Product Environmental Profile

Easy UPS 3-Phase Modular 50kW Scalable to 250kW 400V

General information

This document provides environmental impact and performance of the product based on Life Cycle Assessment (LCA), from cradle to grave (materials, manufacturing, distribution, installation, use and end of life).

Reference product	Easy UPS 3-Phase Modular 50kW Scalable to 250kW 400V - EMUPS50K250PBH
Description of the product	The purpose of this UPS is to provide high density, true double-conversion on-line power protection for servers, data center, voice / data networks, medical labs, and light industrial applications.
Description of the range	Easy UPS 3-Phase Modular The referent product is 50 kW, the capacity of the product can be expanded by adding power modules.

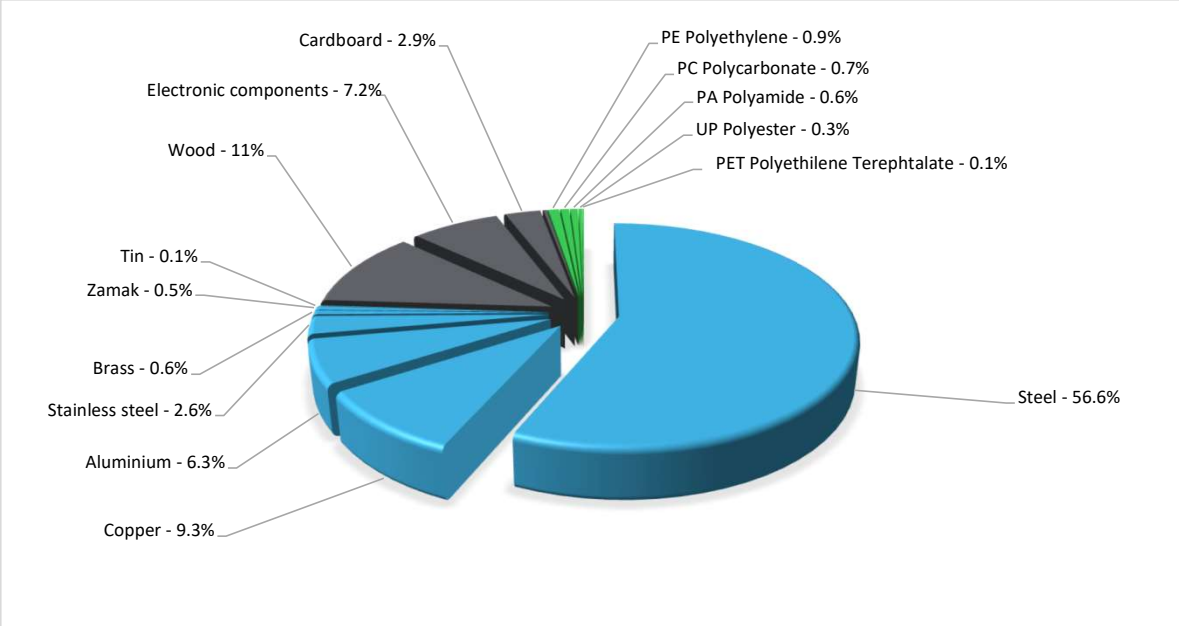
Type	Net weight (kg)	Weight with packaging (kg)	Dimension (mm)	Output perfomance classification	UPS rating (PF=1)
50 kW	**251**	**295**	**1991×600×850**	VFI-SS-111	**50 kW/kVA**
100 kW	279	323	1991×600×850		100 kW/kVA
150 kW	307	351	1991×600×850		150 kW/kVA
200 kW	335	379	1991×600×850		200 kW/kVA
250 kW	363	407	1991×600×850		250 kW/kVA
Note: For N+1 UPS models the weight increases with 28 kg for the redundant power module.					

The environmental impacts of this referenced product are representative of the impacts of the other products of the range which are developed with a similar technology. Meanwhile, environmental details of other kVA ratings are available in supplementary information at the end of this document.

Functional unit	To protect the load of 50,000 Watts against input power failure during 15 years and switch to the energy storage system to avoid power outage.

Constituent materials

Reference product mass	295 kg	including the product, its packaging and additional elements and accessories



	Plastics	2.60%
	Metals	76.00%
	Others	21.40%

Substance assessment

RoHS compliance	Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2011/65/EU of 8 June 2011) on restriction of lead, mercury, cadmium, hexavalent chromium or flame retardants -PBB&PBDE or phthalates-DEHP, BBP, DBP, DIBP.
REACH compliance	Products of this range are designed in conformity with the requirements of the REACH 1907/2006 regulation and its latest updates.
Battery Directive compliance	The battery within this product range are designed in conformity with the requirements of the Battery and Accumulator Directive (European Directive 2006/66/EC of 26 September 2006).

Details of ROHS and REACH substances information are available on the Schneider-Electric Green Premium website
https://www.se.com/ww/en/work/support/green-premium/

Additional environmental information

End Of Life	Recyclability potential:	**84%**	Recyclability rate has been calculated based on REEECY'LAB tool developed by Ecosystem, for components/materials not covered by the tool, data from the "ECO'DEEE recyclability and recoverability calculation method" was taken. If no data was found a conservative assumption was used (0% recyclability).

