

# Product Environmental Profile

## Harmony RE22 Timer Relay

### Range Consists of RE22R Series Relays





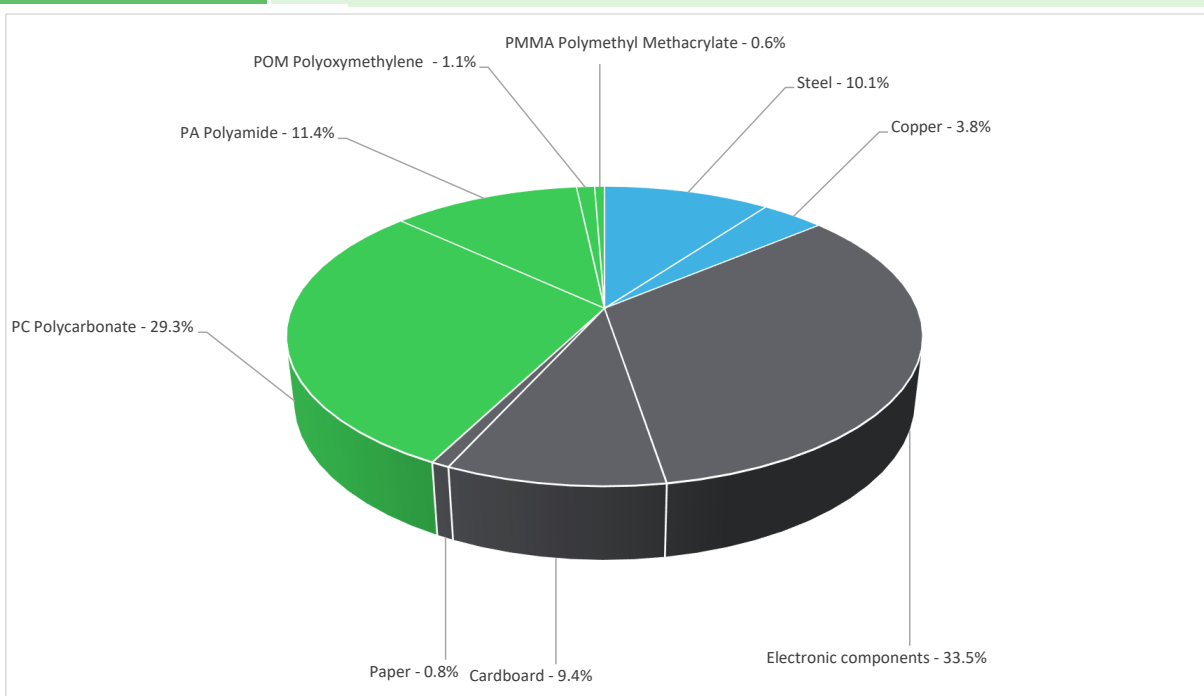
## General information

Reference product	Harmony RE22 Timer Relay - RE22R2MMW
Description of the product	The product is a control relay with a time delay built in. The main purpose of the product is to time events in industrial automation system by closing or opening contacts before during or after a set timing period.
Description of the range	<p>Harmony RE22R relays are provided with 2CO contact and it's timing range 0.1s to 100h, supply voltage 12V to 240Vacdc and rated current 8A. This range consists of RE22R series of timing relays designed for mounting on DIN rails. Input voltage range from 24 to 440 volts, output is either single or multi-timing from 50 ms to 999 hrs. Type of output is 1 or 2CO contact and rated current range 0.7 to 8A.</p> <p>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.</p>
Functional unit	To control an event based on time with the contacts switch ON or OFF before or after some period of the time to control automation industrial system during 10 years of lifetime with a 80% use rate and product is adhering to standards IEC 61812-1, IEC 61000-6-1.
Specifications are:	<p>IP degree of protection :</p> <p>IP20 terminal block: conforming to IEC 60529  IP40 front face: conforming to IEC 60529  IP40 housing: conforming to IEC 60529</p> <p>Vibration resistance :</p> <p>20 m/s<sup>2</sup> (f= 10...150 Hz) conforming to IEC 60068-2-6</p> <p>Shock resistance :</p> <p>15 gn for 11 ms conforming to IEC 60068-2-27</p> <p>Relative humidity:</p> <p>93 %, without condensation conforming to IEC 60068-2-30</p>



