ENVIRONNE'TECH
GROUPE EMITECH

RCL-ENVESS23C136LOR-01/A (00)

CLIMATIC TEST REPORT

Damp heat test

According to the standard:
IEC 60068-2-30 test Db (2005)

Products under test:
- **1 detector**
- **1 power supply AL200HD**
- **1 power supply AL175**

Company: LOREME

DISTRIBUTION: Mr REPPERT

Company: LOREME SA

Number of pages: 11

Ed.	Date	Modified Pages	Written by Name, function and Visa	Technical & Quality Approval Name, function and Visa
00	24/05/2023	Creation	Marie BALDINOTTI Climatic Test Technician	Frédéric CARDIN Climatic Test Laboratory Manager

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PRODUCTS UNDER TEST:

Name:	One detector one cutoff	One power supply AL200HD	One power supply AL175
Ref:	DSL35LCC/R1	AL200HD-D-WD	AL175-D-WD
Serial:	11111/198	142741/2	142741/1
Date:	06/23	06/23	06/23
Photo:	 **photo 1**	 **photo 2**	 **photo 3**

MANUFACTURER: **LOREME**

CUSTOMER'S NAME AND ADDRESS:

Company: LOREME

Address: 12 RUE DES POTIERS
B.P.35014
57071 METZ CEDEX 3

Contact: Emmanuel REPPERT

PURCHASE ORDER: N° E230081-AVNT

TEST DATES: From the 03rd to the 10th of May 2023

TEST LOCATION: Environne'Tech test laboratory
49 Boulevard Pré Pommier
38300 BOURGOIN-JALLIEU

TESTER: Marie BALDINOTTI

SUMMARY

1. PURPOSE OF TEST

The purpose of this test is to validate the behaviour of the products under damp heat conditions.

2. PRODUCTS UNDER TEST

AL200HD

photo 4

photo 5

photo 6

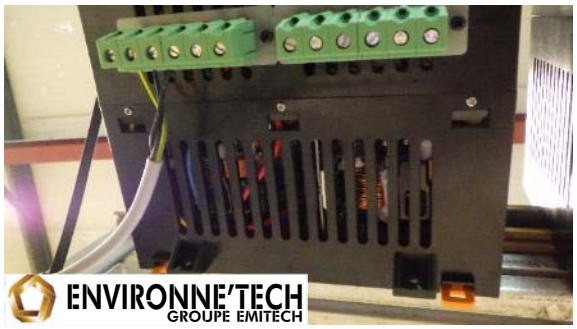


photo 7

AL175

photo 8

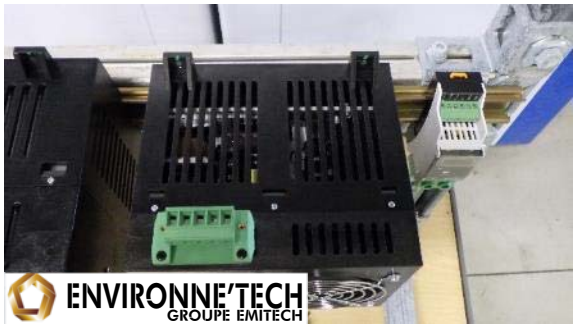


photo 9

photo 10

photo 11

Detector

photo 12

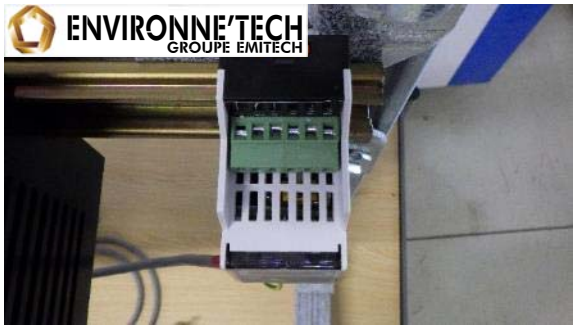


photo 13

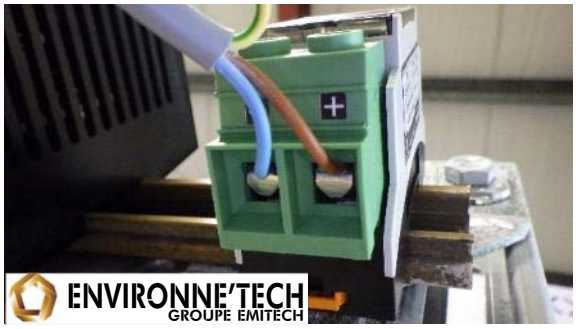


photo 14

photo 15

photo 16

3. CUSTOMER SPECIFICATION SHEET

The test has to be carried out according to the following document, included in the technical offer Environne'Tech *ENVESS-23C136 LOR - 00V01*.

