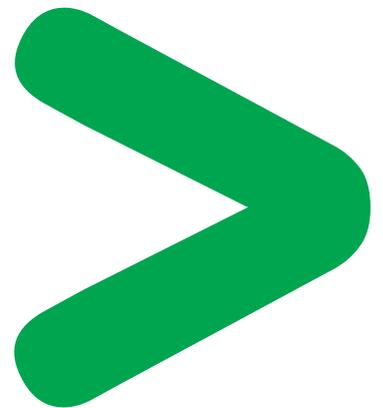


# Product Environmental Profile

VPIS



# Product Environmental Profile - PEP

## Product overview

The VPIS is an three phase medium voltage indicator.

It monitors the voltage, measured from capacitive divider, and activate a light when a voltage is present.

The representative product used for the analysis is VPI62406.

The environmental impacts of this referenced product are representative of the impacts of the other products of the range which are developed with the same technology.

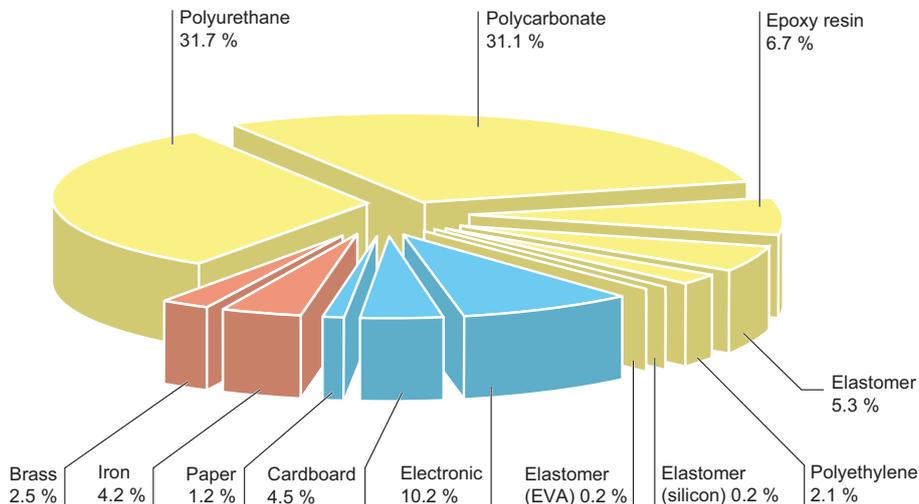
The environmental analysis was performed in conformity with ISO 14040 “Environmental management: Life cycle assessment – Principle and framework”.

This analysis takes the stages in the life cycle of the product into account.

## Constituent materials

The mass of the range products spreads out is 84.89 g packing included.

The constituent materials are distributed as follows:



Products 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, polybromodiphenylthers PBDE) as mentioned in the Directive.

## Manufacturing

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

## Distribution

The weight and volume of the packaging have been reduced, in compliance with the European Union's packaging directive.

The VPIS packaging is 4.82 g. It consists of carton (3.82 g) and Paper (1 g).

The product distribution flows have been optimised by setting up local distribution centres close to the market areas.

# Product Environmental Profile - PEP

## Utilization

The products of the VPIS do not generate environmental pollution requiring special precautionary measures (noise, and so on).

For consuming products, indicate following mention: The dissipated power depends on the conditions under which the product is implemented and used.

The electrical power consumed by the VPIS range spreads out is 0.000336 W average.

## End of life

At end of life, the products of the VPIS must be dismantled to facilitate the recovery of the various constituent materials.

If weight of the material (individually) is more than 15 % of total function's weight that is considered as recyclable material.

The proportion of recyclable material is higher than 85 %. This percentage includes the following materials: plastic and electronic.

## Environmental impacts

The EIME (Environmental Impact and Management Explorer) software, version V3, and its database, version 10.1 were used for the life cycle assessment (LCA).

The assumed service life of the product is 10 years with an utilisation rate of the installation of 100 % and the electrical power model used is European.

The scope of the analysis was limited to a VPI62406.

The environmental impacts were analysed for the Manufacturing (M) phases, including the processing of raw materials, and for the Distribution (D) and Utilisation (U) phases.

### Presentation of product environmental impacts

Environmental indicators	Unit	VPI62406			
		S = M + D + U	M	D	U
Raw Material Depletion	Y-1	5.683 10 <sup>-15</sup>	5.6828 10 <sup>-15</sup>	2.0631 10 <sup>-19</sup>	5.032 10 <sup>-19</sup>
Energy Depletion	MJ	13.522	12.921	1.5126 10 <sup>-1</sup>	4.497 10 <sup>-1</sup>
Water Depletion	dm <sup>3</sup>	6.124	6.04	1.4364 10 <sup>-2</sup>	6.9529 10 <sup>-2</sup>
Global Warming	g≈CO <sub>2</sub>	7.077 10 <sup>2</sup>	6.7174 10 <sup>2</sup>	12.984	22.979
Ozone Depletion	g≈CFC-11	6.7339 10 <sup>-5</sup>	5.6893 10 <sup>-5</sup>	8.4699 10 <sup>-6</sup>	1.9768 10 <sup>-6</sup>
Photochemical Ozone Creation	g≈C <sub>2</sub> H <sub>4</sub>	2.9571 10 <sup>-1</sup>	2.7749 10 <sup>-1</sup>	1.0245 10 <sup>-2</sup>	7.973 10 <sup>-3</sup>
Air Acidification	g≈H <sup>+</sup>	1.5279 10 <sup>-1</sup>	1.467 10 <sup>-1</sup>	2.4593 10 <sup>-3</sup>	3.6365 10 <sup>-3</sup>
Hazardous Waste Production	kg	1.233 10 <sup>-2</sup>	1.1959 10 <sup>-2</sup>	4.47 10 <sup>-6</sup>	3.6615 10 <sup>-4</sup>

The life cycle analysis shows that the 3 stages (M, D or U stages) is the life cycle phase which has the greatest impact on the majority of environmental indicators.

# Product Environmental Profile - PEP

## System approach

As the product of the range are designed in accordance with the RoHS Directive (European Directive 2002/95/EC of 27 January 2003), they can be incorporated without any restriction within an assembly or an installation submitted to this Directive.

*N.B.: please note that the environmental impacts of the product depend on the use and installation conditions of the product.*

*Impacts values given above are only valid within the context specified and cannot be directly used to draw up 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 ethylene (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.

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### Schneider Electric Industries SAS

35, rue Joseph Monier  
CS30323  
F - 92506 Rueil Malmaison Cedex

RCS Nanterre 954 503 439  
Capital social 896 313 776 €  
[www.schneider-electric.com](http://www.schneider-electric.com)



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