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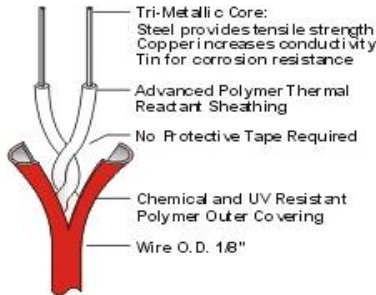
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## 1 Introduction

### 1.1 General Information

Linear Heat Detection (LHD) is a line-type form of fixed temperature heat detection that can be used in a variety of applications including vehicle, marine and industrial risks.



This linear cable can detect a fire anywhere along its entire length. LHD Cable detection systems are easy to design, install, operate and maintain.

Up to 100m of LHD Cable can be used on every zone of any approved conventional panel.

A low current is run through the cable which is monitored by the control panel. In a fire the LHD insulation will breakdown and make contact, signalling the control panel of an alarm.

### 1.2 How Does it Work

LHD Cable works using a twisted pair of extremely low resistance, tri-metallic conductors sheathed in advanced thermal polymers. When a fire occurs, the heat generated causes the internal thermal polymer insulation to melt. This allows the conductor wires to contact, creating a short circuit that signals an alarm.



## 2 Components List

### Linear Heat Detection Cable



**FP-09510**  
Linear Heat Detection Cable 185° C

### Install Kit



**FP-09515**  
P Clip 1x DP-2000

Deutsch Plug 2 Pin M/F, c/w heatshrink

### Termination Options



**DP-2000**  
Deutsch Plug 2 Pin M/F, c/w heatshrink



**FP-09512**  
2way and EOL Junction Boxes with strain relief cable glands and 1x EOL for monitoring. (Obsolete)

- Note:** Standard detection temperature is 185°C. Different temperature detection cable available upon request.
- Note:** FP-09512 Junction boxes have been made obsolete and are to be used only in existing installations. Where installations are found to use Junction Boxes it is recommended to replace these with DP-2000 Deutsch Plug 2 Pin.

### 3 Design Considerations

#### 3.1 Mounting Location

LHD Cable is to be installed on a smooth surface avoiding any obstructions that may inhibit detection, with appropriate clearance/protection from:

- Heat sources that may cause false alarms (e.g. exhaust manifold, turbo, etc)
- Moving parts or articulating joints
- Large amounts of water
- Corrosive chemicals

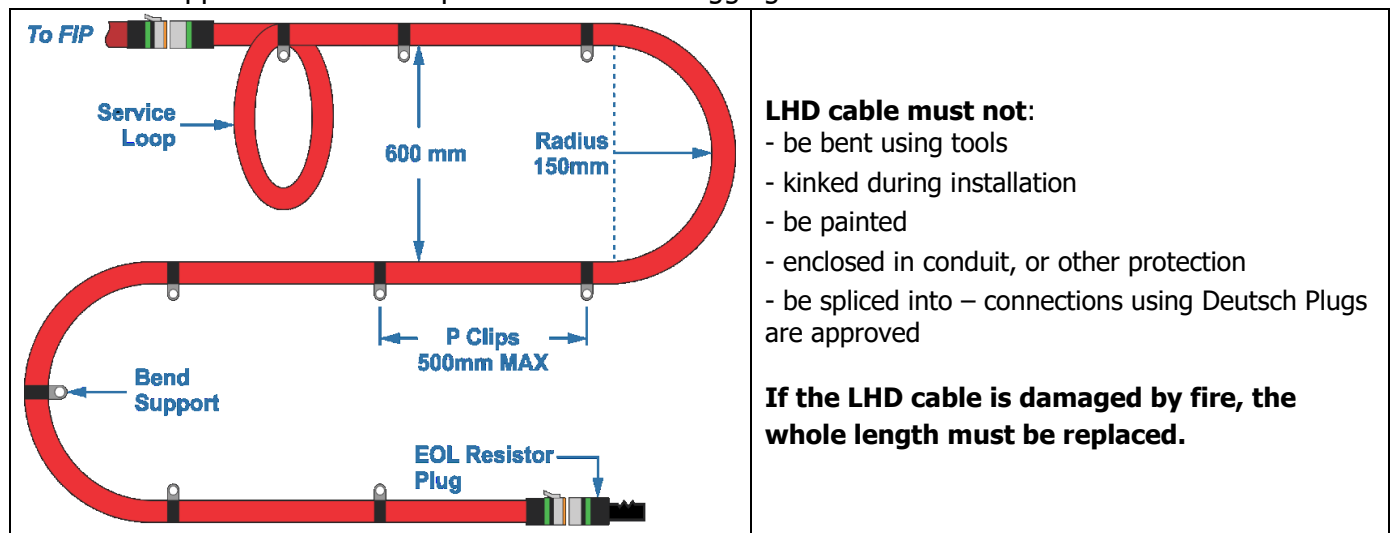
Using DP-2000 Deutsch Plugs, the LHD maintains an IP68 rating and is UV, oil and chemical resistant, however sources of these should be avoided to extend the life of the LHD cable. Where these cannot be avoided, FP-09500 Fire Rated Cable may be used to make extension leads to bypass these hazards and reduce any damage to the LHD.

