



Linear Heat Detection Engineering Specifications

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THERMOCABLE LINEAR HEAT DETECTOR ENGINEERING SPECIFICATIONS

CSI SECTION []
LINEAR HEAT DETECTION SYSTEM (S)

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes linear heat detection systems
- B. Related Sections:
 - 1. Section 16720 - Fire Alarm and Detection Systems
 - 2. Section 15300 - Fire Protection Systems

1.02 REFERENCES

- A. National Fire Protection Association (NFPA):
 - 1. NFPA 72 Standard for Protection Signaling Systems
 - 2. Factory Mutual Insurance (FM) Approval Guide
 - 3. Underwriters Laboratories Inc. (UL) Fire Protection Equipment Directory
 - 4. Underwriters Laboratories Canada (c-UL-us) Fire Protection Equipment Directory
- B. State and Local Codes.

1.03 SYSTEM DESCRIPTION

- A. Design Requirements:
 - 1. Shall consist of an approved linear heat detector and control/releasing panel that are designed and installed to detect the heat from a fire as it was designed.
 - 2. The control/releasing panel shall be any approved self-contained, micro-controlled base technology that indicates alarms, faults and system integrity or as approved by the manufacturer. The intent of the panel is to alarm when the linear heat detector senses a fire and either alarm, or alarm and release an extinguishing agent. The panel shall also have 24, 60 or 90 (Choose One) hour battery back up.
 - 3. The linear heat detection systems spacing shall be determined by NFPA, State Codes, Local Codes and the manufacturer's recommendations.

- B. Performance Requirements:
 - 1. Shall be UL, c-UL-us, FM, MEA and CSFM tested and approved.
 - 2. Shall be listed for up to 35 foot spacing.
 - 3. Shall be compatible with any UL listed fire alarm panel.
 - 4. Must not require proprietary panel.
 - 5. Shall detect a fire at its approved temperature.
 - 6. Shall report any equipment related fault through a fault output relays.
 - 7. Shall be installed to comply with NFPA standards (and the authority having jurisdiction).

1.04 SUBMITTALS

- A. Submit product data and shop drawings including isometric and plan view layouts of the system under provisions of section [].
- B. Supply one copy of the manufacturers Installation & Operation Manuals after completion of installation.
- C. Supply one copy of the manufacturers Start-Up forms within 30 days after installed and commissioned.
- D. Each bidder must supply their proposed system design for the area(s) to be protected together with a letter certifying that the design strictly complies with the limitations established by the manufacturer.

1.05 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Contractor: The contractor shall have a minimum of 5 years experience in the design and installation of fire detection systems.
 - 2. Equipment suppliers: The equipment suppliers shall be factory authorized and trained by the manufacturer every other year to design, install and maintain all aspects of the system.
- B. Regulatory Requirements:
 - 1. Codes and approvals: Equipment supplier shall conform to the local code requirements and approvals applicable to this section. Supplier must obtain and pay all necessary permits prior to beginning work in this section.
 - 2. The system shall be Factory Mutual approved, and listed by Underwriters Laboratories and Underwriters Laboratories Canada.

1.06 PROJECT CONDITIONS

- A. Physical/Environmental Requirements:
 - 1. The cabinet shall be permanently mounted where specified on the shop drawings or in a location to facilitate access and ease of service.
 - 2. The cabinet must be mounted in an ambient temperature range of 32° to 125° Fahrenheit.
 - 3. Where the environment is harsh, the releasing control panel shall be fitted with a NEMA 4 or NEMA 12 (Choose One) enclosure.

1.07 SEQUENCING and SCHEDULING

- A. Coordinate work performed under this section with work specified in other sections as noted in Section [].

1.08 MAINTENANCE

- A. Maintenance Service: Shall be provided by a factory authorized and factory trained representative in accordance with the manufacturers, NFPA 72 and local requirements of the authority having jurisdiction.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Linear Heat Detection System:

Acceptable Manufacturer: SAFE Fire Detection, Inc.
5915 Stockbridge Dr.
Monroe, NC 28110
Ph.: 704-821-7920 Fax: 704-821-4327

B. Detection Method: Linear Heat Detection

2.02 MANUFACTURED PRODUCTS

A. The Linear Heat Detector (choose one):

155°F (68 °C) Linear Heat Detector	Model #: TC155
172°F (78 °C) Linear Heat Detector	Model #: TC172
190°F (88 °C) Linear Heat Detector	Model #: TC190
220°F (105 °C) Linear Heat Detector	Model #: TC220

Linear Heat Detection outer jackets and options:

Suffix to part number:

Nylon covering – N

Polypropylene covering – P

GuideWire attached – G

2.03 COMPONENTS

A. The Linear Heat Detection System:

1. UL listed Addressable Panel or Conventional panel.
2. The detection principle shall be linear heat type, and be capable of detecting fires as it was designed at a fixed temperature.

2.04 EQUIPMENT

1. The control panel for the linear heat detection releasing system must be a microprocessor-based control capable of protecting multiple hazards in one control panel. It shall be U/L listed under Standard 864 for Local Control Units for Releasing Service. The control must also be approved by FM and be compatible with the requirements of NFPA -72 (Local: A, M, SS service types; NC signaling type) and NFPA -13, NFPA -15, and NFPA -16.
2. The Linear Heat Detector shall be a fixed temperature single line-sensing element consisting of two electrical current carrying wires separated by a heat sensitive coating. The temperature must be clearly printed on the detector.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. The Linear Heat Detection System: The contractor shall install the system in accordance with the manufacturer's installation recommendations and Operational Manual.

3.02 FIELD QUALITY CONTROL

A. Tests and Commissioning:

1. The contractor shall commission the complete installation in the presence of the end user or their appointed representative.
2. The contractor shall provide materials all necessary instrumentation, test equipment, labor.
3. The contractor shall record all test and commissioning requirements and a copy shall be provided to the end user or an authorized representative.
4. Checks must be made to ensure that all ancillary equipment and warning devices are operational as designed and specified with care taken not to discharge a suppression system.
5. The contractor shall upon completion of commissioning and testing provide the end user or authorized representative with the isometric as-built drawings as well as the System Start-Up forms, Installation and Operation manuals.
6. The contractor shall be or be represented by an authorized representative of SAFE Fire Detection, Inc. This person must have successfully completed SAFE's technical training seminar and show proof of it by means of a valid certificate. The company listed on the certificate at the time of the testing and commissioning must employ, this person who must be present or the certificate is not valid. The certificate is valid for a period of two years from the date on the certificate.