

Product Environmental Profile

Linkeo Data Center Intelligent Metered PDU



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 provide electric power for IT equipments for vertical installaton for 10 years, via 2 groups of sockets 2P+E (36+12 C13/C19 Locking Outlets), equipped with one 3 m cord 5G6 HO7-RNF with IEC 60309 plug. |
| Reference Product |  |
| | Cat.No LG-646115 |
| | PDU HD METERED NODE 0U 3 PHASE 32A , 36+12 C13/C19 LOCKING OUTLETS , IEC 60309 . |

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 is representative of the following products:

| |
|---|
| Catalogue Numbers |
| LG-646100 ; LG-646101 ; LG-646102 ; LG-646103 ; LG-646104 ; LG-646105 ; LG-646106 ; LG-646107 ; LG-646108 ; LG-646109 ; LG-646110 ; LG-646111 ; LG-646112 ; LG-646113 ; LG-646114 ; LG-646116 ; LG-646117 |

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■ 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 amended by delegated directive (EU) 2015/863, and its amendment 2017/2102/EU.

| Total weight of Reference Product | | 10749 g (all packaging included) | | | |
|--|--------------|---|--------------|---------------------------|--------------|
| Plastics as % of weight | | Metals as % of weight | | Other as % of weight | |
| PC | 11.2% | Copper alloys | 12.9% | Cables / Electrical wires | 4.8% |
| Other plastics | 10.2% | Al | 11.6% | Electronic cards | 0.8% |
| PA | 3.8% | Steel | 3.1% | LCD Screen | <0.1% |
| ABS | 0.6% | Various metals | 0.1% | Various others | 0.1% |
| PVC | <0.1% | | | | |
| PS | <0.1% | | | | |
| PBT | <0.1% | | | | |
| Various plastics | <0.1% | | | | |
| Packaging as % of weight | | | | | |
| | | | | Paper | 31.5% |
| | | | | Wood | 9.4% |
| | | | | | |
| Total plastics | 25.8% | Total metals | 27.6% | Total others | 46.6% |

Estimated recycled material content: 31% by mass.



■ MANUFACTURE

This Reference Product comes from sites that have received ISO14001 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 306.47 km by road and 2755.12 km by sea and 1159.00 km by plane from our warehouse to the local point of distribution into the market all around the world.

Packaging is compliant with applicable regulation. At their end of life, its recyclability rate is 99% (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.



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.

• Elements to process specifically:

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 2012/19/EU:

- PWB > 10cm² : 88 g

• Extended producer responsibility:

In France, the sale of products covered by the field of application of the European Directive on Waste Electronic and Electrical Equipment (WEEE) is subject to a contribution to a certified eco-organisation.

• Recyclability rate:

Calculated using the method described in technical report IEC/TR 62635, the recyclability rate of the product is estimated at 85%. 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) : 15%
- metal materials (excluding packaging) : 28%
- other materials (excluding packaging) : 2%
- packaging (all types of materials) : 40%



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 worldwide marketed products.

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

| | |
|---|---|
| Unless otherwise specified, the energy models are those integrated in the modules used from the EIME database | |
| 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 category: PDU : Power Distribution Unit. • Use scenario: continuous operation (100% of the time) for 10 years at 25% of rated load. This modelling duration does not constitute a minimum durability requirement. As no EIME module exists for Worldwide Electricity mix, China Module is used. • Energy model: Electricity Mix; China - 2009. |
| End of life | The default end of life scenario maximizing the environmental impacts. |
| Software and database used | EIME & database CODDE-2020-12 |

