

Elektrilised automaatjuhtimisseadmed majapidamis- ja muuks taoliseks kasutuseks. Osa 2-7: Erinõuded taimeritele ja lülituskelladele

Automatic electrical controls for household and similar use - Part 2-7: Particular requirements for timers and time switches

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 60730-2-7:2010 sisaldab Euroopa standardi EN 60730-2-7:2010 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 30.11.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 15.10.2010.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 60730-2-7:2010 consists of the English text of the European standard EN 60730-2-7:2010.

This standard is ratified with the order of Estonian Centre for Standardisation dated 30.11.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 15.10.2010.

The standard is available from Estonian standardisation organisation.

ICS 97.120

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

Right to reproduce and distribute belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without permission in writing from Estonian Centre for Standardisation.

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation:
Aru str 10 Tallinn 10317 Estonia; www.evs.ee; Phone: 605 5050; E-mail: info@evs.ee

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.

This document is a preview generated by EVS

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.

This document is a preview generated by EVS

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	-

This document is a preview generated by EVS

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.

This document is a preview generated by EVS

CONTENTS

FOREWORD.....	3
1 Scope and normative references	6
2 Definitions	7
3 General requirements	8
4 General notes on tests	8
5 Rating	8
6 Classification	9
7 Information	10
8 Protection against electric shock	11
9 Provision for protective earthing	11
10 Terminals and terminations	11
11 Constructional requirements	11
12 Moisture and dust resistance	12
13 Electric strength and insulation resistance	12
14 Heating	12
15 Manufacturing deviation and drift	13
16 Environmental stress	13
17 Endurance	13
18 Mechanical strength	18
19 Threaded parts and connections	18
20 Creepage distances, clearances and distances through solid insulation	18
21 Fire hazard testing	18
22 Resistance to corrosion	19
23 Electromagnetic compatibility (EMC) requirements – emission	19
24 Components	19
25 Normal operation	19
26 Electromagnetic compatibility (EMC) requirements – immunity	19
27 Abnormal operation	19
28 Guidance on the use of electronic disconnection	19
Annex D (normative) Heat, fire and tracking (applicable in Canada and the USA)	20
Annex H (normative) Requirements for electronic controls	24
Annex AA (normative) Number of cycles, automatic and manual action	26
Figure D.101 – Positioning of electrodes	22
Figure D.102 – Arc resistance test circuit	23
Table 17.16.103.1.2 – Electrical conditions for overload and endurance testing	17
Table D.101 – Sequence of 1-min current steps	22
Table AA.1 – Values for free standing, independently mounted and in-line cord timers and time switches ^a	26

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 60669-2-3¹⁾.

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.

¹⁾ 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* ²⁾

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

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