Environmental impacts

Reference service life time: 15 years

Installation elements: Ref EMUPS50K250PBH does not require any special installation operations, the disposal of the packaging materials are accounted for 14.4% during the installation phase (including transport to disposal).

Use scenario: Power consumption conforms to the requirements in PSR0010-ed1.1-EN-2015_10_16_UPS:

Load rate	25%	50%	75%	100%
Proportion of time at specified load	0.25	0.5	0.25	0

The referent UPS is modeled to operate in double conversion mode with an average efficiency of 95.9%. Total energy losses are calculated to be 133454 kWh in Double Conversion after 15 years.

Product Type	**Average energy efficiency**	**Electricity consumption (kWh over 15 years)**
50 kW	**95.9%**	**133454**
100 kW	96.0%	265264
150 kW	96.1%	388041
200 kW	96.1%	517388
250 kW	96.1%	644681

Technological representativeness: The Modules of Technologies such as material production, manufacturing process and transport technology used in this PEP analysis (LCA EIME in this case) are Similar and representative of the actual type of technologies used to make the product in production.

Geographical representativeness: Europe

Energy model used

[A1 - A3]	[A5]	[B6]	[C1 - C4]
Electricity Mix; Production mix; Low voltage; CN	Electricity Mix; Production mix; Low voltage; UE-27	Electricity Mix; Production mix; Low voltage; UE-27	Electricity Mix; Production mix; Low voltage; UE-27

Detailed results, including all the optional indicators mentioned in PCRed4, and the split of the Use Phase (B1 to B7), are available in the LCA report and on demand in a digital format - Country Customer Care Center - http://www.schneider-electric.com/contact

Mandatory Indicators			**Easy UPS 3-Phase Modular 50kW Scalable to 250kW 400V - EMUPS50K250PBH**					
Impact indicators	**Unit**	**Total**	**Manufacturing** [A1 - A3]	**Distribution** [A4]	**Installation** [A5]	**Use** [B1 - B7]	**End of Life** [C1 - C4]	**Benefits**** [D]
Contribution to climate change	kg CO2 eq	8.22E+04	2.69E+04	8.50E+01	4.24E+01	5.47E+04	5.60E+02	-3.35E+03
Contribution to climate change-fossil	kg CO2 eq	8.22E+04	2.68E+04	8.50E+01	5.96E+01	5.46E+04	5.55E+02	-3.31E+03
Contribution to climate change-biogenic	kg CO2 eq	9.22E+01	3.09E+01	0*	0*	7.30E+01	5.55E+00	-3.61E+01
Contribution to climate change-land use and land use change	kg CO2 eq	1.12E-04	3.93E-06	0*	1.60E-05	0*	9.18E-05	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	2.90E-03	2.58E-03	7.50E-05	1.18E-06	2.34E-04	5.20E-06	-5.80E-04
Contribution to acidification	mol H+ eq	5.22E+02	2.07E+02	3.70E-01	8.89E-02	3.12E+02	2.46E+00	-2.60E+01
Contribution to eutrophication, freshwater	kg $(PO4)^{3-}$ eq	3.91E-01	4.51E-02	0*	3.71E-04	1.50E-01	1.96E-01	-9.11E-03
Contribution to eutrophication marine	kg N eq	5.72E+01	2.11E+01	1.70E-01	2.81E-02	3.55E+01	4.36E-01	-1.95E+00
Contribution to eutrophication, terrestrial	mol N eq	8.45E+02	3.05E+02	1.84E+00	2.41E-01	5.33E+02	4.75E+00	-2.23E+01
Contribution to photochemical ozone formation - human health	kg COVNM eq	1.88E+02	7.16E+01	6.03E-01	7.44E-02	1.14E+02	1.55E+00	-8.25E+00
Contribution to resource use, minerals and metals	kg Sb eq	4.67E-01	4.57E-01	0*	0*	3.96E-03	5.52E-03	-7.53E-01
Contribution to resource use, fossils	MJ	1.50E+06	6.79E+04	1.03E+03	1.99E+02	1.39E+06	3.70E+04	-6.51E+04
Contribution to water use	m3 eq	4.13E+03	1.53E+03	4.31E+00	1.12E+01	1.94E+03	6.49E+02	-1.57E+03

