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**Avtomatske električne krmilne naprave za gospodinjstva in podobno uporabo - 2-6. del: Posebne zahteve za avtomatske električne, na tlak občutljive naprave, vključno z mehanskimi zahtevami**

Automatic electrical controls for household and similar use - Part 2-6: Particular requirements for automatic electrical pressure sensing controls including mechanical requirements

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Titre : CEI 60730-2-6, Ed. 2: Dispositifs de  
commande électrique automatiques à usage  
domestique et analogue - Partie 2-6: Règles  
particulières pour les dispositifs de commande  
électrique automatiques des a la pression y  
compris prescriptions mecaniques

Titre : IEC 60730-2-6, Ed. 2: Automatic electrical  
controls for household and similar use - Part 2-  
6: Particular requirements for automatic  
electrical pressure sensing controls including  
mechanical requirements

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**Note d'introduction**

L'objet de cet amendement est de mettre à jour  
la partie 2.6 de l'amendement 1 de la CEI  
60730-1 Ed.3 (2003).

**Introductory note**

The purpose of this amendment is to update the  
Part 2-6 standard to the Amendment 1 to IEC  
60730-1 Ed 3 (2003).

ATTENTION	ATTENTION
CDV soumis en parallèle au vote (CEI) et à l'enquête (CENELEC)	Parallel IEC CDV/CENELEC Enquiry

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

# **AUTOMATIC ELECTRICAL CONTROLS FOR HOUSEHOLD AND SIMILAR USE –**

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

### **FOREWORD**

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
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International Standard IEC 60730-2-6 has been prepared by IEC technical committee 72: Automatic controls for household use.

This second edition cancels and replaces the first edition published in 1991, amendment 1 (1994) and amendment 2 (1997). This second edition constitutes a technical revision.

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

CDV	Report on voting
72/XXX/CDV	72/XXX/RVC

Full information on the voting for the approval of this part can be found in the Report on Voting indicated in the above table.

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

This Part 2-6 is intended to be used in conjunction with IEC 60730-1. It was established on the basis of the third edition of that standard (1999) and its amendment 1 (2003). Consideration may be given to future editions of, or amendments to, IEC 60730-1.

This Part 2-6 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 2-6 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 2-6 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 practice are contained in the following subclauses: 10.1.4 and 18.101.

In this publication, the following print types are used:

- Requirements proper: in roman type.
- *Test specifications: in italic type.*
- Explanatory matter: in smaller roman type.

Subclauses, notes, tables or figures which are additional to those in Part 1 are numbered starting from 101.

The committee has decided that the contents of the base publication and its amendments will remain unchanged until 2007. At this date, the publication will be

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

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## **AUTOMATIC ELECTRICAL CONTROLS FOR HOUSEHOLD AND SIMILAR USE**

### **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 replaced by the following:

**1.1** 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 for household and similar use that may use electricity, gas, oil, solid fuel, solar thermal energy, etc. or a combination thereof, including heating, air-conditioning and similar applications.

**1.1.1** 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, household and similar equipment.

Throughout this standard, the word "equipment" means "appliance and equipment".

This standard does not apply to pressure sensing controls intended exclusively for industrial applications.

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 not intended for normal household use, but which nevertheless may be 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 is also applicable to controls for appliances within the scope of IEC 60335-1.

See also annex J.

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

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

**NOTE** 18.101, as it pertains to gas and/or oil controls, is under consideration pending review or revision by ISO/TC 109 and ISO/TC 161.

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

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

**1.1.5** 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.

**1.2** This standard applies to controls with a rated voltage not exceeding 690 V and a rated current not exceeding 63 A.

**1.3** This standard does not take into account the response value of an automatic action of a control, if such a response value is dependent upon the method of mounting the control in the equipment. If a response value is of significant purpose for the safety of the user or surroundings, the value defined in the appropriate household equipment standard or as determined by the manufacturer shall apply.

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

**1.5** This subclause of Part 1 is applicable.

## 2 Definitions

This clause of Part 1 is applicable except as follows:

### 2.2 Definitions of types of control according to purpose

#### 2.2.19 Add the following explanatory note:

See 2.2.102.

#### 2.2.20 Add the following explanatory note:

See 2.2.103.

