UL 1076

STANDARD FOR SAFETY

Proprietary Burglar Alarm Units and Systems

UL Standard for Safety for Proprietary Burglar Alarm Units and Systems, UL 1076

Sixth Edition, Dated April 6, 2018

Summary of Topics

This revision of ANSI/UL 1076 dated February 16, 2021 includes Expansion of Electronic Media (including websites) for Installation Instructions; 7.4, 7.5 and Section 8.

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 new and revised requirements are substantially in accordance with Proposal(s) on this subject dated July 3, 2020 and September 23, 2020.

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UL 1076

Standard for Proprietary Burglar Alarm Units and Systems

The first and second editions were titled Proprietary Burglar Alarm Systems Units.

First Edition – July, 1974
Second Edition – February, 1980
Third Edition – March, 1982
Fourth Edition – December, 1988
Fifth Edition – September, 1995

Sixth Edition

April 6, 2018

This ANSI/UL Standard for Safety consists of the Sixth Edition including revisions through February 16, 2021.

The most recent designation of ANSI/UL 1076 as an American National Standard (ANSI) occurred on February 16, 2021. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, and Title Page.

The Department of Defense (DoD) has adopted UL 1076 on April 9, 1992. The publication of revised pages or a new edition of this Standard will not invalidate the DoD adoption.

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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CONTENTS

INTRODUCTION

CONSTRUCTION

ASSEMBLY

FIELD WIRING CONNECTIONS

INTERNAL WIRING

COMPONENTS, ELECTRICAL

SPACINGS

PERFORMANCE – ALL UNITS

MANUFACTURING AND PRODUCTION LINE TESTS

MARKINGS

ACCESSORY EQUIPMENT

PROPRIETARY BURGLAR ALARM SERVICE

APPENDIX A

No Text on This Page

INTRODUCTION

1 Scope

1.1 These requirements apply to the construction, performance and operation of equipment intended for use in proprietary burglar alarm units and systems used to protect against burglary. These products are normally intended for indoor use.

1.2 A proprietary burglar alarm system as referred to by these requirements is a system in which alarm initiating circuits and devices are installed at a property and are connected directly or indirectly to constantly monitored receiving equipment at a central supervising station. The central supervising station is located at the protected property and intended for operation by personnel responsible to the owner of the protected property. The protected property may consist of a single property or of noncontiguous properties under a single ownership. The system is arranged so that a predetermined change in the alarm initiating circuits or devices automatically causes transmission of an alarm signal over a supervised signaling channel to the central supervising station.

1.3 These systems normally operate within the limits of Class 2 remote-control and signal circuits as defined by Article 725 of the National Electrical Code, NFPA 70.

1.4 The protection circuit must respond to both an increase and a decrease in the circuit resistance or current within the limits indicated in the appropriate sections of this standard. See 58.3, 62.2, and 67.6.

1.5 A system that provides line security may be classified as either standard line security or encrypted line security. See Standard Line Security Equipment, Section 71, and Encrypted Line Security Equipment, Section 72.

1.6 Protective devices installed on individual properties are further classified as to extent of protection at each location. Requirements covering installation and classification (of extent) of alarm protective equipment at individual locations are published in the Standard for Installation and Classification of Burglar and Holdup Alarm Systems, UL 681, which is intended to be referenced by burglar-alarm installers.

1.7 Proprietary burglar alarm units and systems are also specially designated as to their intended use on mercantile premises, mercantile safes and vaults, and bank safes and vaults.

1.8 Equipment intended for combination burglar alarm and fire-protective signaling systems shall comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems, UL 864.

2 Components

2.1 Except as indicated in 2.2, 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.

2.2 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.

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

2.4 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.

3 Units of Measurement

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

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

4 Undated References

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.

