



Member of the FM Global Group

Examination Standard for Programmable Logic Control (PLC) Based Burner Management Systems

Class Number 7605

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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 programmable logic control (PLC) based burner management systems.
- 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 follow-up audit program.

1.2 Scope

- 1.2.1 This standard sets requirements for PLC based systems used in conjunction with safety controls for commercial and industrial heating equipment. These systems incorporate programmable electronic components. These electronic components use software and/or electronic hardware to set operating and safety parameters, and to implement the operating and safety logic.
- 1.2.2 The management system shall provide safe start, safe operation, and safe shutdown under normal or abnormal conditions.
- 1.2.3 The system may or may not be supplied with safety controls such as combustion safeguards, flame sensing devices, pressure and temperature limit controls, and combustion airflow interlocks. If safety controls are provided they shall be. If controls are not provided, the system input/output modules shall be compatible with certified controls.
 - Note:** If the manufacturer desires to provide currently non-certified safety controls, such equipment shall be required to conform to certification requirements for that equipment. Certification of such equipment shall be handled as a separate project.
- 1.2.4 The requirements of this standard shall be used to measure and describe the performance of electronic hardware and software in response to exposure from heat, cold, abnormalities, electromagnetic interference, etc., under controlled laboratory conditions. The results of these controlled exposures shall not be used to describe or appraise actual exposure conditions since such conditions will vary widely.

1.3 Basis for Requirements

- 1.3.1 The requirements of this standard are based on experience, research and testing, or the standards of other organizations. The advice of manufacturers, users, trade associations, and loss control specialists was also considered.
- 1.3.2 The requirements of this standard reflect tests and practices used to examine characteristics of the subject equipment for the purpose of obtaining certification. Equipment having characteristics not anticipated by this standard may be certified if performance equal, or superior, to that required by this standard is demonstrated.