Product Environmental Profile

9001BW
Pendant Station

Schneider Electric

Product overview

The 9001BW Pendant Station range is used for hoist applications, requiring either single or two speed buttons. The thermoplastic enclosure is provided with a ½ inch conduit entrance at top to accept a pendant cable and has internal strain relief provided as standard.

The 9001BW Pendant Station range consists of a two button station available in three colors. All universal stations have double circuit blocks (1NO./1N.C.) on each button and come without legends so they can be assembled to fit the application.

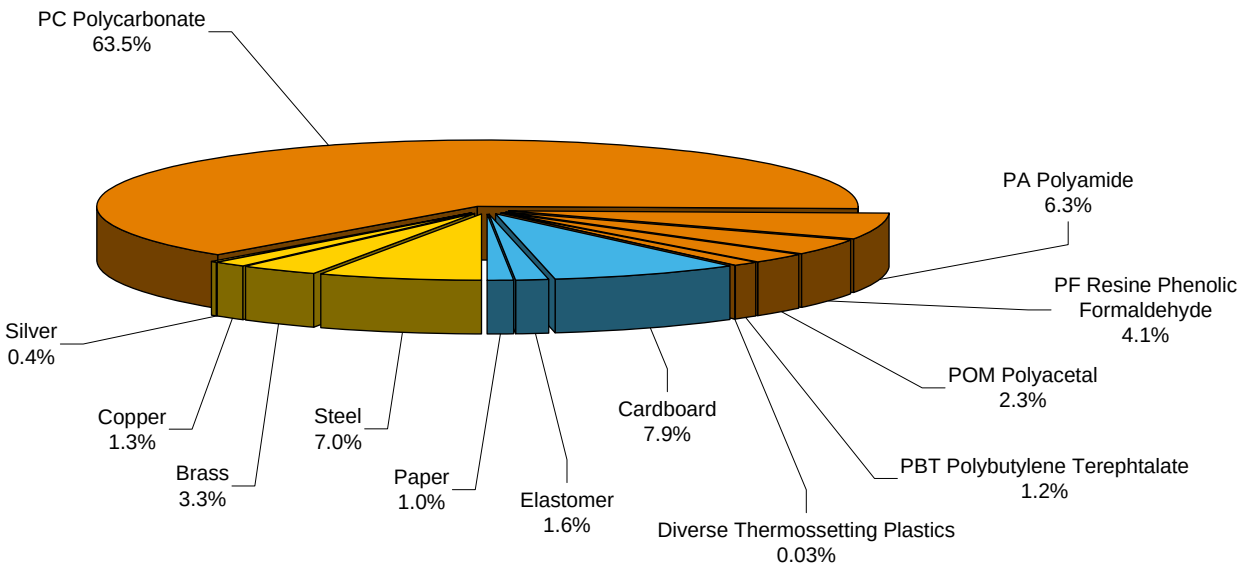
The representative product used for the analysis 9001BW92Y is a standard duty NEMA® rated 120-600 V dc (P600), up-down pushbutton, single speed, with cord connector and strain relief.

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.

The environmental analysis was performed in conformity with ISO 14040.

Constituent materials

The mass of the product range is from 200 g and 372 g including packaging. It is 315.5 g for the 9001BW92Y Pendant Station.
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 2011/65/Eu of 2 January 2013) 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

Manufacturing

The 9001BF Stainless Steel Flush Plates product range is manufactured at a Schneider Electric production site on which an ISO14001 certified environmental management system has been established.

Distribution

The weight and volume of the packaging have been optimized, based on the European Union's packaging directive.
The 9001BW Pendant Station range packaging weight is *28.1 g*. It consists of 25g of cardboard and 3.1g of paper.

Use

The products of the 9001BW Pendant Station range do not generate environmental pollution (noise, emissions) requiring special precautionary measures in standard use.
The dissipated power depends on the conditions under which the product is implemented and used. This dissipated power is between 5.3 W and 22 W for the 9001BW Pendant Station product range. It is 5.49 W for the referenced 9001BW92Y.
This thermal dissipation represents less than 2% of the power which passes through the product.
9001BW Pendant Station product range don’t need any maintenance operation.

Product Environmental Profile - PEP

End of life

At end of life, the products in the 9001BW Pendant Station have been optimized to decrease the amount of waste and allow recovery of the product components and materials.

This product range contains 2 plastic parts which contain brominated flame retardants that should be separated from the stream of waste so as to optimize end-of-life treatment by special treatments. The location of these components and other recommendations are given in the End of Life Instruction document which is available for this product range.

