

# Product Environmental Profile

**MP125 Thermal Valve Actuator, 0-10 Vdc proportional control, 24 Vdc supply, IP54**





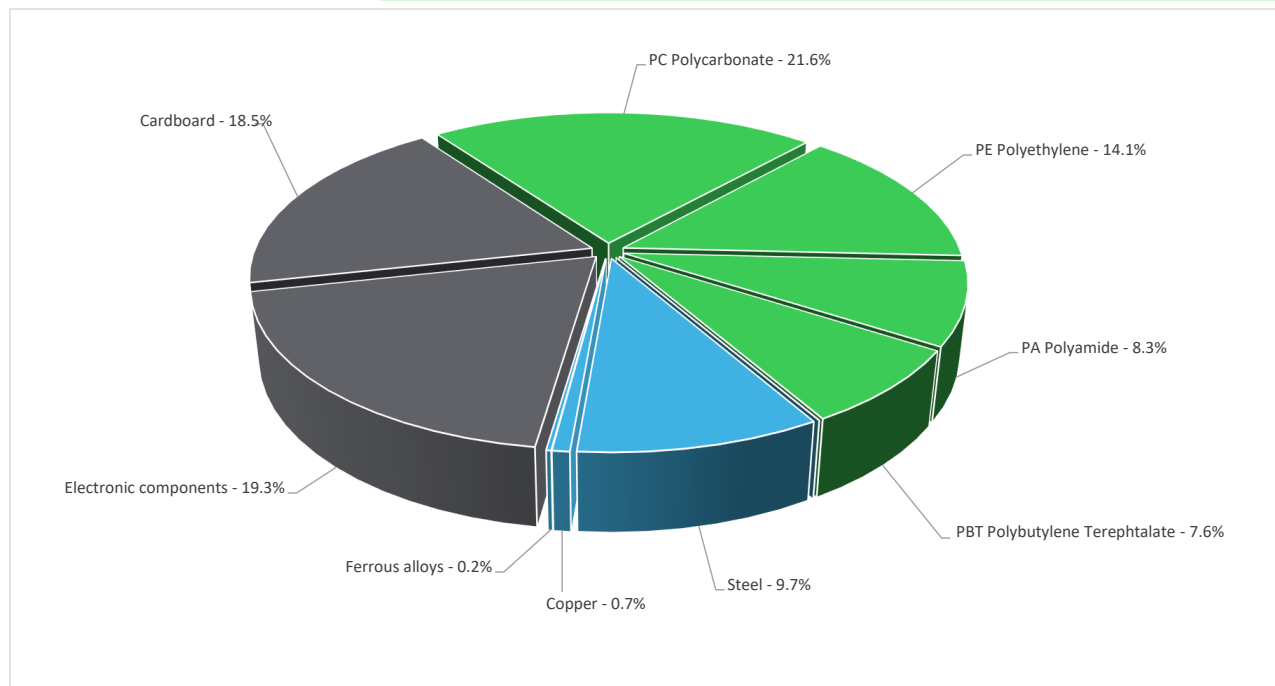
## General information

Reference product	MP125 Thermal Valve Actuator, 0-10 Vdc proportional control, 24 Vdc supply, IP54 - MP125NC24DCM
Description of the product	The SpaceLogic MP125 Valve actuator is a proportional modulating actuators fitting to many valves. The actuator will calibrate to a valve stroke of between 1.0 and 6.5 mm. The control signal to position this actuator is of the 0-10 Vdc type. The effective operating range is 0.5V to 9.5V. The Actuator will allow flow through the valve when it is first mounted, this allows the system to be flushed and re-dosed. Upon first power up the actuator first learns the stroke of the valve before becoming operational. The actuator is IP54 for mounting in any orientation, safe from condensation and leaking valves. There is an anti-theft feature which stops the actuator being removed from the valve.
Description of the range	Single product
Functional unit	The MP125 Thermal Actuator is under the scope of Automatic electrical controls (TC72) according to PSR0005. To provide precise and reliable continuous control of heating and cooling systems by offering multiple ranges(1.0 and 6.5 mm) of valve stroke calibration and straightforward position indicator, allowing for use in quiet application, for 10 years.
Specifications are:	<p>Operating voltage: AC 24 Vac, -10% to +20 %, 50-60 Hz          Operating voltage: DC1 24 Vdc +/- 15%          Max. inrush current: &lt; 320 mA for max. 2 min.          Max. stroke: 6.5 mm (0.3 in)          Calibrated stroke range: 1.0 to 6.5 mm (0.04 to 0.3 in)          Actuating force: 125 N          Fluid temperature: 0 to 100 °C (32 to 212 °F)          Storage temperature: -25 to 60 °C (-13 to 140 °F)          Ambient temperature: 0 to 60 °C (32 to 140 °F)          Degree of protection: IP 542          Protection class III          Electrical conformity: EN/UL 60730</p>



