

# Product Environmental Profile

## IFM V2 MODBUS COMMUNICATION INTERFACE





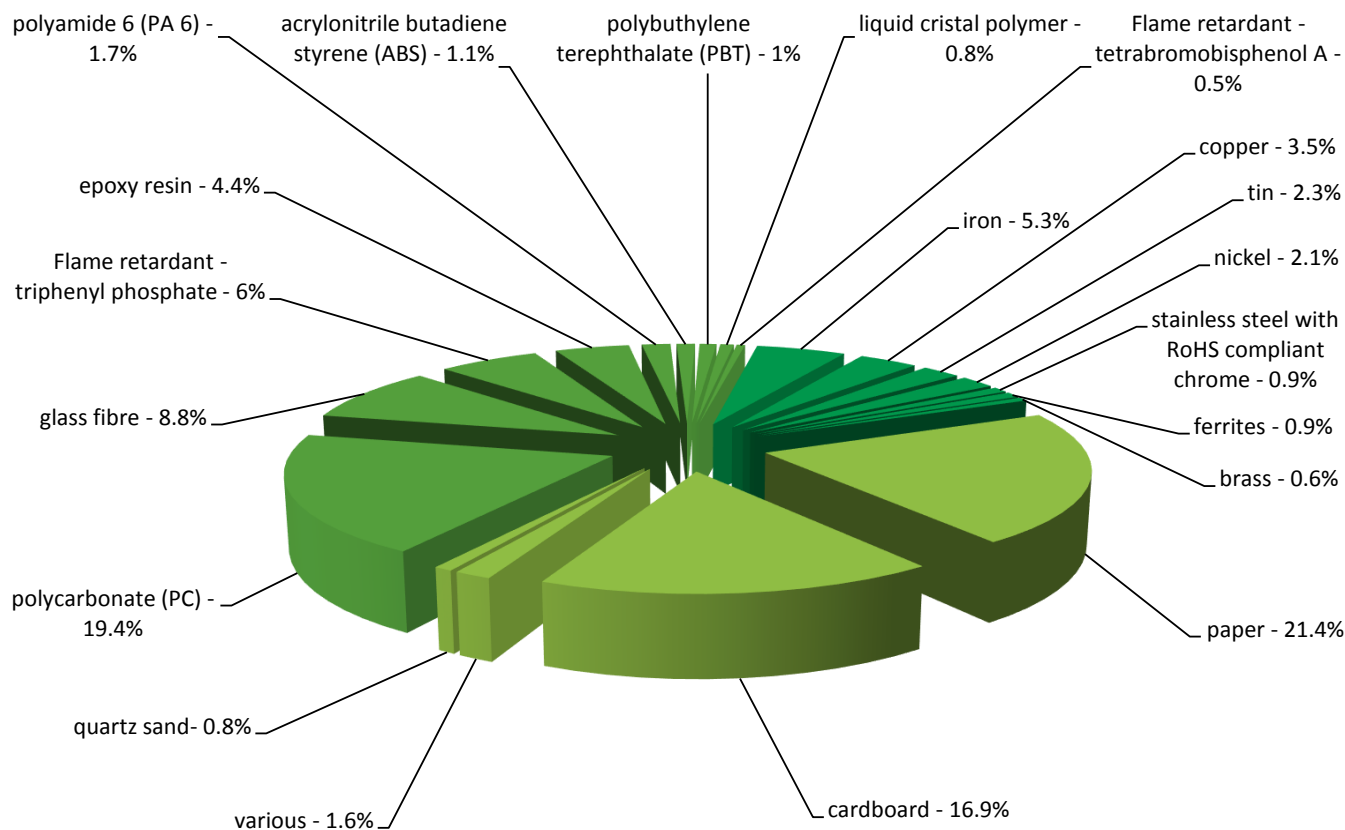
## General information

Representative product	IFM V2 MODBUS COMMUNICATION INTERFACE -LV434000
Description of the product	IFM V2 is a Gateway to interface MCCBs / ACBs range (ULP to Modbus Serial).
Functional unit	The main function of the IFM V2 MODBUS COMMUNICATION INTERFACE is to convert ULP protocol to Modbus serial in order to transmit Breaker Parameters like voltage, Current, Power Factor to supervisor during 10 years.
Accessories	TRV00217 & LV434211 (Optional). Needed if customer needs more IFM V2s to be stacked



## Constituent materials

Reference product mass	118.5 g including the product, its packaging and additional elements and excluding accessories
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## 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 IFM V2 MODBUS COMMUNICATION INTERFACE presents the following relevant environmental aspects

