Product Environmental Profile

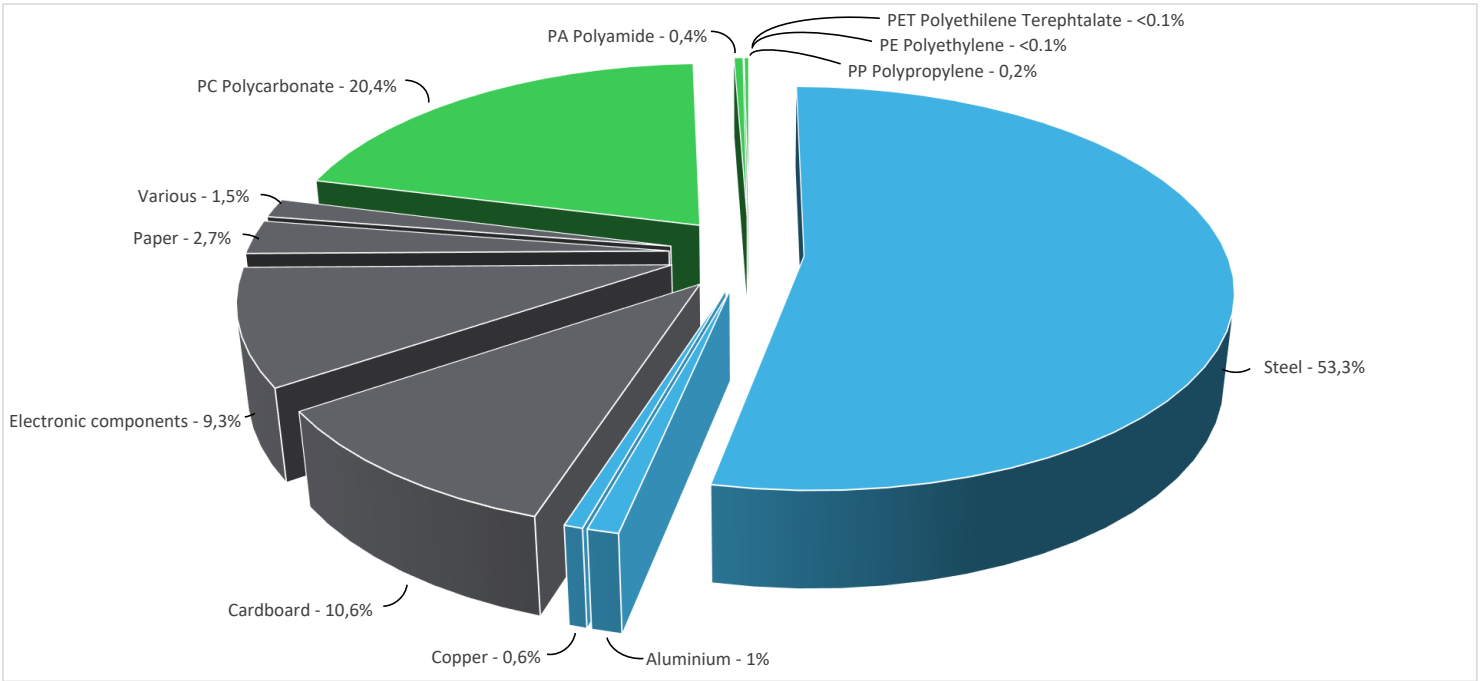
Esmi Fire Detection Panel FDP252/GB

General information

Reference product	Esmi Fire Detection Panel FDP252/GB - FFS00703920GB
Description of the product	The modular ESMI Sense FDP Fire Detection Panel is the central part in the buildings fire system. It monitors and manages all connected loop devices and sends signals for quick detection in case of a fire. The panel is medium size, with 5 optional loop controller slots and room for 2 batteries inside the cabinet. It can connect to a range of detection equipment as it covers up to 8 intelligent loops and, depending on the addressible communication of the loop, up to 318 addresses. It is also compatible with several other devices in the Esmi Sense family. (This document describes the different stages of the product, from manufacturing to its end of life, for example the manufacturing stage includes the production and transportation of the product and its packaging through the entire process and to the last logistics platform. This product is assebled in Riga, Latvia and distributed mainly in Europe. For its end of life optimization, any dismantling or separation of parts required is carried out as mentioned in the document and in accordance with EU regulations, viz. WEEE.)
Description of the range	Single product
Functional unit	To be the central part of a fire system in a building, to monitor and manage the connected loop devices and to send signals for quick fire detection. It is at a defined normal state 99,999% of the time and a defined alarm state 0,001% of the time during its reference service lifetime of 12 years. (Based on the product category "Control and indicating equipment (CIE)" in the PSR-0019-ed1-EN-2023 06 06 it also aligns with following: Identify damaged or faulty areas of a building and transmit the necessary informaiton to the FSCE for a reference life of XX years.)
Specifications are:	Reference service lifetime: 12 years Operating modes: Alarm, 0,001%. Normal, 99,999% Typical power consumption: 165 W in alarm state. 10,9 W in normal state Dimensions: 580 x 430 x 142 mm Ciruit board slots: 5 Number of addressible loops: 8 Number of batteries: 2

