

SAUTER Declaration on materials and the environment

Product



| | |
|------------------------------|--|
| Type | TRT317F210 / TRT317F212 TRT327F210 / TRT327F212 |
| Designation | Electronic room thermostat for heating and cooling |
| Product range | Stand-alone controllers |
| Product group of eco-balance | Controllers and sensors |

Manufacturer

Fr. Sauter AG
Im Surinam 55, CH-4016 Basel

Management system certified according to

| | Since | By |
|------------------|---------------------|------------|
| ISO 9001 | 10 Aug. 1993 | SQS |
| ISO 9001:2000 | 10 Aug. 2002 | SQS |
| ISO 14001:2004 | 10 Aug. 2005 | SQS |
| OHSAS 18001:1999 | 10 Aug. 2005 | SQS |

Environmentally-compatible product design

| | |
|---------|--|
| Basis | Management system Fr. Sauter AG |
| Process | Business process <ul style="list-style-type: none"> • Product innovation • Ecological accounting |

| | | |
|-------------------------------|--|----------------------------------|
| Product description | CE conformity | |
| | Function, operation, maintenance, service | PDS 45.025 |
| Environmental risk | Fire protection according to | EN 60695-2-11, EN 60695-10-2 |
| | Fire load ¹ | 2.6 MJ |
| | Hazardous substances ² | Conforming to RoHS 2011/65/EU |
| | Banned substances (see link below) | Conforming to REACH 1907/2006/EC |
| | Parts containing halogen (causing corrosive smoke) | Printed circuit boards |
| | Liquids polluting the aquatic environment | None |
| | Explosive substances | None |
| Packaging ³ | Folded cardboard | 26 g |

Materials

| | Total weight of product ⁴ | 82...92 g | Material Safety Data Sheet (MSDS) | EU waste code ⁵ |
|--------------------------------|--------------------------------------|-----------|-----------------------------------|----------------------------|
| Plastic | | | | |
| ABS | | 63.8 g | Yes | 20 01 39 |
| Metal | | | | |
| None | | | | |
| Printed circuit board | | | | |
| PCB assembly, lead-free solder | | | | |
| TRT317F210 | | 26.5 g | Not required | 20 01 36 |
| TRT317F212 | | 18.2 g | Not required | 20 01 36 |
| TRT327F210 | | 28.2 g | Not required | 20 01 36 |
| TRT327F212 | | 21.2 g | Not required | 20 01 36 |
| Various | | | | |
| None | | | | |

Special components

None

¹ See **Remarks** on last page

² Only applies to electrical devices

³ Directive 94/62/EC and follow-on document, ruling 97/129/EC

⁴ See **Remarks** on last page

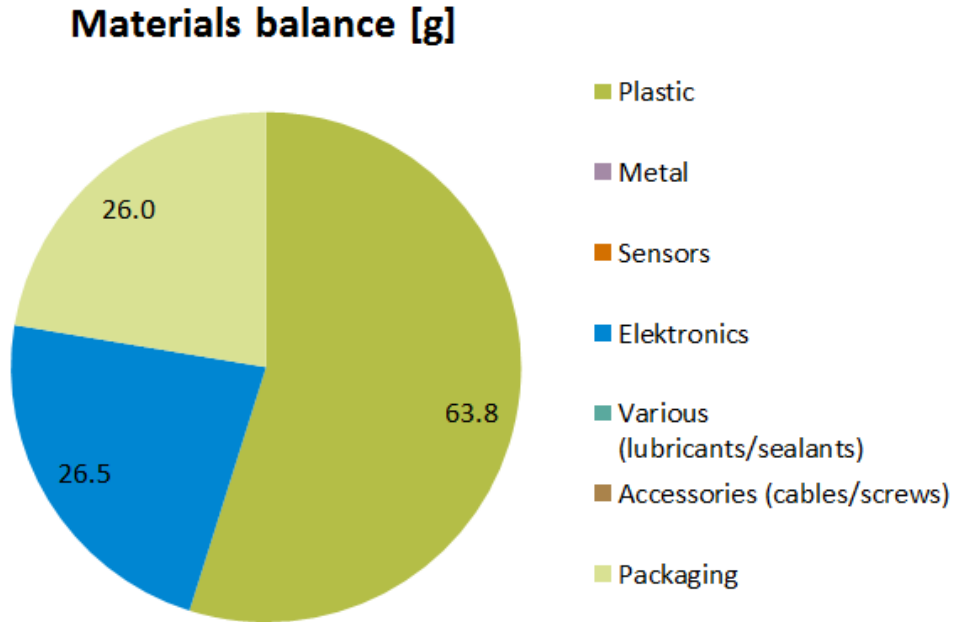
⁵ Directive 75/442/EEC and follow-on document, ruling 2001/118/EC



Note

The following materials balance and the calculation of the environmental impact relate to type TRT317F210.

