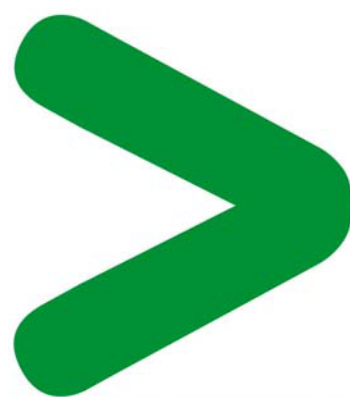


Product Environmental Profile

**HMIGTO... Color Touch Panel QVGA-TFT
Magelis GTO 5" & 7"**



Product Environmental Profile - PEP

Product overview

The new Magelis GTO 5" & 7" terminals provide users with remote access to their data display. Up-to-date peripheral links simplify operation and maintenance, while embedded Ethernet facilitates easy integration with IT architectures. All models are also suitable for marine and explosive environments.

The Magelis GTO 5" & 7" range includes five sizes of screen display, each offering a 65K colour TFT screen delivering the best quality of data visualisation available in the Magelis range to date. LED backlight allows dimming and efficient energy saving. The 7" model offers 40 percent more available display area. Thanks to an external keypad with function keys, the screens of the 3,5" and 7" models provide more display space than in standard terminals of the same dimensions.

The representative product used for the analysis HMIGTO4310.

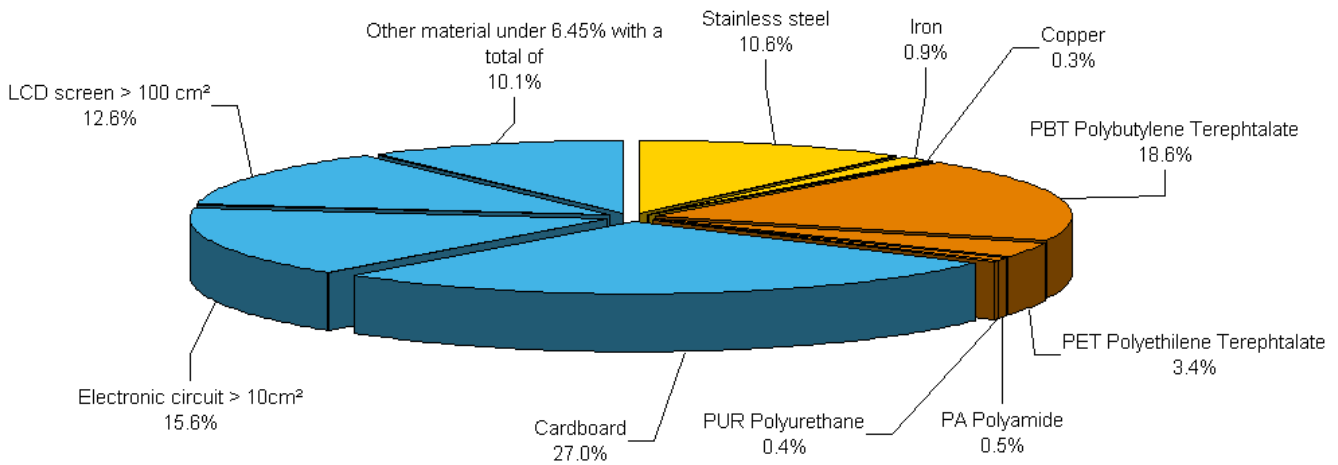
The environmental impacts of this referenced product are representative of the impacts of the other products of the range, which are developed with a similar technology.

The environmental analysis was performed in conformity with ISO 14040.

Constituent materials

The mass of the product range is from under 1,730g including packaging. It is 1,617g for the HMIGTO4310.

The constituent materials are distributed as follows:



Substance assessment

Products of this range are designed in conformity with the requirements of the RoHS directive (European Directive 2011/65/EU of 8 June 2011) and do not contain, or only contain in the authorised proportions, lead, mercury, cadmium, hexavalent chromium or flame retardants (polybrominated biphenyls - PBB, polybrominated diphenyl ethers - PBDE) as mentioned in the Directive

Manufacturing

The Magelis GTO 5" & 7" product range is manufactured at a Schneider Electric production site on which an ISO14001 certified environmental management system has been established.