## Constituent materials

Reference product mass	162.42 g including the product, its packaging, additional elements and accessories
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Plastics	51.6%
Others	37.8%
Metals	10.6%



## Substance assessment

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

## Additional environmental information

<b>End Of Life</b>	Recyclability potential:	<b>19%</b>	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

<b>Reference service life time</b>	10 years			
<b>Product category</b>	Other equipments - Active product			
<b>Life cycle of the product</b>	The manufacturing, the distribution, the installation, the use and the end of life were taken into consideration in this study			
<b>Electricity consumption</b>	The electricity consumed during manufacturing processes is considered for each part of the product individually, the final assembly generates a negligible consumption			
<b>Installation elements</b>	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.			
<b>Use scenario</b>	During the use phase, MP125 Thermo Actuator operates in two defined modes throughout its service life: it functions in active mode 80% of the time with a power consumption of 1.2 W, and in standby mode 20% of the time with a power consumption of 0.3 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.			
<b>Time representativeness</b>	The collected data are representative of the year Data collection is valid from January 2025 to February 2026 when this study started.			
<b>Technological representativeness</b>	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.			
<b>Geographical representativeness</b>	<b>Final assembly site</b>	<b>Use phase</b>		<b>End-of-life</b>
	Poland, Europe	Asia Pacific, Europe, North America and Australia		Asia Pacific, Europe, North America and Australia
<b>Energy model used</b>	[A1 - A3]	[A5]	[B6]	[C1 - C4]
	Electricity Mix; Low voltage; 2020; Poland, PL	No energy used	Electricity Mix; Low voltage; 2020; Europe, EU-27 Electricity Mix; Low voltage; 2020; China, CN Electricity Mix; Low voltage; 2020; United States, US	Global, European and French datasets are used.

Detailed results of the optional indicators mentioned in PCRd4 are available in the LCA report and on demand in a digital format - Country Customer Care Center - <http://www.se.com/contact>

Mandatory Indicators		MP125 Thermal Valve Actuator, 0-10 Vdc proportional control, 24 Vdc supply, IP54 - MP125NC24DCM						
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	3.82E+01	1.20E+00	2.97E-02	7.78E-02	3.68E+01	1.08E-01	-8.10E-02
Contribution to climate change-fossil	kg CO2 eq	3.75E+01	1.24E+00	2.97E-02	3.50E-02	3.61E+01	1.08E-01	-7.90E-02
Contribution to climate change-biogenic	kg CO2 eq	7.79E-01	0*	0*	4.28E-02	7.77E-01	4.29E-04	-1.92E-03
Contribution to climate change-land use and land use change	kg CO2 eq	5.38E-05	5.37E-05	4.49E-08	0*	0*	5.57E-08	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	2.83E-07	1.19E-07	3.60E-10	4.74E-10	1.59E-07	3.75E-09	-1.51E-08
Contribution to acidification	mol H+ eq	2.03E-01	7.79E-03	4.73E-05	1.02E-04	1.95E-01	4.85E-04	-1.84E-03
Contribution to eutrophication, freshwater	kg P eq	9.85E-05	1.21E-05	1.11E-07	7.34E-07	8.52E-05	3.35E-07	-1.21E-07
Contribution to eutrophication marine	kg N eq	2.38E-02	8.91E-04	8.71E-06	4.32E-05	2.28E-02	9.75E-05	-5.69E-05
Contribution to eutrophication, terrestrial	mol N eq	3.70E-01	9.74E-03	9.56E-05	3.11E-04	3.59E-01	1.25E-03	-6.66E-04
Contribution to photochemical ozone formation - human health	kg COVNM eq	7.62E-02	3.48E-03	3.07E-05	7.10E-05	7.24E-02	2.89E-04	-3.09E-04
Contribution to resource use, minerals and metals	kg Sb eq	2.42E-04	2.30E-04	0*	0*	1.16E-05	0*	-3.37E-05
Contribution to resource use, fossils	MJ	8.98E+02	2.28E+01	5.29E-01	3.38E-01	8.73E+02	1.67E+00	-1.74E+00
Contribution to water use	m3 eq	3.24E+00	4.75E-01	1.07E-03	2.82E-03	2.75E+00	9.53E-03	-9.86E-02

