MD 94.411

SAUTER Declaration on materials and the environment

Product

	Type	**FMS1xxxxxxx**
	Designation	**Smart Sensor Via Sens**
	Product range	**modulo**
	Product group of eco-balance	**Controllers and sensors**
Manufacturer	Fr. Sauter AG Im Surinam 55, CH-4058 Basel	
Management system certified according to		**Since** / **With**
	ISO 9001:2015	**10 Oct. 2018** **SQS**
	ISO 14001:2015	**10 Oct. 2018** **SQS**
	ISO 45001:2018	**10 Oct. 2018** **SQS**

Environmentally-compatible product design	Basis	Management system Fr. Sauter AG
	Process	Business process • Product innovation • Ecological accounting

D100528018 (01. 01) 21.01.2025

Product description	CE conformity, function, operation, maintenance, servicing	**See PDS 94.411**
Environmental risk	Fire protection according to	**EN 60695-2-11, EN 60695-10-2**
	Fire load	**2.9 MJ**
	Hazardous substances [1] according to	**RoHS 2011/65/EU & 2015/863/EU compliant. Product category 9.**
	Restricted substances [2] according to	**Regulation (EC) No. 1907/2006 (REACH) compliant**
	Parts containing halogen (causing corrosive smoke)	**None**
	Liquids polluting the aquatic environment	**None**
	Explosive substances	**None**
	Transport hazardous goods class	**None**

Materials

Total weight of product	**171,1 g**	Material Safety Data Sheet (MSDS)	EU waste code [3]
Plastic			
PA66	**2,0 g**	Not required	20 01 39
PC + ABS	**68,8 g**	Not required	20 01 39
PMMA	**9,8 g**	Not required	20 01 39
Metal			
Steel, various alloys	**1,8 g**	Not required	20 01 40
circuit board			
Printed circuit board, lead-free solder	**26,4 g**	Not required	20 01 40
Packaging [4]			
Corrugated board PAP 20	**50 g**	Not required	20 01 01
Paper PAP 22	**12,2 g**	Not required	20 01 01
PA foil (ESD-Kapton) PAP 07	**0,1 g**	Not required	20 01 39

[1] Only applies to electrical devices
[2] SVHC substances >0.1%w/w: see **Hazardous ingredients**
[3] Directive 75/442/EEC and follow-on document, ruling 2001/118/EC
[4] Directive 94/62/EC, 2004/12/EC, 2005/20/EC, 2018/852/EC

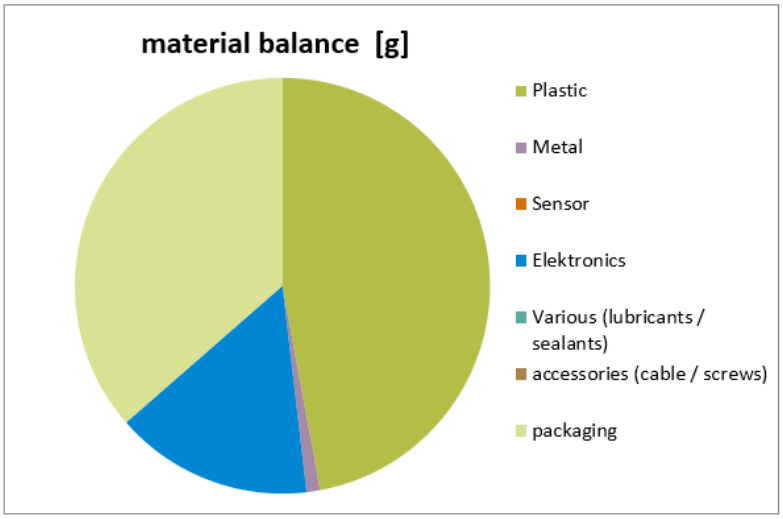
Hazardous ingredients

SVHC ingredient		Name of the ingredient	Effective concentration per article, %w/w
CAS number	EN number		
7439-92-1	231-100-4	Lead	<0,1

SCIP number will be communicated upon justified request.
Link to ECHA candidate list

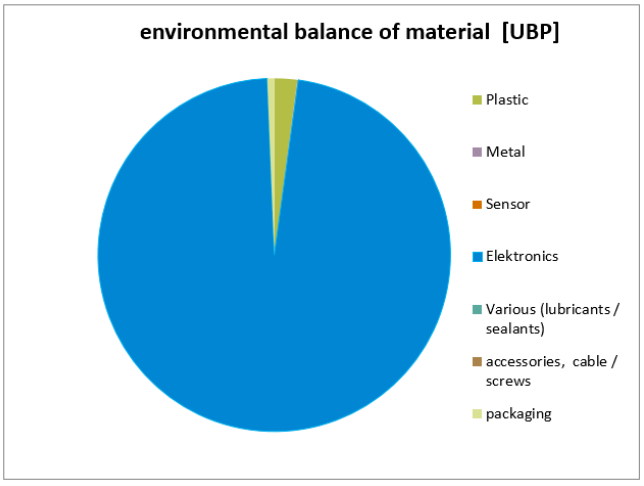
The diagram of the material balance is made also the general type AXT301F110 - (116,8g)

Materials balance



Material balance	g
Plastic	80,6
Metal	1,8
Sensor	-
Elektronics	26,4
Various (lubricants / sealants)	-
accessories (cable / screws)	-
packaging	62,3
	171,1

environmental balance sheet



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Energy requirement in the utilisation phase

