UL 1238

STANDARD FOR SAFETY

Control Equipment for Use with Flammable Liquid and LP-Gas Dispensing Devices

UL Standard for Safety for Control Equipment for Use with Flammable Liquid and LP-Gas Dispensing Devices, UL 1238

Seventh Edition, Dated January 19, 2022

Summary of Topics

This new edition of ANSI/UL 1238 dated January 19, 2022 includes the following changes:

– UL 1238 title change;
– Addition of zone designations; 1.2, 5.7 and 49.1
– Addition of reference to NFPA 30A; 1.2 and 6.3
– Revision to the Glass Panel Test; 7.6.7
– Clarification to Table 7.1, Table 7.2 and 10.1;
– Clarification of requirements for components used to make an enclosure rainproof or raintight; 8.6, 38.1 and 38.3
– Clarification of requirements for motors; 19.1 and 19.3
– Revision to secondary circuit requirements; 23.3
– Editorial clarification; 39.1.1
– Revision to the Flammability Test; 41.3.5
– Rain Test clarification; 43.3
– Typo correction; 45.1
– Updates to Appendix A

The new and revised requirements are substantially in accordance with Proposal(s) on this subject dated November 19, 2021.

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UL 1238

Standard for Control Equipment for Use with Flammable Liquid and LP-Gas Dispensing Devices

First Edition – August, 1975
Second Edition – March, 1996
Third Edition – September, 2001
Fourth Edition – March, 2006
Fifth Edition – May, 2008
Sixth Edition – July, 2015

Seventh Edition

January 19, 2022

This ANSI/UL Standard for Safety consists of the Seventh Edition.

The most recent designation of ANSI/UL 1238 as an American National Standard (ANSI) occurred on January 19, 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.

No Text on This Page

CONTENTS

INTRODUCTION

CONSTRUCTION

ELECTRICAL COMPONENTS

SPACINGS

PERFORMANCE

MANUFACTURING AND PRODUCTION LINE TESTS

No Text on This Page

INTRODUCTION

1 Scope

1.1 These requirements cover electrical equipment used for the control and monitoring of flammable liquid and LP-Gas dispensing devices rated 600 volts or less. Such control equipment is intended to be installed in ordinary locations in accordance with the National Electrical Code, NFPA 70.

1.2 These requirements also cover electrical control equipment that is capable of being installed in or over a hazardous area as defined by the Flammable and Combustible Liquids Code, NFPA 30, and Code for Motor Fuel Dispensing Facilities and Repair Garages, NFPA 30A. Electrical control equipment for installation in a Class I, Zone 1, or Zone 2 Class I, Division 1 or Division 2 hazardous area shall comply with the applicable requirements for the Hazardous Location protection method employed. See Appendix A for a list of appropriate standards.

1.3 These requirements cover general-use field-installed equipment. They also cover controls intended to be factory installed on or in certain devices as operating controls. Typical devices covered by these requirements include:

a) Communication Units – Visual, pulse, or audio devices which complies with the transmittal of data or information. Such devices include audio or visual systems between the service station attendant and the customer, and data processing systems between the service station and a remote data processing terminal.

b) Control Consoles – Prepay, post-pay, remote totalizing, or remote actuating and monitoring devices located indoors or within a structure some distance from the dispensing device.

c) Credit Acceptance Units – Dollar bill, coin, token, pulse, or credit card activated devices which are capable of being installed on, adjacent to, or away from the dispensing device.

d) Electric Computer Resets – Electrically authorized or electrically operated devices which reset a mechanical computer.

1.4 These requirements do not cover safety or emergency controls which automatically or manually interrupt the operation of a dispensing device.

1.5 The term "device" refers to any equipment covered by this standard.

1.6 These requirements do not cover purely mechanical systems such as hose nozzle attachments and pneumatic or hydraulic actuators.

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.

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.

2.5 Except for portable equipment, provision shall be made for securely mounting control equipment in position. Bolts, screws, or other parts used for mounting equipment shall be independent of those used for securing components of the equipment to the frame, base, or panel.

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 Glossary

5.1 For the purpose of this standard, the following terms apply.

5.2 ABBREVIATIONS – For the purpose of this standard, the following definitions apply:

AC – Alternating Current

AWG – American Wire Gage

DC – Direct Current

GSG – Galvanized Sheet Gage

Hz – hertz

MSG – Manufacturers Standard Gage

NEC – National Electrical Code, NFPA 70

psig – Pounds per square inch gauge

rms – Root-mean-square

5.3 BRANCH CIRCUIT – That portion of the building wiring system beyond the final overcurrent device on the power-distribution panel protecting the circuit to the field-wiring terminals in a permanently connected device or to the receptacle outlet for cord-connected devices.

5.4 CIRCUITS, ELECTRICAL –

a) Class 2 (Low-Voltage) – A circuit involving a potential of not more than 42.4 volts peak supplied by:

1) An energy-limiting Class 2 transformer;