



**SLOVENSKI STANDARD**  
**SIST EN 60730-1:1997**  
**01-avgust-1997**

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**Automatic electrical controls for household and similar use - Part 1: General requirements (IEC 730-1:1993, modified)**

Automatic electrical controls for household and similar use - Part 1: General requirements

Automatische elektrische Regel- und Steuergeräte für den Hausgebrauch und ähnliche Anwendungen - Teil 1: Allgemeine Anforderungen

**iTeh STANDARD PREVIEW**

(standard iTeh)  
Dispositifs de commande électrique automatiques à usage domestique et analogue - Partie 1: Règles générales

[SIST EN 60730-1:1997](https://standards.iteh.ai/catalog/standards/sist/a9ec372f-c5a1-41c5-938e-cad6214d2b33/sist-en-60730-1-1997)

**Ta slovenski standard je istoveten z: EN 60730-1:1995**

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Descriptors: Control, definition, requirement, classification, construction, test

English version

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**Part 1: General requirements**  
(IEC 730-1:1993, modified)

Dispositifs de commande électrique  
automatiques à usage domestique et  
analogue

Partie 1: Règles générales  
(CEI 730-1:1993, modifiée)

Automatische elektrische Regel- und  
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Teil 1: Allgemeine Anforderungen  
(IEC 730-1:1993, modifiziert)

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This European Standard was approved by CENELEC on 1994-07-05. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

## CENELEC

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

#### FOREWORD

This European Standard has been prepared by the CENELEC Technical Committee TC 72 : Automatic controls for household use.

It is the endorsement of IEC 730-1:1993 with the necessary common modifications and is the editorial result of the combined texts of EN 60730-1:1991 and its amendments A1:1991, A11:1991, A12:1993 and A2, ratified at 75 BT, together with the corrigendum which was published in November 1993. It also includes the texts of prA3 and prA4 to EN 60730-1 which were proposed for ratification at 80 BT.

The text of the draft was approved by CENELEC as EN 60730-1 on 1994-07-05.

The following dates were fixed:

- latest date of publication (dop) 1995-07-15  
of an identical national standard

This European Standard replaces EN 60730-1:1991 and its amendments. However, EN 60730-1:1991 remains valid until all the part 2's which are used in conjunction with it have been withdrawn. No date of withdrawal of conflicting national standards (dow) has therefore been fixed.

This Part 1 is to be used in conjunction with the appropriate Part 2 for a particular type of control, or for controls for particular applications. This Part 1 may also be applied, so far as reasonable, to controls not mentioned in a Part 2, and to controls designed on new principles, in which case additional requirements may be necessary.

Sub-clauses which are in addition to those in the IEC 730-1 are numbered 101, 102 etc. New annexes are numbered ZA, ZB etc.

[SIST EN 60730-1:1997](#)

Special national conditions (snc) causing a deviation from this European Standard are listed in annex ZB (normative) which forms part of this standard.

Where reference is made to other international or harmonized standards, the edition of that standard quoted in Annex ZA is applicable.

NOTE: In this document the following print types are used:

- requirements proper: in roman type;
- test specifications: in italic type;
- explanatory matter: in smaller roman type;
- instructions for modification of the reference document: in bold type.

## Endorsement notice

The text of IEC 730-1:1993 was approved by CENELEC as a European Standard with agreed common modifications as given below:

### Common modifications

Contents: **Delete** Annex 'C'  
**Delete** Annex 'D'

Foreword: **Delete** the IEC foreword and replace it with the CENELEC foreword.

## 1 Scope

1.1.1 **Delete** "See also annex J".

## 2 Definitions

2.1.5 **Delete** the second explanatory paragraph.

2.2.8 **Replace** the first explanatory paragraph by:

"A thermal cut-out may be of the automatic, manual reset, or non-resettable type."

2.7.2 **Delete** the first explanatory paragraph.

**Add:** "Refer snc."

2.7.3 **Delete** the first explanatory paragraph.

**Add:** "Refer snc."  
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2.12 **Delete** "(under consideration)".

2.14.2 **Delete** the explanatory paragraph.

