# Product Environmental Profile

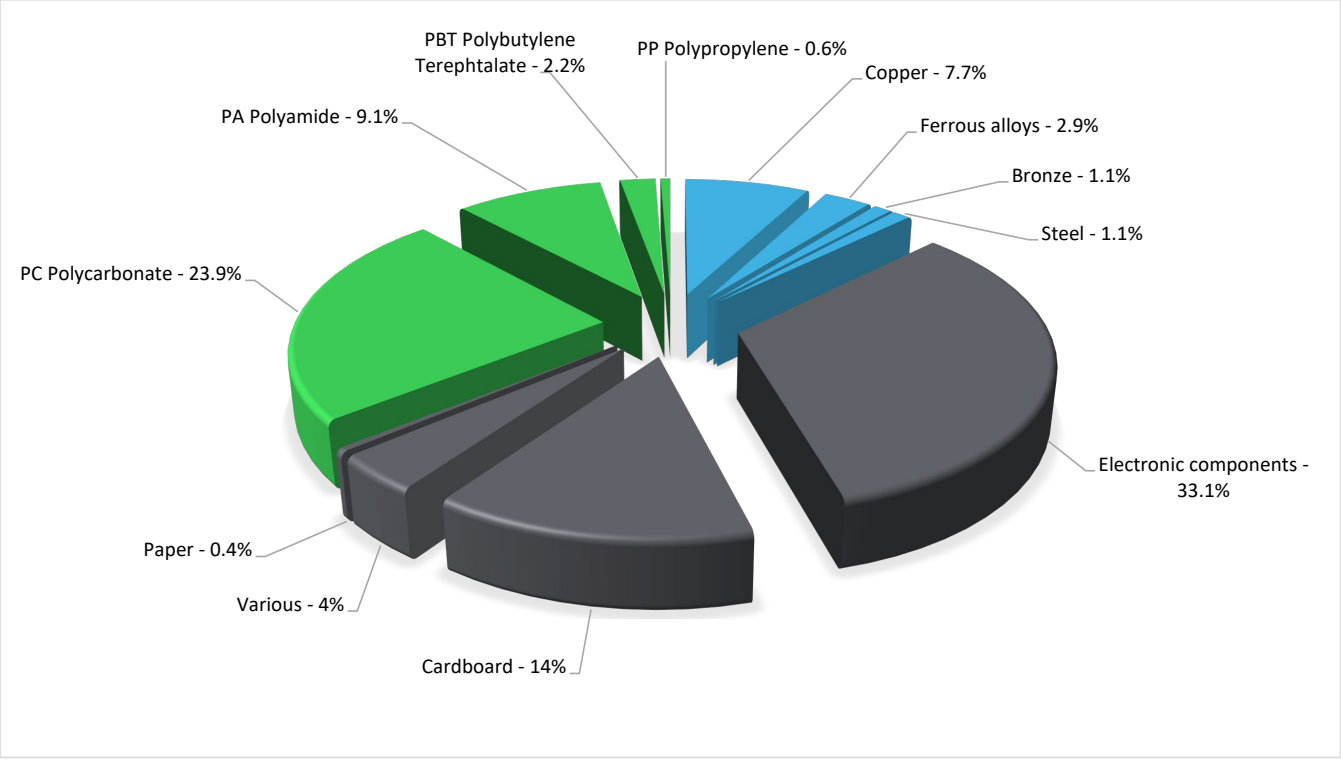
## Resi9 Energy Meter Wired, Single Phase, 80A, 6 Channels

# General information

| | |
|---|---|
| **Reference product** | Resi9 Energy Meter Wired, Single Phase, 80A, 6 Channels - R9M80X6M |
| **Description of the product** | The energy sensor measures current, voltage, energy consumption, etc., which are required for monitoring single-phase electrical installations. It provides bidirectional active energy values, which are stored in the energy sensor's non-volatile memory. The energy sensor can provide both highly accurate measured values and average values. The physical measurement are made via the Resi9 current transformers 80A, R9MCT80.<br>To visualize the measured values in KNX, you can connect SpaceLogic KNX spaceLYnk. |
| **Description of the range** | Single product |
| **Functional unit** | Other switchgear and controlgear solutions mentioned in the scope (e.g. fuses TC32, all-or-nothing relays TC94, Measuring relays and protection equipment TC95), apply the general rules of PCR and mention in the accompanying report the functional unit, the reference product characteristics, the reference lifetime and the use scenario which are applied consistently with the relevant IEC technical standards. |
| **Specifications are:** | Resi9 Energy Meter Wired, Single Phase, 80A, 6 Channels is to monitor electrical parameters (current, voltage, active power, active energy, etc.) with alarm and Modbus communication function for 10 years in accordance with :<br>-Power: 100-240Vac, 50/60Hz, or 80-265Vdc<br>-U:230V<br>-I:0.2-5(80)A<br>-Impluse:400imp/kWh<br>-Followed standards: IEC/EN/BS EN 61010-1, IEC/EN/BS EN 62052-11, IEC/EN/BS EN 62053-21, IEC/EN/BS EN 61557-12 |