Constituent materials

Reference product mass	12082 g	including the product, its packaging, additional elements and accessories



Plastics	21,0%
Metals	54,9%
Others	24,1%

Substance assessment

Details of ROHS and REACH substances information are available on the Schneider-Electric website
https://www.se.com

Additional environmental information

End Of Life	Recyclability potential:	**62%**	The recyclability rate was calculated from the recycling rates of each material making up the product based on REEECY'LAB tool developed by Ecosystem, for components/materials not covered by the tool, data from the EIME database and the related PSR was taken. If no data was found a conservative assumption was used (0% recyclability).

Environmental impacts

Reference service life time	12 years		
Product category	Control and indicating equipment (CIE)		
Life cycle of the product	The manufacturing, the distribution, the installation, the use and the end of life were taken into consideration in this study		
Electricity consumption	The electricity consumed during manufacturing processes is considered for each part of the product individually, the final assembly generates a negligible consumption		
Installation elements	During installation stage, two 12V Lead-Acid batteries will be installed in the product. The product is mounted with the use of suitable auxiliaries and a suitable anchoring system, chosen by the installer. The end of life of packaging is included in the installation stage.		
Use scenario	The product is in defined normal state 99,999% of the time with a typical power consumption of 10,9 W and in defined alarm state 0,001% of the time with a maximum power consumption of 165 W, during a reference service lifetime of 12 years. The product also contain a set of back-up batteries.		
Time representativeness	The collected data are representative of the year 2025		
Technological representativeness	The Modules of Technologies such as material production, manufacturing processes and transport technology used in the PEP analysis (LCA EIME in the case) are similar and representative of the actual type of technologies used to make the product.		
Geographical representativeness	**Final assembly site**	**Use phase**	**End-of-life**
	Riga, Latvia	Europe	Europe
Energy model used	**[A1 - A3]**	**[A5]** / **[B6]**	**[C1 - C4]**
	Electricity Mix; Low voltage; 2020; Global, GLO Electricity Mix; Low voltage; 2020; Europe, EU-27 Electricity Mix; Low voltage; 2020; China, CN Electricity Mix; Low voltage; 2020; Brazil, BR Electricity Mix; Low voltage; 2020; France, FR	Electricity Mix; Low voltage; 2020; Sweden, SE Electricity Mix; Low voltage; 2020; Denmark, DK Electricity Mix; Low voltage; 2020; Norway, NO Electricity Mix; Low voltage; 2020; Finland, FI Electricity Mix; Low voltage; 2020; Europe, EU-27	Global, European and French datasets are used.

Detailed results of the optional indicators mentioned in PCRed4 are available in the LCA report and on demand in a digital format - Country Customer Care Center - http://www.se.com/contact