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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 | 6.26E+02 | kgCO ₂ eq. | 8.50E+01 | 14% | 2.65E+01 | 4% | 2.57E-01 | < 1% | 5.14E+02 | 82% | 5.93E-01 | < 1% |
| Ozone depletion | 1.28E-05 | kgCFC-11 eq. | 8.64E-06 | 68% | 4.07E-08 | < 1% | 1.52E-09 | < 1% | 4.09E-06 | 32% | 1.15E-08 | < 1% |
| Acidification of soils and water | 9.17E-01 | kgSO ₂ eq. | 2.65E-01 | 29% | 9.11E-02 | 10% | 1.24E-03 | < 1% | 5.57E-01 | 61% | 2.34E-03 | < 1% |
| Water eutrophication | 2.97E-01 | kg(PO ₄) ³⁻ eq. | 1.27E-01 | 43% | 1.86E-02 | 6% | 1.15E-03 | < 1% | 1.47E-01 | 49% | 3.09E-03 | 1% |
| Photochemical ozone formation | 9.26E-02 | kgC ₂ H ₄ eq. | 2.04E-02 | 22% | 6.08E-03 | 7% | 8.77E-05 | < 1% | 6.58E-02 | 71% | 1.80E-04 | < 1% |
| Depletion of abiotic resources - elements | 4.11E-03 | kgSb eq. | 4.11E-03 | 100% | 1.06E-06 | < 1% | 1.10E-08 | < 1% | 2.26E-06 | < 1% | 3.40E-08 | < 1% |
| Total use of primary energy | 1.01E+04 | MJ | 1.32E+03 | 13% | 3.75E+02 | 4% | 3.56E+00 | < 1% | 8.41E+03 | 83% | 6.77E+00 | < 1% |
| Net use of fresh water | 1.87E+01 | m ³ | 1.81E+01 | 97% | 2.47E-03 | < 1% | 6.93E-05 | < 1% | 5.74E-01 | 3% | 4.05E-04 | < 1% |
| Depletion of abiotic resources - fossil fuels | 9.07E+03 | MJ | 9.21E+02 | 10% | 3.73E+02 | 4% | 3.47E+00 | < 1% | 7.77E+03 | 86% | 6.25E+00 | < 1% |
| Water pollution | 4.23E+04 | m ³ | 1.22E+04 | 29% | 4.37E+03 | 10% | 4.03E+01 | < 1% | 2.56E+04 | 60% | 7.26E+01 | < 1% |
| Air pollution | 6.41E+04 | m ³ | 1.01E+04 | 16% | 5.81E+02 | < 1% | 2.83E+01 | < 1% | 5.33E+04 | 83% | 5.87E+01 | < 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 all products concerned (see § «products concerned»), take these impacts values.

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| The reference product : 646115 | | | | | | |
|---|---------------|--------------|--------------|-----|-------------|-----|
| PDU METERED VERTICAL 3 PHASE 32A WITH 36+12 C13/C19 LOCKING OUT. WITH IEC 60309 NODE | | | | | | |
| Coefficient of extrapolation of environmental indicators | | | | | | |
| Associated References | Manufacturing | Distribution | Installation | Use | End of life | |
| 646100 PDU METERED BASE 19 INCH 1 PHASE 16A 8 C13 LOCKING OUTL. IEC-320 C20 | GWP | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| | ODP | | | | | |
| | A | | | | | |
| | EP | | | | | |
| | POCP | | | | | |
| | ADPe | | | | | |
| | PE | | | | | |
| | FW | | | | | |
| | ADPf | | | | | |
| | WP | | | | | |
| 646101 PDU METERED NODE 19 INCH 1 PHASE 16A 8 C13 LOCKING OUTL. IEC-320 C20 | GWP | 0.3 | 0.2 | 0.2 | 0.5 | 0.2 |
| | ODP | | | | | |
| | A | | | | | |
| | EP | | | | | |
| | POCP | | | | | |
| | ADPe | | | | | |
| | PE | | | | | |
| | FW | | | | | |
| | ADPf | | | | | |
| | WP | | | | | |
| 646102 PDU METERED VERTICAL 1 PHASE 16 AMPS WITH 18+4 C13/C19 LOCKING OUTLETS WITH IEC 60309 | GWP | 0.5 | 0.6 | 0.9 | 0.3 | 0.4 |
| | ODP | | | | | |
| | A | | | | | |
| | EP | | | | | |
| | POCP | | | | | |
| | ADPe | | | | | |
| | PE | | | | | |
| | FW | | | | | |
| | ADPf | | | | | |
| | WP | | | | | |
| 646103 PDU METERED VERTICAL 1 PHASE 16 AMPS WITH 18+4 C13/C19 LOCKING OUTLETS WITH IEC 60309 NODE | GWP | 0.5 | 0.6 | 0.9 | 0.6 | 0.4 |
| | ODP | | | | | |
| | A | | | | | |
| | EP | | | | | |
| | POCP | | | | | |
| | ADPe | | | | | |
| | PE | | | | | |
| | FW | | | | | |
| | ADPf | | | | | |
| | WP | | | | | |
| 646104 PDU METERED VERTICAL 1 PHASE 32 AMPS WITH 20+4 C13/C19 LOCKING OUTLETS WITH IEC 60309 | GWP | 0.6 | 0.8 | 0.9 | 0.3 | 0.7 |
| | ODP | | | | | |
| | A | | | | | |
| | EP | | | | | |
| | POCP | | | | | |
| | ADPe | | | | | |
| | PE | | | | | |
| | FW | | | | | |
| | ADPf | | | | | |
| | WP | | | | | |
| AP | | | | | | |

