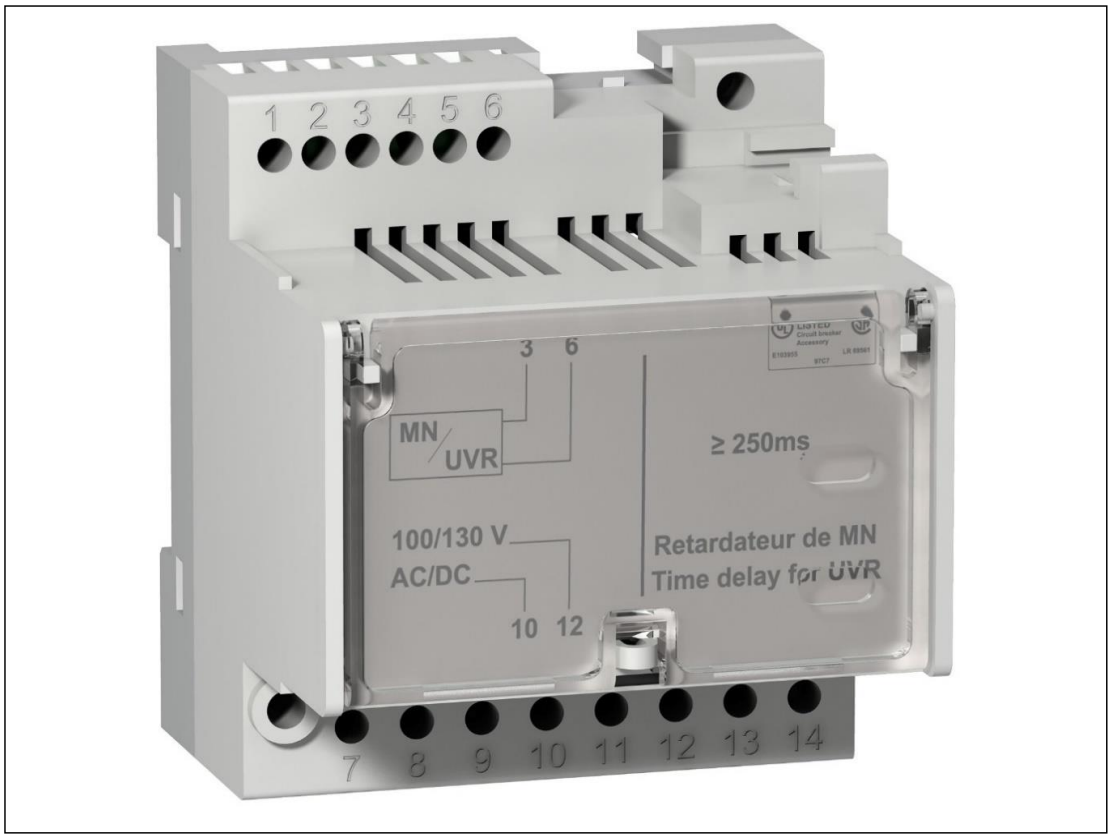
Product Environmental Profile

MN delay unit, MasterPact MTZ, fixed time delay 0.25s, 100/130VDC, 100/130VAC 50/60Hz, spare part

