

What are heat sensing cables?

Signaline Heat sensing cables are specialist cables designed to sense heat or sudden increases in temperature anywhere along their entire length. They are designed to be used in commercial and industrial fire alarm systems where conventional heat detectors may be difficult to install, or may not be suitable.

Signaline heat sensing cable can often be cheaper to install than conventional point type heat detectors. There are two types of heat sensing cable: Analogue (Signaline HD) and Fixed Temperature (Signaline FT).

Where are heat sensing cables used?

There are many places where heat sensing cable can be used effectively. Here are some examples:

Power stations

Vehicles

Railways

Ships

Petro-chem.

Airports & public transport terminals

Tunnels

Car parks

Warehouses

Office & shopping malls

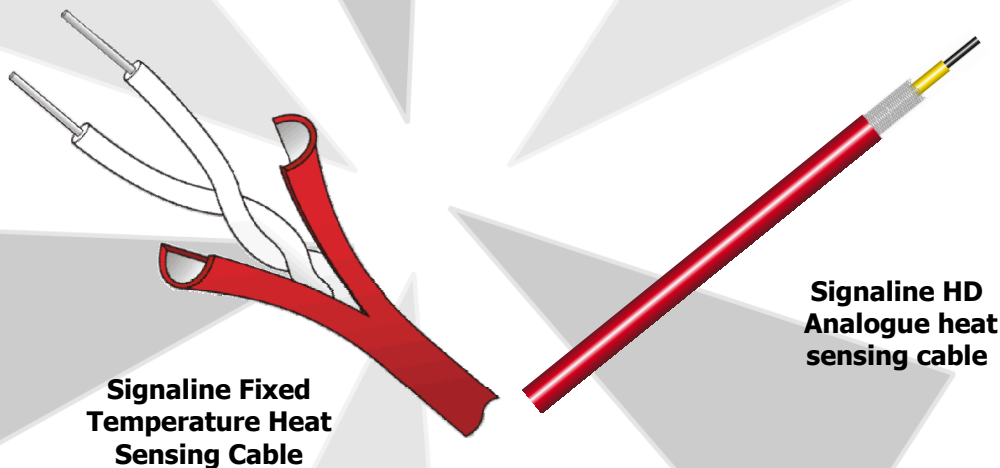
- Coal conveyors
- Power cable tunnels
- Cable trays
- Engine bays of earth moving vehicles
- Heavy goods vehicles
- Military vehicles
- Engine locomotives
- Signal cable trays
- Car ferry vehicle decks
- Engine rooms
- Floating roof tanks
- Escalators
- Moving walkways
- Road tunnels
- Access tunnels
- Multi storey or basement car parks
- Storage racks
- Cold storage rooms
- Escalators
- Basement car parks
- Plant rooms
- Stand-by gen-set rooms

What is the difference between Signaline HD and Signaline FT heat sensing cables?

Signaline FT is a fixed temperature cable. A fixed temperature cable is a simple form of heat detection. When a specified temperature is reached the construction of the cable breaks down to form an electrical closed contact. In other words nothing happens until a section of cable reaches a certain temperature, then at that temperature the cable acts like a closing switch. Fixed temperature heat sensing cable cannot be re-used. Once it has gone into alarm it must be replaced.

Signaline HD is an analogue heat sensing cable. Whereas Signaline FT is an on/off alarm, analogue cables monitor the rise in temperature. Signaline HD senses significant increases in temperature. An electronic controller connected to the cable monitors the condition of the cable to sense any change in temperature. This is done by continually measuring the electrical resistance in the cable between the metallic core and outer braiding. If the change in temperature is sufficient the controller recognises the change in resistance and creates an alarm. The controller is easily adjusted for the length of cable being used. Most importantly analogue heat sensing cable will reset itself after an alarm when the cable has cooled down unless it has been permanently damaged or destroyed by the heat.

The difference in the make up of the two types of cable is shown in the diagrams below -



Both Fixed temperature and analogue heat sensing cables can be easily integrated into intelligent fire alarm systems. A dedicated Apollo XP95 loop powered controller is available for analogue cables.

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Basic *DOs* and *DON'Ts*

- DO** use analogue cable when it is important to detect a fire as soon as possible.
- DO** use analogue cable when a fire is unlikely to give off smoke in its early stages e.g. overheating cables.
- DO** use fixed temperature cable when a simple temperature alarm is required.
- DO** use fixed temperature cable in high temperature environments.
- DO NOT** use analogue cable if the normal ambient temperature is likely to be above 45 °C e.g. in engine bays of vehicles.
- DO NOT** use analogue cable if sudden changes of temperature can be expected under normal working conditions.
- DO NOT** use fixed temperature heat sensing cable when sophisticated fire and fault monitoring is required.
- DO NOT** use fixed temperature cable when it is likely to be regularly 'flexed' or subjected to frequent bending in the normal course of work. This is because digital cable is much stiffer and less flexible than analogue cable.