

SAFE
Cables™



UL
UL C US
FM APPROVED
CE
CSFM
MEA
ISO 9001

Specialty Linear Heat Detection Cables



Linear Heat Detection Cables

Standard Linear Heat

Early Warning Linear Overheat

Linear Fiber Optic

Linear Rate Of Change

- Nylon
- Polypropylene
- Guidewire



10,000 Linear Feet (3,000m) per Zone

Standard Linear Heat Detection

SafeCable Linear Heat Detection (LHD), is an advanced Digital Linear Heat Detection Cable that uses advanced polymers and a newly developed alloy to provide detection and durability like no other LHD cable. SafeCable may also be used on ANY new or existing addressable or conventional panel making it *the* cost effective solution.

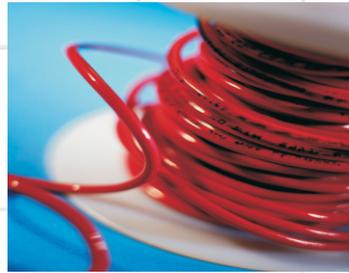
At the core of SafeCable is a twisted pair of extremely low resistance, tri-metallic conductors, sheathed in new advanced thermal polymers. These polymers are chemically engineered to break down at specific fixed temperatures allowing the twisted conductors to make contact and initiate an alarm.

The polymer used for the protective outer coating of SafeCable is chemical resistant and provides UV protection. This allows for SafeCable to be used in an extremely wide variety of indoor and outdoor installations and hazards.

An optional distance locating module is available which can identify and display the exact location of the overheating condition in feet or meters. You may also use addressable modules to allow the control panel to pin-point and identify the location at a cost far less than distance locating.

SAFE Cable

Linear Heat Detection



Detection Temperatures:
 155°F (68°C)
 172°F (78°C)
 190°F (88°C)
 220°F (105°C)
 365°F (178°C)



MEA

Registered ISO 9001

Distance Locating

Distance Locating is available for SafeCable and allows you to locate where the fire or overheating condition is occurring anywhere along its entire length. The distance is displayed in both feet and meters.





- Longer Runs
- Less Resistance
- Lower Cost

Only .05 ohms/ft Resistance per Twisted Pair

SPACING AND TEMPERATURE

SafeCable is listed for spacing up to 35 ft. (10.7m) between parallel runs, half the listed spacing from sidewalls, and .7 times the listed spacing from corners per NFPA 72. For installations above 30 ft. (9.1m) use one half the listed spacing.

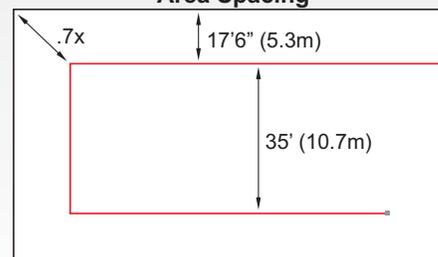
Listed Spacing

Temperature Rating	UL, C-UL-US	FM
155°F (68°C)	35' (10.7m)	30' (9.1m)
172°F (78°C)	35' (10.7m)	30' (9.1m)
190°F (88°C)	35' (10.7m)	30' (9.1m)
220°F (105°C)	35' (10.7m)	25' (7.6m)
365°F (105°C)	35' (10.7m)	25' (7.6m)

*Half the listed spacing is used for ceiling heights above 30' (9.1m)

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Area Spacing



FEATURES AND BENEFITS

- **Compatible with ANY New or Existing Addressable or Conventional Panel**
- **Up to 10,000 Linear Feet (3,000m) of SafeCable May Be Used per Zone**
- **Multiple Alarm Temperatures May Be Combined on the Same Zone**
- **Can Detect Heat Anywhere Along its Entire Length**
- **RF Tested Up to 10,000 ft. (3,000m)**
- **Lower Material and Installation Cost**
- **Nylon Outer Jacket (Optional) - Provides Greater UV Protection for Outdoor Use and Harsh Industrial Environments than Standard PVC**
- **Polypropylene Outer Jacket (Optional) - Provides Greater Protection for Chemically Harsh and Caustic Environments than Standard PVC**
- **Guidewire (Optional) - 12 AWG Stainless Steel Support Wire Attached to any Temperature SafeCable Used for Long Spans**
- **Distance Locating (Optional) - May be Used with Any Temperature SafeCable**

SafeCable Options

SafeCable is available with several outer covering options for hazard specific installations. These options are available on all temperatures of SafeCable

NEW NXT - Our new NXT outer jacket is designed specifically for harsh and outdoor environments. It also offers UV protection and extra durability.