3.1. According to the standard:

IEC 60068-2-30 test Db (2005)

3.2. Reminder of the main test criteria:

3.2.1. Damp heat test variant 2:

High temperature:	+55°C
Low temperature:	+25°C
Cycle duration:	24 hours
Number of cycles:	2
Products configuration:	Power on during the first cycle

power on during the 2 first hours and the 2 last hours off the second cycle

Description of the cycle:

The products are placed inside the climatic chamber, with the power on.

The temperature of the enclosure, after it has been closed, is set at +25°C and the humidity rate at 85%.

Then the cycle begins with a temperature rise set at +55°C for a period of 3 hours, and the humidity level at 95%.

This temperature of +55°C must be maintained for 9 hours with a humidity level set at 90%.

Then, the temperature is lowered to +25°C, for a period of 4h30 with a humidity level set at 95%.

This temperature of +25°C must be maintained for 7h30 with a humidity level set at 95%.

This cycle is performed 2 times.

3.3. Control and verification of proper operation:

A visual check and functional checks are carried out before and after each test.

4. EQUIPMENT USED

4.1. Test facilities

Identity	Designation	Brand and Model	Characteristics
CLIM 466	Climatic chamber	CLIMATS SAPRATIN 760 M 30	T°C:-30/+150
ELEC 167	Power supply	Schlumberger TO2 K 32 R 0,6	2 channels - 32V - 600mA
ELEC 749-02	Power supply	Delta Elektronika SM500P90	500V - 90A - DC bidirectional
ELEC 749-16	Power supply	Delta Elektronika SM500P90	500V - 90A - DC bidirectional

4.2. Measurement Equipment

Identity	Designation	Brand and Model	Characteristics	Last validity date	Metrological confirmation valid until
ELEC 733	Measure exchange	Eurotherm 6180A	42 channels, Vdc : -20 to +20V	24/05/2022	24/07/2024
CLIM 560	Thermo-hygrometer probe	VAISALA HMT337	T: -20 / 180°C, HR: 0 / 100%	24/11/2021	24/01/2024
CLIM 671	Thermo sensor	TC 16-1-3.0-3.220-CE4CLA-R100-B-2M RT37	-75°C/+250°C	12/01/2022	12/03/2024
CLIM 637	Thermo sensor	TC 401-305	-60°C/+150°C	30/09/2022	30/11/2024
CLIM 701	Thermo sensor	TC 1-T-B10-5METRES	-75°C/+250°C	14/01/2023	14/03/2025
SOND-001-06	Thermo sensor	TC 1-T-B10-5METRES	Thermocouple type T, class 1	20/12/2022	20/02/2025

5. TEST LOG

5.1. Variant made during the test with regard to the Specifications:

The climatic chamber was unable to regulate the humidity rate. The customer had accepted to continue the test with this condition.

5.2. Damp heat test:

5.2.1. Test setup:

The products are placed in the climatic chamber, the thermocouples are installed, and the products are plugged the test can begin.

