OTHER
RECOGNIZED
DOCUMENT

ULC/ORD-C386-15

FLAME DETECTORS

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CORPORATE HEADQUARTERS
Underwriters Laboratories of Canada
7 Underwriters Road
Toronto, Ontario M1R 3A9
Telephone: (416) 757-3611
Fax: (416) 757-9540
Customer Service: 1-866-937-3852

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The Standards Council of Canada is located at:

55 Metcalfe Street
Suite 600
Ottawa, Ontario
K1P 6L5
Telephone: (613) 238-3222

REGIONAL OFFICES

EASTERN OFFICE
6505, Rte Transcanadienne, Suite 330
St-Laurent, Québec H4T 1S3
Telephone: (514) 363-5941
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Customer Service: 1-866-937-3852

PACIFIC OFFICE
13775 Commerce Parkway, Suite 130
Richmond, British Columbia V6V 2V4
Telephone: (604) 214-9555
Fax: (604) 214-9550
Customer Service: 1-866-937-3852

For further information on ULC standards, please contact:

ULC STANDARDS
171 Nepean Street, Suite 400
Ottawa, Ontario K2P 0B4
Telephone: (613) 755-2729
Fax: (613) 231-5977
Customer Service: 1-866-937-3852

E-mail: customerservice@ulc.ca
Web site: www.ulc.ca

The intended primary application of this Other Recognized Document is stated in its scope. It is important to note that it remains the responsibility of the user of the Other Recognized Document to judge its suitability for this particular application.

Copies of this Other Recognized Document may be ordered from ULC Standards.

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FLAME DETECTORS

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TABLE OF CONTENTS

FOREWORD I

PREFACE II

1 SCOPE 1

2 REFERENCE PUBLICATIONS 1

3 GENERAL 1

4 CONSTRUCTION 1

5 MARKING 2

6 INSTALLATION INSTRUCTIONS 2

7 PERFORMANCE 2

7.1 NORMAL OPERATION 2
7.2 ELECTRICAL SUPERVISION 3
7.3 ELECTRICAL RATING 3
7.4 OVERVOLTAGE, UNDERVOLTAGE 3
7.5 RADIO FREQUENCY INTERFERENCE 3
7.6 REMOTE TEST FEATURE 3
7.7 SIGNAL LINE TRANSIENT TEST 3
7.8 IMMUNITY TO EXTRANEOUS VISUAL SOURCES 3
7.9 STABILITY 3
7.10 OTHER TESTS (AS APPROPRIATE) 4

FOREWORD

Certification organizations are periodically requested to promptly provide certification services for devices, constructions, materials and systems where Canadian recognized Standards do not currently exist or are not entirely applicable. Accordingly, the certification organization utilizes its experience, existing specifications and requirements in related areas, together with assistance from its advisory councils to develop and prepare Other Recognized Documents (ORDs) for use in conducting the necessary tests and evaluation investigation.

Underwriters Laboratories of Canada has prepared many ORDs in response to requests from, and in conjunction with, industry, code writing bodies, regulatory agencies and others prior to promulgating a certification program. In many instances such documents have become published ULC Standards and subsequently National Standards of Canada. It is the intention of Underwriters Laboratories of Canada to continue this practice, as appropriate.

Comments on the content of this ORD should be directed to the Head Office of Underwriters Laboratories of Canada, 7 Underwriters Road, Toronto, Ontario, CANADA, M1R 3A9.

NOTE: These Other Recognized Documents are accepted under the National Standards System of Canada. Reference may be made to the Document CAN-P-3, ″General Requirements for Bodies Operating Product Certification Systems”; and CAN-P-1500, “Additional Requirements for Accreditation of Certification Bodies″, published by the Standards Council of Canada located at 270 Albert Street, Suite 200, Ottawa, Ontario, CANADA, KIP 6N7.

FLAME DETECTORS

PREFACE

This is the Second Edition of the ULC/ORD-C386, Flame Detectors.

Only metric SI units of measurement are used in this ORD. If a value for measurement is followed by a value in other units in parentheses, the second value may be approximate. The first stated value is the requirement.

In Canada, there are two official languages, English and French. All safety warnings must be in French and English. Attention is drawn to the possibility that some Canadian authorities may require additional markings and/or installation instructions to be in both official languages.

This Second Edition ORD is based on, and now supersedes, the First Edition.

Attention is drawn to the possibility that some of the elements of this ORD may be the subject of patent rights. ULC Standards shall not be held responsible for identifying any or all such patent rights.

Requests for interpretation of this ORD should be sent to the ULC Mark Program Owner of Underwriters Laboratories of Canada. The requests should be worded in such a manner as to permit a “yes” or “no” answer based on the literal text of the requirement concerned.

