Product Environmental Profile

PowerLogic A3 - Arc Flash Detection

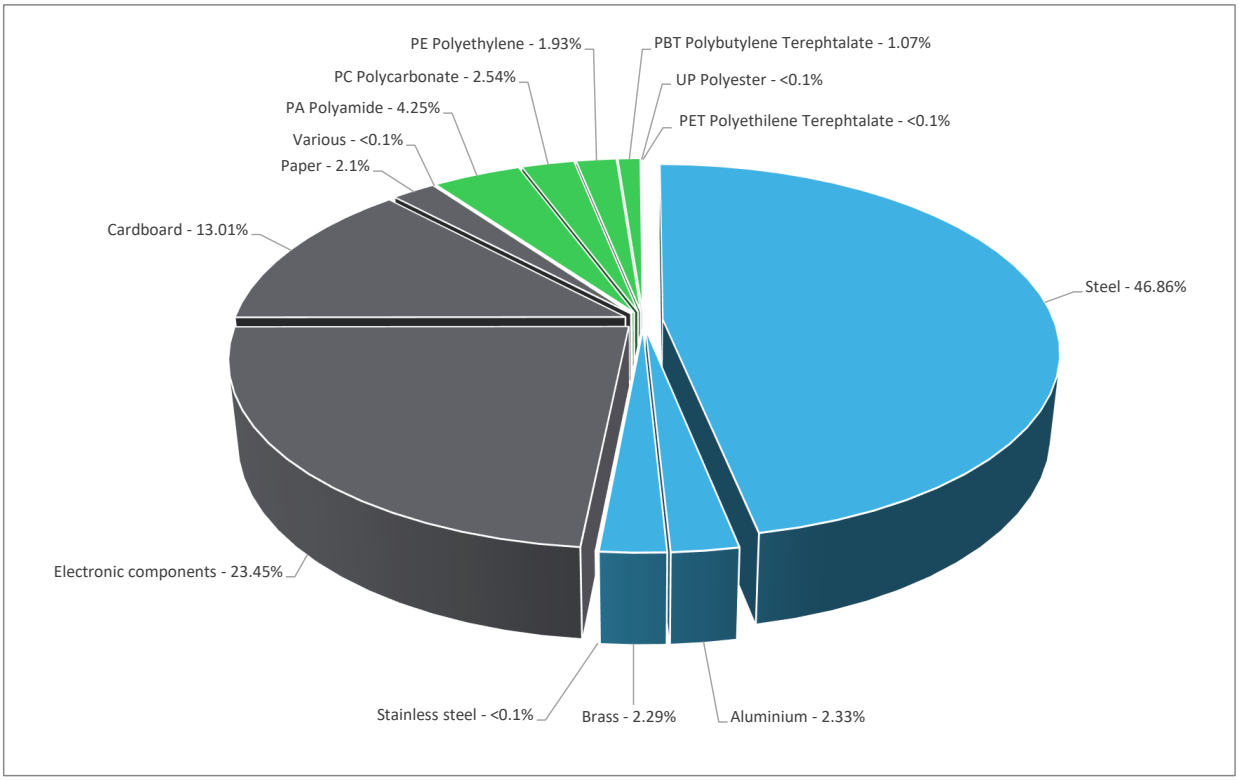
Arc Flash Detection

General information

Reference product	PowerLogic A3 - Arc Flash Detection - REL52921
Description of the product	Arc flash mitigation to reduce arc damages. The device can be connected to power, and light sensors. Device could be installation on DIN rail or flush mounting of front panel.
Description of the range	Range including two models: PowerLogic A3 F12P Arc flash device (REL52921) and PowerLogic A3 S12P Arc flash extension device (REL52931) 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 reduce the Arc flash ignition inside medium voltage or low voltage cubicles, the device detect the light with the help of light sensors and should act very fast on the appropriate switching device during 10 years. The device can get the light detection also from other devices through fast bus. Uaux = 24-240Vac/dc Maximum withstand voltage = 264 V ac/dc Passive Power over Ethernet (PoE) = 24 V dc Normal operating power consumption = 6 W; (Max. 9 W) Typical operation time = 2 ms The product is in accordance with the IEC 62271-200 standard and IP20 in accordance with the standard IEC 60529.

