LHS™

Linear Heat Sensor

F-73-05

FENWAL®™
Protection Systems

FEATURES

- **Fixed Temperature Digital Heat Detector**
- **Five Alarm Temperatures Available: 142°F - 158°F, 180°F, 220°F, 350°F, 452°F**
- **Compatible with All Fire Control Panels**
- **Connect Directly to Initiating Circuit**
- **Cost-Effective Solution for Hazardous Locations**
- **Ideal for Use in Applications Where Spot-Type Heat Detectors are Unsuitable**
- **Fire Zone Location Using LHS with SmartOne® compatible panels**
- **FM Approved**

DESCRIPTION

The LHS™ Linear Heat Sensor cable is a flexible, durable and cost-effective fixed-temperature fire detector, suitable for protecting a wide range of commercial and industrial fire applications.

LHS is a small diameter cable capable of detecting heat from a fire over its entire length. The sensor cable consists of a twisted pair of 19 AWG copper coated steel conductors covered by a temperature sensitive insulation, and protected by either a plastic braid or jacket for various environmental applications.

The LHS Linear Heat Sensor is Factory Mutual Approved and is designed for open area as well as proximity detection. A wide range of jackets and operating temperatures are available for proper system design, including confined areas or harsh environments which prohibit the use of other forms of detection. LHS is compatible with any fire control panel that is capable of accepting contact closure type initiating devices.
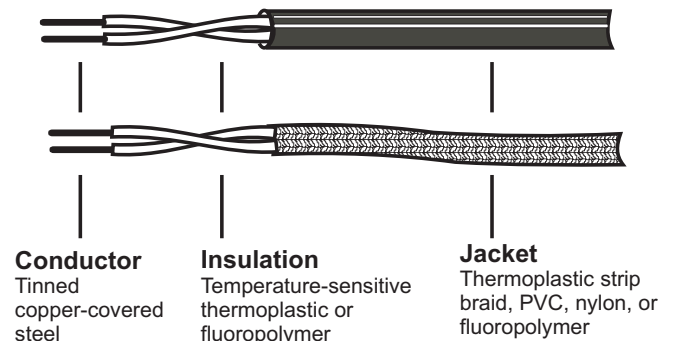
APPLICATIONS

- Open Area Protection
- Belt Conveyers
- Tunnels
- Aircraft Hangars
- Cable Trays
- Floating Roof Tanks
- Classified Hazardous Areas (when used with intrinsic safety barriers)

OPERATION

The heat from a fire causes the LHS cable's special insulation to melt at a specific temperature, allowing the two conductors to short together, thus creating an alarm condition on the fire control panel. The LHS cable may also be used as a stand-alone contact device. The LHS normal operating state is an open circuit. For installation details refer to "LHS Installation Instructions" (73-201).

Conductor
Tinned copper-covered steel

Insulation
Temperature-sensitive thermoplastic or fluoropolymer

Jacket
Thermoplastic strip braid, PVC, nylon, or fluoropolymer

FIRE ZONE LOCATION WITH LHS

An Intelligent Linear Heat Detection System is recommended for applications where fire zone location requires zone output control for notification appliances, HVAC control, suppression control and annunciation. In this system, each discrete addressable LHS cable zone will report an individual alarm to the SmartOne®-compatible fire control panel.

Addressable LHS cable zones are created by attaching each LHS cable zone to an Addressable Input module (P/N 70-407008-001). Each discrete LHS cable zone location can be displayed on the SmartOne-compatible panel 80-character LCD display with programmable text zone description. Up to 255 devices (any mix of devices including smoke detectors, manual pull stations, waterflow switches, LHS zones, etc.) can be connected to a single SmartOne-compatible addressable loop.

Installing an Intelligent Linear Heat Detection System results in substantial installation cost savings over traditional hard-wired linear heat detection systems.

Table 1. LHS Sensor Cable Specification

Part Number: 656 ft (200 m) length roll 3,280 ft (1000 m) length roll	73-200000-011 73-201000-011	73-200000-012 73-201000-012	73-200000-003 73-201000-003	73-200000-004 73-201000-004	73-200000-005 73-201000-005
Alarm Temperature Range	145-158ºF (63-70ºC)	180ºF (82ºC)	220ºF (105ºC)	350ºF (177ºC)	452ºF (233ºC)
Ambient Storage Temp.*	Up to 113ºF (45ºC)		Up to 158ºF (70ºC)	Up to 221ºF (105ºC)	Up to 392ºF (200ºC)
Min. Installation Temp.	5ºF (-15ºC)		32ºF (0ºC)		-4ºF (-20ºC)
Min. Operating Temp.**	-40ºF (-40ºC)		-22ºF (-30ºC)	-40ºF (-40ºC)	-58ºF (-50ºC)
Application	Indoor/Outdoor	Indoor/Outdoor	Indoor/Outdoor	Indoor/Outdoor	Indoor/Outdoor
Approved Spacing	20 ft (6m) max			Proximity Detection	
Flame Detection	5 seconds (max)		12 seconds (max)	20 seconds (max)	
Outer Jacket Material	Nylon	Nylon	PVC		FEP
Outer Jacket Color	Black Marked H8040N	Black Marked H8045N	Black	Red	White
Conductor Insulation	EVA		Polythene	Polypropylene	FEP
Conductor Color	1 Black 1 Red			1 Black 1 Black/White	1 Black 1 White
External Diameter	0.13 in. (3.35 mm)	0.13 in. (3.35 mm)	0.17 in. (4.35 mm)	0.17 in. (4.35 mm)	0.14 in. (3.5 mm)
Electrical Rating	1 Amp maximum, 110 Vdc maximum				
Conductor Resistance	30.48 ohms/1000 ft. @ 68ºV (100 ohms/1000 m) @ 20ºC				
Conductor Capacitance	20.21 pF/ft. (66.32 pF/m)	25.42 pF/ft. (83.31 pF/m)	19.96 pF/ft. (65.48 pF/m)	17.52 pF/ft. (57.48 pF/m)	19.22 pF/ft. (63.07 pF/m)
Insulation Rating	1000 megohm per 3280 ft. (1000 m) after 1 minute @ 500 Vdc Minimum				
Weight	10.65 lb./1000 ft. (15.85 kg/km)	10.65 lb./1000 ft. (15.85 kg/km)	15.25 lb./1000 ft. (22.7 kg/km)	12.67 lb./1000 ft. (18.85 kg/km)	14.65 lb./1000 ft. (21.8 kg/km)

*Do not store in direct sunlight. **When not subjected to vibration.

This literature is provided for informational purposes only. KIDDE-FENWAL, INC. assumes no responsibility for the product's suitability for a particular application. The product must be properly applied to work correctly. If you need information on this product, or if you have a particular problem or question, contact KIDDE-FENWAL, INC.

FENWAL Protection Systems

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