UL 1730

STANDARD FOR SAFETY

Smoke Detector Monitors and Accessories for Individual Living Units of Multifamily Residences and Hotel/Motel Rooms

UL Standard for Safety for Smoke Detector Monitors and Accessories for Individual Living Units of Multifamily Residences and Hotel/Motel Rooms, UL 1730

Fourth Edition, Dated December 29, 2006

Summary of Topics

This revision of ANSI/UL 1730 dated April 11, 2022 is being issued to update the title page to reflect the most recent designation as a Reaffirmed American National Standard (ANS). No technical changes have been made.

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 requirements are substantially in accordance with Proposal(s) on this subject dated February 11, 2022.

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Standard for Smoke Detector Monitors and Accessories for Individual Living Units of Multifamily Residences and Hotel/Motel Rooms

First Edition – September, 1987
Second Edition – September, 1994
Third Edition – September, 1998

Fourth Edition

December 29, 2006

This ANSI/UL Standard for Safety consists of the Fourth Edition including revisions through April 11, 2022.

The most recent designation of ANSI/UL 1730 as a Reaffirmed American National Standard (ANS) occurred on April 11, 2022. 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.

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INTRODUCTION

1 Scope

1.1 These requirements cover electrically operated smoke detector monitors intended to be used in ordinary indoor locations in accordance with the National Electrical Code, NFPA 70; the Life Safety Code, NFPA 101; and Chapter 2 of the National Fire Alarm Code, NFPA 72.

1.2 As covered by these requirements, a smoke detector monitor is a unit that provides for the connection and supervision of initiating circuits which are, in turn, to be connected to smoke detectors. The smoke detectors may be single station or multiple station and are installed within individual living units of multifamily residences or hotel or motel rooms. The monitor provides alarm or trouble indications at an attended central monitoring location as a supplement to the signal indication provided at the location of the smoke detector. These units are not intended for use as fire protective signaling control units.

1.3 In addition to smoke detector monitoring, a monitor covered by these requirements may provide for manual activation of alarm signals within the individual living units (whether integral with the smoke detectors or not) on either an individual or zone basis.

1.4 An installation wiring diagram attached to the monitor, or referenced in the markings on the monitor, indicates the devices and circuits acceptable for connection to it in the field.

1.5 These requirements do not cover automatic fire detectors or alerting devices not provided as part of the monitor, nor do they cover units intended for connection to smoke detectors that:

a) Do not have integral sounding devices or

b) Are installed in common areas of multifamily dwellings.

1.6 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, electric shock, or injury to persons shall be evaluated using the appropriate additional component and end-product requirements to determine that the level of safety as originally anticipated by the intent of this Standard is maintained. A product whose features, characteristics, components, materials, or systems conflict with specific requirements or provisions of this Standard shall not be judged to comply with this Standard. Where appropriate, revision of requirements shall be proposed and adopted in conformance with the methods employed for development, revision, and implementation of this Standard.

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 generally used in the products covered by this standard.

2.1.2 A component need not comply with a specific requirement that:

a) Involves a feature or characteristic not needed 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 recognized rating established for the intended conditions of use.

2.1.4 Specific components are recognized as being 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 for which they have been recognized.

2.2 Units of measurement

2.2.1 If a value for measurement is followed by a value in other units in parentheses, the second value may be only approximate. The first stated value is the requirement.

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 ALARM SIGNAL – An audible and visual signal indicating an emergency fire condition that requires immediate action.

3.3 ALERTING DEVICE – Any device that provides an audible signal to the attendant to indicate a fire or trouble condition. Examples of audible signal devices are bells, horns, sirens, electronic horns, buzzers, and chimes.

3.4 ALERTING DEVICE CIRCUIT – A circuit to which alerting devices are connected.

3.5 END-OF-LINE RESISTOR – A resistor installed at the end of an initiating or alerting device circuit to limit the amount of supervisory current.

3.6 FAULT – An open or ground condition on any line extending from a monitor or monitoring accessory.

3.7 GROUNDED CONDUCTOR – A conductor used to connect the intentionally grounded circuit of a wiring system to a grounding electrode.

3.8 GROUNDING CONDUCTOR – A conductor used to connect noncurrent carrying parts of equipment, raceways, and enclosure to a grounding electrode at the service. The grounding electrode is, in turn, connected to earth ground or to some conducting body that serves in place of earth ground.

3.9 INITIATING DEVICE – An automatically operated smoke detector, the operation of which results in a fire alarm indication at the monitor.

3.10 INITIATING DEVICE CIRCUIT – A circuit to which initiating devices are connected.

3.11 MONITOR – An electrically-operated visual and audible alerting device containing or having provision for connection to remote alarm and trouble alerting devices. This device is used to indicate the presence of alarm and faults on the circuit extending from the unit.

3.12 MONITOR ACCESSORY – A device or appliance that is externally connected to a monitor and employed to provide supplementary signaling indication. Such accessories include end-of-line resistors or diodes, auxiliary relays, remote switches, and living area interface units.

3.13 PROGRAM-CONTROLLED UNIT – A unit for which the intended operation is controlled or influenced by a stored program. As used here, the word "program" refers to a set of instructions that is carried out in a sequential and repetitive manner and that determines the system output signal resulting from a specific system input signal. "Stored" refers to the action provided by memory devices in which the memory may be either transient or permanent and that are used for retaining information, instruction, status, and the like.

3.14 SIGNALING LINE CIRCUIT – A circuit over which signals are transmitted between a monitor and its accessories.

3.15 SUPPLEMENTARY SIGNALING CIRCUIT – A circuit to which room status or housekeeping equipment, or the like, may be connected.

3.16 TROUBLE SIGNAL – A visual and audible signal indicating a fault condition of any nature, such as an open or ground, or other trouble condition that has occurred in the device or connected wiring.

3.17 VOLTAGE CLASSIFICATIONS:

a) High-Voltage Circuit – A circuit involving a potential of not more than 300 volts and having characteristics in excess of those of a low-voltage circuit

b) Low-Voltage Circuit – A circuit involving a potential of not more than 30 volts alternating current (AC) rms, 42.4 volts direct current (DC) or AC peak.

c) Power-Limited Circuit – A circuit in which the power is limited as specified in Power-Limited Circuits, Section 36.

INSTRUCTIONS AND DRAWINGS

4 General

4.1 Installation wiring diagram

4.1.1 An installation wiring diagram shall be provided with each monitor illustrating the field connections to be made. The drawing may be attached to the unit or, if separate, shall be referenced in the marking on the unit by the name or trademark of the manufacturer, drawing number, and issue number or date.

4.1.2 The drawing shall show a pictorial view of the installation terminals or leads to which field connections are to be made as they would appear when viewed during an installation. The terminal numbers on the unit shall agree with the numbers on the drawing.

4.1.3 The following marking information shall appear on the installation wiring diagram for the applicable circuits to which field connections are made. In addition, each circuit shall be marked to indicate that the circuit is "SUPERVISED" or "NOT SUPERVISED."

a) Main Supply Circuit – Volts, frequency, and maximum current input or specific power supply with which the unit is intended to be used. A terminal for the connection of a grounded conductor shall be properly identified. If the input current can vary appreciably with the extent of output circuit loading and will affect the size of the supply circuit wire used, more than one current rating may be shown in conjunction with a marking on the unit indicating the limitations of loading.