Constituent materials

Reference product mass	1150 g	including the product, its packaging and additional elements and accessories



	Plastics	9.9%
	Metals	51.5%
	Others	38.6%

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:	**60%**	Recyclability rate has been calculated based on REEECY'LAB tool developed by Ecosystem, for components/materials not covered by the tool, data from the "ECO'DEEE recyclability and recoverability calculation method" 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			
Installation elements	The deice can be installed on DIN rail or flush mounting with mechanical frame accessorie. Device could also be connected to other devices with iX Industrial cables. The disposal of the packaging materials are accounted for during the installation phase (including transport to disposal).			
Use scenario	The product is in active mode 1% of the time with a power use of 9W and in stand-by mode 99% of the time with a power use of 6W, for 10 years			
Technological representativeness	The Modules of Technologies such as material production, manufacturing process and transport technology used in this PEP analysis (LCA-EIME in this case) are similar and representative of the actual type of technologies used to make the product in production.			
Geographical representativeness	Global			
Energy model used	**[A1 - A3]**	**[A5]**	**[B6]**	**[C1 - C4]**
	Electricity Mix; Production mix; Low voltage; LV	Electricity Mix; Production mix; Low voltage; UE-27	Electricity Mix; Production mix; Low voltage; UE-27	Electricity Mix; Production mix; Low voltage; UE-27
		Electricity Mix; Production mix; Low voltage; IN	Electricity Mix; Production mix; Low voltage; IN	Electricity Mix; Production mix; Low voltage; IN
		Electricity Mix; Production mix; Low voltage; APAC	Electricity Mix; Production mix; Low voltage; APAC	Electricity Mix; Production mix; Low voltage; APAC

Detailed results, including all the optional indicators mentioned in PCRed4, and the split of the Use Phase (B1 to B7), 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		**PowerLogic A3 - Arc Flash Detection - REL52921**						
Impact indicators	**Unit**	**Total**	**Manufacturing [A1 - A3]**	**Distribution [A4]**	**Installation [A5]**	**Use [B1 - B7]**	**End of Life [C1 - C4]**	**Benefits [D]**
Contribution to climate change	kg CO2 eq	5.01E+02	7.85E+01	3.32E-01	3.23E-01	4.20E+02	2.26E+00	-4.22E+00
Contribution to climate change-fossil	kg CO2 eq	5.01E+02	7.85E+01	3.32E-01	3.09E-01	4.20E+02	2.23E+00	-4.19E+00
Contribution to climate change-biogenic	kg CO2 eq	3.19E-01	8.05E-02	0*	1.43E-02	1.98E-01	2.61E-02	-3.50E-02
Contribution to climate change-land use and land use change	kg CO2 eq	4.40E-08	4.40E-08	0*	0*	0*	0*	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	4.31E-05	4.05E-05	2.93E-07	2.14E-08	2.20E-06	3.90E-08	-6.40E-07
Contribution to acidification	mol H+ eq	3.36E+00	4.07E-01	1.44E-03	1.28E-03	2.94E+00	1.87E-02	-2.44E-02
Contribution to eutrophication, freshwater	kg $(PO4)^{3-}$eq	4.44E-04	9.32E-05	0*	2.33E-06	3.39E-04	9.43E-06	-1.15E-05
Contribution to eutrophication marine	kg N eq	4.21E-01	9.13E-02	6.62E-04	3.41E-04	3.18E-01	1.05E-02	-2.65E-03
Contribution to eutrophication, terrestrial	mol N eq	4.91E+00	9.79E-01	7.17E-03	2.58E-03	3.91E+00	1.50E-02	-2.90E-02
Contribution to photochemical ozone formation - human health	kg COVNM eq	1.41E+00	3.47E-01	2.35E-03	6.89E-04	1.05E+00	5.71E-03	-9.83E-03
Contribution to resource use, minerals and metals	kg Sb eq	5.76E-03	5.75E-03	0*	0*	1.07E-05	0*	-9.68E-04
Contribution to resource use, fossils	MJ	8.92E+03	1.08E+03	4.03E+00	3.37E+00	7.71E+03	1.24E+02	-8.22E+01
Contribution to water use	m3 eq	2.01E+02	1.24E+01	0*	1.38E-01	1.74E+01	1.71E+02	-1.71E+00

