

Product Environmental Profile

KEOR LP UPS
Single phase On-line double conversion VFI



LEGRAND'S ENVIRONMENTAL COMMITMENTS

- Incorporate environmental management into our industrial sites
Of all Legrand sites worldwide, over 80% are ISO 14001-certified (sites belonging to the Group for more than five years)..
- Involve the environment in product design
Provide our customers with all relevant information (composition, consumption, end of life, etc.).
Reduce the environmental impact of products over their whole life cycle..
- Offer our customers environmentally friendly solutions
Develop innovative solutions to help our customers design more energy efficient, better managed and more environmentally friendly installations.



REFERENCE PRODUCT

| | |
|-------------------|--|
| Fonction | To protect the load up to 900 Watts against input power failure during 5 years and provide a backup time of 5 minutes for a typical application in case of a power outage. Product dimensions is 236*144*367 (AxLxP mm) |
| Reference Product | <div style="text-align: center;">  <p>Catalogue Numbers 310154 KEOR LP UPS - Single phase On-line double conversion VFI - 1000VA</p> </div> |

The company reserves the right to change specifications and designs without notice. All illustrations, descriptions, dimensions and weights in the document are for guidance and cannot be held binding on the company



PRODUCTS CONCERNED

The environmental data for the reference product refers to the following Catalogue Numbers:

| |
|-------------------|
| Références |
| 310154, 310155 |

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Single phase On-line double conversion VFI



■ CONSTITUENT MATERIALS

This Reference Product contains no substances prohibited by the regulations applicable at the time of its introduction to the market. It does not contain substances covered by the RoHS Directive (2002/95/EC and its revision 2011/65/EC). It contains none of the 138 substances in the candidate list of the REACH regulation dated 19/12/2012

| Total weight of Reference Product | | 11 794 g (with unit packaging) | | | |
|-----------------------------------|------|--------------------------------|-------|-----------------------------|-------|
| Plastics as % of weight | | Metals as % of weight | | Other as % of weight | |
| ABS | 2% | Steel | 33.1% | Batteries | 35.2% |
| PP | 0.1% | Al | <0.1% | PWB | 18.0% |
| | | | | Electric cables | 1.6% |
| | | | | Other electronic components | 0.3% |
| | | | | Packaging as % of weight | |
| | | | | paper | 9.7% |
| | | | | | |
| | | | | | |
| Total plastics | 2.1% | Total metals | 33.1% | Total other and packaging | 64.8% |

Estimated recycled material content: 48% by mass.



■ MANUFACTURE

This Reference Product comes from a site that have received ISO14001 certification. Location of the manufacturing plant in China.



■ 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: European directive 2004/12/EC concerning packaging and packaging waste.

At the packaging end of life, its recycling rate is of 100% (in % of the mass of the packaging)



■ INSTALLATION

Installation components not delivered with the product are not taken into account.



■ USE

Servicing and maintenance:
Under normal conditions of use, this type of Product requires no servicing or maintenance

Consumable
The product has a battery Lead Acid. No battery change during use



END OF LIFE

Product end of life management is integrated into product design by the development teams. The 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.

• Elements to process specifically

This product falls within the scope of the WEEE directive (2012/19/EU). Therefore it must be processed through local WEEE recovery/recycling channels. In accordance with the requirements of this directive, the following components must be removed and sent to specific channels for processing which comply with the WEEE Directive :

- Batteries* : 4200g
- Electric cables : 176g
- PWB > 10cm² : 2138g

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

• End-of-life channel

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.

This product contains a lead-acid battery that must be removed and treated in local industries approved under Directive battery.

• Recyclability rate

Calculated using the method described in the IEC/TR 62635 technical report, the recyclability rate of the product is estimated as 46%. This value is based on data collected from a technological channel using industrial procedures. It does not pre-validate the effective use of this channel for end-of-life electrical and electronic products.

Separated into:

- Plastic materials (excluding packaging) : 2%
- Metal materials (excluding packaging) : 5%
- Other materials (excluding packaging) : 29%
- Packaging (all types of materials) : 10%



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. The following modelling elements were taken into account:

| | |
|---------------|---|
| Manufacture | Unit packaging taken in account. As required by the "PEP ecopassport" programme all transports for the manufacturing of the Reference Product, including materials and components, has been taken in account. |
| Distribution | Transport between the last Group distribution centre and an average delivery to the sales area |
| Installation | Installation components not delivered with the product are not taken into account. |
| Use | <ul style="list-style-type: none"> • Under normal conditions of use, this type of Product requires no servicing or maintenance • The product has a battery Lead Acid. No battery change during use. • Product category : product with output power P < or = 1500 W as described in PSR-0010-ed1-EN-2014 02 11 • Use scenario : for a 5 years working life, The average energy efficiency is 96 %. 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 > 0.95 and redundancy : Parallel UPS UPS that cannot tolerate any failures while maintaining Normal Mode operation. No redundancy. • Energy model: Electricity Europe 2002 |
| End of life | In view of the data available on the date of creation of the document, and in accordance with the requirements of the PCR of the «PEP ecopassport» programme, transport of the Reference Product by road only once, over a distance of 1000 km, to a processing site at end of life was counted. |
| Software used | EIME V5 and its database «Legrand-2012-10-31 version 3» developed from database «CODDE-2012-07» |



