

Product Environmental Profile

Acti9 iEM2000 series single-phase DIN-rail kWh meter 40A

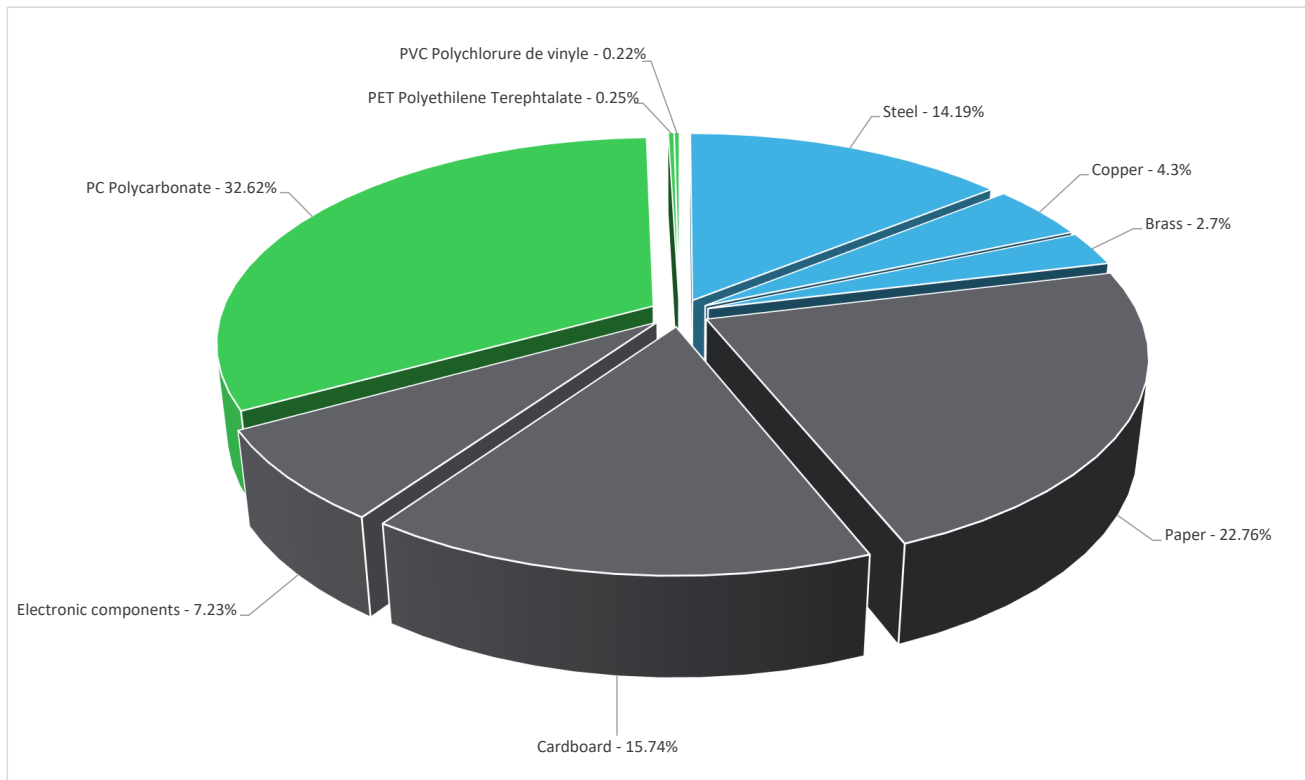


General information

Reference product	Acti9 iEM2000 series single-phase DIN-rail kWh meter 40A - A9MEM2010
Description of the product	The Acti9 iEM2010 energy meter is a single-phase DIN rail-mounted energy meter and integrate electrical distribution measurements into customer's energy management systems.
Description of the range	Single product
Functional unit	The main function of the Energy meter is to directly measure active energy on single-phase network during 10 years
Specifications are:	Maximum current [I _{max}] = 40 A Basic current [I _b] = 5 A Rated voltage = 230 V +/- 20 % Sampling rate = 32 samples/cycle Compliance with IEC 62053-21, IEC 61557-12, EN 50470-3 class B Degree of protection IP40 for front panel and IP20 for casing accordance with the standard IEC 60529

Constituent materials

Reference product mass	123 g including the product, its packaging and additional elements and accessories
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Plastics	33.1%
Metals	21.2%
Others	45.7%

