Statement of Verification

BREG EN EPD No.: 000700 Issue 01

This is to verify that the

Environmental Product Declaration

provided by:

Honeywell International Inc

BRE Global Verified EPD

is in accordance with the requirements of:

EN 15804:2012+A2:2019

and

BRE Global Scheme Document SD207

This declaration is for:

1 unit of S-Quad Self-Test (S4T) series autonomous fire detector (multi-sensor, speech, sounder and visual alarm) for a service life of 12 years

Company Address

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Signed for BRE Global Ltd	Hayley Thomson Scheme Operator	02 July 2025 Date of this Issue
02 July 2025 Date of First Issue		01 July 2030 Expiry Date

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ECO PLATFORM EPD VERIFIED

Environmental Product Declaration

EPD Number: **000700**

General Information

EPD Programme Operator	Applicable Product Category Rules
BRE Global Watford, Herts WD25 9XX United Kingdom	BRE 2023 Product Category Rules (PN 514 Rev 3.1) for Type III environmental product declaration of construction products to EN 15804:2012+A2:2019 EN 50693:2019 - Product category rules for life cycle assessments of electronic and electrical products and systems
Commissioner of LCA study	**LCA consultant/Tool**
Honeywell Security UK Limited Building 5 Carlton Park King Edward Avenue, Narborough, Leicester, United Kingdom, LE19 0AL	LCA Consultant: Sustainability Centre of Excellence, Honeywell Technology Solutions (HTS) Madurai LCA Tool: GaBi 10.9.0.20
Declared/Functional Unit	**Applicability/Coverage**
1 unit of S-Quad Self-Test (S4T) series autonomous fire detector (multi-sensor, speech, sounder and visual alarm) for a service life of 12 years	Other (please specify). Product specific
EPD Type	**Background database**
Cradle to Grave	LCA for Experts by Sphera Databases

Demonstration of Verification
CEN standard EN 15804 serves as the core PCR [a]
Independent verification of the declaration and data according to EN ISO 14025:2010 ☐Internal ☒ External
(Where appropriate [b])Third party verifier: Flavie Lowers
a: Product category rules b: Optional for business-to-business communication; mandatory for business-to-consumer communication (see EN ISO 14025:2010, 9.4)

Comparability
Environmental product declarations from different programmes may not be comparable if not compliant with EN 15804:2012+A2:2019. Comparability is further dependent on the specific product category rules, system boundaries and allocations, and background data sources. See Clause 5.3 of EN 15804:2012+A2:2019 for further guidance

Information modules covered

Product			Construction		Use stage							End-of-life					Benefits and loads beyond the system boundary
					Related to the building fabric					Related to the building							
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4		D
Raw materials supply	Transport	Manufacturing	Transport to site	Construction – Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal		Reuse, Recovery and/or Recycling potential
☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑		☑

Note: Ticks indicate the Information Modules declared.

Manufacturing site(s)

Honeywell's manufacturing facilities located in Lugoj, Romania

Construction Product:

Product Description

Gent S-Quad Self-Test (S4T) series is a range of fire detectors with a patented Self-Test design, available in multi-sensors (heat, smoke, dual optics), Part-23 visual alarm devices, and sounder/voice options in white and black colours. It features an IP21 external moulding, an improved detector chamber design, and a dual microprocessor PCB, enhancing smoke detection and voice storage capacity. The Self-Test feature allows both heat and optical sensors to be tested using the Connected Life Safety Services (CLSS) app, performing realistic fire simulations by heating the thermistor and generating aerosol. Additionally, each device includes Bluetooth Low Energy (BLE) for automatic detection and verification via the CLSS app, aiding in device location, detail accuracy, and visual inspection confirmation. The series is approved by EN54, LPCB, UKCA, and CE standards.

The series comprises 11 distinct variants, as detailed in the table below. A LCA analysis is conducted for each individual product and presented separately in this EPD. While these variants share similar functionalities, technologies, and production processes, they collectively form a homogeneous family. The net weight of the product variants ranges between 130 g to 192 g including accessories like base, mounting plate, dust cover, etc.

Part Number	Description	Mass in g
S4T-720	Heat Sensor	132
S4T-710	Optical Heat Sensor	130
S4T-770-S	Optical Heat Sensor & Sounder	133
S4T-780-S	Heat Sensor Sounder	152
S4T-711	Dual Optical Heat Sensor	152
S4T-771-S	Dual Optical Heat Sensor & Sounder	167
S4T-711-V	Dual Optical Heat Sensor & Voice Sounder	170
S4T-711-VAD-HPR	Dual Optical Heat Sensor & High Power Red VAD	166
S4T-720-V-VAD-HPR	Heat Sensor, Voice Sounder & High Power Red VAD	189
S4T-711-V-VAD-HPR	Dual Optical Heat Sensor, Voice Sounder & High Power Red VAD	192
S4TB-711-V-VAD-HPR	Black Dual Optical Heat Sensor, Voice Sounder & High Power Red VAD	192

Technical Information

Technical characteristics of the products are provided below. For the most up-to-date information, please refer to the technical datasheet.
https://buildings.honeywell.com/content/dam/hbtbt/en/documents/downloads/GENT_Self-Test_Datasheet_Oct23.pdf

Property	Value, Unit
Operating Voltage	35 V to 48 V
Weight	Sensor head only 152 g with Standard base - 212 g *Note: The above weights are for the heaviest product variant*
Dimensions	Sensor head: 117 mm diameter by 63 mm height (With Base the height increases to 70 mm)
IP rating	IP21C
Sounder Current	2 mA average and 4.5 mA maximum in Turbo mode (Refer to Battery Standby and Loop Load Calculator Tool.)
Storage Temperature	-20 °C to +65 °C
Ambient Operating Temperature	-10°C to +50°C
Relative Humidity	95 % non-condensing (+5 °C to +45 °C)
Average Velocity for fire detection	0 to 20 m/s
Bluetooth range	10 m
Colour	White (RAL 9010) and Black (RAL 9005)
Enclosure	Terluran GP-35 (ABS) for outer housing
Smoke Self-Test Temperature Range	0 to 40 °C expected
Heat Self-Test Temperature Range	0 to 40 °C expected
Maximum number of optical tests	60 (expected maximum of 4 Self-Tests and 4 tests/year for 14 years)
Maximum number of heat tests	100 (expected maximum 4 tests and 4 tests/year for 20 years)
Air Velocity around device	0 to 1.5 m/s

Note: The above information applies to all the product variants considered in the LCA study.

Products	Standards / Certifications Passed
Heat (H)	EN54-5 : 2017 + A1 : 2018
Optical (O)	EN54-7 : 2018
Dual Optical (O2)	EN54-7 : 2018
Sounder (S)	EN54-3 : 2001 + A1 : 2002 + A2 : 2006; EN/54-3 : 2014 + A1 : 2019
Visual Alarm Device (VAD)	EN54-23 : 2010
Input/Output devices connected to transmission path	EN54-18 : 2005
Short circuit isolator	EN54-17 : 2005 data: Vmax 48 V IC max 0.8 A Vnom 40 V IS max 1.25 A

Products	Standards / Certifications Passed
	Vmin 35 V IL max 50 uA Vso max 16 V Zc max 0.13 Ω Vso min 8 V

Note: The above information applies to all the product variants considered in the LCA study.

S4T-720

S4T-710

S4T-770-S

S4T-780-S

S4T-711

S4T-771-S

S4T-711-V

S4T-711-VAD-HPR

S4T-720-V-VAD-HPR

S4T-711-V-VAD-HPR

S4TB-711-V-VAD-HPR

S4-700

S4BK-700

Note: Each sensor comes with a standard base (S4-700 / S4BK-700), which is included in the LCA study.

Main Product Contents

Category	Material	Content, %
Plastic	Acetonitrile butadiene styrene	41 - 47
Plastic	Fiberglass	5 - 9
Plastic	Polyamide	2 - 6
Plastic	Polyethylene	2 - 4
Metal	Stainless Steel	6 - 9
Metal	Copper	1 - 2
Electronics	Printed Circuit Board Assembly	18 - 28
Rubber	Silicone rubber	1 - 3
Ceramic	Ceramic	2 - 4
Labels	Paper	5 - 10
Other	Quartz	1 - 3
Other	Chemicals	2 - 4

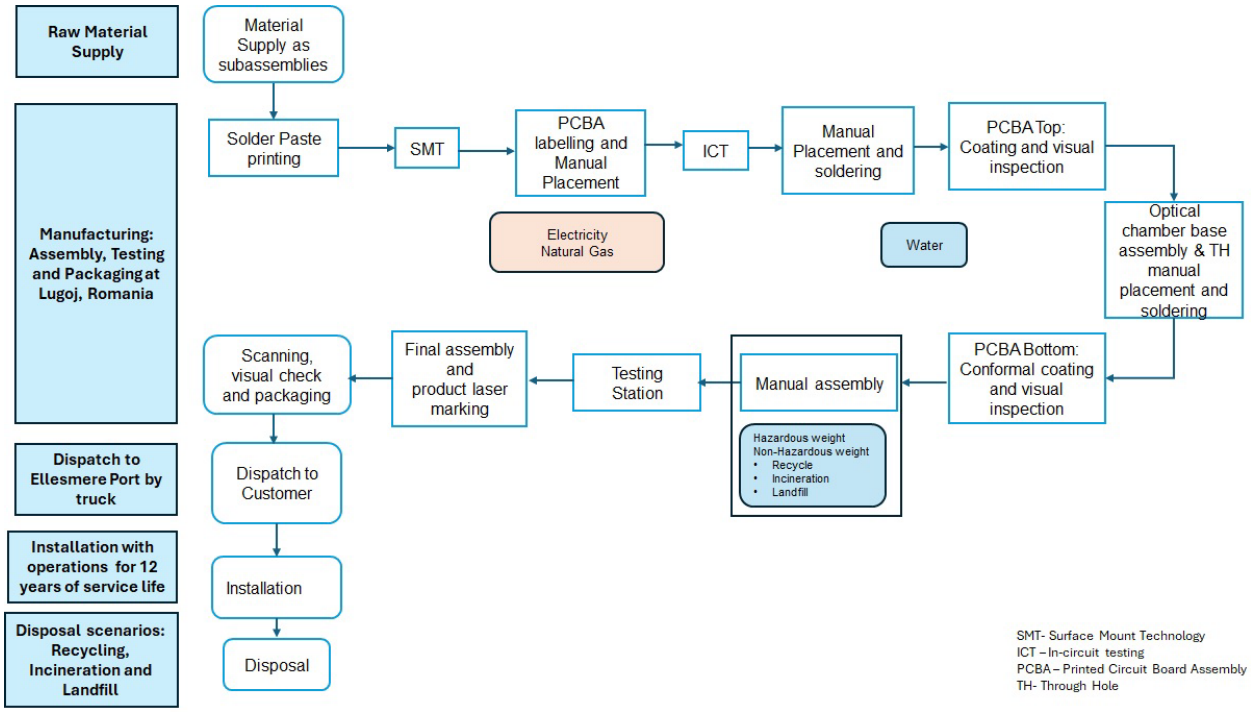
Note: The above information applies to all the product variants considered in the LCA study.

Manufacturing Process

The manufacturing process at Honeywell's Lugoj factory involves assembly. Various subassemblies, parts, and components are sourced from regional and global suppliers and assembled at the factory following sophisticated technology and standard industrial practices, with robust inspection and testing. The process flow diagram of the assembly process is provided below.

During the assembly process, there is no multi-output generation on the production lines. All S4T products are assembled using the same technology and process which works on standard industrial practices and all the products are inline quality tested. A set of representative products from every batch gets tested at the laboratory to ensure the product compliance with regulations and certifications.

Process flow diagram



Transportation

Since there are global, regional and local part suppliers, the upstream supply chain transport distances are estimated and aggregated for input raw materials. The downstream transport distances from the Lugoj factory to the distribution centre in UK and to customer locations are also estimated and included in the LCA model to assess transportation related environmental impacts.

Construction Installation

The installation phase involves only manual activities and does not consume any energy. This phase also includes the disposal of packaging waste to the nearest incineration facility. For the disposal of packaging and documentation after installation, a transport distance of 100 km is assumed based on the PSR-0019-ed1EN-2023 06 06.

Use Information

Under typical usage condition, the product has a service life for 12 years. It remains in quiescent mode in most of the time and did not need any use (B1) maintenance (B2), repair (B3), parts replacement (B4), refurbishments (B5) and water use (B7) during its operation. Hence, the use stage environmental impacts are associated to the operational electricity consumption (B6).

Since, this product is under fire detection and alarm system, a system maintenance is required for twice a year as per the recommendations of BS 5839 for Grade A systems. Routine maintenance testing is typically the responsibility of the premises occupier.
This electricity consumption in use phase is calculated based on PSR-0019 ed1EN-2023 06 06 PEP Eco passport.

Operation	Value
Quiescent State	0.008 Watt
Alarm State	20.5 mA / 0.718 Watt
Operation	24 hours per day
Alarm state	10 mins

The fire detector operates in a quiescent state under normal circumstances and switches to an alarm state during a fire incident or inspection/maintenance activity. The alarm state typically lasts for 10 minutes during the test/maintenance work. According to the PSR-0019 ed1 EN-2023 06 06 PEP Eco passport® guideline, the electricity consumption during 10-minute alarm state is negligible over the annual operating hours (8760 hours).

The total power consumed per annum is calculated using the formula below and is consistent across all 11 product variants:

Ct = Pc * (8760) h/an* DVR

= 0.008 * 8759.833

= 70.078 Wh

For 12 years,

= 70.18* 12 = 0.840 kWh

where Ct: Total energy consumption (kWh), Pc : Power consumption in quiescent condition (kW), an : annual, DVR: Dynamic voltage restorer is assumed as 1.

End-of-Life

No additional input materials, energy or water required to dismantle the product at end of life of the product. It can be dismantled using standard equipment and tools by manual operation. Hence module C1 did not have any environmental impacts.

The product has reached the end of waste state at C1 where the EOL model is based on end of recycling approach (substitution approach). This allocation approach is based on the perspective that a material that is recycled into a secondary material at end of life will substitute another material based on technical substitutability. The substituted material can be the same material (closed loop recycling) or a different one (open loop recycling). Hence, a credit is given to account for the material substitution based on mass or average grid energy recovery.

Fire detectors fall under WEEE recycling scheme. Therefore, the useful components such as screws, copper parts, plastics parts are separated manually. There is no pre-processing needed for the product. The recyclability potential calculated based on IEC62635 standard “A framework guideline for recyclability rate calculation for WEEE products”.

A typical transport distance of 100 km by road using a truck (Euro mix, 20-26t gross weight / 17.3t payload capacity) from the demolition site to the waste processing plant is assumed. However, end-users of the EPD can use this information to calculate the impacts of bespoke transport distances if required.

The product consists of 50 % - 66 % plastic and polymer, 7 % - 11% metals, 18 % - 28% electronics, and 10 % - 21 % other materials. The most appropriate end-of-life scenario has been selected by referencing EN50693:2019 PCR recommendations. The End-of-life specific allocation rules in C3 for materials to recycling, incineration, and disposal in landfills for all products in the family are considered as given below.

Material	Recycling	Incineration	Disposal in landfill
Steel	80%	NA	20%
Polyamide	NA	50%	50%
ABS	20%	40%	40%
Rubber	NA	50%	50%
PCB (Metals)	NA	NA	100%
Paper	NA	100%	NA
Fiber Glass	NA	50%	50%
Copper	60%	NA	40%
Polyethylene	NA	50%	50%

The allocation of environmental burden of waste recycling or reuse shall be assigned to the product system generating the waste and the waste comes as burden free and accounted in Module D. In case of incineration waste, with incineration efficiency >65 % the environmental burden of collection, preprocessing and incineration of the waste shall be assigned to the product system and the energy credits is accounted in Module D.

For landfilling of waste, the environmental burden of landfilling and capturing and combustion of landfill gas, if any, shall be assigned to C4. It is assumed that the scenarios considered for C3 and C4 category is described EOL Scenario based on EN50693: 2019 PCR guidance document.

“Benefits and loads beyond the system boundary” (module D) accounts for the environmental benefits and loads resulting from the recycling and energy recovery from incineration of waste in the C3 module of waste processing. These benefits and loads are calculated by including the burdens of recycling and the benefit of avoided primary production. There is no recycled content in the products considered in the LCA. Only wastes from primary materials are calculated in Module D and it reports the credits associated with the scrap output. The resulting scrap credit/burden is calculated based on the global “value of scrap” approach (/worldsteel 2011) For example some of the metal processing work have secondary material and recyclate. For example, production of white hot rolled stainless steel coil have 40% secondary steel and displays a recyclate share of 10 %. They are accounted in their corresponding data sets.

In addition, the benefits of Module D include the energy credits from incineration of waste product at end-of-life. Non-combustible contents (ceramic, quartz) have been excluded from per unit of fire detector, only the remaining combustible content (plastic parts, rubber, fiber glass and labels) are accounted for in Module D energy recovery calculations.

Life Cycle Assessment Calculation Rules

Declared Unit description

One unit of S-Quad Self Test (S4T) series autonomous fire detector (multi-sensor, speech, sounder and visual alarm) for a service life of 12 years.

System boundary

The system boundary considered in the LCA study is cradle to grave which covers all production stages (A1-A3), transportation to site (A4), installation (A5), use stages (B1-B7), and end- of-life stages (C1-C4) and D in accordance with EN 15804:2012+A2:2019. Additionally, this EPD complies with EN 50693:2019 PCR for the evaluation of electronic and electrical products and systems.
The study period of this LCA is 12 years which is same as the reference service life of the product for the entire system boundary from A1-C4.
Impacts and losses/wastage in production, transport, use stage and end of life stage are accounted in their respective modules.
LCA is completed for each product. The results for each model are displayed individually, with S4T-711-V-VAD-HPR and S4TB-711-V-VAD-HPR showed the highest environmental impact.

Data sources, quality and allocation

In this LCA study, both the primary and secondary data are modelled using Gabi 10.9.0.20 and Sphera database 2024. The main sources for primary data are the Bill of Materials (BOM) and technical drawings, while site specific foreground data are provided by Honeywell HSE Facility Management. Manufacture specific data for production 1 year (June 2023 to May 2024) from Lugoj site has been used in this LCA study. For all secondary data, obtained for all other upstream and downstream processes that are beyond the control of the manufacturer (i.e. raw material production), generic data originating from the LCA for expert's database, "unit process- single operation", are used. The LCA software used for the calculations is Gabi 10.9.0.20. All Sphera datasets are complete within the context used and conform to the system boundary and the criteria for the exclusion of inputs and outputs, according to the requirements specified in EN 15804:2012+A2:2019.

The LCA studies include 11 products which account for ~1% of the factory's total production. As all products have the similar function and manufacturing process but different weights, the LCA analysis is conducted for all, and the individual results are enclosed in this report. The factory also produces other products in addition to the self-test fire detectors, therefore the natural gas, water and waste generated have been allocated to all products by unit weight according to the provisions in the BRE 2023 PCR (PN 514 Rev 3.1) and EN 15804:2012+A2:2019. The electricity consumption per product arrived based on the overall factory energy consumption and proportional with routing time (assembly time) based on one year data. Site wide values for energy, water and wastewater have been taken from Honeywell systems. Figures for the raw materials, ancillary materials and packaging are from actual usages. Emissions to air, water and soil during assembly process are negligible and hence not accounted.

Printed circuit board assembly is modelled based on clustered datasets where the primary data from BOM on number of electronic components like capacitors, resistors, diodes, ICs etc, area of printed wiring board 4-layer rigid FR4 and Through Hole mount technology are taken based on the representative secondary datasets from Sphera database. Similarly, for Acrylonitrile Butadiene Styrene (ABS) part production is modelled where the ABS granulate is subjected to plastic injection moulding process based on the secondary datasets. Proxy datasets are used for additives such as few electronic components, chemicals, thinner etc. which account for less than 1% of the total input mass.

All the primary data such as BOM, energy consumption, supply chain details, are clearly mapped to the corresponding processes and the most specific datasets. The LCIA methodology used is the EN 15804:2012+A2:2019 based on Environmental Footprint 3.1.

