SVENSK STANDARD SS-EN 60730-1

Fastställd	Utgåva	Sida	Ingår i
2001-04-20	3	1 (1+273)	SEK Övers kt 72

Svenska Elektriska Kommissionen, SEK

Automatiska elektriska styr- och reglerdon för hushållsbruk – Del 1: Allmänna fordringar

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

Som svensk standard gäller europastandarden EN 60730-1:2000. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60730-1:2000.

Nationellt förord

Europastandarden EN 60730-1:2000

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC

– **IEC 60730-1, Third edition, 1999 - Automatic electrical controls for household and similar use - Part 1: General requirements**

utarbetad inom International Electrotechnical Commission, IEC.

I bilaga ZB redovisas en svensk avvikelse, vilken inom CENELEC accepterats till följd av speciella nationella förhållanden.

I Bilaga ZC redovisas en svensk avvikelse, vilken inom CENELEC noterats vara föranledd av svenska myndigheters föreskrifter.

SS-EN 60730-1, utgåva 1, 1991 och SS-EN 60730-1, utgåva 2, 1995, fortsätter att gälla tillsammans med de svenska standarder för olika styr- och reglerdon som utgör Del 2 till denna standard och som hänvisar till denna.

SS-EN 60730-1, utgåva 3, 2001, gäller endast i det fall det finns en Del 2 för en särskild typ av styr- och reglerdon eller för styr- och reglerdon för särskilda användningsområden. Där så befinns rimligt kan dock Del 1 tillämpas på styr- och reglerdon som ej omfattas av någon Del 2, i vilket fall ytterligare fordringar kan bli nödvändiga.

ICS 33.160.20

Denna standard är fastställd av Svenska Elektriska Kommissionen, SEK,
som också kan lämna upplysningar om **sakinnehållet** i standarden.
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EUROPEAN STANDARD **EN 60730-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM November 2000

ICS 33.160.20

Supersedes EN 60730-1:1995 and its amendments

English version

Automatic electrical controls for household and similar use
Part 1: General requirements
(IEC 60730-1:1999, modified)

Dispositifs de commande électrique automatiques à usage domestique et analogue
Partie 1: Règles générales
(CEI 60730-1:1999, modifiée)

Automatische elektrische Regel- und Steuergeräte für den Hausgebrauch und ähnliche Anwendungen
Teil 1: Allgemeine Anforderungen
(IEC 60730-1:1999, modifiziert)

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

Ref. No. EN 60730-1:2000 E

Foreword

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

It is the endorsement of the International Standard IEC 60730-1:1999 with the necessary common modifications and is the editorial result of the combined texts of EN 60730-1:1995 and its amendments A1, A2, A11, A12, A13, A14, A15, A16 and A17, except where CENELEC common modifications have already been incorporated in IEC 60730-1:1999, together with the deletion of additional 'in some countries' paragraphs and 'under consideration' paragraphs which have been introduced in IEC 60730-1:1999.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 60730-1 on 1999-11-01.

The following date was fixed:

- latest date by which the standard has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2001-07-01

This European Standard replaces EN 60730-1:1995 and its amendments. However, EN 60730-1:1995 remains valid until all the part 2's which are used in conjunction with it have been withdrawn.

No date of withdrawal (dow) has been given pending the updating of all the part 2's to align with this EN 60730-1:2000. 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 part 2's have been updated.

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.

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

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

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

National deviations from this European Standard are listed in annex ZC (informative).

NOTE – In this standard the following print types are used:
– Requirements proper: in roman type.
– *Test specifications: in italic type.*
– Explanatory matter: in smaller roman type.

Endorsement notice

The text of the International Standard IEC 60730-1:1999 was approved by CENELEC as a European Standard with agreed common modifications as given below.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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