Materials balance



Energy requirement in the utilisation phase

Power requirement for component

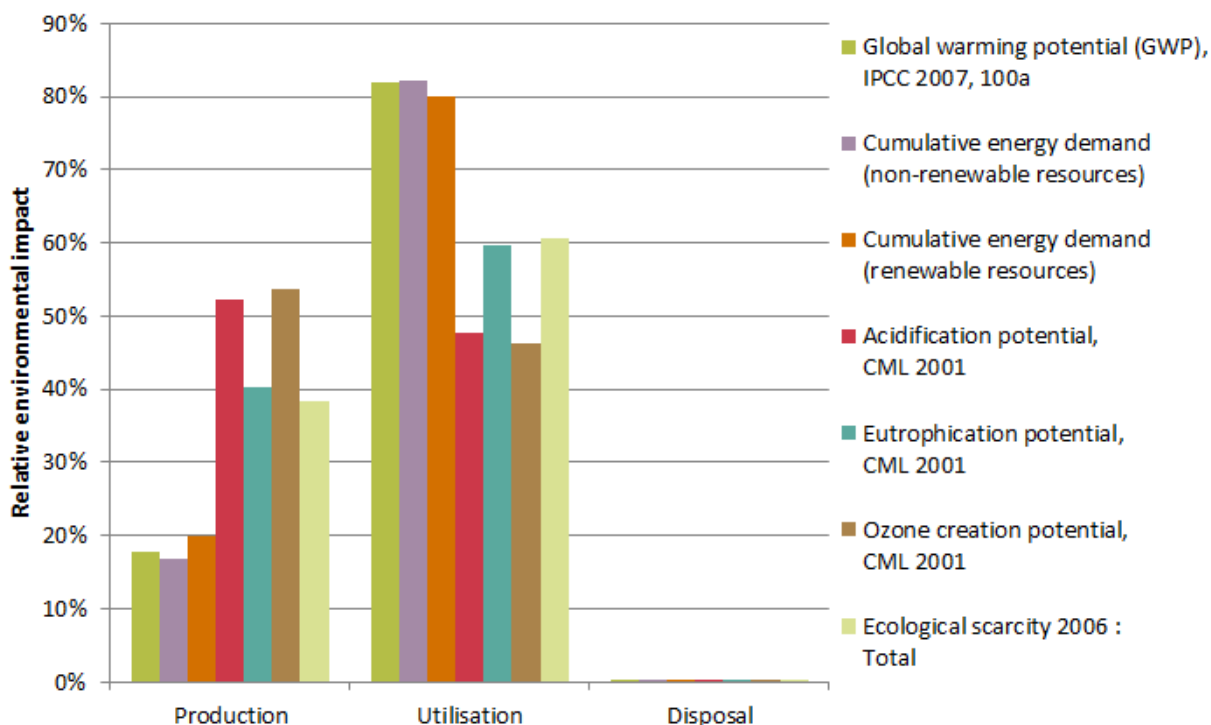
- Power consumption <math><0.3\text{ W}</math>
- Typical energy consumption per year 2.6 kWh/a

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 additionally 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”.

| Indicator | Unit | Production | Utilisation | Disposal | Total |
|--|--------------------------------------|------------|-------------|----------|----------|
| Global warming potential (GWP), IPCC 2007, 100a | kg CO ₂ eq. | 2.4 | 11.3 | 0.0 | 13.7 |
| Cumulative energy demand (non-renewable resources) | MJ eq. | 47 | 230 | 0.1 | 280 |
| Cumulative energy demand (renewable resources) | MJ eq. | 4.3 | 17 | 0.00 | 22 |
| Acidification potential, CML 2001 | kg SO ₂ eq. | 5.08E-02 | 4.65E-02 | 2.47E-05 | 9.72E-02 |
| Eutrophication potential, CML 2001 | kg PO ₄ -- eq. | 2.50E-02 | 3.69E-02 | 1.37E-05 | 6.20E-02 |
| Ozone creation potential, CML 2001 | kg C ₂ H ₄ eq. | 2.16E-03 | 1.87E-03 | 9.39E-07 | 4.03E-03 |
| Ecological scarcity 2006 : Total | UBP | 7'300 | 11'500 | 60 | 19'000 |



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

**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 PCB assembly.

It is possible that special treatment for special components is compulsory by law or makes ecological sense.

Packaging:

Recyclable

The local and currently valid laws (WEEE2012/19/EU) must be observed.

Special information:

None

Remarks**(¹) Depending on the fire load for the type:**

| | |
|---|--------|
| TRT317F210, TRT317F212, TRT327F210, TRT327F212 | 2.6 MJ |
|---|--------|

(²) Depending on the weight of the type:

| | |
|------------|------|
| TRT317F210 | 90 g |
| TRT317F212 | 82 g |
| TRT327F210 | 92 g |
| TRT327F212 | 85 g |

How the environment benefits

With these products we make a significant contribution to energy savings in buildings and to reducing global warming.

In the Green Building area, our products ensure that customer requirements are fulfilled optimally and that there is cost efficiency over the entire building life-cycle.

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 have been evaluated with existing data inventories for production processes 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 only for information purposes.**

Deviations from the information it contains can occur without being reported. 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 Center for Life Cycle Inventories, Dübendorf

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