Product Environmental Profile

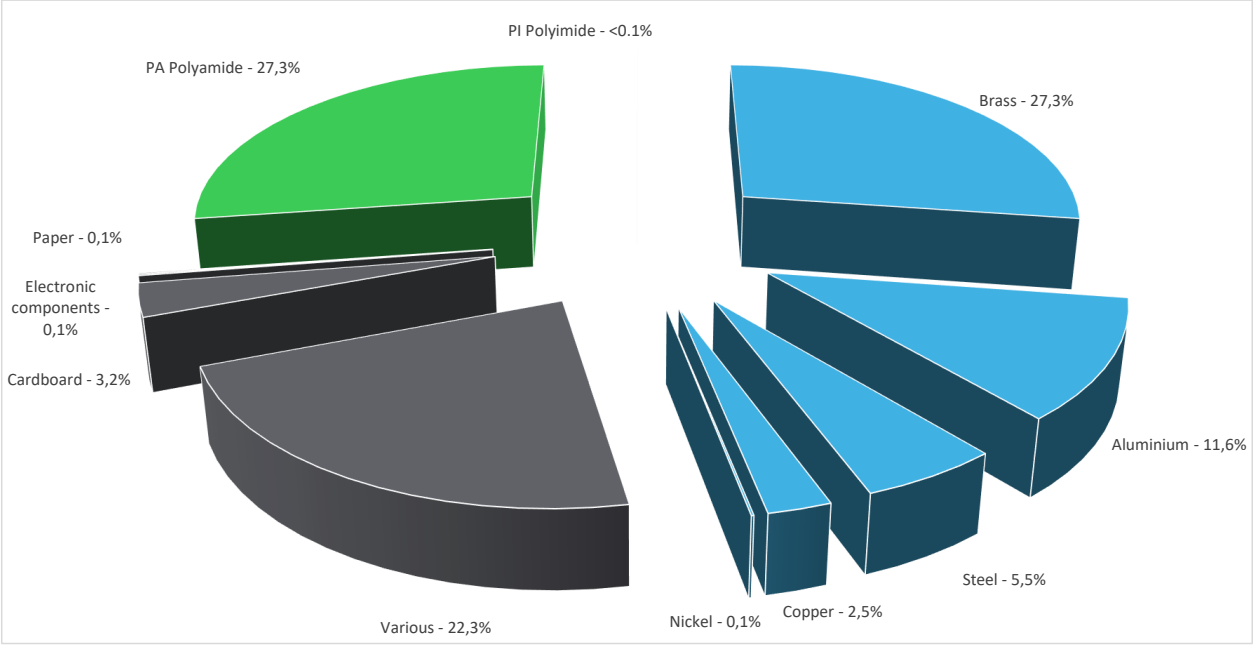
Acti9 iPRD1 F25r Surge Protective Device

General information

Reference product	Acti9 iPRD1 F25r Surge Protective Device - A9L1F625
Description of the product	The Acti9 iPRD1 range of Type 1 and Type 2 Surge Protective Devices protect against direct and indirect lightning strikes. It is suitable for use in 230/400 V - 50/60 Hz networks, and with TT, TN-S and TN-C earthing systems. All the devices are fitted with an output dry-contacts for remote monitoring of their end-of-life failure status. And they all have easy-to-replace withdrawable cartridges. iPRD1 F25r provide embedded fuse solution for End-of-Life self-protection.
Description of the range	Single product
Functional unit	Protect, against direct and indirect effects of lightning or against transient overvoltages, electronic equipment connected to networks with a rated operational voltage of up to 1000 V AC or 1500 V DC, via a surge arrester of type T, with Np poles, according to the appropriate use scenario, and for the reference service life of the product of 20 years.
Specifications are:	T=T1 & T2 ; Np = 3 +1 Uc = 0,275 kV ; In = 25 kA Imp = 25 kA ; Up = 1,5 kV Ic = 5 µA per pole ; F = 50-60 Hz Un = 0,240 kV

Constituent materials

Reference product mass	1210 g	including the product, its packaging and additional elements and accessories



	Plastics	27,30%
	Metals	47,00%
	Others	25,70%

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:	**47,7%**	The recyclability rate was calculated from the recycling rates of each material making up the product with the exception of data using the ESR database. For materials or components using the ESR database or the absence of data the conservative hypothesis "0% recyclability" was used.