ISO14044 guidance Quality Level	Geographical representativeness	Technical representativeness	Time representativeness
Very Good	Data from area under study.	Data from processes and products under study. Same state of technology applied as defined in goal and scope (i.e., identical technology).	There is approximately 1 year between the Sphera databases LCI reference year, and the time period for which the LCA is undertaken.

Specific regional datasets are used in this LCA. The geographical scope of product is Modules A1-A3: Romania, A4-A5: Great Britan, Module B: Great Britan and Module C: Region Europe are considered for geography. There is less than 1 years between the Sphera LCI reference year (2024) and the time period for which the LCA (2023-2024) is undertaken. Hence the quality of geographical and technical representativeness is therefore very good. Romanian consumption mix was used for electricity with an emissions factor of 223.25 gCO2e/kWh. Romanian Natural gas data (for facility discrete heat) was used with an emissions factor of 65.7 g CO2eq/kWh.

The factory has several products lines in addition Self-test fire detector. Therefore, allocation of electricity, energy, water, material usage and waste are required. This allocation is carried out in accordance with the provisions of BRE 2023 PCR (PN 514 Rev 3.1) and EN 15804:2012+A2:2019 by using unit allocation. All the input and output materials such as, transportation, packaging, energy, water use, and wastes are included. Only exception is emissions to air, water and soil which are negligible. Actual figures are taken for the raw materials, ancillary materials and packaging. Upon data review, the mass balance is within the acceptable range, and no data uplift has been performed.

Concerning end-of-life allocation, the substitution approach has been applied. This allocation approach is based on the perspective that a material that is recycled into a secondary material at end of life will substitute another material based on technical substitutability. The substituted material is based on open loop recycling. Hence, a credit is given to account for the material substitution based on mass or average grid energy. The allocation percentage for end of life for the EEE products are considered based on EN50693:2019 PCR recommendations.

Cut-off criteria

The LCA study include all input and output flows at every process steps. Life cycle inventory data related to raw material, packaging, consumables, transportation, process energy consumption, water use and waste generation are considered. No relevant processes are excluded. Only exemption of emission to water, soil and air are negligible. The upstream data related to raw material extraction and processing are factored through background datasets with Sphera data sets following a standard industrial practice.
Some of the assumptions considered in this study are given below.

- Printed circuit boards (PCB) assembly have been modelled with a representative cluster dataset.
- Global datasets are used where region specific data are unavailable
- Scraps for metal working and plastic processes are cut off as they are included in the secondary datasets.
- Surface treatments like plating, galvanizing is accounted in the secondary datasets.

Results Summary

For a service life of 12 years

Part Number	Cradle to Grave GWP total kg CO_2-eq	Cradle to Gate GWP total kg CO_2-eq	Operational energy use, kWh
S4T-710	2.54E+00	2.25E+00	0.84
S4T-720	2.50E+00	2.20E+00	0.84
S4T-770-S	2.55E+00	2.26E+00	0.84
S4T-711	2.74E+00	2.35E+00	0.84
S4T-711-V	2.77E+00	2.40E+00	0.84
S4T-771-S	2.75E+00	2.39E+00	0.84
S4T-780-S	2.68E+00	2.33E+00	0.84
S4T-711-VAD-HPR	2.96E+00	2.58E+00	0.84
S4T-720-V-VAD-HPR	4.05E+00	3.65E+00	0.84
S4T-711-V-VAD-HPR	4.08E+00	3.66E+00	0.84
S4TB-711-V-VAD-HPR	4.08E+00	3.66E+00	0.84

LCA Results of individual products

S4 SELF-TEST Optical Heat Sensor (S4T-710)

Parameters describing environmental impacts									
			GWP-total	GWP-fossil	GWP-biogenic	GWP-luluc	ODP	AP	EP-freshwater
			kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CFC11 eq	mol H^+ eq	kg $(PO_4)^{3-}$ eq
Product stage	Raw material supply	A1	1.97E+00	1.98E+00	-6.94E-03	2.98E-03	8.43E-10	2.34E-02	1.32E-05
	Transport	A2	1.59E-02	1.52E-02	6.47E-04	2.05E-06	1.98E-15	2.63E-05	4.18E-09
	Manufacturing	A3	2.61E-01	3.07E-01	-4.64E-02	-9.84E-05	3.26E-12	5.53E-04	5.42E-07
	Total (Consumption grid)	A1-3	2.25E+00	2.30E+00	-5.27E-02	2.89E-03	8.46E-10	2.40E-02	1.37E-05
Construction process stage	Transport	A4	4.19E-02	4.22E-02	-1.07E-03	7.01E-04	4.20E-15	6.86E-05	1.78E-07
	Construction	A5	2.23E-02	-8.46E-03	3.07E-02	-7.52E-07	1.97E-11	-1.51E-06	-1.10E-08
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	1.59E-01	1.55E-01	3.58E-03	2.36E-05	4.55E-12	2.91E-04	2.73E-07
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.29E-03	1.31E-03	-3.32E-05	2.17E-05	1.30E-16	2.19E-06	5.50E-09
	Waste processing	C3	7.12E-02	6.22E-02	9.03E-03	-1.54E-05	-6.79E-15	-1.21E-05	-4.21E-09
	Disposal	C4	1.48E-03	1.48E-03	-6.66E-06	6.89E-06	4.49E-15	9.53E-06	4.74E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-9.97E-02	-9.99E-02	2.23E-04	-1.78E-05	-3.49E-13	-1.70E-04	-2.24E-07

GWP-total = Global warming potential, total;
GWP-fossil = Global warming potential, fossil;
GWP-biogenic = Global warming potential, biogenic;
GWP-luluc = Global warming potential, land use and land use change

ODP = Depletion potential of the stratospheric ozone layer;
AP = Acidification potential, accumulated exceedance; and
EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment

S4 SELF-TEST Optical Heat Sensor (S4T-710) (cont'd)

Parameters describing environmental impacts									
			EP-marine	EP-terrestrial	POCP	ADP-mineral& metals	ADP-fossil	WDP	PM
			kg N eq	mol N eq	kg NMVOC eq	kg Sb eq	MJ, net calorific value	m^3 world eq deprived	disease incidence
Product stage	Raw material supply	A1	1.97E-03	2.11E-02	6.61E-03	2.61E-04	2.78E+01	7.29E-01	2.21E-07
	Transport	A2	1.10E-05	1.23E-04	2.76E-05	4.26E-10	2.11E-01	3.99E-05	2.25E-10
	Manufacturing	A3	9.21E-05	9.50E-04	2.82E-04	-2.65E-06	6.26E+00	3.17E-02	-1.25E-09
	Total (Consumption grid)	A1-3	2.08E-03	2.22E-02	6.91E-03	2.59E-04	3.43E+01	7.61E-01	2.20E-07
Construction process stage	Transport	A4	2.68E-05	3.13E-04	6.42E-05	3.55E-09	5.45E-01	6.21E-04	5.51E-10
	Construction	A5	7.88E-07	1.54E-05	9.00E-07	-1.06E-08	-1.56E-01	3.94E-03	-1.15E-10
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	8.33E-05	8.88E-04	2.35E-04	4.52E-08	3.55E+00	1.20E-02	2.51E-09
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction , demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	8.67E-07	1.01E-05	2.05E-06	1.10E-10	1.68E-02	1.92E-05	1.73E-11
	Waste processing	C3	2.21E-05	2.55E-04	5.34E-05	-3.00E-06	-5.42E-03	7.05E-03	-3.16E-10
	Disposal	C4	2.24E-06	2.47E-05	7.02E-06	9.71E-11	2.26E-02	1.81E-04	1.09E-10
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-5.43E-05	-5.62E-04	-1.73E-04	-7.42E-08	-2.33E+00	-1.75E-02	-1.18E-09

EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment;
EP-terrestrial = Eutrophication potential, accumulated exceedance;
POCP = Formation potential of tropospheric ozone;
ADP-mineral&metals = Abiotic depletion potential for non-fossil resources;
ADP-fossil = Depletion potential of the stratospheric ozone layer;
WDP = Water (user) deprivation potential, deprivation-weighted water consumption; and
PM = Particulate matter.

S4 SELF-TEST Optical Heat Sensor (S4T-710) (cont'd)

Parameters describing environmental impacts							
			IRP	ETP-fw	HTP-c	HTP-nc	SQP
			kBq U235 eq	CTUe	CTUh	CTUh	dimensionless
Product stage	Raw material supply	A1	7.73E-02	1.23E+01	4.89E-09	2.77E-08	5.44E+00
	Transport	A2	4.81E-05	1.58E-01	2.88E-12	9.28E-11	1.54E-03
	Manufacturing	A3	6.91E-02	8.50E-01	-1.30E-09	1.45E-09	5.71E+00
	Total (Consumption grid)	A1-3	1.47E-01	1.33E+01	3.59E-09	2.92E-08	1.12E+01
Construction process stage	Transport	A4	9.83E-05	4.01E-01	8.04E-12	3.58E-10	2.70E-01
	Construction	A5	-1.42E-03	-1.60E-02	-1.74E-12	-3.54E-11	-2.31E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	5.06E-02	1.92E+00	7.46E-11	2.06E-09	1.23E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill							
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	3.04E-06	1.24E-02	2.48E-13	1.11E-11	8.33E-03
	Waste processing	C3	1.42E-04	-1.87E-02	-1.53E-12	-2.26E-11	-3.93E-02
	Disposal	C4	3.78E-05	3.52E-02	5.65E-13	1.39E-11	4.71E-03
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-8.09E-03	-7.94E-01	-2.24E-11	-9.49E-10	-2.11E-01

IRP = Potential human exposure efficiency relative to U235;
ETP-fw = Potential comparative toxic unit for ecosystems;
HTP-c = Potential comparative toxic unit for humans;
HTP-nc = Potential comparative toxic unit for humans; and
SQP = Potential soil quality index.

S4 SELF-TEST Optical Heat Sensor (S4T-710) (cont'd)

Parameters describing resource use, primary energy								
			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	6.24E+00	9.75E-02	6.33E+00	2.78E+01	2.64E+00	3.05E+01
	Transport	A2	1.55E-03	0.00E+00	1.55E-03	2.11E-01	0.00E+00	2.11E-01
	Manufacturing	A3	3.19E+00	4.50E-01	3.64E+00	6.26E+00	0.00E+00	6.26E+00
	Total (Consumption grid)	A1-3	9.43E+00	5.48E-01	9.98E+00	3.43E+01	2.64E+00	3.69E+01
Construction process stage	Transport	A4	4.60E-02	0.00E+00	4.60E-02	5.45E-01	0.00E+00	5.45E-01
	Construction	A5	-4.13E-02	-4.50E-01	-4.91E-01	-1.56E-01	0.00E+00	-1.56E-01
	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	3.65E+00	0.00E+00	3.65E+00	3.55E+00	0.00E+00	3.55E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill								
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.42E-03	0.00E+00	1.42E-03	1.68E-02	0.00E+00	1.68E-02
	Waste processing	C3	-6.33E-03	-9.75E-02	-1.04E-01	-5.42E-03	-2.64E+00	-2.64E+00
	Disposal	C4	3.61E-03	0.00E+00	3.61E-03	2.26E-02	0.00E+00	2.26E-02
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-2.86E-01	0.00E+00	-2.86E-01	-2.33E+00	0.00E+00	-2.33E+00

PERE = Use of renewable primary energy excluding renewable primary energy used as raw materials;
PERM = Use of renewable primary energy resources used as raw materials;
PERT = Total use of renewable primary energy resources;
PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials;
PENRM = Use of non-renewable primary energy resources used as raw materials;
PENRT = Total use of non-renewable primary energy resource

S4 SELF-TEST Optical Heat Sensor (S4T-710) (cont'd)

Parameters describing resource use, secondary materials and fuels, use of water						
			SM	RSF	NRSF	FW
			kg	MJ, net calorific value	MJ, net calorific value	m^3
Product stage	Raw material supply	A1	6.06E-03	0.00E+00	0.00E+00	2.17E-02
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	1.69E-06
	Manufacturing	A3	0.00E+00	0.00E+00	0.00E+00	4.68E-03
	Total (Consumption grid)	A1-3	6.06E-03	0.00E+00	0.00E+00	3.43E+01
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	5.45E-01
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	7.82E-05
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	1.31E-03
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill						
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	1.60E-06
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	1.81E-04
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	5.47E-06
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	-1.65E-03

SM = Use of secondary material;
RSF = Use of renewable secondary fuels;
NRSF = Use of non-renewable secondary fuels;
FW = Net use of fresh water

S4 SELF-TEST Optical Heat Sensor (S4T-710) (cont'd)

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	4.21E-06	1.47E-01	6.97E-04
	Transport	A2	7.68E-12	2.20E-05	3.36E-07
	Manufacturing	A3	-1.04E-05	1.13E-02	8.01E-04
	Total (Consumption grid)	A1-3	-6.19E-06	1.58E-01	1.50E-03
Construction process stage	Transport	A4	1.76E-11	8.47E-05	7.04E-07
	Construction	A5	-8.01E-11	-7.34E-05	-8.36E-06
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	8.08E-09	5.37E-03	4.97E-04
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill					
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	5.44E-13	2.62E-06	2.17E-08
	Waste processing	C3	2.08E-12	5.46E-03	9.66E-07
	Disposal	C4	5.60E-12	7.09E-02	2.89E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-4.54E-09	4.75E-04	-5.22E-05

HWD = Hazardous waste disposed;
NHWD = Non-hazardous waste disposed;
RWD = Radioactive waste disposed

S4 SELF-TEST Optical Heat Sensor (S4T-710) (cont'd)

Other environmental information describing output flows – at end of life									
			CRU	MFR	MER	EE	ET	Biogenic carbon (product)	Biogenic carbon (package)
			kg	kg	kg	MJ per energy carrier	MJ per energy	kg C	kg C
Product stage	Raw material supply	A1	0.00E+00	1.94E-02	3.92E-02	0.00E+00	0.00E+00	0.00E+00	-9.36E-03
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Manufacturing	A3	0.00E+00	1.65E-02	4.66E-02	3.89E-03	7.30E-03	0.00E+00	-3.00E-02
	Total (Consumption grid)	A1-3	0.00E+00	3.59E-02	8.57E-02	3.89E-03	7.30E-03	0.00E+00	-3.94E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	3.00E-02	3.26E-02	1.01E-01	0.00E+00	3.00E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Waste processing	C3	3.59E-02	3.59E-02	5.57E-02	2.47E-01	4.49E-01	0.00E+00	9.36E-03
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for reuse.
MFR = Materials for recycling

MER = Materials for energy recovery;
EE = Exported Energy

S4 SELF-TEST Heat Sensor (S4T-720)

Parameters describing environmental impacts									
			GWP-total	GWP-fossil	GWP-biogenic	GWP-luluc	ODP	AP	EP-freshwater
			kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CFC11 eq	mol H^+ eq	kg $(PO_4)^{3-}$ eq
Product stage	Raw material supply	A1	1.92E+00	1.93E+00	-7.07E-03	2.90E-03	8.20E-10	2.25E-02	1.35E-05
	Transport	A2	1.62E-02	1.55E-02	6.61E-04	2.09E-06	2.02E-15	2.69E-05	4.27E-09
	Manufacturing	A3	2.61E-01	3.07E-01	-4.64E-02	-9.84E-05	3.26E-12	5.53E-04	5.42E-07
	Total (Consumption grid)	A1-3	2.20E+00	2.25E+00	-5.28E-02	2.80E-03	8.23E-10	2.31E-02	1.41E-05
Construction process stage	Transport	A4	4.21E-02	4.25E-02	-1.08E-03	7.05E-04	4.23E-15	6.90E-05	1.79E-07
	Construction	A5	2.24E-02	-8.51E-03	3.09E-02	-7.56E-07	1.99E-11	-1.52E-06	-1.11E-08
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	1.60E-01	1.56E-01	3.60E-03	2.37E-05	4.58E-12	2.93E-04	2.74E-07
	Operational water use	B7	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.30E-03	1.31E-03	-3.34E-05	2.18E-05	1.31E-16	2.21E-06	5.54E-09
	Waste processing	C3	7.42E-02	6.52E-02	9.01E-03	-1.05E-05	-1.67E-15	1.10E-05	-1.86E-09
	Disposal	C4	1.49E-03	1.49E-03	-6.61E-06	6.90E-06	4.56E-15	9.61E-06	4.98E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-9.99E-02	-1.00E-01	2.16E-04	-1.78E-05	-3.57E-13	-1.69E-04	-2.25E-07

GWP-total = Global warming potential, total;
GWP-fossil = Global warming potential, fossil;
GWP-biogenic = Global warming potential, biogenic;
GWP-luluc = Global warming potential, land use and land use change;

ODP = Depletion potential of the stratospheric ozone layer;
AP = Acidification potential, accumulated exceedance; and
EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment

S4 SELF-TEST Heat Sensor (S4T-720) (cont'd)

Parameters describing environmental impacts									
			EP-marine	EP-terrestrial	POCP	ADP-mineral& metals	ADP-fossil	WDP	PM
			kg N eq	mol N eq	kg NMVOC eq	kg Sb eq	MJ, net calorific value	m^3 world eq deprived	disease incidence
Product stage	Raw material supply	A1	1.92E-03	2.05E-02	6.40E-03	2.52E-04	2.74E+01	1.92E-03	2.12E-07
	Transport	A2	1.13E-05	1.26E-04	2.82E-05	4.35E-10	2.16E-01	1.13E-05	2.29E-10
	Manufacturing	A3	9.21E-05	9.50E-04	2.82E-04	-2.65E-06	6.26E+00	9.21E-05	-1.25E-09
	Total (Consumption grid)	A1-3	2.02E-03	2.16E-02	6.71E-03	2.49E-04	3.39E+01	2.02E-03	2.11E-07
Construction process stage	Transport	A4	2.70E-05	3.15E-04	6.46E-05	3.57E-09	5.48E-01	2.70E-05	5.54E-10
	Construction	A5	7.93E-07	1.55E-05	9.06E-07	-1.07E-08	-1.57E-01	7.93E-07	-1.16E-10
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	8.38E-05	8.94E-04	2.36E-04	4.55E-08	3.57E+00	8.38E-05	2.53E-09
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	8.73E-07	1.02E-05	2.07E-06	1.10E-10	1.69E-02	8.73E-07	1.74E-11
	Waste processing	C3	2.54E-05	2.90E-04	6.27E-05	-2.14E-06	4.85E-03	2.54E-05	-1.53E-10
	Disposal	C4	2.25E-06	2.48E-05	7.05E-06	9.83E-11	2.30E-02	2.25E-06	1.09E-10
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-5.42E-05	-5.62E-04	-1.72E-04	-7.20E-08	-2.33E+00	-5.42E-05	-1.18E-09

EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment;
EP-terrestrial = Eutrophication potential, accumulated exceedance;
POCP = Formation potential of tropospheric ozone;
ADP-mineral&metals = Abiotic depletion potential for non-fossil resources;
ADP-fossil = Depletion potential of the stratospheric ozone layer;
WDP = Water (user) deprivation potential, deprivation-weighted water consumption; and
PM = Particulate matter.

S4 SELF-TEST Heat Sensor (S4T-720) (cont'd)

Parameters describing environmental impacts							
			IRP	ETP-fw	HTP-c	HTP-nc	SQP
			kBq U^{235} eq	CTUe	CTUh	CTUh	dimensionless
Product stage	Raw material supply	A1	7.92E-02	1.36E+01	4.76E-09	3.00E-08	5.28E+00
	Transport	A2	4.91E-05	1.61E-01	2.94E-12	9.47E-11	1.57E-03
	Manufacturing	A3	6.91E-02	8.50E-01	-1.30E-09	1.45E-09	5.71E+00
	Total (Consumption grid)	A1-3	1.48E-01	1.46E+01	3.46E-09	3.15E-08	1.10E+01
Construction process stage	Transport	A4	9.89E-05	4.03E-01	8.09E-12	3.60E-10	2.71E-01
	Construction	A5	-1.43E-03	-1.61E-02	-1.75E-12	-3.56E-11	-2.33E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	5.09E-02	1.93E+00	7.51E-11	2.07E-09	1.24E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill							
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	3.06E-06	1.25E-02	2.50E-13	1.11E-11	8.38E-03
	Waste processing	C3	1.49E-04	-9.68E-03	-8.82E-13	-2.79E-12	-2.60E-02
	Disposal	C4	3.88E-05	3.65E-02	5.84E-13	1.42E-11	4.74E-03
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-8.28E-03	-7.93E-01	-2.26E-11	-9.50E-10	-2.13E-01

IRP = Potential human exposure efficiency relative to U235;
ETP-fw = Potential comparative toxic unit for ecosystems;
HTP-c = Potential comparative toxic unit for humans;
HTP-nc = Potential comparative toxic unit for humans; and
SQP = Potential soil quality index.