Substance assessment

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:	34%	The recyclability rate was calculated from the recycling rates of each material making up the product with the exception of data using the ESR database. For materials or components using the ESR database or the absence of data the conservative hypothesis "0% recyclability" was used.
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**Environmental impacts**

Reference service life time	10 years			
Product category	Other equipments - Active product			
Installation elements	No special components needed			
Use scenario	The product is in active mode 5% of the time with a power use of 1.7W and in stand-by mode 95% of the time with a power use of 1.3W, for 10 years			
Time representativeness	The collected data are representative of the year 2024			
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	Rest of the World			
Energy model used	[A1 - A3]	[A5]	[B6]	[C1 - C4]
	Electricity Mix; Low voltage; 2018; China, CN	Electricity Mix; Low voltage; 2018; France, FR	Electricity Mix; Low voltage; 2018; France, FR	Electricity Mix; Low voltage; 2018; France, FR
		Electricity Mix; High voltage; 2018; Spain, ES	Electricity Mix; High voltage; 2018; Spain, ES	Electricity Mix; High voltage; 2018; Spain, ES
		Electricity Mix; High voltage; 2018; Italy, IT	Electricity Mix; High voltage; 2018; Italy, IT	Electricity Mix; High voltage; 2018; Italy, IT
		Electricity Mix; High voltage; 2018; Netherlands, NL	Electricity Mix; High voltage; 2018; Netherlands, NL	Electricity Mix; High voltage; 2018; Netherlands, NL
		Electricity Mix; High voltage; 2018; Belgium, BE	Electricity Mix; High voltage; 2018; Belgium, BE	Electricity Mix; High voltage; 2018; Belgium, BE

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.schneider-electric.com/contact>

Mandatory Indicators		Acti9 iEM2000 series single-phase DIN-rail kWh meter 40A - A9MEM2010						
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	2.73E+01	1.72E+00	2.48E-01	0*	2.51E+01	2.09E-01	-9.69E-02
Contribution to climate change-fossil	kg CO2 eq	2.72E+01	1.68E+00	2.48E-01	0*	2.51E+01	2.07E-01	-9.56E-02
Contribution to climate change-biogenic	kg CO2 eq	6.73E-02	4.17E-02	0*	0*	2.44E-02	1.18E-03	-1.30E-03
Contribution to climate change-land use and land use change	kg CO2 eq	5.30E-05	5.30E-05	0*	0*	0*	1.98E-08	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	5.32E-07	1.92E-07	2.18E-07	7.41E-11	1.21E-07	7.90E-10	-1.87E-08
Contribution to acidification	mol H+ eq	1.38E-01	1.30E-02	1.02E-03	2.51E-05	1.23E-01	4.52E-04	-1.45E-03
Contribution to eutrophication, freshwater	kg (PO4) ³⁻ eq	2.69E-04	1.69E-05	2.89E-08	0*	2.15E-04	3.76E-05	-1.68E-07
Contribution to eutrophication marine	kg N eq	1.73E-02	1.45E-03	4.64E-04	1.18E-05	1.53E-02	1.01E-04	-6.19E-05
Contribution to eutrophication, terrestrial	mol N eq	2.41E-01	1.55E-02	5.03E-03	1.21E-04	2.19E-01	1.16E-03	-7.20E-04
Contribution to photochemical ozone formation - human health	kg COVNM eq	5.63E-02	5.08E-03	1.68E-03	2.89E-05	4.92E-02	3.28E-04	-3.04E-04
Contribution to resource use, minerals and metals	kg Sb eq	1.63E-04	1.58E-04	0*	0*	3.23E-06	1.19E-06	-3.11E-05
Contribution to resource use, fossils	MJ	1.21E+03	2.43E+01	3.08E+00	0*	1.18E+03	4.71E+00	-1.98E+00
Contribution to water use	m3 eq	1.68E+00	6.97E-01	1.25E-02	4.43E-03	9.04E-01	6.28E-02	-8.03E-02