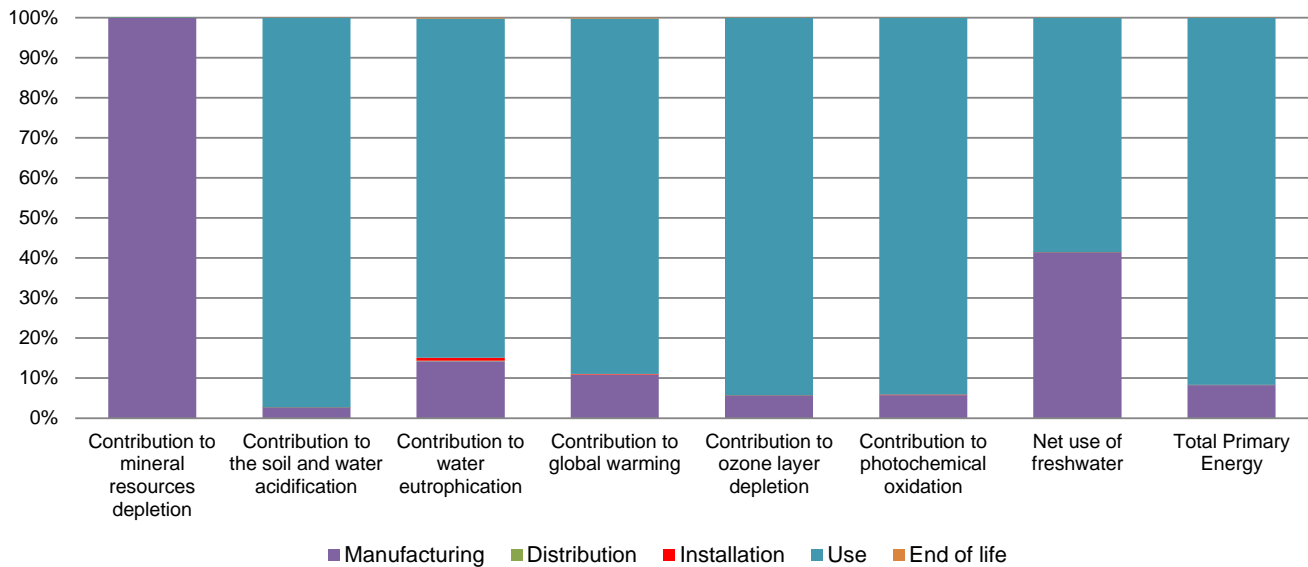
<b>Design</b>	Not in scope
<b>Manufacturing</b>	Manufactured at a Schneider Electric production site ISO14001 certified
<b>Distribution</b>	Weight and volume of the packaging optimized, based on the European Union's packaging directive Packaging weight is 45.6 g, consisting of Paper (55.4%), Cardboard (44.4%) & PET film (0.2%). Product distribution optimised by setting up local distribution centres
<b>Installation</b>	The product does not require special installation procedure and requires little to no energy to install. The disposal of the packaging materials are accounted for during the installation phase (including transport to disposal).
<b>Use</b>	The product does not require special maintenance operations.
<b>End of life</b>	End of life optimized to decrease the amount of waste and allow recovery of the product components and materials  This product contains PCB with electronic parts (39.03g), Brominated plastic parts (2.23g) & Dismantling parts (32.57g). that should be separated from the stream of waste so as to optimize end-of-life treatment.  The location of these components and other recommendations are given in the End of Life Instruction document which is available on the Schneider-Electric Green Premium website <a href="http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page">http://www2.schneider-electric.com/sites/corporate/en/products-services/green-premium/green-premium.page</a>  Recyclability potential: <b>8%</b> 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

<b>Reference life time</b>	10 years			
<b>Product category</b>	Active products			
<b>Installation elements</b>	No special components needed			
<b>Use scenario</b>	Consumed power is 0.576 W 100 % of the time in Active mode, W 0 % of the time in Standby mode, W 0 % of the time in Sleep mode and W 0 % of the time in Off mode.			
<b>Geographical representativeness</b>	Europe			
<b>Technological representativeness</b>	IFM V2 is a Gateway to interface MCCBs / ACBs range (ULP to Modbus Serial).			
<b>Energy model used</b>	<b>Manufacturing</b>	<b>Installation</b>	<b>Use</b>	<b>End of life</b>
	Energy model used: Indonesia	Electricity Mix; AC; consumption mix, at consumer; < 1kV; EU-27	Electricity Mix; AC; consumption mix, at consumer; < 1kV; EU-27	Electricity Mix; AC; consumption mix, at consumer; < 1kV; EU-27

Compulsory indicators		IFM V2 MODBUS COMMUNICATION INTERFACE - LV434000					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to mineral resources depletion	kg Sb eq	2.83E-03	2.83E-03	0*	0*	1.36E-06	0*
Contribution to the soil and water acidification	kg SO <sub>2</sub> eq	2.32E-01	6.16E-03	6.98E-05	0*	2.25E-01	3.95E-05
Contribution to water eutrophication	kg PO <sub>4</sub> <sup>3-</sup> eq	9.97E-03	1.42E-03	1.61E-05	7.17E-05	8.44E-03	2.06E-05
Contribution to global warming	kg CO <sub>2</sub> eq	3.36E+01	3.65E+00	1.53E-02	5.01E-02	2.98E+01	6.59E-02
Contribution to ozone layer depletion	kg CFC11 eq	7.68E-06	4.37E-07	0*	0*	7.24E-06	2.24E-09
Contribution to photochemical oxidation	kg C <sub>2</sub> H <sub>4</sub> eq	1.13E-02	6.51E-04	4.98E-06	1.16E-05	1.06E-02	3.18E-06

Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Net use of freshwater	m3	1.33E-01	5.50E-02	0*	0*	7.77E-02	3.25E-05
Total Primary Energy	MJ	6.59E+02	5.45E+01	2.16E-01	0*	6.04E+02	1.85E-01



Optional indicators		IFM V2 MODBUS COMMUNICATION INTERFACE - LV434000					
Impact indicators	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Contribution to fossil resources depletion	MJ	3.50E+02	4.23E+01	2.15E-01	0*	3.07E+02	1.55E-01
Contribution to air pollution	m³	1.64E+03	3.59E+02	6.50E-01	6.98E-01	1.28E+03	1.21E+00
Contribution to water pollution	m³	1.71E+03	4.51E+02	2.51E+00	1.64E+00	1.25E+03	2.75E+00
Resources use	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Use of secondary material	kg	2.91E-02	2.91E-02	0*	0*	0*	0*
Total use of renewable primary energy resources	MJ	4.52E+01	2.06E+00	0*	0*	4.32E+01	0*
Total use of non-renewable primary energy resources	MJ	6.13E+02	5.25E+01	2.16E-01	0*	5.60E+02	1.85E-01
Use of renewable primary energy excluding renewable primary energy used as raw material	MJ	4.48E+01	1.64E+00	0*	0*	4.32E+01	0*
Use of renewable primary energy resources used as raw material	MJ	4.18E-01	4.18E-01	0*	0*	0*	0*
Use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	6.12E+02	5.09E+01	2.16E-01	0*	5.60E+02	1.85E-01
Use of non renewable primary energy resources used as raw material	MJ	1.59E+00	1.59E+00	0*	0*	0*	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	5.07E+00	4.89E+00	0*	0*	0*	1.81E-01
Non hazardous waste disposed	kg	1.13E+02	1.33E+00	0*	4.85E-02	1.11E+02	0*
Radioactive waste disposed	kg	9.12E-02	3.64E-04	0*	0*	9.08E-02	0*
Other environmental information	Unit	Total	Manufacturing	Distribution	Installation	Use	End of Life
Materials for recycling	kg	6.10E-03	9.09E-05	0*	0*	0*	6.01E-03
Components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*
Materials for energy recovery	kg	1.85E-02	2.43E-04	0*	0*	0*	1.82E-02
Exported Energy	MJ	1.45E-02	0*	0*	1.45E-02	0*	0*

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

Life cycle assessment performed with EIME version EIME v5.5, database version 2015-04.

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

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.

## Environmental impacts of Accessory

The impacts of accessory "LV434211 - RJ45 TO OPEN CONNECTOR MODBUS ADAPTER" of the IFM V2 are in the table hereunder. To evaluate the impacts of accessory, you should apply these percentages to the impact of the main function which is disclosed in the PEP.

These impacts have to be added to the impacts of the main function depending on the number of accessories used.

Impact indicators	Unit	LV434211 - RJ45 TO OPEN CONNECTOR MODBUS ADAPTER					
		Total	Manufacturing	Distribution	Installation	Use	End of Life
Abiotic depletion (elements, ultimate reserves) (ADPe for EN15804)	kg antimony eq.	17.09%	17.10%	48.10%	7.27%	0.01%	86.41%
Abiotic depletion (fossil fuels) (ADPf for EN15804)	MJ	1.19%	9.36%	48.10%	7.77%	0.01%	48.50%
Acidification potential of soil and water (total average for Europe) (A for PEP)	kg SO2 eq.	0.39%	13.44%	48.10%	7.75%	0.01%	49.48%
Air pollution (AP for DHUP)	m <sup>3</sup>	5.52%	24.92%	48.10%	2.61%	0.01%	58.51%
Eutrophication (fate not incl.) (EP for EN15804)	kg PO4 <sup>---</sup> eq.	1.86%	12.00%	48.10%	0.86%	0.01%	31.67%
Global warming (GWP100) (GWP for EN15804)	kg CO2 eq.	1.28%	11.04%	48.10%	0.44%	0.01%	25.01%
Ozone layer depletion ODP steady state (ODP for EN15804)	kg CFC-11 eq.	1.07%	18.50%	48.10%	2.24%	0.01%	27.22%
Photochemical oxidation (high NOx) (POCP for EN15804)	kg ethylene eq.	0.73%	11.86%	48.10%	0.58%	0.01%	63.17%
Water Pollution (WP for DHUP)	m <sup>3</sup>	3.70%	12.36%	48.10%	1.78%	0.01%	225.52%

Registration N°	ENVPEP1609003_V1	Drafting rules	PCR-ed3-EN-2015 04 02
Date of issue	09/2016	Supplemented by	PSR-0005-ed2-EN-2016 03 29
Validity period	5 years	Information and reference documents	<a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>
Independent verification of the declaration and data, in compliance with ISO 14025 : 2010			
Internal	X	External	
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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