

**OTHER
RECOGNIZED
DOCUMENT**

ULC/ORD-C1023-74

PRELIMINARY STANDARD FOR HOUSEHOLD BURGLAR ALARM SYSTEM UNITS



**Underwriters'
Laboratories of Canada®**

Underwriters' Laboratories of Canada
by IHS Markit under license with ULC
action or networking permitted without license from IHS
Full document details: ULC C1023-74 1974

Licensee=/, User=,
Not for Resale,



Documents
Document Sharing Hub

Document ID: 123456789

PRELIMINARY STANDARD
FOR
HOUSEHOLD BURGLAR ALARM
SYSTEM UNITS

FIRST EDITION January, 1974

TABLE OF CONTENTS

	<u>Page</u>
FOREWORD	1
1. SCOPE	2
2. CONSTRUCTION	2
2.1 General	2
2.2 Frame and Enclosure	2
2.3 Corrosion Protection	5
2.4 Insulating Material	6
2.5 Mounting of Parts	7
2.6 Current-Carrying Parts	7
2.7 Installation Wiring Connections	8
2.8 Terminals	8
2.9 Leads	8
2.10 Polarity Identification	8
2.11 Termination of Raceways	9
2.12 Cords and Plugs	9
2.13 Strain Relief	9
2.14 Bushings	9
2.15 Internal Wiring	10
2.16 Separation of Circuits	11
2.17 Grounding	11
2.18 Capacitors	12
2.19 Transformers, Relays, Etc.	12
2.20 Switches	12
2.21 Overcurrent Protection	12
2.22 Semiconductors	12
2.23 Spacings	12
3. PERFORMANCE	15
3.1 Normal Operation	15
3.2 Power Input	15
3.3 Voltage Variations	16
3.4 Temperature Variations	16
3.5 Humidity Test	16
3.6 Endurance Test	16
3.7 Jarring Test	17
3.8 Dust Test	18
3.9 Rain Test	18
3.10 Dielectric Withstand Test	18
3.10.1 General	18
3.10.2 Capacitor Test	20
3.11 Temperature	20
3.12 Radio-Frequency Interference	23
3.13 Supply-Cord Pull Test	23
3.14 Alarm	24
3.15 Operation	24
3.16 Intrusion Detection	25
4. MARKING	25





INCORPORATED 1920

UNDERWRITERS' LABORATORIES OF CANADA

General Offices and Testing Station

7 CROUSE ROAD, SCARBOROUGH, ONTARIO

Telephone 757-3611 Area Code 416

In Reply
Please Refer to ULC Subject C1023-1974

PRELIMINARY STANDARD
FOR
HOUSEHOLD BURGLAR ALARM
SYSTEM UNITS

FOREWORD

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.

ULC C1023-1974

1. SCOPE

1.1 These requirements cover household burglar alarm system units intended for use in residences.

1.2 A household burglar alarm system unit may be designed to protect a complete multiroom residence or one room of a residence or one opening or area in a residence.

1.3 A household burglar alarm system unit is intended to protect a residence by detecting an intruder and producing a local audible signal.

2. CONSTRUCTION

2.1 GENERAL

2.1.1 A component of a household burglar alarm system unit shall comply with the requirements for that component, except that such requirements may be modified if appropriate for the particular application.

2.2 FRAME AND ENCLOSURE

2.2.1 A unit shall resist the abuses to which it is likely to be subjected without adversely affecting its performance and without increasing its fire and shock hazard due to total or partial collapse with resulting reduction of spacings, loosening or displacement of parts, or other serious defects.

2.2.2 Electrical parts of a unit shall be so located or enclosed that protection against accidental contact with uninsulated hazardous live parts will be provided.

2.2.3 Operating parts, such as gear mechanisms, light-duty relays, and similar devices, shall be protected against fouling by dust or other material which may affect adversely their normal operation.

2.2.4 The thickness of cast metal for an enclosure shall be as indicated in Table 1, except that cast metal of lesser thickness may be employed if, upon investigation (consideration being given to the shape, size, and function of the enclosure), it is found to have equivalent mechanical strength.

T A B L E 1
CAST METAL ENCLOSURES

Use or Dimensions of Area Involved	Min. Thickness In Inches	
	Die-Cast Metal	Cast Metal of Other Than the Die-Cast Type
Area of 24 square inches or less and having no dimensions greater than 6 inches	1/16 ^a	1/8
Area greater than 24 square inches or having any dimension greater than 6 inches	3/32	1/8
At a threaded conduit hole	1/4	1/4
At an unthreaded conduit hole	1/8	1/8

^a *The area limitation for metal 1/16 inch in thickness may be obtained by the provision of reinforcing ribs subdividing a larger area.*

2.2.5 The thickness of sheet metal employed for the enclosure of a unit shall be not less than that indicated in Table 2, except that sheet metal of less thickness may be employed if, upon investigation (consideration being given to the shape, size, and function of the enclosure), it is found to have equivalent mechanical strength. At any point where conduit or armoured cable is to be attached, sheet metal shall be of such thickness or shall be so formed or reinforced that it will have stiffness at least equivalent to that of an uncoated flat sheet of steel having a minimum thickness of 0.053 inch (No. 16 MSG).

T A B L E 2
SHEET-METAL ENCLOSURES

Max Enclosure Dimensions		Min Thickness of Sheet-Metal In Inches ^a		
Any Linear Dimension in Inches	Area of Any Surface in Square Inches	Steel		Brass or Aluminum
		Zinc- Coated	Uncoated	
12	90	0.034 (20)	0.032 (20)	0.045 (16)
24	360	0.045 (18)	0.042 (18)	0.058 (14)
48	1200	0.056 (16)	0.053 (16)	0.075 (12)
60	1500	0.070 (14)	0.067 (14)	0.095 (10)
Over 60	Over 1500	0.097 (12)	0.093 (12)	0.122 (8)

^a The figures in parentheses are the Galvanized Sheet Gauge Numbers (for zinc-coated steel), the Manufacturers' Standard Gauge Numbers (for uncoated steel), and the American Wire Gauge (B & S) (numbers for a nonferrous metal) which should normally provide the required minimum thickness of metal.

2.2.6 If nonmetallic material is used for an enclosure, it shall be judged under Clause 2.2.7 and shall have a wall thickness of not less than 1/16 inch.

2.2.7 Among the factors which are taken into consideration when judging the suitability of nonmetallic enclosure are (1) the mechanical strength, (2) resistance to impact, (3) moisture-absorptive properties, (4) combustibility, (5) resistance to distortion at temperatures to which the material may be subjected under conditions of normal or abnormal usage, and (6) the effect of exposure to weathering if for outdoor use. All of these factors are considered with respect to ageing.

2.2.8 If an enclosure requires mounting, the mounting means shall be accessible without disassembling any operating part of the unit.