



**SLOVENSKI STANDARD**  
**kSIST FprEN IEC 60730-1:2022/oprAA:2023**  
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**Avtomatske električne krmilne naprave - 1. del: Splošne zahteve - Dopolnilo AA**

Automatic electrical controls - Part 1: General requirements

Automatische elektrische Regel- und Steuergeräte - Teil 1: Allgemeine Anforderungen

Dispositifs de commande électrique automatiques - Partie 1: Exigences générales

**Ta slovenski standard je istoveten z: FprEN IEC 60730-1:2022/prAA**

<https://standards.iteh.ai/catalog/standards/sist/3e894ec9-322d-4745-866b-1b485491dc8d/ksist-fpren-iec-60730-1-2022-opraa-2023>

**ICS:**

97.120	Avtomatske krmilne naprave za dom	Automatic controls for household use
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**en**



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**FprEN IEC 60730-1:2022**

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ICS

English Version

## Automatic electrical controls - Part 1: General requirements

Dispositifs de commande électrique automatiques - Partie  
1: Exigences générales

Automatische elektrische Regel- und Steuergeräte - Teil 1:  
Allgemeine Anforderungen

This draft amendment prAA, if approved, will modify the European Standard FprEN IEC 60730-1:2022; it is submitted to CENELEC members for enquiry.

Deadline for CENELEC: 2023-05-12.

It has been drawn up by CLC/TC 72.

If this draft becomes an amendment, CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

This draft amendment was established by CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

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## European foreword

This document (FprEN IEC 60730-1:2022/prAA:2023) has been prepared by Technical Committee CLC/TC 72 “Automatic controls for household use”, the secretariat of which is held by BSI.

This document is currently submitted to the Enquiry.

The following dates are proposed:

- latest date by which the existence of this document has to be announced at national level (doa) dor + 6 months
- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) dor + 12 months
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) —\*

\* No date of withdrawal (dow) has been given pending the updating of all the Parts 2 to align with FprEN IEC 60730-1:2022. The applicable date of withdrawal is given in each part 2. It is intended the dow for this Part 1 will be fixed once all the Parts 2 have been updated.

This document is read in conjunction with appropriate Part 2 for a particular type of control, or for controls for particular applications. This document can 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 can be necessary.

Subclauses which are additional to those in IEC 60730-1:2022 are numbered 601, 602 etc. New annexes are labelled ZA, ZB etc.

Special national conditions causing a deviation from this document are listed in Annex ZB (normative).

National deviations from this document are listed in Annex ZC (informative).

This document has been prepared under a Standardization Request given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

For relationship with EU Directive(s) / Regulation(s), see informative Annexes ZZA, ZZB and ZZC, which are an integral part of this document.

**FprEN IEC 60730-1:2022/prAA:2023 (E)****1 Modifications to Clause 3, “Terms and definitions”**

*In 3.7.3 Class 0 control, add the following note to entry:*

“

Note to entry 1: See Annex ZB.”

*In 3.7.4 Class 0I control, add the following note:*

“

Note to entry 1: See Annex ZB.”

*In 3.7.6.3 combination insulation-encased/metal-encased class II control, add the following note:*

“

Note to entry 1: See Annex ZB.”

**2 Modifications to Clause 4, “General”**

*In 4.2 General requirements, add after the 1st paragraph:*

“The rated voltage of controls, having terminals intended to be directly connected to the supply mains single phase, shall cover usage at 230 V and to the supply mains multiphase, 400 V.”

*In 4.3.4.3 According to protection against electric shock, add the following note for 4.3.4.3.1 and 4.3.4.3.3:*

“

NOTE See Annex ZB.”

**3 Modification to Clause 5, “Required technical information”<sup>23</sup>**

<https://standards.iteh.ai/catalog/standards/sist/3e894ec9-322d-4745-866b->

*In 5.4.2 Marking of terminals for external connections, add the following note for 5.4.2.2 and 5.4.2.4:*

“

NOTE See Annex ZB.”

**4 Modifications to Clause 7, “Provision for protective earthing”**

*In 7.1 Class 0I and Class I controls, add the following note for 7.1.1:*

“

NOTE See Annex ZB.”

*Delete subclause 7.5.2 Incorporated control.*

**5 Modification to Clause 9, “Constructional requirements”**

*In 9.9.5, add the following note:*

“

NOTE See Annex ZB.”

**6 Modification to Clause 14, “Moisture and dust resistance”**

*Delete subclause 14.3 Touch current test for in-line cord controls and free-standing controls.*

## 7 Modification to Clause 15, “Electric strength and insulation resistance”

In 15.2 *Electric strength*, add the following note to *Table 16 Insulation or disconnection test voltages*:

“

NOTE See Annex ZB.”

Delete subclause 15.3 *Additional tests for in-line cord and free-standing controls*.

