

Product Environmental Profile

Nuvo DIN Rail Power Supply



COMPANY OVERVIEW

• Sustainability built in to support our associates, customers, and the environment

At Legrand North and Central America, we're committed to leading by example within our own operations, to developing high quality solutions for our customers' High Performance Buildings, and to transforming how people live and work – more safely, more comfortably, more efficiently.

• Better Performance

A core principle of designing for sustainability drives us to innovate products and systems that enable buildings to reach exceptional levels of performance, bringing about industry-leading ideas, inventions and initiatives.

• Better Operations

A commitment to a leadership role in operational excellence through environmental management, optimizing the way we manage energy, water and waste.

• Better Lives

A dedication to enhancing employee and community welfare through programs that help people enjoy healthier, more productive and more rewarding lives.

For more information on Legrand's PEPs and other sustainability initiatives, visit legrand.us/sustainability.



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 Legrand 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.

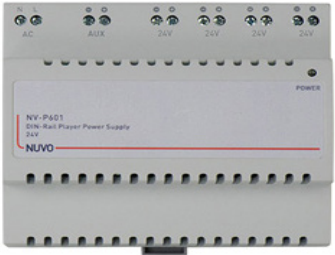
• Involve the environment in product design

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

| | |
|---------------------------------|--|
| <p>Function</p> | <p>Provides a maximum of 85W power to four individual P600 DIN Rail Players and to one AUX output during a typical lifetime of 10 years. Designed specifically for the international DIN rail mounting standard.</p> |
| <p>Reference Product</p> | <div style="text-align: center;">  </div> <p>Part Number: NV-P601 Nuvo DIN Rail Power Supply</p> |

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.

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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/EC and does not contain, as far as we know, any substance on the candidate list at the time the PEP was published for authorization of the REACH regulation (EC) no. 1907/2006 with a concentration above 0.1% w/w.

| | |
|--|----------------------------|
| Total weight of Reference Product with unit packaging | 19.95 oz (565.54 g) |
|--|----------------------------|

| Plastics as % of weight | | Metals as % of weight | | Others as % of weight | |
|-------------------------|--------------|-----------------------|-------------|-------------------------------|--------------|
| Product | | | | | |
| ABS | 9.5% | Aluminium | 1.1% | Various electronic components | 33.5% |
| PC | 9.5% | Other Metals | 0.9% | Electronic card | 4.0% |
| PVC | 1.0% | Steel | 0.7% | Coating paint | <0.1% |
| PA | 0.5% | Copper Alloys | 0.5% | | |
| Other Plastics | <0.1% | | | | |
| Packaging | | | | | |
| | | | | paper | 37.6% |
| | | | | Others | 1.2% |
| | | | | | |
| | | | | | |
| Total plastics | 20.5% | Total metals | 3.2% | Total others | 76.3% |

Estimated recycled material content: 4% of weight.



■ MANUFACTURING

The Reference Product comes from sites that have received ISO 14001 certification.



■ DISTRIBUTION

Products are distributed from logistics centers located to optimize transport efficiency using EPA SmartWay® certified carriers to reduce greenhouse gases emissions. Information on the distance of distribution is not available so the PCR hypothesis for "Intracontinental transport", 2175 miles (3500 km) by heavy truck, was used. This represents transportation of the Reference Product from our warehouse to the local point of distribution in the United States market.



■ INSTALLATION

No electricity is required for installing the Reference Product.

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USE

Servicing and maintenance:

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

Consumable:

No consumables are necessary to use this type of product.



END OF LIFE

• **Hazardous waste* contained in the product:** no hazardous waste
 (*) Hazardous waste as defined by European Commission decision 2000/532/EC.

• **Recycling rate:**

Calculated using the method described in the IEC/TR 62635 technical report, the recyclability rate of the Reference Product without packaging is estimated as 63%. 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: | (% mass of Reference Product excluding packaging) |
| - plastic materials: | 20% |
| - metal materials: | 3% |
| - Others | 2% |

Recycling rate of packaging (all types of materials): 38%



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 of products marketed and used in United States.