| Coefficient of extrapolation of environmental indicators | | | | | | |
|---|---------------|--------------|--------------|-----|-------------|-----|
| Associated References | Manufacturing | Distribution | Installation | Use | End of life | |
| 646105 PDU METERED VERTICAL 1 PHASE 32 AMPS WITH 20+4 C13/C19 LOCKING OUTLETS WITH IEC 60309 NODE | GWP | 0.7 | 0.8 | 0.9 | 0.6 | 0.7 |
| | ODP | | | | | |
| | A | | | | | |
| | EP | | | | | |
| | POCP | | | | | |
| | ADPe | | | | | |
| | PE | | | | | |
| | FW | | | | | |
| | ADPf | | | | | |
| | WP | | | | | |
| 646106 PDU METERED VERTICAL 1 PH. 32 A WITH 24+12 C13/C19 LOCKING OUTL. WITH IEC 60309 | GWP | 0.7 | 0.9 | 1.0 | 0.3 | 0.8 |
| | ODP | | | | | |
| | A | | | | | |
| | EP | | | | | |
| | POCP | | | | | |
| | ADPe | | | | | |
| | PE | | | | | |
| | FW | | | | | |
| | ADPf | | | | | |
| | WP | | | | | |
| 646107 PDU METERED VERTICAL 1 PH. 32 A WITH 24+12 C13/C19 LOCKING OUTL. WITH IEC 60309 NODE | GWP | 0.8 | 0.9 | 1.0 | 0.6 | 0.8 |
| | ODP | | | | | |
| | A | | | | | |
| | EP | | | | | |
| | POCP | | | | | |
| | ADPe | | | | | |
| | PE | | | | | |
| | FW | | | | | |
| | ADPf | | | | | |
| | WP | | | | | |
| 646108 PDU METERED VERTICAL 1 PHASE 32A WITH 36+6 C13/C19 LOCKING OUTL. WITH IEC 60309 | GWP | 0.7 | 0.9 | 1.0 | 0.5 | 0.8 |
| | ODP | | | | | |
| | A | | | | | |
| | EP | | | | | |
| | POCP | | | | | |
| | ADPe | | | | | |
| | PE | | | | | |
| | FW | | | | | |
| | ADPf | | | | | |
| | WP | | | | | |
| 646109 PDU METERED VERTICAL 1 PHASE 32A WITH 36+6 C13/C19 LOCKING OUTL. WITH IEC 60310 NODE | GWP | 0.8 | 0.9 | 1.0 | 0.6 | 0.8 |
| | ODP | | | | | |
| | A | | | | | |
| | EP | | | | | |
| | POCP | | | | | |
| | ADPe | | | | | |
| | PE | | | | | |
| | FW | | | | | |
| | ADPf | | | | | |
| | WP | | | | | |
| 646116 PDU METERED VERTICAL 3 PHASE 32A WITH 36+6 C13/C19 LOCKING OUTL. WITH IEC 60309 | GWP | 0.9 | 0.9 | 1.0 | 0.7 | 0.9 |
| | ODP | | | | | |
| | A | | | | | |
| | EP | | | | | |
| | POCP | | | | | |
| | ADPe | | | | | |
| | PE | | | | | |
| | FW | | | | | |
| | ADPf | | | | | |
| | WP | | | | | |
| AP | | | | | | |

