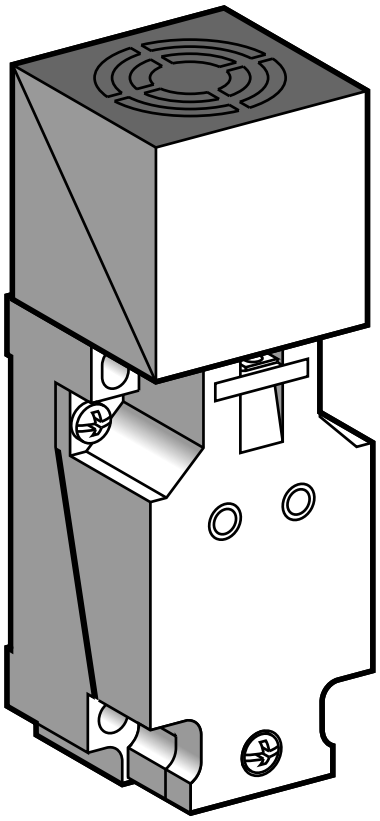
Product Environmental Profile

XS8C40PC440
Inductive Proximity Switch



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Product Overview

The main purpose of the XS and XT inductive and capacitive proximity sensors is to detect metal, insulating or conductive objects without making contact. They are used in automated installations and are designed to send presence or absence information to the processing system.
This range consists of sensors with a static output connected by screws and brackets.

The product range consists of the following sensors:

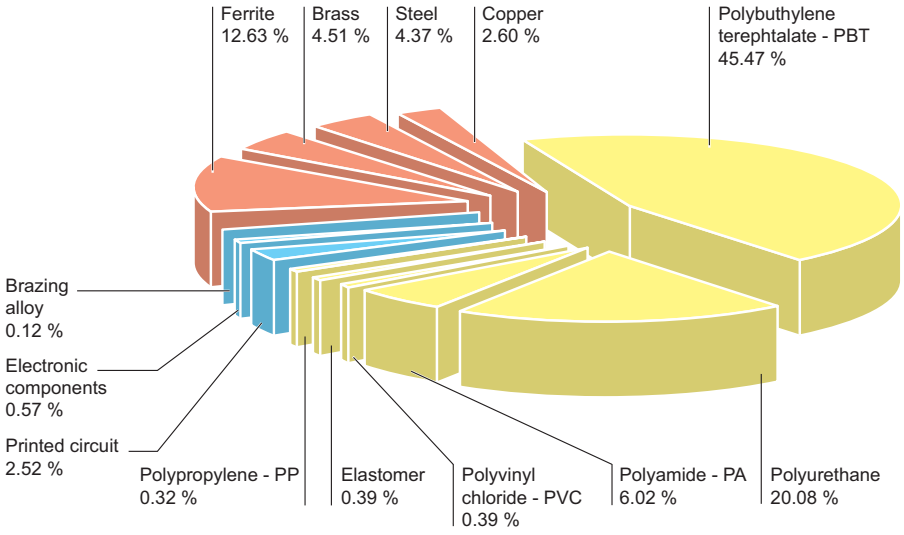
Type of sensor	Reference
Inductive	XS C40....
Capacitive	XT7C40....

The representative product Used for the analysis is XS8C40PC440.
The environmental impacts of this referenced product are representative of the impacts of the other products in the range for which the same technology is used.
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.

For more information please contact us at: global-green-sensors@schneider-electric.com.

Constituent materials

The mass of the products in the range is approximately 220 g not including the packaging.
It is 223 g for the XS8C40PC440 analysed.
The constituent materials are distributed as follows:



Substance assessment

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

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Distribution

The weight and volume of the packaging have been reduced in compliance with the European Union's packaging directive.
The weight of the packaging of the XS8C40PC440 is 16 g. It consists of cardboard and paper, which are 100 % recyclable materials.
The product distribution flows have been optimised by setting up local distribution centres close to the market areas.

Utilization

The products in the range do not generate any environmental pollution requiring special precautionary measures (noise, emissions, etc.).
The dissipated power depends on the conditions under which the product is implemented and used.
The power consumption of the XS8C40PC440 reference product is 9.6 W in active mode and 0.48 W in standby mode.

End of life

At end of life, the products in the range can either be dismantled or crushed to facilitate the recovery of the various constituent materials.
The recycling potential is more than 22 %. This percentage includes mainly the metals and alloys in the product.

Environmental impacts

The EIME (Environmental Impact and Management Explorer) software, version 1.6, and its database, version 5.4, were used for the Life Cycle Assessment.
The assumed service life of the product is 10 years, the utilisation rate of the installation is 32 % and the European electrical power model is used.
The analysis focused on an XS8C40PC440.
The environmental impacts were analysed 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 impacts	Unit	For an inductive proximity sensor XS8C40PC440			
		S = M + D + U	M	D	U
Raw material depletion	**Y-1**	**$5.42\ 10^{-15}$**	94 %	0.10 %	5.75 %
Water depletion	**dm^3**	**96.77**	44.03 %	0.87 %	55.10 %
Global warming potential	**g≈CO_2**	**30072.00**	15.88 %	1.09 %	83.02 %
Ozone depletion potential	**g≈CFC-11**	**$5.46\ 10^{-3}$**	15.30 %	1.19 %	83.51 %
Photochemical ozone creation	**g≈C_2H_4**	**22.82**	19.26 %	2.47 %	78.27 %
Air acidification	**g≈H^+**	**14.61**	69.83 %	0.31 %	29.87 %
Hazardous waste production	**kg**	**0.45**	17.38 %	0.01 %	82.61 %

The life cycle analysis showed that the Utilization phase has the greatest impact on most of the environmental indicators; the environmental parameters of this phase were optimised at the design stage.

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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^3.

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_2.

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_2H_4).

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^+.

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.

Registration No.: SCHN-2011-102-V0				Writing rules: PCR PEPecopassport 2010 :1.0
Accreditation No. of verifier:: VH05				Programme information: www.pep-ecopassport.org
Date of issue: 05-2010				Period of validity: 4 years
Independent verification of the declaration and data, in compliance with ISO 14025:2006				
Internal	V1	External	V1	
In compliance with the ISO 14025:2006 type III environmental declaration standard.				
The critical review of the PCR was conducted by a panel of experts chaired by. J. Chevalier (CSTB).				
The information in the present PEP cannot be compared with information from another programme.				

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Published by: Schneider Electric