribution to climate change | kg CO2 eq | 4.92E-01 | 3.68E-01 | 7.97E-03 | 2.88E-02 | 5.26E-03 | 8.29E-02 | -1.12E-01 |
| Contribution to climate change-fossil | kg CO2 eq | 4.85E-01 | 3.62E-01 | 7.97E-03 | 2.75E-02 | 5.25E-03 | 8.29E-02 | -1.10E-01 |
| Contribution to climate change-biogenic | kg CO2 eq | 6.94E-03 | 5.65E-03 | 0* | 1.28E-03 | 6.73E-06 | 0* | -1.35E-03 |
| Contribution to climate change-land use and land use change | kg CO2 eq | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to ozone depletion | kg CFC-11 eq | 1.08E-07 | 1.06E-07 | 1.22E-11 | 1.90E-09 | 2.24E-11 | 3.56E-10 | -1.39E-08 |
| Contribution to acidification | mol H+ eq | 2.89E-03 | 2.52E-03 | 5.12E-05 | 1.14E-04 | 3.02E-05 | 1.73E-04 | -6.09E-04 |
| Contribution to eutrophication, freshwater | kg $(PO4)^{3-}$ eq | 4.63E-06 | 4.40E-06 | 2.98E-09 | 2.08E-07 | 1.27E-08 | 8.34E-09 | -4.78E-07 |
| Contribution to eutrophication marine | kg N eq | 6.05E-04 | 5.14E-04 | 2.41E-05 | 3.02E-05 | 3.42E-06 | 3.36E-05 | -8.61E-05 |
| Contribution to eutrophication, terrestrial | mol N eq | 6.39E-03 | 5.47E-03 | 2.64E-04 | 2.28E-04 | 5.12E-05 | 3.77E-04 | -8.61E-04 |
| Contribution to photochemical ozone formation - human health | kg COVNM eq | 2.12E-03 | 1.85E-03 | 6.67E-05 | 6.10E-05 | 1.10E-05 | 1.28E-04 | -2.72E-04 |
| Contribution to resource use, minerals and metals | kg Sb eq | 2.85E-04 | 2.85E-04 | 0* | 0* | 0* | 0* | -2.20E-05 |
| Contribution to resource use, fossils | MJ | 1.07E+01 | 6.83E+00 | 1.11E-01 | 2.99E-01 | 1.28E-01 | 3.32E+00 | -1.96E+00 |
| Contribution to water use | m3 eq | 7.07E-02 | 3.79E-02 | 3.02E-05 | 1.23E-02 | 1.86E-04 | 2.02E-02 | -5.28E-02 |

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

| Inventory flows Indicators | | Harmony XD5 Joystick Controller - XD5PA22 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Inventory flows | Unit | Total | Manufact. [A1 - A3] | Distribution [A4] | Installation [A5] | Use [B1 - B7] | End of Life [C1 - C4] | Loads and Benefits [D] |
| Contribution to use of renewable primary energy excluding renewable primary energy used as raw material | MJ | -4.40E-02 | -9.29E-02 | 0* | 0* | 0* | 0* | 1.58E-01 |
| Contribution to use of renewable primary energy resources used as raw material | MJ | 3.14E-01 | 3.14E-01 | 0* | 0* | 0* | 0* | -2.85E-01 |
| Contribution to total use of renewable primary energy resources | MJ | 2.70E-01 | 2.21E-01 | 1.48E-04 | 2.15E-02 | 2.71E-02 | 2.50E-04 | -1.27E-01 |
| Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material | MJ | 9.91E+00 | 6.06E+00 | 1.11E-01 | 2.99E-01 | 1.28E-01 | 3.32E+00 | -1.96E+00 |
| Contribution to use of non renewable primary energy resources used as raw material | MJ | 7.70E-01 | 7.70E-01 | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to total use of non-renewable primary energy resources | MJ | 1.07E+01 | 6.83E+00 | 1.11E-01 | 2.99E-01 | 1.28E-01 | 3.32E+00 | -1.96E+00 |
| Contribution to use of secondary material | kg | 0.00E+00 | 0* | 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 | $m^3$ | 1.65E-03 | 8.84E-04 | 7.03E-07 | 2.86E-04 | 4.34E-06 | 4.71E-04 | -1.23E-03 |
| Contribution to hazardous waste disposed | kg | 1.67E+00 | 1.63E+00 | 0* | 3.40E-04 | 0* | 4.58E-02 | -1.73E+00 |
| Contribution to non hazardous waste disposed | kg | 7.21E-01 | 6.14E-01 | 2.79E-04 | 9.36E-02 | 7.64E-04 | 1.23E-02 | -4.69E-01 |
| Contribution to radioactive waste disposed | kg | 1.44E-04 | 1.31E-04 | 1.99E-07 | 1.26E-05 | 1.54E-07 | 6.98E-07 | -4.67E-05 |
| Contribution to components for reuse | kg | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to materials for recycling | kg | 3.13E-02 | 0* | 0* | 1.58E-02 | 0* | 1.55E-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 | 0.00E+00 | 0* | 0* | 0* | 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 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 :* | ENVPEP2308014_V1 | *Drafting rules* | PEP-PCR-ed4-2021 09 06 |
| | | *Supplemented by* | PSR-0005-ed2-2016 03 29 |
| *Date of issue* | 10/2023 | *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 Julie ORGELET (DDemain)*

*PEP are compliant with XP C08-100-1 :2016 or EN 50693:2019*

*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 »*

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