

# Product Environmental Profile

**Acti9 - iCV40N/H VigiARC Active 1P+N - 6A to 40A - B/C Curve - 30mA - A-SI Type**  
**Arc fault detection Residual Current Breaker with Overcurrent protection**





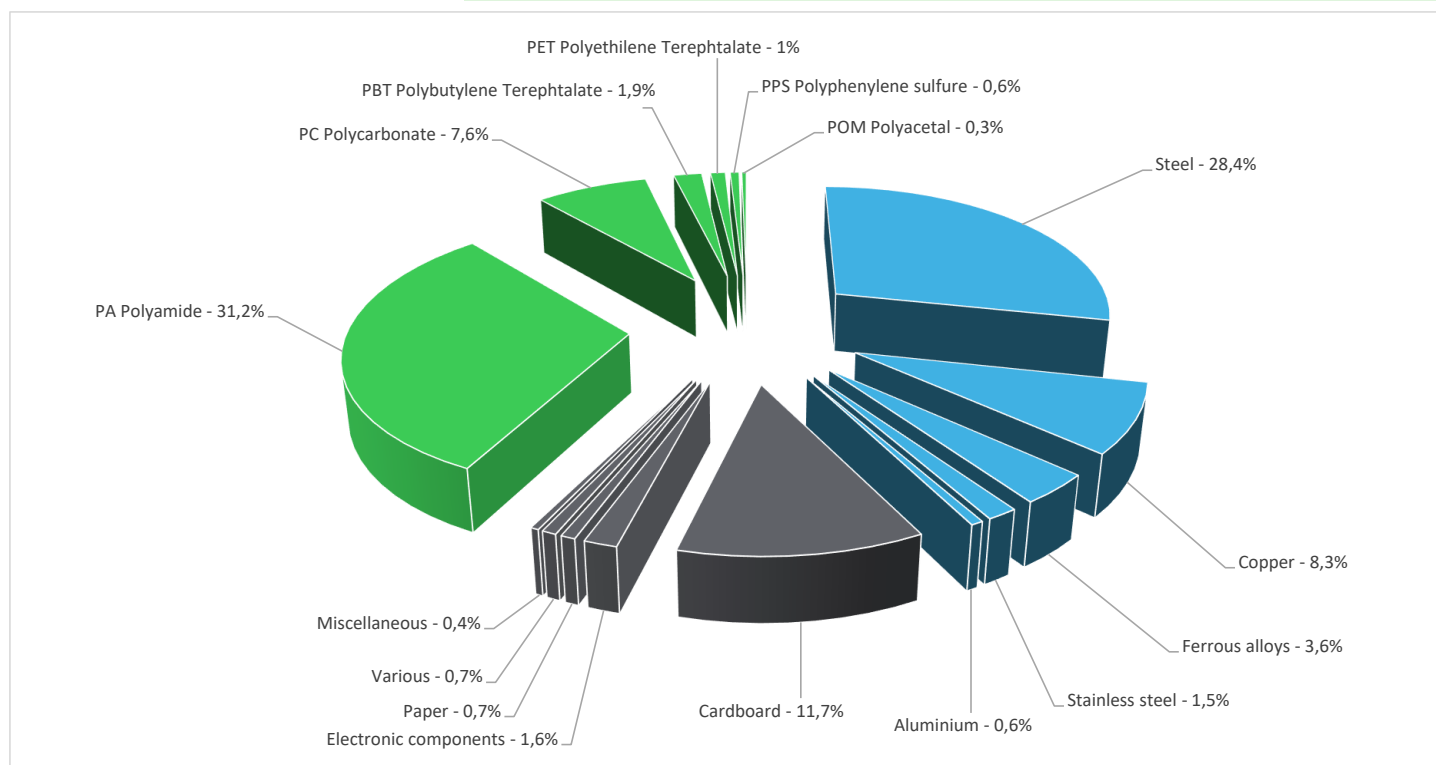
## General information

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reference product          | Acti9 - iCV40N VigiARC Active - 1P+N - 16A - C Curve - 30mA - A-SI type - AFDD RCBO - A9TDEC616                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Description of the product | Acti9 iCV40N VigiARC Active 1P+N - 16A - C Curve - 30mA A-SI type - (Ref A9TDEC616) is designed to protect electrical installations against overcurrents and insulation faults with assigned voltage 230VAC and rated current of 16A. In addition to these protections, the Acti9 iCV40N VigiARC Active monitors for electric arcs that occur in cables and connections, that may cause a fire.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Description of the range   | <p>The environmental impacts of the reference product are representative of the impacts of the other products of the range which are developed with a similar technology.</p> <p>In addition of the reference product, this PEP covers all Acti9 iC40N ARC, iCV40N VigiARC and iCV40H VigiARC Active Arc Fault Detection Devices.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Functional unit            | <p>Provide for 20 years the following functions in final circuits with operational voltage 230VAC (Ue) and rated current 16A (In):</p> <ul style="list-style-type: none"> <li>circuit protection against overload and short-circuit currents (circuit breaker function) with the following characteristics : <ul style="list-style-type: none"> <li>-number of poles : 1P + N</li> <li>-rated breaking capacity Icn = 6000A</li> <li>-tripping curve B</li> </ul> </li> <li>protection for people against electric shocks by direct contacts and indirect contacts with the following characteristics : <ul style="list-style-type: none"> <li>-sensitivity : 30mA,</li> <li>-type of differential protection : A-SI</li> </ul> </li> <li>protection against fire hazards by detection of abnormal electric arcs,</li> <li>protection against load fire hazards due to slow overvoltages (network overvoltage),</li> <li>fire hazard tripping indication via the front panel indicator,</li> <li>tripping faults diagnosis by LED blinking in front face.</li> </ul> |



## Constituent materials

|                        |       |                                                                              |
|------------------------|-------|------------------------------------------------------------------------------|
| Reference product mass | 246 g | including the product, its packaging and additional elements and accessories |
|------------------------|-------|------------------------------------------------------------------------------|



|          |       |
|----------|-------|
| Plastics | 42,5% |
| Metals   | 42,3% |
| Others   | 15,2% |