This ORD is intended to be used for conformity assessment.

1 SCOPE

1.1 These requirements cover the design, construction and performance of flame detectors rated at 300 V or less.

1.2 Flame detectors meeting these requirements may be employed in accordance with appropriate parts of the following:

A CAN/ULC-S524, Standard for Installation of Fire Alarm Systems

B CSA-C22.1, Canadian Electrical Code, Part I, Safety Standard for Electrical Installations.

2 REFERENCE PUBLICATIONS

The documents shown below are referenced in the text of this ULC Other Recognized Document (ORD). Unless otherwise stated elsewhere in this ORD, such reference shall be considered to indicate the edition and/or revisions of the documents available at the date on which this ULC ORD is published.

Documents Published by CSA Group
5060 Spectrum Way, Suite 100, Mississauga, Ontario L4W 5N6 Canada
Telephone: 1-800-463-6727, Fax: (416) 747-2473 www.csa.ca

- CSA-C22.1-15, Canadian Electrical Code, Part I, Safety Standard for Electrical Installations
- CAN/CSA-C22.2 No. 60079 Series, Explosive atmospheres
- CAN/CSA-C22.2 No. 60079-29-1:12, Explosive atmospheres - Part 29-1: Gas Detectors - Performance Requirements of Detectors for Flammable Gases

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Documents Published by ULC Standards (prior to May, 2010, identified as Underwriters Laboratories of Canada)
171 Nepean Street, Suite 400, Ottawa, ON K2P 0B4 Canada
Telephone: (416) 757-3611, ext. 61744; Fax (613) 231-5977, “ATTN: Publications”
E-mail: publications@ulc.ca
www.ulc.ca

- ULC-S306-03, Intrusion Detection Units
- CAN/ULC-S524-14, Standard for Installation of Fire Alarm Systems
- ULC-S529-09, Smoke Detectors for Fire Alarm Systems

3 GENERAL

3.1 For General requirements refer to Sections 2, 4 and 6 in ULC-S529, Smoke Detectors for Fire Alarm Systems.

3.2 If the detector is to be used in hazardous locations, then it must meet the requirements of CAN/CSA-C22.2 No. 60079 series of standards. CAN/CSA-C22.2 No. 60079-29-1 is not applicable.

4 CONSTRUCTION

4.1 For Construction requirements refer to Sections 9 through 26 in ULC-S529, Smoke Detectors for Fire Alarm Systems.

5 MARKING

5.1 For Marking requirements refer to Section 74 in ULC-S529, Smoke Detectors for Fire Alarm Systems.

5.2 A detector shall be permanently marked in a contrasting colour with the following information:

A Name or identifying symbol of the manufacturer;

B Model number and date of manufacture (including month and year) or equivalent; and

C Electrical rating, in volts, amperes, or watts, and frequency for each circuit. This information may appear on the installation wiring diagram.

6 INSTALLATION INSTRUCTIONS

6.1 For Installation instructions refer to Section 76 in ULC-S529, Smoke Detectors for Fire Alarm Systems.

6.2 A technical bulletin, to be used as a reference by the installer, shall be provided by the manufacturer for each installation. The bulletin shall include the manufacturer's recommendations regarding typical detector locations. The information shall include guidelines on detector location, spacings, maintenance, servicing tests, and the like, under various environmental conditions and physical configurations. Some conditions for which guidelines are required shall be temperature; humidity; corrosive atmospheres; air movement (ventilating and air-conditioning system); high ceilings; sloped ceilings; girder ceiling construction; small and large bays; open joist construction; high stock piling; and conditions produced by manufacturing processes.

6.3 Detailed information shall be provided regarding the use of facilities provided on the detector to monitor the sensitivity. Typical information that shall be provided includes:

A Nominal reading under clear condition;

B Nominal reading when close to alarm;

C Nominal reading at alarm condition; and

D Guidelines on instrument use for an engineering survey, installation, and maintenance.

6.4 Information regarding locations where not to install detectors shall also be provided to minimize the possibility of false alarms.

6.5 Reference to the bulletin number and the date shall be required either on the detector nameplate marking or on the installation drawing. If the installation drawing is included as part of the technical bulletin, reference to the bulletin shall be required to be indicated on the detector.

7 PERFORMANCE

7.1 NORMAL OPERATION

7.1.1 The manufacturer's claims for sensitivity and response time shall be confirmed as follows:

7.1.1.1 A fire consisting of a 0.6 m by 0.6 m by 0.3 m deep pan containing 0.28 m of water and 19 mm of fuel specified by the manufacturer shall be prepared in an open 3 sided shelter. The detector shall be mounted outdoors on a tripod 8 ft. from the ground facing the fire source at the maximum distances and