## 8 Modification to Clause 16, “Heating”

Add after Table 17 the following text:

“If the maximum permitted temperature of a winding or core lamination exceeds the value specified for the test described in 16.1, six additional samples shall be subjected to the following tests:

Moving parts, if any, are locked and a current is passed individually through each winding, this current being such that the temperature of the relevant winding is equal to the maximum temperature measured under the conditions specified in 16.1. This temperature is increased by whichever value is chosen from Table Z.1. The total time during which the current is passed is as indicated in the table for the temperature increase chosen.

**Table Z.1 — Additional aging parameters for windings**

Temperature increase °C (K)	Total time h
0 ± 3	p <sup>a</sup>
10 ± 3	0,5 p
20 ± 3	0,25 p
30 ± 3	0,125 p

<sup>a</sup> In general, p equals 8 000 for controls for EN 60335-1 applications.

The total time is divided into four equal periods, each of them being followed by a period of 48 h during which the control is subjected to a humidity treatment as specified in 14.2. After the final humidity treatment, the insulation shall withstand an electric strength test as specified in 15.2, the test voltage for the electric strength being, however, reduced to 50 % of the values specified in Table 16.

Failure of only one of the six samples during the first of the four periods of the test is ignored.

If one of the six samples fails during the second, third or fourth period of the test, the remaining five samples are subjected to an additional fifth period of passing current and humidity treatment, followed by an electric strength and insulation resistance test as specified before.

Failure of any of the remaining five controls will entail a rejection.

The controls are then subjected to the test of 19.8, but only for half the number of cycles specified in that subclause. All controls shall then withstand an electric strength test as specified before.

NOTE Examples of cases where there can be doubt with regard to the classification of the insulating system of a winding are those two cases where well-known insulating materials are used in an unconventional way, where combinations of materials of different temperature classes are used at a temperature higher than that allowed for the lowest class used or where materials are used for which no sufficient experience is available, as can be the case for integral core insulation.

If it is desired to establish that the insulation system falls within the temperature class claimed by the manufacturer, the winding temperature shall be equal to the temperature limit for the class of insulation claimed, increased by the temperature increase chosen from the table.

The temperature increase chosen from the table should be agreed with the manufacturer.”

## FprEN IEC 60730-1:2022/prAA:2023 (E)

**9 Modification to Clause 18, “Environmental stress”**

*In 18.2 Environmental stress of temperature, add the following note for 18.2.1:*

“

NOTE See Annex ZB.”

**10 Modifications to Clause 19, “Endurance”**

*In 19.3.1 Thermal conditions for the tests, in 19.3.1, add the following text as a sub-part to the 3rd dashed item:*

“

- Controls with **type 1 action** – Clauses 18 and 19;
- Controls with **type 2 action** – Clauses 15, 18 and 19.

One additional sample required.”

*In 19.7 Overvoltage test or overload test in all countries using an overload test of automatic action at accelerated rate, add the following text:*

“Only the overvoltage test is applicable.”

*In 19.10 Overvoltage test or overload test in all countries using an overload test of automatic action at accelerated rate, add the following text:*

“Only the overvoltage test is applicable.”

**11 Modifications to Clause 21, “Resistance to heat, fire and tracking”**

*Replace the title of 21.3 with the following:* [/catalog/standards/sist/3e894ec9-322d-4745-866b-1b485491dc8d/ksist-fpren-iec-60730-1-2022-opraa-2023](https://standards.iteh.ai/catalog/standards/sist/3e894ec9-322d-4745-866b-1b485491dc8d/ksist-fpren-iec-60730-1-2022-opraa-2023)  
**“Independently mounted controls”**

*In 21.3.1, add as a 2nd paragraph the following:*

“For parts that maintain or retain in position electrical connections, the glow-wire test shall be carried out at a temperature of 850 °C.”

**12 Modifications to Clause 25, “Electromagnetic compatibility (EMC) requirements – Immunity”**

*In 25.1 General, add before Table 25 the following requirement:*

“Table 25 applies with the following modification: For all class A free standing controls, independently mounted controls and in-line cord controls the tests of 25.5 to 25.10 shall be applicable.”

Delete note <sup>a</sup> in Table 25.

**13 Modification to Annex Q, “Regional differences relevant for the member countries of CENELEC”**

*Replace the existing Annex Q with “void”.*

**14 Addition of Annexes ZA, ZB, ZC, ZZA, ZZB and ZZC**

*Add the following Annexes ZA, ZB, ZC, ZZA, ZZB and ZZC:*



## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60038	-	IEC standard voltages	EN 60038	2011
IEC 60065	2014	Audio, video and similar electronic apparatus – Safety requirements	EN 60065 + A11 + AC + AC + AC	2014 2017 2016 2017 2018
IEC 60068-2-75	-	Environmental testing – Part 2–75: Tests - Test Eh: Hammer tests	EN 60068-2-75	2014
IEC 60085	<a href="https://standards.iteh.ai/standards/iec-60730-1-2022-opraa-2023">https://standards.iteh.ai/standards/iec-60730-1-2022-opraa-2023</a>	Electrical insulation and thermal evaluation and designation	EN 60085	2008
IEC 60099-1	1991 <sup>1</sup>	Surge arresters – Part 1: Nonlinear resistor - type gapped arresters for a.c. systems	-	-
IEC 60112	2020	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN IEC 60112	2020
IEC 60127	series	Miniature fuses	EN 60127-1 + A1 + A2 EN 60127-2 EN 60127-3 + A1 EN 60127-4 + A1 + A2 EN 60127-6 EN 60127-7 EN 60127-8	2006 2011 2015 2014 2015 2020 2005 2009 2013 2014 2016 2018