Environmental impacts

Reference service life time	20 years
Product category	Surge arresters - Type 1, 2 or 3 devices connected to low voltage power systems
Installation elements	The product does not require any installation operations.
Use scenario	Load rate = 100% Ic Use rate = 100 % RLT The energy consumption was calculated based on the current drawn of the 3 protube and the nominal operating voltage. Thus, Ic = 5 µA and Un = 240 V and E =3 ∗ Ic ∗ Uc ∗ 20 ∗ 365 ∗ 24 = 0,000015 ∗ 240 ∗ 20 ∗ 365 ∗ 24 = 630,72 W.h
Time representativeness	The collected data are representative of the year 2023
Technological representativeness	The Acti9 iPRD1 range of Type 1 and Type 2 Surge Protective Devices protect against direct and indirect lightning strikes. It is suitable for use in 230/400 V - 50/60 Hz networks, and with TT, TN-S and TN-C earthing systems. All the devices are fitted with an output dry-contacts for remote monitoring of their end-of-life failure status. And they all have easy-to-replace withdrawable cartridges. iPRD1 F25r provide embedded fuse solution for End-of-Life self-protection.
Geographical representativeness	Europe

Energy model used	[A1 - A3]	[A5]	[B6]	[C1 - C4]
	Slovenia, SI	Europe, EU-27	Europe, EU-27	France,FR

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.schneider-electric.com/contact

Mandatory Indicators		**Acti9 iPRD1 F25r Surge Protective Device - A9L1F625**						
Impact indicators	**Unit**	**Total A1-C4**	**[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	1,79E+01	1,60E+01	2,72E-01	4,08E-02	2,59E-01	1,31E+00	-5,09E+00
Contribution to climate change-fossil	kg CO2 eq	1,76E+01	1,58E+01	2,72E-01	3,88E-02	2,58E-01	1,26E+00	-5,02E+00
Contribution to climate change-biogenic	kg CO2 eq	2,97E-01	2,41E-01	0*	1,94E-03	3,45E-04	5,34E-02	-7,26E-02
Contribution to climate change-land use and land use change	kg CO2 eq	4,15E-09	4,15E-09	0*	0*	0*	0*	0,00E+00
Contribution to ozone depletion	kg CFC-11 eq	2,24E-06	2,08E-06	4,17E-10	5,28E-10	1,11E-09	1,56E-07	-1,27E-07
Contribution to acidification	mol H+ eq	2,06E-01	1,85E-01	1,72E-03	1,19E-04	1,48E-03	1,75E-02	-1,56E-01
Contribution to eutrophication, freshwater	kg $(PO4)^{3-}$ eq	2,31E-04	2,13E-04	1,02E-07	9,35E-07	7,08E-07	1,59E-05	-1,34E-02
Contribution to eutrophication marine	kg N eq	2,63E-02	1,53E-02	8,07E-04	5,17E-05	1,68E-04	1,01E-02	-8,77E-03
Contribution to eutrophication, terrestrial	mol N eq	2,04E-01	1,79E-01	8,86E-03	3,59E-04	2,52E-03	1,36E-02	-1,07E-01
Contribution to photochemical ozone formation - human health	kg COVNM eq	6,05E-02	5,30E-02	2,23E-03	8,23E-05	5,38E-04	4,57E-03	-3,07E-02
Contribution to resource use, minerals and metals	kg Sb eq	1,14E-02	1,14E-02	0*	0*	0*	4,29E-06	-4,62E-04
Contribution to resource use, fossils	MJ	2,89E+02	2,58E+02	3,79E+00	4,03E-01	6,59E+00	2,05E+01	-5,19E+01
Contribution to water use	m3 eq	2,92E+02	1,58E+00	0*	0*	0*	2,91E+02	-2,58E+03

