

# Product Environmental Profile



## Optional modules Input/Output **DIRIS Digiware IO** IO-10, IO-20



### The commitments of Socomec to respect the environment

As part of its environmental policy, Socomec is committed to:

- Develop innovating solutions primarily focused on energy efficiency to help its customer in the design of less energy-consuming, better managed and ecofriendly installations.
- Diversify its product offer in the renewable energy and energy efficiency sectors,
- Minimize the environmental impact of its industrial activities through the progressive ISO 14001 certification of its production sites,
- Minimize at the preliminary design stage the environmental impacts of its products taking into account their whole life cycle,
- Provide his customers with reliable data on the environmental performance of the products.

Socomec is member of :



Environment and sustainable development commissions



## ■ Representative product

### Reference product

The representative product is the DIRIS Digiware IO-20 with sales reference 48290145.

### References covered by this PEP

DIRIS Digiware IO-10 respectively of the sales references 48290140.

### Product description

DIRIS Digiware IO-10, IO-20 modules are used with DIRIS Digiware system.

The DIRIS Digiware IO-10 module is fitted with 4 digitals inputs and 2 digitals outputs. Inputs can be set as logic state or pulse meter. Outputs can be set as alarm signal or remote control.

The DIRIS Digiware IO-20 module is fitted with 2 analogs inputs to connect analogic sensors (pressure, humidity, temperature ...).

### Functional unit

Connect analogic and digital sensors for the measurement of characteristics (pressure, humidity, temperature) during 10 years.

## ■ Material and substances

### Declaration of the constitutive materials according to IEC 62474

Total mass of the reference product (including packaging): 86 g (packaging: 20 g and electronic components: 32 g)

The packaging is composed of cardboard (15,7 g), labels and instruction sheet (4,3 g)

Total mass of the other covered product (including packaging): 83 g (packaging: 20 g and electronic components: 30 g)

### For the DIRIS Digiware IO-20

Metals, % weight		Plastics, % weight		Others, % weight	
Copper and its alloys	8,8%	Others thermoplastics	38,8%	Others Organics	23,4%
Other ferrous alloys – non stainless	4,3%	Other plastics	6%	Ceramics and Glass	7,3%
Other non-ferrous metals and alloys alloys	2,9%	PVC	<0,1%	Others Inorganics	5,4%
Nickel and its alloys	1,7%				
Zinc and its alloys	0,9%				
Stainless steels	0,4%				
Precious Metals	0,2%				
Aluminum and its	<0,1%				
Magnesium and its alloys	<0,1%				

The estimated content of recycled materials is 36,2%, based on a Life Cycle Analysis model with EIME software which is a software distributed by CODDE, a subsidiary of Bureau Veritas.

DIRIS Digiware IO-10	<b>Metals, % weight</b> : 13,9%	<b>Plastics, % weight</b> : 47,9%	<b>Others, % weight</b> : 38,2%
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## Substances management

Socomec is leading a program to limit the use of hazardous substances in the design of new products and to monitor the presence of substances of concern in its supplies to anticipate future use restrictions.



ROHS directive 2011/65/EC compliance: although the majority of Socomec products are outside the scope of the ROHS directives, a ROHS compliance process has been in progress on a voluntary basis since 2006. Product references covered by this PEP meet the requirements of the RoHS Directive on the restriction of substances such as lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ethers (PBDEs).



REACH 1907/2006 regulation: to the best of our knowledge at the publication date of this document, none of the substance of the candidate list to authorization (SVHC) has been found in the references covered by this PEP.

## ■ Manufacturing

The products covered by this PEP are manufactured on a site where impacts on the environment are reduced by optimizing its energy consumption and by practicing a rigorous waste management.

Moreover, Socomec is committed to the progressive ISO 14001 certification of its manufacturing sites.

## ■ Distribution

As part of its distribution policy aiming to respect the environment, Socomec is in favor of groupage transports and ISO14001 certified logistic partners.

The packaging is mainly made of : cardboard (15,7 g), labels and instruction sheet (4,3 g).

