

LDM-519-DDL

Digital Interface with Distance Display



The module is designed to monitor a length of Non-Resettable Digital Linear Heat Detection Cable (LHDC) for both Fire condition and Fault status (open circuit).

The unit is designed such that it may be configured to operate in a two wire mode that emulates the operation of conventional heat detectors. The unit may therefore be directly interfaced with Fire Control Panels by connection to Fire Zone Trigger Circuits or Addressable Interfaces.

The DDL has a 3½ digit LCD which activates on Fire condition and displays the distance into the zone the Alarm has occurred. Non-Resettable Digital LHDC may be employed in lengths up to 2km (1999m). The unit has an adjustment to accommodate interposing cables.

Signalling of Fire and Fault status by means of VFC may be realised when a separate supply is employed. A 4 to 20mA instrumentation Current Loop Output is provided for connection to PLC's etc.

Features

Display of Alarm Location: Distance in metres

Fault monitoring of LHDC for open circuit conditions

LED indication of Fire, Fault and Supply status.

Test & Reset functions

Operable from two wire fire panel conventional circuits. Line / Low Power

Analogue Address Loop interface - Loop Powered configurable

4 to 20 mA instrumentation current loop output

LHDC Hazardous Area use by means of Intrinsic Safety Barriers.

SIL 2 Certified

Volt free contact outputs for Fire & Fault conditions

Din Rail mounting

Applications

Cable Tunnels, Ducts & Mezzanines

Escalators & Moving Walkways

Petro-Chemical Floating and fixed roof tanks.

Refrigerated Stores & Cold Rooms

Ceiling Voids & Attic Spaces

Conveyor, Bearing Protection

Car Parks, Open Storage areas

Warehouse & Racking Protection

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There are three principle modes of supply & signalling operation :-

Figure 1 shows a typical minimum system where a discrete 24Vdc supply is employed. The repeat contacts may be employed to signal an Alarm Panel and/or initiate Control systems.

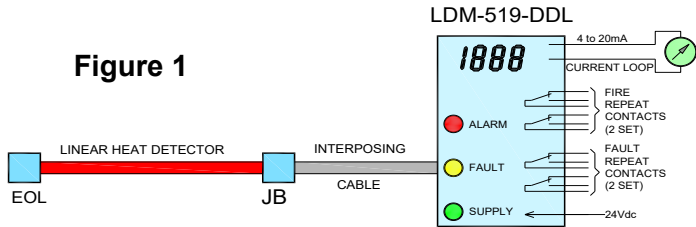


Figure 1

Figure 2 shows a simple configuration with the unit directly connected to a Fire Panel Trigger Circuit.

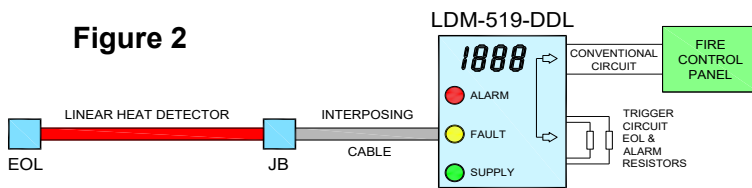


Figure 2

Figure 3 shows the configuration when an integral Address Loop Interface module is fitted. Connection between the LDM-519-DDL and the Addressable Loop module is conventional circuit connection of Fig.2.

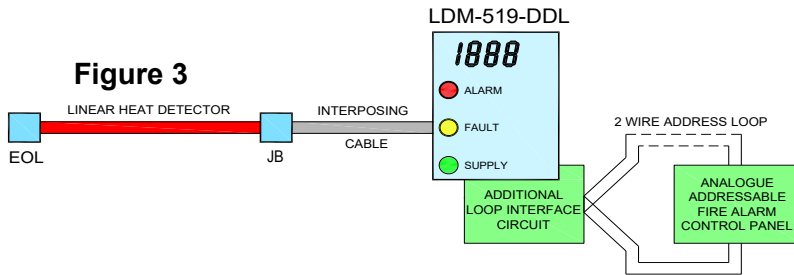


Figure 3

Notes: Configurations for Fig 2 & 3, is dependant on the Voltage and current specifications of the LDM-519-DDL being compatible with the monitoring technique and electrical characteristics of the Control Panel / Zone Monitor Unit.

Fig 2 & 3 configurations are not suitable for LDM-519-DDL(G) or LDM-519-DDL(Z).

For detailed connections of IS circuits, contact Patol Ltd

Connections

19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35/36
-	+	NO	NC	COM	NO	NC	COM	NO	NC	COM	NO	NC	COM	+	-	Cabling Site Zero Adjust Pot.
A	B	Fire Relay -Norm. De-energised						Fault Relay -Norm. Energised						4-20mA Loop Output		
LHDC																
Supply		Remote Reset		Fault Relay Enable		Fire Relay Enable		Trig. Cct. Alarm Resistor		Trig. Cct. EOL/Mon. Resistor		Calibrate Test Resistor		Calibrate Test Zero Adjust. Pot		
0V	24V	-	S	C	+	C	+	S	+	S	+	S	+	S	+	17/18
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	

Specification

Dimensions (WHD): 105mm x 86mm x 58mm

Display: 3½ Digit LCD 0 - 1999m

Character Height: 8.5mm

Unit Accuracy: +/- 1% (+/- 1 digit)

LHDC Tolerance: +/- 3%

Lock Time: 3s

Voltage: 14 - 30Vdc (2 wire mode)

20 - 30Vdc (relay mode)

> 10Vdc - Latched Fire

< 6Vdc - Reset

Current Normal: < 1.5mA (2 wire mode) *

< 11mA (with Fault relay)

* Plus user defined monitoring circuit

Current Fire: < 13mA (2 wire mode)**

< 29mA (with both relays)***

** Plus user defined Fire (trigger) load.

*** Plus 4 to 20mA loop current if used.

Current Fault: < 700µA

Relay Contact: 1A @ 24Vdc / 120Vac

Ordering Information

Description	Part Number
LDM-519-DDL	700-451
LDM-519-DDL-G	700-451(G)
Galvanic Isolator - MTL	700-705
Galvanic Isolator - P+F	700-706
LDM-519-DDL-Z	700-451(Z)
Zener Barrier - MTL	700-702

Used with the following Digital Cables:

FRPE 70°C	700-070LS0H
FRPE S.S* 70°C	700-071LS0H
FRPE 90°C	700-090LS0H
FRPE S.S* 90°C	700-091LS0H
Hytrel 180°C	700-180
Hytrel S.S* 180°C	700-181

*Stainless Steel Braid