Product Environmental Profile

Eclypse Connected Terminal Unit Controller (ECY-TU/PTU)

Programme operator:	PEP ECOPASSPORT® PROGRAM
Registration number:	DIST-02000-V02.01-EN
PEP owner:	Distech Controls
LCA Practitioner:	Sluicebox

General information

General Information	Description
LCA Practitioner:	Sluicebox
The name of the product:	Eclypse Connected Terminal Unit Controller (ECY-TU/PTU)
Type of PEP	Single commercial reference
The version of the PCR applied:	PCR-ed4-EN-2021-09-06 Product Category Rules for Electrical, Electronic and HVAC-R Products
The version of the PSR applied, where appropriate:	PSR-0005-ed3.1-EN-2023-12-08 PSR SPECIFIC RULES FOR Electrical switchgear and control gear

Company information

Company: Distech Controls | Acuity Inc.
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Website: https://www.distech-controls.com/

Description of the organization:
Distech Controls connects people with intelligent building solutions through our disruptive Building Management Systems (BMS) and refrigeration controls, sensors, and software. For over 30 years, our open technology has made spaces smarter, safer and greener by focusing on end user outcomes. Atrius, Distech Controls and QSC are part of the Acuity Intelligent Spaces business segment. Our mission is to make spaces smarter, safer and greener through our strategy of connecting the edge with the cloud using disruptive technologies that leverage data interoperability.

Management system certifications: ISO 9001, ISO 14001

Name and location of production site: Av. Marcel Mérieux, 69530 Brignais, France

Reference product information

Product name: Eclypse Connected Terminal Unit Controller – Model ECY-TU/PTU 208.

Product identification: ECY-PTU208.

Product description: The ECY-TU/PTU 208 controls terminal units such as fan coil units, chilled beams, ceilings, and heat pumps. It integrates a control, automation, and connectivity server, power supply, and dedicated I/Os. With wired and wireless IP connectivity, it supports efficient, reliable installation. The embedded web server enables web-based configuration and HTML5 visualization. As part of the DC Space solution, it can also control lighting (DALI, ON/OFF, dimming) and shades/ sunblinds (24 VDC or 100–240 VAC) via expansion modules.

The characterization of the product category, as mentioned in PSR 005, falls under specific rules for the Other Equipment family, where the ECY-TU/PTU 208 is an active product.

LCA information

Functional unit: The functional unit for this LCA study is to provide HVAC zone control for a single terminal unit, with power of 7 watts, according to the reference usage scenario (at a use rate of 100%) and during a reference service life of 10 years. The terminal unit delivers temperature regulation within ±1°C of setpoint and airflow control within ±10% accuracy.

Reference service life: 10 years

Time representativeness: Production data for 12 months (January 2024 – December 2024) has been used.

Geographical representativeness: Product manufacturing, use and end-of-life phase in France.

Technological representativeness: Technological representativeness for the ECY-TU/PTU 208 assembly was based on manufacturer-provided BOM data, while representativeness for raw materials and components was derived from secondary database sources.

Database(s) and LCA software used: ecoinvent version 3.10 (allocation, cut-off by classification), modelled by Sluicebox version 2025.7.10.

System diagram:

Description of system boundaries: Cradle-to-grave including modules manufacturing (A1-A3). Distribution (A4), installation (A5), use (B1-B7) and end-of-life (C1-C4). Optional module D (Resource recovery stage) has not been included.

	Manufacturing	Distribution	Installation	Use stage							End of life	Resource recovery stage
Modules declared	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	X
Geog.	FR	-	FR	FR	FR	FR	FR	FR	FR	FR	FR	X

According to these stages:

- Manufacturing stage (A1-A3): from the extraction of natural resources to product and packaging manufacturing and their delivery to the manufacturer's last logistics platform.
- Distribution stage (A4): transportation from the last manufacturer's logistics platform to the arrival of the product at the place of use and production of reconditioning packaging.
- Installation stage (A5): installation of the product at the place of use.
- Use stage (B1-B7): use of the product and maintenance necessary to ensure the ability for use.
- End-of-life stage (C1-C4): removal, dismantling and transportation of the end-of-life product to a treatment centre or landfill site, and the end-of-life treatment.
- Net benefits and loads beyond the system boundaries stage (D): potential for reuse, recovery and/or recycling, expressed as net benefits and impacts. This stage is optional and not considered into this LCA study.

Life cycle inventory

- Manufacturing stage
  - Production: Manufacturing plant in Brignais, France
  - Electricity energy mix: Electricity, medium voltage {FR}| market for
  - Primary data: bill of material, factory energy consumption, factory processing.
  - Secondary data: emission factors for datasets, transport and waste.

- Distribution stage
  - Distribution scenario: transport from factory to customer site in France
  - Primary data: distribution location based on secondary assumptions
  - Secondary data: emission factors for datasets, transport vehicle consumptions

- Installation stage:
  - No installation energy required.
  - Waste of packaging following assumptions is utilized.