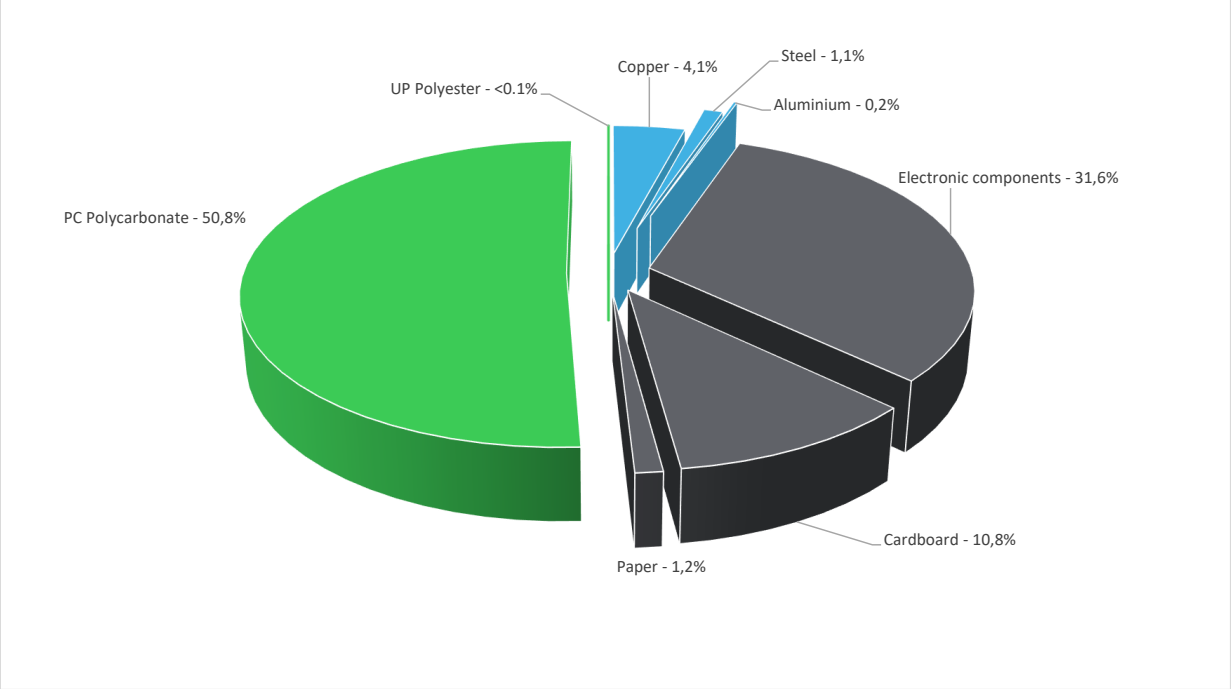


General information

Reference product	MN delay unit, MasterPact MTZ, fixed time delay 0.25s, 100/130VDC, 100/130VAC 50/60Hz, spare part - LV833684SP
Description of the product	To reduce circuit breaker nuisance opening during short voltage drops, MN delay units can be installed to delay the MN undervoltage release and only trigger the voltage release when voltage is low for a certain period of time. For MN, it also opens the circuit breaker when its supply voltage drops to a value between 35 % and 70 % of its rated voltage. Circuit breaker closing is possible only when the supply voltage of the voltage release returns to 85 % of its rated value. It can be disabled by an emergency OFF button to obtain instantaneous opening of the circuit breaker. Non-adjustable / Simplified version operates with a single timer of 0.25s
Description of the range	Single product
Unité fonctionnelle	Other switchgear and controlgear solutions mentioned in the scope (e.g. fuses TC32, all-or-nothing relays TC94, Measuring relays and protection equipment TC95), apply the general rules of PCR and mention in the accompanying report the functional unit, the reference product characteristics, the reference lifetime and the use scenario which are applied consistently with the relevant IEC technical standards. To ensure the delayed opening of one MasterPact MTZ circuit-breaker by 0.25 s when the supply voltage of 100-130 V AC/DC 50/60 Hz drops to a value between 35% and 70% of its rated votlage, using one MN delay unit (mass ≈ 166.6 g, primary packaging included) over a reference service life of 10 years, in accordance with IEC 60947-2.

