

UL 60730-2-7

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Automatic Electrical Controls for Household and Similar Use; Part 2: Particular Requirements for Timers and Time Switches

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UL Standard for Safety for Automatic Electrical Controls for Household and Similar Use; Part 2: Particular Requirements for Timers and Time Switches, UL 60730-2-7

First Edition, Dated February 11, 2002

Revisions: This Standard contains revisions through and including December 5, 2002.

Summary of Topics

This revision of UL 60730-2-7 is being issued to include requirements to correlate the standard with UL 60730-1A and to include requirements covering plug-in devices.

Text that has been changed in any manner is marked with a vertical line in the margin. Changes in requirements are marked with a vertical line in the margin and are followed by an effective date note indicating the date of publication or the date on which the changed requirement becomes effective.

The revised requirements are substantially in accordance with UL's Bulletin(s) on this subject dated February 8, 2002. The bulletin(s) is now obsolete and may be discarded.

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The requirements in this Standard are now in effect, except for those paragraphs, sections, tables, figures, and/or other elements of the Standard having future effective dates as indicated in the preface. The prior text for requirements that have been revised and that have a future effective date are located after the Standard, and are preceded by a "SUPERSEDED REQUIREMENTS" notice.

New product submittals made prior to a specified future effective date will be judged under all of the requirements in this Standard including those requirements with a specified future effective date, unless the applicant specifically requests that the product be judged under the current requirements. However, if the applicant elects this option, it should be noted that compliance with all the requirements in this Standard will be required as a condition of continued Listing, Recognition, and Follow-Up Services after the effective date, and understanding of this should be signified in writing.

It should be noted that in an effort to more closely match the IEC text, information in the following checklist related to annexes may not correlate correctly at this time with the annex identification in the annexes themselves. This information will be correct in future revision cycles.

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This Standard consists of pages dated as shown in the following checklist:

| Page         | Date              |
|--------------|-------------------|
| 1-2 .....    | February 11, 2002 |
| 3-4 .....    | December 5, 2002  |
| 5-9 .....    | February 11, 2002 |
| 10 .....     | December 5, 2002  |
| 11-13 .....  | February 11, 2002 |
| 14 .....     | December 5, 2002  |
| 15-17 .....  | February 11, 2002 |
| 18-18B ..... | December 5, 2002  |
| 19-23 .....  | February 11, 2002 |
| 24 .....     | December 5, 2002  |
| 25-31 .....  | February 11, 2002 |
| 32-32B ..... | December 5, 2002  |
| 33-34 .....  | February 11, 2002 |
| A1-A2 .....  | February 11, 2002 |
| B1-B2 .....  | December 5, 2002  |
| C1-C2 .....  | December 5, 2002  |

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**FEBRUARY 11, 2002**

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**UL 60730-2-7**

**Standard for Automatic Electrical Controls for Household and Similar Use;**

**Part 2: Particular Requirements for Timers and Time Switches**

Prior to the first edition of UL 60730-2-7, the requirements for the products covered by this Standard were included in UL 8730-2-7.

**First Edition**

**February 11, 2002**

An effective date included as a note immediately following certain requirements is one established by Underwriters Laboratories Inc.

Revisions of this Standard will be made by issuing revised or additional pages bearing their date of issue. A UL Standard is current only if it incorporates the most recently adopted revisions, all of which are itemized on the transmittal notice that accompanies the latest set of revised requirements.

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## CONTENTS

|                                                                                              |     |
|----------------------------------------------------------------------------------------------|-----|
| Preface (UL) .....                                                                           | 5   |
| Foreword (UL) .....                                                                          | 6   |
| NATIONAL DIFFERENCES .....                                                                   | 7   |
| FOREWORD .....                                                                               | 8   |
| 1 Scope .....                                                                                | 10  |
| 1.5 Normative references .....                                                               | 11  |
| 2 Definitions .....                                                                          | 11  |
| 2.3 Definitions relating to the function of controls .....                                   | 11  |
| 2.5 Definitions of type of control according to construction .....                           | 12  |
| 3 General requirement .....                                                                  | 12  |
| 4 General notes on tests .....                                                               | 12  |
| 4.3.2 Addition: .....                                                                        | 12  |
| 5 Rating .....                                                                               | 13  |
| 6 Classification .....                                                                       | 13  |
| 6.3 According to their purpose .....                                                         | 13  |
| 6.4 According to features of AUTOMATIC ACTION .....                                          | 13  |
| 6.10 According to number of cycles of ACTUATION(M) for each manual ACTUATION: .....          | 14  |
| 6.15 According to construction .....                                                         | 14  |
| 7 Information .....                                                                          | 14  |
| 7.2 Methods of providing information .....                                                   | 14  |
| 8 Protection against electric shock .....                                                    | 15  |
| 9 Provision for protective earthing .....                                                    | 15  |
| 10 Terminals and TERMINATIONS .....                                                          | 16  |
| 11 Constructional requirements .....                                                         | 16  |
| 11.4 Actions .....                                                                           | 16  |
| 11.9DV.1 INDEPENDENTLY mounted .....                                                         | 18  |
| 11.101DV.1 Plug-in devices .....                                                             | 18  |
| 12 Moisture and dust resistance .....                                                        | 18B |
| 13 Electric strength and insulation resistance .....                                         | 18B |
| 14 Heating .....                                                                             | 18B |
| 14.101 Temperature stress test .....                                                         | 18B |
| 15 MANUFACTURING DEVIATION and DRIFT .....                                                   | 18B |
| 16 Environmental stress .....                                                                | 18B |
| 17 Endurance .....                                                                           | 19  |
| 17.1.3 Test sequence and conditions .....                                                    | 19  |
| 17.2 Electrical conditions for the tests .....                                               | 20  |
| 17.16 Test for particular purpose controls .....                                             | 20  |
| 18 Mechanical strength .....                                                                 | 24  |
| 19 Threaded parts and connections .....                                                      | 24  |
| 20 CREEPAGE DISTANCES, CLEARANCES and distances through insulation .....                     | 25  |
| 21 Resistance to heat, fire and tracking .....                                               | 25  |
| 22 Resistance to corrosion .....                                                             | 26  |
| 23 Radio interference suppression .....                                                      | 26  |
| 24 Components .....                                                                          | 26  |
| 25 Normal OPERATION .....                                                                    | 26  |
| 26 OPERATION with mains borne perturbations, magnetic and electromagnetic disturbances ..... | 26  |

