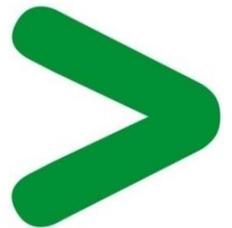


Product Environmental Profile

PH12 AND PH10 SMART ELECTROCHEMICAL SENSOR

PH12 and PH10 Series Smart Electrochemical Sensors for
pH and ORP measurement





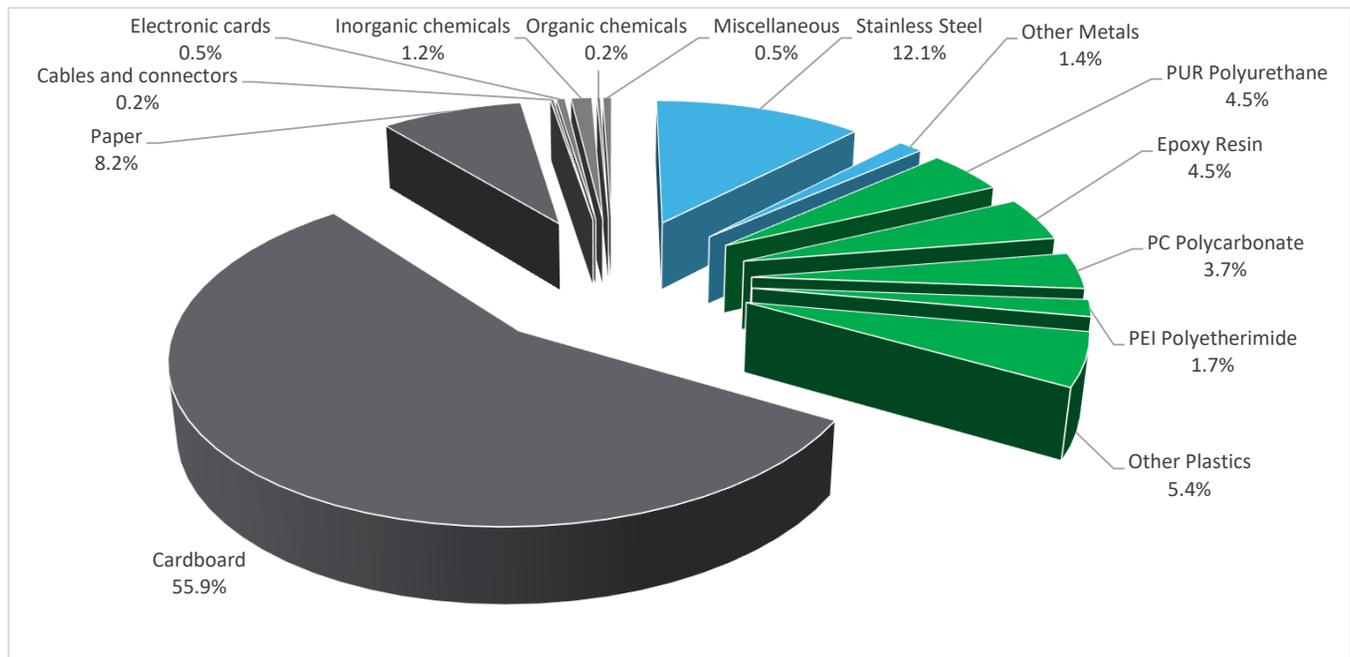
General information

Representative product	PH12 AND PH10 SMART ELECTROCHEMICAL SENSOR - PH12
Description of the product	The PH12 and PH10 Series Sensors are precision electrochemical sensors that are used with a popular set of mounting accessories to measure pH and ORP. These sensors provide a unique electrode technology in the widely used 12 mm and 3/4-inch form factors, and provide fast response, long life, and high accuracy and stability. They are rugged, easy-to-use devices particularly well suited for low and high temperature, sanitary, and biocompatibility installations.
Description of the range	PH12 and PH10 Series Smart Electrochemical Sensors for pH and ORP measurement The environmental impacts of this referenced product are representative of the impacts of the other products of the range which are developed with a similar technology.
Functional unit	To measure and transmit electrochemical data (pH and ORP) to a smart transmitter over one year.



