

LHD-INT & LHD-EOL

Digital Linear Heat Cable Interface

Installation Guide

Introduction

This guide gives an overview of the installation of the digital linear heat cable interface and end of line unit. There are 2 distinct parts; LHD-INT and LHD-EOL but they operate as a pair. The units are a universal unit and should operate with most digital linear heat cables available on the market. However we supply and have tested these units exclusively with the LHDC supplied by PATOL.

The purpose of the 2 units is to act as an interface between the fire control equipment and the digital linear heat cable. This allows for a flexible cable to be routed to the initial position of the digital linear heat cable and then for end to end monitoring and testing between the LHD-INT and LHD-EOL. At the INT position the status of the cable can be seen by the 3 LED status indicators and by pressing the two buttons on the EOL unit a fault and fire condition can be simulated without the need to open either terminating enclosure.

General Specification

The general parameters of LHD-INT and LHD-EOL can be found in table 1 and table 2 respectively.

Model	LHD-INT
Operating Voltage	24Vdc
Voltage Range	16Vdc to 28Vdc
Current Standby	<20mA
Current Fire Condition	<30mA
Current Fault Condition	<25mA
Operating Environment Temp	-55°C to 60°C
Operating Environment Relative Humidity	95%
Protection class	IP66
Dimensions Enc.	90mm x 85mm x 52mm
Overall Dimensions	130mm x 85mm x 52mm

Table 1 – General Specification LHD-INT

Model	LHD-EOL
Operating Voltage	No Active Electronics
Operating Environment Temp	-55°C to 60°C
Operating Environment Relative Humidity	95%
Protection class	IP66
Dimensions Enc.	90mm x 85mm x 52mm
Overall Dimensions	130mm x 85mm x 52mm