#### 3.2 Installation Requirements and Limitations

For total coverage, LHD should be looped around the risk area with spacing between cable no more than 600mm apart. The bend radius must never be less than 150mm. The maximum length of a continuous run of LHD is 100m metres. This includes any extension leads or manual actuators that may be included in the circuit.

LHD cable should never be installed in a high tension state, this may cause damage to the internal conductors. A service loop should be included to allow for normal expansion and contraction of the LHD due to temperature.

LHD cable must be mounted using only approved P Clips at minimum every 500mm. Additional P Clips should be used where necessary, particularly in high vibration or aggressive environments. P Clips are to be used to support bends and to prevent excessive sagging.

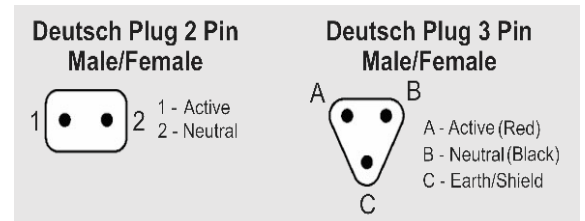


### 3.3 Cabling Requirements

Cable Requirements - All cabling in the FirePro Installation MUST be done using 0.75mm shielded Fire Rated Cable. Care taken to ensure that all cables are isolated, and that RF shielding on cable is stripped back to ensure that there is not accidental grounding. Cables are colour coded for easy identification.

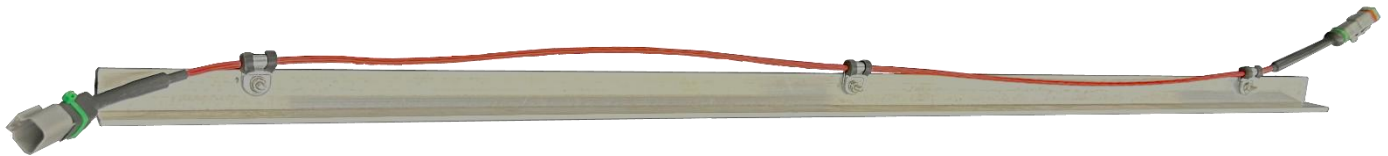
Colour	Circuit
Red	Power Supply
Yellow 1	Activation
Yellow 2	Activation Delayed
Green 1	Detection 1
Green 2	Detection 2
Orange	Siren/Strobe
White	Relay Output

Extension Leads - Deutsch Plugs must be used to ensure water-proof connections are made throughout the installation.



### 3.4 Mounting Suggestion

Mount the LHD Cable using P Clips to Aluminium Angle (25mm x 3mm Thick). This allows the LHD assembly to be then mounted in the risk. This process allows for easier inspection and maintenance process.



## 4 Servicing and Maintenance

Inspection and servicing of the installed fire system should occur in accordance with the relevant Australian Standards (i.e. AS1851 or AS5062). **Note:** Servicing should be performed, and no personnel should be in the risk area until the fire system is fully isolated.

1. Visually inspect the LHD cable. Ensure that the routing and installation procedures comply with the guidelines described in this document.
2. Ensure that there has been no damage to the cable, plug connections or junction boxes.
3. Isolate the fire suppression system and simulate an alarm condition on the detection circuit. This is done by closing the circuit where the linear end of line module is located by using a jumper wire. Verify the fire system enters an alarm condition and reset the control panel.

**Note: Do not** test LHD cable using heat source. LHD must be replaced after every heat detection event.

## 5 Specifications

<b>Max Run Length</b>	100 metres	<b>Resistance</b>	0.164 ohms/metre
<b>Max Voltage Rating</b>	30vDC	<b>Lower Temperature</b>	-40° C
<b>Lower Temperature</b>	-40° C	<b>Max Ambient Temp</b>	152° C
<b>Activating Temp</b>	185° C	<b>Diameter</b>	3.2mm
<b>Weight</b>	0.0223kg/metre	<b>Outer Sheath Material</b>	Polymer
<b>Bend Radius</b>	76.2mm		