No reconditionning is needed for this product.



The packaging complies with Directive 94/62/EC.

The sizing of the packaging has been optimized to ensure the best possible protection of the product at the lowest possible volume in order to reduce the impact of the transport stage on the environment.

Packaging design solutions favors mono-material recyclable cardboard without coloring or bleaching. The wedging of the packaged product is made of recycled cardboard, no polystyrene is used.

## ■ Installation

The installation stage consists in connecting the product to the existing electrical installation. The installation does not generate any significant impacts on the environment, except impacts from packaging waste.

## ■ Use phase

### Consumption scenario

Use phase scenario: European energy mix

Mode	Power consumption of the reference product (W)	Load rate (%)	Time distribution (%)
Active	DIRIS Digiware IO-20 : 0,34	100	100
Active	DIRIS Digiware IO-10 : 0,5	100	100

Product power consumption during its total lifespan (10 years) for IO-20: 35 kWh

Product power consumption during its total lifespan (10 years) for IO-10: 43,8 kWh

### Care and maintenance

The product does not require any maintenance under normal conditions of use.

### Consumables

The product does not require consumables.

## ■ End of life

### End of life treatment

During dismantling, some parts could constitute a safety hazard for treatment operators and damage environment. See below the location of such components that need to be dismantled and oriented towards appropriate end of life facilities according to the applicable local legislation.

- 1) With a screwdriver in the notches\*, dissociate the 2 parts of the plastic housing.

Then repeat the operations on the opposite face of the product.

- 2) Remove the superior part of the plastic housing in order to access the electronic cards.

Take the electronic card out of the plastic housing.

Head all of the parts towards the appropriate recycling industry according to the legislation.

#### Remark:

This product does not contain any battery.



### Recovery potential of the product according to IEC TR 62635

The total potential value of this product is 46,3%.

This potential value takes into account the material recycling and energy recovery.

## ■ Environmental impacts

### Calculation methodology: life cycle assessment (LCA)



The calculation of the impacts on the environment was made using a life cycle assessment methodology in accordance with the ISO 14040 requirements and with PEP eco passport product category rules. For more details follow the link: [www.pep-ecopassport.org](http://www.pep-ecopassport.org)  
 This study was carried out with the version 5.6.0.1 of the software EIME with version database CODDE\_2016\_11. The software is distributed by CODDE which is a subsidiary of Bureau Veritas.

The whole life cycle has been taken into account:

Step	Geographical representativeness	Scenario
<b>Manufacturing (M)</b>	Production of electronic components : Asia Production of other components and packaging : Europe Assembly : France	From the raw material extraction to the last Socomec logistic platform, including packaging
<b>Distribution (D)</b>	Distribution scenario : Europe	From the last Socomec logistic platform to the final customer
<b>Installation (I)</b>	Transport and treatment of packaging wastes : Local	Local road transport of generated wastes to the treatment site, and landfilling
<b>Use phase (U)</b>	Energy mix : Europe	Power consumption required during 10 years according to consumption scenario described on page 3.
<b>End Of Life (EOL)</b>	Transport and treatment : Local	Road transport from the final customer to the treatment sites. End of life treatment.

### Environmental impacts of the DIRIS Digiware IO-20

The following impacts have been calculated to best represent geographically and technologically each step of the life cycle.

The following impacts can be extrapolated to the other products covered by this PEP by applying a proportionality rule (K factor) to the impacts of the reference product.

The K1 factor is applicable for the DIRIS Digiware IO-10.