Mandatory Indicators		Esmi Fire Detection Panel FDP252/GB - FFS00703920GB						
Impact indicators	**Unit**	**Total (without Module D)**	**[A1 - A3] - Manufacturing**	**[A4] - Distribution**	**[A5] - Installation**	**[B1 - B7] - Use**	**[C1 - C4] - End of life**	**[D] - Benefits and loads**
Contribution to climate change	kg CO2 eq	5,49E+02	1,25E+02	1,15E+00	7,01E+01	3,33E+02	1,93E+01	-2,45E+01
Contribution to climate change-fossil	kg CO2 eq	5,40E+02	1,28E+02	1,15E+00	7,11E+01	3,21E+02	1,93E+01	-2,44E+01
Contribution to climate change-biogenic	kg CO2 eq	8,46E+00	0*	0*	0*	1,15E+01	3,11E-02	-1,11E-01
Contribution to climate change-land use and land use change	kg CO2 eq	3,68E-03	3,65E-03	1,67E-06	1,10E-05	2,21E-05	3,15E-06	0,00E+00
Contribution to ozone depletion	kg CFC-11 eq	4,06E-05	1,09E-05	1,32E-08	9,34E-06	1,99E-05	3,45E-07	-3,62E-06
Contribution to acidification	mol H+ eq	3,38E+00	5,65E-01	1,82E-03	3,57E-01	2,40E+00	5,73E-02	-1,56E-01
Contribution to eutrophication, freshwater	kg P eq	2,91E-03	4,29E-04	4,24E-06	4,44E-04	1,98E-03	4,99E-05	-4,08E-05
Contribution to eutrophication marine	kg N eq	4,28E-01	6,96E-02	3,50E-04	6,12E-02	2,85E-01	1,18E-02	-1,42E-02
Contribution to eutrophication, terrestrial	mol N eq	7,32E+00	7,75E-01	3,84E-03	6,50E-01	5,76E+00	1,33E-01	-1,65E-01
Contribution to photochemical ozone formation - human health	kg COVNM eq	1,33E+00	2,44E-01	1,23E-03	1,96E-01	8,51E-01	3,60E-02	-5,79E-02
Contribution to resource use, minerals and metals	kg Sb eq	1,65E-01	1,75E-02	0*	4,91E-02	9,84E-02	0*	-7,42E-03
Contribution to resource use, fossils	MJ	1,27E+04	3,32E+03	2,02E+01	7,84E+02	8,38E+03	1,48E+02	-5,58E+02
Contribution to water use	m3 eq	1,10E+02	4,36E+01	4,10E-02	1,35E+01	5,13E+01	1,99E+00	-1,06E+01

Inventory flows Indicators		Esmi Fire Detection Panel FDP252/GB - FFS00703920GB						
Inventory flows	Unit	Total (without Module D)	[A1 - A3] - Manufacturing	[A4] - Distribution	[A5] - Installation	[B1 - B7] - Use	[C1 - C4] - End of life	[D] - Benefits and loads
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	4,48E+03	1,21E+02	0*	9,26E+00	4,34E+03	7,11E+00	-5,54E+00
Contribution to use of renewable primary energy resources used as raw material	MJ	4,03E+01	3,06E+01	0*	3,25E+00	6,51E+00	0*	-1,92E-03
Contribution to total use of renewable primary energy resources	MJ	4,52E+03	1,52E+02	0*	1,25E+01	4,34E+03	7,11E+00	-5,54E+00
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	1,25E+04	3,18E+03	2,02E+01	7,65E+02	8,34E+03	1,48E+02	-5,58E+02
Contribution to use of non renewable primary energy resources used as raw material	MJ	1,99E+02	1,42E+02	0*	1,90E+01	3,79E+01	0*	9,40E-03
Contribution to total use of non-renewable primary energy resources	MJ	1,27E+04	3,32E+03	2,02E+01	7,84E+02	8,38E+03	1,48E+02	-5,58E+02
Contribution to use of secondary material	kg	0,00E+00	0*	0*	0*	0*	0*	0,00E+00
Contribution to use of renewable secondary fuels	MJ	0,00E+00	0*	0*	0*	0*	0*	0,00E+00
Contribution to use of non renewable secondary fuels	MJ	0,00E+00	0*	0*	0*	0*	0*	0,00E+00
Contribution to net use of freshwater	m^3	2,59E+00	1,01E+00	9,56E-04	3,15E-01	1,20E+00	5,65E-02	-2,47E-01
Contribution to hazardous waste disposed	kg	2,45E+02	1,96E+02	0*	1,20E+01	3,62E+01	1,16E+00	-5,85E+02
Contribution to non hazardous waste disposed	kg	9,36E+01	3,05E+01	1,02E-01	1,79E+00	5,08E+01	1,04E+01	-2,16E+01
Contribution to radioactive waste disposed	kg	2,57E-02	1,48E-02	8,12E-05	1,43E-03	8,88E-03	4,73E-04	-1,07E-02
Contribution to components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*	0,00E+00
Contribution to materials for recycling	kg	7,22E+00	9,75E-01	0*	1,73E-02	1,75E-02	6,21E+00	0,00E+00
Contribution to materials for energy recovery	kg	0,00E+00	0*	0*	0*	0*	0*	0,00E+00
Contribution to exported energy	MJ	7,02E-02	8,14E-03	0*	2,00E-04	3,99E-04	6,14E-02	0,00E+00

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

Contribution to biogenic carbon content of the product	kg of C	0,00E+00
Contribution to biogenic carbon content of the associated packaging	kg of C	4,61E-01

* The calculation of the biogenic carbon is based on the Ademe for the Cardboard (28%), EN16485 for Wood (39,52%), and APESA/RECORD for Paper (37,8%)

