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Product Environmental Profile

PIAL | PoP - 1 Way Switch 10 A 250V~ Screw Terminals - White

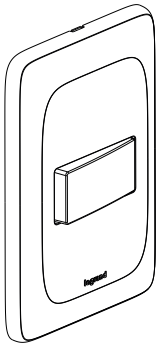
LEGRAND'S ENVIRONMENTAL COMMITMENTS

• 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	Establish, support and interrupt for 20 years rated currents in normal conditions of circuit characterized by the current 10A, for the operating voltage 250V~.
Reference Product	
	Cat. No LGX010
	1 Way Switch 10 A 250V~ Screw Terminals - White

PRODUCTS CONCERNED

The environmental data are representative of the following products:

Complete product	Mechanism	Frame + Plate
• LGX010 • LGX101 • LGX111 • LGX020 • LGX202 • LGX222 • LGX102	• LG010 • LG020	• LGP21 • LGP22 • LGP23

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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	**77 g** (all packaging included)

Plastics as % of weight		**Metals as % of weight**		**Other as % of weight**	
PS	**43.7 %**	Steel	**7.8 %**		
PP	**8.3 %**	Copper alloys	**2.4 %**		
PC	**0.9 %**	Silver alloys	**<0.1%**		
		Other metals	**<0.1%**		
Packaging as % of weight					
PE	**3.2 %**			Wood	**20.4 %**
				Paper	**13.3 %**
Total plastics	**56.1 %**	**Total metals**	**10.2 %**	**Total others**	**33.7 %**

Estimated recycled material content: 32 % by mass.

MANUFACTURE

This Reference Product comes from a site that has 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 775 km, by road from our warehouse to the local point of distribution into the market in Brazil.

Packaging is compliant with applicable regulation. At their end of life, its recyclability rate is 89% (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.

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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 93%.
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) : 50 %
- metal materials (excluding packaging) : 10 %
- packaging (all types of materials) : 33 %

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 Brazil.
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	• Product category: PSR0005-ed2-2016 03 29 - § 3.5 Switches. • Use scenario: non-continuous operation for 20 years at 50% of rated load, during 30% of the time. This modelling duration does not constitute a minimum durability requirement. • Energy model: Electricity Mix; Brazil - 2009
End of life	The default end of life scenario maximizing the impacts.
Software and database used	EIME & database CODDE-2018-11

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SELECTION OF ENVIRONMENTAL IMPACTS

	Total for Life cycle		Raw material and manufacture		Distribution		Installation		Use		End of life	
Global warming	**2.63E+00**	**kgCO_2 eq.**	2.39E-01	**9%**	2.95E-03	**< 1%**	1.70E-03	**< 1%**	2.38E+00	**91%**	5.36E-03	**< 1%**
Ozone depletion	**3.12E-07**	**kgCFC-11 eq.**	1.10E-08	**4%**	5.98E-12	**< 1%**	1.33E-11	**< 1%**	3.01E-07	**96%**	1.27E-10	**< 1%**
Acidification of soils and water	**2.34E-03**	**kgSO_2 eq.**	5.35E-04	**23%**	1.33E-05	**< 1%**	7.69E-06	**< 1%**	1.76E-03	**75%**	2.06E-05	**< 1%**
Water eutrophication	**6.13E-04**	**kg$(PO_4)^{3-}$ eq.**	1.10E-04	**18%**	3.05E-06	**< 1%**	5.40E-06	**< 1%**	4.70E-04	**77%**	2.46E-05	**4%**
Photochemical ozone formation	**5.23E-04**	**kgC_2H_4 eq.**	4.39E-05	**8%**	9.43E-07	**< 1%**	5.52E-07	**< 1%**	4.76E-04	**91%**	1.60E-06	**< 1%**
Depletion of abiotic resources - elements	**4.45E-05**	**kgSb eq.**	4.43E-05	**100%**	1.18E-10	**< 1%**	7.72E-11	**< 1%**	1.72E-07	**< 1%**	3.34E-10	**< 1%**
Total use of primary energy	**7.50E+01**	**MJ**	4.80E+00	**6%**	4.18E-02	**< 1%**	2.28E-02	**< 1%**	7.01E+01	**93%**	5.92E-02	**< 1%**
Net use of fresh water	**2.31E-02**	**m^3**	1.98E-02	**86%**	2.64E-07	**< 1%**	5.22E-07	**< 1%**	3.26E-03	**14%**	4.40E-06	**< 1%**
Depletion of abiotic resources - fossil fuels	**1.78E+01**	**MJ**	3.01E+00	**17%**	4.15E-02	**< 1%**	2.22E-02	**< 1%**	1.46E+01	**82%**	5.34E-02	**< 1%**
Water pollution	**1.28E+02**	**m^3**	2.70E+01	**21%**	4.86E-01	**< 1%**	2.58E-01	**< 1%**	9.94E+01	**78%**	6.20E-01	**< 1%**
Air pollution	**1.84E+02**	**m^3**	2.67E+01	**15%**	1.21E-01	**< 1%**	1.46E-01	**< 1%**	1.56E+02	**85%**	6.04E-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 a complete configuration composed of: LGX101 (complete product) or Two LG010 (1 Way Switch mechanism 10A 250V~) + LGP22 (plate + frame): the environmental impacts of each phase of the lifecycle are obtained by adopting the following coefficients on those of the Reference Product:

