



## ENVIRONMENTAL PRODUCT DECLARATION

# SITOP UPS1600

# SITOP UPS8600

# SITOP UPS500S

# SITOP DC-USV

Type II according to ISO 14021 including life cycle impact assessment (LCIA)



# SIEMENS

# General information

This environmental product declaration (EPD) is based on the international standard ISO 14021 (“Environmental labels and declarations – Self declared environmental claims – Type II environmental labelling”). The data in this EPD has been evaluated on a full-scale life cycle assessment (LCA) study according to ISO 14040/44, Taking into account the product category rules (PCR) for electronic and electrotechnical products and systems defined in EN 50693.

Siemens is dedicated to an environmentally conscious design of its products in line with IEC 62430 and has implemented an integrated management system according to ISO 9001, ISO 14001 and ISO 45001.

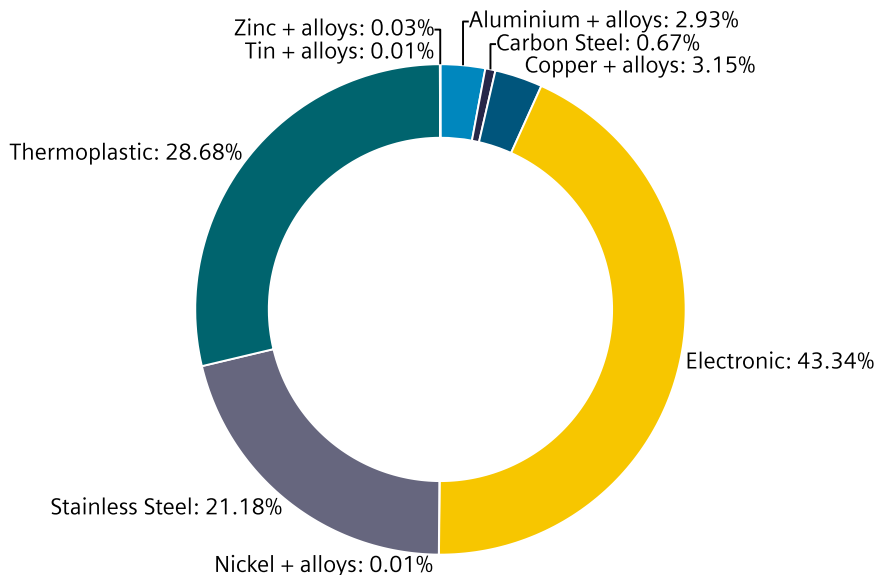
<b>Products</b>	Please refer to annex
<b>Represented by the reference product</b>	6EP4137-3AB00-2AY0
<b>Product Description</b>	SITOP UPS1600 40 A Ethernet/ PROFINET uninterruptible power supply with Ethernet/ PROFINET interface / OPC UA server / web server input: 24 V DC output: 24 V DC/40 A
<b>Functional Unit</b>	Production of 1 pc SITOP UPS1600 40 A and use over the reference service lifetime of 10 years. <sup>1</sup>

<sup>1</sup> The lifetime value used for calculation is a reference value and does not equate with the minimum, average or real life time.

# Material composition

The following chart outlines the overall material composition of the calculated reference product without packaging. Product weight of 0.68 kg adds up with packaging weight of 0.09 kg to a total weight of 0.77 kg. Packaging consists of: Corrugated box (average composition), PE film, Graphic paper.

