UL 1059

STANDARD FOR SAFETY

Terminal Blocks

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UL Standard for Safety for Terminal Blocks, UL 1059

Sixth Edition, Dated December 11, 2024

Summary of Topics

This new Sixth Edition of ANSI/UL 1059 dated December 11, 2024 includes the following changes:

– Expanded Provisions for Evaluating Current-Limiting Breakers for Short-Circuit Ratings: A2.1.3;

– Addition of Referenced Standards: Section 4;

– Style updates; 5.1

The requirements are substantially in accordance with Proposal(s) on this subject dated July 26, 2024 and October 18, 2024.

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Sixth Edition

December 11, 2024

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The most recent designation of ANSI/UL 1059 as an American National Standard (ANSI) occurred on December 11, 2024. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, and Title Page.

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

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INTRODUCTION

1 Scope

1.1 These requirements cover assemblies of wiring terminals and supporting blocks intended to provide for the connection of wiring. Compliance with these requirements does not assure that the terminal block is suitable for use as a component of an end product.

1.2 These requirements cover terminal blocks rated 1500 volts or less.

1.3 These requirements also cover protective conductor terminal blocks (PCTB) used to make the electrical and mechanical connection between conductors or between conductors and a fixing support such as a mounting rail. A PCTB is not required to be insulated.

1.4 These terminal blocks are intended to permanently support and insulate wire terminations and joints from each other, and from the surface on which the terminal block is mounted, where the absence of such support or insulation presents a risk of fire, electric shock, or injury to persons.

1.5 The acceptability of a terminal block in any particular application depends upon its suitability for continued use under the conditions that prevail in actual service. Accordingly, for a particular application a terminal block may be affected by the requirements for the equipment in which it is used, and it may be necessary to additionally evaluate that terminal block for features or performance characteristics that are not specified in this Standard.

1.6 Terminal blocks employing types of connecting means not covered by this standard such as those in which conductors are secured to the terminals by means of a special tool can be evaluated under this standard but may require separate investigation.

1.7 These requirements do not cover field installed power distribution blocks intended to distribute power in a building to separate units such as apartments, separate heaters, and air conditioning units. Power distribution blocks are investigated to Subject 1953, Outline of Investigation for Power Distribution Blocks.

2 Glossary

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

2.2 FACTORY WIRING – The connection of a wire in the end application under controlled conditions, usually at a manufacturer's location.

2.3 FIELD WIRING – The connection of a wire, which is made in the field and that is subjected to the requirements for a terminal for field wiring as specified in this Standard and NFPA 70.

2.4 INSULATION PIERCING OR DISPLACEMENT CONNECTOR – A connector for the connection and possible disconnection of one conductor or the interconnection of two or more conductors, the connection being made by piercing, boring through, cutting through, removing, displacing, or making ineffective in some other manner the insulation of the conductor or conductors without previous stripping.

2.5 POST CONNECTOR – A connector utilizing a post (solderless wire wrap and similar for example) onto which one or more conductors are secured by means of a tool.

2.6 PREPARED CONDUCTOR – A conductor, the strands of which are soldered or tinned; or the end of which is fitted with a cable lug, eyelet, quick-connect, ring terminal, spade terminal, or similar component, prior to insertion into the terminal.

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2.7 PROTECTIVE CONDUCTOR TERMINAL BLOCK (PCTB) – A device with one or more clamping units for connecting or joining protective conductors (Protective Earthing (PE) conductors) or connecting such conductors to the support for the clamping units. The clamping units can be secured with screw- or screwless-type fixing means. Examples of supports are mounting rails, sheet metal cut-outs, or mounting plates. A PCTB is either uninsulated, non-isolated, or isolated [See (a) and (b)]. Operating insulation is not necessary as a PCTB is intended to be at ground potential.

a) ISOLATED PROTECTIVE CONDUCTOR TERMINAL BLOCK – A protective conductor terminal block that provides insulation from live parts of other terminal blocks, adjacent poles of the same terminal block, or other devices and isolation from the support. It does not have provisions for path 2-2 of Figure 50.1. It uses path 1-1 only.

b) NON-ISOLATED PROTECTIVE CONDUCTOR TERMINAL BLOCK – A protective conductor terminal block that provides insulation from live parts of other terminal blocks, adjacent poles of the same terminal block, or other devices, but does not provide isolation from the support itself. It is mechanically and electrically attached to its support, path 2-2 in Figure 50.1. It may or may not have path 1-1.