Constituent materials

Reference product mass 531.4 g including the product, its packaging and additional elements and accessories



Plastics	19.8%
Metals	13.5%
Others	66.8%



Substance assessment

Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2011/65/EU of 8 June 2011) and do not contain, or only contain in the authorised proportions, lead, mercury, cadmium, hexavalent chromium or flame retardants (polybrominated biphenyls - PBB, polybrominated diphenyl ethers - PBDE) as mentioned in the Directive. As the products 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 in an assembly or an installation subject to this Directive.

Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website

<http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page>

Additional environmental information

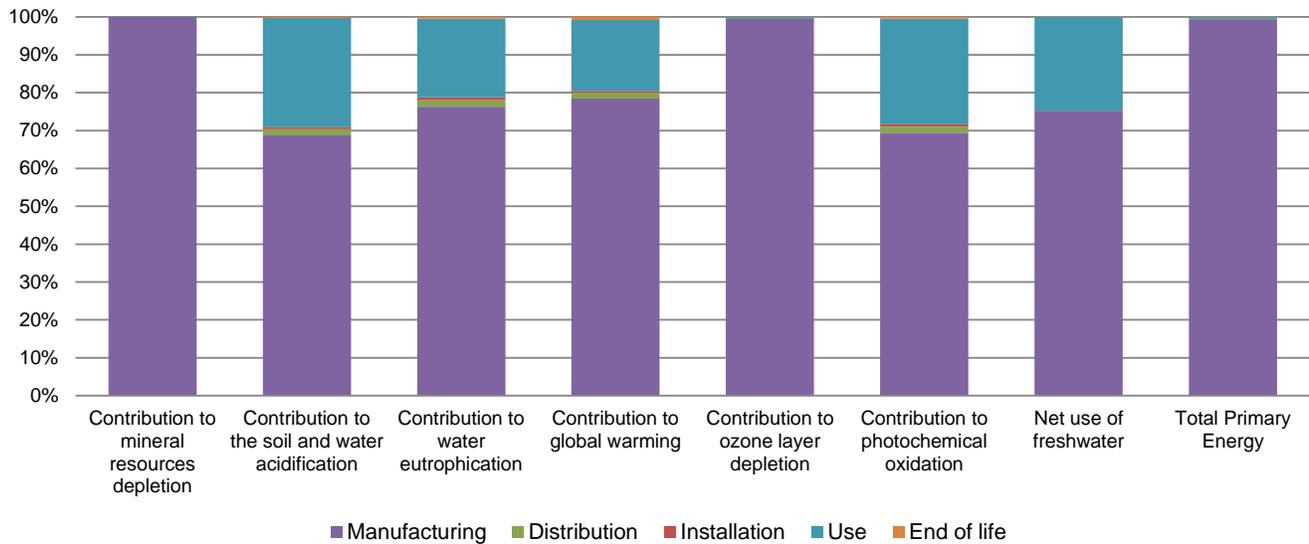
The PH12 AND PH10 SMART ELECTROCHEMICAL SENSOR presents the following relevant environmental aspects

Manufacturing	Manufactured at a production site complying with the regulations
Distribution	Weight and volume of the packaging optimized, based on the European Union's packaging directive Packaging weight is 374.8 g, consisting of cardboard (80%), paper (12%), plastic (8%) Packaging recycled materials is 92% of total packaging mass. Product distribution optimised by setting up local distribution centres
Installation	Installation as per the instructions in MI 611-214.
Use	The product does not require special maintenance operations.
End of life	End of life optimized to decrease the amount of waste and allow recovery of the product components and materials No special end-of-life treatment required. According to countries' practices this product can enter the usual end-of-life treatment process. Recyclability potential: 38% Based on "ECO'DEEE recyclability and recoverability calculation method" (version V1, 20 Sep. 2008 presented to the French Agency for Environment and Energy Management: ADEME).

Environmental impacts

Reference life time	1 year			
Installation elements	Transport and disposal of packaging is accounted for during the installation phase.			
Use scenario	The product is in active mode 100% of the time with a power consumption of 35mW.			
Geographical representativeness	The product can be used in all regions, but the majority is sold in North America.			
Technological representativeness	The means of material production, processing and transport modeled are representative of the technologies used in production.			
Energy model used	Manufacturing	Installation	Use	End of life
	Energy model used: Mexico and USA	Electricity mix; AC; consumption mix, at consumer; US, BR, CN and EU	Electricity mix; AC; consumption mix, at consumer; US, BR, CN and EU	Electricity mix; AC; consumption mix, at consumer; US, BR, CN and EU