## Constituent materials

Reference product mass	105.2 g including the product, its packaging, additional elements and accessories
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Plastics	42.40%
Metals	13.90%
Others	43.70%

## 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:	15%	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

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 does not require any installation operations			
Use scenario	The product is in active mode 80% of the time with a power use of 1.5 W and 20% of the time with off mode with power use of 0W 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; High voltage; 2020; Indonesia, ID	Electricity Mix; Low voltage; 2020; Europe, EU-27	Electricity Mix; Low voltage; 2020; Europe, EU-27	Electricity Mix; Low voltage; 2020; Europe, EU-27
		Electricity Mix; Low voltage; 2020; Asia Pacific, APAC	Electricity Mix; Low voltage; 2020; Asia Pacific, APAC	Electricity Mix; Low voltage; 2020; Asia Pacific, APAC
		Electricity Mix; Low voltage; 2020; United States, US	Electricity Mix; Low voltage; 2020; United States, US	Electricity Mix; Low voltage; 2020; United States, US
		Electricity Mix; Low voltage; 2020; Brazil, BR	Electricity Mix; Low voltage; 2020; Brazil, BR	Electricity Mix; Low voltage; 2020; Brazil, BR

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			Harmony RE22 Timer Relay - RE22R2MMW					
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	5.14E+01	2.78E+00	1.29E-01	0*	4.82E+01	2.75E-01	-5.00E-02
Contribution to climate change-fossil	kg CO2 eq	5.13E+01	2.79E+00	1.29E-01	0*	4.81E+01	2.74E-01	-4.92E-02
Contribution to climate change-biogenic	kg CO2 eq	4.80E-02	0*	0*	0*	5.86E-02	8.33E-04	-8.87E-04
Contribution to climate change-land use and land use change	kg CO2 eq	3.86E-05	3.86E-05	0*	0*	0*	1.38E-08	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	8.07E-07	4.54E-07	1.14E-07	0*	2.38E-07	6.33E-10	-8.68E-09
Contribution to acidification	mol H+ eq	3.06E-01	1.91E-02	5.33E-04	0*	2.86E-01	3.69E-04	-9.04E-04
Contribution to eutrophication, freshwater	kg (PO4) <sup>3-</sup> eq	1.19E-04	1.89E-05	1.51E-08	0*	7.30E-05	2.69E-05	-7.40E-08
Contribution to eutrophication, marine	kg N eq	3.55E-02	2.29E-03	2.42E-04	0*	3.28E-02	1.09E-04	-3.35E-05
Contribution to eutrophication, terrestrial	mol N eq	4.85E-01	2.43E-02	2.63E-03	0*	4.56E-01	1.20E-03	-3.91E-04
Contribution to photochemical ozone formation - human health	kg COVNM eq	1.16E-01	8.31E-03	8.77E-04	0*	1.06E-01	3.14E-04	-1.71E-04
Contribution to resource use, minerals and metals	kg Sb eq	7.40E-04	7.27E-04	0*	0*	1.19E-05	8.46E-07	-1.86E-05
Contribution to resource use, fossils	MJ	1.06E+03	3.85E+01	1.61E+00	0*	1.02E+03	2.68E+00	-1.11E+00
Contribution to water use	m3 eq	4.08E+00	7.91E-01	6.55E-03	1.02E-03	3.24E+00	4.55E-02	-5.00E-02

