

Product Environmental Profile

SpaceLogic PIBCV Fieldbus Actuator, SP90-24BMM (Modbus/BACnet MS-TP)





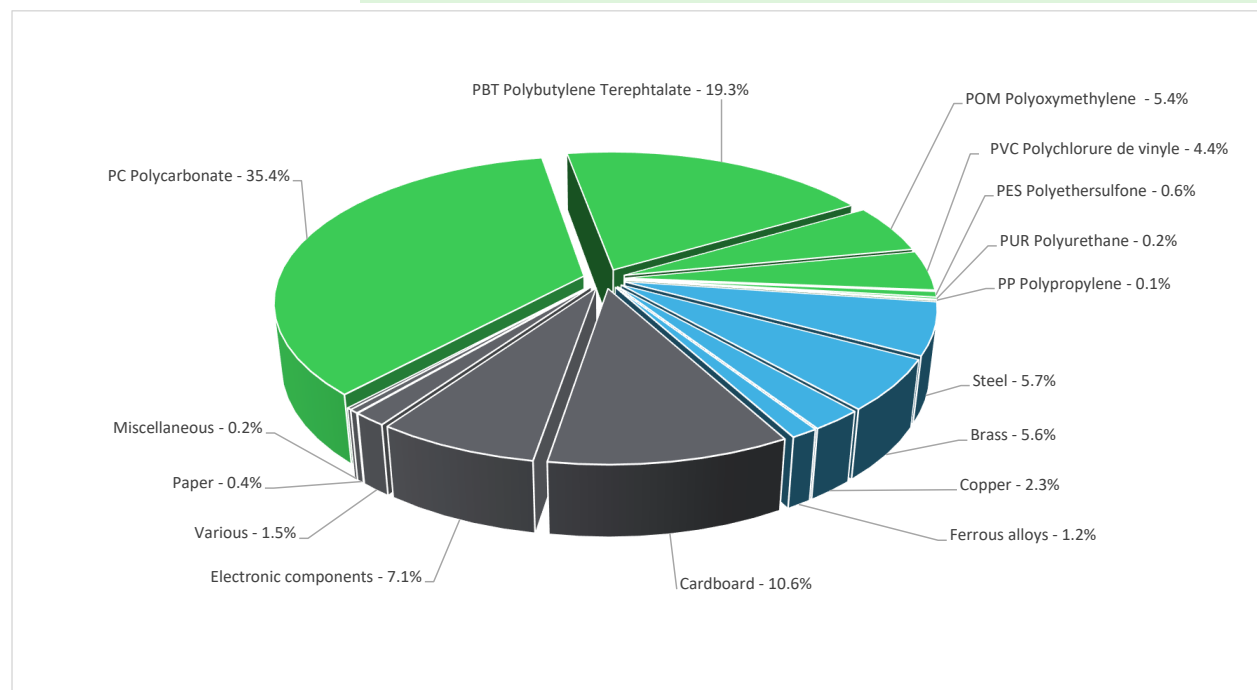
General information

Reference product	SpaceLogic PIBCV Fieldbus Actuator, SP90-24BMM (Modbus/BACnet MS-TP) - SP90-24BMM
Description of the product	The SpaceLogic SP90 PIBCV Actuators is high accuracy multi-function Fieldbus actuator, designed for use in combination with SmartX PIBCV in sizes from DN 1...32. The Actuator will control hot or chilled water for numerous HVAC equipment. The high positional accuracy of the actuator, together with the accurate linear flow characteristic of the PIBCV, allow the actuator to be used as a flow indicator. Remote commissioning/Pre-set/Flush features, Flow indication, LED status, Auto Mac addressing for and intrinsic alarm reporting for BACnet. Power Supply range: 24 Vac/dc, +/- 25%. Force: 9 N. Protection class III safety extra-low voltage, IP54 (IP4 upside-down). Max. Stroke 7 mm. EMC 24/18/EC.
Description of the range	Single product
Functional unit	The SpaceLogic SP90 PIBCV Actuator is under the scope of Automatic electrical controls (TC72) according to PSR0005. To provide precise and reliable control of heating and cooling systems when used with SmartX PIBCV valves (DN 1 to DN 32), offering high positional accuracy for flow indication, remote commissioning, preset and flush functions, LED status indication, automatic BACnet MAC addressing, and intrinsic alarm reporting to improve energy efficiency and simplify maintenance, for 10 years.
Specifications are:	Force: 21 lbf/90N Humidity: 0...90 % RH, non-condensing Stroke Running Time: 24s Control Signal: BACnet Modbus Insulation Class: Class III IP Protection Rating: IP54 Mechanical Movement: Linear Temperature Ambient Operating Range: 14...122 °F (-10...50 °C)



