



UL 60947-7-4

STANDARD FOR SAFETY

Low-Voltage Switchgear and Controlgear – Part
7-4: Ancillary equipment – PCB terminal blocks for
copper conductors

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UL Standard for Safety for Low-Voltage Switchgear and Controlgear – Part 7-4: Ancillary equipment – PCB terminal blocks for copper conductors, UL 60947-7-4

First Edition, Dated April 27, 2018

Summary of Topics

This First Edition of ANSI/UL 60947-7-4 specifies requirements for PCB terminal blocks primarily intended for industrial or similar use.

As noted in the Commitment for Amendments statement located on the back side of the title page, UL, CSA, and ANCE are committed to updating this harmonized standard jointly.

The new requirements are substantially in accordance with Proposal(s) on this subject dated May 19, 2017 and December 22, 2017.

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Association of Standardization and Certification
NMX-J-538/7-4-ANCE
First Edition



CSA Group
CAN/CSA-C22.2 No. 60947-7-4:18
First Edition
(IEC 60947-7-4:2013, MOD)



Underwriters Laboratories Inc.
UL 60947-7-4
First Edition

Low-Voltage Switchgear and Controlgear – Part 7-4: Ancillary equipment – PCB terminal blocks for copper conductors

April 27, 2018

This national standard is based on publication IEC 60947-7-4, first edition (2013).



ANSI/UL 60947-7-4-2018



Commitment for Amendments

This standard is issued jointly by the Association of Standardization and Certification (ANCE), 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 ANCE, CSA Group, or UL at anytime. Revisions to this standard will be made only after processing according to the standards development procedures of ANCE, 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. ANCE will incorporate the same revisions into a new edition of the standard bearing the same date of issue as the CSA Group and UL pages.

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This ANSI/UL Standard for Safety consists of the First Edition. The most recent designation of ANSI/UL 60947-7-4 as an American National Standard (ANSI) occurred on April 27, 2018. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page (front and back), or the Preface. The National Difference Page and IEC Foreword are also excluded from the ANSI approval of IEC-based standards.

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PREFACE

This is the harmonized ANCE, CSA Group, and UL standard for Low-Voltage Switchgear and Controlgear - Part 7-4: Ancillary Equipment - PCB Terminal Blocks for Copper Conductors. It is the First edition of NMX-J-538/7-4-ANCE, CAN/CSA-C22.2 No. 60947-7-4, and UL 60947-7-4.

This harmonized standard is based on IEC Publication 60947-7-4: Edition 1 (2013), Low-voltage switchgear and controlgear - Part 7-4: Ancillary equipment - PCB terminal blocks for copper conductors, issued August 2013. IEC 60947-7-4 is copyrighted by the IEC.

This harmonized standard was prepared by the Association of Standardization and Certification (ANCE), CSA Group, and Underwriters Laboratories Inc. (UL). The efforts and support of the Technical Harmonization Subcommittee, THSC 121A WG5, of the Council on the Harmonization of Electrotechnical Standards of the Nations of the Americas (CANENA), are gratefully acknowledged.

This standard is considered suitable for use for conformity assessment within the stated scope of the standard.

The Mexican Standard was developed by the CT PIE-A from the Comité de Normalización de la Asociación de Normalización y Certificación, A.C., CONANCE, with the collaboration of the manufacturers and users.

This standard was reviewed by the CSA Subcommittee on Terminal Assemblies, under the jurisdiction of the CSA Technical Committee on Industrial Products and the CSA Strategic Steering Committee on Requirements for Electrical Safety, and has been formally approved by the CSA Technical Committee. This standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

This standard has been approved by the American National Standards Institute (ANSI) as an American National Standard.

Application of Standard

Where reference is made to a specific number of samples to be tested, the specified number is to be considered a minimum quantity.

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.

This is the NMX-J-538/7-4-ANCE standard for Low-Voltage Switchgear and Controlgear - Part 7-4: Ancillary Equipment - PCB Terminal Blocks for Copper Conductors. This NMX-J-538/7-4-ANCE Part 4 is to be used in conjunction with the first edition of NMX-J-538/7-1-ANCE. The requirements for Ancillary Equipment - PCB Terminal Blocks for Copper Conductors are contained in this Part 4 Standard and NMX-J-538/7-1-ANCE. Requirements of this Part 4 Standard, where stated, amend the requirements of NMX-J-538/7-1-ANCE. Where a particular subclause of NMX-J-538/7-1-ANCE is not mentioned in NMX-J-538/7-4-ANCE, the NMX-J-538/7-1-ANCE subclause applies.

