Product Environmental Profile

Harmony HMI ST Operator Panel

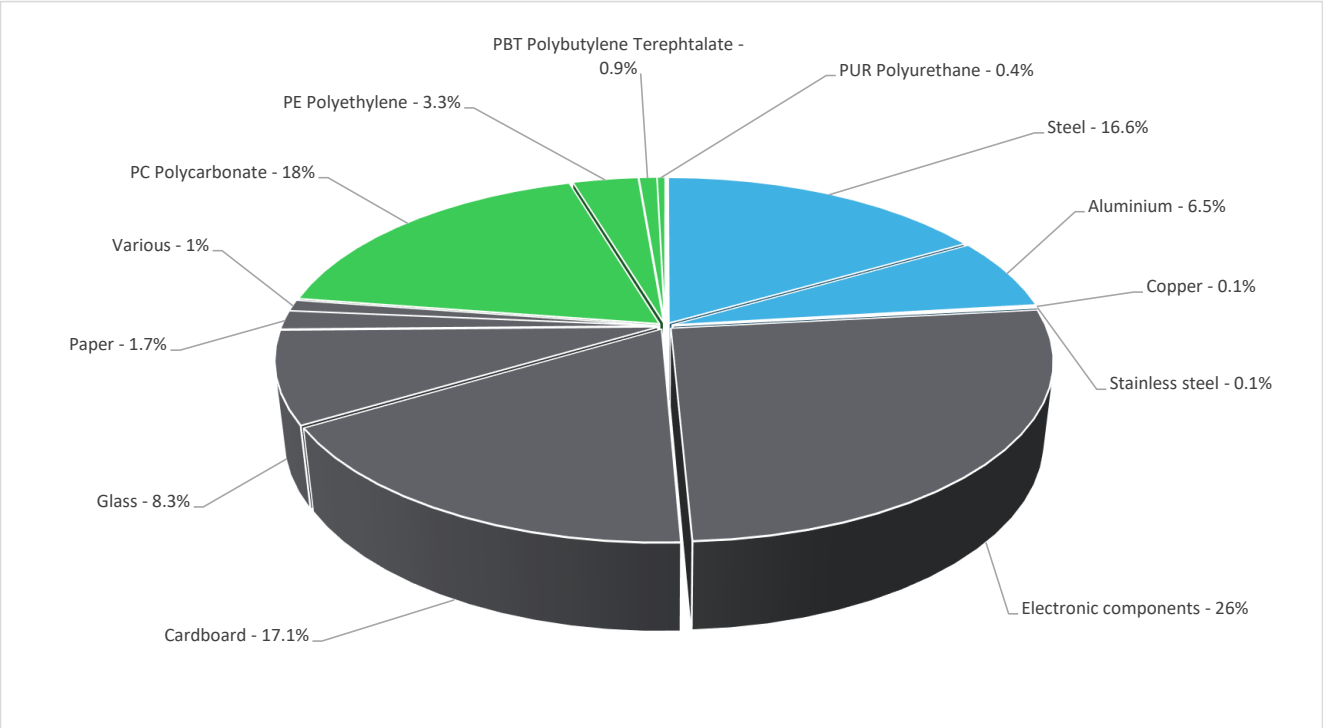
Harmony ST6

General information

Reference product	Harmony HMI ST Operator Panel - HMIST6400
Description of the product	Human machine interface with serial link and ethernet communication
Description of the range	Harmony ST6 HMI series from 4" to 15" in 5 sizes,equipped with control function, communication with PLC via 1 or 2 integrated serial links. 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 provide a HMI during 15 years and a 100% rate at 9W, based on below function: - 7" Touchscreen panel. - I/O connectors(USB and Ethernet) . - IP20 (rear panel) & IP65(front panel) conforming to IEC 61131-2

Constituent materials

Reference product mass	1021 g	including the product, its packaging and additional elements and accessories



	Plastics	22.60%
	Metals	23.30%
	Others	54.10%

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:	**29%**	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	15 years
Product category	Other equipments - Active product
Installation elements	Ref HMIST6400 does not require any installation operations, the disposal of the packaging materials are accounted for 21.65% during the installation phase (including transport to disposal).
Use scenario	The product is in active mode 100% of the time a power use of 9W, for 15 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	Italy, USA, China, Spain

Energy model used	[A1 - A3]	[A5]	[B6]	[C1 - C4]
	Electricity Mix; Production mix; Low voltage; CN	Electricity Mix; Production mix; Low voltage; US	Electricity Mix; Production mix; Low voltage; US	Electricity Mix; Production mix; Low voltage; US