S4 SELF-TEST Heat Sensor (S4T-720) (cont'd)

Parameters describing resource use, primary energy								
			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	6.03E+00	9.75E-02	6.13E+00	2.74E+01	2.60E+00	3.00E+01
	Transport	A2	1.58E-03	0.00E+00	1.58E-03	2.16E-01	0.00E+00	2.16E-01
	Manufacturing	A3	3.19E+00	4.50E-01	3.64E+00	6.26E+00	0.00E+00	6.26E+00
	Total (Consumption grid)	A1-3	9.22E+00	5.48E-01	9.77E+00	3.39E+01	2.60E+00	3.65E+01
Construction process stage	Transport	A4	4.63E-02	0.00E+00	4.63E-02	5.48E-01	0.00E+00	5.48E-01
	Construction	A5	-4.16E-02	-4.50E-01	-4.92E-01	-1.57E-01	0.00E+00	-1.57E-01
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	3.67E+00	0.00E+00	3.67E+00	3.57E+00	0.00E+00	3.57E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill								
End of life	Deconstruction , demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.43E-03	0.00E+00	1.43E-03	1.69E-02	0.00E+00	1.69E-02
	Waste processing	C3	-2.63E-03	-9.75E-02	-1.00E-01	4.85E-03	-2.60E+00	-2.60E+00
	Disposal	C4	3.66E-03	0.00E+00	3.66E-03	2.30E-02	0.00E+00	2.30E-02
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-2.90E-01	0.00E+00	-2.90E-01	-2.33E+00	0.00E+00	-2.33E+00

PERE = Use of renewable primary energy excluding renewable primary energy used as raw materials;
PERM = Use of renewable primary energy resources used as raw materials;
PERT = Total use of renewable primary energy resources;
PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials;
PENRM = Use of non-renewable primary energy resources used as raw materials;
PENRT = Total use of non-renewable primary energy resource

S4 SELF-TEST Heat Sensor (S4T-720) (cont'd)

Parameters describing resource use, secondary materials and fuels, use of water						
			SM	RSF	NRSF	FW
			kg	MJ net calorific value	MJ net calorific value	m^3
Product stage	Raw material supply	A1	5.86E-03	0.00E+00	0.00E+00	2.49E-02
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	1.72E-06
	Manufacturing	A3	0.00E+00	0.00E+00	0.00E+00	4.68E-03
	Total (Consumption grid)	A1-3	5.86E-03	0.00E+00	0.00E+00	2.96E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	5.20E-05
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	7.87E-05
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	1.32E-03
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill						
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	1.61E-06
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	1.98E-04
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	5.54E-06
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	-1.61E-03

SM = Use of secondary material;
RSF = Use of renewable secondary fuels;
NRSF = Use of non-renewable secondary fuels;
FW = Net use of fresh water

S4 SELF-TEST Heat Sensor (S4T-720) (cont'd)

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	4.11E-06	1.41E-01	6.78E-04
	Transport	A2	7.84E-12	2.24E-05	3.43E-07
	Manufacturing	A3	-1.04E-05	1.13E-02	8.01E-04
	Total (Consumption grid)	A1-3	-6.29E-06	1.52E-01	1.48E-03
Construction process stage	Transport	A4	1.77E-11	8.52E-05	7.08E-07
	Construction	A5	-8.06E-11	-7.39E-05	-8.41E-06
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	8.13E-09	5.41E-03	5.00E-04
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill					
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	5.48E-13	2.63E-06	2.19E-08
	Waste processing	C3	5.48E-12	5.01E-03	9.99E-07
	Disposal	C4	5.70E-12	7.07E-02	2.96E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-4.51E-09	4.25E-04	-5.32E-05

HWD = Hazardous waste disposed;
NHWD = Non-hazardous waste disposed;
RWD = Radioactive waste disposed

S4 SELF-TEST Heat Sensor (S4T-720) (cont'd)

Other environmental information describing output flows – at end of life									
			CRU	MFR	MER	EE	ET	Biogenic carbon (product)	Biogenic carbon (packaging)
			kg	kg	kg	MJ per energy carrier	MJ per energy	kg C	kg C
Product stage	Raw material supply	A1	0.00E+00	1.88E-02	4.05E-02	0.00E+00	0.00E+00	0.00E+00	-6.50E-03
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Manufacturing	A3	0.00E+00	1.65E-02	4.66E-02	3.89E-03	7.30E-03	0.00E+00	-3.65E-02
	Total (Consumption grid)	A1-3	0.00E+00	3.53E-02	8.71E-02	3.89E-03	7.30E-03	0.00E+00	-4.30E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	3.00E-02	3.26E-02	1.01E-01	0.00E+00	3.65E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Waste processing	C3	0.00E+00	3.54E-02	5.71E-02	2.47E-01	4.49E-01	0.00E+00	6.50E-03
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for reuse.
MFR = Materials for recycling

MER = Materials for energy recovery;
EE = Exported Energy

S4 SELF-TEST Optical Heat Sensor & Sounder (S4T-770-S)

Parameters describing environmental impacts									
			GWP-total	GWP-fossil	GWP-biogenic	GWP-luluc	ODP	AP	EP-freshwater
			kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CFC11 eq	mol H^+ eq	kg $(PO_4)^{3-}$ eq
Product stage	Raw material supply	A1	1.98E+00	1.99E+00	-6.88E-03	3.02E-03	8.43E-10	2.36E-02	1.28E-05
	Transport	A2	1.55E-02	1.49E-02	6.33E-04	2.01E-06	1.94E-15	2.57E-05	4.09E-09
	Manufacturing	A3	2.60E-01	3.07E-01	-4.67E-02	-9.75E-05	3.27E-12	5.53E-04	5.45E-07
	Total (Consumption grid)	A1-3	2.26E+00	2.31E+00	-5.30E-02	2.93E-03	8.46E-10	2.42E-02	1.34E-05
Construction process stage	Transport	A4	4.22E-02	4.26E-02	-1.08E-03	7.07E-04	4.24E-15	6.91E-05	1.79E-07
	Construction	A5	2.24E-02	-8.52E-03	3.10E-02	-7.57E-07	1.99E-11	-1.52E-06	-1.11E-08
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	1.60E-01	1.57E-01	3.61E-03	2.38E-05	4.59E-12	2.93E-04	2.75E-07
	Operational water use	B7	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.30E-03	1.32E-03	-3.35E-05	2.18E-05	1.31E-16	2.21E-06	5.54E-09
	Waste processing	C3	7.08E-02	6.18E-02	9.03E-03	-1.43E-05	-5.85E-15	-1.00E-05	-3.82E-09
	Disposal	C4	1.47E-03	1.46E-03	-6.65E-06	6.86E-06	4.45E-15	9.47E-06	4.65E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.01E-01	-1.02E-01	2.34E-04	-1.82E-05	-3.48E-13	-1.74E-04	-2.27E-07

GWP-total = Global warming potential, total;
GWP-fossil = Global warming potential, fossil;
GWP-biogenic = Global warming potential, biogenic;
GWP-luluc = Global warming potential, land use and land use change;

ODP = Depletion potential of the stratospheric ozone layer;
AP = Acidification potential, accumulated exceedance; and
EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment

S4 SELF-TEST Optical Heat Sensor & Sounder (S4T-770-S) (cont'd)

Parameters describing environmental impacts									
			EP-marine	EP-terrestrial	POCP	ADP-mineral&metals	ADP-fossil	WDP	PM
			kg N eq	mol N eq	kg NMVOC eq	kg Sb eq	MJ, net calorific value	m^3 world eq deprived	disease incidence
Product stage	Raw material supply	A1	1.99E-03	2.13E-02	6.65E-03	2.63E-04	2.79E+01	6.25E-01	2.23E-07
	Transport	A2	1.08E-05	1.20E-04	2.70E-05	4.17E-10	2.07E-01	3.89E-05	2.20E-10
	Manufacturing	A3	9.23E-05	9.52E-04	2.83E-04	-2.65E-06	6.26E+00	3.18E-02	-1.24E-09
	Total (Consumption grid)	A1-3	2.09E-03	2.24E-02	6.96E-03	2.60E-04	3.44E+01	6.57E-01	2.22E-07
Construction process stage	Transport	A4	2.71E-05	3.16E-04	6.47E-05	3.58E-09	5.49E-01	6.26E-04	5.55E-10
	Construction	A5	7.94E-07	1.55E-05	9.07E-07	-1.07E-08	-1.57E-01	3.97E-03	-1.16E-10
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	8.39E-05	8.95E-04	2.36E-04	4.56E-08	3.58E+00	1.21E-02	2.53E-09
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle,31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	8.74E-07	1.02E-05	2.07E-06	1.11E-10	1.70E-02	1.93E-05	1.74E-11
	Waste processing	C3	2.12E-05	2.44E-04	5.12E-05	-2.80E-06	-4.02E-03	7.14E-03	-2.88E-10
	Disposal	C4	2.23E-06	2.45E-05	6.98E-06	9.63E-11	2.24E-02	1.80E-04	1.08E-10
Potential benefits and loads beyond the system	Reuse, recovery, recycling potential	D	-5.53E-05	-5.72E-04	-1.76E-04	-7.93E-08	-2.37E+00	-1.78E-02	-1.21E-09

EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment;
EP-terrestrial = Eutrophication potential, accumulated exceedance;
POCP = Formation potential of tropospheric ozone;
ADP-mineral&metals = Abiotic depletion potential for non-fossil resources;
ADP-fossil = Depletion potential of the stratospheric ozone layer;
WDP = Water (user) deprivation potential, deprivation-weighted water consumption; and
PM = Particulate matter.

S4 SELF-TEST Optical Heat Sensor & Sounder (S4T-770-S) (cont'd)

Parameters describing environmental impacts							
			IRP	ETP-fw	HTP-c	HTP-nc	SQP
			kBq U^{235} eq	CTUe	CTUh	CTUh	dimensionless
Product stage	Raw material supply	A1	7.57E-02	1.14E+01	5.20E-09	2.57E-08	5.53E+00
	Transport	A2	4.71E-05	1.54E-01	2.82E-12	9.07E-11	1.51E-03
	Manufacturing	A3	6.91E-02	8.51E-01	-1.30E-09	1.45E-09	5.75E+00
	Total (Consumption grid)	A1-3	1.45E-01	1.25E+01	3.90E-09	2.73E-08	1.13E+01
Construction process stage	Transport	A4	9.90E-05	4.04E-01	8.10E-12	3.61E-10	2.72E-01
	Construction	A5	-1.43E-03	-1.61E-02	-1.75E-12	-3.57E-11	-2.33E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	5.10E-02	1.93E+00	7.52E-11	2.07E-09	1.24E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill							
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	3.06E-06	1.25E-02	2.50E-13	1.11E-11	8.39E-03
	Waste processing	C3	1.41E-04	-1.69E-02	-1.39E-12	-1.79E-11	-3.64E-02
	Disposal	C4	3.74E-05	3.46E-02	5.58E-13	1.38E-11	4.68E-03
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-8.07E-03	-8.06E-01	-2.24E-11	-9.61E-10	-2.12E-01

IRP = Potential human exposure efficiency relative to U235;
ETP-fw = Potential comparative toxic unit for ecosystems;
HTP-c = Potential comparative toxic unit for humans;
HTP-nc = Potential comparative toxic unit for humans; and
SQP = Potential soil quality index.

S4 SELF-TEST Optical Heat Sensor & Sounder (S4T-770-S) (cont'd)

Parameters describing resource use, primary energy								
			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	6.31E+00	9.75E-02	6.41E+00	2.79E+01	2.65E+00	3.06E+01
	Transport	A2	1.51E-03	0.00E+00	1.51E-03	2.07E-01	0.00E+00	2.07E-01
	Manufacturing	A3	3.20E+00	4.50E-01	3.65E+00	6.26E+00	0.00E+00	6.26E+00
	Total (Consumption grid)	A1-3	9.51E+00	5.48E-01	1.01E+01	3.44E+01	2.65E+00	3.71E+01
Construction process stage	Transport	A4	4.64E-02	0.00E+00	4.64E-02	5.49E-01	0.00E+00	5.49E-01
	Construction	A5	-4.16E-02	-4.50E-01	-4.92E-01	-1.57E-01	0.00E+00	-1.57E-01
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	3.68E+00	0.00E+00	3.68E+00	3.58E+00	0.00E+00	3.58E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill								
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.43E-03	0.00E+00	1.43E-03	1.70E-02	0.00E+00	1.70E-02
	Waste processing	C3	-5.62E-03	-9.75E-02	-1.03E-01	-4.02E-03	-2.65E+00	-2.65E+00
	Disposal	C4	3.58E-03	0.00E+00	3.58E-03	2.24E-02	0.00E+00	2.24E-02
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-2.86E-01	0.00E+00	-2.86E-01	-2.37E+00	0.00E+00	-2.37E+00

PERE = Use of renewable primary energy excluding renewable primary energy used as raw materials;
PERM = Use of renewable primary energy resources used as raw materials;
PERT = Total use of renewable primary energy resources;
PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials;
PENRM = Use of non-renewable primary energy resources used as raw materials;
PENRT = Total use of non-renewable primary energy resource

S4 SELF-TEST Optical Heat Sensor & Sounder (S4T-770-S) (cont'd)

Parameters describing resource use, secondary materials and fuels, use of water						
			SM	RSF	NRSF	FW
			kg	MJ net calorific value	MJ net calorific value	m^3
Product stage	Raw material supply	A1	6.54E-03	0.00E+00	0.00E+00	1.93E-02
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	1.65E-06
	Manufacturing	A3	0.00E+00	0.00E+00	0.00E+00	4.68E-03
	Total (Consumption grid)	A1-3	6.54E-03	0.00E+00	0.00E+00	2.40E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	5.21E-05
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	7.88E-05
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	1.33E-03
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill						
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	1.61E-06
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	1.82E-04
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	5.43E-06
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	-1.75E-03

SM = Use of secondary material;
RSF = Use of renewable secondary fuels;
NRSF = Use of non-renewable secondary fuels;
FW = Net use of fresh water

S4 SELF-TEST Optical Heat Sensor & Sounder (S4T-770-S) (cont'd)

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	4.40E-06	1.49E-01	7.05E-04
	Transport	A2	7.51E-12	2.15E-05	3.29E-07
	Manufacturing	A3	-1.04E-05	1.13E-02	8.01E-04
	Total (Consumption grid)	A1-3	-5.99E-06	1.60E-01	1.51E-03
Construction process stage	Transport	A4	1.78E-11	8.54E-05	7.09E-07
	Construction	A5	-8.07E-11	-7.40E-05	-8.42E-06
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	8.14E-09	5.41E-03	5.01E-04
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill					
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	5.49E-13	2.64E-06	2.19E-08
	Waste processing	C3	2.56E-12	5.21E-03	9.53E-07
	Disposal	C4	5.56E-12	7.07E-02	2.87E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-4.66E-09	5.74E-04	-5.22E-05

HWD = Hazardous waste disposed;
NHWD = Non-hazardous waste disposed;
RWD = Radioactive waste disposed

S4 SELF-TEST Optical Heat Sensor & Sounder (S4T-770-S) (cont'd)

Other environmental information describing output flows – at end of life									
			CRU	MFR	MER	EE	ET	Biogenic carbon (product)	Biogenic carbon (packaging)
			kg	kg	kg	MJ per energy carrier	MJ per energy	kg C	kg C
Product stage	Raw material supply	A1	0.00E+00	3.86E-02	2.00E-02	0.00E+00	0.00E+00	0.00E+00	-6.50E-03
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Manufacturing	A3	0.00E+00	1.66E-02	1.65E-02	3.89E-03	7.30E-03	0.00E+00	-3.65E-02
	Total (Consumption grid)	A1-3	0.00E+00	5.52E-02	3.65E-02	3.89E-03	7.30E-03	0.00E+00	-4.30E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	3.26E-02	1.01E-01	0.00E+00	3.65E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Waste processing	C3	0.00E+00	5.52E-02	3.65E-02	2.47E-01	4.49E-01	0.00E+00	6.50E-03
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for reuse.
MFR = Materials for recycling

MER = Materials for energy recovery;
EE = Exported Energy

S4 SELF-TEST Dual Optical Heat Sensor (S4T-711) (cont'd)

Parameters describing environmental impacts									
			GWP-total	GWP-fossil	GWP-biogenic	GWP-luluc	ODP	AP	EP-freshwater
			kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CFC11 eq	mol H^+ eq	kg $(PO_4)_3^-$ eq
Product stage	Raw material supply	A1	2.07E+00	2.07E+00	-1.19E-02	3.17E-03	1.11E-09	2.42E-02	1.41E-05
	Transport	A2	1.79E-02	1.71E-02	7.29E-04	2.31E-06	2.23E-15	2.97E-05	4.71E-09
	Manufacturing	A3	2.61E-01	3.07E-01	-4.64E-02	-9.84E-05	3.26E-12	5.53E-04	5.42E-07
	Total (Consumption grid)	A1-3	2.34E+00	2.40E+00	-5.75E-02	3.07E-03	1.12E-09	2.48E-02	1.47E-05
Construction process stage	Transport	A4	4.77E-02	4.81E-02	-1.22E-03	7.99E-04	4.79E-15	7.82E-05	2.03E-07
	Construction	A5	2.24E-02	-8.51E-03	3.09E-02	-7.56E-07	1.99E-11	-1.52E-06	-1.11E-08
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	1.86E-01	1.82E-01	4.19E-03	2.76E-05	5.33E-12	3.41E-04	3.19E-07
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.51E-03	1.53E-03	-3.89E-05	2.54E-05	1.52E-16	2.57E-06	6.44E-09
	Waste processing	C3	1.29E-01	1.15E-01	1.32E-02	-1.78E-05	-5.36E-15	-1.08E-05	-4.31E-09
	Disposal	C4	1.70E-03	1.69E-03	-7.77E-06	7.98E-06	5.14E-15	1.10E-05	5.28E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.32E-01	-1.32E-01	1.59E-04	-2.17E-05	-5.73E-13	-2.12E-04	-2.83E-07

GWP-total = Global warming potential, total;
GWP-fossil = Global warming potential, fossil;
GWP-biogenic = Global warming potential, biogenic;
GWP-luluc = Global warming potential, land use and land use change

ODP = Depletion potential of the stratospheric ozone layer;
AP = Acidification potential, accumulated exceedance; and
EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment

S4 SELF-TEST Dual Optical Heat Sensor (S4T-711) (cont'd)

Parameters describing environmental impacts									
			EP-marine	EP-terrestrial	POCP	ADP-mineral& metals	ADP-fossil	WDP	PM
			kg N eq	mol N eq	kg NMVOC eq	kg Sb eq	MJ, net calorific value	m^3 world eq deprived	disease incidence
Product stage	Raw material supply	A1	2.07E-03	2.22E-02	6.91E-03	2.68E-04	2.95E+01	7.91E-01	2.29E-07
	Transport	A2	1.24E-05	1.39E-04	3.11E-05	4.80E-10	2.38E-01	4.49E-05	2.53E-10
	Manufacturing	A3	9.21E-05	9.50E-04	2.82E-04	-2.65E-06	6.26E+00	3.17E-02	-1.25E-09
	Total (Consumption grid)	A1-3	2.18E-03	2.33E-02	7.22E-03	2.65E-04	3.60E+01	8.22E-01	2.28E-07
Construction process stage	Transport	A4	3.06E-05	3.57E-04	7.32E-05	4.05E-09	6.21E-01	7.08E-04	6.28E-10
	Construction	A5	7.93E-07	1.55E-05	9.06E-07	-1.07E-08	-1.57E-01	3.97E-03	-1.16E-10
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	9.75E-05	1.04E-03	2.74E-04	5.29E-08	4.15E+00	1.40E-02	2.94E-09
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.01E-06	1.18E-05	2.40E-06	1.28E-10	1.97E-02	2.25E-05	2.02E-11
	Waste processing	C3	2.60E-05	3.11E-04	6.34E-05	-3.50E-06	-8.68E-04	1.24E-02	-3.44E-10
	Disposal	C4	2.59E-06	2.85E-05	8.10E-06	1.11E-10	2.59E-02	2.08E-04	1.26E-10
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-6.70E-05	-6.95E-04	-2.11E-04	-8.77E-08	-2.96E+00	-2.16E-02	-1.50E-09

EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment;
EP-terrestrial = Eutrophication potential, accumulated exceedance;
POCP = Formation potential of tropospheric ozone;
ADP-mineral&metals = Abiotic depletion potential for non-fossil resources;
ADP-fossil = Depletion potential of the stratospheric ozone layer;
WDP = Water (user) deprivation potential, deprivation-weighted water consumption; and
PM = Particulate matter.

