

Product Environmental Profile

APM Standard Power Module 160kW - 380...480V

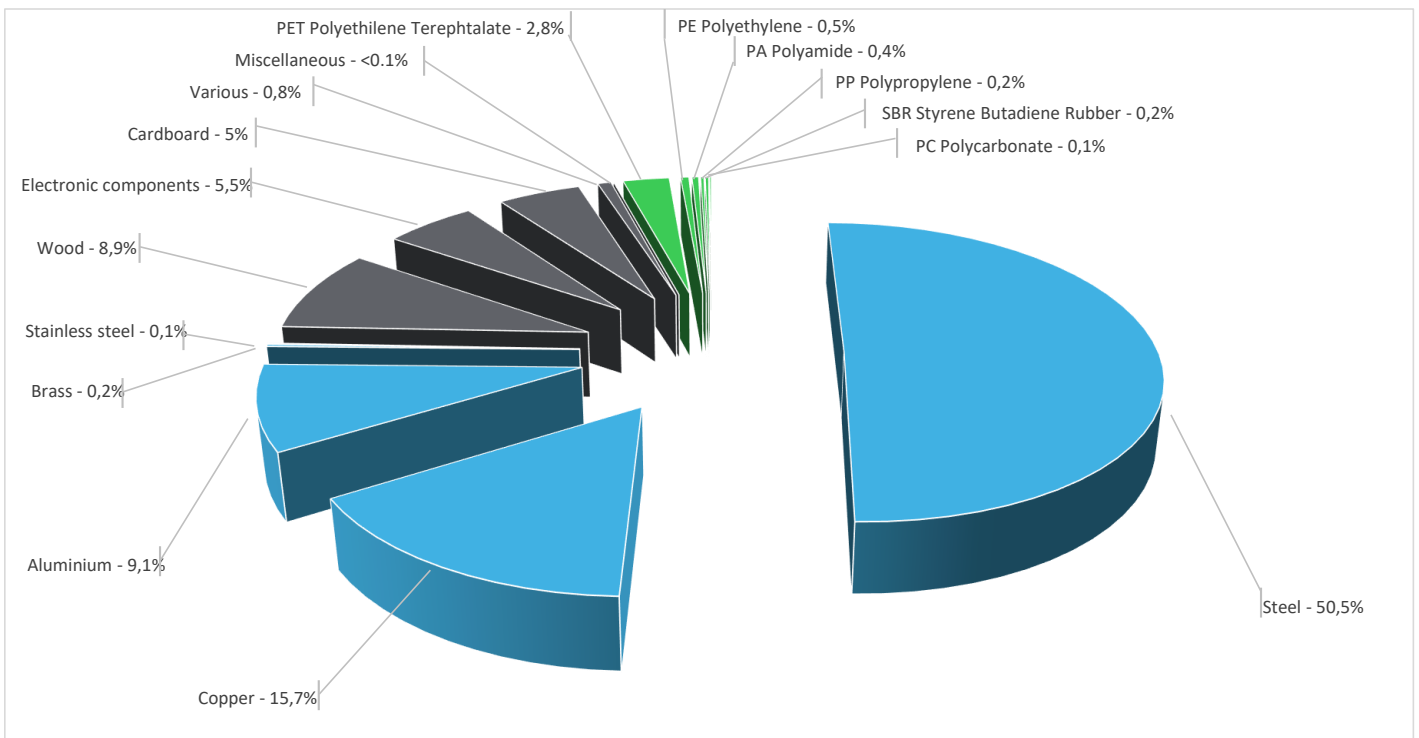


General information

Reference product	APM Standard Power Module 160kW - 380...480V - APM1A0C16N401
Description of the product	The main function of the Altivar Process product range is the speed control and variation of a synchronous, asynchronous or reluctance electric motor for fluid management and industrial applications. The APM Standard is a Drive Module to be integrated into a Drive System by a Certified Partner.
Description of the range	The products of the range are: This range consists of products ATV600/900 Altivar Process Modular with ratings from 110 to 1200 kW for operation on 380V/690V. The environmental impacts of this reference product are representative of the impacts of the other products of the range which are developed with a similar technology.
Functional unit	To adapt the speed and torque of synchronous, asynchronous or reluctance motor to the machine's operating point. Calculation of the environmental impacts is based on 10 years of product service lifetime. The usage profile taken into account is 73% uptime in use phase at 80% loading rate and 27% uptime in stand by phase.