Constituent materials

Reference product mass	166,6 g	including the product, its packaging, additional elements and accessories



Plastics	50,8%
Others	43,6%
Metals	5,4%

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:	**6,77%**	The recyclability rate was calculated from the recycling rates of each material making up the product based on REEECY'LAB 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 negligable consumption			
Installation elements	The product does not require any installation operations			
Use scenario	Consumptions : Active mode : 4,5W => 0,00095% of line Standby : 3W => 99,99905 of line			
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	**Final assembly site**	**Use phase**		**End-of-life**
	Angoulême, Les agriers, France	At least in Europe		At least in Europe
Energy model used	**[A1 - A3]**	**[A5]**	**[B6]**	**[C1 - C4]**
	Electricity Mix; Low voltage; 2020; France, FR	No energy used	Electricity Mix; Low voltage; 2020; Europe, EU-27	Global, European and French datasets are used.

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		**MN delay unit, MasterPact MTZ, fixed time delay 0.25s, 100/130VDC, 100/130VAC 50/60Hz, spare part - LV833684SP**						
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	1,10E+02	2,94E+00	2,17E-02	0*	1,06E+02	4,14E-01	-3,11E-02
Contribution to climate change-fossil	kg CO2 eq	1,07E+02	2,96E+00	2,17E-02	0*	1,04E+02	4,12E-01	-4,87E-03
Contribution to climate change-biogenic	kg CO2 eq	2,33E+00	0*	0*	0*	2,35E+00	2,09E-03	-2,62E-02
Contribution to climate change-land use and land use change	kg CO2 eq	9,97E-05	9,97E-05	0*	0*	0*	0*	0,00E+00
Contribution to ozone depletion	kg CFC-11 eq	8,38E-07	3,82E-07	0*	0*	4,55E-07	9,98E-10	-5,57E-09
Contribution to acidification	mol H+ eq	5,72E-01	1,55E-02	1,40E-04	0*	5,56E-01	3,44E-04	-1,09E-03
Contribution to eutrophication, freshwater	kg P eq	2,66E-04	1,07E-05	0*	0*	2,54E-04	1,27E-06	2,87E-07
Contribution to eutrophication marine	kg N eq	6,71E-02	1,85E-03	6,58E-05	0*	6,51E-02	1,38E-04	1,11E-05
Contribution to eutrophication, terrestrial	mol N eq	1,07E+00	2,08E-02	7,22E-04	0*	1,04E+00	1,50E-03	1,12E-05
Contribution to photochemical ozone formation - human health	kg COVNM eq	2,13E-01	6,18E-03	1,82E-04	0*	2,06E-01	3,65E-04	-7,92E-05
Contribution to resource use, minerals and metals	kg Sb eq	4,00E-04	3,66E-04	0*	0*	3,44E-05	0*	-1,33E-05
Contribution to resource use, fossils	MJ	2,59E+03	3,93E+01	3,04E-01	0*	2,55E+03	7,33E-01	-2,32E-01
Contribution to water use	m3 eq	9,55E+00	1,47E+00	0*	1,84E-03	8,05E+00	2,56E-02	-5,37E-02

