

Product Environmental Profile

Programmable time switches with analogue dial



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 AC programme via captive segments according to the standards EN 60730, EN 60730-2-7 and EN 62430 for 10 years.
Reference Product	<div data-bbox="868 904 1102 1189" data-label="Image"> </div> <p data-bbox="922 1249 1050 1274" style="text-align: center;">Cat.No 412812</p> <p data-bbox="592 1283 1382 1308" style="text-align: center;">Programmable time switches with analogue dial-Horizontal dial without working reserve</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:

Catalogue Numbers
412812, 412814, 412816, 412817

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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.

Total weight of Reference Product		161 g (with unit packaging)			
Plastics as % of weight		Metals as % of weight		Other as % of weight	
PC	51.2%	Steel	13.5%	PWB	1.6%
POM	4.9%	Copper alloys	3.5%		
PA	4.0%	Other metal	1.2%		
PBT	0.1%				
				Packaging as % of weight	
				Paper	19.8%
				PE	0.2%
				Wood	<0.1%
Total plastics	60.2%	Total metals	18.2%	Total other and packaging	21.6%

Estimated recycled material content: 22% by mass.



■ MANUFACTURE

This Reference Product comes from sites that have received ISO 14001 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 99 % (in % of the mass of the packaging).



■ 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.

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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.

• Recyclability rate:

Calculated using the method described in technical report IEC/TR 62635, the recyclability rate of the product is estimated at 38%. This value is based on data collected from a technological channel using industrial procedures. It does not prevalidate the effective use of this channel for end-of-life electrical and electronic products.

Separated into:

- plastic materials (excluding packaging) : 0 %
- metal materials (excluding packaging) : 18 %
- other materials (excluding packaging) : 0 %
- packaging (all types of materials) : 20 %



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: PSR-0005-ed2-EN-2016 03 29 - §3.13 Other equipments - active product • Use scenario: PSR-0005-ed2-EN-2016 03 29 ; § 3.10 «Surge Arresters : surge protective devices connected to telecommunications and signalling networks. for a 20 years working life, contact function opened with a dissipated power of 1.124W for 70% of the time and operation of the closed contact with a dissipated power of 0.98W for 30% of the time . This modelling duration does not constitute a minimum durability requirement • Energy model: Electricity Mix; Europe 27, year 2002
End of life	The default end of life scenario maximizing the environmental impacts.
Software and database used	EIME V5 and its database «CODDE-2015-04»

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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	5.73E+01	kg-CO ₂ eq.	1.39E+00	2%	9.54E-03	< 1%	2.16E-03	< 1%	5.59E+01	98%	1.36E-02	< 1%
Ozone depletion	1.37E-05	kg-CFC-11 eq.	1.29E-07	< 1%	6.77E-09	< 1%	1.45E-11	< 1%	1.36E-05	99%	3.15E-10	< 1%
Acidification of soils and water	4.24E-01	kgSO ₂ eq.	1.45E-03	< 1%	2.56E-05	< 1%	1.06E-05	< 1%	4.23E-01	100%	5.25E-05	< 1%
Water eutrophication	1.64E-02	kg-PO ₄ ³⁻ eq.	4.65E-04	3%	6.89E-06	< 1%	1.12E-05	< 1%	1.58E-02	97%	6.37E-05	< 1%
Photochemical ozone formation	2.02E-02	kg-C ₂ H ₄ eq.	2.43E-04	1%	5.56E-07	< 1%	7.46E-07	< 1%	2.00E-02	99%	4.08E-06	< 1%
Depletion of abiotic resources - elements	2.68E-05	kgSb eq.	2.42E-05	90%	1.75E-12	< 1%	9.37E-11	< 1%	2.55E-06	10%	8.39E-10	< 1%
Total use of primary energy	1.16E+03	MJ	2.69E+01	2%	1.21E-01	< 1%	3.09E-02	< 1%	1.13E+03	98%	2.07E-01	< 1%
Net use of fresh water	1.54E-01	m ³	8.46E-03	5%	1.15E-05	< 1%	6.61E-07	< 1%	1.46E-01	95%	1.09E-05	< 1%
Depletion of abiotic resources - fossil fuels	5.95E+02	MJ	1.89E+01	3%	1.20E-01	< 1%	3.01E-02	< 1%	5.76E+02	97%	1.92E-01	< 1%
Water pollution	2.82E+03	m ³	4.76E+02	17%	1.41E+00	< 1%	3.35E-01	< 1%	2.35E+03	83%	1.59E+00	< 1%
Air pollution	2.55E+03	m ³	1.55E+02	6%	3.36E-01	< 1%	2.68E-01	< 1%	2.40E+03	94%	1.51E+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 (412812), the following rules apply :

-for the ref 412814, the impacts are similar,

-for the ref 412809, 412816, 412817, the Use impacts are multiplied by 0.6 and for the Distribution, Installation and end of life phases, take the same values.

Registration N°: LGRP-00138-V01.01-EN	Drafting rules: «PEP-PCR-ed3-EN-2015 04 02» Supplemented by «PSR-0005-ed2-FR-2016 03 29»
Verifier accreditation N°: VH02	Information and reference documents : www.pep-ecopassport.org
Date of issue: 10-2017	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	

