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Standards

Irish Standard  
I.S. EN 60730-2-7:2010

Automatic electrical controls for household and similar use -- Part 2-7: Particular requirements for timers and time switches (IEC 60730-2-7:2008 (MOD))

## I.S. EN 60730-2-7:2010

*Incorporating amendments/corrigenda issued since publication:*

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I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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EUROPEAN STANDARD

**EN 60730-2-7**

NORME EUROPÉENNE

October 2010

EUROPÄISCHE NORM

ICS 97.120

Supersedes EN 60730-2-7:1991 + corr. Mar.2001 + A1:1997 + corr. Mar.2001 + A11:1994 +  
corr. Mar.2001 + A12:1993 + corr. Mar.2001 + A13:2003 + A14:2003

English version

**Automatic electrical controls for household and similar use -  
Part 2-7: Particular requirements for timers and time switches**  
(IEC 60730-2-7:2008, modified)

Dispositifs de commande électrique  
automatiques à usage domestique et  
analogue -  
Partie 2-7: Règles particulières pour les  
minuteries et les minuteries cycliques  
(CEI 60730-2-7:2008, modifiée)

Automatische elektrische Regel- und  
Steuergeräte für den Hausgebrauch und  
ähnliche Anwendungen -  
Teil 2-7: Besondere Anforderungen an  
Zeitsteuergeräte und Schaltuhren  
(IEC 60730-2-7:2008, modifiziert)

This European Standard was approved by CENELEC on 2010-10-01. 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, 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

**CENELEC**

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

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of the International Standard IEC 60730-2-7:2008, prepared by IEC TC 72, Automatic controls for household use, together with the common modifications prepared by the Technical Committee CENELEC TC 72, Automatic controls for household use, was submitted to the CENELEC Unique Acceptance Procedure and was approved as EN 60730-2-1 on 2010-10-01.

This document supersedes EN 60730-2-7:1991 + A1:1997 + A11:1994 + A12:1993 + A13:2003 + A14:2003.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates are fixed:

- latest date by which the EN has to be implemented  
at national level by publication of an identical  
national standard or by endorsement (dop) 2011-10-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2013-10-01

This Part 2-7 is to be used in conjunction with EN 60730-1:2000, *Automatic electrical controls for household and similar use – Part 1: General requirements*, and any subsequent amendments.

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive 2004/108/EC. See Annex ZZ.

Annexes ZA and ZZ have been added by CENELEC.

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## **Endorsement notice**

The text of the International Standard IEC 60730-2-7:2008 was approved by CENELEC as a European Standard with agreed common modifications as given below.

### **COMMON MODIFICATIONS**

#### **4 General notes on test**

**4.1.4 Delete** the addition relating to the USA.

**4.3.2.1 Delete** the addition relating to Canada and the USA.

#### **6 Classification**

##### **6.3.6 According to their purpose**

###### **6.3.6.101 – TV timer;**

**Delete** the text relating to Canada and the USA.

#### **7 Information**

##### **Table 7.2**

- **item 102** column “Method” **Delete** “D” and **replace** with “C”

- **Delete** the additional notes to Table 7.2.

###### **7.2.9**

**Delete** “In Germany...” and **replace** with “Where symbols are used ...”

#### **11 Constructional requirements**

##### **11.4.103 Type 1.S or 2.S action**

In the note delete “In Germany”

##### **11.4.104 Type 1.T or 2.T action**

In the notes delete “In Germany”

#### **14 Heating**

##### **14.101 Temperature stress test**

**Delete** this additional subclause.

## **17 Endurance**

### **17.16 Test for particular purpose controls**

#### **17.16.101 Tungsten-filament lamp loads**

**17.16.101.3 Delete** the text of this subclause.

#### **17.16.103 TV timers**

**Delete** the subordinate subclauses 17.16.103.1 to 17.16.103.1.5 inclusive and Table 17.16.103.1.2.

## **21 Fire hazard testing**

**21.101 Delete** this additional subclause.

## **Annex D Heat, fire and tracking**

**Delete** Annex D.

## **Annex H Requirements for electronic controls**

### **H.26.11 Electrostatic discharge test**

**Delete** the last sentence relating to Canada and the USA.

**Add** the following Annexes.

**Annex ZA**  
(normative)

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

The following referenced documents are indispensable for the application 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 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60669-1 (mod)	1998	Switches for household and similar fixed-	EN 60669-1	1999
+ A1 (mod)	1999	electrical installations -	+ A1	2002
+ A2 (mod)	2006	Part 1: General requirements	+ A2	2008
IEC 61010-1	-	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements	EN 61010-1	-

**Annex ZZ**  
(informative)

**Coverage of Essential Requirements of EC Directives**

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers all relevant essential requirements as given in Article 1 of Annex I of the EC Directive EMC (2004/108/EC).

