

# Product Environmental Profile

## PowerLogic HU250: Head Unit Communication Gateway

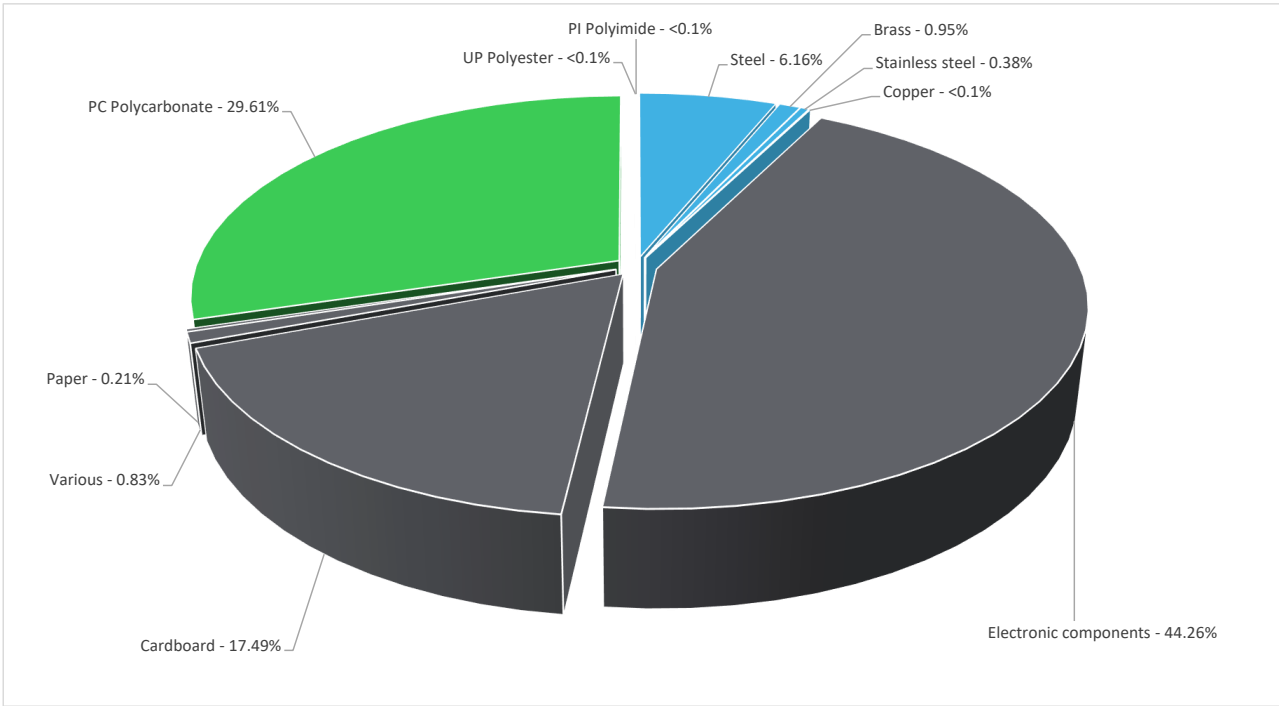


## General information

Reference product	PowerLogic HU250: Head Unit Communication Gateway - EMS59000
Description of the product	PowerLogic HU250 is a secure communication gateway designed for energy monitoring, substation automation, and smart grid applications. It enables seamless communication between various electrical devices and systems.
Description of the range	Single product
Functional unit	To securely collect, manage, and transmit data from MV and LV electrical devices, 24 hours a day, for 10 years of continuous operation.
Specifications are:	Rated Supply Voltage: 12–48 VDC ± 20% IK degree of protection: IK07 conforming to IEC 62262 IP degree of protection: IP2X body & IP4X front in accordance with the standard IEC 60529

## Constituent materials

Reference product mass: 765 g including product and its packaging



Plastics	29.6%
Metals	7.6%
Others	62.8%

## Substance assessment

Details of ROHS and REACH substances information are available on the Schneider-Electric website  
<https://www.se.com>