S4 SELF-TEST Dual Optical Heat Sensor (S4T-711) (cont'd)

Parameters describing environmental impacts							
			IRP	ETP-fw	HTP-c	HTP-nc	SQP
			kBq U235 eq	CTUe	CTUh	CTUh	dimensionless
Product stage	Raw material supply	A1	8.28E-02	1.34E+01	5.63E-09	2.95E-08	6.17E+00
	Transport	A2	5.42E-05	1.78E-01	3.25E-12	1.05E-10	1.74E-03
	Manufacturing	A3	6.91E-02	8.50E-01	-1.30E-09	1.45E-09	5.71E+00
	Total (Consumption grid)	A1-3	1.52E-01	1.45E+01	4.32E-09	3.10E-08	1.19E+01
Construction process stage	Transport	A4	1.12E-04	4.57E-01	9.16E-12	4.08E-10	3.07E-01
	Construction	A5	-1.43E-03	-1.61E-02	-1.75E-12	-3.56E-11	-2.33E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	5.92E-02	2.24E+00	8.73E-11	2.41E-09	1.44E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill							
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	3.55E-06	1.45E-02	2.91E-13	1.29E-11	9.75E-03
	Waste processing	C3	2.18E-04	-1.95E-02	-1.48E-12	-2.47E-11	-4.40E-02
	Disposal	C4	4.30E-05	3.96E-02	6.39E-13	1.58E-11	5.43E-03
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.35E-02	-9.30E-01	-2.88E-11	-1.15E-09	-3.06E-01

IRP = Potential human exposure efficiency relative to U235;
ETP-fw = Potential comparative toxic unit for ecosystems;
HTP-c = Potential comparative toxic unit for humans;
HTP-nc = Potential comparative toxic unit for humans; and
SQP = Potential soil quality index.

S4 SELF-TEST Dual Optical Heat Sensor (S4T-711) (cont'd)

Parameters describing resource use, primary energy								
			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	6.60E+00	9.50E-03	6.61E+00	2.95E+01	2.93E+00	3.24E+01
	Transport	A2	1.74E-03	0.00E+00	1.74E-03	2.38E-01	0.00E+00	2.38E-01
	Manufacturing	A3	3.19E+00	4.50E-01	3.64E+00	6.26E+00	0.00E+00	6.26E+00
	Total (Consumption grid)	A1-3	9.79E+00	4.60E-01	1.03E+01	3.60E+01	2.93E+00	3.89E+01
Construction process stage	Transport	A4	5.25E-02	0.00E+00	5.25E-02	6.21E-01	0.00E+00	6.21E-01
	Construction	A5	-4.16E-02	-4.50E-01	-4.92E-01	-1.57E-01	0.00E+00	-1.57E-01
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	4.27E+00	0.00E+00	4.27E+00	4.15E+00	0.00E+00	4.15E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill								
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.66E-03	0.00E+00	1.66E-03	1.97E-02	0.00E+00	1.97E-02
	Waste processing	C3	-5.76E-03	-9.50E-03	-1.53E-02	-8.68E-04	-2.93E+00	-2.93E+00
	Disposal	C4	4.14E-03	0.00E+00	4.14E-03	2.59E-02	0.00E+00	2.59E-02
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-4.41E-01	0.00E+00	-4.41E-01	-2.96E+00	0.00E+00	-2.96E+00

PERE = Use of renewable primary energy excluding renewable primary energy used as raw materials;
PERM = Use of renewable primary energy resources used as raw materials;
PERT = Total use of renewable primary energy resources;
PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials;
PENRM = Use of non-renewable primary energy resources used as raw materials;
PENRT = Total use of non-renewable primary energy resource

S4 SELF-TEST Dual Optical Heat Sensor (S4T-711) (cont'd)

Parameters describing resource use, secondary materials and fuels, use of water						
			SM	RSF	NRSF	FW
			kg	MJ, net calorific value	MJ, net calorific value	m^3
Product stage	Raw material supply	A1	7.09E-03	0.00E+00	0.00E+00	2.33E-02
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	1.90E-06
	Manufacturing	A3	0.00E+00	0.00E+00	0.00E+00	4.68E-03
	Total (Consumption grid)	A1-3	7.09E-03	0.00E+00	0.00E+00	3.60E+01
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	6.21E-01
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	7.87E-05
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	1.54E-03
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill						
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	1.87E-06
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	3.10E-04
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	6.27E-06
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	-1.99E-03

SM = Use of secondary material;
RSF = Use of renewable secondary fuels;
NRSF = Use of non-renewable secondary fuels;
FW = Net use of fresh water

S4 SELF-TEST Dual Optical Heat Sensor (S4T-711) (cont'd)

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	4.72E-06	1.55E-01	7.38E-04
	Transport	A2	8.65E-12	2.48E-05	3.79E-07
	Manufacturing	A3	-1.04E-05	1.13E-02	8.01E-04
	Total (Consumption grid)	A1-3	-5.68E-06	1.66E-01	1.54E-03
Construction process stage	Transport	A4	2.01E-11	9.65E-05	8.02E-07
	Construction	A5	-8.06E-11	-7.39E-05	-8.41E-06
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	9.45E-09	6.29E-03	5.82E-04
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill					
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	6.37E-13	3.06E-06	2.55E-08
	Waste processing	C3	5.79E-12	6.67E-03	1.45E-06
	Disposal	C4	6.41E-12	8.24E-02	3.30E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-5.32E-09	4.14E-04	-8.53E-05

HWD = Hazardous waste disposed;
NHWD = Non-hazardous waste disposed;
RWD = Radioactive waste disposed

S4 SELF-TEST Dual Optical Heat Sensor (S4T-711) (cont'd)

Other environmental information describing output flows – at end of life									
			CRU	MFR	MER	EE	ET	Biogenic carbon (product)	Biogenic carbon (package)
			kg	kg	kg	MJ per energy carrier	MJ per energy	kg C	kg C
Product stage	Raw material supply	A1	0.00E+00	2.19E-02	4.69E-02	0.00E+00	0.00E+00	0.00E+00	-9.50E-03
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Manufacturing	A3	0.00E+00	1.65E-02	4.66E-02	3.89E-03	7.30E-03	0.00E+00	-3.00E-02
	Total (Consumption grid)	A1-3	0.00E+00	3.84E-02	9.35E-02	3.89E-03	7.30E-03	0.00E+00	-3.95E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	3.00E-02	3.26E-02	1.01E-01	0.00E+00	3.00E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Waste processing	C3	3.59E-02	3.84E-02	6.35E-02	2.47E-01	4.49E-01	0.00E+00	9.50E-03
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for reuse.
MFR = Materials for recycling

MER = Materials for energy recovery;
EE = Exported Energy

S4 SELF-TEST Dual Optical Heat Sensor & Voice Sounder (S4T-711-V)

Parameters describing environmental impacts									
			GWP-total	GWP-fossil	GWP-biogenic	GWP-luluc	ODP	AP	EP-freshwater
			kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CFC11 eq	mol H^+ eq	kg $(PO_4)^{3-}$ eq
Product stage	Raw material supply	A1	2.12E+00	2.13E+00	-1.27E-02	3.33E-03	1.30E-09	2.44E-02	1.45E-05
	Transport	A2	1.85E-02	1.78E-02	7.56E-04	2.40E-06	2.32E-15	3.08E-05	4.89E-09
	Manufacturing	A3	2.61E-01	3.07E-01	-4.64E-02	-9.84E-05	3.26E-12	5.53E-04	5.42E-07
	Total (Consumption grid)	A1-3	2.40E+00	2.45E+00	-5.83E-02	3.23E-03	1.30E-09	2.50E-02	1.50E-05
Construction process stage	Transport	A4	5.14E-02	5.18E-02	-1.32E-03	8.60E-04	5.15E-15	8.41E-05	2.18E-07
	Construction	A5	2.24E-02	-8.51E-03	3.09E-02	-7.56E-07	1.99E-11	-1.52E-06	-1.11E-08
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	2.03E-01	1.98E-01	4.57E-03	3.01E-05	5.81E-12	3.72E-04	3.48E-07
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.65E-03	1.67E-03	-4.24E-05	2.77E-05	1.66E-16	2.80E-06	7.03E-09
	Waste processing	C3	9.14E-02	7.83E-02	1.32E-02	-1.84E-05	-7.33E-15	-1.19E-05	-4.71E-09
	Disposal	C4	1.84E-03	1.84E-03	-8.38E-06	8.64E-06	5.59E-15	1.19E-05	5.79E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.24E-01	-1.25E-01	2.76E-04	-2.20E-05	-4.33E-13	-2.13E-04	-2.73E-07

GWP-total = Global warming potential, total;
GWP-fossil = Global warming potential, fossil;
GWP-biogenic = Global warming potential, biogenic;
GWP-luluc = Global warming potential, land use and land use change

ODP = Depletion potential of the stratospheric ozone layer;
AP = Acidification potential, accumulated exceedance; and
EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment

S4 SELF-TEST Dual Optical Heat Sensor & Voice Sounder (S4T-711-V) (cont'd)

Parameters describing environmental impacts									
			EP-marine	EP-terrestrial	POCP	ADP-mineral& metals	ADP-fossil	WDP	PM
			kg N eq	mol N eq	kg NMVOC eq	kg Sb eq	MJ, net calorific value	m^3 world eq deprived	disease incidence
Product stage	Raw material supply	A1	2.12E-03	2.27E-02	7.04E-03	2.93E-04	3.05E+01	8.35E-01	2.32E-07
	Transport	A2	1.29E-05	1.44E-04	3.22E-05	4.98E-10	2.47E-01	4.66E-05	2.63E-10
	Manufacturing	A3	9.21E-05	9.50E-04	2.82E-04	-2.65E-06	6.26E+00	3.17E-02	-1.25E-09
	Total (Consumption grid)	A1-3	2.22E-03	2.38E-02	7.36E-03	2.91E-04	3.70E+01	8.67E-01	2.31E-07
Construction process stage	Transport	A4	3.29E-05	3.84E-04	7.88E-05	4.36E-09	6.68E-01	7.62E-04	6.75E-10
	Construction	A5	7.93E-07	1.55E-05	9.06E-07	-1.07E-08	-1.57E-01	3.97E-03	-1.16E-10
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	1.06E-04	1.13E-03	3.00E-04	5.77E-08	4.53E+00	1.53E-02	3.21E-09
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.11E-06	1.29E-05	2.62E-06	1.40E-10	2.15E-02	2.45E-05	2.21E-11
	Waste processing	C3	2.78E-05	3.20E-04	6.73E-05	-3.62E-06	-4.44E-03	9.18E-03	-3.67E-10
	Disposal	C4	2.81E-06	3.09E-05	8.78E-06	1.21E-10	2.82E-02	2.26E-04	1.36E-10
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-6.69E-05	-6.92E-04	-2.13E-04	-1.03E-07	-2.86E+00	-2.14E-02	-1.50E-09

EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment;
EP-terrestrial = Eutrophication potential, accumulated exceedance;
POCP = Formation potential of tropospheric ozone;
ADP-mineral&metals = Abiotic depletion potential for non-fossil resources;
ADP-fossil = Depletion potential of the stratospheric ozone layer;
WDP = Water (user) deprivation potential, deprivation-weighted water consumption; and
PM = Particulate matter.

S4 SELF-TEST Dual Optical Heat Sensor & Voice Sounder (S4T-711-V) (cont'd)

Parameters describing environmental impacts							
			IRP	ETP-fw	HTP-c	HTP-nc	SQP
			kBq U^{235} eq	CTUe	CTUh	CTUh	dimensionless
Product stage	Raw material supply	A1	8.62E-02	1.42E+01	6.70E-09	3.06E-08	6.41E+00
	Transport	A2	5.62E-05	1.85E-01	3.37E-12	1.08E-10	1.80E-03
	Manufacturing	A3	6.91E-02	8.50E-01	-1.30E-09	1.45E-09	5.71E+00
	Total (Consumption grid)	A1-3	1.55E-01	1.53E+01	5.40E-09	3.22E-08	1.21E+01
Construction process stage	Transport	A4	1.21E-04	4.91E-01	9.86E-12	4.39E-10	3.31E-01
	Construction	A5	-1.43E-03	-1.61E-02	-1.75E-12	-3.56E-11	-2.33E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	6.46E-02	2.45E+00	9.53E-11	2.63E-09	1.58E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill							
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	3.88E-06	1.58E-02	3.17E-13	1.41E-11	1.06E-02
	Waste processing	C3	1.86E-04	-2.16E-02	-1.78E-12	-2.37E-11	-4.68E-02
	Disposal	C4	4.69E-05	4.33E-02	6.98E-13	1.73E-11	5.89E-03
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.01E-02	-9.62E-01	-2.64E-11	-1.15E-09	-2.60E-01

IRP = Potential human exposure efficiency relative to U235;
ETP-fw = Potential comparative toxic unit for ecosystems;
HTP-c = Potential comparative toxic unit for humans;
HTP-nc = Potential comparative toxic unit for humans; and
SQP = Potential soil quality index.

S4 SELF-TEST Dual Optical Heat Sensor & Voice Sounder (S4T-711-V) (cont'd)

Parameters describing resource use, primary energy								
			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	6.73E+00	9.50E-03	6.74E+00	3.05E+01	3.23E+00	3.37E+01
	Transport	A2	1.81E-03	0.00E+00	1.81E-03	2.47E-01	0.00E+00	2.47E-01
	Manufacturing	A3	3.19E+00	4.50E-01	3.64E+00	6.26E+00	0.00E+00	6.26E+00
	Total (Consumption grid)	A1-3	9.93E+00	4.60E-01	1.04E+01	3.70E+01	3.23E+00	4.02E+01
Construction process stage	Transport	A4	5.65E-02	0.00E+00	5.65E-02	6.68E-01	0.00E+00	6.68E-01
	Construction	A5	-4.16E-02	-4.50E-01	-4.92E-01	-1.57E-01	0.00E+00	-1.57E-01
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	4.66E+00	0.00E+00	4.66E+00	4.53E+00	0.00E+00	4.53E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill								
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.82E-03	0.00E+00	1.82E-03	2.15E-02	0.00E+00	2.15E-02
	Waste processing	C3	-7.11E-03	-9.50E-03	-1.66E-02	-4.44E-03	-3.23E+00	-3.23E+00
	Disposal	C4	4.50E-03	0.00E+00	4.50E-03	2.82E-02	0.00E+00	2.82E-02
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-3.53E-01	0.00E+00	-3.53E-01	-2.86E+00	0.00E+00	-2.86E+00

PERE = Use of renewable primary energy excluding renewable primary energy used as raw materials;
PERM = Use of renewable primary energy resources used as raw materials;
PERT = Total use of renewable primary energy resources;
PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials;
PENRM = Use of non-renewable primary energy resources used as raw materials;
PENRT = Total use of non-renewable primary energy resource

S4 SELF-TEST Dual Optical Heat Sensor & Voice Sounder (S4T-711-V) (cont'd)

Parameters describing resource use, secondary materials and fuels, use of water						
			SM	RSF	NRSF	FW
			kg	MJ, net calorific value	MJ, net calorific value	m^3
Product stage	Raw material supply	A1	8.65E-03	0.00E+00	0.00E+00	2.44E-02
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	1.97E-06
	Manufacturing	A3	0.00E+00	0.00E+00	0.00E+00	4.68E-03
	Total (Consumption grid)	A1-3	8.65E-03	0.00E+00	0.00E+00	3.70E+01
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	6.68E-01
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	7.87E-05
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	1.68E-03
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill						
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	2.04E-06
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	2.34E-04
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	6.81E-06
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	-2.24E-03

SM = Use of secondary material;
RSF = Use of renewable secondary fuels;
NRSF = Use of non-renewable secondary fuels;
FW = Net use of fresh water

S4 SELF-TEST Dual Optical Heat Sensor & Voice Sounder (S4T-711-V) (cont'd)

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	5.38E-06	1.58E-01	7.60E-04
	Transport	A2	8.97E-12	2.57E-05	3.93E-07
	Manufacturing	A3	-1.04E-05	1.13E-02	8.01E-04
	Total (Consumption grid)	A1-3	-5.01E-06	1.69E-01	1.56E-03
Construction process stage	Transport	A4	2.16E-11	1.04E-04	8.63E-07
	Construction	A5	-8.06E-11	-7.39E-05	-8.41E-06
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	1.03E-08	6.86E-03	6.35E-04
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill					
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	6.95E-13	3.34E-06	2.78E-08
	Waste processing	C3	3.61E-12	7.01E-03	1.26E-06
	Disposal	C4	6.97E-12	8.90E-02	3.59E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-5.67E-09	8.54E-04	-6.51E-05

HWD = Hazardous waste disposed;
NHWD = Non-hazardous waste disposed;
RWD = Radioactive waste disposed

S4 SELF-TEST Dual Optical Heat Sensor & Voice Sounder (S4T-711-V) (cont'd)

Other environmental information describing output flows – at end of life									
			CRU	MFR	MER	EE	ET	Biogenic carbon (product)	Biogenic carbon (package)
			kg	kg	kg	MJ per energy carrier	MJ per energy	kg C	kg C
Product stage	Raw material supply	A1	0.00E+00	2.48E-02	5.11E-02	0.00E+00	0.00E+00	0.00E+00	-9.50E-03
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Manufacturing	A3	0.00E+00	1.65E-02	4.66E-02	3.19E-03	6.90E-03	0.00E+00	-3.00E-02
	Total (Consumption grid)	A1-3	0.00E+00	4.13E-02	9.76E-02	3.19E-03	6.90E-03	0.00E+00	-3.95E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	3.00E-02	3.26E-02	1.01E-01	0.00E+00	3.00E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.50E-03	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Waste processing	C3	3.59E-02	4.13E-02	6.76E-02	2.47E-01	4.49E-01	0.00E+00	9.50E-03
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for reuse.
MFR = Materials for recycling
MER = Materials for energy recovery
EE = Exported Energy

S4 SELF-TEST Dual Optical Heat Sensor & Sounder (S4T-771-S)

Parameters describing environmental impacts									
			GWP-total	GWP-fossil	GWP-biogenic	GWP-luluc	ODP	AP	EP-freshwater
			kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CFC11 eq	mol H^+ eq	kg $(PO_4)^{3-}$ eq
Product stage	Raw material supply	A1	2.11E+00	2.12E+00	-1.24E-02	3.30E-03	1.10E-09	2.44E-02	1.44E-05
	Transport	A2	1.84E-02	1.76E-02	7.51E-04	2.38E-06	2.30E-15	3.05E-05	4.85E-09
	Manufacturing	A3	2.61E-01	3.07E-01	-4.64E-02	-9.84E-05	3.26E-12	5.53E-04	5.42E-07
	Total (Consumption grid)	A1-3	2.39E+00	2.44E+00	-5.80E-02	3.21E-03	1.10E-09	2.50E-02	1.50E-05
Construction process stage	Transport	A4	5.03E-02	5.07E-02	-1.29E-03	8.42E-04	5.05E-15	8.24E-05	2.14E-07
	Construction	A5	2.24E-02	-8.51E-03	3.09E-02	-7.56E-07	1.99E-11	-1.52E-06	-1.11E-08
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	1.98E-01	1.94E-01	4.46E-03	2.94E-05	5.67E-12	3.63E-04	3.40E-07
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.61E-03	1.63E-03	-4.14E-05	2.70E-05	1.62E-16	2.73E-06	6.86E-09
	Waste processing	C3	8.76E-02	7.45E-02	1.32E-02	-2.02E-05	-9.46E-15	-2.04E-05	-5.66E-09
	Disposal	C4	1.80E-03	1.80E-03	-8.21E-06	8.46E-06	5.47E-15	1.17E-05	5.65E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.21E-01	-1.22E-01	2.73E-04	-2.15E-05	-4.19E-13	-2.08E-04	-2.67E-07