The recyclability potential of the products has been evaluated using the “Codde- BV recyclability and recoverability calculation method” (version V1, 20 Sep. 2008 presented to the French Agency for Environment and Energy Management: ADEME).

According to this method, the potential recyclability ratio is: 34.41%.

As described in the recyclability calculation method this ratio includes only metals and plastics which have proven industrial recycling processes.

Environmental impacts

Life cycle assessment has been performed on the following life cycle phases: Materials and Manufacturing (M), Distribution (D), Installation (I) Use (U), and End of life (E).

Modeling hypothesis and method:

- the calculation was performed on the give 9001BW92Y
- product packaging: is included
- installation components: no special components included.
- scenario for the Use phase: this product range is included in the “Energy Passing Product”: (assumed service life is 20 years and use scenario is: Product dissipation is 5.49 W, loading rate is 100% and service uptime percentage is 30%)

The electrical power model used for calculation is US model.

End of life impacts are based on a worst case transport distance to the recycling plant (1000km)

Presentation of the product environmental impacts

Environmental indicators	Unit	9001BW92Y					
		S = M + D + I + U + E	M	D	I	U	E
Raw Material Depletion	Y-1	1.10^{E}-13	1.07^{E}-13	1.29^{E}-19	0	2.90^{E}-15	6.43^{E}-19
Energy Depletion	MJ	3.25^{E}+03	4.46^{E}+01	9.48^{E}-02	0	3.20^{E}+03	4.71^{E}-01
Water depletion	dm^3	3.77^{E}+02	1.01^{E}+01	9.00^{E}-03	0	3.67^{E}+02	4.48^{E}-02
Global Warming	g≈CO_2	2.13^{E}+05	2.90^{E}+03	7.51	0	2.10^{E}+05	3.73^{E}+01
Ozone Depletion	g≈CFC-11	7.26^{E}-03	3.55^{E}-04	5.31^{E}-06	0	6.87^{E}-03	2.64^{E}-05
Air Toxicity	m^3	4.73^{E}+07	6.41^{E}+05	1.42^{E}+03	0	4.67^{E}+07	7.03^{E}+03
Photochemical Ozone Creation	g≈C_2H_4	4.40^{E}+01	1.18	6.42^{E}-03	0	4.28^{E}+01	3.19^{E}-02
Air acidification	g≈H^+	4.00^{E}+01	4.21^{E}-01	9.57^{E}-04	0	3.95^{E}+01	4.76^{E}-03
Water Toxicity	dm^3	2.14^{E}+04	1.45^{E}+03	9.39^{E}-01	0	1.99^{E}+04	4.67
Water Eutrophication	g≈PO_4	8.49^{E}-01	3.65^{E}-01	1.25^{E}-04	0	4.83^{E}-01	6.21^{E}-04
Hazardous waste production	kg	4.62	3.26^{E}-02	2.79^{E}-06	0	4.59	1.39^{E}-05

Life cycle assessment has been performed with the EIME software (Environmental Impact and Management Explorer), version 4, and with its database version 11.

The use phase is the life cycle phase which has the greatest impact on the majority of environmental indicators.

According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range: Depending on the impact analysis, the environmental indicators (without RMD) of other products in this family may be proportional extrapolated by energy consumption values.

System approach

As the products of the range are designed in accordance with the RoHS Directive (European Directive 2011/65/Eu of 2 January 2013), they can be incorporated without any restriction in an assembly or an installation subject to this Directive.

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.

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 (GW)	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.
Air Toxicity (AT)	This indicator represents the air toxicity in a human environment. It takes into account the usually accepted concentrations for several gases in the air and the quantity of gas released over the life cycle. The indication given corresponds to the air volume needed to dilute these gases down to acceptable concentrations.
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^+.
Water Toxicity (WT)	This indicator represents the water toxicity. It takes into account the usually accepted concentrations for several substances in water and the quantity of substances released over the life cycle. The indication given corresponds to the water volume needed to dilute these substances down to acceptable concentrations.
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.

PEP achieved with Schneider-Electric TT01 V7 and TT02 V15 procedures in compliance with ISO14040 series standards
PEP established according to PEPecopassport PCR : PEP- PCR-ed 2-EN-2011 12 09 rules

Schneider Electric Industries SAS
35, rue Joseph Monier
CS 30323
F- 92506 Rueil Malmaison Cedex
RCS Nanterre 954 503 439
Capital social 896 313 776 €

www.schneider-electric.com

Published by: Schneider Electric

© 2013 Schneider Electric. All Rights Reserved. Schneider Electric is a trademark owned by Schneider Electric Industries SAS or its affiliated companies. All other trademarks are the property of their respective owners.