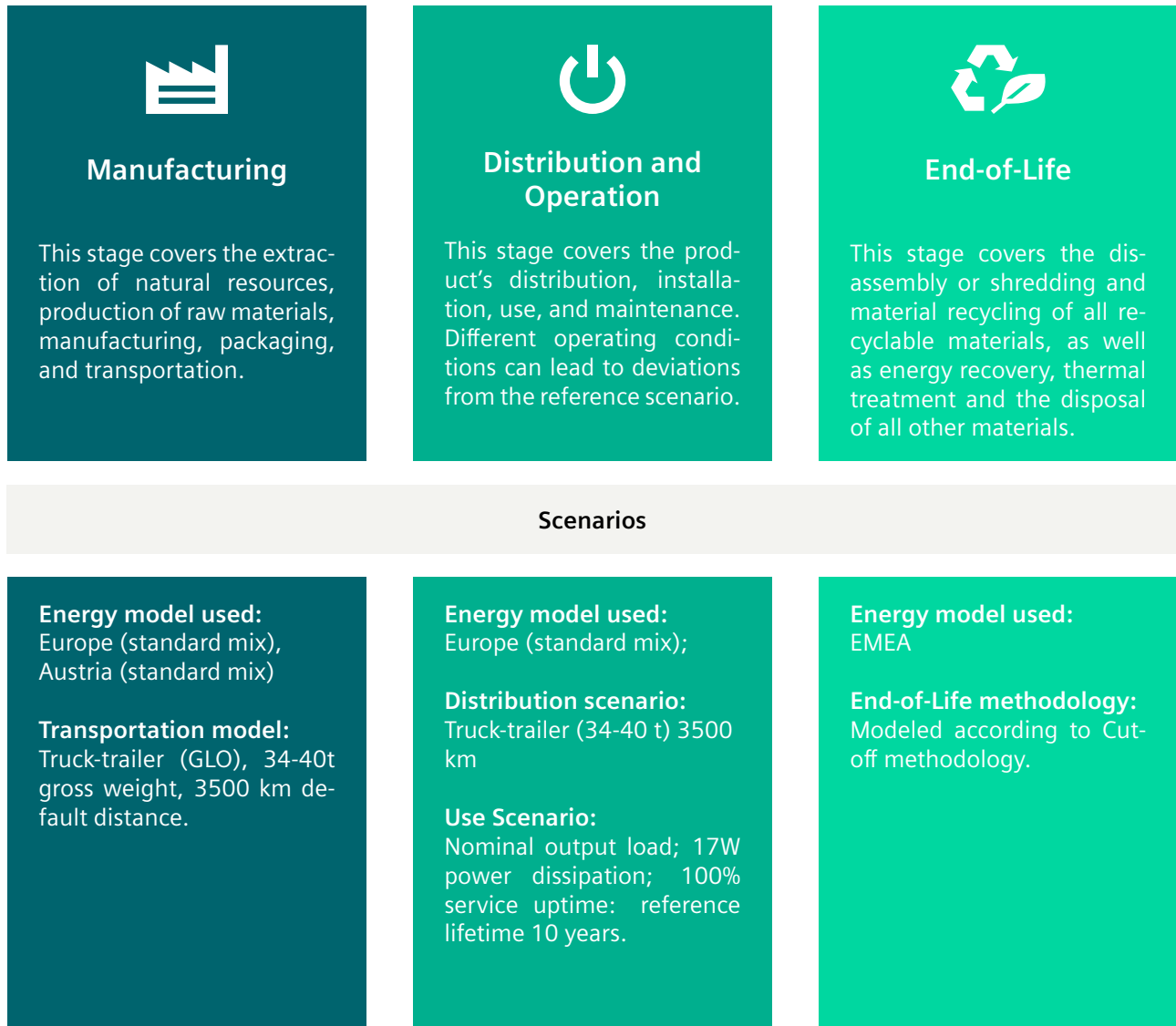
## Product Weight 0.68 kg



# Substance assessment

At Siemens, we are committed to the development and production of environmentally sound and sustainably produced equipment. This includes avoiding hazardous substances in our products without compromising their benefits for our customers. Please visit the following website to learn more about how we comply with product-related environmental regulations like RoHS, REACH, WEEE and others: [Product Related Environmental Protection](#)