GWP-total = Global warming potential, total;
GWP-fossil = Global warming potential, fossil;
GWP-biogenic = Global warming potential, biogenic;
GWP-luluc = Global warming potential, land use and land use change

ODP = Depletion potential of the stratospheric ozone layer;
AP = Acidification potential, accumulated exceedance; and
EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment

S4 SELF-TEST Dual Optical Heat Sensor & Sounder (S4T-771-S) (cont'd)

Parameters describing environmental impacts									
			EP-marine	EP-terrestrial	POCP	ADP-mineral&metals	ADP-fossil	WDP	PM
			kg N eq	mol N eq	kg NMVOC eq	kg Sb eq	MJ, net calorific value	m^3 world eq deprived	disease incidence
Product stage	Raw material supply	A1	2.11E-03	2.26E-02	7.02E-03	2.94E-04	3.03E+01	8.31E-01	2.31E-07
	Transport	A2	1.28E-05	1.43E-04	3.20E-05	4.94E-10	2.45E-01	4.63E-05	2.61E-10
	Manufacturing	A3	9.21E-05	9.50E-04	2.82E-04	-2.65E-06	6.26E+00	3.17E-02	-1.25E-09
	Total (Consumption grid)	A1-3	2.22E-03	2.37E-02	7.33E-03	2.91E-04	3.68E+01	8.63E-01	2.30E-07
Construction process stage	Transport	A4	3.22E-05	3.77E-04	7.72E-05	4.27E-09	6.54E-01	7.46E-04	6.62E-10
	Construction	A5	7.93E-07	1.55E-05	9.06E-07	-1.07E-08	-1.57E-01	3.97E-03	-1.16E-10
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	1.04E-04	1.11E-03	2.92E-04	5.63E-08	4.42E+00	1.49E-02	3.13E-09
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.08E-06	1.26E-05	2.56E-06	1.37E-10	2.10E-02	2.39E-05	2.15E-11
	Waste processing	C3	2.65E-05	3.06E-04	6.37E-05	-3.91E-06	-8.76E-03	8.53E-03	-4.29E-10
	Disposal	C4	2.75E-06	3.02E-05	8.60E-06	1.18E-10	2.76E-02	2.21E-04	1.33E-10
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-6.54E-05	-6.76E-04	-2.09E-04	-1.03E-07	-2.79E+00	-2.09E-02	-1.47E-09

EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment;
EP-terrestrial = Eutrophication potential, accumulated exceedance;
POCP = Formation potential of tropospheric ozone;
ADP-mineral&metals = Abiotic depletion potential for non-fossil resources;
ADP-fossil = Depletion potential of the stratospheric ozone layer;
WDP = Water (user) deprivation potential, deprivation-weighted water consumption; and
PM = Particulate matter.

S4 SELF-TEST Dual Optical Heat Sensor & Sounder (S4T-771-S) (cont'd)

Parameters describing environmental impacts							
			IRP	ETP-fw	HTP-c	HTP-nc	SQP
			kBq U^{235} eq	CTUe	CTUh	CTUh	dimensionless
Product stage	Raw material supply	A1	8.56E-02	1.41E+01	6.71E-09	3.05E-08	6.38E+00
	Transport	A2	5.58E-05	1.83E-01	3.34E-12	1.08E-10	1.79E-03
	Manufacturing	A3	6.91E-02	8.50E-01	-1.30E-09	1.45E-09	5.71E+00
	Total (Consumption grid)	A1-3	1.55E-01	1.51E+01	5.41E-09	3.21E-08	1.21E+01
Construction process stage	Transport	A4	1.18E-04	4.81E-01	9.66E-12	4.30E-10	3.24E-01
	Construction	A5	-1.43E-03	-1.61E-02	-1.75E-12	-3.56E-11	-2.33E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	6.30E-02	2.39E+00	9.30E-11	2.56E-09	1.54E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill							
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	3.78E-06	1.54E-02	3.10E-13	1.38E-11	1.04E-02
	Waste processing	C3	1.78E-04	-2.52E-02	-2.03E-12	-3.33E-11	-5.16E-02
	Disposal	C4	4.59E-05	4.23E-02	6.82E-13	1.69E-11	5.77E-03
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-9.75E-03	-9.39E-01	-2.55E-11	-1.12E-09	-2.53E-01

IRP = Potential human exposure efficiency relative to U235;
ETP-fw = Potential comparative toxic unit for ecosystems;
HTP-c = Potential comparative toxic unit for humans;
HTP-nc = Potential comparative toxic unit for humans; and
SQP = Potential soil quality index.

S4 SELF-TEST Dual Optical Heat Sensor & Sounder (S4T-771-S) (cont'd)

Parameters describing resource use, primary energy								
			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	6.71E+00	9.50E-03	6.72E+00	3.03E+01	3.14E+00	3.34E+01
	Transport	A2	1.79E-03	0.00E+00	1.79E-03	2.45E-01	0.00E+00	2.45E-01
	Manufacturing	A3	3.19E+00	4.50E-01	3.64E+00	6.26E+00	0.00E+00	6.26E+00
	Total (Consumption grid)	A1-3	9.90E+00	4.60E-01	1.04E+01	3.68E+01	3.14E+00	3.99E+01
Construction process stage	Transport	A4	5.53E-02	0.00E+00	5.53E-02	6.54E-01	0.00E+00	6.54E-01
	Construction	A5	-4.16E-02	-4.50E-01	-4.92E-01	-1.57E-01	0.00E+00	-1.57E-01
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	4.55E+00	0.00E+00	4.55E+00	4.42E+00	0.00E+00	4.42E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill								
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.77E-03	0.00E+00	1.77E-03	2.10E-02	0.00E+00	2.10E-02
	Waste processing	C3	-8.61E-03	-9.50E-03	-1.81E-02	-8.76E-03	-3.14E+00	-3.15E+00
	Disposal	C4	4.40E-03	0.00E+00	4.40E-03	2.76E-02	0.00E+00	2.76E-02
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-3.43E-01	0.00E+00	-3.43E-01	-2.79E+00	0.00E+00	-2.79E+00

PERE = Use of renewable primary energy excluding renewable primary energy used as raw materials;
PERM = Use of renewable primary energy resources used as raw materials;
PERT = Total use of renewable primary energy resources;
PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials;
PENRM = Use of non-renewable primary energy resources used as raw materials;
PENRT = Total use of non-renewable primary energy resource

S4 SELF-TEST Dual Optical Heat Sensor & Sounder (S4T-771-S) (cont'd)

Parameters describing resource use, secondary materials and fuels, use of water						
			SM	RSF	NRSF	FW
			kg	MJ, net calorific value	MJ, net calorific value	m^3
Product stage	Raw material supply	A1	8.68E-03	0.00E+00	0.00E+00	2.43E-02
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	1.96E-06
	Manufacturing	A3	0.00E+00	0.00E+00	0.00E+00	4.68E-03
	Total (Consumption grid)	A1-3	8.68E-03	0.00E+00	0.00E+00	3.68E+01
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	6.54E-01
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	7.87E-05
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	1.64E-03
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill						
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	1.99E-06
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	2.21E-04
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	6.67E-06
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	-2.23E-03

SM = Use of secondary material;
RSF = Use of renewable secondary fuels;
NRSF = Use of non-renewable secondary fuels;
FW = Net use of fresh water

S4 SELF-TEST Dual Optical Heat Sensor & Sounder (S4T-771-S) (cont'd)

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	5.35E-06	1.58E-01	7.53E-04
	Transport	A2	8.91E-12	2.55E-05	3.90E-07
	Manufacturing	A3	-1.04E-05	1.13E-02	8.01E-04
	Total (Consumption grid)	A1-3	-5.04E-06	1.69E-01	1.55E-03
Construction process stage	Transport	A4	2.12E-11	1.02E-04	8.46E-07
	Construction	A5	-8.06E-11	-7.39E-05	-8.41E-06
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	1.01E-08	6.70E-03	6.19E-04
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill					
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	6.78E-13	3.26E-06	2.71E-08
	Waste processing	C3	1.97E-12	6.98E-03	1.21E-06
	Disposal	C4	6.82E-12	8.72E-02	3.52E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-5.56E-09	8.89E-04	-6.32E-05

HWD = Hazardous waste disposed;
NHWD = Non-hazardous waste disposed;
RWD = Radioactive waste disposed

S4 SELF-TEST Dual Optical Heat Sensor & Sounder (S4T-771-S) (cont'd)

Other environmental information describing output flows – at end of life									
			CRU	MFR	MER	EE	ET	Biogenic carbon (product)	Biogenic carbon (package)
			kg	kg	kg	MJ per energy carrier	MJ per energy	kg C	kg C
Product stage	Raw material supply	A1	0.00E+00	2.18E-02	4.55E-02	0.00E+00	0.00E+00	0.00E+00	-9.50E-03
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Manufacturing	A3	0.00E+00	1.65E-02	4.66E-02	3.19E-03	6.90E-03	0.00E+00	-3.00E-02
	Total (Consumption grid)	A1-3	0.00E+00	3.83E-02	9.21E-02	3.19E-03	6.90E-03	0.00E+00	-3.95E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	3.00E-02	3.26E-02	1.01E-01	0.00E+00	3.00E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Waste processing	C3	3.59E-02	3.83E-02	6.21E-02	2.47E-01	4.49E-01	0.00E+00	9.50E-03
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for reuse.
MFR = Materials for recycling
MER = Materials for energy recovery
EE = Exported Energy

S4 SELF-TEST Heat Sensor Sounder (S4T-780-S)

Parameters describing environmental impacts									
			GWP-total	GWP-fossil	GWP-biogenic	GWP-luluc	ODP	AP	EP-freshwater
			kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CFC11 eq	mol H^+ eq	kg $(PO_4)^{3-}$ eq
Product stage	Raw material supply	A1	2.06E+00	2.07E+00	-1.21E-02	3.14E-03	1.08E-09	2.42E-02	1.40E-05
	Transport	A2	1.76E-02	1.69E-02	7.17E-04	2.28E-06	2.20E-15	2.92E-05	4.64E-09
	Manufacturing	A3	2.61E-01	3.07E-01	-4.64E-02	-9.84E-05	3.26E-12	5.53E-04	5.42E-07
	Total (Consumption grid)	A1-3	2.33E+00	2.39E+00	-5.77E-02	3.04E-03	1.08E-09	2.48E-02	1.45E-05
Construction process stage	Transport	A4	4.71E-02	4.76E-02	-1.21E-03	7.89E-04	4.73E-15	7.72E-05	2.00E-07
	Construction	A5	2.21E-02	-8.41E-03	3.05E-02	-7.47E-07	1.96E-11	-1.50E-06	-1.10E-08
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	1.84E-01	1.80E-01	4.14E-03	2.73E-05	5.26E-12	3.37E-04	3.15E-07
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.50E-03	1.51E-03	-3.84E-05	2.50E-05	1.50E-16	2.54E-06	6.36E-09
	Waste processing	C3	8.12E-02	6.80E-02	1.32E-02	-1.78E-05	-7.87E-15	-1.65E-05	-4.83E-09
	Disposal	C4	1.66E-03	1.66E-03	-7.68E-06	7.87E-06	5.04E-15	1.08E-05	5.09E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.09E-01	-1.10E-01	2.40E-04	-1.93E-05	-3.84E-13	-1.87E-04	-2.41E-07

GWP-total = Global warming potential, total;
GWP-fossil = Global warming potential, fossil;
GWP-biogenic = Global warming potential, biogenic;
GWP-luluc = Global warming potential, land use and land use change

ODP = Depletion potential of the stratospheric ozone layer;
AP = Acidification potential, accumulated exceedance; and
EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment

S4 SELF-TEST Heat Sensor Sounder (S4T-780-S) (cont'd)

Parameters describing environmental impacts									
			EP-marine	EP-terrestrial	POCP	ADP-mineral&metals	ADP-fossil	WDP	PM
			kg N eq	mol N eq	kg NMVOC eq	kg Sb eq	MJ, net calorific value	m^3 world eq deprived	disease incidence
Product stage	Raw material supply	A1	2.07E-03	2.22E-02	6.89E-03	2.78E-04	2.92E+01	7.87E-01	2.29E-07
	Transport	A2	1.22E-05	1.36E-04	3.06E-05	4.72E-10	2.34E-01	4.42E-05	2.49E-10
	Manufacturing	A3	9.21E-05	9.50E-04	2.82E-04	-2.65E-06	6.26E+00	3.17E-02	-1.25E-09
	Total (Consumption grid)	A1-3	2.17E-03	2.32E-02	7.20E-03	2.75E-04	3.57E+01	8.18E-01	2.28E-07
Construction process stage	Transport	A4	3.02E-05	3.53E-04	7.23E-05	4.00E-09	6.13E-01	7.00E-04	6.20E-10
	Construction	A5	7.83E-07	1.53E-05	8.95E-07	-1.06E-08	-1.55E-01	3.92E-03	-1.15E-10
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	9.63E-05	1.03E-03	2.71E-04	5.23E-08	4.10E+00	1.38E-02	2.90E-09
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.00E-06	1.17E-05	2.37E-06	1.27E-10	1.95E-02	2.22E-05	2.00E-11
	Waste processing	C3	2.41E-05	2.79E-04	5.81E-05	-3.46E-06	-6.55E-03	7.99E-03	-3.72E-10
	Disposal	C4	2.55E-06	2.81E-05	7.97E-06	1.09E-10	2.54E-02	2.04E-04	1.24E-10
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-5.89E-05	-6.08E-04	-1.88E-04	-9.07E-08	-2.52E+00	-1.88E-02	-1.32E-09

EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment;
EP-terrestrial = Eutrophication potential, accumulated exceedance;
POCP = Formation potential of tropospheric ozone;
ADP-mineral&metals = Abiotic depletion potential for non-fossil resources;
ADP-fossil = Depletion potential of the stratospheric ozone layer;
WDP = Water (user) deprivation potential, deprivation-weighted water consumption; and
PM = Particulate matter.

S4 SELF-TEST Heat Sensor Sounder (S4T-780-S) (cont'd)

Parameters describing environmental impacts							
			IRP	ETP-fw	HTP-c	HTP-nc	SQP
			kBq U^{235} eq	CTUe	CTUh	CTUh	dimensionless
Product stage	Raw material supply	A1	8.19E-02	1.33E+01	5.93E-09	2.93E-08	6.21E+00
	Transport	A2	5.33E-05	1.75E-01	3.20E-12	1.03E-10	1.71E-03
	Manufacturing	A3	6.91E-02	8.50E-01	-1.30E-09	1.45E-09	5.71E+00
	Total (Consumption grid)	A1-3	1.51E-01	1.43E+01	4.63E-09	3.09E-08	1.19E+01
Construction process stage	Transport	A4	1.11E-04	4.51E-01	9.05E-12	4.03E-10	3.03E-01
	Construction	A5	-1.41E-03	-1.59E-02	-1.73E-12	-3.52E-11	-2.30E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	5.85E-02	2.22E+00	8.62E-11	2.38E-09	1.43E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill							
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	3.51E-06	1.43E-02	2.87E-13	1.28E-11	9.63E-03
	Waste processing	C3	1.65E-04	-2.17E-02	-1.76E-12	-2.76E-11	-4.53E-02
	Disposal	C4	4.20E-05	3.84E-02	6.21E-13	1.55E-11	5.34E-03
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-8.92E-03	-8.45E-01	-2.32E-11	-1.01E-09	-2.30E-01

IRP = Potential human exposure efficiency relative to U235;
ETP-fw = Potential comparative toxic unit for ecosystems;
HTP-c = Potential comparative toxic unit for humans;
HTP-nc = Potential comparative toxic unit for humans; and
SQP = Potential soil quality index.

S4 SELF-TEST Heat Sensor Sounder (S4T-780-S) (cont'd)

Parameters describing resource use, primary energy								
			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	6.58E+00	9.50E-03	6.59E+00	2.92E+01	2.83E+00	3.20E+01
	Transport	A2	1.71E-03	0.00E+00	1.71E-03	2.34E-01	0.00E+00	2.34E-01
	Manufacturing	A3	3.19E+00	4.50E-01	3.64E+00	6.26E+00	0.00E+00	6.26E+00
	Total (Consumption grid)	A1-3	9.77E+00	4.60E-01	1.02E+01	3.57E+01	2.83E+00	3.85E+01
Construction process stage	Transport	A4	5.18E-02	0.00E+00	5.18E-02	6.13E-01	0.00E+00	6.13E-01
	Construction	A5	-4.11E-02	-4.50E-01	-4.91E-01	-1.55E-01	0.00E+00	-1.55E-01
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	4.22E+00	0.00E+00	4.22E+00	4.10E+00	0.00E+00	4.10E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill								
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.64E-03	0.00E+00	1.64E-03	1.95E-02	0.00E+00	1.95E-02
	Waste processing	C3	-7.31E-03	-9.50E-03	-1.68E-02	-6.55E-03	-2.83E+00	-2.83E+00
	Disposal	C4	4.06E-03	0.00E+00	4.06E-03	2.54E-02	0.00E+00	2.54E-02
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-3.12E-01	0.00E+00	-3.12E-01	-2.52E+00	0.00E+00	-2.52E+00

PERE = Use of renewable primary energy excluding renewable primary energy used as raw materials;
PERM = Use of renewable primary energy resources used as raw materials;
PERT = Total use of renewable primary energy resources;
PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials;
PENRM = Use of non-renewable primary energy resources used as raw materials;
PENRT = Total use of non-renewable primary energy resource

S4 SELF-TEST Heat Sensor Sounder (S4T-780-S) (cont'd)

Parameters describing resource use, secondary materials and fuels, use of water						
			SM	RSF	NRSF	FW
			kg	MJ, net calorific value	MJ, net calorific value	m^3
Product stage	Raw material supply	A1	7.56E-03	0.00E+00	0.00E+00	2.32E-02
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	1.87E-06
	Manufacturing	A3	0.00E+00	0.00E+00	0.00E+00	4.68E-03
	Total (Consumption grid)	A1-3	7.56E-03	0.00E+00	0.00E+00	3.57E+01
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	6.13E-01
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	7.77E-05
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	1.52E-03
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill						
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	1.85E-06
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	2.06E-04
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	6.15E-06
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	-1.97E-03

SM = Use of secondary material;
RSF = Use of renewable secondary fuels;
NRSF = Use of non-renewable secondary fuels;
FW = Net use of fresh water

S4 SELF-TEST Heat Sensor Sounder (S4T-780-S) (cont'd)

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	4.81E-06	1.54E-01	7.32E-04
	Transport	A2	8.51E-12	2.44E-05	3.73E-07
	Manufacturing	A3	-1.04E-05	1.13E-02	8.01E-04
	Total (Consumption grid)	A1-3	-5.58E-06	1.66E-01	1.53E-03
Construction process stage	Transport	A4	1.98E-11	9.54E-05	7.92E-07
	Construction	A5	-7.96E-11	-7.30E-05	-8.31E-06
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	9.34E-09	6.21E-03	5.75E-04
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill					
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	6.29E-13	3.03E-06	2.51E-08
	Waste processing	C3	2.38E-12	6.36E-03	1.12E-06
	Disposal	C4	6.28E-12	8.13E-02	3.22E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-4.98E-09	7.42E-04	-5.77E-05

HWD = Hazardous waste disposed;
NHWD = Non-hazardous waste disposed;
RWD = Radioactive waste disposed

S4 SELF-TEST Heat Sensor Sounder (S4T-780-S) (cont'd)

