# CLIMATICAL TEST REPORT

According to the standard:
EN 60529

Equipment under test:
1 RADOSTAT

Company:
AYKOW

DISTRIBUTION: M. JEAN

(Company: AYKOW)

Number of pages: 46
(Included 2 appendices)

<table>
<thead>
<tr>
<th>Ed.</th>
<th>Date</th>
<th>Modified Pages</th>
<th>Written by</th>
<th>Technical Verification &amp; Quality Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>04.15.13</td>
<td>Creation</td>
<td>V. DEBOICHET</td>
<td>R. MENARD</td>
</tr>
</tbody>
</table>

Duplication of this document is only permitted for an integral photographic facsimile. It includes the number of pages referenced below. This document is the result of testing a specimen or a sample of the product submitted. It does not imply an assessment of the conformity of the whole production of the sample tested.
**EQUIPMENT UNDER TEST:** 1 RADOSTAT

  Serial number (S/N): R1316
  
  Part number (P/N): /
  
  Software version: /

**MANUFACTURER:** AYKOW

**CUSTOMER’S NAME AND ADDRESS:**

  **Company:** AYKOW
  
  **Address:** 7 rue Alfred Kastler
              14000 CAEN
  
  **Contact:** M. JEAN
  
  **Person present during the tests:** /

**TEST DATES:** From April, the 10th to the 11th 2013

**TEST LOCATION:** EMITECH Laboratory at Versailles Satory (France)

**TESTER:** V. DEBOICHET

**GUARDIAN TEST:** C. FAUCHEUR
# SUMMARY

<table>
<thead>
<tr>
<th>CHAPITRE</th>
<th>TITRE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INTRODUCTION</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>REFERENCE DOCUMENTS</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>EQUIPMENT UNDER TEST DESCRIPTION</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>TEST PROGRAM</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>SYNTHESIS OF RESULTS</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>DEGREES OF PROTECTION TESTS (code IP51)</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>CONCLUSION</td>
<td>9</td>
</tr>
<tr>
<td>Appendix 1</td>
<td>Photographies of IP5X (before, during and after the test)</td>
<td>11</td>
</tr>
<tr>
<td>Appendix 2</td>
<td>Photographies of IPX1 (before, during and after the test)</td>
<td>34</td>
</tr>
</tbody>
</table>
1. **INTRODUCTION**

The report provides the results of climatical tests which have been done on a RADOSTAT, presented by AYKOW Company.

2. **REFERENCE DOCUMENT**

EN 60529.

3. **EQUIPMENT UNDER TEST DESCRIPTION** *(See photographies in pages 10 to 45)*

The tests have been realized on the following equipment:

- 1 RADOSTAT
  - P/N: /
  - S/N: R1316

4. **TESTS PROGRAM**

IP5X and IPX1.
5. SYNTHESIS OF RESULTS

5.1 Chronology

<table>
<thead>
<tr>
<th>Date/Hour</th>
<th>Test designation</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>04/10/2013</td>
<td>IP5X</td>
<td>Steel wire test</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Beginning of dust test</td>
</tr>
<tr>
<td>04/11/2013</td>
<td>IP5X, IPX1</td>
<td>End of Dust test</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dripping test</td>
</tr>
</tbody>
</table>

5.2 Functional control verification

The equipment is connected to an electrical outlet and the DEL must switch on few second and switch off.
6. DEGREES OF PROTECTION TEST (code IP51)

First characteristic numeral: 5

To determine the degree of protection provided by the enclosure against:
- part 1: the access to the dangerous parts,
- part 2: protection against solids objects.

- Test procedure

  - Parts 1 and 2: The calibre of accessibility is applied against all windows of enclosure with the specified level except for the 5 and 6 numerals, where for the part 2, the test is realized in a test chamber where the dust is maintained in suspension.