Table 2 – General Specification LHD-EOL

Physical Characteristics

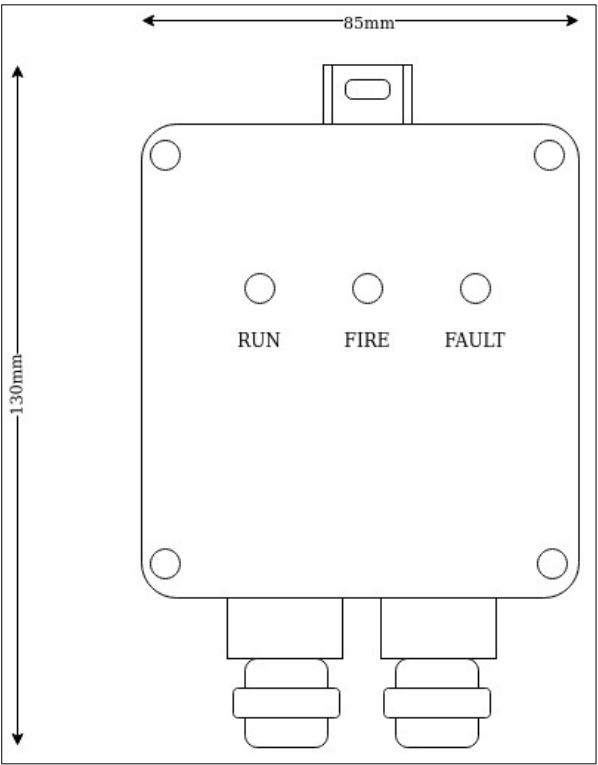


Diagram 1 – Physical Layout LHD-INT

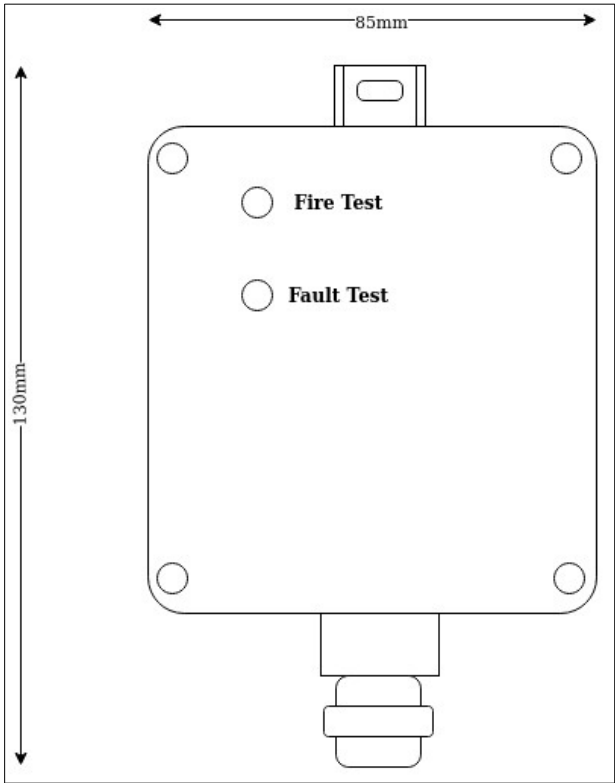


Diagram 2 – Physical Layout LHD-EOL

Installation

The devices are attached to a suitable structure by use of the top anchor point. This allows for firm connection without compromising the weatherproofing of the enclosure.

The LHD-INT unit has two cable glands, the left hand gland facilitates the entry of the digital linear heat cable so that it can be terminated in the LHD-INT as shown in diagram 3. The right hand cable gland allows for a 4 core cable to enter the LHD-INT unit to terminate the 24Vdc power and the zone interface. The LHD-INT can be connected directly to a conventional fire panel zone and auxiliary power output or to an input interface from an addressable fire detection panel.

The termination into the INT-EOL is simply one core of the digital linear heat cable into each terminal, there is no need to observe any polarity.

PLEASE NOTE neither the LHD_INT OR LHD_EOL will operate correctly without both being installed on the digital linear heat cable.

