

Product Environmental Profile

Keor Line RT - Line Interactive UPS-1 & 1.5 kVA




LEGRAND'S ENVIRONMENTAL COMMITMENTS

- Incorporate environmental management into our industrial sites
Of all Legrand sites worldwide, over 85% are ISO 14001-certified (sites belonging to the Group for more than five years).
- Offer our customers environmentally friendly solutions
Develop innovative solutions to help our customers design more energy efficient, better managed and more environmentally friendly installations.
- Involve the environment in product design and provide informations in compliance with ISO 14025
Reduce the environmental impact of products over their whole life cycle.
Provide our customers with all relevant information (composition, consumption, end of life, etc.).



REFERENCE PRODUCT

| | |
|-------------------|---|
| Function | To protect the load of 900 Watts against input power failure during 5 years and provide a backup time of 10 minutes for a typical application in case of a power outage. |
| Reference Product |  <p style="text-align: center;">Cat.No 310045 Keor Line RT - Line Interactive UPS - 1000VA</p> <p>Product dimensions is 88x440x405; HxWxD (mm); Multimode; redundancy N + 0; power factor 0.9, Mass without packaging : 19 kg Mass without energy storage system e.g. batteries without packaging : 12.7 kg; Input Dependency Characteristics according to IEC 62040-3 : VFI, VFD Multimode; Input Dependency Characteristics according to IEC 62040-3 : VI; UPS configuration (see Annex A of IEC 62040-3:2011) : A.2.3 Single UPS with bypass; UPS performance classification (see 5.3.4. of IEC 62040-3:2011) : VFI SS 111.</p> |



PRODUCTS CONCERNED

The environmental data is representative of the following products:

| |
|-------------------|
| Catalogue Numbers |
| 310045, 310046 |

Product Environmental Profile

Keor Line RT - Line Interactive UPS-1 & 1.5 kVA



■ CONSTITUENT MATERIALS

This Reference Product contains no substances prohibited by the regulations applicable at the time of its introduction to the market. It respects the restrictions on use of hazardous substances as defined in the RoHS directive 2011/65/EU.

| Total weight of Reference Product | | 21 634 g (with unit packaging) | | | |
|-----------------------------------|-------|--------------------------------|-------|----------------------------|-------|
| Plastics as % of weight | | Metals as % of weight | | Other as % of weight | |
| ABS | 2.0% | Steel | 21.5% | PWB | 30.0% |
| PBT | 0.2% | Others metals | <0.1% | Batteries | 29.2% |
| PA | <0.1% | Al | <0.1% | Electric cables | 3.3% |
| | | | | Others electric components | 0.5% |
| | | | | LCD screen | <0.1% |
| | | | | Packaging as % of weight | |
| | | | | Paper | 7.7% |
| | | | | Wood | 3.5% |
| | | | | PS | 1.9% |
| | | | | PE | 0.3% |
| Total plastics | 2.2% | Total metals | 21.5% | Total other and packaging | 76.3% |

Estimated recycled material content: 25% by mass.



■ MANUFACTURE

This Reference Product comes from a site that has initiated an environmental certification..



■ DISTRIBUTION

Products are distributed from logistics centres located with a view to optimize transport efficiency. The Reference Product is therefore transported over an average distance of 780 km by road from our warehouse to the local point of distribution into the market in Europe.

Packaging is compliant with european directive 2004/12/EU concerning packaging and packaging waste. At their end of life, its recyclability rate is 83 % (in % of packaging weight).



■ INSTALLATION

For the installation of the product, only standard tools are needed.



■ USE

Under normal conditions of use, this product requires no servicing, no maintenance or additional products.

Product Environmental Profile

Keor Line RT - Line Interactive UPS-1 & 1.5 kVA



END OF LIFE

The product end-of-life factors are taken into account during the design phase. Dismantling and sorting of components or materials is made as easy as possible with a view to recycling or failing that, another form of reuse. This product falls within the scope of the WEEE directive (2012/19/EU). Therefore it must be processed through local WEEE recycling/recovery channels.

• Components to process specifically :

In accordance with the stipulations of this directive, the following components must be extracted and processed via specific channels in compliance with the WEEE Directive 2012/19/EU: PWB > 10cm² : 6486 g + Batteries* :6300 g

(*) Hazardous waste as defined by European Commission decision 2000/532/EU.

• Extended product responsibility :

The sale of this product is subject to a contribution to eco-organisations in each country responsible for managing end-of-life products in the field of application of the European Waste Electronic and Electrical Equipment Directive.

• Recyclability rate:

Calculated using the method described in technical report IEC/TR 62635, the recyclability rate of the product is estimated at 68%. This value is based on data collected from a technological channel operating on an industrial basis. It does not pre-validate the effective use of this channel for the end of life of this product.