Constituent materials

Reference product mass 185 kg including the product, its packaging and additional elements and accessories



Plastics	4,20%
Metals	75,60%
Others	20,20%

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:	87%	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	Variable Speed Drives			
Installation elements	The product does not require any installation operations.			
Use scenario	The product is in active phase 73% of the time at 80% loading rate with a power use of 3504W and in stand-by phase 27% of the time with a power use of 87W, 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	Europe			
Energy model used	[A1 - A3]	[A5]	[B6]	[C1 - C4]
	Electricity Mix; High voltage; 2018; China, CN	Electricity Mix; High voltage; 2018; Europe, EU-27 Electricity Mix; Low voltage; 2018; United States, US Electricity Mix; High voltage; 2018; China, CN	Electricity Mix; High voltage; 2018; Europe, EU-27 Electricity Mix; Low voltage; 2018; United States, US Electricity Mix; High voltage; 2018; China, CN	Electricity Mix; High voltage; 2018; Europe, EU-27 Electricity Mix; Low voltage; 2018; United States, US Electricity Mix; High voltage; 2018; China, CN

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		APM Standard Power Module 160kW - 380...480V - APM1A0C16N401						
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	1,68E+05	4,44E+03	3,61E+01	3,54E+01	1,63E+05	4,07E+02	-6,97E+02
Contribution to climate change-fossil	kg CO2 eq	1,68E+05	4,43E+03	3,61E+01	2,55E+01	1,63E+05	4,01E+02	-6,83E+02
Contribution to climate change-biogenic	kg CO2 eq	9,57E+01	1,63E+01	0*	9,89E+00	6,35E+01	6,06E+00	-1,49E+01
Contribution to climate change-land use and land use change	kg CO2 eq	1,69E-04	6,52E-05	0*	2,22E-06	0*	1,02E-04	0,00E+00
Contribution to ozone depletion	kg CFC-11 eq	1,36E-03	4,79E-04	0*	1,80E-07	8,76E-04	3,80E-06	-1,08E-04
Contribution to acidification	mol H+ eq	1,18E+03	3,38E+01	2,28E-01	0*	1,14E+03	1,82E+00	-8,78E+00
Contribution to eutrophication, freshwater	kg (PO4) ³⁻ eq	3,36E-01	3,76E-02	0*	3,63E-04	1,05E-01	1,93E-01	-1,75E-03
Contribution to eutrophication marine	kg N eq	1,29E+02	4,62E+00	1,07E-01	1,73E-02	1,24E+02	3,24E-01	-4,37E-01
Contribution to eutrophication, terrestrial	mol N eq	1,51E+03	4,98E+01	1,17E+00	0*	1,45E+03	3,75E+00	-4,96E+00
Contribution to photochemical ozone formation - human health	kg COVNM eq	4,31E+02	1,51E+01	2,96E-01	0*	4,14E+02	1,13E+00	-1,95E+00
Contribution to resource use, minerals and metals	kg Sb eq	9,11E-01	9,01E-01	0*	0*	3,68E-03	6,12E-03	-1,56E-01
Contribution to resource use, fossils	MJ	3,00E+06	7,52E+04	5,02E+02	0*	2,91E+06	2,12E+04	-1,30E+04
Contribution to water use	m3 eq	8,47E+03	1,33E+03	0*	3,04E+00	6,88E+03	2,65E+02	-4,37E+02

Inventory flows Indicators		APM Standard Power Module 160kW - 380...480V - APM1A0C16N401						
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	3,54E+05	1,80E+03	0*	8,96E+01	3,52E+05	1,47E+02	-3,11E+02
Contribution to use of renewable primary energy resources used as raw material	MJ	5,63E+02	5,63E+02	0*	0*	0*	0*	-2,42E+02
Contribution to total use of renewable primary energy resources	MJ	3,54E+05	2,36E+03	0*	8,96E+01	3,52E+05	1,47E+02	-5,52E+02
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	3,00E+06	7,48E+04	5,02E+02	0*	2,91E+06	2,12E+04	-1,29E+04
Contribution to use of non renewable primary energy resources used as raw material	MJ	4,43E+02	4,43E+02	0*	0*	0*	0*	-1,89E+01
Contribution to total use of non-renewable primary energy resources	MJ	3,00E+06	7,52E+04	5,02E+02	0*	2,91E+06	2,12E+04	-1,30E+04
Contribution to use of secondary material	kg	4,46E+01	4,46E+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	1,97E+02	3,09E+01	0*	7,08E-02	1,60E+02	6,18E+00	-1,02E+01
Contribution to hazardous waste disposed	kg	2,31E+04	1,86E+04	0*	0*	4,53E+03	1,04E+01	-1,28E+04
Contribution to non hazardous waste disposed	kg	2,90E+04	1,62E+03	0*	1,93E+01	2,74E+04	1,50E+01	-7,14E+02
Contribution to radioactive waste disposed	kg	2,65E+00	6,35E-01	9,00E-04	1,03E-03	2,01E+00	1,50E-03	-4,63E-01
Contribution to components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*	0,00E+00
Contribution to materials for recycling	kg	1,69E+02	2,17E+01	0*	6,08E+00	0*	1,42E+02	0,00E+00
Contribution to materials for energy recovery	kg	6,00E-09	6,00E-09	0*	0*	0*	0*	0,00E+00
Contribution to exported energy	MJ	9,27E+00	1,77E+00	0*	6,10E+00	0*	1,40E+00	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	9,40E+00

