



UL 5085-1

STANDARD FOR SAFETY

Low Voltage Transformers – Part 1: General Requirements

UL Standard for Safety for Low Voltage Transformers – Part 1: General Requirements, UL 5085-1

First Edition, Dated April 17, 2006

Summary of Topics

This revision of ANSI/UL 5085-1 is being issued to reaffirm approval as an American National Standard. No changes in requirements are involved.

As noted in the Commitment for Amendments statement located on the back side of the title page, UL and CSA are committed to updating this harmonized standard jointly. However, the revision pages dated January 17, 2018 will not be jointly issued by UL and CSA as these revision pages only address UL ANSI approval dates.

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.

The new and revised requirements are substantially in accordance with Proposal(s) on this subject dated November 10, 2017.

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.

No Text on This Page



CSA Group
CSA C22.2 No. 66.1-06
First Edition



Underwriters Laboratories Inc.
UL 5085-1
First Edition

Low Voltage Transformers – Part 1: General Requirements

April 17, 2006

(Title Page Reprinted: January 17, 2018)



ANSI/UL 5085-1-2013 (R2018)

Commitment for Amendments

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

ISBN 1-55436-830-8 © 2006 CSA Group

All rights reserved. No part of this publication may be reproduced in any form whatsoever without the prior permission of the publisher.

This Standard is subject to periodic review, and suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to inquires@csagroup.org and include “Proposal for change” in the subject line: Standard designation (number); relevant clause, table, and/or figure number; wording of the proposed change; and rationale for the change.

To purchase CSA Group Standards and related publications, visit CSA Group’s Online Store at shopcsa.ca or call toll-free 1-800-463-6727 or 416-747-4044.

Copyright © 2018 Underwriters Laboratories Inc.

UL’s Standards for Safety are copyrighted by UL. Neither a printed nor electronic copy of a Standard should be altered in any way. All of UL’s Standards and all copyrights, ownerships, and rights regarding those Standards shall remain the sole and exclusive property of UL.

The most recent designation of ANSI/UL 5085-1 as an American National Standard (ANSI) occurred on January 17, 2018. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page (front and back), or the Preface.

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 <https://csds.ul.com>.

To purchase UL Standards, visit UL’s Standards Sales Site at <http://www.shopulstandards.com/HowToOrder.aspx> or call toll-free 1-888-853-3503.

CONTENTS

Preface	5
1 Scope	7
2 Definitions	8
3 General	9
3.1 Components	9
3.2 Reference Publications	10
3.3 Units of Measurement	10B
4 Construction	10B
5 Mechanical Assembly	10B
6 Enclosures	13
6.1 General	13
6.2 Nonmetallic enclosures	14
6.3 Enclosures – specific environmental conditions	15
6.4 Mounting	15
6.5 Openings	16
6.6 Barriers for openings	17
6.7 Covers	17
7 Corrosion Resistance	18
8 Connections	20
8.1 General	20
8.2 Wiring terminals	20
8.3 Wire-binding screws and studs	20
8.4 Pressure terminal connectors	21
8.5 Leads	22
9 Internal Wiring	22
10 Grounding	22
11 Spacings and Insulation	24
11.1 General	24
11.2 Insulating material for mounting of low voltage live parts	25
11.3 Coil insulation	25
11.4 Insulation used in lieu of spacings	26
11.5 Double insulation	28
12 Switches, Protective Devices, and Wiring Devices	28
12.1 General	28
12.2 Switches	28
12.3 Protective devices	28A
13 Current-Carrying Parts	28A
14 Cord-Connected Transformers	28B
15 Strain Relief	28B
16 Bushings for Low Voltage Wiring	29
17 Markings	31
17.1 General	31
17.2 Miscellaneous	32
18 Tests	33
19 Insulating Barriers Test	34
20 Pullout, Bending, and Twisting Tests	34
21 Bonding Conductor Test	34
22 Moisture Absorption Test	35
23 Hot, Flaming Oil Test	35

24 Enclosure Tests	36
24.1 General	36
24.2 Compression test	36
24.3 Outlet box cover support and impact tests	37
24.4 Polymeric enclosure impact test	37
25 Induced Potential	38
26 Temperature (Heating) Test	38

Annex A (Informative)

A1 Production Line Dielectric Voltage Withstand Test	52
A2 Production Line Grounding Continuity Test	53

Annex B (Informative)

B1 Component Standards	54
------------------------------	----

Annex C (Informative)

C1 French Translation of Markings	55
---	----