



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	Allows the switching ON and OFF of an electric circuit 230V~ programme via a digital time-switch according to the standards EN 60730, EN 60730-2-7 and EN 62430 during a timelife of 10 years with a battery reserve of 5 years. Use scenario is 30% OFF- 70% ON under a current of 4.8A, 230V 50Hz.
Reference Product	 Cat.No 412631 Digital time switch

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
412629, 412631, 412632, 412633, 412634, 412654, 412655, 412656



■ 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		184 g (with unit packaging)			
Plastics as % of weight		Metals as % of weight		Other as % of weight	
PC	32.9%	Steel	12.1%	PWB	5.8%
PBT	3.9%	Copper alloys	3.9%	Battery	4.5%
other plastic	0.9%	other metal	<0.1%	others electronics components	2.6%
PA	0.5%			LCD screen	1.8%
		Packaging as % of weight			
PE	0.2%			Paper	20.9%
				Wood	6.0%
				Other	4.0%
Total plastics		Total metals		Total other and packaging	
38.2%		16.0%		45.8%	

Estimated recycled material content: 23 % 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 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 85% (in % of packaging weight).



■ INSTALLATION

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



■ USE

The product has a Lithium-ion battery. 1 battery changed during use

Product Environmental Profile

Programable time switches with digital program



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: battery : 7 g + PWB > 10cm² (intermediaire) : 7 g

• 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 83%. 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) : 35 %
- metal materials (excluding packaging) : 16 %
- other materials (excluding packaging) : 5 %
- packaging (all types of materials) : 27 %



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 category: Active product Use scenario : for a 10 years working life, in active mode of operation, with a power of 1.37 W and 70% associated time and in sleep phase of operation, with a power of 1.05 W and 30% associated time of one year of operation. This modelling duration does not constitute a minimum durability requirement • 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

Programable time switches with digital program



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	1.47E+02	kg~CO ₂ eq.	9.37E+01	64%	7.16E-03	< 1%	2.99E-03	< 1%	5.31E+01	36%	1.35E-02	< 1%
Ozone depletion	1.41E-05	kg~CFC-11 eq.	1.33E-06	9%	1.45E-11	< 1%	1.89E-11	< 1%	1.27E-05	91%	3.09E-10	< 1%
Acidification of soils and water	5.07E-01	kgSO ₂ eq.	1.20E-01	24%	3.22E-05	< 1%	1.44E-05	< 1%	3.86E-01	76%	5.23E-05	< 1%
Water eutrophication	5.34E-02	kg~PO ₄ ³⁻ eq.	3.84E-02	72%	7.39E-06	< 1%	1.34E-05	< 1%	1.49E-02	28%	6.38E-05	< 1%
Photochemical ozone formation	3.20E-02	kg~C ₂ H ₄ eq.	1.30E-02	41%	2.29E-06	< 1%	1.02E-06	< 1%	1.90E-02	59%	4.06E-06	< 1%
Depletion of abiotic resources - elements	1.00E-03	kgSb eq.	9.97E-04	99%	2.87E-10	< 1%	1.29E-10	< 1%	6.75E-06	< 1%	8.28E-10	< 1%
Total use of primary energy	2.29E+03	MJ	1.37E+03	60%	9.60E-02	< 1%	3.93E-02	< 1%	9.25E+02	40%	1.46E-01	< 1%
Net use of fresh water	4.60E-01	m ³	3.20E-01	70%	6.41E-07	< 1%	8.45E-07	< 1%	1.40E-01	30%	1.07E-05	< 1%
Depletion of abiotic resources - fossil fuels	1.92E+03	MJ	1.37E+03	71%	1.01E-01	< 1%	4.17E-02	< 1%	5.57E+02	29%	1.91E-01	< 1%
Water pollution	8.20E+03	m ³	5.95E+03	73%	1.18E+00	< 1%	4.65E-01	< 1%	2.25E+03	27%	1.58E+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. For products covered by the PEP other than the Reference product, the environmental impacts of each phase of the lifecycle are calculated with

To determine the environmental impact of a product covered by the PEP other than the cat.number (ref 412631), the following rules apply : Manufacturing, Distribution, Installation and end of life phases, impacts are the same and the environmental impacts of the use phase are proportional to the dissipated powers.

Registration N°: LGRP-00527-V01.01-EN	Drafting rules: «PEP-PCR-ed3-EN-2015 04 02» «PSR-0005-ed1-2012 12 11»
Verifier accreditation N°: VH02	Information and reference documents : www.pep-ecopassport.org
Date of issue: 07-2018	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	