Polypropylene - For chemically harsh and caustic environments.

Guidewire - For spanning distances up to 250 ft. (76m) with supports every 15 ft. (4.6m).

- Any Panel
- Addressable
- Conventional



System Components

Standard Linear Heat Detection

LHD: Linear Heat Detection, as illustrated below, is easy to design, install, operate, and maintain. A typical system begins with any approved conventional or addressable fire alarm panel. A Distance Locating Module may be added to identify where the overheating condition is occurring. Leader wires are then run in conduit from either the panel, an addressable module, or the distance locating module, to the beginning of the zone. Conventional panels must run each zone independently. A NEMA 4 Junction Box houses a Screw Terminal which connects the leader wires to the SafeCable. The SafeCable then exits the Junction Box through a moisture proof Strain Relief Connector which seals the box to prevent corrosion. Approved mounting hardware is then used at 3ft. (1m) intervals to support the detection cable without restricting any movement needed for contraction.

Several styles of mounting accessories are available which are designed to accommodate different types of hazards. At the end of each zone, the SafeCable is terminated in an ELR-Box using the end of line resistor supplied by the panel manufacturer or looped back when using a 4 Wire (Class "A") configuration.



The Technology Behind Standard LHD

SafeCable Linear Heat Detection (LHD), uses advanced polymers and a newly developed alloy to provide exceptional detection, durability, and design flexibility. At the core of SafeCable is a twisted pair of extremely low resistance, tri-metallic conductors which are sheathed in new advanced thermal polymers. These polymers are chemically engineered to break down at specific fixed temperatures allowing the twisted conductors to make contact and initiate an alarm.



Tri-Metallic Core:

- Steel - Provides Tensile Strength
- Copper - Increases Conductivity
- Tin - Resists Corrosion

Thermal Reactant Sheathing:

- Advanced Polymers Provide Temperature Specific Activation

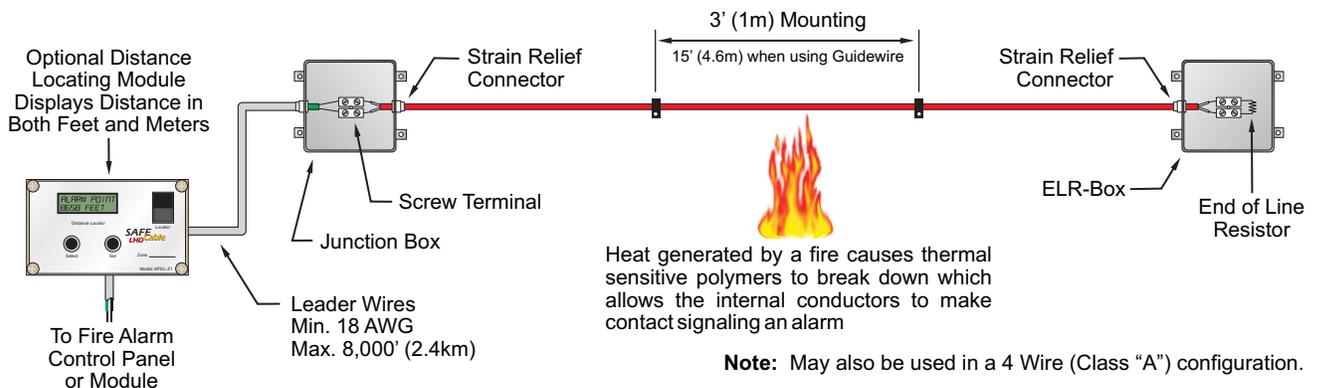
PVC Outer Covering:

