

INTERNATIONAL STANDARD

**Automatic electrical controls -
Part 2-13: Particular requirements for humidity sensing controls**

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CONTENTS

FOREWORD	2
1 Scope	5
2 Normative references	6
3 Terms and definitions	6
4 General	6
5 Required technical information	7
6 Protection against electric shock	7
7 Provision for protective earthing	7
8 Terminals and terminations.....	7
9 Constructional requirements	7
10 Threaded parts and connections.....	7
11 Creepage distances, clearances and distances through solid insulation.....	7
12 Components	7
13 Fault assessment on electronic circuits.....	7
14 Moisture and dust resistance	8
15 Electric strength and insulation resistance	8
16 Heating.....	8
17 Manufacturing deviation and drift.....	8
18 Environmental stress	8
19 Endurance	8
20 Mechanical strength	9
21 Resistance to heat, fire and tracking.....	9
22 Resistance to corrosion	9
23 Electromagnetic compatibility (EMC) requirements – Emission	9
24 Normal operation	9
25 Electromagnetic compatibility (EMC) requirements – Immunity	9
26 Abnormal operation tests	9
Annex H (normative) Requirements related to functional safety	10
Annex Q (informative) Regional differences relevant for the member countries of Cenelec	20
Annex R (informative) National differences relevant in the United States of America.....	21
Annex S (informative) National differences relevant in Japan	22
Annex T (informative) National differences relevant in Canada	23
Annex AA (normative) Independently mounted and in-line cord controls	24
Bibliography.....	25
Table 16 – Insulation or disconnection test voltages	8
Table H.1 – Additional items to Table 1.....	10
Table AA.1 – Number of cycles	24

INTERNATIONAL ELECTROTECHNICAL COMMISSION

Automatic electrical controls - Part 2-13: Particular requirements for humidity sensing controls

FOREWORD

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IEC 60730-2-13 has been prepared by IEC technical committee 72: Automatic electrical controls. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2017. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) adoption to IEC 60730-1:2022 with all of its significant changes to IEC 60730-1:2013, IEC 60730-1:2013/AMD1:2015 and IEC 60730-1:2013/AMD2:2020.

The text of this International Standard is based on the following documents:

Draft	Report on voting
72/1487/FDIS	72/1503/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts of the IEC 60730 series, under the general title: *Automatic electrical controls*, can be found on the IEC website.

This part 2-13 is intended to be used in conjunction with IEC 60730-1. It was established on the basis of the sixth edition of that standard (2022). Consideration may be given to future editions of, or amendments to, IEC 60730-1.

This part 2-13 supplements or modifies the corresponding clauses in IEC 60730-1, so as to convert that publication into the IEC standard: Particular requirements for humidity sensing controls.

Where this part 2-13 states "addition", "modification" or "replacement", the relevant requirement, test specification or explanatory matter in Part 1 should be adapted accordingly.

When a particular subclause of Part 1 is not mentioned in this Part 2, that subclause applies.

In the development of a fully international standard it has been necessary to take into consideration the differing requirements resulting from practical experience in various parts of the world and to recognize the variation in national electrical systems and wiring rules.

The reader's attention is drawn to the fact that Annex Q, Annex R, Annex S and Annex T list all of the "in-some-country" clauses on differing practices of a less permanent nature relating to the subject of this document.

In this publication:

- 1) The following print types are used:
 - requirements proper: in roman type;
 - *test specifications: in italic type*;
 - explanatory matter: in smaller roman type.
 - Defined terms: **bold type**.
- 2) Subclauses, notes or items which are additional to those in Part 1 are numbered starting from 101, additional annexes are lettered AA, BB, etc.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

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1 Scope

This clause of Part 1 is replaced by the following:

This document applies to automatic **electrical humidity sensing controls**

- for use in, on, or in association with equipment for household appliance and similar use;

NOTE 1 Throughout this document, the word "equipment" means "appliance and equipment" and "controls" means "**humidity sensing control**".

- for building automation within the scope of ISO 16484 series and IEC 63044 series (HBES/BACS);
- for equipment that is used by the public, such as equipment intended to be used in shops, offices, hospitals, farms and commercial and industrial applications;

EXAMPLE 1 **Humidity sensing controls** for commercial catering, heating and air-conditioning equipment.

