

# Unica

One-way switch  
flush-mounted

**Product Environmental Profile**



# Product Environmental Profile - PEP

## Product overview

The main function of the Unica range is the building of electrical installations with surface-mounted or flush-mounted, using fixing frames and cover frames with functions inserts.

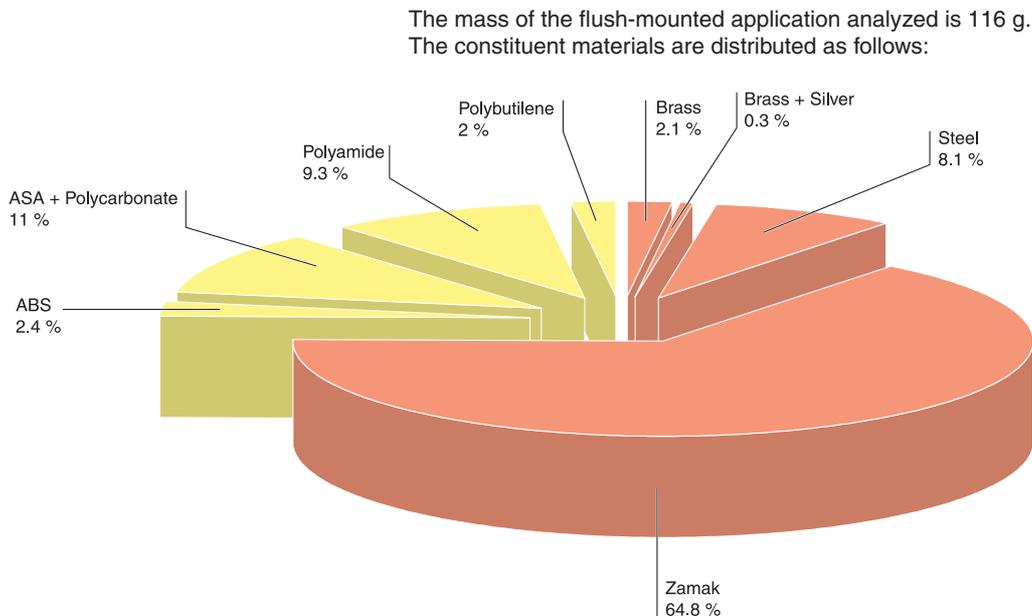
The range of the functions inserts consists of more than 150 electrical and electronic functions in light and power control, socket-outlets, data sockets, signalling, protection, comfort and energy saving.

The representative application used for the analysis is the 2 modules one-way switch- 16 AX- 250V, aluminium color (ref. MGU3.261.30), flush-mounted using the standard accessories for the range (zamak fixing frame with long claws- ref. MGU7.002.GL and 1 gang cover frame, glossy chrome/ aluminium color- ref. MGU66.002.038).

The environmental impacts of the product used as a reference are representative of the impacts of the other products in the range which are made using the same technology.

The environmental analysis was performed in conformity with ISO 14040 "Environmental management: Life cycle assessment - Principle and framework". This analysis takes the stages in the product life cycle into account.

## Constituent materials



All necessary steps have been taken with our services, suppliers and subcontractors to ensure that the materials used in the composition of the products of the Unica range do not contain any substances prohibited by the legislation that was in effect <sup>(1)</sup> when the product or range was put on the market.

Product of this range are designed in conformity with the requirements of the ROHS directive (European Directive 2002/95/EC of 27 January 2003) and do not contain or in the authorised proportions; lead, mercury, cadmium, chromium hexavalent, flame retardant (polybromobiphenyles PBB, polybromodiphenyl ethers PBDE) as mentioned in the directive.

<sup>(1)</sup> According to the list available on request.

## Manufacturing

The Unica range is manufactured on a Schneider Electric production site on which an ISO 14001 certified environmental management system has been established.

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## Distribution

The mass and volume of the packaging have been reduced in compliance with the European Union's packaging directive. The application packaging weighs 41.21 g. It consists of 34.51 g of cardboard, 2.7 g of polyethylene, 2 g of polypropylene and 2 g of paper (50% recycled). The product distribution flows have been optimized by setting up local distribution centers near the market areas.

## Utilization

The products in the Unica range do not generate any environmental pollution requiring special precautionary measures (noise, emissions...). The products involved in the application analysed are passive products that do not dissipate any significant heat in the installation.

## End of life

At the end of their lives, the products in the Unica range can be either dismantled or crushed for better reuse of the different constituent materials. The recycling potential is more than 90 %. This percentage includes metals and marked plastics.