Other environmental information describing output flows – at end of life									
			CRU	MFR	MER	EE	ET	Biogenic carbon (product)	Biogenic carbon (package)
			kg	kg	kg	MJ per energy carrier	MJ per energy	kg C	kg C
Product stage	Raw material supply	A1	0.00E+00	2.18E-02	4.55E-02	0.00E+00	0.00E+00	0.00E+00	-9.50E-03
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Manufacturing	A3	0.00E+00	1.65E-02	4.66E-02	3.19E-03	6.90E-03	0.00E+00	-3.00E-02
	Total (Consumption grid)	A1-3	0.00E+00	3.83E-02	9.21E-02	3.19E-03	6.90E-03	0.00E+00	-3.95E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	3.00E-02	3.26E-02	1.01E-01	0.00E+00	3.00E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Waste processing	C3	3.59E-02	3.83E-02	6.21E-02	2.47E-01	4.49E-01	0.00E+00	9.50E-03
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for reuse.
MFR = Materials for recycling
MER = Materials for energy recovery
EE = Exported Energy

S4 SELF-TEST Dual Optical Heat Sensor & High Power Red VAD (S4T-711-VAD-HPR)

Parameters describing environmental impacts									
			GWP-total	GWP-fossil	GWP-biogenic	GWP-luluc	ODP	AP	EP-freshwater
			kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CFC11 eq	mol H^+ eq	kg $(PO_4)^{3-}$ eq
Product stage	Raw material supply	A1	2.30E+00	2.30E+00	-1.15E-02	3.47E-03	1.30E-09	2.67E-02	1.62E-05
	Transport	A2	2.03E-02	1.95E-02	8.30E-04	2.63E-06	2.54E-15	3.38E-05	5.37E-09
	Manufacturing	A3	2.61E-01	3.07E-01	-4.64E-02	-9.85E-05	3.26E-12	5.53E-04	5.42E-07
	Total (Consumption grid)	A1-3	2.58E+00	2.63E+00	-5.71E-02	3.38E-03	1.31E-09	2.73E-02	1.67E-05
Construction process stage	Transport	A4	5.18E-02	5.23E-02	-1.33E-03	8.68E-04	5.20E-15	8.49E-05	2.21E-07
	Construction	A5	2.24E-02	-8.51E-03	3.09E-02	-7.56E-07	1.99E-11	-1.52E-06	-1.11E-08
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	2.05E-01	2.01E-01	4.62E-03	3.05E-05	5.88E-12	3.76E-04	3.52E-07
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.67E-03	1.69E-03	-4.29E-05	2.80E-05	1.68E-16	2.83E-06	7.11E-09
	Waste processing	C3	9.30E-02	7.99E-02	1.32E-02	-1.83E-05	-6.98E-15	-8.38E-06	-4.53E-09
	Disposal	C4	1.90E-03	1.90E-03	-8.62E-06	8.89E-06	5.77E-15	1.23E-05	6.00E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.25E-01	-1.26E-01	2.76E-04	-2.21E-05	-4.37E-13	-2.14E-04	-2.74E-07

GWP-total = Global warming potential, total;
GWP-fossil = Global warming potential, fossil;
GWP-biogenic = Global warming potential, biogenic;
GWP-luluc = Global warming potential, land use and land use change

ODP = Depletion potential of the stratospheric ozone layer;
AP = Acidification potential, accumulated exceedance; and
EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment

S4 SELF-TEST Dual Optical Heat Sensor & High Power Red VAD (S4T-711-VAD-HPR) (cont'd)

Parameters describing environmental impacts									
			EP-marine	EP-terrestrial	POCP	ADP-mineral&metals	ADP-fossil	WDP	PM
			kg N eq	mol N eq	kg NMVOC eq	kg Sb eq	MJ, net calorific value	m^3 world eq deprived	disease incidence
Product stage	Raw material supply	A1	2.30E-03	2.46E-02	7.65E-03	2.88E-04	3.28E+01	1.01E+00	2.53E-07
	Transport	A2	1.41E-05	1.58E-04	3.54E-05	5.46E-10	2.71E-01	5.11E-05	2.88E-10
	Manufacturing	A3	9.21E-05	9.49E-04	2.82E-04	-2.65E-06	6.26E+00	3.17E-02	-1.25E-09
	Total (Consumption grid)	A1-3	2.41E-03	2.57E-02	7.97E-03	2.86E-04	3.94E+01	1.04E+00	2.52E-07
Construction process stage	Transport	A4	3.32E-05	3.88E-04	7.95E-05	4.40E-09	6.74E-01	7.69E-04	6.82E-10
	Construction	A5	7.92E-07	1.55E-05	9.05E-07	-1.07E-08	-1.56E-01	3.96E-03	-1.16E-10
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	1.08E-04	1.15E-03	3.03E-04	5.84E-08	4.58E+00	1.55E-02	3.25E-09
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.12E-06	1.31E-05	2.65E-06	1.42E-10	2.17E-02	2.48E-05	2.23E-11
	Waste processing	C3	2.96E-05	3.40E-04	7.19E-05	-3.61E-06	-3.26E-03	9.39E-03	-3.56E-10
	Disposal	C4	2.89E-06	3.18E-05	9.04E-06	1.25E-10	2.91E-02	2.33E-04	1.40E-10
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-6.73E-05	-6.95E-04	-2.15E-04	-1.07E-07	-2.88E+00	-2.15E-02	-1.51E-09

EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment;
EP-terrestrial = Eutrophication potential, accumulated exceedance;
POCP = Formation potential of tropospheric ozone;
ADP-mineral&metals = Abiotic depletion potential for non-fossil resources;
ADP-fossil = Depletion potential of the stratospheric ozone layer;
WDP = Water (user) deprivation potential, deprivation-weighted water consumption; and
PM = Particulate matter.

S4 SELF-TEST Dual Optical Heat Sensor & High Power Red VAD (S4T-711-VAD-HPR) (cont'd)

Parameters describing environmental impacts							
			IRP	ETP-fw	HTP-c	HTP-nc	SQP
			kBq U^{235} eq	CTUe	CTUh	CTUh	dimensionless
Product stage	Raw material supply	A1	9.46E-02	1.61E+01	6.98E-09	3.51E-08	6.67E+00
	Transport	A2	6.17E-05	2.03E-01	3.70E-12	1.19E-10	1.98E-03
	Manufacturing	A3	6.91E-02	8.50E-01	-1.30E-09	1.45E-09	5.71E+00
	Total (Consumption grid)	A1-3	1.64E-01	1.71E+01	5.68E-09	3.67E-08	1.24E+01
Construction process stage	Transport	A4	1.22E-04	4.96E-01	9.95E-12	4.43E-10	3.34E-01
	Construction	A5	-1.43E-03	-1.61E-02	-1.75E-12	-3.56E-11	-2.33E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	6.53E-02	2.48E+00	9.64E-11	2.66E-09	1.59E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill							
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	3.92E-06	1.60E-02	3.21E-13	1.43E-11	1.08E-02
	Waste processing	C3	1.90E-04	-2.12E-02	-1.76E-12	-2.30E-11	-4.65E-02
	Disposal	C4	4.85E-05	4.48E-02	7.21E-13	1.78E-11	6.07E-03
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.02E-02	-9.63E-01	-2.62E-11	-1.15E-09	-2.62E-01

IRP = Potential human exposure efficiency relative to U235;
ETP-fw = Potential comparative toxic unit for ecosystems;
HTP-c = Potential comparative toxic unit for humans;
HTP-nc = Potential comparative toxic unit for humans; and
SQP = Potential soil quality index.

S4 SELF-TEST Dual Optical Heat Sensor & High Power Red VAD (S4T-711-VAD-HPR) (cont'd)

Parameters describing resource use, primary energy								
			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	7.27E+00	9.50E-03	7.28E+00	3.28E+01	3.28E+00	3.61E+01
	Transport	A2	1.98E-03	0.00E+00	1.98E-03	2.71E-01	0.00E+00	2.71E-01
	Manufacturing	A3	3.19E+00	4.50E-01	3.64E+00	6.26E+00	0.00E+00	6.26E+00
	Total (Consumption grid)	A1-3	1.05E+01	4.60E-01	1.10E+01	3.94E+01	3.28E+00	4.27E+01
Construction process stage	Transport	A4	5.70E-02	0.00E+00	5.70E-02	6.74E-01	0.00E+00	6.74E-01
	Construction	A5	-4.15E-02	-4.50E-01	-4.92E-01	-1.56E-01	0.00E+00	-1.56E-01
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	4.71E+00	0.00E+00	4.71E+00	4.58E+00	0.00E+00	4.58E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill								
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.84E-03	0.00E+00	1.84E-03	2.17E-02	0.00E+00	2.17E-02
	Waste processing	C3	-6.90E-03	-9.50E-03	-1.64E-02	-3.26E-03	-3.28E+00	-3.28E+00
	Disposal	C4	4.64E-03	0.00E+00	4.64E-03	2.91E-02	0.00E+00	2.91E-02
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-3.56E-01	0.00E+00	-3.56E-01	-2.88E+00	0.00E+00	-2.88E+00

PERE = Use of renewable primary energy excluding renewable primary energy used as raw materials;
PERM = Use of renewable primary energy resources used as raw materials;
PERT = Total use of renewable primary energy resources;
PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials;
PENRM = Use of non-renewable primary energy resources used as raw materials;
PENRT = Total use of non-renewable primary energy resource

S4 SELF-TEST Dual Optical Heat Sensor & High Power Red VAD (S4T-711-VAD-HPR) (cont'd)

Parameters describing resource use, secondary materials and fuels, use of water						
			SM	RSF	NRSF	FW
			kg	MJ, net calorific value	MJ, net calorific value	m^3
Product stage	Raw material supply	A1	8.95E-03	0.00E+00	0.00E+00	2.89E-02
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	2.17E-06
	Manufacturing	A3	0.00E+00	0.00E+00	0.00E+00	4.68E-03
	Total (Consumption grid)	A1-3	8.95E-03	0.00E+00	0.00E+00	3.94E+01
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	6.74E-01
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	7.86E-05
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	1.70E-03
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill						
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	2.06E-06
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	2.39E-04
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	7.03E-06
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	-2.30E-03

SM = Use of secondary material;
RSF = Use of renewable secondary fuels;
NRSF = Use of non-renewable secondary fuels;
FW = Net use of fresh water

S4 SELF-TEST Dual Optical Heat Sensor & High Power Red VAD (S4T-711-VAD-HPR) (cont'd)

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	5.57E-06	1.70E-01	8.18E-04
	Transport	A2	9.85E-12	2.82E-05	4.31E-07
	Manufacturing	A3	-1.04E-05	1.13E-02	8.01E-04
	Total (Consumption grid)	A1-3	-4.83E-06	1.82E-01	1.62E-03
Construction process stage	Transport	A4	2.18E-11	1.05E-04	8.72E-07
	Construction	A5	-8.05E-11	-7.39E-05	-8.40E-06
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	1.04E-08	6.94E-03	6.42E-04
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and54% Landfill					
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	7.03E-13	3.38E-06	2.81E-08
	Waste processing	C3	4.03E-12	7.19E-03	1.29E-06
	Disposal	C4	7.19E-12	9.16E-02	3.71E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-5.72E-09	9.14E-04	-6.59E-05

HWD = Hazardous waste disposed;
NHWD = Non-hazardous waste disposed;
RWD = Radioactive waste disposed

S4 SELF-TEST Dual Optical Heat Sensor & High Power Red VAD (S4T-711-VAD-HPR) (cont'd)

Other environmental information describing output flows – at end of life									
			CRU	MFR	MER	EE	ET	Biogenic carbon (product)	Biogenic carbon (package)
			kg	kg	kg	MJ per energy carrier	MJ per energy	kg C	kg C
Product stage	Raw material supply	A1	0.00E+00	2.51E-02	5.22E-02	0.00E+00	0.00E+00	0.00E+00	-9.50E-03
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Manufacturing	A3	0.00E+00	1.65E-02	4.66E-02	3.89E-03	7.30E-03	0.00E+00	-3.00E-02
	Total (Consumption grid)	A1-3	0.00E+00	4.16E-02	9.88E-02	3.89E-03	7.30E-03	0.00E+00	-3.95E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	3.00E-02	3.26E-02	1.01E-01	0.00E+00	3.00E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 31% Incineration and 54% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Waste processing	C3	0.00E+00	4.16E-02	6.88E-02	2.47E-01	4.49E-01	0.00E+00	9.50E-03
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for reuse.
MFR = Materials for recycling

MER = Materials for energy recovery;
EE = Exported Energy

S4 SELF-TEST Heat Sensor, Voice Sounder & High Power Red VAD (S4T-720-V-VAD-HPR)

Parameters describing environmental impacts									
			GWP-total	GWP-fossil	GWP-biogenic	GWP-luluc	ODP	AP	EP-freshwater
			kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CFC11 eq	mol H^+ eq	kg $(PO_4)^{3-}$ eq
Product stage	Raw material supply	A1	3.36E+00	3.36E+00	-6.91E-03	4.77E-03	7.61E-10	4.12E-02	2.29E-05
	Transport	A2	2.67E-02	2.56E-02	1.09E-03	3.45E-06	3.33E-15	4.43E-05	7.04E-09
	Manufacturing	A3	2.61E-01	3.07E-01	-4.64E-02	-9.84E-05	3.26E-12	5.53E-04	5.42E-07
	Total (Consumption grid)	A1-3	3.64E+00	3.69E+00	-5.22E-02	4.68E-03	7.65E-10	4.18E-02	2.35E-05
Construction process stage	Transport	A4	5.66E-02	5.71E-02	-1.45E-03	9.48E-04	5.68E-15	9.27E-05	2.41E-07
	Construction	A5	2.24E-02	-8.51E-03	3.09E-02	-7.56E-07	1.99E-11	-1.52E-06	-1.11E-08
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	2.28E-01	2.22E-01	5.12E-03	3.38E-05	6.52E-12	4.17E-04	3.90E-07
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.85E-03	1.87E-03	-4.76E-05	3.10E-05	1.86E-16	3.14E-06	7.88E-09
	Waste processing	C3	9.50E-02	8.19E-02	1.32E-02	-2.28E-05	-1.13E-14	-2.37E-05	-6.68E-09
	Disposal	C4	2.16E-03	2.16E-03	-1.01E-05	1.03E-05	6.51E-15	1.40E-05	6.46E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.36E-01	-1.36E-01	3.07E-04	-2.42E-05	-4.71E-13	-2.32E-04	-3.02E-07

GWP-total = Global warming potential, total;
GWP-fossil = Global warming potential, fossil;
GWP-biogenic = Global warming potential, biogenic;
GWP-luluc = Global warming potential, land use and land use change

ODP = Depletion potential of the stratospheric ozone layer;
AP = Acidification potential, accumulated exceedance; and
EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment

S4 SELF-TEST Heat Sensor, Voice Sounder & High Power Red VAD (S4T-720-V-VAD-HPR) (cont'd)

Parameters describing environmental impacts									
			EP-marine	EP-terrestrial	POCP	ADP-mineral& metals	ADP-fossil	WDP	PM
			kg N eq	mol N eq	kg NMVOC eq	kg Sb eq	MJ, net calorific value	m^3 world eq deprived	disease incidence
Product stage	Raw material supply	A1	3.39E-03	3.63E-02	1.14E-02	4.10E-04	4.62E+01	1.20E+00	3.85E-07
	Transport	A2	1.86E-05	2.07E-04	4.64E-05	7.16E-10	3.55E-01	6.71E-05	3.78E-10
	Manufacturing	A3	9.21E-05	9.50E-04	2.82E-04	-2.65E-06	6.26E+00	3.17E-02	-1.25E-09
	Total (Consumption grid)	A1-3	3.50E-03	3.74E-02	1.17E-02	4.07E-04	5.28E+01	1.23E+00	3.84E-07
Construction process stage	Transport	A4	3.63E-05	4.24E-04	8.68E-05	4.80E-09	7.36E-01	8.40E-04	7.45E-10
	Construction	A5	7.93E-07	1.55E-05	9.06E-07	-1.07E-08	-1.57E-01	3.97E-03	-1.16E-10
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	1.19E-04	1.27E-03	3.36E-04	6.47E-08	5.08E+00	1.71E-02	3.60E-09
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.24E-06	1.45E-05	2.94E-06	1.57E-10	2.41E-02	2.75E-05	2.48E-11
	Waste processing	C3	2.94E-05	3.40E-04	7.06E-05	-4.37E-06	-1.13E-02	9.16E-03	-4.90E-10
	Disposal	C4	3.32E-06	3.65E-05	1.04E-05	1.42E-10	3.28E-02	2.64E-04	1.61E-10
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-7.37E-05	-7.62E-04	-2.35E-04	-1.07E-07	-3.15E+00	-2.37E-02	-1.62E-09

EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment;
EP-terrestrial = Eutrophication potential, accumulated exceedance;
POCP = Formation potential of tropospheric ozone;
ADP-mineral&metals = Abiotic depletion potential for non-fossil resources;
ADP-fossil = Depletion potential of the stratospheric ozone layer;
WDP = Water (user) deprivation potential, deprivation-weighted water consumption; and
PM = Particulate matter.

S4 SELF-TEST Heat Sensor, Voice Sounder & High Power Red VAD (S4T-720-V-VAD-HPR) (cont'd)

Parameters describing environmental impacts							
			IRP	ETP-fw	HTP-c	HTP-nc	SQP
			kBq U^{235} eq	CTUe	CTUh	CTUh	dimensionless
Product stage	Raw material supply	A1	1.28E-01	1.98E+01	7.29E-09	4.64E-08	8.82E+00
	Transport	A2	8.09E-05	2.66E-01	4.85E-12	1.56E-10	2.59E-03
	Manufacturing	A3	6.91E-02	8.50E-01	-1.30E-09	1.45E-09	5.71E+00
	Total (Consumption grid)	A1-3	1.97E-01	2.09E+01	5.99E-09	4.80E-08	1.45E+01
Construction process stage	Transport	A4	1.33E-04	5.42E-01	1.09E-11	4.84E-10	3.64E-01
	Construction	A5	-1.43E-03	-1.61E-02	-1.75E-12	-3.56E-11	-2.33E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	7.24E-02	2.74E+00	1.07E-10	2.94E-09	1.77E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill							
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	4.35E-06	1.77E-02	3.56E-13	1.58E-11	1.19E-02
	Waste processing	C3	1.88E-04	-2.89E-02	-2.33E-12	-4.10E-11	-5.82E-02
	Disposal	C4	5.40E-05	4.91E-02	7.97E-13	2.00E-11	6.95E-03
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.09E-02	-1.07E+00	-2.97E-11	-1.28E-09	-2.84E-01

IRP = Potential human exposure efficiency relative to U235;
ETP-fw = Potential comparative toxic unit for ecosystems;
HTP-c = Potential comparative toxic unit for humans;
HTP-nc = Potential comparative toxic unit for humans; and
SQP = Potential soil quality index.

