



Reference product



> Reference product

Motor Controller 4AC IB+ WM

Ref **1860049**

> Functional unit

To control motor closures of connected buildings, that perform 2,56 cycles of operation per day, for a lifetime of 10 years.

> References covered

- Motor Controller 4AC IB+ WM, ref 1860049
- Motor Controller 4AC IB+ DRM, ref 1860081
- Motor Controller 4DCE IB+ WM, ref 1860087
- Motor Controller 4DC IB+ WM, ref 1860085
- Motor Controller 4AC KNX WM, ref 1860114



Materials and substances

All useful measures have been adopted to ensure that the materials used in the composition of the product do not contain any substances banned by the legislation in force at the date of PEP release.

Plastics			Metals			Other		
	g	%		g	%		g	%
ABS	279,3	34,1	Copper	20,1	2,46	Glass fiber	34,1	4,16
PC	270,5	33,03	Other	17,0	2,07	Other	23,7	2,89
PBT	18,3	2,24				Packaging		
Epoxy resin	18,1	2,21				Cardboard	109,4	13,36
Other	11,8	1,44				Paper	16,7	2,04
Total mass of reference product: 819 g								
Estimated recyclable content: 38,1%								

> RoHS

All our products comply, with the restrictions on substances specified in the RoHS directive.

> REACH

At the date of PEP release, the product doesn't contain, as far as we know, any substance of the candidate list to authorization of the REACH regulation with a concentration above 0,1% w/w.



Manufacturing

The devices covered in this PEP are manufactured in a production that have adopted environmental management approach.

— Distribution

The packaging is made of 100% paper and cardboard. It is 100% recyclable. Packaging is continuously improved by reducing the amount and using a maximum of recycled material.

— Installation

> Installation processes

The processes to install the product are not considered in this study because of their weak impact compared to the other life cycles steps.

> Installation elements (non delivered with the product)

Elements non delivered with the product and needed to install the product are not considered as well.

— Use

For the considered scenario, the product has a power of 1,29 W in active mode during 0,2% of the time and a standby power of 0,36 W during 99,80% of the time. This corresponds to an energy consumption of 31,76 kWh for the use span of 10 years.

> **Energy model of the usage phase:** Europe

> **Consumables and maintenance:** None

— End of life

> Typical transport conditions

Considering the complexity and the lack of knowledge of the electric and electronic recycling channel and processes all around the world, we considered a 1000 km transport of the product at end of life and a landfill treatment.

> **The recycling potential of the product, out of packaging is :** 34,3%. This calculation is done with EIME software version 5.3.0.2.

— Environmental impacts

Evaluation of the environmental impact covers the following life cycle stages: manufacturing, distribution, installation, usage and end of life. All calculations are done with EIME software version 5.3.0.2.

Indicators	Global	Unit	Manufacturing	Distribution	Installation	Usage	End of Life
Air Acidification	5,73E+00	g H+ eq	1,44E+00	2,28E-01	2,88E-03	4,04E+00	1,18E-02
Air Toxicity	6,86E+06	m ³	1,85E+06	2,97E+05	4,98E+03	4,69E+06	2,00E+04
Energy Depletion	5,25E+02	MJ	1,41E+02	3,15E+00	2,34E-01	3,79E+02	1,30E+00
Global Warming Potential	2,69E+04	g CO ₂ eq	7,71E+03	2,47E+02	1,17E+02	1,87E+04	8,41E+01
Hazardous Waste Production	1,83E-01	kg	1,80E-01	2,54E-07	4,84E-07	3,21E-03	2,68E-06
Ozone Depletion Potential	4,84E-03	g CFC-11	5,68E-04	3,96E-07	3,63E-07	4,27E-03	2,01E-06
Photochemical Ozone Creation Potential	4,38E+00	g C ₂ H ₄ eq	3,10E+00	7,84E-02	2,40E-02	1,06E+00	2,48E-02
Raw Material Depletion	8,88E-14	Y-1	8,86E-14	4,57E-18	3,98E-19	2,53E-16	2,21E-18
Water Depletion	8,54E+01	dm ³	3,65E+01	2,23E-02	3,76E-02	4,88E+01	7,45E-02
Water Eutrophisation	9,77E-01	g PO ₄ ³⁻	7,24E-01	4,19E-04	1,41E-02	1,78E-01	5,96E-02
Water Toxicity	1,17E+01	m ³	3,17E+00	9,54E-02	2,97E-02	8,34E+00	4,80E-02

Product Environmental Profile

Motor controller



> Extrapolation rule

For all the products covered by this PEP other than reference product, we should apply these coefficients to each indicator:

Coefficient	Sum	Manufacturing	Distribution	Installation	Use	End of life
4AC IB+ WM	1,00	1,00	1,00	1,00	1,00	1,00
4 AC IB+ DRM	1,00	1,00	0,50	0,59	1,00	0,87
4DC IB+ WM	1,23	1,79	1,08	1,88	0,83	0,93
4DCE IB+ WM	9,28	2,37	1,19	1,88	10,20	1,07
4AC KNX WM	1,21	1,27	1,00	1,00	1,00	1,03

Registration number : SOMF-2014-001-V1-EN	Applicable PCR: PEP-PCR-ed 2.1-EN-2012 12 11 Supplemented by PSR: PSR0005-ed1-EN-2012 12 11
Accreditation number: VH15	Programme information: www.pep-ecopassport.org
Edition date: 06-2014	Period of validity: 4 years
Independant verification of the declaration and data, according to ISO 14025:2006 Internal <input type="checkbox"/> External <input checked="" type="checkbox"/> Bureau Veritas CODDE	
In compliance with ISO 14025:2006 Type III environmental declarations	
PCR review was conducted by a panel of experts chaired by J. Chevalier (CSTB)	
The elements of the present PEP cannot be compared with elements from another programme	
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