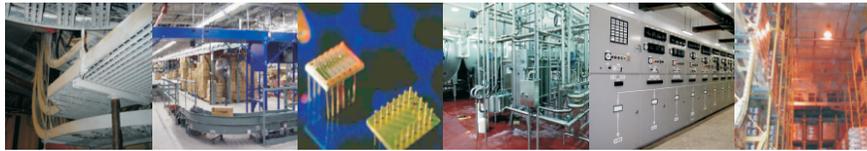
- Chemical Resistant
- UV Resistant
- Approved for Outdoor Use

Wire:

- Only 1/8" (3.2mm) Diameter
- Flexible for Easy Installation
- Continuous Cable Lengths up to 3,000 ft. (915m)

Typical SafeCable LHD System:





- Any Panel
- Addressable
- Conventional

System Components

FEATURES

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- **Lowest Cost**
- **Up to 10,000 Linear Feet Per Zone**
- **Use with ANY UL Listed Panel**
- **Multiple Alarm Temps on a Single Zone**
- **Total Zone Replacement Unnecessary After Alarm**
- **Approved for Up To 35' Spacing**
- **Lower Resistance Than Any Other LHD**
- **Custom Spools Available**

Description

SafeCable digital linear heat detection (LHD) cable is a combination of advanced polymer and digital technologies that can detect heat anywhere along its entire length. SafeCable is also compatible with any listed addressable or conventional panel.

At the core of SafeCable is a twisted pair of extremely low resistance (.05 ohm/ft. [.164 ohms/m] of twisted cable) tri-metallic conductors, sheathed in new advanced thermal polymers. These polymers are chemically engineered to break down at specific fixed temperatures allowing the twisted conductors to make contact and initiate an alarm at the control panel without any calibration for changes in the ambient temperature. The distance locating option allows the control panel to identify and display the location, in feet or meters from the panel, where the heat source interacted with the detection cable.

The polymer used for the protective outer coating of SafeCable is chemically inert and UV protected. This allows for SafeCable to be used in an extremely wide variety of installations and hazards.



Applications

Use where other types of detection are not practical or where the location of an overheating condition must be known. SafeCable is ideal for aircraft hangars, switchgear, in-rack freezer and cooler storage, archive and warehouse storage, elevator shafts, cooling towers, conveyors, cable trays, cable spreading rooms, terminal rooms, in-cabinet, motors, pumps, generators, tunnels, bridges, parking decks and engine bays.

Maximum Listed Spacing

Temperature Rating	UL, C-UL-US	FM
155°F (68°C)	35' (10.7m)	30' (9.1m)
172°F (78°C)	35' (10.7m)	30' (9.1m)
190°F (88°C)	35' (10.7m)	30' (9.1m)
220°F (105°C)	35' (10.7m)	25' (7.6m)
365°F (105°C)	35' (10.7m)	See Note 1

Note 1: FM Approved for Special Application Use Only

Maximum Ambient Temperatures

Maximum Ambient Install Temperature	Alarm Temp.	Part Number
Up to 113°F (45°C)	155°F (68°C)	TC155
Up to 122°F (50°C)	172°F (78°C)	TC172
Up to 158°F (70°C)	190°F (88°C)	TC190
Up to 158°F (70°C)	220°F (104°C)	TC220

Specifications - SafeCable

Diameter:	1/8" (3.2mm)
Weight:	Nominal 15 lbs./1000 ft. (6.8kg/305m)
Bend Radius:	3" (76.2mm)
Max. Voltage Rating:	30 VAC, 42 VDC
Resistance:	.05 ohms/ft. (.164 ohms/m)
Temperature Ratings (°F):	155°, 172°, 190°, 220°
Temperature Ratings (°C):	68°, 78°, 88°, 105°
Sheathing Options:	PVC: Corrosive and UV resistant Nylon: Abrasion resistant Polypropylene: Chemical resistant
Optional Guidewire:	Minimal support -15 ft (4.6m) intervals