\*\*\*\*\*

|                             |    |
|-----------------------------|----|
| 27 Abnormal OPERATION ..... | 26 |
|-----------------------------|----|

## Annexes

### Annex D Heat, fire and tracking

|                                                                                         |    |
|-----------------------------------------------------------------------------------------|----|
| D.101 High voltage, low current dry arc resistance of solid electrical insulation ..... | 27 |
| D.101.1 General .....                                                                   | 27 |
| D.101.2 Equipment .....                                                                 | 27 |
| D.101.3 Calibration .....                                                               | 28 |
| D.101.4 Test Specimen .....                                                             | 28 |
| D.101.5 Conditioning .....                                                              | 28 |
| D.101.6 Test .....                                                                      | 29 |

### Annex H (normative) Requirements for ELECTRONIC CONTROLS

|                                                                                                                |     |
|----------------------------------------------------------------------------------------------------------------|-----|
| H.7 Information .....                                                                                          | 32  |
| H.26 OPERATION with mains borne perturbations, magnetic and electromagnetic disturbances ...                   | 32  |
| H.26.5 Test of the influence of voltage dips and short voltage interruptions in the power supply network ..... | 32  |
| H.26.6 Test of influence of voltage unbalance .....                                                            | 32  |
| H.26.7 Test of the influence of d.c. in a.c. networks .....                                                    | 32  |
| H.26.8 1,2/50 $\mu$ s – 8/20 $\mu$ s voltage-current surge test .....                                          | 32A |
| H.26.9 Fast transient bursts test .....                                                                        | 33  |
| H.26.10 Ring wave test .....                                                                                   | 33  |
| H.26.11 Electrostatic discharge test .....                                                                     | 33  |
| H.27 Abnormal OPERATION .....                                                                                  | 34  |

### Annex AA

### ANNEX DVA (normative) Openings

### ANNEX DVC (normative) Markings

### ANNEX DVE (normative) Grounding

## Preface (UL)

This UL Standard 60730-2-7, Standard for Safety for Automatic Electrical Controls for Household and Similar Use; Part 2: Particular Requirements for Timers and Time Switches, is to be used in conjunction with the third edition of UL 60730-1A. The requirements for timers and time switches are contained in this part 2 Standard and UL 60730-1A.

Requirements of this part 2 Standard, where stated, amend the requirements of UL 60730-1A.

Where a particular subclause of UL 60730-1A is not mentioned in UL 60730-2-7, the 60730-1A subclause applies.

The text, figures and tables of IEC Publication Automatic Electrical Controls for Household and Similar Use; Part 2: Particular Requirements for Timers and Time Switches, IEC 60730-2-7 copyright 1990, as amended in 1994 are used in this Standard with the consent of the IEC and the American National Standards Institute (ANSI). The IEC copyrighted material has been reproduced with permission from ANSI. ANSI should be contacted regarding the reproduction of any portion of the IEC material. The IEC Foreword and Introduction are not a part of the requirements of this Standard but are included for information purposes only. Copies of IEC Publication 60730-2-7 may be purchased from ANSI, 11 West 42<sup>nd</sup> Street, New York, New York, 10036, (212) 642-4900.

**Note – Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.**

## Foreword (UL)

A. This Standard contains basic requirements for products covered by Underwriters Laboratories Inc. (UL) under its Follow-Up Service for this category within the limitations given below and in the Scope section of this Standard. These requirements are based upon sound engineering principles, research, records of tests and field experience, and an appreciation of the problems of manufacture, installation, and use derived from consultation with and information obtained from manufacturers, users, inspection authorities, and others having specialized experience. They are subject to revision as further experience and investigation may show is necessary or desirable.