# Constituent materials

| | | |
|---|---|---|
| **Reference product mass** | 156.3 g | including the product, its packaging and additional elements and accessories |




| | | |
|---|---|---|
| | Plastics | 35.80% |
| | Metals | 12.80% |
| | Others | 51.40% |

# 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: | **11%** | The recyclability rate was calculated from the recycling rates of each material making up the product with the exception of data using the ESR database. For materials or components using the ESR database or the absence of data the conservative hypothesis "0% recyclability" was used. |

# Environmental impacts

| | |
|---|---|
| Reference service life time | 10 years |
| Product category | Other equipments - Active product |
| Installation elements | The product does not require special installation procedure and requires little to no energy to install. The disposal of the packaging materials are accounted for during the installation phase (including transport to disposal). |
| Use scenario | The product is in active mode 20% of the time with a power use of 1.5W and in stand-by mode 80% of the time with a power use of 1W, for 10 years |
| Time representativeness | The collected data are representative of the year 2024 |
| 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 |

| Energy model used | [A1 - A3] | [A5] | [B6] | [C1 - C4] |
|---|---|---|---|---|
| | China, CN | Electricity Mix; Low voltage; 2018; Europe, EU-27 | Electricity Mix; Low voltage; 2018; Europe, EU-27 | Electricity Mix; Low voltage; 2018; Europe, EU-27 |

Detailed results of 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 | | Resi9 Energy Meter Wired, Single Phase, 80A, 6 Channels - R9M80X6M | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Impact indicators | Unit | Total (without Module D) | [A1 - A3] - Manufacturing | [A4] - Distribution | [A5] - Installation | [B1 - B7] - Use | [C1 - C4] - End of life | [D] - Benefits and loads |
| Contribution to climate change | kg CO2 eq | 5.55E+01 | 1.56E+01 | 3.05E-02 | 2.44E-02 | 3.95E+01 | 3.53E-01 | -5.97E-02 |
| Contribution to climate change-fossil | kg CO2 eq | 5.54E+01 | 1.55E+01 | 3.05E-02 | 2.26E-02 | 3.94E+01 | 3.50E-01 | -5.45E-02 |
| Contribution to climate change-biogenic | kg CO2 eq | 7.50E-02 | 1.80E-02 | 0* | 1.78E-03 | 5.27E-02 | 2.45E-03 | -5.12E-03 |
| Contribution to climate change-land use and land use change | kg CO2 eq | 4.52E-05 | 4.52E-05 | 0* | 0* | 0* | 4.15E-08 | 0.00E+00 |
| Contribution to ozone depletion | kg CFC-11 eq | 2.10E-06 | 1.93E-06 | 0* | 3.07E-10 | 1.69E-07 | 1.67E-09 | -9.62E-09 |
| Contribution to acidification | mol H+ eq | 3.35E-01 | 1.08E-01 | 1.93E-04 | 6.95E-05 | 2.25E-01 | 5.42E-04 | -2.16E-03 |
| Contribution to eutrophication, freshwater | kg $(PO4)^{3-}$ eq | 2.38E-04 | 4.95E-05 | 0* | 5.43E-07 | 1.08E-04 | 7.95E-05 | -3.98E-07 |
| Contribution to eutrophication marine | kg N eq | 3.75E-02 | 1.17E-02 | 9.03E-05 | 3.03E-05 | 2.56E-02 | 1.46E-04 | -6.97E-05 |
| Contribution to eutrophication, terrestrial | mol N eq | 5.11E-01 | 1.23E-01 | 9.91E-04 | 2.11E-04 | 3.85E-01 | 1.63E-03 | -6.93E-04 |
| Contribution to photochemical ozone formation - human health | kg COVNM eq | 1.23E-01 | 4.06E-02 | 2.50E-04 | 4.83E-05 | 8.22E-02 | 3.95E-04 | -3.17E-04 |
| Contribution to resource use, minerals and metals | kg Sb eq | 2.33E-03 | 2.32E-03 | 0* | 0* | 2.86E-06 | 2.47E-06 | -1.79E-05 |
| Contribution to resource use, fossils | MJ | 1.19E+03 | 1.85E+02 | 4.24E-01 | 2.35E-01 | 1.01E+03 | 1.07E+00 | -8.59E-01 |
| Contribution to water use | m3 eq | 5.99E+00 | 4.51E+00 | 0* | 1.93E-03 | 1.40E+00 | 8.97E-02 | -1.03E-01 |