Inventory flows Indicators			Harmony RE22 Timer Relay - RE22R2MMW					
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 renewable primary energy used as energy	MJ	2.18E+02	1.17E+00	0*	0*	2.17E+02	0*	-2.47E-02
Contribution to renewable primary energy used as raw material	MJ	4.77E-02	4.77E-02	0*	0*	0*	0*	0.00E+00
Contribution to total renewable primary energy	MJ	2.18E+02	1.21E+00	0*	0*	2.17E+02	0*	-2.47E-02
Contribution to non renewable primary energy used as energy	MJ	1.06E+03	3.67E+01	1.61E+00	0*	1.02E+03	2.68E+00	-1.11E+00
Contribution to non renewable primary energy used as raw material	MJ	1.74E+00	1.74E+00	0*	0*	0*	0*	0.00E+00
Contribution to total non renewable primary energy	MJ	1.06E+03	3.85E+01	1.61E+00	0*	1.02E+03	2.68E+00	-1.11E+00
Contribution to use of secondary material	kg	9.87E-03	9.87E-03	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 fresh water	m³	9.55E-02	1.84E-02	1.53E-04	2.38E-05	7.58E-02	1.06E-03	-1.16E-03
Contribution to hazardous waste disposed	kg	5.62E+00	3.89E+00	0*	0*	1.69E+00	3.65E-02	-1.54E+00
Contribution to non hazardous waste disposed	kg	9.40E+00	9.02E-01	0*	1.12E-02	8.44E+00	5.03E-02	-3.46E-02
Contribution to radioactive waste disposed	kg	1.78E-03	4.36E-04	2.57E-05	0*	1.32E-03	2.16E-06	-1.60E-05
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	6.36E-02	4.88E-02	0*	0*	0*	1.48E-02	0.00E+00
Contribution to materials for energy recovery	kg	1.37E-08	1.37E-08	0*	0*	0*	0*	0.00E+00
Contribution to exported energy	MJ	1.60E-04	1.33E-05	0*	0*	0*	1.47E-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      3.22E-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		Harmony RE22 Timer Relay - RE22R2MMW							
Impact indicators	Unit	[B1 - B7] - Use	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]
Contribution to climate change	kg CO2 eq	4.82E+01	0*	0*	0*	0*	0*	4.82E+01	0*
Contribution to climate change-fossil	kg CO2 eq	4.81E+01	0*	0*	0*	0*	0*	4.81E+01	0*
Contribution to climate change-biogenic	kg CO2 eq	5.86E-02	0*	0*	0*	0*	0*	5.86E-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	2.38E-07	0*	0*	0*	0*	0*	2.38E-07	0*
Contribution to acidification	mol H+ eq	2.86E-01	0*	0*	0*	0*	0*	2.86E-01	0*
Contribution to eutrophication, freshwater	kg (PO4)³⁻ eq	7.30E-05	0*	0*	0*	0*	0*	7.30E-05	0*
Contribution to eutrophication marine	kg N eq	3.28E-02	0*	0*	0*	0*	0*	3.28E-02	0*
Contribution to eutrophication, terrestrial	mol N eq	4.56E-01	0*	0*	0*	0*	0*	4.56E-01	0*
Contribution to photochemical ozone formation - human health	kg COVNM eq	1.06E-01	0*	0*	0*	0*	0*	1.06E-01	0*
Contribution to resource use, minerals and metals	kg Sb eq	1.19E-05	0*	0*	0*	0*	0*	1.19E-05	0*
Contribution to resource use, fossils	MJ	1.02E+03	0*	0*	0*	0*	0*	1.02E+03	0*
Contribution to water use	m³ eq	3.24E+00	0*	0*	0*	0*	0*	3.24E+00	0*

Inventory flows Indicators		Harmony RE22 Timer Relay - RE22R2MMW							
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	2.17E+02	0*	0*	0*	0*	0*	2.17E+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	2.17E+02	0*	0*	0*	0*	0*	2.17E+02	0*
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	1.02E+03	0*	0*	0*	0*	0*	1.02E+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	1.02E+03	0*	0*	0*	0*	0*	1.02E+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	7.58E-02	0*	0*	0*	0*	0*	7.58E-02	0*
Contribution to hazardous waste disposed	kg	1.69E+00	0*	0*	0*	0*	0*	1.69E+00	0*
Contribution to non hazardous waste disposed	kg	8.44E+00	0*	0*	0*	0*	0*	8.44E+00	0*
Contribution to radioactive waste disposed	kg	1.32E-03	0*	0*	0*	0*	0*	1.32E-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 v6.2.2, database version 2024-01 in compliance with ISO14044, EF3.1 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.

Registration number :	ENVPEP2502020_V1	Drafting rules	PCR-4-ed4-EN-2021 09 06
Date of issue	02-2025	Supplemented by	PSR-0005-ed3.1-EN-2023 12 08
		Information and reference documents	<a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>
		Validity period	5 years
Independent verification of the declaration and data, in compliance with ISO 14021 : 2016			
Internal <input checked="" type="checkbox"/> External <input type="checkbox"/>			
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 14021:2016 "Environmental labels and declarations. Type II environmental declarations"			

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