This is the CAN/CSA-C22.2 No. 60947-7-4 Standard for Low-Voltage Switchgear and Controlgear — Part 7-4: Ancillary Equipment — PCB Terminal Blocks for Copper Conductors. This CSA Group Part 4 is to be used in conjunction with the first edition of CAN/CSA-C22.2 No. 60947-7-1. The requirements for Ancillary Equipment — PCB Terminal Blocks for Copper Conductors are contained in this Part 4 Standard and CAN/CSA-C22.2 No. 60947-7-1. Requirements of this Part 4 Standard, where stated, amend the

requirements of CAN/CSA-C22.2 No. 60947-7-1. Where a particular subclause of CAN/CSA-C22.2 No. 60947-7-1 is not mentioned in CAN/CSA-C22.2 No. 60947-7-4, the CAN/CSA-C22.2 No. 60947-7-1 subclause applies.

This is the UL standard for Low-Voltage Switchgear and Controlgear - Part 7-4: Ancillary Equipment - PCB Terminal Blocks for Copper Conductors. This UL 60947-7-4, Low-Voltage Switchgear and Controlgear - Part 7-4: Ancillary Equipment - PCB Terminal Blocks for Copper Conductors, is to be used in conjunction with the fourth edition of UL 60947-7-1. The requirements for Ancillary Equipment - PCB Terminal Blocks for Copper Conductors are contained in this Part 4 Standard and UL 60947-7-1. Requirements of this Part 4 Standard, where stated, amend the requirements of UL 60947-7-1. Where a particular subclause of UL 60947-7-1 is not mentioned in UL 60947-7-4, the UL 60947-7-1 subclause applies.

Level of Harmonization

This standard adopts the IEC text with national differences.

This standard is published as an equivalent standard for ANCE, CSA Group and UL.

An equivalent standard is a standard that is substantially the same in technical content, except as follows: Technical national differences are allowed for codes and governmental regulations as well as those recognized as being in accordance with NAFTA Article 905, for example, because of fundamental climatic, geographical, technological, or infrastructural factors, scientific justification, or the level of protection that the country considers appropriate. Presentation is word for word except for editorial changes.

All national differences from the IEC text are included in the ANCE, CSA Group, and UL versions of the standard. While the technical content is the same in each organization's version, the format and presentation may differ.

Reasons for Differences From IEC

National Differences from the IEC are being added in order to address safety and regulatory situations present in the US, Canada, and Mexico.

Interpretations

The interpretation by the standards development organization of an identical or equivalent standard is based on the literal text to determine compliance with the standard in accordance with the procedural rules of the standards development organization. If more than one interpretation of the literal text has been identified, a revision is to be proposed as soon as possible to each of the standards development organizations to more accurately reflect the intent.

IEC Copyright

For ANCE, the text, figures, and tables of International Electrotechnical Commission Publication 60947-7-4, Low-voltage switchgear and controlgear — Part 7-4: Ancillary equipment — PCB terminal blocks for copper conductors, copyright 2013, are used in this standard according to the guidelines provided in the ISO/IEC/POCOSA.

For CSA Group, the text, figures, and tables of International Electrotechnical Commission Publication 60947-7-4, Low-voltage switchgear and controlgear — Part 7-4: Ancillary equipment — PCB terminal blocks for copper conductors, copyright 2013, are used in this standard with the consent of the International Electrotechnical Commission. The IEC Foreword and Introduction are not a part of the requirements of this standard but are included for information purposes only.

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NATIONAL DIFFERENCES

National Differences from the text of International Electrotechnical Commission (IEC) Publication 60947-7-4, Low-Voltage Switchgear and Controlgear – Part 7-4: Ancillary equipment – PCB terminal blocks for copper conductors, copyright 2013, are indicated by notations (differences) and are presented in bold text. The national difference type is included in the body.

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 regulatory requirements**.

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

D2 – These are National Differences from IEC requirements based on existing **safety practices**. These requirements reflect national safety practices, where empirical substantiation (for the IEC or national requirement) is not available or the text has not been included in the IEC standard.

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**.

Each national difference contains a description of what the national difference entails. Typically one of the following words is used to explain how the text of the national difference is to be applied to the base IEC text:

Addition / Add - An addition entails adding a complete new numbered clause, subclause, table, figure, or annex. Addition is not meant to include adding select words to the base IEC text.

Modification / Modify - A modification is an altering of the existing base IEC text such as the addition, replacement or deletion of certain words or the replacement of an entire clause, subclause, table, figure, or annex of the base IEC text.

Deletion / Delete - A deletion entails complete deletion of an entire numbered clause, subclause, table, figure, or annex without any replacement text.