## Additional environmental information

End Of Life	Recyclability potential:	9%	The recyclability rate was calculated from the recycling rates of each material making up the product based on REEECYLAB tool developed by Ecosystem, for components/materials not covered by the tool, data from the EIME database and the related PSR was taken. If no data was found a conservative assumption was used (0% recyclability).
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**Environmental impacts**

Reference service life time	10 years			
Product category	Other equipments - Active product			
Life cycle of the product	The manufacturing, the distribution, the installation, the use and the end of life were taken into consideration in this study			
Electricity consumption	The electricity consumed during manufacturing processes is considered for each part of the product individually, the final assembly generates a negligible consumption			
Installation elements	The product does not require special installation procedure and requires little to no energy to install. The disposal of the packaging materials are accounted for during the installation phase (including transport to disposal)			
Use scenario	The product is in active mode 100% of the time with a power use of 2.55W, for 10 years			
Time representativeness	The collected data are representative of the year 2025			
Technological representativeness	The Modules of Technologies such as material production, manufacturing processes and transport technology used in the PEP analysis (LCA EIME in the case) are similar and representative of the actual type of technologies used to make the product.			
Geographical representativeness	Final assembly site	Use phase	End-of-life	
	Latvia, India, China	Global	Global	
Energy model used	[A1 - A3]	[A5]	[B6]	[C1 - C4]
	Electricity Mix; Low voltage; 2020; Europe Electricity Mix; Low voltage; 2020; France Electricity Mix; Low voltage; 2020; China	No energy used	Electricity Mix; Low voltage; 2020; Europe, EU-27	Global, European and French datasets are used.
			Electricity Mix; Low voltage; 2020; United States, US	
			Electricity Mix; Low voltage; 2020; Asia Pacific, APAC	
			Electricity Mix; Low voltage; 2020; Australia, AU	
			Electricity Mix; Low voltage; 2020; Morocco, MA	

Detailed results of the optional indicators mentioned in PCRed4 are available in the LCA report and on demand in a digital format - Country Customer Care Center - <http://www.se.com/contact>

Mandatory Indicators		PowerLogic HU250: Head Unit Communication Gateway - EMS59000						
Impact indicators	Unit	Total (without Module D)	[A1 - A3] - Manufacturing	[A4] - Distribution	[A5] - Installation	[B1 - B7] - Use	[C1 - C4] - End of life	[D] - Benefits and loads
Contribution to climate change	kg CO2 eq	1.61E+02	3.14E+01	6.04E-01	2.53E-01	1.27E+02	1.73E+00	-2.17E-01
Contribution to climate change-fossil	kg CO2 eq	1.60E+02	3.14E+01	6.04E-01	4.53E-02	1.26E+02	1.73E+00	-2.16E-01
Contribution to climate change-biogenic	kg CO2 eq	1.49E+00	1.09E-02	0*	2.08E-01	1.27E+00	2.77E-04	-5.63E-04
Contribution to climate change-land use and land use change	kg CO2 eq	2.26E-04	2.26E-04	0*	0*	0*	2.83E-08	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	8.58E-06	7.43E-06	5.33E-07	1.63E-09	6.19E-07	4.36E-09	-3.75E-08
Contribution to acidification	mol H+ eq	8.97E-01	9.92E-02	2.63E-03	2.74E-04	7.93E-01	1.56E-03	-1.33E-03
Contribution to eutrophication, freshwater	kg P eq	3.36E-04	1.90E-04	7.08E-08	5.35E-08	1.38E-04	7.71E-06	-3.81E-07
Contribution to eutrophication marine	kg N eq	1.03E-01	1.23E-02	1.21E-03	6.89E-05	8.88E-02	6.18E-04	-1.25E-04
Contribution to eutrophication, terrestrial	mol N eq	1.31E+00	1.40E-01	1.31E-02	9.07E-04	1.15E+00	6.49E-03	-1.45E-03
Contribution to photochemical ozone formation - human health	kg COVNM eq	3.38E-01	4.11E-02	4.29E-03	1.93E-04	2.91E-01	1.60E-03	-5.16E-04
Contribution to resource use, minerals and metals	kg Sb eq	9.89E-03	9.87E-03	0*	0*	2.37E-05	0*	-6.43E-05
Contribution to resource use, fossils	MJ	2.95E+03	4.80E+02	7.52E+00	8.39E-01	2.46E+03	3.25E+00	-4.78E+00
Contribution to water use	m3 eq	3.21E+01	2.40E+01	3.07E-02	0*	7.96E+00	7.75E-02	-9.68E-02