ENVIRONMENTAL IMPACTS (continued)

| | | Total for Life cycle | | Raw material and manufacture | | Distribution | | Installation | | Use | | End of life | |
|----------------------|-----------------------------------|----------------------|----------|------------------------------|-----|--------------|------|--------------|----|----------|-----|-------------|------|
| | | | | | | | | | | | | | |
| Mandatory indicators | Contribution to greenhouse effect | 7.67E+05 | g~CO2 | 6.69E+04 | 9% | 1.09E+03 | < 1% | 0.00E+00 | 0% | 6.99E+05 | 91% | 5.88E+02 | < 1% |
| | Damage to the ozone layer | 1.77E-01 | g~CFC-11 | 1.71E-02 | 10% | 7.70E-04 | < 1% | 0.00E+00 | 0% | 1.59E-01 | 90% | 1.12E-06 | < 1% |
| | Eutrophisation of water | 1.44E+01 | g~PO43- | 7.77E+00 | 54% | 1.81E-02 | < 1% | 0.00E+00 | 0% | 6.64E+00 | 46% | 1.09E-03 | < 1% |
| | Photochemical ozone formation | 6.64E+01 | g~C2H4 | 2.22E+01 | 33% | 9.44E-01 | 1% | 0.00E+00 | 0% | 4.32E+01 | 65% | 1.31E-01 | < 1% |
| | Acidification of the air | 1.65E+02 | g~H+ | 1.38E+01 | 8% | 1.39E-01 | < 1% | 0.00E+00 | 0% | 1.51E+02 | 91% | 1.09E-01 | < 1% |
| | Total energy consumed | 1.54E+04 | MJ | 1.18E+03 | 8% | 1.38E+01 | < 1% | 0.00E+00 | 0% | 1.41E+04 | 92% | 8.30E+00 | < 1% |
| | Consumption of water | 2.36E+03 | dm3 | 5.40E+02 | 23% | 1.31E+00 | < 1% | 0.00E+00 | 0% | 1.82E+03 | 77% | 6.12E-02 | < 1% |

| | | | | | | | | | | | | | |
|---------------------|--------------------------------|----------|----------------------|----------|-----|----------|------|----------|----|----------|-----|----------|------|
| Optional indicators | Depletion of natural resources | 6.19E-13 | années ⁻¹ | 6.10E-13 | 98% | 1.88E-17 | < 1% | 0.00E+00 | 0% | 9.42E-15 | 2% | 1.20E-17 | < 1% |
| | Toxicity of the air | 2.05E+08 | m ³ | 2.92E+07 | 14% | 2.05E+05 | < 1% | 0.00E+00 | 0% | 1.75E+08 | 86% | 1.63E+05 | < 1% |
| | Toxicity of the water | 3.28E+02 | dm ³ | 1.66E+01 | 5% | 1.52E-01 | < 1% | 0.00E+00 | 0% | 3.11E+02 | 95% | 2.52E-01 | < 1% |
| | Production of hazardous waste | 1.05E+00 | kg | 9.34E-01 | 89% | 4.05E-04 | < 1% | 0.00E+00 | 0% | 1.20E-01 | 11% | 7.29E-07 | < 1% |

The environmental impacts of the Reference Product are representative of the products covered by the PEP, which therefore constitute a homogeneous environmental family. To determine the environmental impact of a product covered by the PEP other than the cat.number (ref 310154), the following rules apply :

- Manufacturing, Distribution and End of Life phases are proportional to the mass of the product
- Utilisation phase is proportional to the electrical consumption

The values of these impacts are valid for the context specified in this document. They must not be used directly to draw up the environmental balance sheet for the installation.

| | |
|---|---|
| Registration number: LGRP-2015-278-v1-en | Drafting rule: PEP-PCR-ed 2.1-FR-2012 12 11 and PSR-0010-ed1-EN-2014 02 11 |
| Authorisation number of checker: VH02 | Programme information: www.pep-ecopassport.org |
| Date of issue: 09-2015 | Validity period: 4 years |
| Independent verification of the declaration and data, in accordance with ISO 14025:2006 Internal <input checked="" type="checkbox"/> External <input type="checkbox"/> | |
| In accordance with ISO 14025 :2006 Type III environmental declaration | |
| The critical review of the PCR was conducted by a panel of experts chaired by J.Chevalier (CSTB) | |
| The elements of the present PEP cannot be compared with elements from another programme | |