Constituent materials

Reference product mass	380 g	including the product, its packaging, additional elements and accessories
------------------------	-------	---



Plastics	65.4%
Others	19.8%
Metals	14.8%



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:	16%	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).
-------------	--------------------------	-----	--



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 installation requires no energy. The disposal of packaging materials is also accounted during the installation phase, including transport to disposal. The material constituents of the packaging are Cardboard(96.69%) and Plastic(3.31%).		
Use scenario	During the Use phase, SP400-24BMM Actuator operates in two defined working modes throughout its service life: it functions in active mode 6% of the time with a power consumption of 1.2 W, and in standby mode 94% of the time with a power consumption of 0.7 W. These duty-cycle assumptions represent the typical operational behaviour of the actuator in standard building-control applications. The actuator is assumed to operate continuously under these conditions for a service life of 10 years, with no maintenance, repair, or replacement required during this period. The product requires no consumables, and its indoor installation environment does not lead to additional energy or material use beyond what is reported in the operating modes.		
Time representativeness	The collected data are representative of the year The primary data are representative of the year 2025, corresponding to the most recent complete year of available production and product data.		
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.		
Interpretation	For all the impact indicators but the ODP, ADPe and GWPlu, the Use stage(B6) is the greatest contributor due to the energy losses occurring throughout the product reference service lifetime. For ADPe, the raw material and manufacturing stage(A1-A3) is the main contributor(99.63%), due to the manufacturing of Electronics, especially intergrated circuits like MCU. For ODP, the raw material and manufacturing stage(A1-A3) is the main contributor(89.75%), due to the manufacturing of Electronics, especially intergrated circuits like Power MOSFET. For GWPlu, the raw material and manufacturing stage(A1-A3) is the main contributor(99.78%), due to the manufacturing of Polycarbonate based parts To deliver overall view on waste related conclusion, Non-hazardous waste is mainly contributed by Use phase (62.81%).		
Geographical representativeness	Final assembly site	Use phase	
	Ljubljana, Slovenija	Europe, North America and APAC	
Energy model used	[A1 - A3]	[A5]	[B6]
	Electricity mix; Production mix; low voltage; 2022; Slovakia, SK	No energy used	Electricity mix; Consumption mix; Low voltage; 2022; Global, GLO Electricity mix; Consumption mix; Low voltage; 2022; Europe, EU-27 Electricity mix; Consumption mix; Low voltage; 2022; France, FR Electricity mix; Consumption mix; Low voltage; 2022; United States, US
			[C1 - C4]
			Global, European and French datasets are used. End-of-life modeling is based on generic EIME datasets representing average treatment conditions in North America, Europe and APAC.