## 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: | 47% | 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      | 20 years                                                                                                                                                                                                                                                                                                                                                                                            |  |                                                   |                                                   |
| Product category                 | Combination of functions                                                                                                                                                                                                                                                                                                                                                                            |  |                                                   |                                                   |
| Installation elements            | No special components needed                                                                                                                                                                                                                                                                                                                                                                        |  |                                                   |                                                   |
| Use scenario                     | Load rate: 50% of 16A (In)<br>Use time rate: 30% of the time over 20 years (RLT)                                                                                                                                                                                                                                                                                                                    |  |                                                   |                                                   |
| Geographical representativeness  | Europe                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                   |                                                   |
| Technological representativeness | Acti9 iCV40N VigiARC Active 1P+N - 16A - C Curve - 30mA A-SI type - (Ref A9TDEC616) is designed to protect electrical installations againsts overcurrents and insulation faults with assigned voltage 230VAC and rated current of 16A.<br>In addition to these protections, the Acti9 iCV40N VigiARC Active monitors for electric arcs that occur in cables and connections, that may cause a fire. |  |                                                   |                                                   |
| Energy model used                | [A1 - A3]                                                                                                                                                                                                                                                                                                                                                                                           |  | [A5]                                              | [B6]                                              |
|                                  | Electricity Mix; Low voltage; 2018; Spain, SP                                                                                                                                                                                                                                                                                                                                                       |  | Electricity Mix; Low voltage; 2018; Europe, EU-27 | Electricity Mix; Low voltage; 2018; Europe, EU-27 |