5 Terminology

5.1 The term "product" as used in this standard refers to all types of proprietary burglar alarm units and systems.

6 Glossary

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

6.2 ACKNOWLEDGEMENT SIGNAL – An audible and/or visual signal that is sent to the subscriber by the central station to notify the subscriber that a signal has been received indicating that the protection system has been properly armed. The acknowledgement signal can be sent manually or automatically.

6.3 CENTRAL SUPERVISORY STATION – A physically protected building or enclosed area within a building that is constantly manned for the purpose of providing immediate attention to all signals received from the protected areas.

6.4 CIRCUITS, ELECTRICAL:

a) HIGH-VOLTAGE – A circuit involving a potential of not more than 600 volts and having circuit characteristics in excess of those of a low-voltage power-limited circuit.

b) LOW-VOLTAGE – 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 – A circuit whose output is limited as described in Table 6.1 and Table 6.2. The power limitation shall be provided by the design of the transformer, a fixed impedance, a noninterchangeable fuse, a nonadjustable manual reset circuit protective device, or a regulating network.

Table 6.1
Power limitations for inherently limited power source (overcurrent protection not required)

Circuit voltage V_{max}[a] AC-DC (volts)	Maximum nameplate ratings		Current limitation I_{max}[b] (amperes)
	VA (volt-amperes)	Current (amperes)	
0 to 20	$5.0 \times V_{max}$[a]	5.0	8.0
Over 20 to 30	100	$100/V_{max}$[a]	8.0
Over 30 to 100	100	$100/V_{max}$[a]	$150/V_{max}$[a]
Over 100 to 250 DC only	$0.030 \times V_{max}$[a]	0.030	0.030

NOTE – Reproduced in part from the National Electrical Code (ANSI/NFPA 70-1993 Edition), copyright National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

[a] V_{max}: Maximum output voltage regardless of load with rated input applied.

[b] I_{max}: Maximum output after 1 minute of operation under any noncapacitive load, including short circuit.

Table 6.2
Power limitations for power sources not inherently limited (overcurrent protection required)

Circuit voltage V_{max}[a] AC-DC (volts)	Maximum nameplate ratings		Current limitation I_{max}[b] (amperes)	Power limitation $(VA)_{max}$[c] (volt-amperes)	Maximum overcurrent protection (amperes)
	VA (volt-amperes)	Current (amperes)			
0 to 20	$5.0 \times V_{max}$[a,d]	5.0	$1000/V_{max}$[a]	250	5.0
Over 20 to 100	100	$100/V_{max}$[a]	$1000/V_{max}$[a]	250	$100/V_{max}$[a]
Over 100 to 150	100	$100/V_{max}$[a]	1.0	NA	1.0

NOTE – Reproduced from the National Electrical Code (ANSI/NFPA 70-1993 Edition), copyright National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

[a] V_{max}: Maximum output voltage regardless of load with rated input applied.

[b] I_{max}: Maximum output after 1 minute of operation under any noncapacitive load, including short circuit, and with overcurrent protection bypassed.

[c] $(VA)_{max}$: Maximum volt-ampere output regardless of load with overcurrent protection bypassed.

[d] If the power source is a transformer, $(VA)_{max}$ is 350 or less when V_{max} is 15 or less.

6.5 COMPUTER SYSTEM, FAULT TOLERANT – A computer system containing multiple power supplies, disk drives, processors, and controllers each backing up and checking on the process of others. In the event of a component failure, the other modules take over the function performed by the failed components without affecting the operation of the computer. In addition to the duplicating hardware, a fault-tolerant system includes the necessary software to make the system operational.

6.6 COMPUTER SYSTEM, REDUNDANT – Two computer systems maintained at a central station, either of which can quickly be connected and operational for handling alarm signals in the event that the other computer fails to operate. See 6.5 for the definition of a fault-tolerant computer system. A fault-tolerant computer system is considered to be redundant.

6.7 CORD-CONNECTED UNIT – A unit intended for connection to the power source by means of a supply cord. By the nature of its design, such a unit is intended to be moved for reasons of interchange or realignment of the units of a system.