Inventory flows Indicators		PowerLogic HU250: Head Unit Communication Gateway - EMS59000							
Inventory flows	Unit	Total (without Module D)	[A1 - A3] - Manufacturing	[A4] - Distribution	[A5] - Installation	[B1 - B7] - Use	[C1 - C4] - End of life	[D] - Benefits and loads	
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	4.60E+02	4.44E+01	0*	7.22E-02	4.15E+02	6.89E-02	-3.89E-02	
Contribution to use of renewable primary energy resources used as raw material	MJ	5.62E-01	5.62E-01	0*	0*	0*	0*	0.00E+00	
Contribution to total use of renewable primary energy resources	MJ	4.60E+02	4.49E+01	0*	7.22E-02	4.15E+02	6.89E-02	-3.89E-02	
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	2.94E+03	4.69E+02	7.52E+00	8.39E-01	2.46E+03	3.25E+00	-4.78E+00	
Contribution to use of non renewable primary energy resources used as raw material	MJ	1.17E+01	1.17E+01	0*	0*	0*	0*	0.00E+00	
Contribution to total use of non-renewable primary energy resources	MJ	2.95E+03	4.80E+02	7.52E+00	8.39E-01	2.46E+03	3.25E+00	-4.78E+00	
Contribution to use of secondary material	kg	1.19E-01	1.19E-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	m³	7.42E-01	5.53E-01	7.14E-04	0*	1.86E-01	1.89E-03	-2.25E-03	
Contribution to hazardous waste disposed	kg	1.54E+02	1.50E+02	0*	4.93E-02	3.56E+00	3.33E-01	-5.05E+00	
Contribution to non hazardous waste disposed	kg	3.18E+01	1.06E+01	0*	5.98E-03	2.09E+01	3.17E-01	-1.63E-01	
Contribution to radioactive waste disposed	kg	8.96E-03	6.00E-03	1.20E-04	2.49E-06	2.82E-03	1.44E-05	-7.39E-05	
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00	
Contribution to materials for recycling	kg	1.77E-01	1.22E-01	0*	0*	0*	5.56E-02	0.00E+00	
Contribution to materials for energy recovery	kg	1.33E-01	0*	0*	1.33E-01	0*	0*	0.00E+00	
Contribution to exported energy	MJ	6.24E-04	7.55E-05	0*	0*	0*	5.49E-04	0.00E+00	

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

Contribution to biogenic carbon content of the product kg of C 0.00E+00

Contribution to biogenic carbon content of the associated packaging kg of C 3.73E-02

\* The calculation of the biogenic carbon is based on the Ademe for the Cardboard (28%), EN16485 for Wood (39,52%), and APESA/RECORD for Paper (37,8%)


Mandatory Indicators		PowerLogic HU250: Head Unit Communication Gateway - EMS59000								
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]	
Contribution to climate change	kg CO2 eq	1.27E+02	0*	0*	0*	0*	0*	1.27E+02	0*	
Contribution to climate change-fossil	kg CO2 eq	1.26E+02	0*	0*	0*	0*	0*	1.26E+02	0*	
Contribution to climate change-biogenic	kg CO2 eq	1.27E+00	0*	0*	0*	0*	0*	1.27E+00	0*	
Contribution to climate change-land use and land use change	kg CO2 eq	0*	0*	0*	0*	0*	0*	0*	0*	
Contribution to ozone depletion	kg CFC-11 eq	6.19E-07	0*	0*	0*	0*	0*	6.19E-07	0*	
Contribution to acidification	mol H+ eq	7.93E-01	0*	0*	0*	0*	0*	7.93E-01	0*	
Contribution to eutrophication, freshwater	kg P eq	1.38E-04	0*	0*	0*	0*	0*	1.38E-04	0*	
Contribution to eutrophication marine	kg N eq	8.88E-02	0*	0*	0*	0*	0*	8.88E-02	0*	
Contribution to eutrophication, terrestrial	mol N eq	1.15E+00	0*	0*	0*	0*	0*	1.15E+00	0*	
Contribution to photochemical ozone formation - human health	kg COVNM eq	2.91E-01	0*	0*	0*	0*	0*	2.91E-01	0*	
Contribution to resource use, minerals and metals	kg Sb eq	2.37E-05	0*	0*	0*	0*	0*	2.37E-05	0*	
Contribution to resource use, fossils	MJ	2.46E+03	0*	0*	0*	0*	0*	2.46E+03	0*	
Contribution to water use	m³ eq	7.96E+00	0*	0*	0*	0*	0*	7.96E+00	0*	