#### 4 General notes on tests

- 4.1.5 Delete "and 17.13" in the second line.
- 4.2.1 Delete the third explanatory paragraph.
- 4.3.3.1 Add: "Refer snc."
- 4.3.3.3 Add: "Refer snc."

#### 6 Classification

- 6.6.1 Delete the explanatory paragraph.
- 6.8.2.1 Add: "Refer snc."
- 6.8.2.2 Add: "Refer snc."
- 6.8.3.1 Add: "Refer snc."
- 6.8.3.2 Add: "Refer snc."

#### 7 Information

- Table 7.2 Delete "note 9)".
- Add to item 23, information, "if more than 20 K above  $T_{max}$ ".
- Add to item 42, clause or subclause, "16.2.4".
- Delete in items 61 to 65 "10) 11)".
- 7.4.3 Add: "Refer snc."
- 7.4.3.2 Delete all three explanatory paragraphs.
- Add: "Refer snc."

#### 8 Protection against electric shock

- 8.1.1 Delete the second and third explanatory paragraphs.
- 8.1.9.5 Delete the explanatory paragraph.
- 8.4 Delete both explanatory paragraphs.

#### 9 Provision for protective earthing

- 9.1.1 Add: "Refer snc."
- 9.1.2 Add: "Refer snc."
- 9.3.2 Delete the explanatory paragraph.
- 9.3.3 Delete the explanatory paragraph.
- 9.3.4 Delete the explanatory paragraph.
- 9.5.1 Delete the explanatory paragraph.
- 9.5.2 Delete

## 10 Terminals and terminations

Table 10.1.4 Delete 'note 1)' and the annotation in the table.

10.1.14 Delete the explanatory paragraph.

10.1.16 Delete and replace by "Void".

10.2.1 Add a new requirement paragraph:

"A terminal or termination is not required if a conductor is permanently connected to the control by the control manufacturer."

Table 10.2.1 Delete 'note 1)' and the annotation in the table.

10.2.4.1 Add to the requirement: "Depressions or holes are optional. If they exist they shall comply with the dimensional requirements."

Delete the third explanatory paragraph.

## 11 Constructional requirements

11.1.2 Delete the explanatory paragraph.

11.2.1.1 Delete the explanatory paragraph.

11.3.2 Delete in the sixth line the word "or".

11.5 Delete the last explanatory paragraph.

11.8.1 Replace "245 IEC 53" by "H05RR-F".  
<https://standards.iteh.ai/catalog/standards/sist/a9ec372f-c5a1-41c5-938e-14d33780-1-1997>  
Replace "227 IEC 53" by "H05VV-F".

Table 11.8.2 Delete 'note 1)' and the annotation in the table.

11.11.1.2 Delete all the explanatory paragraphs.

11.11.1.3 Delete

11.11.1.4 Delete

## 12 Moisture and dust resistance

12.1.6 Delete the explanatory paragraph.

12.3 Delete and replace by "Void".

### 13 Electric strength and insulation resistance

Table 13.2 Modify as follows:

	Over 130 V and up to 250V	Over 250V and up to 440V
Basic insulation	1 250	2 000
Supplementary insulation	2 750	2 750

Add "Refer snc" to note 9)  
Delete 'note 14)'

13.3 Delete

### 14 Heating

14.1.1 Delete the explanatory paragraph.

14.4 Delete the explanatory paragraph.

Table 14.1 Note 1: Delete the second sentence.  
Delete 'note 11)' and the annotation in the table.

### 15 Manufacturing deviation and drift

15.1 Delete the explanatory paragraph.

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### 16 Environmental stress

16.2.1 Add to the first dashed paragraph "Refer snc".

Delete the explanatory paragraph.

### 17 Endurance

17.1.3 Add an explanatory paragraph: "For the test sequence and conditions of non-resettable thermal cut-outs see 17.15."

17.1.3.1 Delete in the second and fifth dashed paragraphs the text in parentheses.

17.2.2 Delete in the first line "*In those countries which use an over-voltage test,*". The clause will then start "*The electrical loads to be used...*".

17.2.3 Delete up to 17.2.3.2 inclusive.

17.2.4 The clause should be in *italics* as it is part of the test specifications.

Table 17.2-1 Delete the words in parentheses after the heading.  
Delete 'note 2)' and the annotation in the table.

