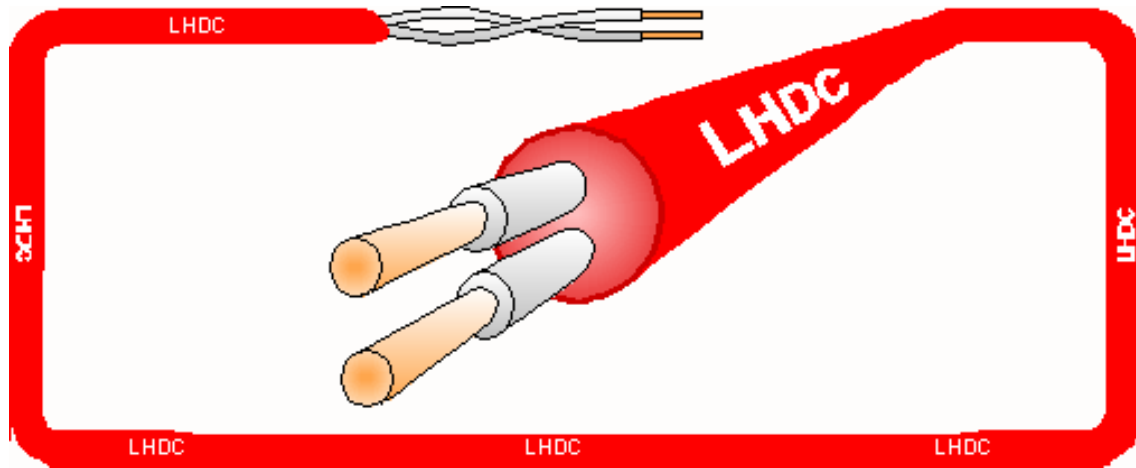


## LINEAR HEAT DETECTING CABLE (L.H.D.C.) Digital Line Heat Detector & Fire Sensor



The Patol Digital Line Heat Detector is designed to provide early detection of fire conditions and overheating in circumstances where other forms of detection would not be viable, either due to inability to sustain the environmental requirements or through prohibitive costs.

Extensive single zonal lengths of the Line Heat Detector Cable (LHDC) may be installed with the ability to trigger alarms for 'hot spots' occurring on very small sections of the overall cable.

The LHDC may be employed in a wide variety of applications but is particularly suited where there is a harsh environmental condition, a physical or hazardous maintenance access constraint to the protected area, and/or a requirement to cost effectively install detection in close proximity to the risk(s)

The primary features of Patol's Line Heat Detector are:-

- .. **Early detection of hazards at temperatures well below flame point.**
- .. **Rugged construction for use in harsh environments.**
- .. **Ease of installation - wide range of fixings available.**
- .. **Compatible with many existing zone monitors / control equipments.**
- .. **Fixed Alarm Trigger Temperature**
- .. **Intrinsically Safe configurable for Hazardous Areas.**
- .. **Compliant with industry standards (e.g. CEGB GDCD-187)**
- .. **Extensive range of proven applications.**
- .. **UL Listed**

**LINEAR HEAT DETECTING CABLE**

Digital Line Heat Detector & Fire Sensor

*Principles*

The Linear Heat Detector comprises a twisted pair twin core cable. Each core is of passivated steel and has a special heat reactive polymer insulation. The cable has an overall protective jacket / sheath.

The primary mechanism of heat (fire) detection is that inner core insulating polymer is specially formulated such that it plasticizes at a specific temperature. The cable is constructed such that the twisted steel cores are in tension, and at the polymer trigger temperature the conductors connect. This provides an alarm signal to any associated monitoring device.

The LHDC may be used as a simple switch to operate a relay etc. However in most fire alarm installations the minimum requirement is that the LHDC circuit is monitored for disconnections by means of an End of Line (EOL) device and an appropriate Fire Alarm Channel or Address Loop interface unit.

Patol can provide more sophisticated monitoring schemes that can discriminate and identify Zone / Area alarm initiations whilst maintaining a single length of LHDC.

*Applications*

LHDC is versatile in that it can both provide an alternative to point heat detectors in conventional (space) protection situations, and it may also be readily installed in very close proximity to monitored hazards.

The detector is particularly suited to applications where harsh environmental conditions preclude the use of other forms of detection.

The low maintenance requirement of the detector provides a unique solution to fire detection in areas that have access restrictions due to either physical difficulties or personnel health risk.

The cable may be installed in **Hazardous Areas** by means of **Intrinsically Safe Zener Barriers**. When the protected area is remote from the monitoring equipment 'interposing' cables may be employed. See Fig.2

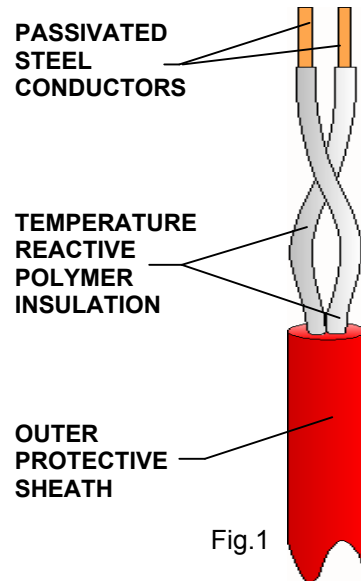


Fig.1

- .. Cable Tunnels, Ducts & Mezzanines
- .. Escalators & Moving Walkways
- .. Petro-Chem Storage Tank Rim Seals
- .. Paint Shops & Spray Booths
- .. Conveyors - Coal, Wood, Sulphur, etc..
- .. Ceiling Voids & Attic Spaces
- .. Road & Rail Tunnel Carriageways
- .. Nuclear Reactor Plant Areas
- .. Refrigerated Stores & Cold Rooms
- .. Electrical Control & Switchgear Cabinets
- .. Warehouse High Rise Pallet Racking
- .. Oil Rigs & Off Shore Platforms
- .. Fume Cupboards & Glove Boxes
- .. Grain Silos & Agricultural Storage
- .. Road / Rail Vehicle Engine Compartments
- .. Steam Pipe Leaks & Trace Heating Faults
- .. Product Lines - Flanges, Valves & Pumps
- .. Computer Room Under Floor Cable Voids

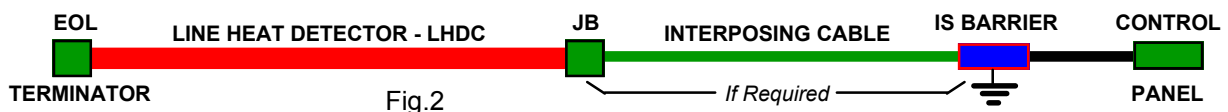


Fig.2

*Sensor Range*

The LHDC can be provided in a variety of constructional configurations that will meet the requirements of both *standard* and *special* applications. Two of the most commonly employed types are defined in the following table.

LHDC Type Part Number	Min. Alarm Temperature	Max. Alarm Temperature	Maximum Ambient	Size - Oval Min / Max	Sheath Material	Sheath Colour	Core Ident. Colours
700-070	60°C	70°C	45°C	3.5 - 4.5 mm	Nylon	Black	Orange / Blue
700-090	80°C	90°C	70°C	3.5 - 4.5 mm	Nylon	Black	Red / White

*UL Approval*

UL File No. 24081 UTHV Listed

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