## Environmental impacts



The IEME (Environmental Impact and Management Explorer) software, 1.6 version and its database, 5.4 version, were used for the life cycle assessment (LCA). The assumed service life of the product is 20 years and the European electrical power model was used. The scope of the analysis was limited to a flush-mounted one-way switch with a fixing frame and a cover frame. The environmental impacts were analyzed for the Manufacturing (M) phase, including the processing of raw materials and for the Distribution (D) and Utilization (U) phases.

### Presentation of the environmental impacts of the product

Environmental indicators	Unit	For MGU3.261.30 + MGU7.002.GL + MGU66.002.038			
		S = M + D + U	M	D	U
Raw material depletion	Y-1	2.78 10 <sup>-13</sup>	2.40 10 <sup>-13</sup>	3.82 10 <sup>-14</sup>	0
Energy depletion	MJ	1.47 10 <sup>5</sup>	1.19 10 <sup>5</sup>	2.75 10 <sup>4</sup>	0
Water depletion	dm <sup>3</sup>	5.86 10 <sup>4</sup>	5.59 10 <sup>4</sup>	2.66 10 <sup>3</sup>	0
Global warming potential	g≈CO <sub>2</sub>	1.48 10 <sup>7</sup>	1.24 10 <sup>7</sup>	2.40 10 <sup>6</sup>	0
Ozone depletion potential	g≈CFC-11	2.42	8.48 10 <sup>-1</sup>	1.57	0
Photochemical ozone creation	g≈C <sub>2</sub> H <sub>4</sub>	4.70 10 <sup>3</sup>	1.70 10 <sup>3</sup>	3 10 <sup>3</sup>	0
Air acidification	g≈H <sup>+</sup>	1.58 10 <sup>3</sup>	1.01 10 <sup>3</sup>	5.69 10 <sup>2</sup>	0
Hazardous waste production	kg	1.18	3.33 10 <sup>-1</sup>	8.49 10 <sup>-1</sup>	0

The life cycle analysis has shown that the manufacturing phase (M) is the phase that has the most impact on all the environmental indicators. Schneider Electric places strong importance in the design process on the choice of materials it uses and on the power consumption of the product so as to optimize impacts on the environment.

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## System approach

As the products of the range are designed in accordance with the ROHS directive, they can be incorporated without any restriction within an assembly or an installation submitted to this directive. It is important to remember that the product environmental assessment must take into consideration the application or installation in which the product is included. The environmental impact values also depend on the conditions under which the product is used in the installation. These values (given in the "Presentation of the environmental impacts of the product" table) are only valid within the context specified and cannot be used directly to compile the environmental assessment of the installation.

## Glossary

### **Raw Material Depletion (RMD)**

This indicator quantifies the consumption of raw materials during the life cycle of the product. It is expressed as the fraction of natural resources that disappear each year, with respect to all the annual reserves of the material.

### **Energy Depletion (ED)**

This indicator gives the quantity of energy consumed, whether it be from fossil, hydroelectric, nuclear or other sources. This indicator takes into account the energy from the material produced during combustion. It is expressed in MJ.

### **Water Depletion (WD)**

This indicator calculates the volume of water consumed, including drinking water and water from industrial sources. It is expressed in dm<sup>3</sup>.

### **Global Warming Potential (GWP)**

The global warming of the planet is the result of the increase in the greenhouse effect due to the sunlight reflected by the earth's surface being absorbed by certain gases known as "greenhouse-effect" gases. The effect is quantified in gram equivalent of CO<sub>2</sub>.

### **Ozone Depletion (OD)**

This indicator defines the contribution to the phenomenon of the disappearance of the stratospheric ozone layer due to the emission of certain specific gases. The effect is expressed in gram equivalent of CFC-11.

### **Photochemical Ozone Creation (POC)**

This indicator quantifies the contribution to the "smog" phenomenon (the photochemical oxidation of certain gases which generates ozone) and is expressed in gram equivalent of methane (C<sub>2</sub>H<sub>4</sub>).

### **Air Acidification (AA)**

The acid substances present in the atmosphere are carried by rain. A high level of acidity in the rain can cause damage to forests. The contribution of acidification is calculated using the acidification potentials of the substances concerned and is expressed in mode equivalent of H<sup>+</sup>.

### **Hazardous Waste Production (HWP)**

This indicator calculates the quantity of specially treated waste created during all the life cycle phases (manufacturing, distribution and utilization). For example, special industrial waste in the manufacturing phase, waste associated with the production of electrical power, etc. It is expressed in kg.



*We are committed to safeguarding our planet by "Combining innovation and continuous improvement to meet the new environmental challenges".*

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