Table 17.2-2 Delete.

Table 17.2-3 Delete.



- 17.5.1 Delete the explanatory paragraph.
- 17.6.2 Delete the explanatory paragraph.
- 17.7 Delete the words in parentheses.
- 17.7.1 Delete the words in parentheses.
- 17.7.7 Delete the explanatory paragraph.
- 17.8.4 Replace in the last line "17.8.4" by "7.2".
- 17.8.4.1 Delete the explanatory paragraph.
- 17.10 Delete the words in parentheses.
- 17.10.1 Delete the words in parentheses.
- 17.10.4 Delete.
- 17.12.5 Delete.
- 17.14 Delete the second sentence in the second dashed paragraph.

## 18 Mechanical strength

- 18.1.6 Delete 18.1.6 to 18.1.6.3 inclusive.
- 18.2.1 Delete ", except as provided in 18.4,".
- 18.4 Delete and replace by "Void".  
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<https://standards.iteh.ai/catalog/standards/sist/a9ec372f-c5a1-41c5-938e-ead6214d2b33/sist-en-60730-1-1997>
- Table 18.4-1 Delete
- Table 18.4-2 Delete
- 18.4.1 Delete

## 19 Threaded parts and connections

- 19.1.7 Replace "screws" by "threaded parts".
- 19.2.4.1 Delete the explanatory paragraph.
- 19.2.5.1 Delete the explanatory paragraph.

## 20 Creepage distances, clearances and distances through insulation

- Delete the five lines of text under the title of this clause.
- 20.1 Delete in the first sentence the words "or, in some countries, tables 20.3-1 to 20.3-4 inclusive".  
Delete in the second sentence the words "or, in some countries, tables 20.3-1 to 20.3-4 inclusive".
- Table 20.1 Delete note 10 and the annotations in the table.
- 20.3 Delete 20.3 to 20.3.23 inclusive.

## 21 Resistance to heat, fire and tracking

21.1 Delete the explanatory paragraph.

21.2.7 Replace the test specification by:

*"Compliance is checked by the tests of clause G4 of appendix G, carried out at a voltage corresponding to the PTI value declared for table 7.2, item 30."*

21.4 Delete

## 27 Abnormal operation

27.2 Replace "Burnout test" by "Locked mechanism test".

### Figure 14

In the column headed 'Dimensions' add the reference suffix 7) against both 'b1' entries.

In the column headed '4.8' add for the item 't' the reference suffix '8)'.  
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In the column headed '6.3' for the item 'b<sub>1</sub>(hole)', replace the reference suffix '2)' by '3)'.

Delete in the last row of the table 't<sub>1</sub>'

Replace the text of note 5 by:

"With the exception of a dimple or hole and the area indicated by dimension 'b', the thickness 't' shall be maintained over the whole connecting area. Compliance shall be determined by measurement over any section ( $3,2 \pm 0,2 \text{ mm}^2$ ) in a circular area. In addition, the overall flatness shall have a tolerance of 0,03 mm."  
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Replace note 7) by:  
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"Tabs may have an optional detent for latching. Round dimple detents, rectangular dimple detents and hole detents shall be located in the area bounded by dimensions  $b_1$ ,  $l_3$ , and  $l_4$  along the centre line of the tab."

Add note 8):

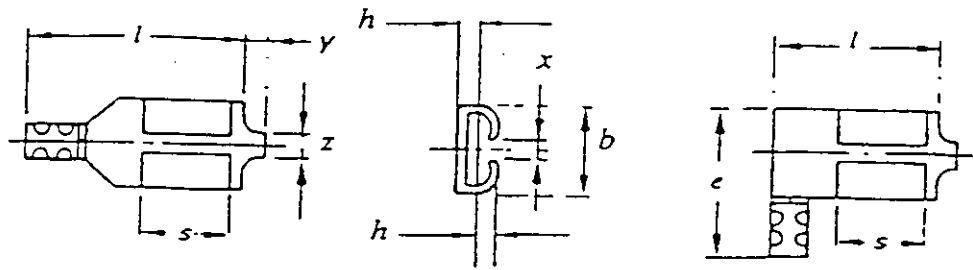
"8) A thickness of  $0,5 \pm 0,025 \text{ mm}$  is allowed as an alternative to  $0,8 \pm 0,03 \text{ mm}$ ."