Additional indicators for the French regulation are available as well

Inventory flows Indicators		PowerLogic A3 - Arc Flash Detection - REL52921						
Inventory flows	Unit	Total	Manufact. [A1 - A3]	Distribution [A4]	Installation [A5]	Use [B1 - B7]	End of Life [C1 - C4]	Benefits [D]
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	8.80E+02	1.42E+01	0*	2.41E-01	8.64E+02	7.42E-01	1.04E+00
Contribution to use of renewable primary energy resources used as raw material	MJ	7.11E-01	7.11E-01	0*	0*	0*	0*	-3.19E+00
Contribution to total use of renewable primary energy resources	MJ	8.80E+02	1.49E+01	0*	2.41E-01	8.64E+02	7.42E-01	-2.16E+00
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	8.92E+03	1.07E+03	4.03E+00	3.37E+00	7.71E+03	1.24E+02	-8.22E+01
Contribution to use of non renewable primary energy resources used as raw material	MJ	6.43E+00	6.43E+00	0*	0*	0*	0*	0.00E+00
Contribution to total use of non-renewable primary energy resources	MJ	8.92E+03	1.08E+03	4.03E+00	3.37E+00	7.71E+03	1.24E+02	-8.22E+01
Contribution to use of secondary material	kg	1.53E-01	1.53E-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	m^3	5.17E+00	2.89E-01	0*	3.21E-03	4.04E-01	4.47E+00	-3.99E-02
Contribution to hazardous waste disposed	kg	9.53E+01	8.31E+01	0*	0*	1.13E+01	1.00E+00	-7.61E+01
Contribution to non hazardous waste disposed	kg	7.92E+01	9.11E+00	0*	1.05E+00	6.89E+01	1.06E-01	-7.93E+00
Contribution to radioactive waste disposed	kg	1.82E-02	1.22E-02	6.59E-05	1.41E-04	5.76E-03	1.03E-05	-2.01E-03
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	8.10E-01	4.04E-02	0*	1.77E-01	0*	5.93E-01	0.00E+00
Contribution to materials for energy recovery	kg	2.26E-08	2.26E-08	0*	0*	0*	0*	0.00E+00
Contribution to exported energy	MJ	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to biogenic carbon content of the product	kg de C	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to biogenic carbon content of the associated packaging	kg de C	0.00E+00	0*	0*	0*	0*	0*	0.00E+00

** represents less than 0.01% of the total life cycle of the reference flow*

Life cycle assessment performed with EIME version v5.9.4, database version 2022-01 in compliance with ISO14044.

The Use phase has the greatest impacts contribution on the majority of environmental indicators, except for Climate change-Land use and land use change (GWPlu), Ozone depletion (PEF-ODP), Resource use, minerals and metals (PEF-ADPe) & Water use (PEF-WU) due to the energy losses occuring throughout the product reference service lifetime. The manufacturing phase has impact of Climate change-Land use and land use change (GWPlu), Ozone depletion (PEF-ODP), Resource use, minerals and metals (PEF-ADPe) due to the material and manufacturing process. The EOLI Phase also has the major impact of Water use (PEF-WU).

Detailed results, including all the optional indicators mentioned in PCRed4, and the split of the Use Phase (B1 to B7), are available in the LCA report and on demand in a digital format - Country Customer Care Center - http://www.schneider-electric.com/contact

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

The present study prevails on the PowerLogic A3 products: REL52921 (PowerLogic A3 F12P Arc flash device) and can be extrapolated to REL52931 (PowerLogic A3 S12P Arc flash extension device)

The present study is carried out on REL52921 :
- 1 x A3 UNIT
- 12 x SENSORS
- 2 x RELAYS

The present study can be extrapolated to the product REL52931 thanks to proportionality factors. Indeed, the products REL52921 and REL52931 are very similar:
- identical Length & width,
- the mechanical parts in kind and number are identical except for those impacted by the Height and therefore proportional (size & mass) to the height of the two models of products,

The impact and resource indicators used for REL52931 can therefore be calculated according to the product life phases by using the following proportionality factors:

	REL52921	REL52931	Proportionality factor (REL52931/REL52921)	Phases of life cycle
Product (g)	960	560	0.6	Manufacturing and End of Life
Product + packaging (g)	1150	750	0.7	Distribution
Packaging (g)	190	190	1	Installation
Energy consumption (kWh/y)	52.8	26.4	0.5	Use

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-01009-V01.02-EN	*Drafting rules*	PEP-PCR-ed4-2021 09 06
Verifier accreditation N°	VH48	*Supplemented by*	PSR-0005-ed2-2016 03 29
Date of issue	07/2023	*Information and reference documents*	www.pep-ecopassport.org
		Validity period	5 years

Independent verification of the declaration and data, in compliance with ISO 14025 : 2010

Internal External X

The PCR review was conducted by a panel of experts chaired by Julie ORGELET (DDemain)

PEP are compliant with XP C08-100-1 :2016 or EN 50693:2019

The elements of the present PEP cannot be compared with elements from another program.

Document in compliance with ISO 14025 : 2010 « Environmental labels and declarations. Type III environmental declarations »

Schneider Electric Industries SAS

Country Customer Care Center
http://www.schneider-electric.com/contact

35, rue Joseph Monier

CS 30323

F- 92500 Rueil Malmaison Cedex
RCS Nanterre 954 503 439
Capital social 896 313 776 €

www.se.com

Published by Schneider Electric

SCHN-01009-V01.02-EN

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07/2023