- Use stage:
  - Primary data: product specific use scenario, typical scenario for product
    - Active Power Usage

Activity	Hours	Watt
Active per day	24.0	5.0

  - Use rate is 100% of the time
  - Secondary data: emission factors for datasets
  - Electricity energy mix: Electricity, low voltage {FR}| market-for

- End of life stage
  - Waste scenario: standard EN 50639:2020 scenario is used.
  - Primary data: unit constituent materials
  - Secondary data: waste treatment and transport

Content information

Information	Weight, gram	Percentage, %
Product	480	88.9
Packaging	60	11.1
TOTAL	**540**	**100**

Information	Weight, gram	Percentage, %
Plastic	225	41.7
Metal	129	23.9
Others	126	23.3
Packaging	60	11.1
TOTAL	**540**	**100**

Results of the environmental performance indicators per functional unit

Mandatory impact category indicators according to EN 15804

The Environmental Footprint method version 3.1 (EF 3.1) was used as the LCIA method

1The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high

Impact Category	Unit	Total	Manufacturing	Distribution	Installation	Use	EOL
Acidification	mol H+ eq.	7.58E-01	4.90E-01	4.49E-04	1.24E-05	2.67E-01	1.76E-04
Climate change	kg CO_2 eq.	5.70E+01	1.76E+01	9.86E-02	4.70E-03	3.92E+01	1.40E-01
Climate change biogenic	kg CO_2 eq.	8.46E-01	-2.85E-02	1.16E-04	1.26E-03	8.72E-01	1.80E-03
Climate change fossil	kg CO_2 eq.	5.61E+01	1.76E+01	9.82E-02	3.44E-03	3.83E+01	1.38E-01
Climate change luluc	kg CO_2 eq.	6.05E-02	2.36E-02	3.28E-04	4.49E-06	3.65E-02	5.58E-05
ADP-fossil[1] (energy non-renewable)	MJ	5.21E+03	2.41E+02	1.40E+00	2.95E-02	4.96E+03	4.11E-01
Eutrophication freshwater[1]	kg P eq.	3.25E-02	1.64E-02	8.00E-06	3.69E-06	1.60E-02	6.98E-06
Eutrophication marine	kg of N equiv.	8.30E-02	3.18E-02	1.71E-04	4.65E-06	5.09E-02	7.90E-05
Eutrophication terrestrial	mole of N equiv.	8.03E-01	3.78E-01	1.84E-03	4.10E-05	4.22E-01	6.99E-04
Resource use minerals metals[1]	kg Sb eq.	6.58E-03	4.74E-03	3.17E-07	2.03E-08	1.84E-03	1.44E-07
Ozone depletion	kgcfc11eq.	1.69E-06	3.35E-07	1.65E-09	2.85E-11	1.35E-06	4.76E-10
Photochemical ozone formation	kg of NMVOC eq.	2.94E-01	1.48E-01	6.37E-04	1.30E-05	1.45E-01	2.10E-04
Water use	m3	7.10E+01	8.10E+00	6.85E-03	4.22E-04	6.29E+01	1.25E-02
PERE	MJ	5.51E+02	2.65E+01	2.04E-02	4.83E-04	5.25E+02	3.76E-02
PERM	MJ	9.84E-01	9.84E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	5.52E+02	2.75E+01	2.04E-02	4.83E-04	5.25E+02	3.76E-02
PENRE	MJ	5.20E+03	2.31E+02	1.40E+00	2.96E-02	4.96E+03	4.13E-01
PENRM	MJ	1.00E+01	1.00E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	5.21E+03	2.41E+02	1.40E+00	2.96E-02	4.96E+03	4.13E-01
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	1.72E+00	2.11E-01	2.08E-04	1.12E-05	1.51E+00	3.03E-04
HWD	kg	5.33E+00	2.24E+00	2.52E-03	6.19E-03	3.09E+00	7.51E-04
NHWD	kg	1.72E+02	8.68E+01	4.70E-02	5.69E-03	8.47E+01	9.73E-02
RWD	kg	6.44E-02	5.18E-04	3.18E-07	2.94E-09	6.39E-02	8.16E-08
CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	kg	2.23E-01	1.66E-02	0.00E+00	5.46E-02	0.00E+00	1.52E-01
MER	kg	9.79E-02	5.89E-03	0.00E+00	3.00E-03	0.00E+00	8.91E-02
EE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Biogenic carbon content of the product	kg of C	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon content of the packaging	kg of C	3.00E-02	3.00E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Abbreviations are explained below:

- PERE = Use of renewable primary energy as energy source
- PERM = Use of renewable primary energy resources used as raw materials
- PERT = Total use of renewable primary energy resources
- PENRE = Use of non-renewable primary energy as energy source
- PENRM = Use of non-renewable primary energy resources used as raw materials
- PENRT = Total use of non renewable primary energy resources
- SM = Use of secondary material
- RSF = Use of renewable secondary fuels
- NRSF = Use of non-renewable secondary fuels
- FW = Use of net fresh water
- HWD = Hazardous waste disposed
- NHWD = Non-hazardous waste disposed
- RWD = Radioactive waste disposed
- CRU = Components for re-use
- MFR = Materials for recycling
- MER = Materials for energy recovery
- EE = Exported energy

References

ISO 14025:2010	Environmental labels and declarations - Type III environmental declarations - Principles and procedures
ISO 14044:2006	ISO 14044:2006+A1+A2:2020 Environmental management - Life cycle assessment - Requirements and guidelines
ISO 14040:2006	ISO 14040:2006 +A1:2020 Environmental management - Life Cycle Assessment-Principles and Framework
PCR-ed4-EN-2021-09-06	Product Category Rules for Electrical, Electronic and HVAC-R Products
PSR-005-ed3.1-EN-2023 12 08	PSR SPECIFIC RULES FOR Electrical switchgear and control gear

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Verifier accreditation number: VH50	**Information and reference documents:** www.pep-ecopassport.org
Date of issue: 08-2025	**Validity Period:** 5 years
Independent verification of the declaration and data in compliance with ISO 14025:2006	
Internal: ☐	**External:** ×
The PCR review was conducted by a panel of experts chaired by Julie Orgelet (DDemain).	
PEPs are compliant with EN 50693:2019 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"	