

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

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**Automatic electrical controls –  
Part 2-9: Particular requirements for temperature sensing control**

**Dispositifs de commande électrique automatiques –  
Partie 2-9: Exigences particulières pour les dispositifs de commande  
thermosensibles**



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IEC 60730-2-9

Edition 4.0 2015-05

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## AUTOMATIC ELECTRICAL CONTROLS –

## Part 2-9: Particular requirements for temperature sensing controls

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International Standard IEC 60730-2-9 has been prepared by technical committee TC 72: Automatic electrical controls.

This bilingual version (2019-10) corresponds to the monolingual English version, published in 2015-05.

The text of this standard is based on the following documents:

FDIS	Report on voting
72/990/FDIS	72/998/RVD

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

The French version of this standard has not been voted upon.

This fourth edition cancels and replaces the third edition published in 2008, and its Amendment 1:2011. This edition constitutes a technical revision. This edition includes alignment with the text of 60730-1 fifth edition and the following significant technical changes with respect to the previous edition:

- a) modification of heating-freezing tests in Clause 12;
- b) alignment of the EMC requirements in H.26 to those in other part 2 standards;
- c) addition of requirements in Clause H.27 to cover class B and C control functions of temperature sensing controls;

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This Part 2-9 is intended to be used in conjunction with IEC 60730-1. It was established on the basis of the fifth edition (2013) of that publication. Consideration may be given to future editions of, or amendments to, IEC 60730-1.

This Part 2-9 supplements or modifies the corresponding clauses in IEC 60730-1 so as to convert that publication into the IEC standard: Particular requirements for temperature sensing controls.

Where this Part 2-9 states "addition", "modification", or "replacement", the relevant requirement, test specification or explanatory matter in part 1 should be adapted accordingly.

Where no change is necessary, this part 2 indicates that the relevant clause or 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 "in some countries" notes regarding differing national practices are contained in the following subclauses:

4.1.101	17.8.4.101	Annex AA
7.2, Table 1	17.16.101	Clause CC.2
11.4.101	17.16.102	DD.9.2
11.101	17.16.105	EE.3.6
12.101.3	18.102.3	
13.2	23.101	

In this publication:

- 1) The following print types are used:
  - Requirements proper: in roman type;
  - *Test specifications: in italic type;*
  - Notes; in small roman type;
  - Words defined in Clause 2: **bold**.
- 2) Subclauses, notes, tables and figures which are additional to those in part 1 are numbered starting from 101, additional annexes are lettered AA, BB, etc.

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

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

## AUTOMATIC ELECTRICAL CONTROLS –

### Part 2-9: Particular requirements for temperature sensing controls

#### 1 Scope and normative references

This clause of Part 1 is applicable except as follows:

##### 1.1 Scope

###### *Replacement:*

This part of IEC 60730 applies to automatic electrical temperature **sensing controls** for use in, on or in association with equipment, including **electrical controls** for heating, air-conditioning and similar applications. The equipment may use electricity, gas, oil, solid fuel, solar thermal energy, etc., or a combination thereof.

NOTE Throughout this standard, the word "equipment" includes "appliance" and "control system".

This standard is applicable to automatic electrical temperature **sensing controls** forming part of a building automation **control system** within the scope of ISO 16484.

This standard also applies to automatic electrical temperature **sensing controls** for equipment that may be used by the public, such as equipment intended to be used in shops, offices, hospitals, farms and commercial and industrial applications.

This standard does not apply to automatic electrical temperature **sensing controls** intended exclusively for industrial process applications, unless explicitly mentioned in the relevant equipment standard.

##### 1.1.1

###### *Replacement:*

This standard applies to the inherent safety, to the **operating values, operating times, and operating sequences** where such are associated with equipment safety, and to the testing of automatic electrical temperature **sensing control** devices used in, or in association with, equipment.

NOTE Examples of such **controls** include **boiler thermostats, fan controls, temperature limiters and thermal cut-outs**.

This standard is also applicable to the functional safety of low complexity safety-related temperature **sensing controls** and **systems**.

##### 1.1.2

###### *Addition:*

This standard also applies to the electrical safety of temperature sensing controls with non-electrical outputs such as refrigerant flow and gas **controls**.