Indicators	Unit	Total impact	M	D	I	U	EOL	K1
Contribution to global warming	kg CO <sub>2</sub> eq.	2,16E+01	6,99E+00	4,49E-02	4,39E-03	1,46E+01	1,45E-02	1,23
Contribution to ozone layer depletion	kg CFC11 eq.	1,83E-06	8,79E-07	0*	0*	9,51E-07	2,16E-10	1,12
Contribution to the soil and water acidification	kg SO <sub>2</sub> eq.	7,00E-02	8,83E-03	2,02E-04	1,81E-05	6,09E-02	5,97E-05	1,38
Contribution to water eutrophication	kg (PO <sub>4</sub> ) <sup>3-</sup> eq.	6,14E-03	2,36E-03	4,64E-05	1,25E-05	3,68E-03	4,11E-05	1,18
Contribution to photochemical ozone formation	kg C <sub>2</sub> H <sub>4</sub> eq.	4,33E-03	9,65E-04	1,43E-05	1,35E-06	3,34E-03	4,45E-06	1,31
Contribution to the depletion of abiotic resources - elements	kg Sb eq.	3,39E-03	3,39E-03	0*	0*	1,27E-06	0*	0,73
Contribution to the depletion of abiotic resources - fossil fuels	MJ	2,43E+02	7,61E+01	6,31E-01	6,22E-02	1,66E+02	2,05E-01	1,24
Contribution to water pollution	m <sup>3</sup>	1,17E+03	5,54E+02	7,39E+00	5,98E-01	6,02E+02	1,97E+00	1,13
Contribution to air pollution	m <sup>3</sup>	1,21E+03	5,79E+02	1,84E+00	3,66E-01	6,28E+02	1,21E+00	1,13
Use of renewable primary energy (excl. raw materials)	MJ	3,98E+01	2,72E+00	0*	0*	3,71E+01	0*	1,42
Use of renewable primary energy used as raw materials	MJ	3,97E-01	3,97E-01	0*	0*	0*	0*	0,99
Total use of renewable primary energy resources	MJ	4,02E+01	3,12E+00	0*	0*	3,71E+01	0*	1,41
Use of non-renewable primary energy (excl. raw materials)	MJ	3,31E+02	7,53E+01	6,35E-01	5,36E-02	2,54E+02	1,77E-01	1,31
Use of non-renewable primary energy used as raw materials	MJ	3,74E-01	3,74E-01	0*	0*	0*	0*	0,45
Total use of non-renewable primary energy resources	MJ	3,31E+02	7,56E+01	6,35E-01	5,36E-02	2,54E+02	1,77E-01	1,31

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Use of secondary materials	kg	3,51E-02	3,51E-02	0*	0*	0*	0*	0,98
Use of renewable secondary fuels	MJ	0,00E+00	0*	0*	0*	0*	0*	0
Use of non-renewable secondary fuels	MJ	0,00E+00	0*	0*	0*	0*	0*	0
Net use of fresh water	m³	5,30E+01	5,01E-02	0*	0*	5,29E+01	0*	1,47
Hazardous waste disposed of	kg	5,37E+00	5,36E+00	0*	0*	7,61E-03	0*	0,73
Non-hazardous waste disposed of	kg	5,69E+01	2,37E+00	0*	2,24E-02	5,44E+01	7,40E-02	1,44
Radioactive waste disposed of	kg	3,73E-02	9,42E-04	0*	0*	3,63E-02	0*	1,46
Components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*	0
Materials for recycling	kg	0,00E+00	0*	0*	0*	0*	0*	0
Materials for energy recovery	kg	0,00E+00	0*	0*	0*	0*	0*	0
Exported energy	MJ by energy vector	0,00E+00	0*	0*	0*	0*	0*	0
<b>Total use of primary energy during the life cycle</b>	MJ	3,71E+02	7,88E+01	6,36E-01	5,43E-02	2,91E+02	1,79E-01	1,32

Note 1: 0\* means that this impact either represents less than 0.01% of the total life cycle of the reference flow, or has no impact (in the case where the total impact is zero).

Note 2 : the column K1 corresponds to the total impact of IO-10 divided by the total impact of IO-20.

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Internal : <input checked="" type="checkbox"/>	External : <input type="checkbox"/>
The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN)	
PEP are compliant with XP C08-100-1 :2014	
The elements of the present PEP cannot be compared with elements from another program	
Document in compliance with ISO 14025: 2010 « Environmental labels and declarations. Type III environmental declarations »	
	

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