Mandatory Indicators		APM Standard Power Module 160kW - 380...480V - APM1A0C16N401								
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]	
Contribution to climate change	kg CO2 eq	1,63E+05	0*	0*	0*	0*	0*	1,63E+05	0*	
Contribution to climate change-fossil	kg CO2 eq	1,63E+05	0*	0*	0*	0*	0*	1,63E+05	0*	
Contribution to climate change-biogenic	kg CO2 eq	6,35E+01	0*	0*	0*	0*	0*	6,35E+01	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	8,76E-04	0*	0*	0*	0*	0*	8,76E-04	0*	
Contribution to acidification	mol H+ eq	1,14E+03	0*	0*	0*	0*	0*	1,14E+03	0*	
Contribution to eutrophication, freshwater	kg (PO4) ³⁻ eq	1,05E-01	0*	0*	0*	0*	0*	1,05E-01	0*	
Contribution to eutrophication marine	kg N eq	1,24E+02	0*	0*	0*	0*	0*	1,24E+02	0*	
Contribution to eutrophication, terrestrial	mol N eq	1,45E+03	0*	0*	0*	0*	0*	1,45E+03	0*	
Contribution to photochemical ozone formation - human health	kg COVNM eq	4,14E+02	0*	0*	0*	0*	0*	4,14E+02	0*	
Contribution to resource use, minerals and metals	kg Sb eq	3,68E-03	0*	0*	0*	0*	0*	3,68E-03	0*	
Contribution to resource use, fossils	MJ	2,91E+06	0*	0*	0*	0*	0*	2,91E+06	0*	
Contribution to water use	m3 eq	6,88E+03	0*	0*	0*	0*	0*	6,88E+03	0*	

Inventory flows Indicators		APM Standard Power Module 160kW - 380...480V - APM1A0C16N401								
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	3,52E+05	0*	0*	0*	0*	0*	3,52E+05	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	3,52E+05	0*	0*	0*	0*	0*	3,52E+05	0*	
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	2,91E+06	0*	0*	0*	0*	0*	2,91E+06	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	2,91E+06	0*	0*	0*	0*	0*	2,91E+06	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	1,60E+02	0*	0*	0*	0*	0*	1,60E+02	0*	
Contribution to hazardous waste disposed	kg	4,53E+03	0*	0*	0*	0*	0*	4,53E+03	0*	
Contribution to non hazardous waste disposed	kg	2,74E+04	0*	0*	0*	0*	0*	2,74E+04	0*	
Contribution to radioactive waste disposed	kg	2,01E+00	0*	0*	0*	0*	0*	2,01E+00	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 v6.1, database version 2023-02 in compliance with ISO14044, EF 3.0 method is applied, for biogenic carbon storage, assessment methodology 0/0 is used

According to this environmental analysis, proportionality rules may be used to evaluate the impacts of other products of this range, ratios to apply can be provided upon request

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.

Registration number :	ENVPEP1802012_V2	Drafting rules	PCR-4-ed4-EN-2021 09 06
Date of issue	01-2025	Validity period	5 years
Independent verification of the declaration and data, in compliance with ISO 14021 : 2016			
Internal	X	External	
<p>The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain)</p> <p>PEPs are compliant with XP C08-100-1:2016 and EN 50693:2019 or NF E38-500 :2022</p> <p>The components of the present PEP may not be compared with components from any other program.</p> <p>Document complies with ISO 14021:2016 "Environmental labels and declarations. Type II environmental declarations"</p>			

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