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		Harmony HMI ST Operator Panel - HMIST6400						
Impact indicators	Unit	Total	Manufacturing [A1 - A3]	Distribution [A4]	Installation [A5]	Use [B1 - B7]	End of Life [C1 - C4]	Loads and Benefits [D]
Contribution to climate change	kg CO2 eq	6.90E+02	4.33E+01	1.63E-01	3.52E-01	6.45E+02	1.35E+00	-4.78E+00
Contribution to climate change-fossil	kg CO2 eq	6.90E+02	4.32E+01	1.63E-01	3.37E-01	6.45E+02	1.35E+00	-4.73E+00
Contribution to climate change-biogenic	kg CO2 eq	4.99E-01	1.04E-01	0*	1.55E-02	3.79E-01	2.80E-04	-5.17E-02
Contribution to climate change-land use and land use change	kg CO2 eq	7.24E-07	5.44E-07	0*	1.76E-07	0*	3.37E-09	0.00E+00
Contribution to ozone depletion	kg CFC-11 eq	8.59E-06	5.78E-06	0*	2.41E-08	2.78E-06	1.02E-08	-6.45E-07
Contribution to acidification	mol H+ eq	4.14E+00	2.91E-01	1.09E-03	1.41E-03	3.84E+00	2.21E-03	-2.81E-02
Contribution to eutrophication, freshwater	kg $(PO4)^{3-}$ eq	6.95E-04	9.47E-05	0*	3.32E-06	5.88E-04	8.81E-06	-1.49E-05
Contribution to eutrophication marine	kg N eq	4.66E-01	3.29E-02	5.14E-04	3.74E-04	4.32E-01	5.26E-04	-2.99E-03
Contribution to eutrophication, terrestrial	mol N eq	5.74E+00	3.46E-01	5.64E-03	2.86E-03	5.38E+00	5.19E-03	-3.28E-02
Contribution to photochemical ozone formation - human health	kg COVNM eq	1.56E+00	1.17E-01	1.43E-03	7.68E-04	1.44E+00	1.68E-03	-1.11E-02
Contribution to resource use, minerals and metals	kg Sb eq	4.01E-03	3.98E-03	0*	0*	2.56E-05	0*	-1.05E-03
Contribution to resource use, fossils	MJ	1.26E+04	5.89E+02	2.27E+00	3.61E+00	1.20E+04	3.63E+01	-9.53E+01
Contribution to water use	m3 eq	3.96E+01	1.53E+01	0*	1.94E-01	2.38E+01	2.45E-01	-1.90E+00

Additional indicators for the French regulation are available as well

Inventory flows Indicators			Harmony HMI ST Operator Panel - HMIST6400					
Inventory flows	Unit	Total	Manufact. [A1 - A3]	Distribution [A4]	Installation [A5]	Use [B1 - B7]	End of Life [C1 - C4]	Loads and Benefits [D]
Contribution to use of renewable primary energy excluding renewable primary energy used as raw material	MJ	2.28E+03	1.52E+01	0*	2.95E-01	2.27E+03	0*	8.37E-01
Contribution to use of renewable primary energy resources used as raw material	MJ	3.74E+00	3.74E+00	0*	0*	0*	0*	-3.42E+00
Contribution to total use of renewable primary energy resources	MJ	2.28E+03	1.89E+01	0*	2.95E-01	2.27E+03	0*	-2.58E+00
Contribution to use of non renewable primary energy excluding non renewable primary energy used as raw material	MJ	1.26E+04	5.75E+02	2.27E+00	3.61E+00	1.20E+04	3.63E+01	-9.38E+01
Contribution to use of non renewable primary energy resources used as raw material	MJ	1.40E+01	1.40E+01	0*	0*	0*	0*	-1.50E+00
Contribution to total use of non-renewable primary energy resources	MJ	1.26E+04	5.89E+02	2.27E+00	3.61E+00	1.20E+04	3.63E+01	-9.53E+01
Contribution to use of secondary material	kg	1.38E-05	1.38E-05	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	9.21E-01	3.56E-01	0*	4.51E-03	5.55E-01	5.70E-03	-4.44E-02
Contribution to hazardous waste disposed	kg	8.99E+01	7.46E+01	0*	0*	1.42E+01	1.11E+00	-8.31E+01
Contribution to non hazardous waste disposed	kg	1.08E+02	1.76E+01	0*	1.13E+00	8.95E+01	2.16E-01	-9.19E+00
Contribution to radioactive waste disposed	kg	1.60E-02	7.10E-03	4.07E-06	1.53E-04	8.74E-03	1.37E-05	-2.69E-03
Contribution to components for reuse	kg	0.00E+00	0*	0*	0*	0*	0*	0.00E+00
Contribution to materials for recycling	kg	4.55E-01	2.15E-03	0*	2.21E-01	0*	2.32E-01	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	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.

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

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.

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Date of issue	2023/09/09	*Information and reference documents*	www.pep-ecopassport.org
		Validity period	5 years

Independent verification of the declaration and data, in compliance with ISO 14021 : 2016

Internal X External

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 14021 : 2016 « Environmental labels and declarations. Type II environmental declarations »

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