5.2.2. Test:

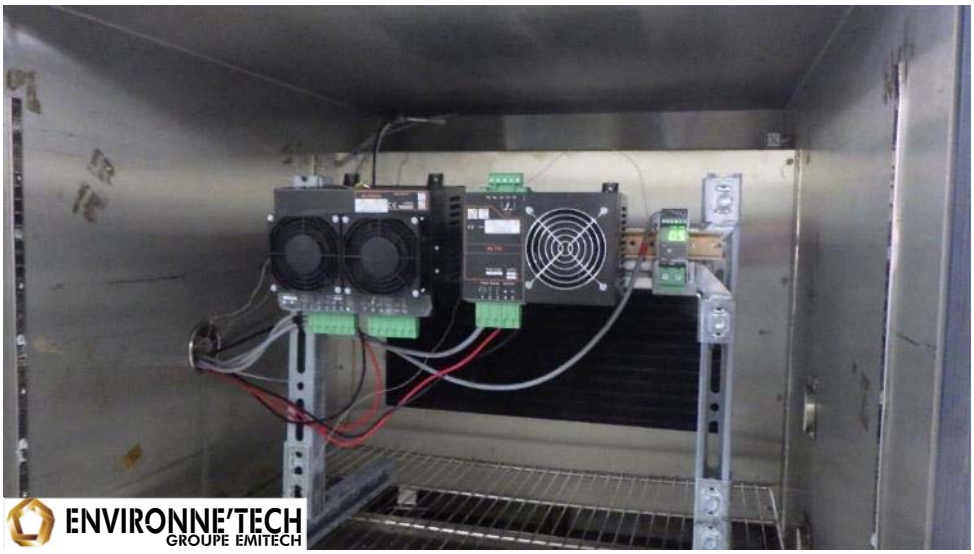


photo 17

photo 18

photo 19

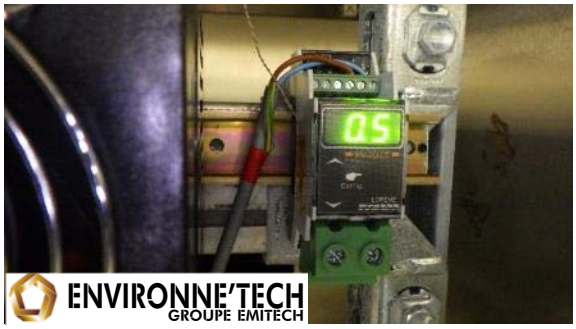
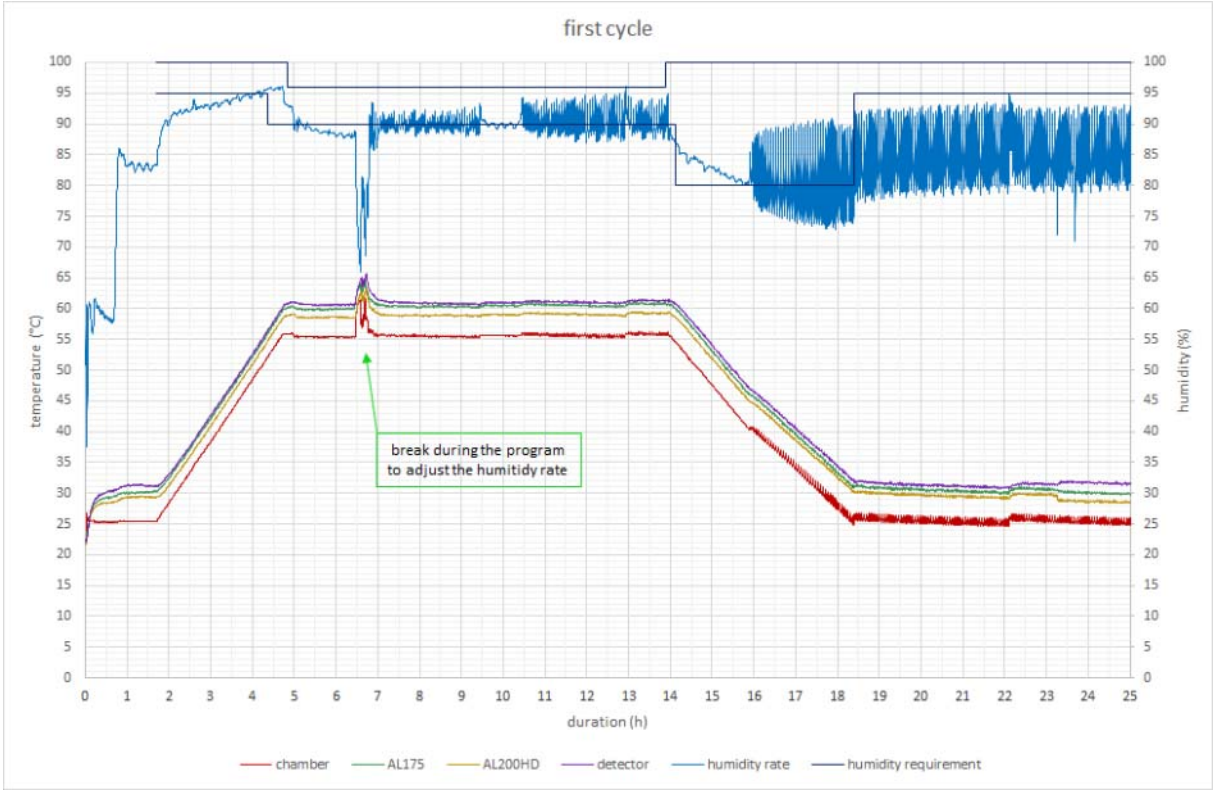
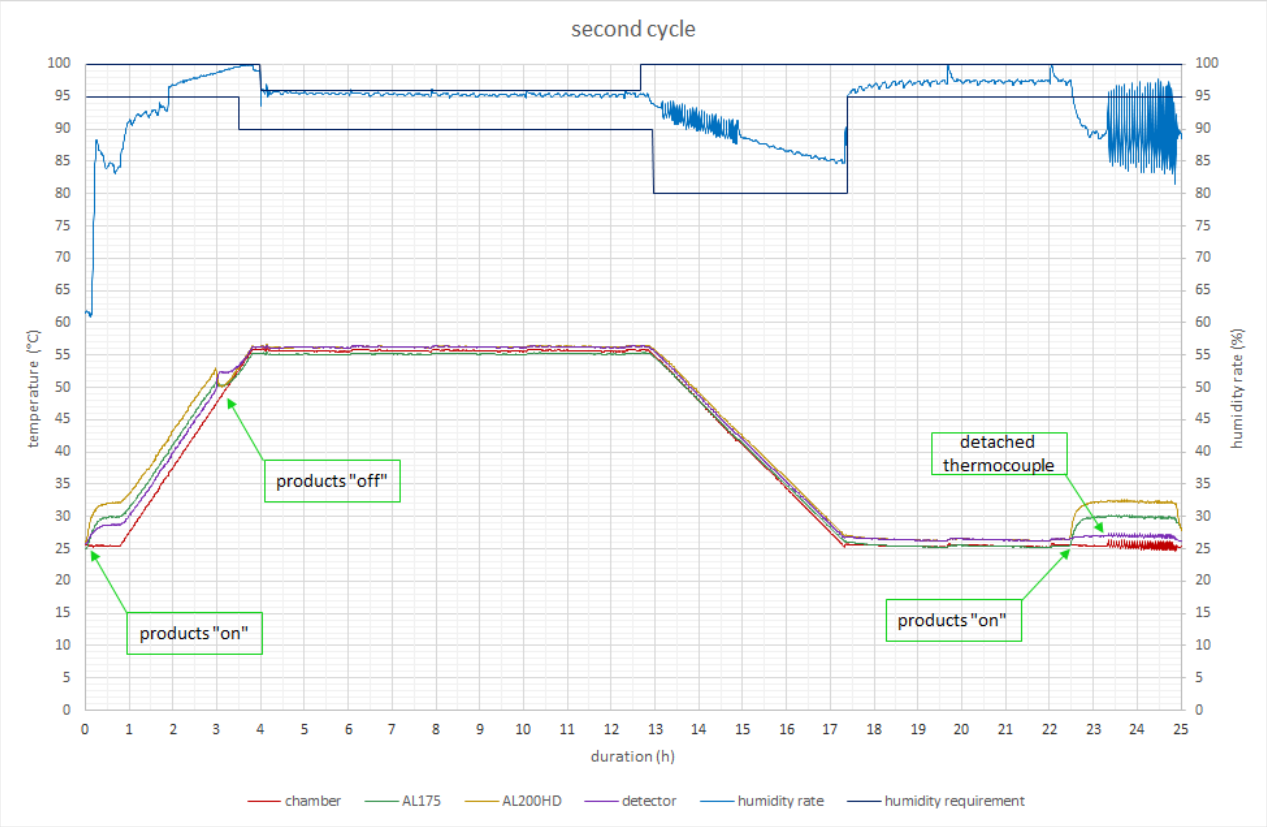


photo 20

photo 21



curve 1



curve 2

At the beginning and at the end of the test, during functional phases, the climatic chamber has difficulty in regulating the relative humidity.

5.2.3. Visual inspection:

Results: At the end of the test, no visual degradation was observed.

5.2.4. Functional check:

Results: The products are functional, the results are the responsibility of the company LOREME.

6. CONCLUSION

The products was tested in accordance with the test specification described in chapter 3 of this report.

At the end of the test, no visual degradation was observed.

The products are functional, the results are the responsibility of the company LOREME.

Products remain in the ENVIRONNE'TECH laboratory for further tests.

□□□ End of report □□□