2.8 TERMINAL CONNECTOR – A device that establishes the connection between two or more conductors or between one or more conductors and a terminal by means of mechanical pressure.

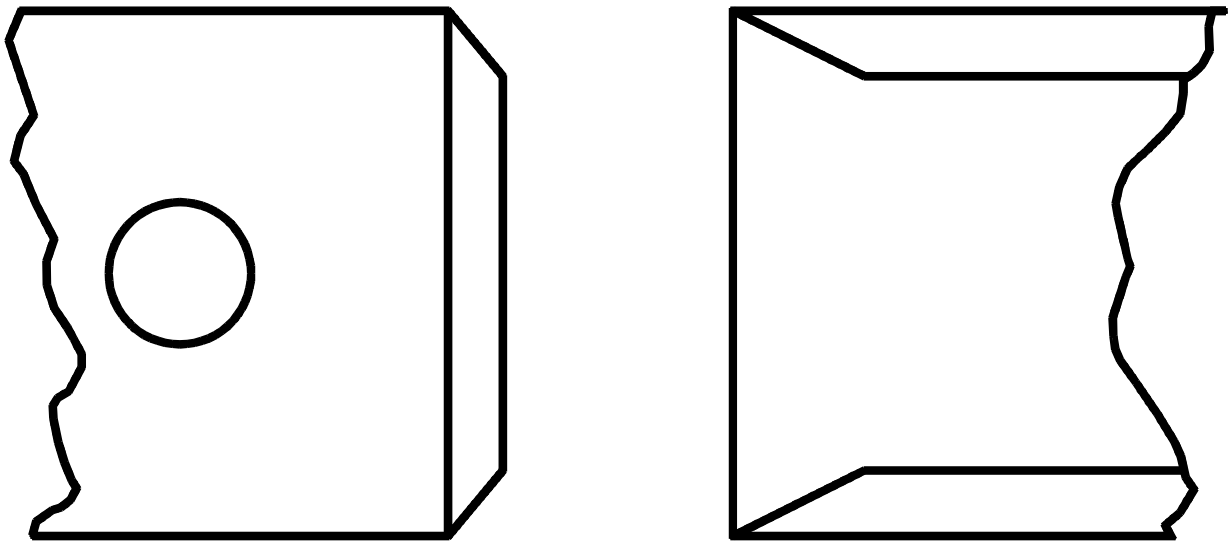
2.9 SEPARABLE TYPE CONNECTORS – Connectors consisting of separable, mating members that can be readily engaged or disengaged without the use of tools.

a) Quick Connect Type – Typical mating components as shown in Figure 2.1.

b) Other Types – Other than quick connect type. Acceptability to be determined by separate investigation.

Figure 2.1

Quick-Connect-Type Connector



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2.10 SOLDER CONNECTORS – A connector in which the conductor is connected to the current-carrying member by soldering.

2.11 SPRING-FORCE CONNECTOR – A connector utilizing a spring action for retaining a conductor.

2.12 STUD AND NUT TYPE CONNECTOR – A connector in which:

a) An unprepared conductor is looped around a stud and retained by a nut; or

b) A prepared conductor is assembled to a stud and retained by a nut.

2.13 TERMINAL BLOCK – A terminal block is a rigidly mounted device that is composed of an insulated base with barriers having one or more electrically conductive members. Each electrically conductive member serves as a junction to electrically connect two or more conductors and also provides means to individually connect or disconnect conductors. The device can be a sectional or one-piece design.

2.14 UNPREPARED CONDUCTOR – A conductor which has been cut and the insulation of which has been removed for insertion into a terminal. The conductor end is bare. The conductor in an insulation piercing or displacement connector is considered to be unprepared.

2.15 WIRE BINDING SCREW CONNECTOR – A connector that uses a binding head screw, with or without a flat ring or lock washers, where:

a) An unprepared conductor is looped around the shank of the screw and secured under the head of the screw; or

b) A prepared conductor is assembled about the screw shank and retained by the head of the screw.

3 Units of Measurement

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

4 Referenced Publications

4.1 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.

4.2 The following publications are referenced in this Standard:

ASTM E230/E230M, *Standard Specification and Temperature-Electromotive Force (emf) Tables for Standardized Thermocouples*

IEEE C37.09, *Standard Test Procedure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis*

NFPA 70, *National Electrical Code*

UL 94, *Tests for Flammability of Plastic Materials for Parts in Devices and Appliances*

UL 310, *Electrical Quick-Connect Terminals*

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