6.8 CRYPTOGRAPHIC AUTHENTICATION – Algorithms intended to ensure the secrecy and/or authenticity of messages.

6.9 DIGITAL ALARM COMMUNICATOR (DAC) – A transmission method as outlined in the Standard for Digital Alarm Communicator System Units, UL 1635, by cellular and/or telephone landline transmission.

6.10 HARDWIRE KEY DEVICE – A mechanical or electronic device employed to enable the remote programming mode.

6.11 HVAC SYSTEM – Heating, Ventilating, and Air-Conditioning system.

6.12 LINE-VOLTAGE – The voltage at any field-connected source of supply, nominally 50 – 60 hertz; 115, 208, or 230 volts.

6.13 MULTIPLEXING – A signaling method using wire path, cable carrier, radio, or combinations of these methods characterized by the simultaneous and/or sequential transmission and reception of multiple signals in a communication channel including means for positively identifying each such signal.

6.14 NORMAL STANDBY CONDITION – The ready-to-operate condition which exists prior to being tripped or operated by an intrusion.

6.15 PACKET SWITCHED DATA NETWORK (PSDN) – A type of data transmission in which data is divided into packets, each of which has a destination address. Each packet is then routed across a computer network. A packet may travel a different route than packets related to it.

6.16 PRIMARY BATTERY – Any battery which by design or construction is not intended to be recharged.

6.17 RADIO FREQUENCY – Electromagnetic radiation normally 20 kilohertz or higher.

6.18 "SAFETY" CIRCUIT – Any circuit that is relied upon to reduce the risk of fire, electric shock, or unintentional contact with moving parts that may cause injury to persons (an interlock circuit, for example).

6.19 SECONDARY BATTERY – Any battery which, by design or construction, is intended to be recharged.

6.20 SERVICE CENTER – A location that may be separate from the alarm service company's main business location providing runner, installation, maintenance, and repair service to systems served by the central supervising station. Keys for protected premises are retained at the service center. The service center is to keep maintenance records for the systems that it serves unless the records can be accessed from another location.

6.21 SERVICE VEHICLE – A vehicle used to provide runner service, installation, maintenance, and repair service to systems served by the company.

6.22 SIGNAL TRANSMISSION METHODS – Any of the following methods: direct wire, multiplex, derived channel, two way radio (RF), DACT/DACR, one way radio (RF), packet switched data network, or code transmitter.

6.23 SOFTWARE – Instructions that are temporarily or permanently stored in the computer's memory and used to provide function and control of the computer's components.

6.24 SYSTEM DATABASE – Information entered into the computer by authorized personnel including items such as, but not limited to, names, addresses, telephone numbers, security information for system users, graphics and the like.

7 Installation and Operating Instructions

7.1 A copy of the installation and operating instructions intended to accompany the product and related schematic wiring diagrams and installation drawings are to be furnished with the sample submitted for

investigation to be used as a guide in the examination and test of the product, and for this purpose need not be in final printed form.

7.2 The instructions and drawings shall include at least the following:

a) Typical installation drawing layouts and complete representative installation wiring diagram(s) for the product(s) indicating recommended locations and wiring methods which shall be in accordance with the National Electrical Code, ANSI/NFPA 70-1993.

b) A concise description of the operation, testing, and maintenance procedures for the product(s), and recommended testing frequency (which shall be at least once per year).

c) Replacement parts, such as lamps or batteries, shall be identified in the instructions by a part number, manufacturer's model number, or the equivalent.

d) A description of the conditions which might be expected to result in false alarms or impaired operation of the product(s).

e) A description of any features provided to reduce the risk of electric shock or fire, and a warning against bypassing such features.

7.3 The instructions may be incorporated on the inside of the product, on a separate sheet, or as part of a manual. If not included directly on the product, the instructions or manual shall be referenced in the marking information on the product. See Markings, General, Section 91.