Publication	Year	Title	EN/HD	Year
IEC 60038 (mod)	1983	IEC standard voltages[1)]	HD 472 S1 + A1	1989 1995
IEC 60050-604	1987	International Electrotechnical Vocabulary (IEV) Chapter 604: Generation, transmission and distribution of electricity – Operation	-	-
IEC 60065 (mod)	1998	Audio, video and similar electronic apparatus Safety requirements	EN 60065 + corr. June	1998 1999
IEC 60068-2-75	1997	Environmental testing Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	1997
IEC 60085	1984	Thermal evaluation and classification of electrical insulation	HD 566 S1	1990
IEC 60099-1	1991	Surge arresters Part 1: Non-linear resistor type gapped surge arresters for a.c. systems	EN 60099-1	1994
IEC 60112	1979	Method for determining the comparative and the proof tracking indices of solid insulating materials under moist conditions	HD 214 S2	1980
IEC 60127	Series	Miniature fuses	EN 60127	Series
IEC 60216-1	1990	Guide for the determination of thermal endurance properties of electrical insulating materials Part 1: General guidelines for ageing procedures and evaluation of test results	HD 611.1 S1	1992
IEC 60227 (mod)	Series	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V	HD 21[2)]	Series
IEC 60245 (mod)	Series	Rubber insulated cables of rated voltages up to and including 450/750 V	HD 22[3)]	Series
IEC 60249	Series	Base materials for printed circuits	EN 60249	Series
IEC 60269	Series	Low-voltage fuses	EN 60269 HD 630	Series
IEC 60326	Series	Printed boards	-	-

[1)] The title of HD 472 S1 is "Nominal voltages for low-voltage public electricity supply systems".

[2)] HD 21 is related to, but not directly equivalent with, IEC 60227.

[3)] HD 22 is related to, but not directly equivalent with, IEC 60245.

Publication	Year	Title	EN/HD	Year
IEC 60335-1 (mod)	1991	Safety of household and similar electrical appliances Part 1: General requirements	EN 60335-1 + corr. January + A11 + A12 + A13 + A14 + A15	1994 1995 1995 1996 1998 1998 2000
IEC 60384-14	1993	Fixed capacitors for use in electronic equipment Part 14: Sectional specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains	-	-
IEC 60423 (mod)	1993	Conduits for electrical purposes – Outside diameters of conduits for electrical installations and threads for conduits and fittings	EN 60423	1994
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
IEC 60536	1976	Classification of electrical and electronic equipment with regard to protection against electric shock	HD 366 S1	1977
IEC 60539	1976	Directly heated negative temperature coefficient thermistors	-	-
IEC 60555-2 + A1 (mod)	1982 1985	Disturbances in supply systems caused by household appliances and similar electrical equipment Part 2: Harmonics	EN 60555-2[4)]	1987
IEC 60555-3	1982	Disturbances in supply systems caused by household appliances and similar electrical equipment Part 3: Voltage fluctuations	EN 60555-3[5)]	1987
IEC 60664-1 (mod)	1992	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	HD 625.1S1 + corr. November	1996 1996
IEC 60664-3	1992	Insulation coordination for equipment within low-voltage systems Part 3: Use of coatings to achieve insulation coordination of printed board assemblies	HD 625.3 S1	1997
IEC 60695-2-1/1 + corr. May	1994 1995	Fire hazard testing Part 2: Test methods -- Section 1/sheet 1: Glow-wire end-product test and guidance	EN 60695-2-1/1	1996
IEC 60695-2-2	1991	Fire hazard testing Part 2: Test methods Section 2: Needle-flame test	EN 60695-2-2	1994

[4)] EN 60555-2 will be superseded by EN 61000-3-2:1995 at 2001-01-01.

[5)] EN 60555-3 will be superseded by EN 61000-3-3:1995 at 2001-01-01.

Publication	Year	Title	EN/HD	Year
IEC 60707	1981	Methods of test for the determination of the flammability of solid electrical insulating materials when exposed to an igniting source	HD 441 S1[6)]	1983
IEC 60738-1	1998	Thermistors – Directly heated positive step-function temperature coefficient Part 1: Generic specification	EN 60738-1	1999
IEC 60738-1-1	1998	Thermistors - Directly heated positive step-function temperature coefficient Part 1-1: Blank detail specification - Current limiting application - Assessment level EZ	EN 60738-1-1	1999
IEC 60742 (mod)	1983	Isolating transformers and safety isolating transformers - Requirements	EN 60742[7)]	1995
IEC 60998-2-2	1991	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	1993
IEC 61000-3-2 +A1 +A2	1995 1997 1998	Electromagnetic compatibility (EMC) Part 3: Limits - Section 2: Limits for harmonic current emissions (equipment input current up to and including 16A per phase)	EN 61000-3-2 + corr. July + A1 + A2 + A14	1995 1997 1998 1998 2000
IEC 61000-3-3	1994	Electromagnetic compatibility (EMC) Part 3: Limits -- Section 3: Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current up to 16 A	EN 61000-3-3 + corr. July	1995 1997
IEC 61000-4-2	1995	Electromagnetic compatibility (EMC) Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	1995
IEC 61000-4-3 (mod)	1995	Electromagnetic compatibility (EMC) Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	1996
IEC 61000-4-4	1995	Electromagnetic compatibility (EMC) Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	1995
IEC 61000-4-5	1995	Electromagnetic compatibility (EMC) Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	1995
IEC 61000-4-6	1996	Electromagnetic compatibility (EMC) Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	1996