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		SpaceLogic PIBCV Fieldbus Actuator, SP90-24BMM (Modbus/BACnet MS-TP) - SP90-24BMM						
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	3.34E+01	7.75E+00	6.97E-02	1.09E-01	2.51E+01	3.72E-01	-8.27E-02
Contribution to climate change-fossil	kg CO2 eq	3.29E+01	7.79E+00	6.97E-02	4.88E-02	2.46E+01	3.71E-01	-1.26E-01
Contribution to climate change-biogenic	kg CO2 eq	5.63E-01	-3.68E-02	0*	6.05E-02	5.38E-01	1.25E-03	4.31E-02
Contribution to climate change-land use and land use change	kg CO2 eq	2.09E-04	2.08E-04	1.05E-07	0*	0.00E+00	3.50E-07	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	1.23E-06	1.11E-06	8.46E-10	9.53E-10	1.11E-07	1.37E-08	-2.09E-08
Contribution to acidification	mol H+ eq	1.72E-01	3.65E-02	1.11E-04	1.51E-04	1.34E-01	1.44E-03	-3.89E-03
Contribution to eutrophication, freshwater	kg P eq	1.05E-04	3.87E-05	2.62E-07	1.01E-06	6.30E-05	1.79E-06	-8.44E-07
Contribution to eutrophication marine	kg N eq	2.03E-02	4.35E-03	2.06E-05	6.04E-05	1.56E-02	2.89E-04	-1.42E-04
Contribution to eutrophication, terrestrial	mol N eq	2.98E-01	4.80E-02	2.26E-04	4.40E-04	2.46E-01	3.64E-03	-1.43E-03
Contribution to photochemical ozone formation - human health	kg COVNM eq	6.62E-02	1.56E-02	7.24E-05	1.02E-04	4.96E-02	8.64E-04	-6.29E-04
Contribution to resource use, minerals and metals	kg Sb eq	2.25E-03	2.25E-03	0*	0*	8.20E-06	0*	-4.61E-05
Contribution to resource use, fossils	MJ	7.36E+02	1.14E+02	1.24E+00	4.97E-01	6.14E+02	6.78E+00	-2.28E+00
Contribution to water use	m3 eq	5.12E+00	3.15E+00	2.51E-03	6.11E-03	1.92E+00	3.25E-02	-1.98E-01

Inventory flows Indicators		SpaceLogic PIBCV Fieldbus Actuator, SP90-24BMM (Modbus/BACnet MS-TP) - SP90-24BMM						
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	1.49E+02	6.86E+00	0*	8.04E-02	1.41E+02	2.59E-01	4.24E-02
Contribution to use of renewable primary energy resources used as raw material	MJ	8.32E-01	8.32E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-6.04E-01
Contribution to total use of renewable primary energy resources	MJ	1.49E+02	7.69E+00	0*	8.04E-02	1.41E+02	2.59E-01	-5.61E-01
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	7.28E+02	1.06E+02	1.24E+00	4.97E-01	6.14E+02	6.78E+00	-2.23E+00
Contribution to use of non renewable primary energy resources used as raw material	MJ	7.71E+00	7.71E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-5.24E-02
Contribution to total use of non-renewable primary energy resources	MJ	7.36E+02	1.14E+02	1.24E+00	4.97E-01	6.14E+02	6.78E+00	-2.28E+00
Contribution to use of secondary material	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Contribution to use of renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Contribution to use of non renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Contribution to net use of freshwater	m³	1.21E-01	7.52E-02	5.85E-05	3.51E-04	4.49E-02	8.46E-04	-4.61E-03
Contribution to hazardous waste disposed	kg	4.24E+01	4.15E+01	0*	0*	7.02E-01	1.83E-01	-3.58E+00
Contribution to non hazardous waste disposed	kg	6.19E+00	2.19E+00	6.46E-03	1.74E-02	3.89E+00	9.19E-02	-6.07E-02
Contribution to radioactive waste disposed	kg	4.32E-03	3.42E-03	5.12E-06	3.14E-06	8.67E-04	2.48E-05	-2.97E-05
Contribution to components for reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Contribution to materials for recycling	kg	1.04E-01	1.32E-02	0.00E+00	3.47E-02	0.00E+00	5.62E-02	0.00E+00
Contribution to materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Contribution to exported energy	MJ	2.50E-03	8.61E-05	0.00E+00	1.85E-03	0.00E+00	5.56E-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 of C 0.00E+00

