**CAN/CSA-E60730-2-6:17** (IEC 60730-2-6:2015, MOD) National Standard of Canada

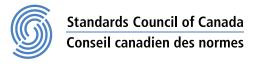
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Automatic electrical controls — Part 2-6: Particular requirements for automatic electrical pressure sensing controls including mechanical requirements (IEC 60730-2-6:2015, MOD)









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# *CAN/CSA-E60730-2-6:17 November 2017*

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### National Standard of Canada

CAN/CSA-E60730-2-6:17

Automatic electrical controls — Part 2-6: Particular requirements for automatic electrical pressure sensing controls including mechanical requirements (IEC 60730-2-6:2015, MOD)

Prepared by
International Electrotechnical Commission

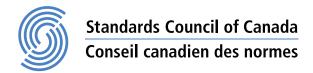


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### CAN/CSA-E60730-2-6:17

# Automatic electrical controls — Part 2-6: Particular requirements for automatic electrical pressure sensing controls including mechanical requirements (IEC 60730-2-6:2015, MOD)

## CSA Preface

This is the second edition of CAN/CSA-E60730-2-6, *Automatic electrical controls* — *Part 2-6: Particular requirements for automatic electrical pressure sensing controls including mechanical requirements*, which is an adoption, with Canadian deviations, of the identically titled IEC (International Electrotechnical Commission) Standard 60730-2-6 (third edition, 2015-04). It supersedes the previous edition published in 1994 as CAN/CSA-E730-2-6 (adopted IEC 730-2-6:1991). At the time of publication, IEC 60730-2-6:2015 is available from IEC in English only. CSA Group will publish the French version when it becomes available from IEC.

For brevity, this Standard will be referred to as "CAN/CSA-E60730-2-6" throughout.

This Standard is intended to be used in conjunction with CAN/CSA-E60730-1:15, *Automatic electrical controls* — *Part 1: General requirements* (adopted IEC 60730-1:2013, with Canadian deviations).

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

This Standard was reviewed for Canadian adoption by the CSA Technical Committee on International Standards, under the jurisdiction of the CSA Strategic Steering Committee on Requirements for Electrical Safety, and has been formally approved by the Technical Committee. This Standard has been approved as a National Standard of Canada by the Standards Council of Canada.

<u>Interpretations:</u> The Strategic Steering Committee on Requirements for Electrical Safety has provided the following direction for the interpretation of standards under its jurisdiction: "The literal text shall be used in judging compliance of products with the safety requirements of this Standard. When the literal text cannot be applied to the product, such as for new materials or construction, and when a relevant CSA committee interpretation has not already been published, CSA Group's procedures for interpretation shall be followed to determine the intended safety principle."

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This Standard is subject to review within five years from the date of publication, and suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to <a href="mailto:inquiries@csagroup.org">inquiries@csagroup.org</a> and include "Proposal for change" in the subject line:

- a) Standard designation (number);
- b) relevant clause, table, and/or figure number;
- c) wording of the proposed change; and
- d) rationale for the change.

### Canadian deviations

The following deviations are intended to meet Canadian product requirements and to align with the Canadian Electrical Code, Part I.

International Standard IEC 60730-2-6:2015 (third edition) forms the basis for CAN/CSA-E60730-2-6, which contains the following deviations in addition to those shown in CAN/CSA-E60730-1:15.

[Replace all references to "IEC 60730-1" with "CAN/CSA-E60730-1"]

### 1 Scope and normative references

### **1.1 Scope**

[Replace the third paragraph with the following]

Automatic electrical pressure **sensing controls** for equipment used by the public, such as equipment intended to be used in shops, offices, hospitals, farms, and commercial and industrial applications, are within the scope of this Standard.

[Add the following paragraph]

This Standard applies to the safety of such equipment designed and constructed for installation and use in accordance with CSA C22.1, Canadian Electrical Code, Part I.

### 1.1.1

[Replace the third paragraph with the following]

This Standard is also applicable to pressure **sensing controls** for appliances within the scope of CAN/CSA-C22.2 No. 60335-1.

### 1.2 Normative references

[Add the following to Clause 1.2 of Part 1]

Any reference to International Standards that are adopted as National Standards of Canada subsequent to the publication of CAN/CSA-E60730-2-6 shall be replaced by the relevant National Standard of Canada.

Where reference is made to CSA Group publications, such reference shall be considered to refer to the latest edition and all amendments published to that edition. This Standard refers to the following publications, and the years shown indicate the latest editions available at the time of printing:

### **CSA Group**

C22.1-15

Canadian Electrical Code, Part I

CAN/CSA-C22.2 No. 0-10 (R2015)

General requirements — Canadian Electrical Code, Part II

CAN/CSA-C22.2 No. 60335-1:16

Household and similar electrical appliances — Safety — Part 1: General requirements

CAN/CSA-E60730-1:15

Automatic electrical controls — Part 1: General requirements

### 3 General requirements

[Replace this clause with the following]

This Clause of Part 1 is applicable except as follows.

[Add the following clause]

### 3.1A

General requirements applicable to these products are provided in CAN/CSA-C22.2 No. 0.

### 4 General notes on tests

### 4.3 Instructions for test

### 4.3.1.101

[Replace this clause with the following]

The values in Annex AA apply for the testing of independently mounted integrated and incorporated pressure **sensing controls** in Clause 17.

# Annex AA (normative) Number of cycles

### AA.1 Number of cycles for independently mounted controls

[Add the following row and footnote  $^d$  to the Table in Clause AA.1]

	Automatic action	i	Manual action <sup>d</sup>		
Type	With load	No load	With load	No load	
Safety controls	100 000	_	_	_	

<sup>&</sup>lt;sup>d</sup> In Canada, the number of cycles specified in this Table apply for independently mounted, integrated, and incorporated pressure controls.

# Annex BB (informative) **Stainless steel for bellows, bourdon tubes or similar elements**

### BB.1 — Stainless steel for bellows, bourdon tubes or similar elements

[Add the following row to Table BB.1]

Material class	Code/ symbol	С	Si	Mn	P	S	Cr	Мо	Ni	Others
А	Canada UNS / S30400	≤ 0.08	≤ 0.75	≤ 2.00	≤ 0.040	≤ 0.030	18.00–20.00	-	8.00–11.00	_
	UNS / S30403	0.035	0.75	2.00	0.040	0.030	18.00-20.00	_	8.00-13.00	_
	UNS / S31600	0.08	0.75	2.00	0.040	0.030	16.00-18.00	2.0-3.0	11.00-14.00	_
	UNS / S31603	0.035	0.75	2.00	0.040	0.030	16.00-18.00	2.0-3.0	10.00-15.00	_

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Edition 3.0 2015-04

# INTERNATIONAL STANDARD

Automatic electrical controls -

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





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Edition 3.0 2015-04

# INTERNATIONAL STANDARD

Automatic electrical controls -

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

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ICS 97.120

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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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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.

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- 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 multifunctional 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.