



UL 372

STANDARD FOR SAFETY

Automatic Electrical Controls for Household and Similar Use – Part 2: Particular Requirements for Burner Ignition Systems and Components

UL Standard for Safety for Automatic Electrical Controls for Household and Similar Use – Part 2: Particular Requirements for Burner Ignition Systems and Components, UL 372

Sixth Edition, Dated July 31, 2007

Summary of Topics

This revision of UL 372 is being issued to remove the ANSI approval. No changes in requirements are involved. As noted in the Commitment for Amendments statement located on the back side of the title page, UL, CSA, and CSA America are committed to updating this harmonized standard jointly. However, the revision pages dated July 27, 2012 will not be jointly issued by UL, CSA, and CSA America, as these revision pages only address the removal of the ANSI approval from UL 372.

Text that has been changed in any manner or impacted by UL's electronic publishing system is marked with a vertical line in the margin.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form by any means, electronic, mechanical photocopying, recording, or otherwise without prior permission of UL.

UL provides this Standard "as is" without warranty of any kind, either expressed or implied, including but not limited to, the implied warranties of merchantability or fitness for any purpose.

In no event will UL be liable for any special, incidental, consequential, indirect or similar damages, including loss of profits, lost savings, loss of data, or any other damages arising out of the use of or the inability to use this Standard, even if UL or an authorized UL representative has been advised of the possibility of such damage. In no event shall UL's liability for any damage ever exceed the price paid for this Standard, regardless of the form of the claim.

Users of the electronic versions of UL's Standards for Safety agree to defend, indemnify, and hold UL harmless from and against any loss, expense, liability, damage, claim, or judgment (including reasonable attorney's fees) resulting from any error or deviation introduced while purchaser is storing an electronic Standard on the purchaser's computer system.

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.

The following table lists the future effective dates with the corresponding item.

Future Effective Date	References
To be determined	Sixth Edition



Canadian Standards Association
CSA C22.2 No. 199
Third Edition



CSA America
ANSI Z21.20
Fifteenth Edition



Underwriters Laboratories Inc.
UL 372
Sixth Edition

Automatic Electrical Controls for Household and Similar Use – Part 2: Particular Requirements for Burner Ignition Systems and Components

July 31, 2007

(Title Page Reprinted: July 27, 2012)

Approved
by
Standards Council
of Canada



This is a preview. [Click here to purchase the full publication.](#)

Commitment for Amendments

This standard is issued jointly by Canadian Standards Association (CSA), CSA America, and Underwriters Laboratories Inc. (UL). Comments or proposals for revisions on any part of the standard may be submitted to CSA or UL at any time. Revisions to this standard will be made only after processing according to the standards development procedures of CSA and UL. CSA and UL will issue revisions to this standard by means of a new edition or revised or additional pages bearing their date of issue.

CSA and UL are separate and independent entities and each is solely responsible for its operations and business activities. The CSA trade names and trademarks depicted in this document are the sole property of the Canadian Standards Association (CSA). The UL trade names and trademarks depicted in this document are the sole property of Underwriters Laboratories Inc. (UL).

ISBN 978-1-55436-934-8 © 2007 Canadian Standards Association

All rights reserved. No part of this publication may be reproduced in any form whatsoever without the prior permission of the publisher. To purchase CSA Standards and related publications, visit CSA's Online Store at www.ShopCSA.ca or call toll-free 1-800-463-6727 or 416-747-4044.

Copyright © 2012 Underwriters Laboratories Inc.

Comments or proposals for revisions on any part of the Standard may be submitted to UL at any time. Proposals should be submitted via a Proposal Request in UL's On-Line Collaborative Standards Development System (CSDS) at <http://csds.ul.com>.

To purchase UL Standards, visit www.comm-2000.com, or call them at 1-888-UL33503 or 1-888-853-3503.

CONTENTS

Preface	7
1 Scope and normative references	9
1.5.1 Normative references	11
2 Definitions	14
2.1 Definitions relating to ratings, voltages, currents and wattages	14
2.2 Definitions of types of control according to purpose	15
2.3 Definitions relating to the function of controls	16
2.4 Definitions relating to disconnection and interruption	21
2.5 Definitions of types of control according to construction	21
2.7 Definitions relating to protection against electric shock	21
2.8 Definitions relating to component parts of controls	21
2.9 Definitions of types of terminals and terminations of controls	21
2.10 Definitions relating to the connections to controls	22
2.13 Miscellaneous definitions	22
2.101 Definitions relating to the type of burner ignition	22
3 General requirements	24
4 General notes on tests	24
4.1 Conditions of test	24
4.2 Samples required	25
4.3 Instructions for tests	25
5 Rating (See 1.2)	25
6 Classification	25
6.3 According to their purpose	26
6.5 According to the control pollution situation	26
6.6 According to method of connection	27
6.8 According to protection against the risk of electrical shock	27
6.10 According to number of cycles of actuation (M) of each manual action	27
6.11 According to number of automatic cycles (A) of each automatic action	27
6.14 According to period of electrical stress across insulating parts supporting live parts and between live parts and earthed metal	28
6.15 According to construction	28
6.101 According to type of fuel	28
7 Information	29
7.2 Methods of providing information	29
7.3 Class II symbol	32
7.4 Additional requirements for marking	32
8 Protection against the risk of electric shock	35
8.1 General requirements	35
8.3 Capacitors	36
9 Provisions for bonding and earthing	37
9.1 General requirements	37
9.3 Adequacy of earth connections	39
10 Terminals and terminations	40
10.2 Terminals and terminations for internal conductors	41
11 Constructional requirements	42
11.1 Materials	42
11.2 Protection against the risk of electric shock	42
11.3 Actuation and operation	43
11.4 Actions	46