### Figure 15

Delete the reference 't<sub>1</sub>', and the words "Flatness tolerance" in two places.

### Figure 16

Replace by the modified figure 16.



Ligne médiane de la lame de la languette  
Centre line of the tab blade

Dimensions en millimètres

Dimensions in millimetres

Dimension	Type de raccord — Connector size			
	2,8	4,8	6,3	9,5
b (max.)	4	6	8	12,5
c (max.)	12	12	15	20
h (max.) <sup>1)</sup>	2	2	2,5	3,2
l (max.)	18	18	22	27
s (min.)	4,5	5	6	10
x (min.) <sup>2)</sup>	—	0,9	1,2	1,7
y (max.)	0,5	0,5	0,5	1,0
z (max.)	1,5	1,5	2,0	2,0

- 1) Ecartement maximal par rapport à la ligne médiane de la lame de la languette.
- 2) Ne s'applique qu'aux clips pour raccords non réversibles.

- 1) Maximum offset dimension from the centre line of the tab blade.
- 2) Applies only to receptacles for non-reversible connectors.

Les dimensions cotées s'entendent pour les connexions serrées.

The dimensions shown apply to the crimped conditions.

Les dimensions pour les clips équipés d'un manchon et pour les clips ayant un fourreau pré-isolé sont à l'étude.

Dimensions for receptacles provided with a sleeve and for receptacles with a pre-insulated barrel are under consideration.

Les dessins ne préjugent pas les détails non cotés.

The sketches are not intended to govern design except as regards the dimensions shown.

Fig. 16 - Clips.  
Receptacles.

## Annex C

Delete.

## Annex D

Delete.

## Annex H

Table 7.2 Add to item 36, clause or subclause, "H2.4.6".

Add to item 70, information, "16) 18)".

Replace in item 70, clause or subclause, "H11.12.4" by "H11.12.6".

H11.12.6 Delete the second explanatory paragraph.

H13.2 Delete note 14.

H16.5.2 Replace the number "H16.5.2" by the number "H26.5.2".

Table H26.8.4 Delete note 3).

H26.9 Delete the explanatory paragraph.

H26.10 Delete H.26.10 to H.26.10.5 inclusive.

H26.11 Delete the explanatory paragraph relating to IEC 801-2, clause 8.2.1.

Replace the paragraph that starts "Accessible parts include..." by;

*"Accessible parts include parts which are accessible after the removal of detachable parts. If there is an instruction to remove a part during normal use or user maintenance and if there is no warning on the part which indicates: 'Disconnect from supply before removing', that part is regarded as a detachable part even if a tool has to be used for its removal. If there is such a warning on the part, it is permissible, after removal, to touch parts separated from live parts by basic insulation."*

H26.12.2 Delete the last two lines "In order to gain comparable LV results...".

H27.1.1 Delete "Replace this subclause by".

H27.1.3 Delete the explanatory paragraph.

H27.1.3a) Replace the explanatory paragraph by:

*"The wrapping tissue paper is specified in ISO Standard 4046:1978 as thin, soft, relatively tough paper, generally intended for packing delicate articles, its substance being between 12 g/m<sup>2</sup> and 25 g/m<sup>2</sup>."*

## Annex J

- J1.1.1 **Delete** the first explanatory paragraph.
- J6.4.3.3 **Replace** "have" in the last line by "provide the equivalent of".
- J12.2.1 **Replace** "soon" by "sufficiently soon" in the explanatory paragraph.
- J17.17a) **Replace** in the first dashed line "thermal runaway" by "thermal runaway by increased voltage" and in the second dashed line "overcurrent test" by "thermal runaway by increased current".
- J17.18.3.2 **Delete** the explanatory paragraph.
- J17.18.4 **Delete** the explanatory paragraph.
- J17.18.5 **Replace** the title of this subclause by "Thermal runaway by increased voltage."
- J17.18.6 **Replace** the title of this subclause by "Thermal runaway by increased current."
- J24.2.2 **Replace** by J24.2.1.