The following modelling elements were taken into account:

| | |
|----------------------|--|
| Manufacturing | Packaging taken into account. As required by the PEP ecopassport program, all transport for the manufacturing of the Reference Product, including materials and components, has been taken into account. The waste generated during manufacturing phase has been taken into account. |
| Distribution | Transport between the last distribution center and an average delivery to the sales area. The default scenario modelled maximizes the environmental impact using the PCR hypothesis for "Intracontinental transport": 2175 miles (3500 km) by heavy truck. |
| Installation | The end of life of the packaging (0.48 lb or 219.58 g) is taken into account at this phase. Transport of packaging to end of life treatment. |
| Use | <ul style="list-style-type: none"> • Under normal conditions of use, this type of product requires no servicing or maintenance. • No consumables are necessary to use this type of product. • Product category: Passive Product • Use scenario: non-continuous operation for 10 years working life, the product has a power of 85W in Active Phase during 33% of time, in Idle Phase power of 1W during 8% of time and in Sleep phase power of 0.1W during 59% of time. This modelling duration does not constitute a minimum durability requirement • Energy model: Electricity(US) - 2009 |
| End of life | The default end of life scenario modelled maximizes the environmental impact using the PCR hypothesis for "Local transport": 621 miles (1000 km) by heavy truck and landfilling. |
| Software used | EIME V5 and its database "CODDE-2016-11" and the indicators defined in the PCR ed 3 in alignment with the EN15804 standard |

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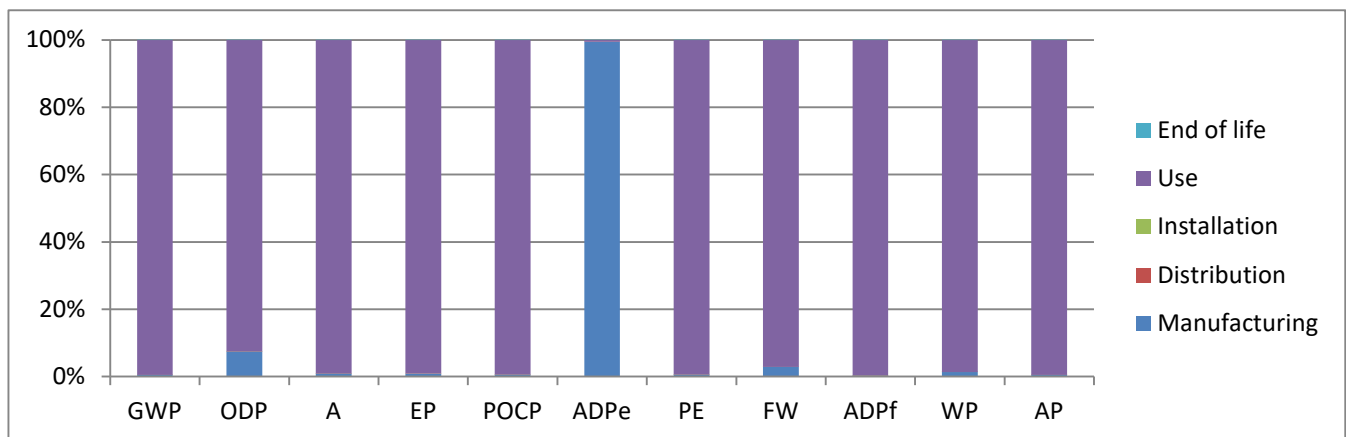
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ENVIRONMENTAL IMPACTS (continued)