Inventory flows Indicators		Acti9 iEM2000 series single-phase DIN-rail KWh meter 40A - A9MEM2010						
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	1.81E+02	6.82E-01	0*	0*	1.81E+02	2.95E-02	-3.77E-02
Contribution to use of renewable primary energy resources used as raw material	MJ	9.27E-01	9.27E-01	0*	0*	0*	0*	0.00E+00
Contribution to total use of renewable primary energy resources	MJ	1.82E+02	1.61E+00	0*	0*	1.81E+02	2.95E-02	-3.77E-02
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	1.21E+03	2.27E+01	3.08E+00	0*	1.18E+03	4.71E+00	-1.98E+00
Contribution to use of non renewable primary energy resources used as raw material	MJ	1.55E+00	1.55E+00	0*	0*	0*	0*	0.00E+00
Contribution to total use of non-renewable primary energy resources	MJ	1.21E+03	2.43E+01	3.08E+00	0*	1.18E+03	4.71E+00	-1.98E+00
Contribution to use of secondary material	kg	1.59E-05	1.59E-05	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	3.98E-02	1.69E-02	2.92E-04	1.03E-04	2.10E-02	1.46E-03	-1.87E-03
Contribution to hazardous waste disposed	kg	5.80E+00	5.41E+00	0*	0*	3.87E-01	8.54E-03	-2.54E+00
Contribution to non hazardous waste disposed	kg	3.55E+00	1.08E+00	0*	4.82E-02	2.38E+00	4.54E-02	-6.11E-02
Contribution to radioactive waste disposed	kg	6.81E-04	2.66E-04	4.91E-05	0*	3.64E-04	2.03E-06	-2.82E-05
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	3.02E-02	3.88E-03	0*	0*	0*	2.63E-02	0.00E+00
Contribution to materials for energy recovery	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to exported energy	MJ	2.96E-04	4.06E-05	0*	0*	0*	2.56E-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 de C	0.00E+00
Contribution to biogenic carbon content of the associated packaging	kg de C	1.62E-02


Mandatory Indicators		Acti9 iEM2000 series single-phase DIN-rail KWh meter 40A - A9MEM2010							
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to climate change	kg CO2 eq	2.51E+01	0*	0*	0*	0*	0*	2.51E+01	0*
Contribution to climate change-fossil	kg CO2 eq	2.51E+01	0*	0*	0*	0*	0*	2.51E+01	0*
Contribution to climate change-biogenic	kg CO2 eq	2.44E-02	0*	0*	0*	0*	0*	2.44E-02	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	1.21E-07	0*	0*	0*	0*	0*	1.21E-07	0*
Contribution to acidification	mol H+ eq	1.23E-01	0*	0*	0*	0*	0*	1.23E-01	0*
Contribution to eutrophication, freshwater	kg (PO4) ³⁻ eq	2.15E-04	0*	0*	0*	0*	0*	2.15E-04	0*
Contribution to eutrophication marine	kg N eq	1.53E-02	0*	0*	0*	0*	0*	1.53E-02	0*
Contribution to eutrophication, terrestrial	mol N eq	2.19E-01	0*	0*	0*	0*	0*	2.19E-01	0*
Contribution to photochemical ozone formation - human health	kg COVNM eq	4.92E-02	0*	0*	0*	0*	0*	4.92E-02	0*
Contribution to resource use, minerals and metals	kg Sb eq	3.23E-06	0*	0*	0*	0*	0*	3.23E-06	0*
Contribution to resource use, fossils	MJ	1.18E+03	0*	0*	0*	0*	0*	1.18E+03	0*
Contribution to water use	m3 eq	9.04E-01	0*	0*	0*	0*	0*	9.04E-01	0*

Inventory flows Indicators		Acti9 iEM2000 series single-phase DIN-rail kWh meter 40A - A9MEM2010								
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	1.81E+02	0*	0*	0*	0*	0*	1.81E+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	1.81E+02	0*	0*	0*	0*	0*	1.81E+02	0*	
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	1.18E+03	0*	0*	0*	0*	0*	1.18E+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	1.18E+03	0*	0*	0*	0*	0*	1.18E+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	2.10E-02	0*	0*	0*	0*	0*	2.10E-02	0*	
Contribution to hazardous waste disposed	kg	3.87E-01	0*	0*	0*	0*	0*	3.87E-01	0*	
Contribution to non hazardous waste disposed	kg	2.38E+00	0*	0*	0*	0*	0*	2.38E+00	0*	
Contribution to radioactive waste disposed	kg	3.64E-04	0*	0*	0*	0*	0*	3.64E-04	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, database version 2023-02 in compliance with ISO14044, EF 3.0 method is applied, for biogenic carbon storage, assessment methodology 0/0 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°	VH48	Information and reference documents	www.pep-ecopassport.org
Date of issue	08-2024	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 XP C08-100-1:2016 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"			
			

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