	Total LCA	Raw material and manufacture	Distribution	Installation	Use	End of life
Global warming	1.9	1.4	1.5	1.8	2.0	1.3
Ozon depletion	2.0	1.5		1.5		1.2
Acidification of soil and water	1.9	1.4		1.8		1.3
Water eutrophication	1.9	1.4		1.8		1.3
Photochemical ozon creation	2.0	1.5		1.8		1.3
Depletion of abiotic resources - elements	2.0	2.0		1.7		1.2
Total use of primary energy during the life cycle	2.0	1.3		1.8		1.3
Net use of fresh water	1.4	1.3		1.5		1.2
Depletion of abiotic resources - fossil fuels	1.9	1.2		1.8		1.3
Water pollution	1.9	1.4		1.8		1.3
Air pollution	2.0	1.7		1.8		1.2

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For a complete configuration composed of: LGX111 (complete product) or Three LG010 (1 Way Switch mechanism 10A 250V~) + LGP23 (plate + frame): the environmental impacts of each phase of the lifecycle are obtained by adopting the following coefficients on those of the Reference Product:

	Total LCA	Raw material and manufacture	Distribution	Installation	Use	End of life
Global warming	2.9	1.6	1.7	1.8	3.0	1.5
Ozon depletion	3.0	1.8		1.5		1.4
Acidification of soil and water	2.7	1.7		1.8		1.5
Water eutrophication	2.7	1.7		1.8		1.5
Photochemical ozon creation	2.9	1.7		1.8		1.5
Depletion of abiotic resources - elements	3.0	3.0		1.7		1.5
Total use of primary energy during the life cycle	2.9	1.5		1.8		1.5
Net use of fresh water	1.7	1.5		1.5		1.4
Depletion of abiotic resources - fossil fuels	2.7	1.4		1.8		1.5
Water pollution	2.7	1.7		1.8		1.5
Air pollution	2.9	2.3		1.8		1.4

For a complete configuration composed of: LGX020 (complete product) or LG020 (2 Way Switch mechanism 10A 250V~) + LGP21 (plate + frame): the environmental impacts of each phase of the lifecycle are obtained by adopting the following coefficients on those of the Reference Product:

	Total LCA	Raw material and manufacture	Distribution	Installation	Use	End of life
Global warming	0.7	1.0	1.0	1.0	0.7	1.0
Ozon depletion	0.7	1.1				
Acidification of soil and water	0.8	1.1				
Water eutrophication	0.8	1.0				
Photochemical ozon creation	0.7	1.1				
Depletion of abiotic resources - elements	1.8	1.8				
Total use of primary energy during the life cycle	0.7	1.1				
Net use of fresh water	1.0	1.0				
Depletion of abiotic resources - fossil fuels	0.8	1.0				
Water pollution	0.8	1.0				
Air pollution	0.8	1.2				