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| Coefficient of extrapolation of environmental indicators | | | | | | |
|---|------------------|--------------|--------------|-----|-------------|-----|
| Associated References | Manufacturing | Distribution | Installation | Use | End of life | |
| 646110 PDU METERED VERTICAL 3 PHASE 16A WITH 36+6 C13/C19 LOCKING OUTL. WITH IEC 60309 | GWP | 0.6 | 0.7 | 0.9 | 0.4 | 0.6 |
| | ODP | | | | | |
| | A | | | | | |
| | EP | | | | | |
| | POCP | | | | | |
| | ADP _h | | | | | |
| | PE | | | | | |
| | FW | | | | | |
| | ADP _f | | | | | |
| | WP | | | | | |
| | AP | | | | | |
| 646111 PDU METERED VERTICAL 3 PHASE 16A WITH 36+6 C13/C19 LOCKING OUTL. WITH IEC 60309 NODE | GWP | 0.7 | 0.7 | 0.9 | 0.7 | 0.6 |
| | ODP | | | | | |
| | A | | | | | |
| | EP | | | | | |
| | POCP | | | | | |
| | ADP _h | | | | | |
| | PE | | | | | |
| | FW | | | | | |
| | ADP _f | | | | | |
| | WP | | | | | |
| | AP | | | | | |
| 646112 PDU METERED VERTICAL 3 PHASE 32A WITH 24+12 C13/C19 LOCKING OUTL. WITH IEC 60309 | GWP | 0.9 | 0.7 | 1.2 | 0.8 | 0.9 |
| | ODP | | | | | |
| | A | | | | | |
| | EP | | | | | |
| | POCP | | | | | |
| | ADP _h | | | | | |
| | PE | | | | | |
| | FW | | | | | |
| | ADP _f | | | | | |
| | WP | | | | | |
| | AP | | | | | |
| 646113 PDU METERED VERTICAL 3 PHASE 32A WITH 24+12 C13/C19 LOCKING OUTL. WITH IEC 60309 NODE | GWP | 1.0 | 1.0 | 1.1 | 1.0 | 0.9 |
| | ODP | | | | | |
| | A | | | | | |
| | EP | | | | | |
| | POCP | | | | | |
| | ADP _h | | | | | |
| | PE | | | | | |
| | FW | | | | | |
| | ADP _f | | | | | |
| | WP | | | | | |
| | AP | | | | | |
| 646114 PDU METERED VERTICAL 3 PHASE 32A WITH 36+12 C13/C19 LOCKING OUT. WITH IEC 60309 | GWP | 1.0 | 1.0 | 1.1 | 0.7 | 1.0 |
| | ODP | | | | | |
| | A | | | | | |
| | EP | | | | | |
| | POCP | | | | | |
| | ADP _h | | | | | |
| | PE | | | | | |
| | FW | | | | | |
| | ADP _f | | | | | |
| | WP | | | | | |
| | AP | | | | | |
| 646117 PDU METERED VERTICAL 3 PHASE 32A WITH 36+6 C13/C19 LOCKING OUTL. WITH IEC 60309 NODE | GWP | 0.9 | 0.9 | 1.0 | 1.0 | 0.9 |
| | ODP | | | | | |
| | A | | | | | |
| | EP | | | | | |
| | POCP | | | | | |
| | ADP _h | | | | | |
| | PE | | | | | |
| | FW | | | | | |
| | ADP _f | | | | | |
| | WP | | | | | |
| | AP | | | | | |

Contact Legrand if you have any questions regarding the calculation of coefficients for impacts others than those presented in this PEP

| | |
|---|---|
| Registration number: LGRP-01652-V02.01-EN | Drafting rules: PEP-PCR-ed3-2015 04 02 |
| Verifier accreditation N°: VH18 | Information and reference documents: www.pep-ecopassport.org |
| Date of issue: 12-2022 | Validity period: 5 years |
| Independent verification of the declaration and data, in compliance with ISO 14025 : 2006 Internal <input type="checkbox"/> External <input checked="" type="checkbox"/> | |
| The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN) | |
| PEP are compliant with XP C08-100-1 : 2016 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» | |



Environmental data in alignment with EN 15804: 2012 + A1 : 2013