| | Total for Life cycle | | Raw material and manufacturing | | Distribution | | Installation | | Use | | End of life | |
|--|----------------------|---------------|--------------------------------|------|--------------|------|--------------|------|----------|------|-------------|------|
| | Value | Unit | Value | % | Value | % | Value | % | Value | % | Value | % |
| Global warming (GW) | 1.72E+03 | kgCO2 eq. | 9.16E+00 | < 1% | 9.85E-02 | < 1% | 1.36E-02 | < 1% | 1.71E+03 | 99% | 4.05E-02 | < 1% |
| Ozone depletion (OD) | 3.35E-05 | kgCFC-11 eq. | 2.49E-06 | 7% | 2.00E-10 | < 1% | 9.31E-11 | < 1% | 3.10E-05 | 93% | 1.01E-09 | < 1% |
| Acidification of soil and water (A) | 1.65E+00 | kgSO2 eq. | 1.46E-02 | < 1% | 4.43E-04 | < 1% | 6.69E-05 | < 1% | 1.64E+00 | 99% | 1.55E-04 | < 1% |
| Water eutrophication (WE) | 4.35E-01 | kg(P04)3- eq. | 3.52E-03 | < 1% | 1.02E-04 | < 1% | 7.21E-05 | < 1% | 4.31E-01 | 99% | 1.79E-04 | < 1% |
| Photochemical ozone creation (POCP) | 2.64E-01 | kgC2H4 eq. | 1.54E-03 | < 1% | 3.15E-05 | < 1% | 4.72E-06 | < 1% | 2.62E-01 | 99% | 1.21E-05 | < 1% |
| Depletion of abiotic resources - elements (ADPe) | 3.19E-03 | kgSb eq. | 3.18E-03 | 99% | 3.94E-09 | < 1% | 5.92E-10 | < 1% | 1.68E-05 | < 1% | 2.58E-09 | < 1% |
| Total use of primary energy (PE) | 2.32E+04 | MJ | 1.42E+02 | < 1% | 1.39E+00 | < 1% | 1.87E-01 | < 1% | 2.30E+04 | 99% | 4.43E-01 | < 1% |
| Net use of fresh water (FW) | 3.11E+00 | m3 | 9.06E-02 | 3% | 8.82E-06 | < 1% | 4.26E-06 | < 1% | 3.02E+00 | 97% | 3.49E-05 | < 1% |
| Depletion of abiotic resources - fossil fuels (ADPf) | 2.72E+04 | MJ | 9.06E+01 | < 1% | 1.38E+00 | < 1% | 1.90E-01 | < 1% | 2.71E+04 | 100% | 5.77E-01 | < 1% |
| Water pollution (WP) | 8.55E+04 | m3 | 1.14E+03 | 1% | 1.62E+01 | < 1% | 2.11E+00 | < 1% | 8.43E+04 | 99% | 4.61E+00 | < 1% |
| Air pollution (AP) | 1.46E+05 | m3 | 7.76E+02 | < 1% | 4.04E+00 | < 1% | 1.72E+00 | < 1% | 1.45E+05 | 99% | 4.73E+00 | < 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. The environmental impacts of the Reference Product are representative of the products covered by the PEP, which therefore constitute a homogeneous environmental family.



The environmental impact of the Reference Product occurs predominantly during the manufacturing and use phase.

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ENVIRONMENTAL IMPACTS (continued)

For products sold in the European market, apply the variable 'E' to the values shown for distribution and use. This represents international transportation of 19000km by boat and 1000km by truck. Impacts for Manufacturing, Installation and End of Life is proportional to the mass of the Reference Product.

| Distribution in Europe (E) | Use in Europe (E) |
|----------------------------|---|
| A : 10.8 | A : 3.0 |
| AP : 5.7 | ADPe : 6.2 |
| EP : 4.6 | AP : 0.3 |
| POCP : 7.5 | ODP : 2.5 |
| all else : 1.5 | Net use of freshwater : 1451.7 all else : 1.0 |

| | |
|---|---|
| Registration number: LGRP-00788-V01.01-EN | Drafting rules: "PCR-ed3-EN-2015 04" |
| Verifier's accreditation number: VH26 | Information and reference documents: www.pep-ecopassport.org |
| Date of issue: 09-2018 | Validity period: 5 years |
| Independent verification of the declaration and data, in compliance with ISO 14025:2010 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: 2014 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" | |
| In compliance with ISO 14040:2006: "Environmental management - LCA - Principles and framework" In compliance with ISO 14044:2006: "Environmental management - LCA - Requirements and guidelines" In alignment with EN 15804:2012+A1:2013: "Sustainability of construction works - EPD's - Core rules for the product category of construction products" | |
| | |