Inventory flows Indicators		MN delay unit, MasterPact MTZ, fixed time delay 0.25s, 100/130VDC, 100/130VAC 50/60Hz, spare part - LV833684SP						
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	6,00E+02	3,44E+00	0*	0*	5,97E+02	0*	-1,06E-01
Contribution to use of renewable primary energy resources used as raw material	MJ	1,57E-01	1,57E-01	0*	0*	0*	0*	3,14E-01
Contribution to total use of renewable primary energy resources	MJ	6,00E+02	3,59E+00	0*	0*	5,97E+02	0*	2,08E-01
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	2,59E+03	3,66E+01	3,04E-01	0*	2,55E+03	7,33E-01	-2,32E-01
Contribution to use of non renewable primary energy resources used as raw material	MJ	2,72E+00	2,72E+00	0*	0*	0*	0*	0,00E+00
Contribution to total use of non-renewable primary energy resources	MJ	2,59E+03	3,93E+01	3,04E-01	0*	2,55E+03	7,33E-01	-2,32E-01
Contribution to use of secondary material	kg	2,23E-02	2,23E-02	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	m^3	2,23E-01	3,41E-02	0*	4,27E-05	1,88E-01	6,10E-04	-1,25E-03
Contribution to hazardous waste disposed	kg	6,77E+00	3,79E+00	0*	0*	2,93E+00	5,42E-02	-1,03E+00
Contribution to non hazardous waste disposed	kg	1,75E+01	1,33E+00	0*	1,97E-02	1,60E+01	1,02E-01	-2,98E-03
Contribution to radioactive waste disposed	kg	4,56E-03	7,83E-04	5,44E-07	0*	3,77E-03	4,32E-06	-5,02E-06
Contribution to components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*	0,00E+00
Contribution to materials for recycling	kg	1,18E-02	1,59E-03	0*	0*	0*	1,02E-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	1,72E-04	1,52E-05	0*	0*	0*	1,57E-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	5,48E-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		MN delay unit, MasterPact MTZ, fixed time delay 0.25s, 100/130VDC, 100/130VAC 50/60Hz, spare part - LV833684SP							
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to climate change	kg CO2 eq	1,06E+02	0*	0*	0*	0*	0*	1,06E+02	0*
Contribution to climate change-fossil	kg CO2 eq	1,04E+02	0*	0*	0*	0*	0*	1,04E+02	0*
Contribution to climate change-biogenic	kg CO2 eq	2,35E+00	0*	0*	0*	0*	0*	2,35E+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	4,55E-07	0*	0*	0*	0*	0*	4,55E-07	0*
Contribution to acidification	mol H+ eq	5,56E-01	0*	0*	0*	0*	0*	5,56E-01	0*
Contribution to eutrophication, freshwater	kg P eq	2,54E-04	0*	0*	0*	0*	0*	2,54E-04	0*
Contribution to eutrophication marine	kg N eq	6,51E-02	0*	0*	0*	0*	0*	6,51E-02	0*
Contribution to eutrophication, terrestrial	mol N eq	1,04E+00	0*	0*	0*	0*	0*	1,04E+00	0*
Contribution to photochemical ozone formation - human health	kg COVNM eq	2,06E-01	0*	0*	0*	0*	0*	2,06E-01	0*
Contribution to resource use, minerals and metals	kg Sb eq	3,44E-05	0*	0*	0*	0*	0*	3,44E-05	0*
Contribution to resource use, fossils	MJ	2,55E+03	0*	0*	0*	0*	0*	2,55E+03	0*
Contribution to water use	m3 eq	8,05E+00	0*	0*	0*	0*	0*	8,05E+00	0*

Inventory flows Indicators		MN delay unit, MasterPact MTZ, fixed time delay 0.25s, 100/130VDC, 100/130VAC 50/60Hz, spare part - LV833684SP							
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	5,97E+02	0*	0*	0*	0*	0*	5,97E+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	5,97E+02	0*	0*	0*	0*	0*	5,97E+02	0*
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	2,55E+03	0*	0*	0*	0*	0*	2,55E+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	2,55E+03	0*	0*	0*	0*	0*	2,55E+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	m^3	1,88E-01	0*	0*	0*	0*	0*	1,88E-01	0*
Contribution to hazardous waste disposed	kg	2,93E+00	0*	0*	0*	0*	0*	2,93E+00	0*
Contribution to non hazardous waste disposed	kg	1,60E+01	0*	0*	0*	0*	0*	1,60E+01	0*
Contribution to radioactive waste disposed	kg	3,77E-03	0*	0*	0*	0*	0*	3,77E-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-01089-V02.01-EN	*Drafting rules*	PEP-PCR-ed4-2021 09 06
		Supplemented by	PSR-0005-ed3.1-EN-2023 12 08
Verifier accreditation N°	VH08	*Information and reference documents*	www.pep-ecopassport.org
Date of issue	07-2025	*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 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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