| Inventory flows Indicators | | Resi9 Energy Meter Wired, Single Phase, 80A, 6 Channels - R9M80X6M | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Inventory flows | Unit | Total (without Module D) | [A1 - A3] - Manufacturing | [A4] - Distribution | [A5] - Installation | [B1 - B7] - Use | [C1 - C4] - End of life | [D] - Benefits and loads |
| Contribution to use of renewable primary energy excluding renewable primary energy used as raw material | MJ | 2.00E+02 | 6.70E+00 | 0* | 3.07E-02 | 1.93E+02 | 6.09E-02 | 2.44E-02 |
| Contribution to use of renewable primary energy resources used as raw material | MJ | 4.59E-01 | 4.59E-01 | 0* | 0* | 0* | 0* | -3.27E-01 |
| Contribution to total use of renewable primary energy resources | MJ | 2.00E+02 | 7.16E+00 | 0* | 3.07E-02 | 1.93E+02 | 6.09E-02 | -3.03E-01 |
| Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material | MJ | 1.19E+03 | 1.82E+02 | 4.24E-01 | 2.35E-01 | 1.01E+03 | 1.07E+00 | -8.59E-01 |
| Contribution to use of non renewable primary energy resources used as raw material | MJ | 2.56E+00 | 2.56E+00 | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to total use of non-renewable primary energy resources | MJ | 1.19E+03 | 1.85E+02 | 4.24E-01 | 2.35E-01 | 1.01E+03 | 1.07E+00 | -8.59E-01 |
| Contribution to use of secondary material | kg | 1.89E-05 | 1.89E-05 | 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 | m³ | 1.41E-01 | 1.05E-01 | 0* | 4.49E-05 | 3.25E-02 | 2.65E-03 | -2.40E-03 |
| Contribution to hazardous waste disposed | kg | 2.98E+01 | 2.90E+01 | 0* | 0* | 7.38E-01 | 5.57E-02 | -1.62E+00 |
| Contribution to non hazardous waste disposed | kg | 9.82E+00 | 4.06E+00 | 1.07E-03 | 1.08E-02 | 5.68E+00 | 6.47E-02 | -2.08E-02 |
| Contribution to radioactive waste disposed | kg | 2.70E-03 | 1.51E-03 | 7.61E-07 | 1.26E-06 | 1.19E-03 | 2.78E-06 | -1.07E-05 |
| Contribution to components for reuse | kg | 0.00E+00 | 0* | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to materials for recycling | kg | 1.66E-02 | 2.95E-03 | 0* | 0* | 0* | 1.36E-02 | 0.00E+00 |
| Contribution to materials for energy recovery | kg | 3.69E-10 | 3.69E-10 | 0* | 0* | 0* | 0* | 0.00E+00 |
| Contribution to exported energy | MJ | 4.16E-03 | 3.20E-05 | 0* | 9.68E-04 | 0* | 3.16E-03 | 0.00E+00 |

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

| | | |
|---|---|---|
| Contribution to biogenic carbon content of the product | kg de C | 0.00E+00 |
| Contribution to biogenic carbon content of the associated packaging | kg de C | 6.45E-03 |