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                                         |                           |          | Acti9 - iCV40N VigiARC Active - 1P+N - 16A - C Curve - 30mA - A-SI type - AFDD RCBO - A9TDEC616 |              |              |           |             |           |
|--------------------------------------------------------------|---------------------------|----------|-------------------------------------------------------------------------------------------------|--------------|--------------|-----------|-------------|-----------|
| Impact indicators                                            | Unit                      | Total    | Manufacturing                                                                                   | Distribution | Installation | Use       | End of Life | Benefits  |
|                                                              |                           |          | [A1 - A3]                                                                                       | [A4]         | [A5]         | [B1 - B7] | [C1 - C4]   | [D]       |
| Contribution to climate change                               | kg CO2 eq                 | 6,92E+01 | 3,25E+00                                                                                        | 3,22E-02     | 3,62E-02     | 6,53E+01  | 5,80E-01    | -1,02E+00 |
| Contribution to climate change-fossil                        | kg CO2 eq                 | 6,91E+01 | 3,22E+00                                                                                        | 3,22E-02     | 3,61E-02     | 6,52E+01  | 5,75E-01    | -1,01E+00 |
| Contribution to climate change-biogenic                      | kg CO2 eq                 | 1,36E-01 | 2,22E-02                                                                                        | 0*           | 1,23E-04     | 1,09E-01  | 4,47E-03    | -9,81E-03 |
| Contribution to climate change-land use and land use change  | kg CO2 eq                 | 1,64E-07 | 1,41E-08                                                                                        | 0*           | 0*           | 8,21E-08  | 6,80E-08    | 0,00E+00  |
| Contribution to ozone depletion                              | kg CFC-11 eq              | 1,28E-06 | 5,03E-07                                                                                        | 0*           | 2,50E-10     | 7,71E-07  | 4,37E-09    | -1,69E-07 |
| Contribution to acidification                                | mol H+ eq                 | 4,06E-01 | 2,60E-02                                                                                        | 2,07E-04     | 0*           | 3,79E-01  | 1,60E-03    | -1,19E-02 |
| Contribution to eutrophication, freshwater                   | kg (PO4) <sup>3-</sup> eq | 5,10E-04 | 2,53E-05                                                                                        | 0*           | 5,96E-07     | 3,39E-04  | 1,45E-04    | -1,65E-06 |
| Contribution to eutrophication marine                        | kg N eq                   | 4,62E-02 | 2,71E-03                                                                                        | 9,72E-05     | 1,56E-05     | 4,30E-02  | 3,81E-04    | -6,32E-04 |
| Contribution to eutrophication, terrestrial                  | mol N eq                  | 6,65E-01 | 2,92E-02                                                                                        | 1,07E-03     | 1,17E-04     | 6,32E-01  | 2,97E-03    | -7,36E-03 |
| Contribution to photochemical ozone formation - human health | kg COVNM eq               | 1,49E-01 | 9,57E-03                                                                                        | 2,69E-04     | 3,83E-05     | 1,39E-01  | 8,98E-04    | -2,90E-03 |
| Contribution to resource use, minerals and metals            | kg Sb eq                  | 8,61E-04 | 4,24E-04                                                                                        | 0*           | 0*           | 4,33E-04  | 4,09E-06    | -3,31E-04 |
| Contribution to resource use, fossils                        | MJ                        | 1,70E+03 | 4,87E+01                                                                                        | 4,48E-01     | 0*           | 1,63E+03  | 1,75E+01    | -2,22E+01 |
| Contribution to water use                                    | m3 eq                     | 8,74E+00 | 7,51E-01                                                                                        | 0*           | 1,54E-03     | 5,39E+00  | 2,59E+00    | -6,87E-01 |