Inventory flows Indicators		PowerLogic HU250: Head Unit Communication Gateway - EMS59000								
Inventory flows	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]	
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	4.15E+02	0*	0*	0*	0*	0*	4.15E+02	0*	
Contribution to use of renewable primary energy resources used as raw material	MJ	0*	0*	0*	0*	0*	0*	0*	0*	
Contribution to total use of renewable primary energy resources	MJ	4.15E+02	0*	0*	0*	0*	0*	4.15E+02	0*	
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	2.46E+03	0*	0*	0*	0*	0*	2.46E+03	0*	
Contribution to use of non renewable primary energy resources used as raw material	MJ	0*	0*	0*	0*	0*	0*	0*	0*	
Contribution to total use of non-renewable primary energy resources	MJ	2.46E+03	0*	0*	0*	0*	0*	2.46E+03	0*	
Contribution to use of secondary material	kg	0*	0*	0*	0*	0*	0*	0*	0*	
Contribution to use of renewable secondary fuels	MJ	0*	0*	0*	0*	0*	0*	0*	0*	
Contribution to use of non renewable secondary fuels	MJ	0*	0*	0*	0*	0*	0*	0*	0*	
Contribution to net use of freshwater	m³	1.86E-01	0*	0*	0*	0*	0*	1.86E-01	0*	
Contribution to hazardous waste disposed	kg	3.56E+00	0*	0*	0*	0*	0*	3.56E+00	0*	
Contribution to non hazardous waste disposed	kg	2.09E+01	0*	0*	0*	0*	0*	2.09E+01	0*	
Contribution to radioactive waste disposed	kg	2.82E-03	0*	0*	0*	0*	0*	2.82E-03	0*	
Contribution to components for reuse	kg	0*	0*	0*	0*	0*	0*	0*	0*	
Contribution to materials for recycling	kg	0*	0*	0*	0*	0*	0*	0*	0*	
Contribution to materials for energy recovery	kg	0*	0*	0*	0*	0*	0*	0*	0*	
Contribution to exported energy	MJ	0*	0*	0*	0*	0*	0*	0*	0*	

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

Life cycle assessment performed with EIME version v6.2.5-6, database version 2024-01 in compliance with ISO14044, EF3.1 method is applied, for biogenic carbon storage, assessment methodology -1/1 is used

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.

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		Supplemented by	PSR-0005-ed3.1-EN-2023 12 08
Verifier accreditation N°	VH42	Information and reference documents	<a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>
Date of issue	09-2025	Validity period	5 years
Independent verification of the declaration and data, in compliance with ISO 14025 : 2006			
Internal                      External      X			
The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain)			
PEPs are compliant with NF C08-100-1:2022 and EN 50693:2019 or NF E38-500 :2022			
The components of the present PEP may not be compared with components from any other program.			
Document complies with ISO 14025:2006 "Environmental labels and declarations. Type III environmental declarations"			
			

Schneider Electric Industries SAS  
 Country Customer Care Center  
<http://www.se.com/contact>  
 Head Office  
 35, rue Joseph Monier  
 CS 30323  
 F- 92500 Rueil Malmaison Cedex  
 RCS Nanterre 954 503 439  
 Capital social 928 298 512 €

[www.se.com](http://www.se.com)

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