*Additional definitions:*

#### 2.2.101

##### **pressure limiter**

Pressure limiter denotes a pressure sensing control which is intended to keep a pressure below or above a predetermined value during normal operating conditions and which may have provision for setting by the user.

A pressure limiter may be of the automatic or of the manual reset type. It does not make the reverse operation during the normal duty cycle of the equipment.

#### 2.2.102

##### **pressure operating control**

Pressure operating control denotes a pressure sensing control set at a high or low pressure, or both, between which limits the equipment is normally intended to operate.

**2.2.103****pressure cut-out**

Pressure cut-out denotes a pressure sensing control intended to keep a pressure below or above one particular value during abnormal operating conditions of the equipment and which has no provisions for setting by the user.

A pressure cut-out may be of the automatic or of the manual reset type.

Normally a pressure cut-out will provide a Type 2 action.

A pressure cut-out may have an adjustable stop intended to be set by the control manufacturer, the equipment manufacturer or the installer.

**2.3 Definitions relating to the function of controls***Additional definitions:***2.3.101****pressure medium**

Pressure medium denotes the medium used to transmit the pressure to the pressure sensing element.

Pressure medium as used in this standard refers to either gases or liquids.

**2.3.102****differential pressure**

Differential pressure denotes the difference in a pressure between any two points in a system, between two systems or between a system and a reference pressure such as atmospheric pressure.

An example is the difference in static pressure between the upstream side of an orifice and the downstream side.

**2.8 Definitions relating to component parts of controls***Additional definitions:***2.8.101****vent limiting means**

Vent limiting means denotes a means which limits the flow of air from or to the atmospheric side of the diaphragm chamber.

**2.8.102****vent**

Vent denotes that opening from the atmospheric side of a diaphragm to the atmosphere through which air is discharged or drawn in when the control is functioning.

**3 General requirement**

This clause of Part 1 is applicable.



## 4 General notes on tests

This clause of Part 1 is applicable except as follows:

### 4.1 Conditions of test

#### 4.1.7 Replacement:

*The rates of pressure change declared in 7.2 and used in clause 17 (i.e.  $\alpha_1, \beta_1, \alpha_2, \beta_2$ ) shall have test tolerances as declared by the manufacturer.*

### 4.4 Additional subclause:

**4.4.101** The values in annex AA apply for the testing of independently mounted pressure sensing controls in clause 17. Values for integrated and incorporated controls are specified in the appropriate equipment standard.

## 5 Rating

This clause of Part 1 is applicable.

## 6 Classification

This clause of Part 1 is applicable except as follows:

### 6.3.9 Additional subclause:

**6.3.9.101** - pressure sensing.

### 6.4.3 Additional subclause:

**6.4.3.101** For sensing actions, no increase in the operating value as a result of any leakage from the sensing element or from parts connecting the sensing element to the switch head (Type 2.N).

### 6.5.2 Modification:

Instead of the second paragraph of the explanatory matter the following applies.

Preferred degrees of protection provided by enclosures are: IP20, IP30, IP40, IP54 and IP65.

Values differing from these values are allowed.

### 6.8.3 Replacement:

For an independently mounted control or a control integrated or incorporated in an assembly utilizing a non-electrical energy source:

## 7 Information

This clause of Part 1 is applicable except as follows:

**Table 7.2**

Information		Clause or subclause	Method
<i>Modification:</i>			
<i>Replace the following requirements by:</i>			
6	Purpose of control	2.2.101 to 2.2.103, 4.3.5, 6.3	D
26	Number of cycles of actuation (M) for each manual action	6.10, annex AA	X
27	Number of automatic cycles (A) for each automatic action	6.11, annex AA	X
34	Not applicable		
44	Not applicable		
48	Operating pressure (or pressures)	2.3.11, 15, 18	D
<i>Additional items:</i>			
101	Pressure medium	2.3.101	X
102	Operating differential	2.3.26	D
103	Maximum working pressure	2.3.29	D

*Add, to note 4, the following text:*

For pressure sensing controls, limits of activating quantity are specified either in the applicable household appliance part 2, by the appliance manufacturer or as declared by the pressure sensing control manufacturer (see 17.7 and 17.8).