| Mandatory Indicators | | Resi9 Energy Meter Wired, Single Phase, 80A, 6 Channels - R9M80X6M | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Impact indicators | Unit | [B1 - B7] - Use | [B1] | [B2] | [B3] | [B4] | [B5] | [B6] | [B7] |
| Contribution to climate change | kg CO2 eq | 3.95E+01 | 0* | 0* | 0* | 0* | 0* | 3.95E+01 | 0* |
| Contribution to climate change-fossil | kg CO2 eq | 3.94E+01 | 0* | 0* | 0* | 0* | 0* | 3.94E+01 | 0* |
| Contribution to climate change-biogenic | kg CO2 eq | 5.27E-02 | 0* | 0* | 0* | 0* | 0* | 5.27E-02 | 0* |
| Contribution to climate change-land use and land use change | kg CO2 eq | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to ozone depletion | kg CFC-11 eq | 1.69E-07 | 0* | 0* | 0* | 0* | 0* | 1.69E-07 | 0* |
| Contribution to acidification | mol H+ eq | 2.25E-01 | 0* | 0* | 0* | 0* | 0* | 2.25E-01 | 0* |
| Contribution to eutrophication, freshwater | kg $(PO4)^{3-}$eq | 1.08E-04 | 0* | 0* | 0* | 0* | 0* | 1.08E-04 | 0* |
| Contribution to eutrophication marine | kg N eq | 2.56E-02 | 0* | 0* | 0* | 0* | 0* | 2.56E-02 | 0* |
| Contribution to eutrophication, terrestrial | mol N eq | 3.85E-01 | 0* | 0* | 0* | 0* | 0* | 3.85E-01 | 0* |
| Contribution to photochemical ozone formation - human health | kg COVNM eq | 8.22E-02 | 0* | 0* | 0* | 0* | 0* | 8.22E-02 | 0* |
| Contribution to resource use, minerals and metals | kg Sb eq | 2.86E-06 | 0* | 0* | 0* | 0* | 0* | 2.86E-06 | 0* |
| Contribution to resource use, fossils | MJ | 1.01E+03 | 0* | 0* | 0* | 0* | 0* | 1.01E+03 | 0* |
| Contribution to water use | m3 eq | 1.40E+00 | 0* | 0* | 0* | 0* | 0* | 1.40E+00 | 0* |

| Inventory flows Indicators | | Resi9 Energy Meter Wired, Single Phase, 80A, 6 Channels - R9M80X6M | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Inventory flows | Unit | [B1 - B7] - Use | [B1] | [B2] | [B3] | [B4] | [B5] | [B6] | [B7] |
| Contribution to use of renewable primary energy excluding renewable primary energy used as raw material | MJ | 1.93E+02 | 0* | 0* | 0* | 0* | 0* | 1.93E+02 | 0* |
| Contribution to use of renewable primary energy resources used as raw material | MJ | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to total use of renewable primary energy resources | MJ | 1.93E+02 | 0* | 0* | 0* | 0* | 0* | 1.93E+02 | 0* |
| Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material | MJ | 1.01E+03 | 0* | 0* | 0* | 0* | 0* | 1.01E+03 | 0* |
| Contribution to use of non renewable primary energy resources used as raw material | MJ | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to total use of non-renewable primary energy resources | MJ | 1.01E+03 | 0* | 0* | 0* | 0* | 0* | 1.01E+03 | 0* |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Contribution to use of secondary material | kg | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to use of renewable secondary fuels | MJ | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to use of non renewable secondary fuels | MJ | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to net use of freshwater | m³ | 3.25E-02 | 0* | 0* | 0* | 0* | 0* | 3.25E-02 | 0* |
| Contribution to hazardous waste disposed | kg | 7.38E-01 | 0* | 0* | 0* | 0* | 0* | 7.38E-01 | 0* |
| Contribution to non hazardous waste disposed | kg | 5.68E+00 | 0* | 0* | 0* | 0* | 0* | 5.68E+00 | 0* |
| Contribution to radioactive waste disposed | kg | 1.19E-03 | 0* | 0* | 0* | 0* | 0* | 1.19E-03 | 0* |
| Contribution to components for reuse | kg | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to materials for recycling | kg | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to materials for energy recovery | kg | 0* | 0* | 0* | 0* | 0* | 0* | 0* | 0* |
| Contribution to exported energy | MJ | 0* | 0* | 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 v6.1, database version 2023-02 in compliance with ISO14044, EF 3.0 method is applied, for biogenic carbon storage, assessment methodology 0/0 is used*

*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 :* | SCHN-01169-V01.01-EN | *Drafting rules* | PCR-4-ed4-EN-2021 09 06 |
| | | *Supplemented by* | PSR-0005-ed3-EN-2023 06 06 |
| *Verifier accreditation N°* | VH45 | *Information and reference documents* | www.pep-ecopassport.org |
| *Date of issue* | 04-2024 | *Validity period* | 5 years |
| *Independent verification of the declaration and data, in compliance with ISO 14025 : 2006* | | | |
| Internal | External X | | |
| *The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain)* | | | |
| *PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019 or NF E38-500 :2022* | | | |
| *The components of the present PEP may not be compared with components from any other program.* | | | |
| *Document complies with ISO 14025:2006 "Environmental labels and declarations. Type III environmental declarations"* | | | |

*Schneider Electric Industries SAS*

*Country Customer Care Center*
*http://www.se.com/contact*

*35, rue Joseph Monier*

*CS 30323*

*F- 92500 Rueil Malmaison Cedex*

*RCS Nanterre 954 503 439*
*Capital social 928 298 512 €*

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