Inventory flows Indicators		**Acti9 iPRD1 F25r Surge Protective Device - A9L1F625**						
Inventory flows	**Unit**	**Total A1-C4**	**[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	1,33E+01	1,04E+01	5,06E-03	5,30E-02	1,26E+00	1,58E+00	-2,51E+01
Contribution to use of renewable primary energy resources used as raw material	MJ	2,02E+00	2,02E+00	0*	0*	0*	0*	-5,82E-01
Contribution to total use of renewable primary energy resources	MJ	1,54E+01	1,24E+01	5,06E-03	5,30E-02	1,26E+00	1,58E+00	-2,57E+01
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	2,75E+02	2,44E+02	3,79E+00	4,03E-01	6,59E+00	2,05E+01	-5,19E+01
Contribution to use of non renewable primary energy resources used as raw material	MJ	1,45E+01	1,45E+01	0*	0*	0*	0*	0,00E+00
Contribution to total use of non-renewable primary energy resources	MJ	2,89E+02	2,58E+02	3,79E+00	4,03E-01	6,59E+00	2,05E+01	-5,19E+01
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	7,96E+00	3,58E-02	0*	0*	0*	7,92E+00	-6,78E+01
Contribution to hazardous waste disposed	kg	9,14E+02	9,13E+02	0*	0*	0*	1,18E+00	-1,21E-03
Contribution to non hazardous waste disposed	kg	3,34E+01	3,33E+01	9,55E-03	1,75E-02	3,72E-02	5,01E-03	-2,41E-02
Contribution to radioactive waste disposed	kg	1,74E-02	1,74E-02	6,80E-06	2,15E-06	7,79E-06	6,38E-06	-1,10E-05
Contribution to components for reuse	kg	0,00E+00	0*	0*	0*	0*	0*	0,00E+00
Contribution to materials for recycling	kg	7,98E-01	2,20E-01	0*	0*	0*	5,78E-01	0,00E+00
Contribution to materials for energy recovery	kg	1,17E-01	1,16E-01	0*	0*	0*	1,33E-03	0,00E+00
Contribution to exported energy	MJ	1,74E-03	9,99E-06	0*	1,67E-03	0*	6,44E-05	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 de C	4,73E-04
Contribution to biogenic carbon content of the associated packaging	kg de C	1,06E-02

Mandatory Indicators		Acti9 iPRD1 F25r Surge Protective Device - A9L1F625							
Impact indicators	**Unit**	**[B1 - B7] - Use**	**[B1]**	**[B2]**	**[B3]**	**[B4]**	**[B5]**	**[B6]**	**[B7]**
Contribution to climate change	kg CO2 eq	2,59E-01	0*	0*	0*	0*	0*	2,59E-01	0*
Contribution to climate change-fossil	kg CO2 eq	2,58E-01	0*	0*	0*	0*	0*	2,58E-01	0*
Contribution to climate change-biogenic	kg CO2 eq	3,45E-04	0*	0*	0*	0*	0*	3,45E-04	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	1,11E-09	0*	0*	0*	0*	0*	1,11E-09	0*
Contribution to acidification	mol H+ eq	1,48E-03	0*	0*	0*	0*	0*	1,48E-03	0*
Contribution to eutrophication, freshwater	kg $(PO4)^{3-}$eq	7,08E-07	0*	0*	0*	0*	0*	7,08E-07	0*
Contribution to eutrophication marine	kg N eq	1,68E-04	0*	0*	0*	0*	0*	1,68E-04	0*
Contribution to eutrophication, terrestrial	mol N eq	2,52E-03	0*	0*	0*	0*	0*	2,52E-03	0*
Contribution to photochemical ozone formation - human health	kg COVNM eq	5,38E-04	0*	0*	0*	0*	0*	5,38E-04	0*
Contribution to resource use, minerals and metals	kg Sb eq	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to resource use, fossils	MJ	6,59E+00	0*	0*	0*	0*	0*	6,59E+00	0*
Contribution to water use	m3 eq	0*	0*	0*	0*	0*	0*	0*	0*

Inventory flows Indicators		Acti9 iPRD1 F25r Surge Protective Device - A9L1F625							
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	1,26E+00	0*	0*	0*	0*	0*	1,26E+00	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	1,26E+00	0*	0*	0*	0*	0*	1,26E+00	0*
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	6,59E+00	0*	0*	0*	0*	0*	6,59E+00	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	6,59E+00	0*	0*	0*	0*	0*	6,59E+00	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	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to hazardous waste disposed	kg	0*	0*	0*	0*	0*	0*	0*	0*
Contribution to non hazardous waste disposed	kg	3,72E-02	0*	0*	0*	0*	0*	3,72E-02	0*
Contribution to radioactive waste disposed	kg	7,79E-06	0*	0*	0*	0*	0*	7,79E-06	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 v6.1, database version 2023-02 in compliance with ISO14044, EF 3.0 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 :	SCHN-01147-V01.01-EN	*Drafting rules*	PCR-4-ed4-EN-2021 09 06
		Supplemented by	PSR-0005-ed3-EN-2023 06 06
Verifier accreditation N°	VH49	*Information and reference documents*	www.pep-ecopassport.org
Date of issue	04-2024	*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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