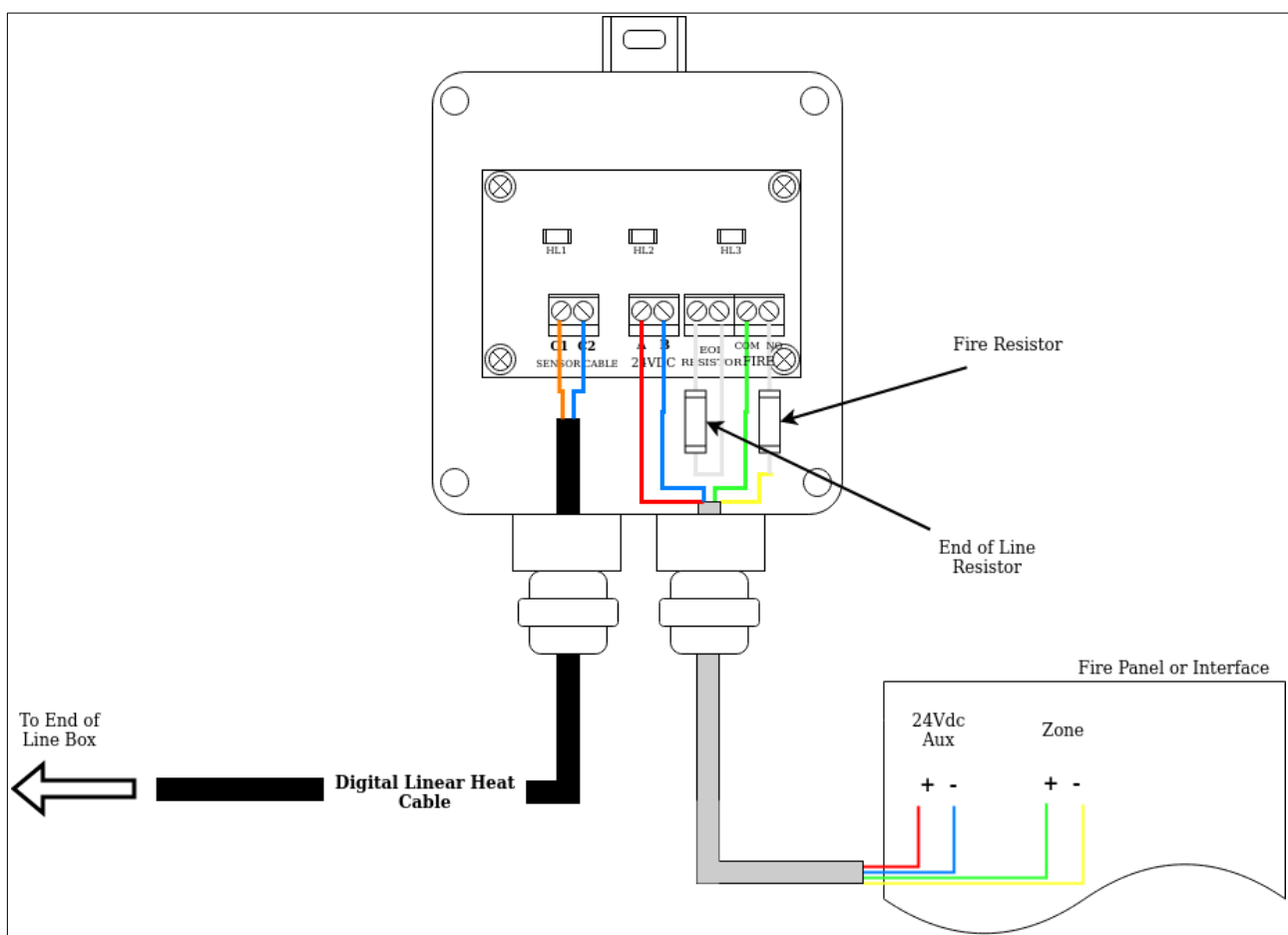


Diagram 3 – LHD-INT Cable termination

Fire and EOL resistors are dependent on the fire alarm control equipment specification.

LHD-EOL Operation

Pressing the Fire Test button (diagram 4) results in placing a simulated fire condition on the digital linear heat cable. The corresponding LHD-INT should indicate a fire condition as detailed in the follow section of this document. In addition any connected fire alarm equipment should also signal a fire condition.

Pressing the Fault Test button (diagram 4) results in placing a simulated fault on the digital linear heat cable. The corresponding LHD-INT should indicate a fault condition as detailed in the follow section of this document. In addition any connected fire alarm equipment should also signal a fault condition.