Separated into:

- plastic materials (excluding packaging) : 2 %
- metal materials (excluding packaging) : 22 %
- other materials (excluding packaging) : 33 %
- packaging (all types of materials) : 11 %



ENVIRONMENTAL IMPACTS

The evaluation of environmental impacts examines the stages of the Reference Product life cycle: manufacturing, distribution, installation, use and end-of-life. It is representative from products marketed and used in Europe, in compliance with the local current standards

For each phase, the following modelling elements were taken in account:

| | |
|----------------------------|---|
| Manufacture | Materials and components of the product, all transport for the manufacturing, the packaging and the waste generated by the manufacturing. |
| Distribution | Transport between the last Group distribution centre and an average delivery point in the sales area. |
| Installation | The end of life of the packaging. |
| Use | <ul style="list-style-type: none"> • product with output power $P \leq 1500$ W as described in PSR-0010-ed1.1-EN-2015 10 16 • Use scenario : for a 5 years working life, The average energy efficiency is 81 %. This modelling duration does not constitute a minimum durability requirement. The methodology for the calculation of the electricity consumption is based on the ENERGY STAR® Program Requirements Product Specification for Uninterruptible Power Supplies (UPSs), Eligibility Criteria Version 1.0. Input power factor is = 0.9 • Energy model: Electricity Mix; Europe 27, year 2002 |
| End of life | The default end of life scenario maximizing the impacts. |
| Software and database used | EIME V5 and its database «CODDE-2015-04» |

Product Environmental Profile

Keor Line RT - Line Interactive UPS-1 & 1.5 kVA



SELECTION OF ENVIRONMENTAL IMPACTS

| | Total for Life cycle | | Raw material and manufacture | | Distribution | | Installation | | Use | | End of life | |
|---|----------------------|--------------------------------------|------------------------------|------|--------------|------|--------------|------|----------|------|-------------|------|
| | Value | Unit | Value | % | Value | % | Value | % | Value | % | Value | % |
| Global warming | 3.45E+03 | kg~CO ₂ eq. | 1.64E+02 | 5% | 1.28E+00 | < 1% | 1.95E-01 | < 1% | 3.28E+03 | 95% | 1.99E+00 | < 1% |
| Ozone depletion | 8.28E-04 | kg~CFC-11 eq. | 3.05E-05 | 4% | 9.10E-07 | < 1% | 2.16E-09 | < 1% | 7.97E-04 | 96% | 4.51E-08 | < 1% |
| Acidification of soils and water | 2.51E+01 | kgSO ₂ eq. | 2.71E-01 | 1% | 3.45E-03 | < 1% | 8.82E-04 | < 1% | 2.48E+01 | 99% | 7.70E-03 | < 1% |
| Water eutrophication | 1.01E+00 | kg~PO ₄ ³⁻ eq. | 6.50E-02 | 6% | 9.26E-04 | < 1% | 8.21E-04 | < 1% | 9.30E-01 | 92% | 9.45E-03 | < 1% |
| Photochemical ozone formation | 1.21E+00 | kg~C ₂ H ₄ eq. | 3.50E-02 | 3% | 7.48E-05 | < 1% | 6.38E-05 | < 1% | 1.17E+00 | 97% | 5.97E-04 | < 1% |
| Depletion of abiotic resources - elements | 3.92E-02 | kgSb eq. | 3.90E-02 | 100% | 2.35E-10 | < 1% | 9.48E-09 | < 1% | 1.49E-04 | < 1% | 1.21E-07 | < 1% |
| Total use of primary energy | 6.01E+04 | MJ | 3.46E+03 | 6% | 1.59E+01 | < 1% | 2.44E+00 | < 1% | 5.66E+04 | 94% | 2.15E+01 | < 1% |
| Net use of fresh water | 9.94E+00 | m ³ | 1.39E+00 | 14% | 1.54E-03 | < 1% | 8.33E-05 | < 1% | 8.55E+00 | 86% | 1.57E-03 | < 1% |
| Depletion of abiotic resources - fossil fuels | 3.61E+04 | MJ | 2.23E+03 | 6% | 1.62E+01 | < 1% | 2.74E+00 | < 1% | 3.38E+04 | 94% | 2.81E+01 | < 1% |
| Water pollution | 1.59E+05 | m ³ | 2.08E+04 | 13% | 1.90E+02 | < 1% | 2.83E+01 | < 1% | 1.38E+05 | 87% | 2.34E+02 | < 1% |
| Air pollution | 1.80E+05 | m ³ | 3.88E+04 | 22% | 4.51E+01 | < 1% | 2.10E+01 | < 1% | 1.41E+05 | 78% | 2.17E+02 | < 1% |

The values of the 27 impacts defined in the PCR-ed3-EN-2015 04 02 are available in the digital database of pep-ecopassport.org website.

For products covered by the PEP other than the Reference product, the environmental impacts of each phase of the lifecycle are calculated with:

- Manufacturing phase is proportional to the mass of the battery,
- Installation, Distribution and End of Life phases are the same value,
- Use phase is proportional to the output power.

| | |
|---|---|
| Registration N°: LGRP-0503-V01.01-EN | Drafting rules: «PEP-PCR-ed3-EN-2015 04 02» Supplemented by «PSR-0010-ed1.1-FR-2015 10 16» |
| Verifier accreditation N°: VH02 | Information and reference documents : www.pep-ecopassport.org |
| Date of issue: 11-2017 | Validity period: 5 years |
| Independent verification of the declaration and data, in compliance with ISO 14025:2010 Internal <input checked="" type="checkbox"/> External <input type="checkbox"/> | |
| The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINEN) | |
| The elements of the present PEP cannot be compared with elements from another program | |
| Document in compliance with ISO 14025 : 2010: «Environmental labels and declarations. Type III environmental declarations» | |
| Environmental data in alignment with EN 15804 : 2012 + A1 : 2013 | |