7.4 The installation and operating instructions containing the information required in 7.2 shall be made available by one or more of the following means:

a) Printed hardcopy format;

b) Installation wiring diagram/instructions attached to the product;

c) Electronic instructions within the basic product software; or

d) Electronic media such as CD, DVD, thumb drive, website, or equivalent.

7.5 When the installation and operating instructions are included as described in 7.4 (a), (c), or (d), they shall be referenced in the product marking by document number and issue date and/or revision level. Products utilizing electronic media as described in 7.4 (c) or (d), shall include information on how to receive a printed copy of the installation and operating instructions.

8 Installation and Operating Instructions Physical Media

8.1 *Deleted*

8.2 *Deleted*

8.3 *Deleted*

CONSTRUCTION

ASSEMBLY

9 General

9.1 Product assembly

9.1.1 The product shall be factory-built as a complete assembly and shall include all the components necessary for its intended function when installed and used as intended. The product may be shipped from the factory as two or more major subassemblies. See 9.1.2.

9.1.2 If the product is not assembled by the manufacturer as a complete unit, it shall be arranged in major subassemblies. Each subassembly shall be capable of being incorporated into a final assembly without requiring alteration, cutting, drilling, threading, welding, or similar tasks by the installer. Two or more subassemblies, which shall bear a definite relationship to each other for the intended installation or operation of the product, shall be arranged and constructed to permit them to be incorporated into the complete assembly in only the intended relationship with each other without need for alteration or alignment; otherwise, such subassemblies shall be assembled, tested, and shipped from the factory as one element.

9.2 Electrical protection

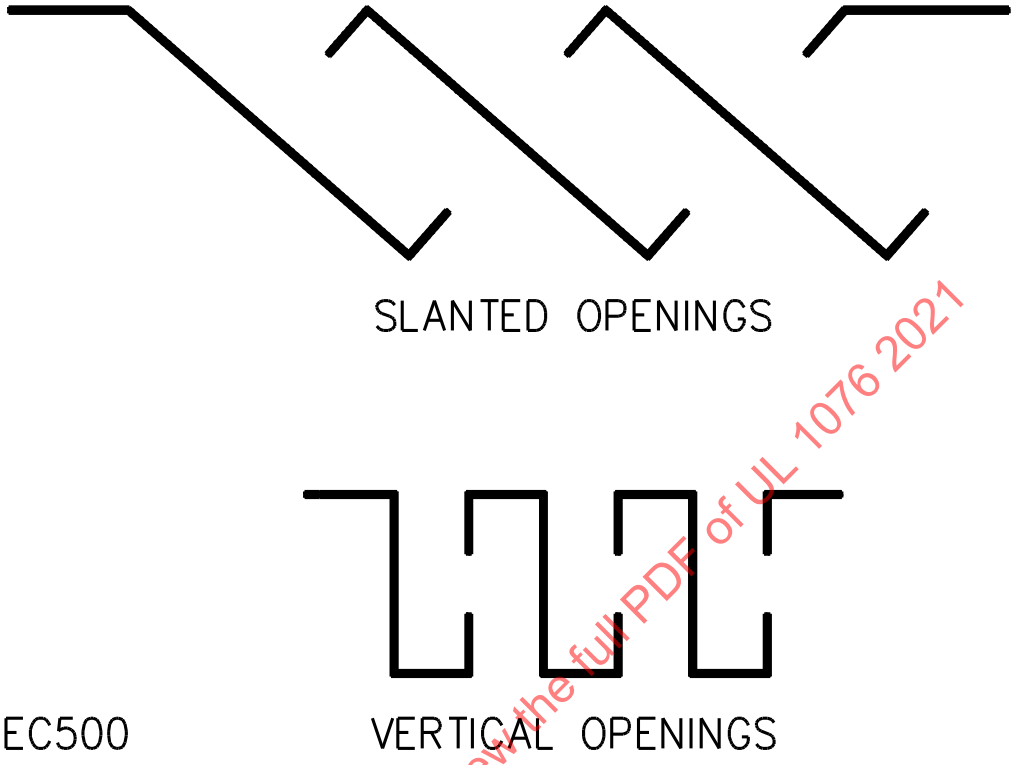
9.2.1 Louvers and other openings in the enclosure shall be constructed and located to prevent unintentional contact with uninsulated high-voltage live parts. In determining compliance with this requirement, parts such as covers, panels and grilles used as part of the enclosure are to be removed unless tools are required for their removal or an interlock is provided.