11.5	Openings in Enclosures	46
11.6	Mounting of controls	46
11.9	Inlet openings	47
11.10	Inlets and socket-outlets	47
11.11	Requirements during mounting, maintenance and servicing	47
11.101	Flame detector constructional requirements	50
12	Moisture resistance	51
12.2	Protection against humid conditions	51
13	Electric strength and insulation resistance	52
13.2	Electric strength	52
14	Heating	54
14.4	Addition:	55
15	Manufacturer Deviation and Drift	58
15.5	Operating times	59
15.6	Operating sequence	60
15.7	Flame detector operating characteristics and proved igniters	61
16	Not Applicable	61
17	Endurance	61
17.1.3	Test sequence and conditions	61
17.2	Electrical conditions for tests	62
17.3	Thermal conditions for tests	62
17.16	Tests for particular purpose controls	64
18	Mechanical strength	66
18.1	General requirements	66
18.2	Impact resistance	66
18.4	Alternate compliance – Impact resistance	67
18.9	Actuating member and actuating means	67
18.10A.1	Windows	68
19	Threaded parts and connections	68
19.2	Current-carrying connections	69
20	Creepage distances, clearances and distances through insulation	69
20.3.23	Separation of circuits	78
21	Resistance to heat, fire and tracking See 11.1.	78
22	Resistance to corrosion	79
22.1	Resistance to rusting	79
23	Radio interference protection	79
24	Components	79
25	Normal Operation	81
26	Electromagnetic compatibility (EMC) requirements – immunity	81
27	Abnormal operation	81
27.3	Over-voltage and under-voltage test (See 15.5)	81
28	Guidelines for use of electronic disconnection	81
29A	Construction/performance for pilot burners, oxygen depletion systems (ODS) and other components	81
29A2.1	Construction Requirements	81
29A4.1	Construction Requirements	85
30A	Manufacturing and Production Tests	91

Annex A Indelibility of Markings**Annex C****Annex D****Annex E****Annex F****Annex G****Annex H (normative) Requirements for electronic systems and components(Also see clauses 12, Moisture Resistance, and 17, Endurance.)**

H2	Definitions	96
H2.4	Definitions relating to disconnection and interruption	96
H2.5	Definitions of type of control according to construction	96
H2.20	Definitions of software terminology – General	96
H4	General notes on test	96
H6	Classification	97
H6.4	According to features of automatic action	97
H6.18	According to software class	97
H7	Information	97
H11	Constructional requirements	97
H11.2	Protection against the risk of electric shock	97
H11.12	Controls using software	98
H13	Not Applicable.	99
H20	Not Applicable.	99
H21	Not Applicable.	99
H25	Not Applicable.	99
H26	Electromagnetic compatibility (EMC) requirements – immunity	99
H26.2	Replacement:	99
H26.5	Test of the influence of voltage dips and short voltage interruptions in the power supply network	100
H26.8.4	Severity levels	102
H26.8.5	Test procedure	103
H26.9	Fast transient burst test	103
H26.10	Ring wave test	104
H26.11	Electrostatic discharge test	105
H26.12	Radiated electromagnetic field test	106
H27	Abnormal Operation	108
H27.1.3.1	Guidelines for the tests of H27.1.3	110
H27.1.3.102	Systems without self checking feature	110
H27.1.3.103	Systems with self-checking features	111
H27.1.3.104	Checking circuits	112
H27.1.4	Electronic circuit fault conditions	112
H28	Not Applicable.	112

Annex J**Annex AA (normative) Failure modes of electrical/electronic system components****Annex BB****Annex CC Additional markings for independently mounted controls****Annex DD Coverage for Solid-State Oil Igniters**

DD.1 Scope	117
DD.2 Definitions	117
DD.3 General Requirements	117
DD.4 Construction	117
DD.5 Tests	118

Annex EE (informative)**Appendix A INDEX TO DEFINITIONS (This Appendix is informative and not part of the standard.)****Appendix B FAILURE MODES AND EFFECT ANALYSIS**