- that are **smart enabled controls**;

EXAMPLE 2 Smart grid control, remote interfaces/control of energy-consuming equipment including computer or smart phone.

- that are AC or DC powered controls with a rated voltage not exceeding 690 V AC or 600 V DC;
- used in, on, or in association with equipment that use electricity, gas, oil, solid fuel, solar thermal energy, etc., or a combination thereof;
- utilized as part of a control system or controls which are mechanically integral with multifunctional controls having non-electrical outputs;
- using NTC or **PTC thermistors** and to discrete **thermistors**, requirements for which are contained in Annex J;
- that are mechanically or electrically operated, responsive to or controlling such characteristics as temperature, pressure, passage of time, humidity, light, electrostatic effects, flow, or liquid level, current, voltage, acceleration, or combinations thereof;
- as well as manual controls when such are electrically and/or mechanically integral with automatic controls.

NOTE 2 Requirements for manually actuated mechanical switches not forming part of an automatic control are contained in IEC 61058-1-1.

This document applies to

- the inherent safety of automatic **electrical humidity sensing controls**, and
- functional safety of automatic **electrical humidity sensing controls** and safety related systems,
- **humidity sensing controls** where the performance (for example the effect of EMC phenomena) of the product can impair the overall safety and performance of the controlled system,
- the operating values, operating times, and operating sequences where such are associated with equipment safety.

This document specifies the requirements for construction, operation and testing of automatic electrical **humidity sensing controls** used in, on, or in association with an equipment.

This document does not

- apply to automatic **electrical humidity sensing controls** intended exclusively for industrial process applications unless explicitly mentioned in the relevant part 2 or the equipment standard. However, this document can be applied to evaluate **humidity sensing controls** intended specifically for industrial applications in cases where no relevant safety standard exists;
- take into account the response value of an automatic action of a **humidity sensing control**, if such a response value is dependent upon the method of mounting the **humidity sensing control** in the equipment. Where a response value is of significant purpose for the protection of the user, or surroundings, the value defined in the appropriate equipment standard or as determined by the manufacturer will apply;
- address the integrity of the output signal to the network devices, such as interoperability with other devices unless it has been evaluated as part of the control system.

2 Normative references

This clause of Part 1 is applicable.

3 Terms and definitions

This clause of Part 1 is applicable except as follows:

3.2 Definitions of types of control according to purpose

Additional definitions:

3.2.101

humidity sensing control

automatic **electrical control** which is either intended to keep the controlled humidity above, below or between a particular value(s)

3.2.102

room humidistat

independently mounted or incorporated **humidity sensing control** intended to control the humidity of habitable space

3.3 Definitions relating to the function of controls

3.3.101

permanent operation

continuous monitoring of the protective function during the **operation** of the appliance or system for longer than 24 h

Note 1 to entry: 24 h is considered the typical time interval between a first and a second **fault**.

3.3.102

non-permanent operation

continuous monitoring of the protective function during the **operation** of the appliance or system for less than 24 h

Note 1 to entry: 24 h is considered the typical time interval between a first and a second **fault**.

4 General

This clause of Part 1 is applicable.

5 Required technical information

This clause of Part 1 is applicable.

6 Protection against electric shock

This clause of Part 1 is applicable.

7 Provision for protective earthing

This clause of Part 1 is applicable.

8 Terminals and terminations

This clause of Part 1 is applicable.

9 Constructional requirements

This clause of Part 1 is applicable.

10 Threaded parts and connections

This clause of Part 1 is applicable.

11 Creepage distances, clearances and distances through solid insulation

This clause of Part 1 is applicable.

12 Components

This clause of Part 1 is applicable.

13 Fault assessment on electronic circuits

This clause of Part 1 is applicable except as follows:

13.1 Fault assessment for inherent safety

13.1.3 Component fault assessment

13.1.3.2 Test procedure

Modification:

Replace the first line with the following:

*The **control** shall be operated under the following conditions. In addition, **controls** declared under Table H.1, requirement 101 shall be tested when the **control** is in the declared condition and when it is not.*