Mandatory Indicators		Esmi Fire Detection Panel FDP252/GB - FFS00703920GB							
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to climate change	kg CO2 eq	3,33E+02	0*	1,40E+02	0*	0*	0*	1,93E+02	0*
Contribution to climate change-fossil	kg CO2 eq	3,21E+02	0*	1,42E+02	0*	0*	0*	1,79E+02	0*
Contribution to climate change-biogenic	kg CO2 eq	1,15E+01	0*	0*	0*	0*	0*	1,34E+01	0*
Contribution to climate change-land use and land use change	kg CO2 eq	2,21E-05	0*	2,21E-05	0*	0*	0*	0*	0*
Contribution to ozone depletion	kg CFC-11 eq	1,99E-05	0*	1,87E-05	0*	0*	0*	1,24E-06	0*
Contribution to acidification	mol H+ eq	2,40E+00	0*	7,14E-01	0*	0*	0*	1,69E+00	0*
Contribution to eutrophication, freshwater	kg P eq	1,98E-03	0*	8,88E-04	0*	0*	0*	1,10E-03	0*
Contribution to eutrophication marine	kg N eq	2,85E-01	0*	1,22E-01	0*	0*	0*	1,63E-01	0*
Contribution to eutrophication, terrestrial	mol N eq	5,76E+00	0*	1,30E+00	0*	0*	0*	4,46E+00	0*
Contribution to photochemical ozone formation - human health	kg COVNM eq	8,51E-01	0*	3,92E-01	0*	0*	0*	4,58E-01	0*
Contribution to resource use, minerals and metals	kg Sb eq	9,84E-02	0*	9,82E-02	0*	0*	0*	1,55E-04	0*
Contribution to resource use, fossils	MJ	8,38E+03	0*	1,57E+03	0*	0*	0*	6,81E+03	0*
Contribution to water use	m3 eq	5,13E+01	0*	2,71E+01	0*	0*	0*	2,43E+01	0*

Inventory flows Indicators		Esmi Fire Detection Panel FDP252/GB - FFS00703920GB							
Inventory flows	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	4,34E+03	0*	1,85E+01	0*	0*	0*	4,32E+03	0*
Contribution to use of renewable primary energy resources used as raw material	MJ	6,51E+00	0*	6,51E+00	0*	0*	0*	0*	0*
Contribution to total use of renewable primary energy resources	MJ	4,34E+03	0*	2,50E+01	0*	0*	0*	4,32E+03	0*
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	8,34E+03	0*	1,53E+03	0*	0*	0*	6,81E+03	0*
Contribution to use of non renewable primary energy resources used as raw material	MJ	3,79E+01	0*	3,79E+01	0*	0*	0*	0*	0*
Contribution to total use of non-renewable primary energy resources	MJ	8,38E+03	0*	1,57E+03	0*	0*	0*	6,81E+03	0*
Contribution to use of secondary material	kg	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to use of renewable secondary fuels	MJ	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to use of non renewable secondary fuels	MJ	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to net use of freshwater	m^3	1,20E+00	0*	6,30E-01	0*	0*	0*	5,69E-01	0*
Contribution to hazardous waste disposed	kg	3,62E+01	0*	2,41E+01	0*	0*	0*	1,21E+01	0*
Contribution to non hazardous waste disposed	kg	5,08E+01	0*	3,58E+00	0*	0*	0*	4,72E+01	0*
Contribution to radioactive waste disposed	kg	8,88E-03	0*	2,85E-03	0*	0*	0*	6,03E-03	0*
Contribution to components for reuse	kg	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to materials for recycling	kg	1,75E-02	0*	1,75E-02	0*	0*	0*	0*	0*
Contribution to materials for energy recovery	kg	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to exported energy	MJ	3,99E-04	0*	3,99E-04	0*	0*	0*	0*	0*

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

Life cycle assessment performed with EIME version v6.2.5-6, database version 2024-01 in compliance with ISO14044, EF3.1 method is applied, for biogenic carbon storage, assessment methodology -1/1 is used

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.

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Verifier accreditation N°	VH42	*Information and reference documents*	www.pep-ecopassport.org
Date of issue	12-2025	*Validity period*	5 years
Independent verification of the declaration and data, in compliance with ISO 14025 : 2006			
Internal	External X		
The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain)			
PEPs are compliant with NF C08-100-1:2022 and EN 50693:2019 or NF E38-500 :2022			
The components of the present PEP may not be compared with components from any other program.			
Document complies with ISO 14025:2006 "Environmental labels and declarations. Type III environmental declarations"			

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