<table>
<thead>
<tr>
<th>1st characteristic numeral (or additional letter(1))</th>
<th>Part 1: Protected against the access to the dangerous parts</th>
<th>Part 2: Protected against the solids objects</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 (or letter D)</td>
<td>Steel wire Ø 1 mm-length = 100 mm</td>
<td>Dust-protected</td>
</tr>
</tbody>
</table>
Force of apply

<table>
<thead>
<tr>
<th>1st characteristic numeral (or additional letter(1))</th>
<th>Part 1:</th>
<th>Part 2:</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 (or letter D)</td>
<td>1 N ± 10 %</td>
<td>Enclosure under category 2: test without depressure inside the enclosure - Test duration: 8 hours</td>
</tr>
</tbody>
</table>

Note: (1) The additional letter concerns the protection against the access to the dangerous parts. It is used for designate a superior protection about of the 1st characteristic numeral.

- Acceptance requirements

  **Part 1:** Numerals 1 to 6 (or additional letter): The protection is satisfying if an adequate clearance is maintained between the calibre of accessibility and the dangerous parts.

  **Part 2:** Numerals 5: Ingress of dust is not totally prevented but dust does not enter in sufficient quantity to interfere with satisfactory operation of the equipment.

- Test apparatus

<table>
<thead>
<tr>
<th>Meter Nr EMITECH</th>
<th>Category</th>
<th>Mark</th>
<th>Type</th>
<th>Last verification</th>
<th>Next verification</th>
</tr>
</thead>
<tbody>
<tr>
<td>4699</td>
<td>Dust enclosure</td>
<td>INELEC</td>
<td>Dust enclosure</td>
<td>07/12/2012</td>
<td>09/12/2014</td>
</tr>
<tr>
<td>0704</td>
<td>Tool for EN60529</td>
<td>Emitech</td>
<td>EN60529</td>
<td>/</td>
<td>/</td>
</tr>
</tbody>
</table>

- Tests results

Visual controls: Dust on the back of the box but no dust in the equipment and no dust on electrical part. : Conform.
Functional controls: the DEL switch on few second and switch off when the RADOSTAT is connected to an electrical outlet: Satisfying.
Steel wire test is satisfying: the calibre does not enter in the equipment.
Second characteristic numeral: 1

- **Purpose of test**

The second characteristic numeral indicates the degree of protection provided by the enclosure with respect to harmful ingress of water.

- **Test procedure**

The test is made by means of the equipment described below.

<table>
<thead>
<tr>
<th>2nd characteristic numeral</th>
<th>Test apparatus</th>
<th>Rate of discharge</th>
<th>Duration of test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dripping equipment</td>
<td>1 mm/min</td>
<td>10 min</td>
</tr>
</tbody>
</table>

- **Acceptance requirements**

In general, if any water has entered inside the enclosure, it shall not:

- be sufficient to interfere with satisfactory operation of the equipment,
- reach live parts or windings not designed to operate when wet,
- accumulate near the cable end or enter the cable.

- **Test apparatus**

<table>
<thead>
<tr>
<th>Meter Nr</th>
<th>Category</th>
<th>Mark</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMITECH</td>
<td>Dripping box</td>
<td>EMITECH EUROCAE ED-14F Section 10 Catégorie W</td>
<td></td>
</tr>
</tbody>
</table>

- **Tests results**

Visual controls: No increase of water inside the case or on the electric part: Conform.

Functional controls: the DEL switch on few second and switch off when the RADOSTAT is connected to an electrical outlet: Satisfying
7. **CONCLUSION**

The conclusion of the degrees of protection tests is under AYKOW Company responsibility.

The tests were performed in accordance with reference document (Cf. paragraph 2).

End of report, 2 appendices to follow
APPENDIX 1

Photographies of IP5X (before, during and after the test)

(23 pages)
Before test

Before test
Before test

Before test
Before test

Before test
Before test

Before test
Before test
Before test

Before test
Before test

Before test
Before test

Before test
Before test

During test
During test

During test
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After test
APPENDIX 2

Photographies of IP5X (before, during and after the test)

(12 pages)
Before test
Before test

Before test
Before test

During test
During test

During test
During test

During test
During test

During test
During test

During test
During test

After test
After test

After test
After test

After test
After test