Distribution

The weight and volume of the packaging have been optimized, based on the European Union's packaging directive.

The Magelis GTO 5" & 7" packaging weight is 521 g. It consists of cardboard, antistatic bag, install fastener, manual, power supply connector and USB clip

The weight of recycled materials used is 84% of total packaging mass.

The product distribution flows have been optimised by setting up local distribution centres close to the market areas.

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Use

The products of the Magelis GTO 5" & 7" range do not generate environmental pollution (noise, emissions) requiring special precautionary measures in standard use

The electrical power consumption depends on the conditions under which the product is implemented and used. The electrical power consumed by the Magelis GTO 5" & 7" range is under 12W. It is 10.2W in active mode for the referenced HMIGTO4310.

Product's parts lifetime is the below

- A Backlight Service Life :
50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
- Touch Panel Service Life :
1,000,000 times or more
- A Lithium battery's lifetime is:
10 years when the battery's ambient temperature is 40 oC or less.
4.1 years when the battery's ambient temperature is 50 oC or less.
1.5 years when the battery's ambient temperature is 60 oC or less.
When used for back up: Approximately 100 days, with a fully charged battery. Approximately 6 days, with a half-charged battery.

End of life

At end of life, the products in the Magelis GTO 5" & 7" range have been optimized to decrease the amount of waste and allow recovery of the product components and materials.

This product range contains PCBA and Battery that should be separated from the stream of waste so as to optimize end-of-life treatment by special treatments. The location of these components and other recommendations are given in the End of Life Instruction document which is available for this product range.

The recyclability potential of the products has been evaluated using the "Codde- BV recyclability and recoverability calculation method" (version V1, 20 Sep. 2008 presented to the French Agency for Environment and Energy Management: ADEME).

According to this method, the potential recyclability ratio is: 25%.

As described in the recyclability calculation method this ratio includes only metals and plastics which have proven industrial recycling processes.

Environmental impacts

Life cycle assessment has been performed on the following life cycle phases: Materials and Manufacturing (M), Distribution (D), Installation (I) Use (U), and End of life (E).

Modeling hypothesis and method:

- the calculation was performed on the HMIGTO4310.
- product packaging: is included
- installation components: no special components included.
- scenario for the Use phase: this product range is included in the category Energy consuming product: (assumed service life is 10years and use scenario is: the consumed power 10.2W and 100% service uptime (based on the real using data).

The electrical power model used for calculation is European model.

End of life impacts are based on a worst case transport distance to the recycling plant (1000)

Presentation of the product environmental impacts

Environmental indicators	Unit	HMIGTO4310					
		S = M + D + I + U + E	M	D	I	U	E
Air Acidification (AA)	kg H+ eq	1.0571E-01	3.4592E-02	1.8193E-03	0.0000E+00	6.9275E-02	2.0925E-05
Air toxicity (AT)	m³	1.3073E+08	4.2433E+07	2.6564E+06	0.0000E+00	8.5605E+07	3.1163E+04
Energy Depletion (ED)	MJ	1.3546E+04	3.1095E+03	2.0595E+02	0.0000E+00	1.0229E+04	1.5023E+00
Global Warming Potential (GWP)	kg CO ₂ eq.	7.0886E+02	1.7640E+02	1.6083E+01	0.0000E+00	5.1627E+02	1.0664E-01
Hazardous Waste Production (HWP)	kg	1.2907E+01	4.3383E+00	2.6601E-03	0.0000E+00	8.5655E+00	1.3195E-07
Ozone Depletion Potential (ODP)	kg CFC-11 eq.	7.2892E-05	3.3325E-05	1.1526E-05	0.0000E+00	2.8041E-05	2.0199E-10
Photochemical Ozone Creation Potential (POCP)	kg C ₂ H ₄ eq.	2.6838E-01	7.2989E-02	1.4780E-02	0.0000E+00	1.8058E-01	2.6542E-05
Raw Material Depletion (RMD)	Y-1	1.3905E-12	1.3786E-12	2.8074E-16	0.0000E+00	1.1617E-14	2.1786E-18
Water Depletion (WD)	dm3	5.2624E+03	3.7641E+03	1.9549E+01	0.0000E+00	1.4787E+03	1.1069E-02
Water Eutrophication (WE)	kg PO ₄ ³⁻ eq.	8.3159E-03	6.7708E-03	3.3168E-04	0.0000E+00	1.2133E-03	1.9808E-07
Water Toxicity (WT)	m³	1.9331E+02	4.2728E+01	2.3164E+00	0.0000E+00	1.4822E+02	4.5568E-02

