UL 1863

STANDARD FOR SAFETY

Communications-Circuit Accessories

UL Standard for Safety for Communications-Circuit Accessories, UL 1863

Fourth Edition, Dated May 14, 2004

Summary of Topics

This revision of ANSI/UL 1863 dated October 14, 2019 includes the addition of reference UL 62368-1 as an alternative to UL 60950-1.

The revised requirements are are substantially in accordance with Proposal(s) on this subject dated July 26, 2019.

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.

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UL 1863

Standard for Communications-Circuit Accessories

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Second Edition – October, 1995
Third Edition – May, 2000

Fourth Edition

May 14, 2004

This ANSI/UL Standard for Safety consists of the Fourth Edition including revisions through October 14, 2019.

The most recent designation of ANSI/UL 1863 as an American National Standard (ANSI) occurred on October 1, 2019. 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 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.

No Text on This Page

CONTENTS

INTRODUCTION

CONSTRUCTION

RISK OF INJURY TO PERSONS

PERFORMANCE

INTRODUCTION

1 Scope

1.1 These requirements cover telecommunications-circuit accessories, such as jack and plug assemblies, quick-connect terminal assemblies, telephone wall plates, telephone extension cords, cross-connect terminal-block assemblies, maintenance terminal modules, terminal enclosures, cable-splice enclosures, network-interface devices, wire-guide assemblies, and connector boxes.

1.2 These devices are intended to be used in telecommunications networks that have an operating root-mean-square (rms) voltage to ground less than 150 volts and installed or used in accordance with the National Electrical Code, ANSI/NFPA 70.

1.3 These requirements do not cover telephone equipment such as telephone answering devices, residential telephone instruments, telephone dialers, cordless phones, key systems, and private-branch exchange equipment that is covered by the Standard for Information Technology Equipment – Safety – Part I: General Requirements, UL 60950-1, or the Standard for Audio/Video, Information and Communication Technology Equipment – Part 1: Safety Requirements, UL 62368-1. Also, these requirements do not cover:

a) Telephone protectors that are covered by the Standard for Protectors for Paired-Conductor Communications Circuits, UL 497, and

b) Secondary protectors that are covered by the Standard for Secondary Protectors for Communications Circuits, UL 497A.

c) Information Technology and Communications Equipment Cabinets, Enclosure and Rack Systems are investigated to the Standard for Information Technology Equipment – Safety – Part 1, UL 60950-1 or Audio/Video, Information and Communication Technology Equipment – Part 1: Safety Requirements, UL 62368-1.

1.4 These requirements do not cover receiver/transmitter-type devices. Equipment of this type is covered by the Standard for Audio, Video and Similar Electronic Apparatus – Safety Requirements, UL 60065; or the Standard for Audio/Video, Information and Communication Technology Equipment – Part 1: Safety Requirements, UL 62368-1.

1.5 These requirements may be used, directly or by reference, to investigate portions of other equipment, not classified as telecommunications-equipment accessories, that may be connected to a telecommunications network, insofar as they may be applicable to such equipment.

1.6 These requirements do not cover wires and cables intended to be permanently installed in a building in accordance with Article 800 of the National Electrical Code, ANSI/NFPA 70.

2 General

2.1 Components

2.1.1 Except as indicated in 2.1.2, a component of a product covered by this standard shall comply with the requirements for that component. See Appendix A for a list of standards covering components used in the products covered by this standard.

2.1.2 A component is not required to comply with a specific requirement that:

a) Involves a feature or characteristic not required in the application of the component in the product covered by this standard, or

b) Is superseded by a requirement in this standard.

2.1.3 A component shall be used in accordance with its rating established for the intended conditions of use.

2.1.4 Specific components are incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions.

2.2 Units of measurement

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

2.2.2 Unless otherwise indicated, all voltage and current values mentioned in this standard are root-mean-square (rms).

2.3 Undated references

2.3.1 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.