Compulsory indicators		PH12 AND PH10 SMART ELECTROCHEMICAL SENSOR - PH12					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	5.41E-03	5.41E-03	0*	0*	0*	0*
Contribution to the soil and water acidification	kg SO ₂ eq	1.75E-02	1.20E-02	2.87E-04	8.96E-05	5.05E-03	5.09E-05
Contribution to water eutrophication	kg PO ₄ ³⁻ eq	3.93E-03	3.00E-03	6.62E-05	3.07E-05	8.18E-04	1.58E-05
Contribution to global warming	kg CO ₂ eq	4.09E+00	3.21E+00	6.30E-02	2.17E-02	7.63E-01	3.45E-02
Contribution to ozone layer depletion	kg CFC11 eq	6.11E-06	6.09E-06	0*	0*	2.63E-08	1.27E-09
Contribution to photochemical oxidation	kg C ₂ H ₄ eq	1.22E-03	8.45E-04	2.05E-05	6.72E-06	3.40E-04	5.17E-06
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m ³	2.10E-01	1.58E-01	0*	0*	5.19E-02	2.55E-05
Total Primary Energy	MJ	1.94E+03	1.93E+03	8.90E-01	2.78E-01	9.73E+00	2.42E-01



Optional indicators		PH12 AND PH10 SMART ELECTROCHEMICAL SENSOR - PH12					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	4.91E+01	3.85E+01	8.85E-01	2.86E-01	9.24E+00	2.22E-01
Contribution to air pollution	m ³	4.13E+02	3.49E+02	2.68E+00	1.07E+00	5.76E+01	1.77E+00
Contribution to water pollution	m ³	5.14E+02	3.97E+02	1.04E+01	3.19E+00	1.01E+02	2.33E+00
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	1.44E-01	1.44E-01	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	9.82E+00	9.42E+00	1.19E-03	1.11E-03	4.03E-01	0*
Total use of non-renewable primary energy resources	MJ	1.93E+03	1.92E+03	8.89E-01	2.77E-01	9.33E+00	2.42E-01
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	5.64E+00	5.23E+00	1.19E-03	1.11E-03	4.03E-01	0*
Use of renewable primary energy resources used as raw material	MJ	4.19E+00	4.19E+00	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	1.92E+03	1.91E+03	8.89E-01	2.77E-01	6.90E+00	2.42E-01
Use of non renewable primary energy resources used as raw material	MJ	5.17E+00	2.75E+00	0*	0*	2.42E+00	0*
Use of non renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*
Use of renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*
Waste categories	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Hazardous waste disposed	kg	1.95E+01	1.93E+01	0*	0*	6.65E-03	2.65E-01
Non hazardous waste disposed	kg	5.64E+00	5.26E+00	2.24E-03	2.70E-02	3.48E-01	7.35E-04
Radioactive waste disposed	kg	1.20E-03	9.97E-04	1.59E-06	1.35E-06	2.00E-04	1.20E-06
Other environmental information	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	4.60E-01	4.79E-02	0*	3.51E-01	0*	6.14E-02
Components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	6.27E-03	0*	0*	0*	0*	6.27E-03
Exported Energy	MJ	1.09E-03	1.02E-04	0*	9.85E-04	0*	0*

* represents less than 0.01% of the total life cycle of the reference flow

Life cycle assessment performed with EIME version EIME v5.7.0.3, database version 2018-03 in compliance with ISO14044.

The manufacturing phase is the life cycle phase which has the greatest impact on the majority of environmental indicators (based on compulsory indicators).

According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range.

The environmental indicators of other products in this family may be proportional extrapolated, by life cycle phase, based on the ratio of the amount of a key parameter of the product, over the amount of that key parameter within the reference product. Proportionality rules are based on the following key parameters for impacts by lifecycle phase: Manufacturing phase impacts - the mass of the product (excluding packaging). Distribution phase impacts - total mass of product (including packaging). Installation phase impacts - mass of packaging. Use phase impacts - product lifetime energy consumption. End of Life impacts - the product mass (excluding packaging).

Please note that the values given above are only valid within the context specified and cannot be used directly to draw up the environmental assessment of an installation.

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<i>Validity period</i>	5 years	<i>Information and reference documents</i>	www.pep-ecopassport.org
<i>Independent verification of the declaration and data</i>			
Internal	X	External	
<i>The elements of the present PEP cannot be compared with elements from another program.</i>			
<i>Document in compliance with ISO 14021:2016 « Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling) »</i>			

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