Additional indicators for the French regulation are available as well

Inventory flows Indicators		Easy UPS 3-Phase Modular 50kW Scalable to 250kW 400V - EMUPS50K250PBH						
Inventory flows	Unit	Total	Manufact. [A1 - A3]	Distribution [A4]	Installation [A5]	Use [B1 - B7]	End of Life [C1 - C4]	Benefits** [D]
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	2.70E+05	1.76E+03	0*	1.48E+02	2.68E+05	1.34E+02	-9.28E+02
Contribution to use of renewable primary energy resources used as raw material	MJ	5.87E+02	5.87E+02	0*	0*	0*	0*	-3.25E+02
Contribution to total use of renewable primary energy resources	MJ	2.70E+05	2.35E+03	0*	1.48E+02	2.68E+05	1.34E+02	-1.25E+03
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	1.50E+06	6.71E+04	1.03E+03	1.99E+02	1.39E+06	3.70E+04	-6.40E+04
Contribution to use of non renewable primary energy resources used as raw material	MJ	8.00E+02	8.00E+02	0*	0*	0*	0*	-1.16E+03
Contribution to total use of non-renewable primary energy resources	MJ	1.50E+06	6.79E+04	1.03E+03	1.99E+02	1.39E+06	3.70E+04	-6.51E+04
Contribution to use of secondary material	kg	1.23E-01	1.23E-01	0*	0*	0*	0*	0.00E+00
Contribution to use of renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to use of non renewable secondary fuels	MJ	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to net use of freshwater	m^3	9.72E+01	3.57E+01	1.00E-01	2.60E-01	4.51E+01	1.60E+01	-3.66E+01
Contribution to hazardous waste disposed	kg	2.40E+04	2.28E+04	0*	0*	1.02E+03	2.43E+02	-5.97E+04
Contribution to non hazardous waste disposed	kg	1.01E+04	2.11E+03	0*	7.58E+01	7.87E+03	7.50E+00	-3.12E+03
Contribution to radioactive waste disposed	kg	2.70E+00	1.03E+00	1.69E-02	7.79E-03	1.65E+00	2.01E-03	-1.71E+00
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	2.37E+02	0*	0*	2.05E+01	0*	2.17E+02	0.00E+00
Contribution to materials for energy recovery	kg	5.93E-07	5.93E-07	0*	0*	0*	0*	0.00E+00
Contribution to exported energy	MJ	2.19E+01	2.06E+00	0*	1.99E+01	0*	0*	0.00E+00
Contribution to biogenic carbon content of the product	kg de C	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to biogenic carbon content of the associated packaging	kg de C	0.00E+00	0*	0*	0*	0*	0*	0.00E+00

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

*** Net benefits and loads beyond the system boundaries stage (module D): potential for reuse, recovery and/or recycling, expressed as net benefits and impacts.* ***Not accounted in the Total.***

Life cycle assessment performed with EIME version v5.9.4, database version 2022-01 in compliance with ISO14044.

Detailed results, including all the optional indicators mentioned in PCRed4, and the split of the Use Phase (B1 to B7), are available in the LCA report and on demand in a digital format - Country Customer Care Center - http://www.schneider-electric.com/contact

Please note that the values given above are only valid within the context specified and cannot be used directly to draw up the environmental assessment of an installation.

Extrapolated Data

	Easy Modular	Referent product 50kW (/N+1)	100kW (/N+1)	150kW (/N+1)	200kW (/N+1)	250kW (/N+1)
Product information	UPS Cabinet	1	1	1	1	1
	Power Module (50 kW/3U)	1(2)	2(3)	3(4)	4(5)	5(6)
	Weight with Packaging (kg)	295 (323)	323 (351)	351 (379)	379 (407)	407 (435)
Compulsory environmental indicators - 'TOTAL' of Life Cycle Phases (UPS in double conversion mode)	Contribution to climate change (kg CO2 eq)	8.22E+04	1.34E+05	1.87E+05	2.42E+05	2.97E+05
	Contribution to Ozone depletion (kg CFC11 eq)	2.90E-03	2.94E-03	3.40E-03	3.87E-03	4.34E-03
	Contribution to Acidification (mol H+ eq)	5.22E+02	8.15E+02	1.12E+03	1.44E+03	1.76E+03
	Contribution to eutrophication, freshwater (kg PO43- eq)	3.91E-01	5.21E-01	6.82E-01	8.49E-01	1.01E+00
	Contribution to eutrophication marine (kg N eq)	5.72E+01	9.07E+01	1.25E+02	1.62E+02	1.98E+02
	Contribution to eutrophication, terrestrial (mol N eq)	8.45E+02	1.35E+03	1.87E+03	2.41E+03	2.95E+03
	Contribution to photochemical ozone formation - human health (kg COVNM eq)	1.88E+02	2.95E+02	4.06E+02	5.24E+02	6.39E+02
	Contribution to resource use, minerals and metals (kgSbeq)	4.67E-01	4.37E-01	4.84E-01	5.31E-01	5.78E-01
	Total use of primary energy (MJ)	1.50E+06	2.87E+06	4.16E+06	5.52E+06	6.86E+06
	Contribution to water use (m3 eq)	4.13E+03	5.89E+03	7.87E+03	9.95E+03	1.20E+04

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Date of issue	2023/12/8	*Information and reference documents*	www.pep-ecopassport.org
		Validity period	5 years

Independent verification of the declaration and data, in compliance with ISO 14021 : 2016

Internal X External

The PCR review was conducted by a panel of experts chaired by Julie ORGELET (DDemain)

PEP are compliant with XP C08-100-1 :2016 or EN 50693:2019

The elements of the present PEP cannot be compared with elements from another program.

Document in compliance with ISO 14021 : 2016 « Environmental labels and declarations. Type II environmental declarations »

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