Inventory flows Indicators		MP125 Thermal Valve Actuator, 0-10 Vdc proportional control, 24 Vdc supply, IP54 - MP125NC24DCM						
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	2.01E+02	1.00E+00	0*	4.59E-02	2.00E+02	9.49E-02	-4.94E-02
Contribution to use of renewable primary energy resources used as raw material	MJ	6.10E-01	6.10E-01	0*	0*	0*	0*	0.00E+00
Contribution to total use of renewable primary energy resources	MJ	2.02E+02	1.61E+00	0*	4.59E-02	2.00E+02	9.49E-02	-4.94E-02
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	8.94E+02	1.89E+01	5.29E-01	3.38E-01	8.73E+02	1.67E+00	-1.74E+00
Contribution to use of non renewable primary energy resources used as raw material	MJ	3.86E+00	3.86E+00	0*	0*	0*	0*	0.00E+00
Contribution to total use of non-renewable primary energy resources	MJ	8.98E+02	2.28E+01	5.29E-01	3.38E-01	8.73E+02	1.67E+00	-1.74E+00
Contribution to use of secondary material	kg	0.00E+00	0*	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	7.64E-02	1.16E-02	2.49E-05	2.18E-04	6.43E-02	2.62E-04	-2.30E-03
Contribution to hazardous waste disposed	kg	4.27E+00	3.21E+00	0*	1.86E-03	1.01E+00	4.30E-02	-2.63E+00
Contribution to non hazardous waste disposed	kg	5.96E+00	3.22E-01	2.75E-03	1.24E-02	5.59E+00	3.47E-02	-5.09E-02
Contribution to radioactive waste disposed	kg	1.41E-03	1.26E-04	2.18E-06	2.23E-06	1.27E-03	5.52E-06	-2.38E-05
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	5.52E-02	5.71E-03	0*	2.46E-02	0*	2.49E-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	1.50E-03	2.71E-05	0*	1.31E-03	0*	1.67E-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	8.40E-03

\* 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		MP125 Thermal Valve Actuator, 0-10 Vdc proportional control, 24 Vdc supply, IP54 - MP125NC24DCM							
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to climate change	kg CO2 eq	3.68E+01	0	0	0	0	0	3.68E+01	0
Contribution to climate change-fossil	kg CO2 eq	3.61E+01	0	0	0	0	0	3.61E+01	0
Contribution to climate change-biogenic	kg CO2 eq	7.77E-01	0	0	0	0	0	7.77E-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	1.59E-07	0	0	0	0	0	1.59E-07	0
Contribution to acidification	mol H+ eq	1.95E-01	0	0	0	0	0	1.95E-01	0
Contribution to eutrophication, freshwater	kg P eq	8.52E-05	0	0	0	0	0	8.52E-05	0
Contribution to eutrophication marine	kg N eq	2.28E-02	0	0	0	0	0	2.28E-02	0
Contribution to eutrophication, terrestrial	mol N eq	3.59E-01	0	0	0	0	0	3.59E-01	0
Contribution to photochemical ozone formation - human health	kg COVNM eq	7.24E-02	0	0	0	0	0	7.24E-02	0
Contribution to resource use, minerals and metals	kg Sb eq	1.16E-05	0	0	0	0	0	1.16E-05	0
Contribution to resource use, fossils	MJ	8.73E+02	0	0	0	0	0	8.73E+02	0
Contribution to water use	m3 eq	2.75E+00	0	0	0	0	0	2.75E+00	0

Inventory flows Indicators		MP125 Thermal Valve Actuator, 0-10 Vdc proportional control, 24 Vdc supply, IP54 - MP125NC24DCM							
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	2.00E+02	0	0	0	0	0	2.00E+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	2.00E+02	0	0	0	0	0	2.00E+02	0
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	8.73E+02	0	0	0	0	0	8.73E+02	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	8.73E+02	0	0	0	0	0	8.73E+02	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	6.43E-02	0	0	0	0	0	6.43E-02	0
Contribution to hazardous waste disposed	kg	1.01E+00	0	0	0	0	0	1.01E+00	0
Contribution to non hazardous waste disposed	kg	5.59E+00	0	0	0	0	0	5.59E+00	0
Contribution to radioactive waste disposed	kg	1.27E-03	0	0	0	0	0	1.27E-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.

Registration number :	SCHN-02318-V01.01-EN	Drafting rules	PEP-PCR-ed4-2021 09 06
		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	2026-03	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"			
			

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