

Marmon Sensing Solutions provides fire detection for harsh, hazardous environments, based on fiber optic Linear Heat Detection. These systems offer maximum asset protection with low overall installation and operating costs, in even the most extreme conditions.

## Applications

- Road and railway tunnels
- Cable routes, bus ducts and data centers
- Refineries and plants
- Storage facilities and warehouses
- Nuclear and other special hazard facilities
- Commercial buildings and parking garages.

## Features

- Immune to electromagnetic noise (EMI), dirt, dust and humidity
- Pinpoints exact location, size and spread of fire events
- Cost effective, gathers thousands of measurements in a single sensor over long distances
- Easy to install and integrate into fire management systems
- No maintenance or calibration required for individual sensing points
- Intrinsically safe sensor for hazardous environments
- Eliminates power and communication cabling to operate individual/multiple sensors
- Thanks to distributed sensing, all areas are monitored along the asset, i.e. not just those points considered to be at higher risk
- Wide range of packaging techniques for harsh environments



- Stand-alone or system integrated operation
- Utilizes Distributed Temperature Sensing (DTS) technology, offering temperature/condition monitoring in addition to fire detection
- The system can be programmed to interact with surveillance and suppression systems to ensure an accurate and effective response
- A range of multimode fiber optic sensing cables are available for even the most demanding applications
- The alarm criteria in hundreds of zones along the same sensor cable are user configurable, which minimizes the risk of nuisance alarms in environments with dynamic temperature ranges.

MSS Linear Heat Detection TIS v4

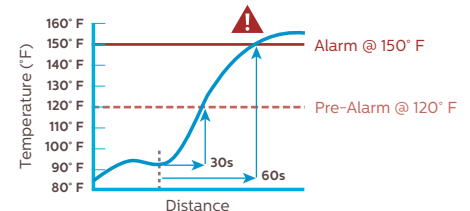
Exceeding a defined maximum difference in average temperature of a designated zone



Exceeding a defined maximum temperature



Exceeding a defined maximum temperature rise over a certain duration



# Linear Heat Detection

## Technical Performance

Note: Measurement parameters are interdependent

- Temperature accuracy: 1.8°F (1.0°C)
- Sampling interval: down to 10" (0.25 m)
- Measurement Time: 10 sec to 30 sec (adjustable)
- Unit Operating Temperature: +14°F to +140°F (-10°C to +60°C)
- Suitable for wind speeds up to 33 ft/sec (10 m/sec)
- Fire monitoring capabilities at high temperatures (90 min at 1526°F / 830°C)
- Sensor operating temperature range: -292°F to +1832°F (-180°C to +1000°C) (depending on sensor cable design)
- Measurement Range: up to 6.2 miles (10 km) per channel or 12.4 miles (20 km) with one unit (6.2 miles (10 km) in either direction)
- Available with 1, 2 and 4 channels

- Indicates the magnitude and direction of the fire spread
- Localizes the fire source
- Alarm as well as pre-alarm criteria selectable and user-programmable for each zone
- 1000 individually programmable zones per channel (overlapping zones, distinct alarm types)
- Redundancy options available.

## Conforms to the following International Standards:

- UL 521, ULC S530 spacing up to 50 ft
- ISO 9001 and ISO 14001
- ATEX certified
- VdS (Association of German Property Insurers)
- CE (Electromagnetic Compliance, Europe)
- TÜV Rheinland
- prEN 54-22 Class A1N



Fiber Optic Sensing Systems for Linear Heat Detection have a life expectancy of 30 years or more based on mean-time-between-failures (MTBF) statistical field analysis.

## VITALink Fire Resistive Cables

VITALink Fire Resistive Cables come in a variety of sizes and performance ratings. Serving Commercial Construction and Transit Markets the 600V (UL 2196) cable is available from 14 AWG – 750MCM. Serving the petrochemical and industrial markets cables from 16 AWG and larger perform up to 2000°F, ensuring orderly shutdown of critical systems during hydrocarbon pool fires (UL 1709). (See full specifications in VITALink brochure at <http://vitalinkcable.com>)

## Our Mission

To provide customer value as an integrator of specialized cable products and services that optimize capital asset management.



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