S4 SELF-TEST Heat Sensor, Voice Sounder & High Power Red VAD (S4T-720-V-VAD-HPR) (cont'd)

Parameters describing resource use, primary energy								
			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	1.07E+01	9.50E-03	1.07E+01	4.62E+01	3.59E+00	4.98E+01
	Transport	A2	2.60E-03	0.00E+00	2.60E-03	3.55E-01	0.00E+00	3.55E-01
	Manufacturing	A3	3.19E+00	4.50E-01	3.64E+00	6.26E+00	0.00E+00	6.26E+00
	Total (Consumption grid)	A1-3	1.39E+01	4.60E-01	1.43E+01	5.28E+01	3.59E+00	5.64E+01
Construction process stage	Transport	A4	6.23E-02	0.00E+00	6.23E-02	7.36E-01	0.00E+00	7.36E-01
	Construction	A5	-4.16E-02	-4.50E-01	-4.92E-01	-1.57E-01	0.00E+00	-1.57E-01
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	5.22E+00	0.00E+00	5.22E+00	5.08E+00	0.00E+00	5.08E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill								
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	2.04E-03	0.00E+00	2.04E-03	2.41E-02	0.00E+00	2.41E-02
	Waste processing	C3	-1.00E-02	-9.50E-03	-1.95E-02	-1.13E-02	-3.59E+00	-3.60E+00
	Disposal	C4	5.25E-03	0.00E+00	5.25E-03	3.28E-02	0.00E+00	3.28E-02
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-3.85E-01	0.00E+00	-3.85E-01	-3.15E+00	0.00E+00	-3.15E+00

PERE = Use of renewable primary energy excluding renewable primary energy used as raw materials;
PERM = Use of renewable primary energy resources used as raw materials;
PERT = Total use of renewable primary energy resources;
PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials;
PENRM = Use of non-renewable primary energy resources used as raw materials;
PENRT = Total use of non-renewable primary energy resource

S4 SELF-TEST Heat Sensor, Voice Sounder & High Power Red VAD (S4T-720-V-VAD-HPR) (cont'd)

Parameters describing resource use, secondary materials and fuels, use of water						
			SM	RSF	NRSF	FW
			kg	MJ, net calorific value	MJ, net calorific value	m^3
Product stage	Raw material supply	A1	8.86E-03	0.00E+00	0.00E+00	3.61E-02
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	2.84E-06
	Manufacturing	A3	0.00E+00	0.00E+00	0.00E+00	4.68E-03
	Total (Consumption grid)	A1-3	8.86E-03	0.00E+00	0.00E+00	5.28E+01
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	7.36E-01
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	7.87E-05
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	1.88E-03
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill						
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	2.29E-06
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	2.38E-04
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	7.96E-06
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	-2.35E-03

SM = Use of secondary material;
RSF = Use of renewable secondary fuels;
NRSF = Use of non-renewable secondary fuels;
FW = Net use of fresh water

S4 SELF-TEST Heat Sensor, Voice Sounder & High Power Red VAD (S4T-720-V-VAD-HPR) (cont'd)

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	6.27E-06	2.56E-01	1.17E-03
	Transport	A2	1.29E-11	3.70E-05	5.66E-07
	Manufacturing	A3	-1.04E-05	1.13E-02	8.01E-04
	Total (Consumption grid)	A1-3	-4.13E-06	2.68E-01	1.97E-03
Construction process stage	Transport	A4	2.38E-11	1.15E-04	9.52E-07
	Construction	A5	-8.06E-11	-7.39E-05	-8.41E-06
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	1.16E-08	7.69E-03	7.12E-04
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill					
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	7.80E-13	3.75E-06	3.11E-08
	Waste processing	C3	1.35E-12	7.34E-03	1.28E-06
	Disposal	C4	8.12E-12	1.06E-01	4.15E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-6.21E-09	7.91E-04	-7.06E-05

HWD = Hazardous waste disposed;
NHWD = Non-hazardous waste disposed;
RWD = Radioactive waste disposed

S4 SELF-TEST Heat Sensor, Voice Sounder & High Power Red VAD (S4T-720-V-VAD-HPR) (cont'd)

Other environmental information describing output flows – at end of life									
			CRU	MFR	MER	EE	ET	Biogenic carbon (product)	Biogenic carbon (package)
			kg	kg	kg	MJ per energy carrier	MJ per energy	kg C	kg C
Product stage	Raw material supply	A1	0.00E+00	2.70E-02	5.19E-02	0.00E+00	0.00E+00	0.00E+00	-9.50E-03
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Manufacturing	A3	0.00E+00	1.65E-02	4.66E-02	3.89E-03	7.30E-03	0.00E+00	-3.00E-02
	Total (Consumption grid)	A1-3	0.00E+00	4.35E-02	9.84E-02	3.89E-03	7.30E-03	0.00E+00	-3.95E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	3.00E-02	3.26E-02	1.01E-01	0.00E+00	3.00E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Waste processing	C3	3.59E-02	4.35E-02	6.84E-02	2.47E-01	4.49E-01	0.00E+00	9.50E-03
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for reuse.
MFR = Materials for recycling

MER = Materials for energy recovery;
EE = Exported Energy

S4 SELF-TEST Dual Optical Heat Sensor, Voice Sounder & High Power Red VAD (S4T-711-V-VAD-HPR)

Parameters describing environmental impacts									
			GWP-total	GWP-fossil	GWP-biogenic	GWP-luluc	ODP	AP	EP-freshwater
			kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CFC11 eq	mol H^+ eq	kg $(PO_4)^{3-}$ eq
Product stage	Raw material supply	A1	3.37E+00	3.37E+00	-7.18E-03	4.79E-03	8.55E-10	4.13E-02	2.31E-05
	Transport	A2	2.71E-02	2.60E-02	1.11E-03	3.51E-06	3.39E-15	4.51E-05	7.16E-09
	Manufacturing	A3	2.61E-01	3.07E-01	-4.63E-02	-9.85E-05	3.26E-12	5.53E-04	5.42E-07
	Total (Consumption grid)	A1-3	3.66E+00	3.71E+00	-5.24E-02	4.70E-03	8.58E-10	4.19E-02	2.36E-05
Construction process stage	Transport	A4	5.79E-02	5.84E-02	-1.49E-03	9.69E-04	5.81E-15	9.48E-05	2.46E-07
	Construction	A5	2.24E-02	-8.50E-03	3.09E-02	-7.55E-07	1.98E-11	-1.52E-06	-1.11E-08
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	2.33E-01	2.28E-01	5.26E-03	3.46E-05	6.68E-12	4.28E-04	4.00E-07
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.90E-03	1.92E-03	-4.88E-05	3.18E-05	1.91E-16	3.22E-06	8.08E-09
	Waste processing	C3	9.86E-02	8.54E-02	1.32E-02	-2.13E-05	-9.59E-15	-1.77E-05	-5.95E-09
	Disposal	C4	2.24E-03	2.24E-03	-1.05E-05	1.07E-05	6.74E-15	1.46E-05	6.61E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.39E-01	-1.39E-01	3.14E-04	-2.46E-05	-4.79E-13	-2.39E-04	-3.05E-07

GWP-total = Global warming potential, total;
GWP-fossil = Global warming potential, fossil;
GWP-biogenic = Global warming potential, biogenic;
GWP-luluc = Global warming potential, land use and land use change

ODP = Depletion potential of the stratospheric ozone layer;
AP = Acidification potential, accumulated exceedance; and
EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment

S4 SELF-TEST Dual Optical Heat Sensor, Voice Sounder & High Power Red VAD (S4T-711-V-VAD-HPR) (cont'd)

Parameters describing environmental impacts									
			EP-marine	EP-terrestrial	POCP	ADP-mineral&metals	ADP-fossil	WDP	PM
			kg N eq	mol N eq	kg NMVOC eq	kg Sb eq	MJ, net calorific value	m^3 world eq deprived	disease incidence
Product stage	Raw material supply	A1	3.41E-03	3.65E-02	1.14E-02	4.15E-04	4.65E+01	1.21E+00	3.87E-07
	Transport	A2	1.89E-05	2.11E-04	4.73E-05	7.29E-10	3.62E-01	6.83E-05	3.85E-10
	Manufacturing	A3	9.21E-05	9.49E-04	2.82E-04	-2.65E-06	6.26E+00	3.17E-02	-1.25E-09
	Total (Consumption grid)	A1-3	3.52E-03	3.76E-02	1.18E-02	4.12E-04	5.31E+01	1.24E+00	3.86E-07
Construction process stage	Transport	A4	3.71E-05	4.33E-04	8.87E-05	4.91E-09	7.53E-01	8.59E-04	7.61E-10
	Construction	A5	7.92E-07	1.55E-05	9.05E-07	-1.07E-08	-1.56E-01	3.96E-03	-1.16E-10
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	1.22E-04	1.30E-03	3.44E-04	6.64E-08	5.21E+00	1.76E-02	3.69E-09
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.27E-06	1.49E-05	3.02E-06	1.61E-10	2.47E-02	2.82E-05	2.54E-11
	Waste processing	C3	2.99E-05	3.45E-04	7.20E-05	-4.12E-06	-8.09E-03	9.67E-03	-4.42E-10
	Disposal	C4	3.45E-06	3.80E-05	1.08E-05	1.47E-10	3.39E-02	2.73E-04	1.67E-10
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-7.49E-05	-7.73E-04	-2.39E-04	-1.20E-07	-3.20E+00	-2.39E-02	-1.69E-09

EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment;
EP-terrestrial = Eutrophication potential, accumulated exceedance;
POCP = Formation potential of tropospheric ozone;
ADP-mineral&metals = Abiotic depletion potential for non-fossil resources

ADP-fossil = Depletion potential of the stratospheric ozone layer;
WDP = Water (user) deprivation potential, deprivation-weighted water consumption; and
PM = Particulate matter.

S4 SELF-TEST Dual Optical Heat Sensor, Voice Sounder & High Power Red VAD (S4T-711-V-VAD-HPR) (cont'd)

Parameters describing environmental impacts							
			IRP	ETP-fw	HTP-c	HTP-nc	SQP
			kBq U^{235} eq	CTUe	CTUh	CTUh	dimensionless
Product stage	Raw material supply	A1	1.28E-01	1.99E+01	8.10E-09	4.64E-08	8.88E+00
	Transport	A2	8.24E-05	2.70E-01	4.94E-12	1.59E-10	2.64E-03
	Manufacturing	A3	6.91E-02	8.50E-01	-1.30E-09	1.45E-09	5.71E+00
	Total (Consumption grid)	A1-3	1.98E-01	2.10E+01	6.80E-09	4.80E-08	1.46E+01
Construction process stage	Transport	A4	1.36E-04	5.54E-01	1.11E-11	4.95E-10	3.72E-01
	Construction	A5	-1.43E-03	-1.61E-02	-1.74E-12	-3.56E-11	-2.32E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	7.43E-02	2.81E+00	1.10E-10	3.02E-09	1.81E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill							
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	4.46E-06	1.82E-02	3.65E-13	1.62E-11	1.22E-02
	Waste processing	C3	1.93E-04	-2.61E-02	-2.12E-12	-3.43E-11	-5.41E-02
	Disposal	C4	5.57E-05	5.04E-02	8.21E-13	2.06E-11	7.21E-03
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.11E-02	-1.07E+00	-2.90E-11	-1.28E-09	-2.89E-01

IRP = Potential human exposure efficiency relative to U235;
ETP-fw = Potential comparative toxic unit for ecosystems;
HTP-c = Potential comparative toxic unit for humans;
HTP-nc = Potential comparative toxic unit for humans; and
SQP = Potential soil quality index.

S4 SELF-TEST Dual Optical Heat Sensor, Voice Sounder & High Power Red VAD (S4T-711-V-VAD-HPR) (cont'd)

Parameters describing resource use, primary energy								
			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	1.07E+01	1.43E-01	1.08E+01	4.65E+01	3.67E+00	5.02E+01
	Transport	A2	2.65E-03	0.00E+00	2.65E-03	3.62E-01	0.00E+00	3.62E-01
	Manufacturing	A3	3.19E+00	4.50E-01	3.64E+00	6.26E+00	0.00E+00	6.26E+00
	Total (Consumption grid)	A1-3	1.39E+01	5.93E-01	1.45E+01	5.31E+01	3.67E+00	5.68E+01
Construction process stage	Transport	A4	6.36E-02	0.00E+00	6.36E-02	7.53E-01	0.00E+00	7.53E-01
	Construction	A5	-4.15E-02	-4.50E-01	-4.92E-01	-1.56E-01	0.00E+00	-1.56E-01
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	5.36E+00	0.00E+00	5.36E+00	5.21E+00	0.00E+00	5.21E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill								
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	2.09E-03	0.00E+00	2.09E-03	2.47E-02	0.00E+00	2.47E-02
	Waste processing	C3	-8.84E-03	-1.43E-01	-1.52E-01	-8.09E-03	-3.67E+00	-3.68E+00
	Disposal	C4	5.44E-03	0.00E+00	5.44E-03	3.39E-02	0.00E+00	3.39E-02
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-3.92E-01	0.00E+00	-3.92E-01	-3.20E+00	0.00E+00	-3.20E+00

PERE = Use of renewable primary energy excluding renewable primary energy used as raw materials;
PERM = Use of renewable primary energy resources used as raw materials;
PERT = Total use of renewable primary energy resources;
PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials;
PENRM = Use of non-renewable primary energy resources used as raw materials;
PENRT = Total use of non-renewable primary energy resource

S4 SELF-TEST Dual Optical Heat Sensor, Voice Sounder & High Power Red VAD (S4T-711-V-VAD-HPR) (cont'd)

Parameters describing resource use, secondary materials and fuels, use of water						
			SM	RSF	NRSF	FW
			kg	MJ, net calorific value	MJ, net calorific value	m^3
Product stage	Raw material supply	A1	1.01E-02	0.00E+00	0.00E+00	3.63E-02
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	2.89E-06
	Manufacturing	A3	0.00E+00	0.00E+00	0.00E+00	4.68E-03
	Total (Consumption grid)	A1-3	1.01E-02	0.00E+00	0.00E+00	5.31E+01
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	7.53E-01
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	7.86E-05
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	1.93E-03
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill						
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	2.35E-06
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	2.48E-04
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	8.25E-06
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	-2.58E-03

SM = Use of secondary material;
RSF = Use of renewable secondary fuels;
NRSF = Use of non-renewable secondary fuels;
FW = Net use of fresh water

S4 SELF-TEST Dual Optical Heat Sensor, Voice Sounder & High Power Red VAD (S4T-711-V-VAD-HPR) (cont'd)

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	6.68E-06	2.58E-01	1.18E-03
	Transport	A2	1.31E-11	3.76E-05	5.76E-07
	Manufacturing	A3	-1.04E-05	1.13E-02	8.01E-04
	Total (Consumption grid)	A1-3	-3.72E-06	2.69E-01	1.98E-03
Construction process stage	Transport	A4	2.43E-11	1.17E-04	9.73E-07
	Construction	A5	-8.04E-11	-7.38E-05	-8.40E-06
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	1.19E-08	7.89E-03	7.30E-04
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill					
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	8.00E-13	3.84E-06	3.19E-08
	Waste processing	C3	2.55E-12	7.25E-03	1.31E-06
	Disposal	C4	8.40E-12	1.11E-01	4.29E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-6.38E-09	1.05E-03	-7.22E-05

HWD = Hazardous waste disposed;
NHWD = Non-hazardous waste disposed;
RWD = Radioactive waste disposed

S4 SELF-TEST Dual Optical Heat Sensor, Voice Sounder & High Power Red VAD (S4T-711-V-VAD-HPR) (cont'd)

Other environmental information describing output flows – at end of life									
			CRU	MFR	MER	EE	ET	Biogenic carbon (product)	Biogenic carbon (package)
			kg	kg	kg	MJ per energy carrier	MJ per energy	kg C	kg C
Product stage	Raw material supply	A1	0.00E+00	2.80E-02	5.33E-02	0.00E+00	0.00E+00	0.00E+00	-9.50E-03
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Manufacturing	A3	0.00E+00	1.65E-02	4.66E-02	3.89E-03	7.30E-03	0.00E+00	-3.00E-02
	Total (Consumption grid)	A1-3	0.00E+00	4.45E-02	9.99E-02	3.89E-03	7.30E-03	0.00E+00	-3.95E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	3.00E-02	3.26E-02	1.01E-01	0.00E+00	3.00E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Waste processing	C3	3.59E-02	4.45E-02	6.99E-02	2.47E-01	4.49E-01	0.00E+00	9.50E-03
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for reuse.
MFR = Materials for recycling
MER = Materials for energy recovery;
EE = Exported Energy

S4 SELF-TEST Dual Optical Heat Sensor, Voice Sounder & High Power Red VAD (S4TB-711-V-VAD-HPR)

Parameters describing environmental impacts									
			GWP-total	GWP-fossil	GWP-biogenic	GWP-luluc	ODP	AP	EP-freshwater
			kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CFC11 eq	mol H^+ eq	kg $(PO_4)^{3-}$ eq
Product stage	Raw material supply	A1	3.37E+00	3.37E+00	-7.18E-03	4.79E-03	8.55E-10	4.13E-02	2.31E-05
	Transport	A2	2.71E-02	2.60E-02	1.11E-03	3.51E-06	3.39E-15	4.51E-05	7.16E-09
	Manufacturing	A3	2.61E-01	3.07E-01	-4.63E-02	-9.85E-05	3.26E-12	5.53E-04	5.42E-07
	Total (Consumption grid)	A1-3	3.66E+00	3.71E+00	-5.24E-02	4.70E-03	8.58E-10	4.19E-02	2.36E-05
Construction process stage	Transport	A4	5.79E-02	5.84E-02	-1.49E-03	9.69E-04	5.81E-15	9.48E-05	2.46E-07
	Construction	A5	2.24E-02	-8.50E-03	3.09E-02	-7.55E-07	1.98E-11	-1.52E-06	-1.11E-08
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	2.33E-01	2.28E-01	5.26E-03	3.46E-05	6.68E-12	4.28E-04	4.00E-07
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.90E-03	1.92E-03	-4.88E-05	3.18E-05	1.91E-16	3.22E-06	8.08E-09
	Waste processing	C3	9.86E-02	8.54E-02	1.32E-02	-2.13E-05	-9.59E-15	-1.77E-05	-5.95E-09
	Disposal	C4	2.24E-03	2.24E-03	-1.05E-05	1.07E-05	6.74E-15	1.46E-05	6.61E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.39E-01	-1.39E-01	3.14E-04	-2.46E-05	-4.79E-13	-2.39E-04	-3.05E-07

GWP-total = Global warming potential, total;
GWP-fossil = Global warming potential, fossil;
GWP-biogenic = Global warming potential, biogenic;
GWP-luluc = Global warming potential, land use and land use change

ODP = Depletion potential of the stratospheric ozone layer;
AP = Acidification potential, accumulated exceedance; and
EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment

S4 SELF-TEST Dual Optical Heat Sensor, Voice Sounder & High Power Red VAD (S4TB-711-V-VAD-HPR) (cont'd)

Parameters describing environmental impacts									
			EP-marine	EP-terrestrial	POCP	ADP-mineral& metals	ADP-fossil	WDP	PM
			kg N eq	mol N eq	kg NMVOC eq	kg Sb eq	MJ, net calorific value	m^3 world eq deprived	disease incidence
Product stage	Raw material supply	A1	3.41E-03	3.65E-02	1.14E-02	4.15E-04	4.65E+01	1.21E+00	3.87E-07
	Transport	A2	1.89E-05	2.11E-04	4.73E-05	7.29E-10	3.62E-01	6.83E-05	3.85E-10
	Manufacturing	A3	9.21E-05	9.49E-04	2.82E-04	-2.65E-06	6.26E+00	3.17E-02	-1.25E-09
	Total (Consumption grid)	A1-3	3.52E-03	3.76E-02	1.18E-02	4.12E-04	5.31E+01	1.24E+00	3.86E-07
Construction process stage	Transport	A4	3.71E-05	4.33E-04	8.87E-05	4.91E-09	7.53E-01	8.59E-04	7.61E-10
	Construction	A5	7.92E-07	1.55E-05	9.05E-07	-1.07E-08	-1.56E-01	3.96E-03	-1.16E-10
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	1.22E-04	1.30E-03	3.44E-04	6.64E-08	5.21E+00	1.76E-02	3.69E-09
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.27E-06	1.49E-05	3.02E-06	1.61E-10	2.47E-02	2.82E-05	2.54E-11
	Waste processing	C3	2.99E-05	3.45E-04	7.20E-05	-4.12E-06	-8.09E-03	9.67E-03	-4.42E-10
	Disposal	C4	3.45E-06	3.80E-05	1.08E-05	1.47E-10	3.39E-02	2.73E-04	1.67E-10
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-7.49E-05	-7.73E-04	-2.39E-04	-1.20E-07	-3.20E+00	-2.39E-02	-1.69E-09

EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment;
EP-terrestrial = Eutrophication potential, accumulated exceedance;
POCP = Formation potential of tropospheric ozone;
ADP-mineral&metals = Abiotic depletion potential for non-fossil resources;
ADP-fossil = Depletion potential of the stratospheric ozone layer;
WDP = Water (user) deprivation potential, deprivation-weighted water consumption; and
PM = Particulate matter.