9.2.2 Uninsulated high-voltage live parts shall be located, guarded, or enclosed as indicated in 9.2.3 – 9.2.5.

9.2.3 Openings directly over uninsulated high-voltage live parts shall not exceed 0.187 inch (4.75 mm) in any dimension unless the configuration is such to reduce the risk of direct entry to uninsulated high-voltage live parts. See Figure 9.1 for examples of top cover constructions that are considered to reduce the risk of direct entry.

Figure 9.1

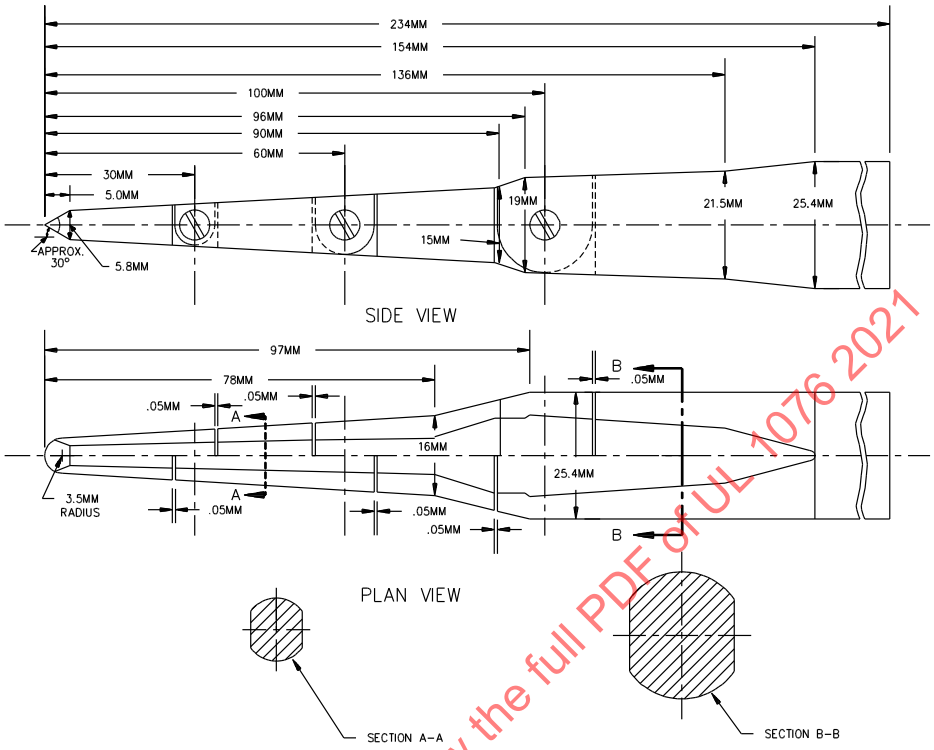
Cross-sections of top cover constructions



9.2.4 An opening in an electrical enclosure shall not permit entrance of a 1-inch (25.4-mm) diameter rod and shall be sized and so arranged that a probe, as illustrated in Figure 9.2, cannot be made to contact any uninsulated live electrical part (other than low-voltage) when inserted through the opening in a straight or articulated position.

Figure 9.2

Probe



PA100

NOTE – High-impact polystyrene probe available from Underwriters Laboratories Inc.

9.2.5 An opening that permits entrance of a 1-inch (25.4-mm) diameter rod may be used under the conditions described in Figure 9.3.