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Annex ZA (normative)

Other international publications quoted in this standard  
with the references of the relevant European publications

When the international publication has been modified by CENELEC common modifications, indicated by (mod), the relevant EN/HD applies.

<u>IEC Publication</u>	<u>Date</u>	<u>Title</u>	<u>EN/HD</u>	<u>Date</u>
IEC 65(mod)	1976	Safety requirements for mains operated electronic and related apparatus for household and similar general use	HD 195 S6	1989
IEC 85	1984	Thermal evaluation and classification of electrical insulation	HD 566 S1	1990
IEC 112	1979	Method for determining the comparative and the proof tracking indices of solid insulating materials under moist conditions	HD 214 S2	1980
IEC 127	series	Miniature fuses	EN 60127	series
IEC 227(mod)	series	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V	HD 21	series
IEC 245(mod)	series	Rubber insulated cables of rated voltages up to and including 450/750 V	HD 22	series
IEC 269-1	1986	Low-voltage fuses Part 1: General requirements	EN 60269-1	1989
IEC 335-1(mod)	1976	Safety of household and similar electrical appliances Part 1: General requirements	EN 60335-1*)	1988
IEC 384-14	1981	Sectional specification: Fixed capacitors for radio interference suppression. Selection of methods of test and general requirements	-----	----
IEC 423	1993	Outside diameters of conduits for electrical installations and threads of conduits and fittings	EN 60423	1994
IEC 529	1976	Classification of degrees of protection provided by enclosures	HD 365 S3	1985
IEC 536	1976	Classification of electrical and electronic equipment with regard to protection against electric shock	HD 366 S1	1977
IEC 539	1976	Directly heated negative temperature coefficient thermistors	-----	----
IEC 555-1	1982	Disturbances in supply systems caused by household appliances and similar electrical equipment	EN 60555-1	1987
IEC 664	1980	Insulation co-ordination within low-voltage systems including clearances and creepage distances for equipment	-----	----
IEC 664A	1981	First supplement to Publication 664	-----	----
IEC 695-2-1	1980	Fire hazard testing Part 2: Test methods Section 1: Glow-wire test and guidance	HD 444.2.1 S1	1983
IEC 695-2-2	1980	Fire hazard testing Part 2: Test methods Section 2: Needle-flame test	HD 444.2.2 S1	1983

\*) Consideration should be given to EN 60335-1 : 1994 which endorses IEC 335-1 : 1991.

Annex ZA (normative)  
Continued-

<u>IEC Publication</u>	<u>Date</u>	<u>Title</u>	<u>EN/HD</u>	<u>Date</u>
IEC 707	1981	Methods of test for the determination of the flammability of solid electrical insulating materials when exposed to an igniting source	HD 441 S1	1983
IEC 738-1	1982	Directly heated positive step-function temperature coefficient thermistors - Part 1: Generic specification	-----	----
IEC 738-1-1	1982	Part 1: Blank detail specification, Assessment level E	-----	----
IEC 742(mod)	1983	Isolating transformers and safety isolating transformers. Requirements	EN 60742	1989
IEC 801-2	1991	Electromagnetic compatibility for industrial-process measurement and control equipment Part 2: Electrostatic discharge requirements	EN 60801-2	1993
IEC 801-3	1984	Electromagnetic compatibility for industrial-process measurement and control equipment Part 3: Radiated electromagnetic field requirements	HD 481.3 S1	1987
IEC 801-4	1988	Electromagnetic compatibility for industrial-process measurement and control equipment Part 4: Electrical fast transient/burst requirements	-----	----
IEC 817	1984	Spring-operated impact test apparatus and its calibration	HD 495 S1	1987
IEC 998-2-2	1991	Connecting devices (junction and/or tapping) for household and similar fixed electrical installations - Part 2: Particular requirements for screwless terminals for connecting copper conductors without special preparation	EN 60998-2-2	1993
IEC 1058-1	1990	Switches for appliances - Part 1: General requirements	EN 61058-1	1992
<u>ISO Publication</u>	<u>Date</u>	<u>Title</u>	<u>EN/HD</u>	<u>Date</u>
ISO 4046	1978	Paper, board, pulp and related terms	-----	----

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