## Life cycle stages and reference scenarios



# Key environmental performance indicators

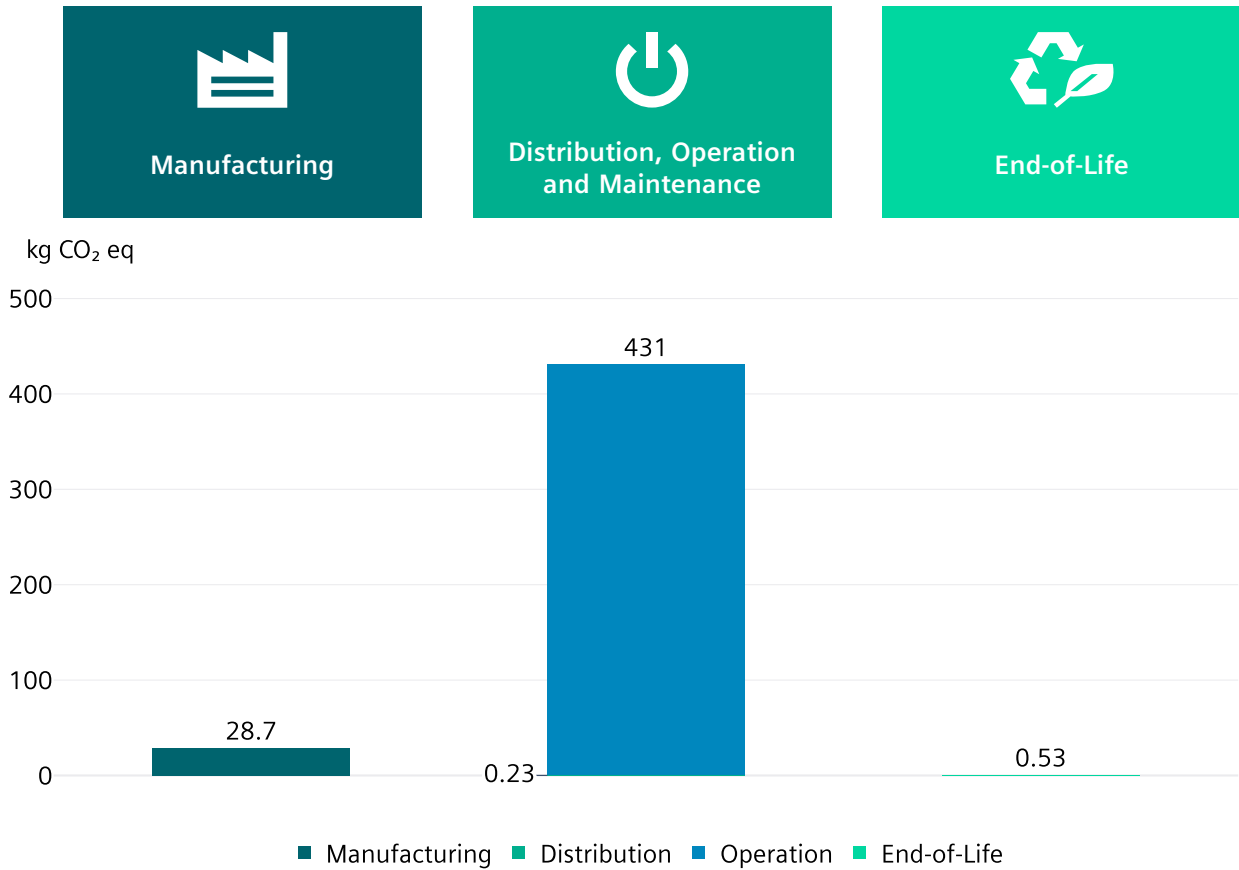
The following impact categories characterize the product's environmental footprint. They have been calculated with LCIA methodology EF3.0; LCA tool: Green Digital Twin (GDT), Database: One Siemens LCA Database (based on MLC CUP 2023.2, formerly GaBi).

To ensure the high quality and completeness of the LCA results, Primary Data have been used whenever possible. Datasets for resources, such as electrical energy or natural gas, are chosen from the region where the device is produced and assembled. If primary data are not available, datasets reflecting state-of-the-art manufacturing technology are considered.

Impact Category	Unit	Total	Manufacturing	Distribution	Operation	End of life
Climate change – total	kg CO <sub>2</sub> eq	4.60E+2	2.87E+1	2.34E-1	4.31E+2	5.32E-1
Climate change – fossil	kg CO <sub>2</sub> eq	4.56E+2	2.86E+1	2.07E-1	4.27E+2	5.32E-1
Climate change – biogenic	kg CO <sub>2</sub> eq	3.92E+0	5.76E-2	2.15E-2	3.84E+0	2.78E-4
Climate Change, land use and land use change	kg CO <sub>2</sub> eq	9.99E-2	3.16E-2	3.41E-3	6.49E-2	1.91E-5
Ozone depletion	kg CFC-11 eq	2.33E-8	1.36E-8	3.32E-14	9.68E-9	7.18E-13
Acidification	Mole of H+ eq	1.17E+0	3.52E-1	2.85E-4	8.22E-1	1.71E-4
Eutrophication, freshwater	kg P eq	1.93E-3	1.52E-4	8.82E-7	1.78E-3	4.99E-7
Eutrophication, marine	kg N eq	2.30E-1	2.47E-2	1.03E-4	2.06E-1	5.81E-5
Eutrophication, terrestrial	Mole of N eq	2.42E+0	2.67E-1	1.23E-3	2.15E+0	7.22E-4
Photochemical ozone formation, human health	kg NMVOC eq	6.30E-1	8.68E-2	2.84E-4	5.43E-1	1.55E-4
Resource use, mineral and metals	kg Sb eq	3.79E-3	3.71E-3	1.77E-8	7.98E-5	6.01E-9
Resource use, fossils	MJ	9.33E+3	3.97E+2	2.68E+0	8.93E+3	7.34E-1
Water use	m <sup>3</sup> world eq deprived water	1.24E+2	7.40E+0	6.15E-3	1.16E+2	5.44E-2
Particulate matter	Disease incidences	9.92E-6	3.04E-6	2.82E-9	6.87E-6	1.17E-9
Ionising radiation, human health	kBq U235 eq	2.37E+2	2.04E+0	7.65E-4	2.35E+2	1.68E-2
Ecotoxicity, freshwater – total	CTUe	2.78E+3	1.85E+2	1.99E+0	2.59E+3	2.48E-1
Human toxicity, cancer – total	CTUh	3.81E-7	2.36E-7	4.02E-11	1.45E-7	1.48E-11
Human toxicity, non-cancer – total	CTUh	2.73E-6	5.00E-7	1.80E-9	2.23E-6	2.84E-10
Land Use	dimensionless (pt)	3.88E+3	9.87E+1	1.32E+0	3.78E+3	2.94E-1