Additional indicators for the French regulation are available as well

| Inventory flows Indicators                                                                                      |         |          | Acti9 - iCV40N VigiARC Active - 1P+N - 16A - C Curve - 30mA - A-SI type - AFDD RCBO - A9TDEC616 |              |              |           |             |           |
|-----------------------------------------------------------------------------------------------------------------|---------|----------|-------------------------------------------------------------------------------------------------|--------------|--------------|-----------|-------------|-----------|
| Inventory flows                                                                                                 | Unit    | Total    | Manufact.                                                                                       | Distribution | Installation | Use       | End of Life | Benefits  |
|                                                                                                                 |         |          | [A1 - A3]                                                                                       | [A4]         | [A5]         | [B1 - B7] | [C1 - C4]   | [D]       |
| Contribution to use of renewable primary energy excluding renewable primary energy used as raw material         | MJ      | 3,03E+02 | 8,88E-01                                                                                        | 0*           | 0*           | 3,02E+02  | 1,10E-01    | -3,01E-01 |
| Contribution to use of renewable primary energy resources used as raw material                                  | MJ      | 1,19E+00 | 5,95E-01                                                                                        | 0*           | 0*           | 5,95E-01  | 0*          | -4,31E-02 |
| Contribution to total use of renewable primary energy resources                                                 | MJ      | 3,04E+02 | 1,48E+00                                                                                        | 0*           | 0*           | 3,02E+02  | 1,10E-01    | -3,44E-01 |
| Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material | MJ      | 1,69E+03 | 4,60E+01                                                                                        | 4,48E-01     | 0*           | 1,63E+03  | 1,75E+01    | -2,22E+01 |
| Contribution to use of non renewable primary energy resources used as raw material                              | MJ      | 5,24E+00 | 2,62E+00                                                                                        | 0*           | 0*           | 2,62E+00  | 0*          | 0,00E+00  |
| Contribution to total use of non-renewable primary energy resources                                             | MJ      | 1,70E+03 | 4,87E+01                                                                                        | 4,48E-01     | 0*           | 1,63E+03  | 1,75E+01    | -2,22E+01 |
| Contribution to use of secondary material                                                                       | kg      | 1,71E-05 | 8,53E-06                                                                                        | 0*           | 0*           | 8,53E-06  | 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      | 8,73E-02 | 1,02E-02                                                                                        | 0*           | 0*           | 6,88E-02  | 8,29E-03    | -1,50E-02 |
| Contribution to hazardous waste disposed                                                                        | kg      | 2,56E+01 | 1,20E+01                                                                                        | 0*           | 0*           | 1,34E+01  | 2,27E-01    | -2,68E+01 |
| Contribution to non hazardous waste disposed                                                                    | kg      | 1,38E+01 | 2,34E+00                                                                                        | 0*           | 4,07E-02     | 1,13E+01  | 1,04E-01    | -8,03E-01 |
| Contribution to radioactive waste disposed                                                                      | kg      | 3,39E-03 | 7,61E-04                                                                                        | 8,03E-07     | 2,29E-06     | 2,62E-03  | 4,96E-06    | -3,45E-04 |
| Contribution to components for reuse                                                                            | kg      | 0,00E+00 | 0*                                                                                              | 0*           | 0*           | 0*        | 0*          | 0,00E+00  |
| Contribution to materials for recycling                                                                         | kg      | 2,05E-01 | 9,59E-04                                                                                        | 0*           | 1,52E-03     | 1,03E-01  | 1,00E-01    | 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      | 3,25E-02 | 0*                                                                                              | 0*           | 1,62E-02     | 1,62E-02  | 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 5,9,4, 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>

According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range, ratios to apply can be provided upon request

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-00667-V01.01-EN | Drafting rules                      | PEP-PCR-ed4-2021 09 06                                               |
| Verifier accreditation N°                                                                                                   | VH39                 | Supplemented by                     | PSR-0005-ed2-2016 03 29                                              |
| Date of issue                                                                                                               | 01/2023              | 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 : 2006                                   |                      |                                     |                                                                      |
| Internal                      External      X                                                                               |                      |                                     |                                                                      |
| 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 14025 : 2006 « Environmental labels and declarations. Type III environmental declarations » |                      |                                     |                                                                      |



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