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directive concerned.

**WARNING:** Other requirements and other EC Directives may be applicable to the products falling within the scope of this standard.



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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**AUTOMATIC ELECTRICAL CONTROLS  
FOR HOUSEHOLD AND SIMILAR USE –**
**Part 2-7: Particular requirements for timers and time switches**

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60730-2-7 has been prepared by IEC technical committee 72: Automatic controls for household use.

This second edition cancels and replaces the first edition published in 1990 and its Amendment 1 (1994). This second edition constitutes a technical revision. This new edition incorporates requirements for tungsten filament lamp loadings as well as updates the standard to IEC 60730-1:1999, Amendment 2 (2007).

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

FDIS	Report on voting
72/760/FDIS	72/764/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 2-7 is 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) and Amendment 2 (2007). Consideration may be given to future editions of, or amendments to, IEC 60730-1.

This Part 2-7 supplements or modifies the corresponding clauses in IEC 60730-1 so as to convert that publication into the IEC standard: Particular requirements for timers and time switches.

Where this Part 2-7 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 2-7 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 clauses and subclauses:

- 4.1.4
- 4.3.2
- 6.3.6.101
- Table 7.2, Notes 101 and 103
- 7.2.9
- 11.4.103
- 11.4.104
- 14.101
- 17.16.101.3
- 17.16.103.1
- Table 17.2-2, Notes 101 and 102
- Table 17.2-3, Notes 101 and 102
- 21.101
- Annex D
- H.26.11

In this publication:

- 1) The following print types are used:
  - Requirements proper: in roman type.
  - *Test specifications: in italic type.*
  - Explanatory matter: in smaller roman type
- 2) Subclauses, notes, tables or figures which are additional to those in Part 1 are numbered starting from 101, additional annexes are lettered AA, BB, etc.

A list of all parts of the IEC 60730 series, under the general title: *Automatic electrical controls for household and similar use*, can be found on the IEC website.

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– 5 –

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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

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

### **Part 2-7: Particular requirements for timers and time switches**

#### **1 Scope and normative references**

This clause of Part 1 is applicable except as follows:

##### **1.1 Replacement:**

In general, this part of IEC 60730 applies to timers and time switches 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.

This standard is also applicable to individual timers utilized as part of a control system or timers which are mechanically integral with multifunctional controls having non-electrical outlets. This standard does not apply to time-delay switches (TDS) within the scope of IEC 60669-2-3<sup>1)</sup>.

Throughout this standard, the word "timers" means timers and time switches, unless the type is specifically mentioned.

Devices which only indicate time or passage of time are not included.

This standard does not apply to multi-functional controls having an integrated timing function which is not capable of being tested as a separate timing device.

**1.1.1** This standard applies to the inherent safety, to the operating characteristics where such are associated with equipment protection and to the testing of automatic electrical control devices used in appliances and other apparatus, electrical and non-electrical, for household and similar purposes, but also extended to industrial purposes when no dedicated product standards exist, such as that for central heating, air conditioning, process heating, etc.

Timers 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 timers for appliances within the scope of IEC 60335-1.

This standard does not apply to timers designed exclusively for industrial applications.

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

**1.1.2** This standard applies to automatic electrical control devices, mechanically, electromechanically, electrically or electronically operated, responsive to or controlling parameters such as temperature, pressure, passage or time, humidity, light, electrostatic effect, flow or liquid level.

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<sup>1)</sup> IEC 60669-2-3:2006, *Switches for household and similar fixed electrical installations – Part 2-3: Particular requirements – Time-delay switches (TDS)*

**1.1.3** This standard applies to automatic electrical control devices serving the starting of small motors that are used principally in appliances and apparatus for household and similar purposes. Such control devices may be built into or be separate from the motor.

**1.1.4** This standard applies to non-automatic control devices when such are associated with automatic control devices.

**1.2 Replacement:**

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

**1.3 Replacement:**

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 Replacement:**

This standard applies also to timers incorporating electronic devices, requirements for which are contained in Annex H.

**1.5 Normative references**

This subclause of Part 1 applies except as follows:

*Addition:*

IEC 60669-1:1998, *Switches for household and similar fixed-electrical installations – Part 1: General requirements* <sup>2)</sup>

Amendment 1 (1999)

Amendment 2 (2006)

IEC 61010-1, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements*

**2 Definitions**

This clause of Part 1 is applicable except as follows:

**2.3 Definitions relating to the function of controls**

*Additional definition:*

**2.3.101  
timing cycle**

program including all the switching activities involved in a start-to-finish operation of a controlled appliance

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<sup>2)</sup> There exists a consolidated edition 3.2 (2007) that includes edition 3 and its Amendments 1 and 2.

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