# Climate change

This chart shows the overall impact of the product on climate change – total. The operations phase is the lifecycle phase with the biggest overall impact. Different operating conditions can lead to deviations from the references scenario.



## End-of-Life results

The end-of-life stage was modelled by shredding of the device, followed by sorting and material separation process.



It leads to:

- **product recyclability of up to 40%** mainly due to metal content
- **energy recoverability of up to 32%** from plastic materials
- **minimum disposal rate of 29%**

The exact final values depend on the used recycling process and add up to 100%

**Note:** The device should not be disposed of as unsorted municipal waste. Special treatment for specific components may be mandated by law or recommended for environmental reasons. Observe all local and applicable laws

# Appendix

For other devices „Key environmental performance indicators“ please refer to the following factors:

Product	Description	Manufacturing	Distribution	Operation	End-of-Life
6EP4137-3AB00-2AY0	SITOP UPS1600 40A PN	1	1	1	1
6EP1931-2DC21	SITOP DC-USV 6A	0,571	0,571	0,471	0,571
6EP1931-2DC31	SITOP DC-USV 6A RS232	0,643	0,643	0,471	0,643
6EP1931-2DC42	SITOP DC-USV 6A USB	0,643	0,643	0,471	0,643
6EP1931-2EC21	SITOP DC-USV 15A	0,571	0,571	0,882	0,571
6EP1931-2EC31	SITOP DC-USV 15A RS232	0,643	0,643	0,882	0,643
6EP1931-2EC42	SITOP DC-USV 15A USB	0,643	0,643	0,882	0,643
6EP1931-2FC21	SITOP DC-USV 40A	1,571	1,571	1,976	1,571
6EP1931-2FC42	SITOP DC-USV 40A USB	1,571	1,571	1,976	1,571
6EP1933-2EC41	SITOP UPS500S 15A	1,429	1,429	0,529	1,429
6EP1933-2EC51	SITOP UPS500S 15A	1,429	1,429	0,529	1,429
6EP1933-2EC51-8AA0	SITOP UPS500S 15A Ex	1,429	1,429	0,529	1,429
6EP4134-3AB00-0AY0	SITOP UPS1600 10A	0,543	0,543	0,353	0,543
6EP4134-3AB00-1AY0	SITOP UPS1600 10A USB	0,571	0,571	0,353	0,571
6EP4134-3AB00-2AY0	SITOP UPS1600 10A PN	0,629	0,629	0,412	0,629
6EP4136-3AB00-0AY0	SITOP UPS1600 20A	0,557	0,557	0,588	0,557
6EP4136-3AB00-1AY0	SITOP UPS1600 20A USB	0,557	0,557	0,588	0,557
6EP4136-3AB00-2AY0	SITOP UPS1600 20A PN	0,643	0,643	0,647	0,643
6EP4136-3AC00-0AY0	SITOP UPS1600 20A Ex	0,557	0,557	0,588	0,557
6EP4136-3AC00-2AY0	SITOP UPS1600 20A PN Ex	0,643	0,643	0,647	0,643
6EP4137-3AB00-0AY0	SITOP UPS1600 40A	0,929	0,929	0,882	0,929
6EP4137-3AB00-1AY0	SITOP UPS1600 40A USB	0,929	0,929	0,882	0,929
6EP4197-8AB00-0XY0	SITOP UPS8600/120W	1,286	1,286	0,59	1,286

# Legal Disclaimer

This Environmental Product Declaration (EPD) is for information purposes only. It is based upon the standards mentioned above. This EPD does not warrant or guarantee the composition of a product or that the product will retain a particular composition for a particular period. Therefore, all warranties, representations, conditions, and all other terms of any kind whatsoever implied by statute or common law are – to the fullest extent permitted by applicable law – excluded.

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Please be aware that the data of this EPD cannot be compared with data calculated based upon product category rules (PCRs) other than the standards mentioned above. The values given are only valid within the context specified and cannot be used directly to draw up the environmental assessment of an installation.

**Published by**

Siemens AG  
Digital Industries  
Process Automation  
Östliche Rheinbrückenstr. 50  
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