[6)] HD 441 S1 is superseded by EN 60707:1999 which is based on IEC 60707:1999.

[7)] EN 60742 includes A1:1992 to IEC 60742.

Publication	Year	Title	EN/HD	Year
IEC 61000-4-11	1994	Electromagnetic compatibility (EMC) Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests	EN 61000-4-11	1994
IEC 61058-1	1996[8)]	Switches for appliances Part 1: General requirements	-	-
IEC 61210 (mod)	1993	Connecting devices - Flat quick-connect terminations for electrical copper conductors - Safety requirements	EN 61210	1995
IEC 61558-2-6	1997	Safety of power transformers, power supply units and similar Part 2: Particular requirements for safety isolating transformers for general use	EN 61558-2-6	1997
CISPR 14-1	1993	Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus Part 1: Emission - Product family standard	EN 55014-1[9)]	1993
CISPR 16-1	1993	Specification for radio disturbance and immunity measuring apparatus and methods Part 1: Radio disturbance and immunity measuring apparatus	-	-
CISPR 22 (mod)	1997	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement	EN 55022 + corr. August	1998 1999

[8)] IEC 61058-1:2000 is harmonized as EN 61058-1:2000.

[9)] EN 55014-1:1993 is superseded by EN 55014-1:2000 which is based on CISPR 14-1:2000.

CONTENTS

AUTOMATIC ELECTRICAL CONTROLS FOR HOUSEHOLD AND SIMILAR USE –

Part 1: General requirements

1 Scope and normative references

1.1 In general, this standard applies to automatic electrical controls for use in, on, or in association with equipment for household and similar use, including controls for heating, air-conditioning and similar applications. The equipment may use electricity, gas, oil, solid fuel, solar thermal energy, etc., or a combination thereof.

1.1.1 This standard applies to the inherent safety; to the operating values, operating times, and operating sequences where such are associated with equipment safety; and to the testing of automatic electrical control devices used in, or in association with, household or similar equipment.

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

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

This standard does not apply to automatic electrical controls intended exclusively for industrial applications.

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

Automatic electrical 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.

See also annex J.

1.1.2 This standard applies to automatic electrical controls, mechanically or electrically operated, responsive to or controlling such characteristics as temperature, pressure, passage of time, humidity, light, electrostatic effects, flow, or liquid level, current, voltage or acceleration.

1.1.3 This standard applies to starting relays, which are a specific type of automatic electrical control, intended to switch the starting winding of a motor. Such controls may be built into, or be separate from, the motor.

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

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

1.2 This standard applies to controls with a rated voltage not exceeding 690 V and with 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. Where a response value is of significant purpose for the protection 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 controls incorporating electronic devices, requirements for which are contained in annex H.

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

1.5 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60730. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 60730 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60038:1983, *IEC standard voltages*

IEC 60050(604):1987, *International Electrotechnical Vocabulary (IEV) – Chapter 604: Generation, transmission and distribution of electricity – Operation*

IEC 60065:1998, *Audio, video and similar electronic apparatus – Safety requirements*

IEC 60068-2-75:1997, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60085:1984, *Thermal evaluation and classification of electrical insulation*

IEC 60099-1:1991, *Surge arresters – Part 1: Non-linear resistor type gapped arresters for a.c. systems*

IEC 60112:1979, *Method for determining the comparative and the proof tracking indices of solid insulating materials under moist conditions*

IEC 60127, *Miniature fuses*

IEC 60216-1:1990, *Guide for the determination of thermal endurance properties of electrical insulating materials – Part 1: General guidelines for ageing procedures and evaluation of test results*

IEC 60227, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V*

IEC 60245, *Rubber insulated cables – Rated voltages up to and including 450/750* V