Product Environmental Profile - PEP

Life cycle assessment has been performed with the EIME software (Environmental Impact and Management Explorer), version 5 and with its database version 2013-02.

The Use phase is the life cycle phase which has the greatest impact on the majority of environmental indicators.

Depending on the impact analysis, the environmental indicators (without RMD) of other products in this family may be proportional extrapolated by energy consumption values. For RMD, impact may be proportional extrapolated by mass of the product.

System approach

As the products of the range are designed in accordance with the RoHS Directive (European Directive 2011/65/EU of 8 June 2011), they can be incorporated without any restriction in an assembly or an installation subject to this Directive.

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.

Glossary

Raw Material Depletion (RMD)	This indicator quantifies the consumption of raw materials during the life cycle of the product. It is expressed as the fraction of natural resources that disappear each year, with respect to all the annual reserves of the material.
Energy Depletion (ED)	This indicator gives the quantity of energy consumed, whether it be from fossil, hydroelectric, nuclear or other sources. This indicator takes into account the energy from the material produced during combustion. It is expressed in MJ.
Water Depletion (WD)	This indicator calculates the volume of water consumed, including drinking water and water from industrial sources. It is expressed in dm ³ .
Global Warming (GW)	The global warming of the planet is the result of the increase in the greenhouse effect due to the sunlight reflected by the earth's surface being absorbed by certain gases known as "greenhouse-effect" gases. The effect is quantified in gram equivalent of CO ₂ .
Ozone Depletion (OD)	This indicator defines the contribution to the phenomenon of the disappearance of the stratospheric ozone layer due to the emission of certain specific gases. The effect is expressed in gram equivalent of CFC-11.
Air Toxicity (AT)	This indicator represents the air toxicity in a human environment. It takes into account the usually accepted concentrations for several gases in the air and the quantity of gas released over the life cycle. The indication given corresponds to the air volume needed to dilute these gases down to acceptable concentrations.
Photochemical Ozone Creation (POC)	This indicator quantifies the contribution to the "smog" phenomenon (the photochemical oxidation of certain gases which generates ozone) and is expressed in gram equivalent of ethylene (C ₂ H ₄).
Air Acidification (AA)	The acid substances present in the atmosphere are carried by rain. A high level of acidity in the rain can cause damage to forests. The contribution of acidification is calculated using the acidification potentials of the substances concerned and is expressed in mode equivalent of H ⁺ .
Water Toxicity (WT)	This indicator represents the water toxicity. It takes into account the usually accepted concentrations for several substances in water and the quantity of substances released over the life cycle. The indication given corresponds to the water volume needed to dilute these substances down to acceptable concentrations.
Hazardous Waste Production (HWP)	This indicator calculates the quantity of specially treated waste created during all the life cycle phases (manufacturing, distribution and utilization). For example, special industrial waste in the manufacturing phase, waste associated with the production of electrical power, etc. It is expressed in kg.

PEP achieved with Schneider-Electric TT01 V9 and TT02 V16 procedures in compliance with ISO14040 series standards

PEP in line with PEPecopassport PCR : PEP-PCR-ed 2.1-EN-2012 12 11

Schneider Electric Industries SAS

35, rue Joseph Monier
CS 30323
F- 92506 Rueil Malmaison Cedex
RCS Nanterre 954 503 439
Capital social 896 313 776 €

www.schneider-electric.com

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