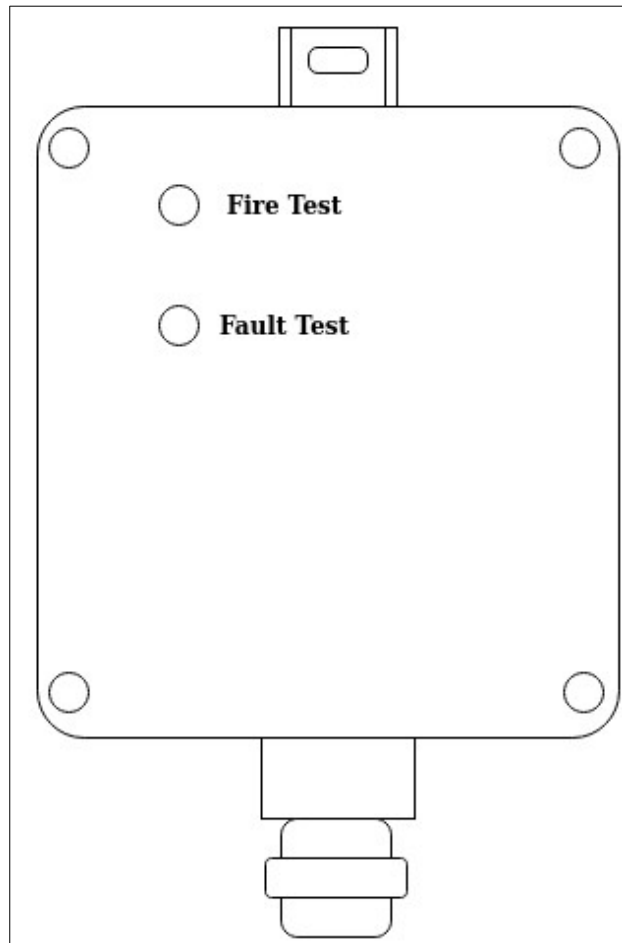


Diagram 4 – LHD-EOL operation

LHD-INT Operation

The LHD-INT comes with 3 external LED indicators;

RUN – This is illuminated at all times showing that the unit has voltage applied and is powered on.

FIRE – This LED is only illuminated in the event of a fire condition, or simulated fire condition from EOL testing. It will also indicate that it has triggered the fire event through to the fire control equipment

FAULT – This LED is only illuminated in the event of a fault condition, or simulated fault condition from EOL testing. It will also indicate that it has triggered the fault event through to the fire control equipment

If **NO** LED indicates are lit then the LHD-INT is not operational.

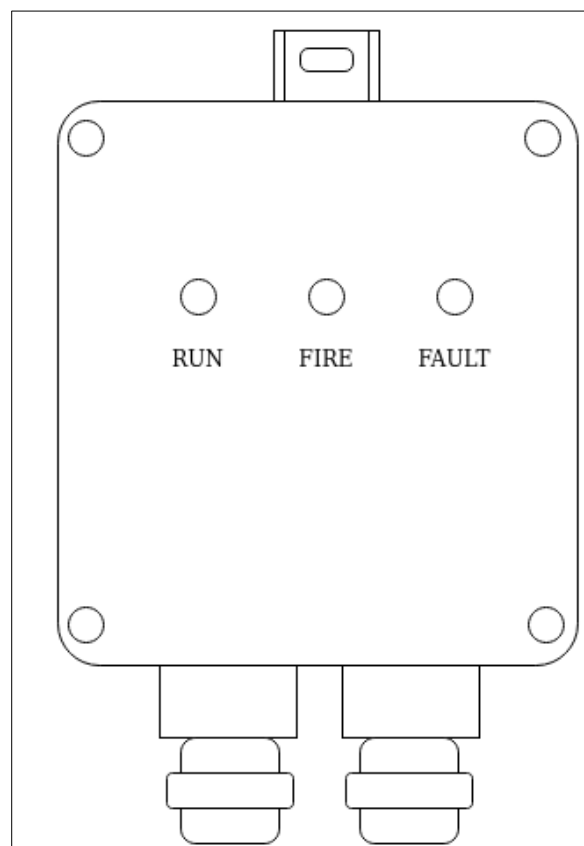


Diagram 5 – LHD-INT operation

Maintenance

The device should be inspected and cleaned on a schedule determined on site based on the environment that the device has been fitted.

The testing of the device should be done in accordance with the site schedule and in-line with local installation fire detection codes of practice. Testing is simply achieved by carrying out the operational steps as detailed in the above sections of this manual.

If the device does not perform as expected then both the LHD-INT and LHD-EOL units should be opened and cable terminations be inspected.

Should these appear to be fault free then the digital linear heat cable should be removed from the termination and tested with a multi-meter.

If this proves to provide unsatisfactory results then the digital linear heat cable will need to be inspected to ascertain where the physical fault has occurred.

If the digital linear heat cable is performing correctly yet the LHD-INT and LHD-EOL are not performing as expected, then either the 24Vdc powers supply is not working or the unit themselves are faulty. There are no serviceable parts within either unit so exchange for know working units and repeat maintenance testing.