<sup>1</sup> IEC 60099-1 is referred to into Annex C (informative) only, therefore it is listed in the bibliography. Future Amendment 1 to IEC 60730-1:2022 will refer to IEC 60664-1:2020 and therefore there will be a new reference to IEC 61643 (all parts) instead of IEC 60099-1.

## FprEN IEC 60730-1:2022/prAA:2023 (E)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60227-1	-	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V Part 1: General requirements	EN 50525-2-11	2011
IEC 60245-1	-	Rubber insulated cables - Rated voltages up to and including 450/750 V Part 1: General requirements	EN 50525-2-21 + AC	2011 2013
IEC 60269	series	Low-voltage fuses	EN 60269-1 + A1 + A2 EN 60269-4 + A1 + A2 EN 60269-6 HD 60269-2 + A1 HD 60269-3 + A1	2007 2009 2014 2009 2012 2016 2011 2013 2017 2010 2013
IEC 60335-1	2020	Household and similar electrical appliances – Safety – Part 1: General requirements	prEN IEC 60335-1 + prAA:2022	2022 2022
IEC 60384-14	-	Fixed capacitors for use in electronic equipment - Part 14: Sectional specification - Fixed capacitors for electromagnetic interference suppression and connection to the supply mains	EN 60384-14 + A1 + AC	2013 2016 2016
IEC 60384-16	-	Fixed capacitors for use in electronic equipment Part 16: Sectional specification: Fixed metallized polypropylene film dielectric DC capacitors	EN IEC 60384-16 + AC	2019 2020
IEC 60384-17	-	Fixed capacitors for use in electronic equipment - Part 17: Sectional specification - Fixed metallized polypropylene film dielectric AC and pulse capacitors	EN IEC 60384-17 + AC	2019 2021
IEC 60417	Database	Graphical symbols for use on equipment	-	-
IEC 60423	-	Conduit systems for cable management – Outside diameters of conduits for electrical installations and threads for conduits and fittings	EN 60423	2007
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
+ AMD1	1999		+ A1	2000
+ AMD2	2013		+ A2 + AC	2013 2016
IEC 60539	series	Directly heated negative temperature coefficient thermistors	EN 60539-1 + AC EN IEC 60539-2	2016 2017 2019

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60664-1	2007 <sup>2</sup>	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	EN 60664-1	2007
IEC/TR 60664-2-2	2002 <sup>3</sup>	Insulation coordination for equipment within low-voltage systems - Part 2-2: Interface considerations - Application guide	-	-
IEC 60664-3	2016	Insulation coordination for equipment within low-voltage systems Part 3: Use of coating, potting or moulding for protection against pollution	EN 60664-3	2017
IEC 60664-4	-	Insulation coordination for equipment within low-voltage systems - Part 4: Consideration of high-frequency voltage stress	EN 60664-4 + corr. Oct.	2006 2006
IEC 60695-2-10	-	Fire hazard testing Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure	EN IEC 60695-2-10	2021
IEC 60695-2-11	2021	Fire hazard testing - Part 2-10: Glowing/hot-wire based test methods - Glow-wire flammability test method for end products (GWEPT)	EN IEC 60695-2-11	2021
IEC 60695-10-2	-	Fire hazard testing - Part 10-2: Abnormal heat - Ball pressure test	EN 60695-10-2	2014
IEC 60738	series	Thermistors - Directly heated positive function temperature coefficient	EN 60738-1 + A1 EN 60738-1-1 EN 60738-1-2 EN 60738-1-3 EN 60738-1-4	2006 2009 2008 2008 2008 2008
IEC 60747-5-5	-	Semiconductor devices – Part 5-5: Optoelectronic devices – Photocouplers	EN IEC 60747-5-5	2020
IEC 60884-1	-	Plugs and socket-outlets for household and similar purposes – Part 1: General requirements	IEC 60884-1	2022
IEC 60884-2-5	2017	Plugs and socket-outlets for household and similar purposes – Part 2-5: Particular requirements for adaptors	IEC 60884-2-5	2017
IEC 60998-2-2	-	Connecting devices for low-voltage circuits for household and similar purposes Part 2-2: Particular requirements for connecting devices as separate entities with screwless-type clamping units	EN 60998-2-2	2004
IEC 60998-2-3	-	Connecting devices for low-voltage circuits for household and similar purposes Part 2-3: Particular requirements for connecting devices as separate entities with insulation-piercing clamping units	EN 60998-2-3	2004

<sup>2</sup> withdrawn

<sup>3</sup> Dated as no European equivalent exists.