Power requirement for component

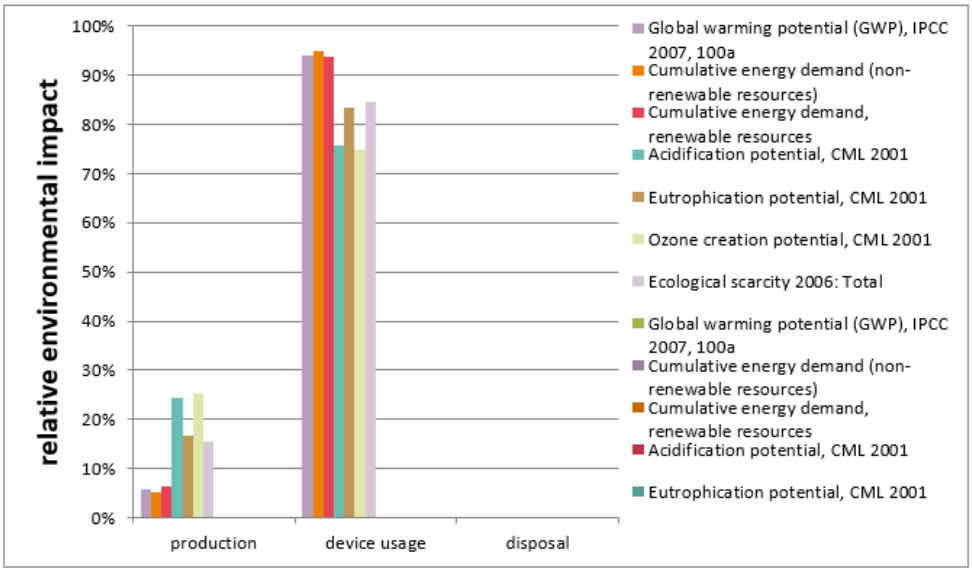
Minimum power consumption	1,3 W
Average power consumption	2,1 W
Typical energy consumption per year	17,9 kWh

The energy requirement evaluation was performed for a typical utilisation scenario. The European electricity mix from ecoinvent 2.2 was used to evaluate the power consumption in the utilisation phase.

Calculation of the environmental impact

Evaluation over the entire life stage of 8 years in a typical utilisation scenario. The results shown are based on a method of ecological scarcity that combines various environmental effects into an “environmental impact points” key figure. The method is based on Switzerland’s environmental targets and evaluates the individual effects depending on the “Distance to Target”.

Indikator	unit	production	device usage	disposal	Total
Global warming potential (GWP), IPCC 2007, 100a	kg CO2 eq.	6,0	98,6	0,1	104,7
Cumulative energy demand (non-renewable resources)	MJ eq.	108	2.000	0,3	2.110
Cumulative energy demand, renewable resources	MJ eq.	10,1	151	0,00	162
Acidification potential, CML 2001	kg SO2 eq.	1,30E-01	4,07E-01	6,35E-05	5,37E-01
Eutrophication potential, CML 2001	kg PO4-- eq.	6,43E-02	3,23E-01	4,59E-05	3,87E-01
Ozone creation potential, CML 2001	kg C2H4 eq.	5,53E-03	1,64E-02	2,56E-06	2,19E-02
Ecological scarcity 2006: Total	UBP	18.500	100.700	200	119.000



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The relationship of the contributions made by the utilisation in comparison to those made by the reduction and disposal depends on the intensity of the utilisation (utilisation scenario).

Disposal	**Product:** The device must be disposed of as waste from electrical and electronic equipment (electrical/electronic scrap) and must not be disposed of as household waste. This applies in particular to the assembled PCB. Special treatment for special components may be compulsory by law or may make ecological sense. **WEEE** (Waste Electrical and Electronic Equipment) The local and currently valid laws (WEEE2012/19/EU) must be observed. **Packaging:** Recyclable. Any packaging disposal fees are the responsibility of the importer. **Special notes on hazards:** Residual electrical charge possible in capacitive components.
Remarks	**(1) Fire load depending on type:** FMS1xxxxxxx 2,9 MJ **2) depending on type Weight:** FMS1xxxxxxx 171 g
How the environment benefits	With these products, we make a significant contribution to energy savings in buildings and to reducing climate change. Its resource-saving compact design and easy single-sort disassembly result in optimal sustainability with a life expectancy of 8 years. The eco-balance becomes even more optimal, with the use of energy from renewable sources.
Extent of applicability	This declaration is an environmental declaration based on ISO 14025 and describes the environmental impact of the product over its entire life stage. The declaration is made in a compact form without an external check or registration. The data gathered with existing data inventories for production processes has been evaluated from the ecoinvent 2.2 European database. For the determination of the energy requirement during the utilisation phase of the product, standard HVAC applications and average climatic conditions in Switzerland were assumed, based on the ecological accounting for the corresponding product group.

Disclaimer: This declaration is for information purposes only.

Deviations from the information it contains can occur without notification. Fr. Sauter AG explicitly rules out any liability for any consequences that may result due to the above information.

Your local SAUTER representative will provide further information on environmental aspects, and specifically on disposal.

References

Ecoinvent 2010 ecoinvent data v2.2, Swiss Centre for Life Cycle Inventories, Dübendorf

FOEN 2008 eco-balances: method of ecological scarcity – eco-factors 2006, FOEN

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