Contribution to biogenic carbon content of the associated packaging kg of C 1.20E-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		SpaceLogic PIBCV Fieldbus Actuator, SP90-24BMM (Modbus/BACnet MS-TP) - SP90-24BMM							
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to climate change	kg CO2 eq	2.51E+01	0	0.00E+00	0	0	0	2.51E+01	0
Contribution to climate change-fossil	kg CO2 eq	2.46E+01	0	0.00E+00	0	0	0	2.46E+01	0
Contribution to climate change-biogenic	kg CO2 eq	5.38E-01	0	0.00E+00	0	0	0	5.38E-01	0
Contribution to climate change-land use and land use change	kg CO2 eq	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0
Contribution to ozone depletion	kg CFC-11 eq	1.11E-07	0	0.00E+00	0	0	0	1.11E-07	0
Contribution to acidification	mol H+ eq	1.34E-01	0	0.00E+00	0	0	0	1.34E-01	0
Contribution to eutrophication, freshwater	kg P eq	6.30E-05	0	0.00E+00	0	0	0	6.30E-05	0
Contribution to eutrophication marine	kg N eq	1.56E-02	0	0.00E+00	0	0	0	1.56E-02	0
Contribution to eutrophication, terrestrial	mol N eq	2.46E-01	0	0.00E+00	0	0	0	2.46E-01	0
Contribution to photochemical ozone formation - human health	kg COVNM eq	4.96E-02	0	0.00E+00	0	0	0	4.96E-02	0
Contribution to resource use, minerals and metals	kg Sb eq	8.20E-06	0	0.00E+00	0	0	0	8.20E-06	0
Contribution to resource use, fossils	MJ	6.14E+02	0	0.00E+00	0	0	0	6.14E+02	0
Contribution to water use	m3 eq	1.92E+00	0	0.00E+00	0	0	0	1.92E+00	0

Inventory flows Indicators		SpaceLogic PIBCV Fieldbus Actuator, SP90-24BMM (Modbus/BACnet MS-TP) - SP90-24BMM							
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	1.41E+02	0	0.00E+00	0	0	0	1.41E+02	0
Contribution to use of renewable primary energy resources used as raw material	MJ	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0
Contribution to total use of renewable primary energy resources	MJ	1.41E+02	0	0.00E+00	0	0	0	1.41E+02	0
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	6.14E+02	0	0.00E+00	0	0	0	6.14E+02	0
Contribution to use of non renewable primary energy resources used as raw material	MJ	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0
Contribution to total use of non-renewable primary energy resources	MJ	6.14E+02	0	0.00E+00	0	0	0	6.14E+02	0
Contribution to use of secondary material	kg	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0
Contribution to use of renewable secondary fuels	MJ	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0
Contribution to use of non renewable secondary fuels	MJ	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0
Contribution to net use of freshwater	m³	4.49E-02	0	0.00E+00	0	0	0	4.49E-02	0
Contribution to hazardous waste disposed	kg	7.02E-01	0	0.00E+00	0	0	0	7.02E-01	0
Contribution to non hazardous waste disposed	kg	3.89E+00	0	0.00E+00	0	0	0	3.89E+00	0
Contribution to radioactive waste disposed	kg	8.67E-04	0	0.00E+00	0	0	0	8.67E-04	0
Contribution to components for reuse	kg	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0
Contribution to materials for recycling	kg	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0
Contribution to materials for energy recovery	kg	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0
Contribution to exported energy	MJ	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	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.

Registration number :	SCHN-02430-V01.01-EN	Drafting rules	PEP-PCR-ed4-2021 09 06
		Supplemented by	PSR-0005-ed3.1-EN-2023 12 08
Verifier accreditation N°	VH75	Information and reference documents	www.pep-ecopassport.org
Date of issue	08-2026	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"			



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

Published by Schneider Electric

SCHN-02430-V01.01-EN

©2024 - Schneider Electric – All rights reserved

08-2026