

UL 310

ISBN 1-55989-887-9

Electrical Quick-Connect Terminals

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333 Pfingsten Road
Northbrook, IL 60062-2096

UL Standard for Safety for Electrical Quick-Connect Terminals, UL 310

Sixth Edition, Dated August 3, 1995

Revisions: This Standard contains revisions through and including May 23, 2001.

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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.

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

Page	Date
1-3	May 23, 2001
4	January 15, 1999
5-6B	May 23, 2001
7-8	January 15, 1999
8A-8B	May 23, 2001
9	January 15, 1999
10-11	August 3, 1995
12	January 15, 1999
13-14	May 23, 2001
15	January 15, 1999
16-17	August 3, 1995
18	January 15, 1999
19-20	August 3, 1995
21-22B	January 15, 1999
23-24	August 3, 1995
25	January 15, 1999
26	August 3, 1995
27	January 15, 1999
28	October 24, 1995
A1-A2	August 3, 1995
B1-B2	August 3, 1995

No Text on This Page

AUGUST 3, 1995
(Title Page Reprinted: May 23, 2001)



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UL 310

Standard for Electrical Quick-Connect Terminals

The First through Third editions were titled Quick-Connect Terminals.

First Edition – July, 1976
Second Edition – July, 1978
Third Edition – August, 1981
Fourth Edition – May, 1985
Fifth Edition – November, 1991

Sixth Edition

August 3, 1995

Approval as an American National Standard (ANSI) covers the numbered paragraphs on pages dated August 3, 1995, October 24, 1995, and January 13, 1997 . These pages should not be discarded when revised or additional pages are issued if it is desired to retain the ANSI approved text.

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

Approved as ANSI/UL 310-1980, August 29, 1980
Approved as ANSI/UL 310-1986, August 13, 1986
Approved as ANSI/UL 310-1996, September 11, 1996

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.

ISBN 1-55989-887-9

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FOREWORD

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 employing materials or having forms of construction which conflict with specific requirements of the Standard cannot be judged to comply with the Standard. A product employing materials or having forms of construction not addressed by this Standard may be examined and tested according to the intent of the requirements and, if found to meet the intent of this Standard, may be judged to comply with the 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.

INTRODUCTION

1 Scope

1.1 These requirements apply to 0.110-, 0.125-, 0.187-, 0.205-, and 0.250-inch (2.8-, 3.2-, 4.8-, 5.2-, and 6.3-mm) wide electrical quick-connect wiring terminations, both connectors and tabs, for use in electrical equipment that comply with the requirements for such equipment.

1.2 These requirements apply to terminals intended for use with one or two Nos. 22 – 10 AWG (0.32 – 5.3 mm²) copper conductors for internal wiring connections in electrical equipment and for the field termination of conductors to electrical equipment.

1.3 These requirements do not apply to terminals for use with aluminum conductors.

1.4 These requirements do not apply to multi-pole terminals. Multi-pole terminals are covered by the Standard for Attachment Plugs and Receptacles, UL 498.

1.5 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.

1.5 revised May 23, 2001

2 Glossary

2.1 For the purpose of this standard the following definitions apply.

2.2 BURR – An extraneous protrusion in the stock, not considered an integral functional part of the connector or tab.

2.3 CONNECTOR – A terminal that is pushed onto a tab.

2.4 C26000 ALLOY – A copper-zinc alloy consisting of approximately 70 percent copper and 30 percent zinc (cartridge brass) as specified by the Copper Development Association's Copper Development Alloy (CDA) Standards Handbook, Wrought Copper and Copper Alloy Mill Products, Part 2 – Alloy Data.

2.5 DETENT – A dimple (depression) or hole in a tab that acts to engage a raised portion on the connector providing a latching means for the mating parts.

2.6 PRODUCTION TAB – A terminal that is inserted in a connector, manufactured to specified tolerances, and intended to mate with a connector to establish a connection in an electrical circuit.

2.7 QUICK-CONNECT WIRING TERMINATION – An electrical connection consisting of a male tab and female connector that can be readily engaged or disengaged without the use of a tool.

2.8 REFERENCE POINT – A specially marked point on a connector or tab that is used when making electrical test measurements.

2.9 TERMINAL – An electrical connecting device consisting of either a connector or tab.

2.10 TEST TAB – A tab manufactured to specified tolerances to provide an accurate base for measurements for electrical, mechanical, and temperature-rise tests.

3 General

3.1 Units of measurement

3.1.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

3.1.1 revised May 23, 2001

3.1.2 All alternating-current electrical measurements are in root-mean-square (rms) units unless otherwise stated.

3.2 Undated references

3.2.1 Any undated reference to a code or standard appearing in the requirements of this standard shall be interpreted as referring to the latest edition of that code or standard.

CONSTRUCTION

4 General

4.1 A terminal shall be designed to provide a reliable electrical connection between wires or between wires and components in electrical equipment, when used in the intended manner. Additional requirements concerning certain features such as insulation added at the time of assembly in equipment, spacings between wiring terminations of opposite polarity and between wiring terminations and non-current-carrying metal parts and the support of wires adjacent to the wiring terminations shall be the subject of consideration by the standard covering the specific equipment involved.

4.2 A connector shall comply with Materials, Section 5; the dimensional requirements of 6.1; and the test requirements of Sections 10 – 16 when the connector is tested in conjunction with a test tab complying with 5.2 and 6.3.

4.3 A production tab shall comply with Materials, Section 5; the dimensional requirements of 6.2; and the test requirements of Sections 10 – 16.