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Automatic electrical controls – Part 2-6: Particular requirements for automatic electrical pressure sensing controls including mechanical requirements

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FOREWORD

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International Standard IEC 60730-2-6 has been prepared IEC technical committee 72: Automatic electrical controls.

This third edition cancels and replaces the second edition published in 2007. This edition constitutes a technical revision. This edition includes the following significant technical changes with respect to the previous edition:

a) aligns the text with IEC 60730-1, Edition 5;
b) modifies requirements for Class B control function (H.27.1.2.2);
c) modifies requirements for Class C control function (H.27.1.2.3);
d) modifies requirements for faults during lock-out or safety- shut-down.

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

FDIS	Report on voting
72/980/FDIS	72/992/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.

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

This part 2 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 supplements or modifies the corresponding clauses in IEC 60730-1 so as to convert that publication into the IEC standard: Particular requirements for automatic electrical pressure sensing controls including mechanical requirements.

Where this part 2 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:

10.1.4

15.1.101

18.101

Annex CC

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.

A bilingual version of this publication may be issued at a later date.

AUTOMATIC ELECTRICAL CONTROLS –

Part 2-6: Particular requirements for automatic electrical pressure sensing controls including mechanical requirements

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 pressure **sensing controls** with a minimum gauge pressure rating of –60 kPa and a maximum gauge pressure rating of 4,2 MPa, for use in, on or in association with, equipment. 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 “appliances” and “control system”.

This standard is also applicable to individual pressure **sensing controls** utilized as part of a **control system** or pressure **sensing controls** which are mechanically integral with multi-functional controls having non-electrical outputs.

Automatic electrical pressure **sensing controls** for equipment used by the public, such as equipment intended to be used by laymen in shops, in light industry and on farms, are within the scope of this standard.

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

1.1.1 *Replacement*:

This standard applies to inherent safety, **operating values**, **operating sequences** where such are associated with equipment protection, and to the testing of automatic electrical pressure **sensing controls** used in, on or in association with equipment.

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

This standard is also applicable to pressure **sensing controls** for appliances within the scope of IEC 60335-1.

See also Annex J.

1.1.2 *Addition*:

This standard applies to automatic **electrical controls**, mechanically or electrically operated, responsive to or controlling a pressure or vacuum.

1.1.3 Not applicable.

1.1.4 *Replacement:*

This standard applies to **manual controls** when such are electrically and/or mechanically integral with pressure **sensing controls**.

NOTE Requirements for manual switches not forming part of an **automatic control** are contained in IEC 61058-1.

1.1.5

Replacement:

This standard applies to a.c. or d.c. powered pressure **sensing controls** with a rated voltage not exceeding 690 V a.c. or 600 V d.c.

1.1.6

Replacement:

This standard does not take into account the **response value** of an **automatic action** of a pressure **sensing control**, if such a **response value** is dependent upon the method of mounting it 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 shall apply.

1.1.7

Replacement:

This standard applies also to pressure **sensing controls** incorporating **electronic devices**, requirements for which are contained in Annex H.

This standard applies also to pressure **sensing controls** using NTC or PTC **thermistors**, requirements for which are contained in Annex J.

Additional subclauses:

1.1.101 This standard contains requirements for electrical features of pressure **sensing controls** and requirements for mechanical features that affect their intended **operation**.

NOTE Subclause 18.101, as it pertains to gas and/or oil **controls**, is under consideration pending review or revision of ISO 22967, ISO 22968 and ISO 23550 series, if applicable.

1.1.102 In general, these pressure **sensing controls** are integrated or incorporated with the equipment or are intended to be integrated in, or on the equipment. This standard also covers these **controls** when they are independently mounted. **In-line cord controls** are not covered by this standard.