B. The observance of the requirements of this Standard by a manufacturer is one of the conditions of the continued coverage of the manufacturer's product.

C. A product which complies with the text of this Standard will not necessarily be judged to comply with the Standard if, when examined and tested, it is found to have other features which impair the level of safety contemplated by these requirements.

D. A product that contains features, characteristics, components, materials, or systems new or different from those covered by the requirements in this standard, and that involves a risk of fire or of electric shock or injury to persons shall be evaluated using appropriate additional component and end-product requirements to maintain the level of safety as originally anticipated by the intent of this standard. A product whose features, characteristics, components, materials, or systems conflict with specific requirements or provisions of this standard does not comply with this standard. Revision of requirements shall be proposed and adopted in conformance with the methods employed for development, revision, and implementation of this standard.

E. UL, in performing its functions in accordance with its objectives, does not assume or undertake to discharge any responsibility of the manufacturer or any other party. The opinions and findings of UL represent its professional judgment given with due consideration to the necessary limitations of practical operation and state of the art at the time the Standard is processed. UL shall not be responsible to anyone for the use of or reliance upon this Standard by anyone. UL shall not incur any obligation or liability for damages, including consequential damages, arising out of or in connection with the use, interpretation of, or reliance upon this Standard.

F. Many tests required by the Standards of UL are inherently hazardous and adequate safeguards for personnel and property shall be employed in conducting such tests.

## NATIONAL DIFFERENCES

### GENERAL

National Differences from the text of International Electrotechnical Commission (IEC) Publication 60730-2-7, Automatic Electrical Controls for Household and Similar Use; Part 2: Particular Requirements for Timers and Time Switches copyright 1990 as amended in 1994 are indicated by notations (differences) and are presented in bold text.

There are five types of National Differences as noted below. The difference type is noted on the first line of the National Difference in the standard. The standard may not include all types of these National Differences.

**DR** – These are National Differences based on the **National Electrical Code (NEC)** and **other U.S. Regulatory Requirements**.

**D1** – These are National Differences which are based on **basic safety principles and requirements**, elimination of which would compromise safety for U.S. consumers and users of products.

**D2** – These are National Differences based on **safety practices**. These are differences for IEC requirements that may be acceptable, but adopting the IEC requirements would require considerable retesting or redesign on the manufacturer's part.

**DC** – These are National Differences based on the **component standards** and will not be deleted until a particular component standard is harmonized with the IEC component standard.

**DE** – These are National Differences based on **editorial comments or corrections**.

**INTERNATIONAL ELECTROTECHNICAL COMMISSION****AUTOMATIC ELECTRICAL CONTROLS FOR HOUSEHOLD AND SIMILAR USE – Part 2: Particular requirements for timers and time switches****FOREWORD**

1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.

2) They have the form of recommendations for international use and they are accepted by National Committees in that sense.

3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

**PREFACE**

This publication has been prepared by IEC Technical Committee No. 72: Automatic controls for household use.

It forms the first edition of IEC 60730-2-7.

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

| Six Months' Rule | Report on Voting | Two Months' Procedure | Report on Voting |
|------------------|------------------|-----------------------|------------------|
| 72(CO)29         | 72(CO)46         | 72(CO)59              | 72(CO)66         |

Full information on the voting for approval of this publication can be found in the Voting Reports indicated in the above table.

Amendment 1 has been prepared by IEC technical committee 72: Automatic controls for household use.

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

| DIS       | Report on Voting |
|-----------|------------------|
| 72(CO)130 | 72(CO)136        |

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

This Part 2 is intended to be used in conjunction with IEC 60730-1. It was established on the basis of the second edition (1993) of IEC 60730-1. Consideration may be given to future editions of, or amendments to IEC 60730-1.

This Part 2 supplements or modifies the corresponding clauses in IEC 60730-1, so as to convert that publication into the IEC standard: Safety requirements for timers and time switches (First edition).

Where this edition 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 the Part 2 indicates that the relevant clause or sub-clause 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 following differences existing in some countries regarding differing national practices are contained in the following sub-clauses:

Sub-clause 6.3.6.1

Table 7.2, Notes 101 and 103

Sub-clause 7.2.9

Sub-clause 11.4.103

Sub-clause 11.4.104

Sub-clause 14.101

Sub-clause 17.16.102

Sub-clause 17.16.103

Sub-clause 21.101

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) Sub-clauses or figures which are additional to those in Part 1 are numbered starting from 101.

**101DV DE Modification of the explanatory note (1) in the part 2 by adding the following:**

- Words in SMALL ROMAN CAPITALS in the text are defined in clause 2.

**102DV DE Modification of the explanatory note (2) in the part 2 by adding the following:**

The numbering system in the standard uses a space instead of a comma to indicate thousands and uses a comma instead of a period to indicate a decimal point. For example, 1 000 means 1,000 and 1,01 means 1.01.