For a complete configuration composed of: LGX202 (complete product) or Two LG020 (2 Way Switch mechanism 10A 250V~) + LGP22 (plate + frame): the environmental impacts of each phase of the lifecycle are obtained by adopting the following coefficients on those of the Reference Product:

	Total LCA	Raw material and manufacture	Distribution	Installation	Use	End of life
Global warming	1.4	1.4	1.6	1.8	1.4	1.3
Ozon depletion	1.4	1.8		1.5		1.2
Acidification of soil and water	1.4	1.6		1.9		1.3
Water eutrophication	1.4	1.5		1.8		1.4
Photochemical ozon creation	1.4	1.6		1.9		1.3
Depletion of abiotic resources - elements	3.5	3.6		1.8		1.3
Total use of primary energy during the life cycle	1.4	1.5		1.9		1.3
Net use of fresh water	1.3	1.3		1.5		1.3
Depletion of abiotic resources - fossil fuels	1.4	1.3		1.9		1.3
Water pollution	1.4	1.5		1.9		1.3
Air pollution	1.5	2.2		1.8		1.3

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For a complete configuration composed of: LGX222 (complete product) or Three LG020 (2 Way Switch mechanism 10A 250V~) + LGP23 (plate + frame): the environmental impacts of each phase of the lifecycle are obtained by adopting the following coefficients on those of the Reference Product:

	Total LCA	Raw material and manufacture	Distribution	Installation	Use	End of life
Global warming	2.0	1.7	1.8	1.8	2.1	1.6
Ozon depletion	2.1	2.2		1.5		1.5
Acidification of soil and water	2.0	1.9		1.9		1.6
Water eutrophication	2.0	1.8		1.8		1.7
Photochemical ozon creation	2.1	2.0		1.9		1.6
Depletion of abiotic resources - elements	5.3	5.3		1.8		1.5
Total use of primary energy during the life cycle	2.1	1.8		1.9		1.6
Net use of fresh water	1.6	1.5		1.5		1.5
Depletion of abiotic resources - fossil fuels	2.0	1.5		1.9		1.6
Water pollution	2.0	1.8		1.9		1.6
Air pollution	2.2	3.0		1.8		1.5

For a complete configuration composed of: LGX102 (complete product) or LG010 (1 Way Switch mechanism 10A 250V~) + LG020 (2 Way Switch mechanism 10A 250V~) + LGP22 (plate + frame): the environmental impacts of each phase of the lifecycle are obtained by adopting the following coefficients on those of the Reference Product.:

	Total LCA	Raw material and manufacture	Distribution	Installation	Use	End of life
Global warming	1.7	1.4	1.6	1.8	1.7	1.3
Ozon depletion	1.7	1.6		1.5		1.2
Acidification of soil and water	1.6	1.5		1.9		1.3
Water eutrophication	1.6	1.5		1.8		1.3
Photochemical ozon creation	1.7	1.5		1.9		1.3
Depletion of abiotic resources - elements	2.8	2.8		1.8		1.3
Total use of primary energy during the life cycle	1.7	1.4		1.9		1.3
Net use of fresh water	1.3	1.3		1.5		1.2
Depletion of abiotic resources - fossil fuels	1.6	1.3		1.9		1.3
Water pollution	1.6	1.5		1.9		1.3
Air pollution	1.7	1.9		1.8		1.3

Registration N°: LGRP-01538-V01.01-EN	Drafting rules: «PEP-PCR-ed3-EN-2015 04 02» Supplemented by «PSR-0005-ed2-EN-2016 03 29»
Verifier accreditation N°: VH23	Information and reference documents: **www.pep-ecopassport.org**
Date of issue: 07-2022	Validity period: 5 years
Independent verification of the declaration and data, in compliance with ISO 14025 : 2010 Internal ☒ External ☐	
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 : 2010: «Environmental labels and declarations. Type III environmental declarations»	
Environmental data in alignment with EN 15804: 2012 + A1 : 2013	