

Product Environmental Profile

Daker Dk Plus-conventional UPS - Single phase On-line double conversion VFI with batteries



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

<p>Function</p>	<p>To protect the load up to 5000 Watts against input power failure during 8 years and provide a backup time of 6 minutes for a typical application in case of a power outage. Product dimensions is 440x176x680; AxLxP (mm). On-line double UPS convertible VFI-SS-111; monophased equipped with batteries; power factor>0.99; Location of the manufacturing plant : China; Technology of energy storage system by batteries; Input Dependency Characteristics according to IEC 62040-3 :VFI, Multimode; Redundancy : N+0; Mass without energy storage system = 27 kg; Mass of energy storage system if incorporated=29 kg (without packaging).</p>
<p>Reference Product</p>	<div style="text-align: center;">  </div> <p style="text-align: center;">Cat.No 310173 DAKER DK Plus Single-phase conventional - 5000 VA</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.



PRODUCTS CONCERNED

The environmental data is representative of the following products:

<p>Catalogue Numbers</p>
<p>310171, 310172, 310173, 310174</p>

Product Environmental Profile

Daker Dk Plus-conventional UPS - Single phase
On-line double conversion VFI - with batteries



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 : 9204 g + Lead Accumulator* : 29000 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) : 0 %
- metal materials (excluding packaging) : 29 %
- other materials (excluding packaging): 34 %
- packaging (all types of materials) : 5 %



ENVIRONMENTAL IMPACTS

The evaluation of environmental impact examines the stages of the Reference Product lifecycle: 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 1500 W < P ≤ 5000 W as described in PSR-0010-ed1.1-EN-2015 10 16 • Use scenario: for a 8 years working life, The average energy efficiency is 90 %. 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 = 0.62 and redundancy : UPS that cannot tolerate any failures while maintaining Normal Mode operation. No redundancy. • 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

Daker Dk Plus-conventional UPS - Single phase
On-line double conversion VFI - with batteries



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	1.39E+04	kg-CO ₂ eq.	3.82E+02	3%	2.30E+00	< 1%	2.32E-01	< 1%	1.35E+04	97%	5.78E+00	< 1%
Ozone depletion	3.35E-03	kg-CFC-11 eq.	7.28E-05	2%	4.66E-09	< 1%	2.75E-09	< 1%	3.28E-03	98%	1.26E-07	< 1%
Acidification of soils and water	1.02E+02	kgSO ₂ eq.	7.50E-01	< 1%	1.03E-02	< 1%	1.07E-03	< 1%	1.02E+02	99%	2.25E-02	< 1%
Water eutrophication	4.03E+00	kg-PO ₄ ³⁻ eq.	1.70E-01	4%	2.37E-03	< 1%	1.17E-03	< 1%	3.83E+00	95%	2.81E-02	< 1%
Photochemical ozone formation	4.90E+00	kg-C ₂ H ₄ eq.	7.62E-02	2%	7.34E-04	< 1%	7.72E-05	< 1%	4.82E+00	98%	1.74E-03	< 1%
Depletion of abiotic resources - elements	1.78E-01	kgSb eq.	1.57E-01	88%	9.21E-08	< 1%	1.14E-08	< 1%	2.10E-02	12%	3.47E-07	< 1%
Total use of primary energy	2.42E+05	MJ	8.80E+03	4%	3.08E+01	< 1%	2.89E+00	< 1%	2.33E+05	96%	6.28E+01	< 1%
Net use of fresh water	3.88E+01	m ³	3.16E+00	8%	2.06E-04	< 1%	1.08E-04	< 1%	3.56E+01	92%	4.39E-03	< 1%
Depletion of abiotic resources - fossil fuels	1.45E+05	MJ	5.19E+03	4%	3.23E+01	< 1%	3.25E+00	< 1%	1.39E+05	96%	8.13E+01	< 1%
Water pollution	6.38E+05	m ³	6.78E+04	11%	3.78E+02	< 1%	3.33E+01	< 1%	5.69E+05	89%	6.86E+02	< 1%
Air pollution	7.17E+05	m ³	1.25E+05	17%	9.43E+01	< 1%	2.88E+01	< 1%	5.91E+05	82%	6.16E+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 310173, the environmental impacts of each phase of the lifecycle are assimilated to the impacts of the Reference Product :

- Manufacturing, Distribution, Installation and End of Life phases are proportional to the mass of the product
- Utilisation phase : for ref 310171, the impacts indicator are multiplied by 0.4, for ref 310172, the impacts indicator are multiplied by 0.5 and for ref 310174 the impacts indicator are multiplied by 1,2

Registration N°: LGRP-00427-V02.01-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: 07-2020	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 (SOLINNEN)	
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	