S4 SELF-TEST Dual Optical Heat Sensor, Voice Sounder & High Power Red VAD (S4TB-711-V-VAD-HPR) (cont'd)

Parameters describing environmental impacts							
			IRP	ETP-fw	HTP-c	HTP-nc	SQP
			kBq U^{235} eq	CTUe	CTUh	CTUh	dimensionless
Product stage	Raw material supply	A1	1.28E-01	1.99E+01	8.10E-09	4.64E-08	8.88E+00
	Transport	A2	8.24E-05	2.70E-01	4.94E-12	1.59E-10	2.64E-03
	Manufacturing	A3	6.91E-02	8.50E-01	-1.30E-09	1.45E-09	5.71E+00
	Total (Consumption grid)	A1-3	1.98E-01	2.10E+01	6.80E-09	4.80E-08	1.46E+01
Construction process stage	Transport	A4	1.36E-04	5.54E-01	1.11E-11	4.95E-10	3.72E-01
	Construction	A5	-1.43E-03	-1.61E-02	-1.74E-12	-3.56E-11	-2.32E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	7.43E-02	2.81E+00	1.10E-10	3.02E-09	1.81E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill							
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	4.46E-06	1.82E-02	3.65E-13	1.62E-11	1.22E-02
	Waste processing	C3	1.93E-04	-2.61E-02	-2.12E-12	-3.43E-11	-5.41E-02
	Disposal	C4	5.57E-05	5.04E-02	8.21E-13	2.06E-11	7.21E-03
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.11E-02	-1.07E+00	-2.90E-11	-1.28E-09	-2.89E-01

IRP = Potential human exposure efficiency relative to U235;
ETP-fw = Potential comparative toxic unit for ecosystems;
HTP-c = Potential comparative toxic unit for humans;
HTP-nc = Potential comparative toxic unit for humans; and
SQP = Potential soil quality index.

S4 SELF-TEST Dual Optical Heat Sensor, Voice Sounder & High Power Red VAD (S4TB-711-V-VAD-HPR) (cont'd)

Parameters describing resource use, primary energy								
			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	1.07E+01	1.43E-01	1.08E+01	4.65E+01	3.67E+00	5.02E+01
	Transport	A2	2.65E-03	0.00E+00	2.65E-03	3.62E-01	0.00E+00	3.62E-01
	Manufacturing	A3	3.19E+00	4.50E-01	3.64E+00	6.26E+00	0.00E+00	6.26E+00
	Total (Consumption grid)	A1-3	1.39E+01	5.93E-01	1.45E+01	5.31E+01	3.67E+00	5.68E+01
Construction process stage	Transport	A4	6.36E-02	0.00E+00	6.36E-02	7.53E-01	0.00E+00	7.53E-01
	Construction	A5	-4.15E-02	-4.50E-01	-4.92E-01	-1.56E-01	0.00E+00	-1.56E-01
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	5.36E+00	0.00E+00	5.36E+00	5.21E+00	0.00E+00	5.21E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill								
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	2.09E-03	0.00E+00	2.09E-03	2.47E-02	0.00E+00	2.47E-02
	Waste processing	C3	-8.84E-03	-1.43E-01	-1.52E-01	-8.09E-03	-3.67E+00	-3.68E+00
	Disposal	C4	5.44E-03	0.00E+00	5.44E-03	3.39E-02	0.00E+00	3.39E-02
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-3.92E-01	0.00E+00	-3.92E-01	-3.20E+00	0.00E+00	-3.20E+00

PERE = Use of renewable primary energy excluding renewable primary energy used as raw materials;
PERM = Use of renewable primary energy resources used as raw materials;
PERT = Total use of renewable primary energy resources;
PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials;
PENRM = Use of non-renewable primary energy resources used as raw materials;
PENRT = Total use of non-renewable primary energy resource

S4 SELF-TEST Dual Optical Heat Sensor, Voice Sounder & High Power Red VAD (S4TB-711-V-VAD-HPR) (cont'd)

Parameters describing resource use, secondary materials and fuels, use of water						
			SM	RSF	NRSF	FW
			kg	MJ, net calorific value	MJ, net calorific value	m^3
Product stage	Raw material supply	A1	1.01E-02	0.00E+00	0.00E+00	3.63E-02
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	2.89E-06
	Manufacturing	A3	0.00E+00	0.00E+00	0.00E+00	4.68E-03
	Total (Consumption grid)	A1-3	1.01E-02	0.00E+00	0.00E+00	5.31E+01
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	7.53E-01
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	7.86E-05
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	1.93E-03
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill						
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	2.35E-06
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	2.48E-04
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	8.25E-06
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	-2.58E-03

SM = Use of secondary material;
RSF = Use of renewable secondary fuels;
NRSF = Use of non-renewable secondary fuels;
FW = Net use of fresh water

S4 SELF-TEST Dual Optical Heat Sensor, Voice Sounder & High Power Red VAD (S4TB-711-V-VAD-HPR) (cont'd)

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	6.68E-06	2.58E-01	1.18E-03
	Transport	A2	1.31E-11	3.76E-05	5.76E-07
	Manufacturing	A3	-1.04E-05	1.13E-02	8.01E-04
	Total (Consumption grid)	A1-3	-3.72E-06	2.69E-01	1.98E-03
Construction process stage	Transport	A4	2.43E-11	1.17E-04	9.73E-07
	Construction	A5	-8.04E-11	-7.38E-05	-8.40E-06
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	1.19E-08	7.89E-03	7.30E-04
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill					
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	8.00E-13	3.84E-06	3.19E-08
	Waste processing	C3	2.55E-12	7.25E-03	1.31E-06
	Disposal	C4	8.40E-12	1.11E-01	4.29E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-6.38E-09	1.05E-03	-7.22E-05

HWD = Hazardous waste disposed;
NHWD = Non-hazardous waste disposed;
RWD = Radioactive waste disposed

S4 SELF-TEST Dual Optical Heat Sensor, Voice Sounder & High Power Red VAD (S4TB-711-V-VAD-HPR) (cont'd)

Other environmental information describing output flows – at end of life									
			CRU	MFR	MER	EE	ET	Biogenic carbon (product)	Biogenic carbon (package)
			kg	kg	kg	MJ per energy carrier	MJ per energy	kg C	kg C
Product stage	Raw material supply	A1	0.00E+00	2.80E-02	5.33E-02	0.00E+00	0.00E+00	0.00E+00	-9.50E-03
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Manufacturing	A3	0.00E+00	1.65E-02	4.66E-02	3.89E-03	7.30E-03	0.00E+00	-3.00E-02
	Total (Consumption grid)	A1-3	0.00E+00	4.45E-02	9.99E-02	3.89E-03	7.30E-03	0.00E+00	-3.95E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	3.00E-02	3.26E-02	1.01E-01	0.00E+00	3.00E-02
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
15% Recycle, 28% Incineration and 57% Landfill									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Waste processing	C3	3.59E-02	4.45E-02	6.99E-02	2.47E-01	4.49E-01	0.00E+00	9.50E-03
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for reuse.
MFR = Materials for recycling
MER = Materials for energy recovery;
EE = Exported Energy

Scenarios and additional technical information

Scenarios				
Scenario	**Parameter**	**Unit**	**Result (applicable to all product variant)**	
A4 – Transport to the building site	Fuel type / Vehicle type	Road Transport	Truck 20 - 26t gross weight / 17.3t payload capacity	
	Distance: From Factory to Port	km	2421	
	Distance: From Port to Customers	km	700	
	Capacity utilisation (incl. empty returns)	%	NA	
	Bulk density of transported products	kg/m^3	NA	
A5 – Installation in the building	No additional input materials, energy or water required to install the product. The product can be installed using standard equipment / tools without significant power consumption. Packaging waste generated is considered for incineration.			
	Packaging Waste - Cardboard (Paper)	g	30	Incinerated
C1 – Deconstruction	No additional input materials, energy or water required to disassemble the product at the end of service life. It can be dismantled using standard equipment / tools by manual operations.			
C2- Transport from site to pre-processing facility or landfill	Recovered products are transported to the nearby waste processing plant	**km**	**100**	
C3 – Pre-processing of uninstalled product	There is no preprocessing needed for this product.			
C3 – Waste Processing	Fire detectors fall under WEEE recycling scheme. Therefore, the useful components such as screws, copper parts, plastics parts are separated manually. It consists of 50 % - 66 % plastic and polymer 50 % - 66 % plastic and polymer, 7 % - 11% metals, 18 % - 28% electronics, and 10 % - 21 % other materials. Therefore, the most appropriate end-of-life scenario has been selected by referencing EN50693:2019 PCR recommendations.			
C3 – Waste Processing	**Scenario**	**Part Number**	**Recycle, kg**	**Incineration, kg**
C3 – Waste Processing	15% recycle and 31% incineration	S4-720 S4T-710 S4T-770-S	0.0188 0.0194 0.020	0.0405 0.0392 0.0386
	15% recycle and 31% incineration	S4T-711 S4T-780-S S4T-771-S S4T-711-V S4T-711-VAD-HPR	0.0219 0.0218 0.0246 0.0248 0.0251	0.0469 0.0455 0.049 0.0511 0.0521

Scenarios				
Scenario	**Parameter**	**Unit**	**Result (applicable to all product variant)**	
C3 – Waste Processing	**Scenario**	**Part Number**	**Recycle, kg**	**Incineration, kg**
	15% recycle and 28% incineration	S4T-720-V-VAD-HPR	0.0269	0.0518
		S4T-711-V-VAD-HPR	0.0282	0.054
		S4TB-711-V-VAD-HPR	0.0282	0.054
C4- Disposal on landfill	For landfilling of waste, the environmental burden of landfilling and capturing and combustion of landfill gas, if any, shall be assigned to C4.			
	Scenario	**Part Number**	**Landfill, kg**	
	Raw material waste to 54% Landfill	S4-720 S4T-710 S4T-770-S	0.071 0.0708 0.0706	
	Raw material waste to 54% Landfill	S4T-711 S4T-780-S S4T-771-S S4T-711-V S4T-711-VAD-HPR	0.0824 0.0812 0.0872 0.0891 0.092	
	Raw material waste to 57% Landfill	S4T-720-V-VAD-HPR S4T-711-V-VAD-HPR S4TB-711-V-VAD-HPR	0.106 0.111 0.111	
Module D	"Benefits and loads beyond the system boundary" (module D) accounts for the environmental benefits and loads resulting from the recycling and energy recovery from incineration of waste in the C3 module of waste processing. These benefits and loads are calculated by including the burdens of recycling and the benefit of avoided primary production. There is no recycled content in the products considered in the LCA. Only wastes from primary materials are calculated in Module D and it reports the credits associated with the scrap output. The resulting scrap credit/burden is calculated based on the global "value of scrap" approach (/worldsteel 2011) For example some of the metal processing work have secondary material and recyclate. For example, production of white hot rolled stainless steel coil have 40% secondary steel and displays a recyclate share of 10 %. They are accounted in their corresponding data sets. In addition, the benefits of Module D include the energy credits from incineration of waste product at end-of-life. Non-combustible contents (ceramic, quartz) have been excluded from per unit of fire detector, only the remaining combustible content (plastic parts, rubber, fiberglass) are accounted for in Module D energy recovery calculation			

	Description of Scenario	Average Value, kg	Average Value, kg	Average Value, kg
Module D		S4-720 S4T-710 S4T-770-S	S4T-711 S4T-780-S S4T-771-S S4T-711-V S4T-711-VAD-HPR	S4T-720-V-VAD-HPR S4T-711-V-VAD-HPR S4TB-711-V-VAD-HPR
	Materials for recycling	0.0194	0.0236	0.028
	Materials for re-use	0	0	0
	Materials for energy	0.0394	0.0489	0.0533

Scenarios	Value, Unit
Stainless Steel Recycling	World Steel data: Cradle to gate datasets with end-of-life credits for recycling, assuming an end-of-life recycling rate of 85%
Copper Recycling	95% primary metal content to recycling, 5% to landfill
ABS Recycling	Loss during the process in [%], default 3%.
Paper and Cardboard Incineration	Heating value 15 MJ/kg / Electrical efficiency 14,3 % / Heat efficiency 25,9 %
Polyethylene Incineration	Heating value 43,5 MJ/kg / Electrical efficiency 15,4 % / Heat efficiency 27,3 %
Polyamide Incineration	Heating value 21,5 MJ/kg / Electrical efficiency 13,9 % / Heat efficiency 25,2 %
ABS Incineration	Heating value 39 MJ/kg / Electrical efficiency 15,6 % / Heat efficiency 28,3 %
Rubber Incineration	Loss during the process in [%], default 3%.

Additional environmental information

Substances Assessment

Official declaration of S4T product cluster states compliance with items listed fulfils the requirements of the EU Directive 2011/65/EU amended by 2015/863/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS 3). While the product do contain components with lead in concentrations above 0.1 % (w/w), which is an SVHC included on the Candidate List.

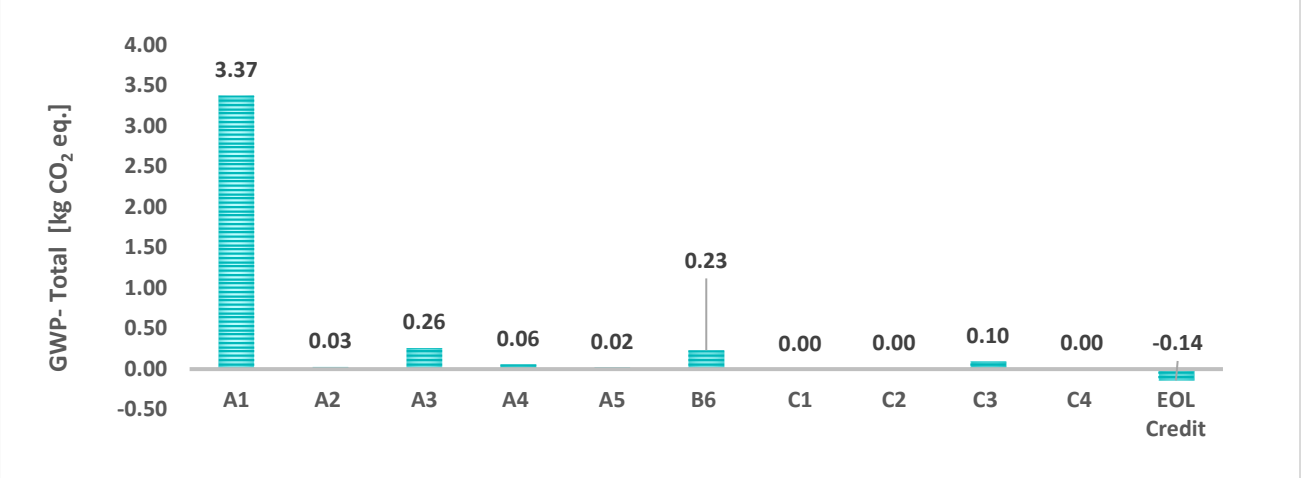
Recyclability rate

According to the End-of-life provisions for Waste Electrical and Electronic Equipment guidelines in the technical report IEC/TR 62635 Edition1.0, the following, recyclability rate is calculated.

Product Family	Recyclability Rate, %
S4T-710, S4T-720, S4T-770-S S4T-711, S4T-711-V, S4T-771-S S4T-780-S, S4T-711-VAD-HPR S4T-720-V-VAD-HPR S4T-711-V-VAD-HPR S4TB-711-V-VAD-HPR	49 – 55

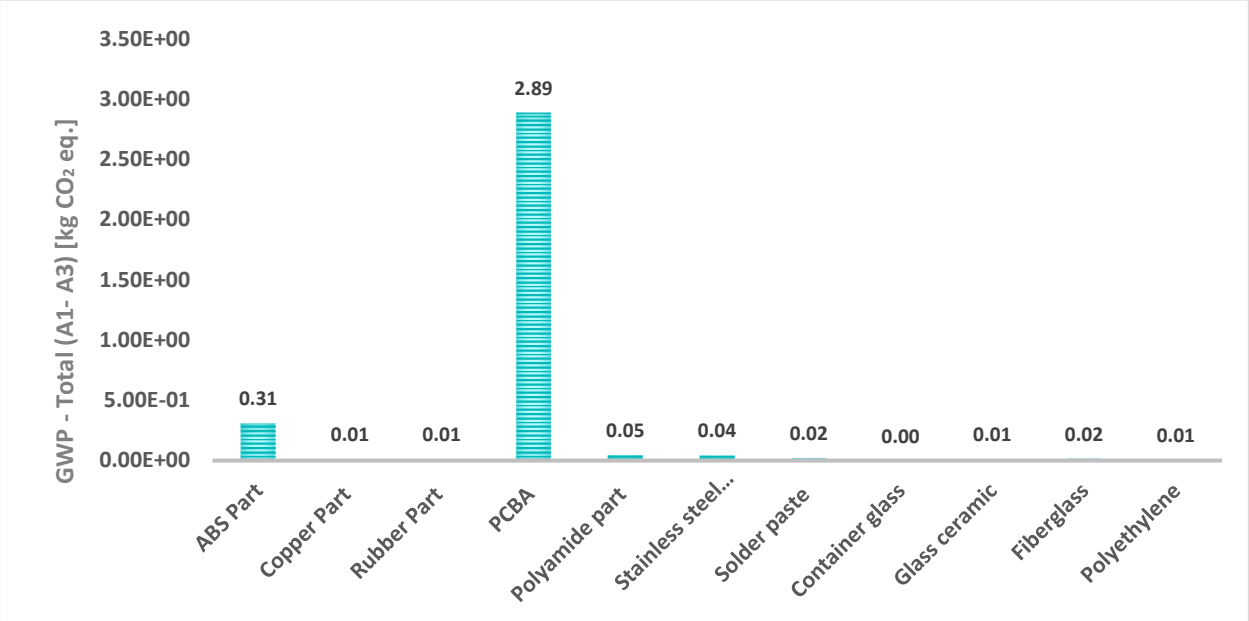
Interpretation of results

Global Warming Potential (GWP) - Total the environmental indicator considered for identification of hotspots. Below chart shows the GWP in all life cycle stages of S4T-711-V-VAD-HPR which has the highest environmental impact among other product variants. The primary contributor is the raw material supply phase (A1), followed by manufacturing (A3) and the use phase (B6).



GWP -Total kg CO_2 eq of S4T-711-V-VAD-HPR in all life cycle stages

In terms of materials, the printed circuit board assembly (PCBA) is the primary contributor, followed by the plastics (ABS parts), as shown in below chart.



GWP – Total (A1-A3) kg CO_2 eq of materials used in S4T-711-V-VAD-HPR

References

BRE 2023 Product Category Rules (PN 514 Rev 3.1) for Type III environmental product declaration of construction products to EN 15804:2012+A2:2019

EN 50693:2019 - Product category rules for life cycle assessments of electronic and electrical products and systems

IEC/TR 62635 - Guidelines for end-of-life information provided by manufacturers and recyclers and for recyclability rate calculation of electrical and electronic equipment - Edition 1.0 2012-10

ISO 14040:2006 - Environmental management -Life cycle assessment - Principles and framework

ISO 14044:2006 - Environmental management - Life cycle assessment -Requirements and guidelines

ISO. (2016). ISO 14021: Environmental labels and declarations – Self-declared environmental claims – Type II environmental labelling.

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PEP ecopassport® PROGRAM. (2023). Product Specific Rules for Fire Safety Systems (FSS), PSR-0019-ed1EN-2023 06 06.

EU Directive 2011/65/EU ROHS 3

REACH Waste Framework Directive 2008/98/EC (WFD)

BS EN 54: fire detection & alarm systems

EN 54-3:2001/A2:2006 Fire detection and fire alarm systems - Part 3: Fire alarm devices - Sounders

EN 54-3:2014+A1:2019 Fire detection and fire alarm systems - Part 3: Fire alarm devices - Sounders

BS EN 54-5:2001 - Heat detectors: Point detectors

BS EN 54-7:2001 - Smoke detectors: point detectors using scattered light, transmitted light or ionization

BS EN 54-17:2005 - Short-circuit isolators

BS EN 54-18:2005 - Input/output devices

BS EN 54-23:2010 - Fire alarm devices. Visual alarm devices

Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE) (recast) Text with EEA relevance

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