



Examination Standard for Open Path Detectors for Flammable Gases

Class Number 6325

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Foreword

This standard is intended to verify that the products and services described will meet stated conditions of performance, safety and quality useful to the ends of property conservation. The purpose of this standard is to present the criteria for examination of various types of products and services.

Examination in accordance with this standard shall demonstrate compliance and verify that quality control in manufacturing shall ensure a consistent and reliable product.

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1 INTRODUCTION

1.1 Purpose

- 1.1.1 This standard states testing and certification requirements for open path detectors for flammable gases.
- 1.1.2 Testing and certification criteria may include, but are not limited to, performance requirements, marking requirements, examination of manufacturing facility(ies), audit of quality assurance procedures, and a surveillance program.

1.2 Scope

- 1.2.1 This standard is concerned with the details of construction, performance and testing of open path (line-of sight) gas detectors that sense the presence of flammable gas or vapor concentrations in air. Based on associated requirements, this standard considers the suitability of the apparatus, or parts thereof, for use in Class I, hazardous (classified) locations as defined by the National Electrical Code® (ANSI/NFPA 70).
- 1.2.2 For apparatus used for sensing the presence of multiple gases, non-flammable toxic gases, as well as a gas that is both toxic and flammable, this document applies only to the portion sensing the presence of flammable gas or vapor.
- 1.2.3 This standard addresses flammable gas detectors intended to provide a broad indication or alarm, the purpose of which is to give warning of possible presence of a potential flammable concentration of gas or vapor.
- 1.2.4 This standard does not address gas monitoring or monitoring apparatus of the laboratory or scientific type used for analysis or measurement, apparatus used for process control and process monitoring purposes, or apparatus used for residential purposes.
- 1.2.5 This standard is written for gas monitoring apparatus that are intended to monitor gases or vapors in ambient air by measuring the spectral absorption by the gases or vapors over an extended optical path. The units of measurement and range of the gas monitoring apparatus are a mathematical integral of the gas concentration along the optical path. The units of measurement are expressed as full concentration of the lower flammable limit (100%LFL or 1LFL) multiplied by the distance, in meters, at that concentration (e.g., LFL•meter, %LFL(Avg)).
- 1.2.6 The standard is limited to instrument applications where: calibration is performed using either the gas to be monitored or another gas for which response conversion data appears in the instruction manual.

NOTE: FOR CONVENIENCE, THE SHORTER TERM “GAS” MAY BE USED AS AN ABBREVIATION FOR “FLAMMABLE GAS OR VAPOR” WITHIN THIS DOCUMENT.