3 Glossary

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

3.2 COMMON MODE VOLTAGE – When applied to telecommunications leads, this term refers to the voltage between any conductor or connection point and earth ground. Also referred to as Longitudinal Voltage.

3.3 DIFFERENTIAL MODE VOLTAGE – When applied to telecommunications leads, this term refers to the voltage between any conductors or connection points excluding those connected to earth ground. Also referred to as Metallic Voltage.

3.4 ELECTRICAL ENERGY – HIGH-CURRENT LEVELS (POWER SUPPLIES) – The capability for damage or injury to persons (other than by electric shock) from available electrical energy is considered to exist when, between a live part and an adjacent dead-metal part or between live parts of different polarity, there exists a potential of 2 volts or more and either:

a) An available continuous power level of 240 volt-amperes or more or

b) A reactive energy level of 20 joules or more.

For example, a tool (or other metal) short-circuiting a component is capable of posing a risk of fire, electric shock, or injury to persons (burns) when enough energy is available at the component to vaporize, melt, or more than warm the metal.

3.5 ENCLOSURE – The word "enclosure" refers only to parts that house or cover:

a) Uninsulated live parts that involve a risk of electric shock or

b) Parts that involve a risk of fire, electrical energy/high-current levels, or injury to persons.

An enclosure may be an integral part of a component, a separate item or part of an outer cabinet.

3.6 FIXED OR STATIONARY EQUIPMENT – Equipment that is not easily moved, and is intended to be moved from one place to another only when de-energized. Fixed equipment is usually fastened or secured to the building.

3.7 GROUND – A conducting connection, whether intentional or otherwise, between electrical circuits or electrical equipment and either the earth or some conducting body that serves in place of the earth.

3.8 GROUNDING – The act of establishing a conductive connection, whether intentional or otherwise, between an electrical circuit or electrical equipment and earth.

3.9 LONGITUDINAL VOLTAGE – See 3.2, Common Mode Voltage.

3.10 METALLIC VOLTAGE – See 3.3, Differential Mode Voltage.

3.11 NETWORK OPERATING VOLTAGES – Telecommunications networks normally operate at voltages of 56.5 volts DC or less, unless the source impedance is above the range of 300 – 1600 ohms. For equipment connected to a single tip and ring pair, alerting and test voltages higher than 56.5 volts are generally intermittent and will be present over less than 1 percent of the usage of the equipment. [Some telecommunications equipment, such as PBX and Key systems, may have a greater percentage of usage or operate at a higher voltage (such as T type lines)]. Maximum ring voltages may not exceed 200 volts peak-to-ground or 300 volts peak-to-peak.

3.12 NONPROTECTED SIDE – The portion of the loop circuit that rests on the primary side of a telephone protector installed by the operating telephone company. The fault current limitation is subject to the breakdown voltage characteristics of the primary protector and its coordinated fusing system (e. g., fuse link or bridle wire) with which the protector is intended to be used.

3.13 PORTABLE EQUIPMENT – Equipment that is easily moved and can be carried or conveyed by hand. Portable equipment is usually hand-held or hand-supported.

3.14 PRODUCT – This term refers to all types of telephone equipment and appliances likely to be used in residential, commercial, and industrial environments.

3.15 PROTECTED SIDE – Refers to that portion of the loop circuit that is connected to the secondary or output side of the primary telephone protector and is limited to short and long term current requirements for secondary protectors.

3.16 RISK OF ELECTRIC SHOCK – The risk that a person encounters when exposed to live uninsulated parts of a product that have a voltage and current sufficient to cause an electric shock, as defined in Accessibility and Electric Shock, Section 8.

3.17 RISK OF FIRE – The risk that a fire may occur as a result of equipment or component failure or the application of specified test conditions. A risk of fire is considered to exist at any component unless an investigation of the circuit delivering power to that component complies with the power limitations criteria cited in this standard.

3.18 RISK OF INJURY TO PERSONS – A risk of injury to persons is considered likely to occur when one or more of the following conditions exist:

a) Sharp edges, burrs, or projections are present that can cause injury during use or servicing.