LIOS DE.TECT

Linear Heat Detection - LHD3 series

14 km Range

LINEAR HEAT DETECTION

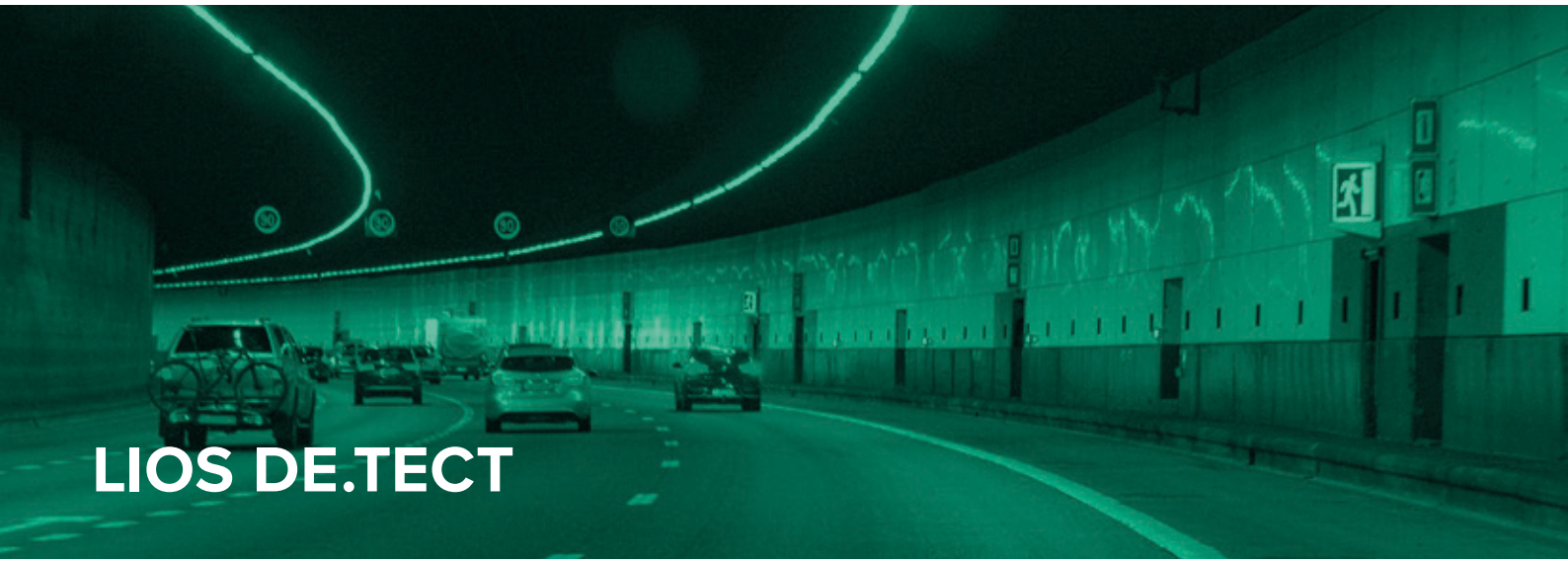
The LIOS DE.TECT range of optical Linear Heat Detection systems offers fast and accurate fire detection in tunnels, metros, and other large installations.

Since the introduction in 1997, the Raman OFDR based DE.TECT system has revolutionized the health and life safety standards for persons, facilites, and assets by enabling precise monitoring with just one system.

With thousands of LIOS Linear Heat Detection systems installed Worldwide, the DE.TECT system sets the standard within optical Linear Heat Detection.

Applications

- Road & railway tunnels
- Conveyor belts
- Mining
- Service tunnels
- Process industry
- Cable tunnels & trays
- Power stations
- Storage warehouses
- Hazardous environments



LIOS DE.TECT

Optical fiber-based system
LIOS DE.TECT is a robust, passive linear heat detection system based on optical fibers. It offers fast, accurate and highly reliable linear heat or fire detection even in hazardous environment.

Ideal for hazardous environments
Being passive, the system is wellsuited for hazardous environments such as chemical plants, mining conveyor belts, or other facilities requiring ATEX certification.

Long range, high resolution
The sensor is an optical fiber cable with a range of up to 14 km, a sampling interval down to 25 cm, and a temperature resolution of 1 °C. It can be configured with 1, 2 or 4 channels, each providing a range of up to 14 km (6 km for 4-channels). The system has 1000 zones per channel, each programmable with individual alarm criteria.

Predictive maintenance
Our system also detects abnormal temperatures not directly related to a fire. The operator then may plan maintenance before fire or any damage - to live and assets - occurs by overheated equipment.

Key Features

- Highly reliable
- MTBF 40+ years
- Precise localization
- Response class A1N
- ATEX/ IECEx approved
- Up to 830°C for 1.5hrs
- Easy to install
- Up to 1000 zones per channel
- Standalone system with 24/7 data storage

SPECIFICATIONS

1 & 2 channel models	1, 2, 4, 6, 10 or 14 km measurement range per channel
4 channel models	1, 2, 4, or 6 km measurement range per channel
Mechanical data	
Dimensions (H x W x D)	19“ Rack / 3 HU (13.5 x 44.9 x 29 cm)
Colour	Aluminium
Weight	13kg
Electrical data	
Operating voltage (DC Controller)	DC 12 ... 48 V
Mains voltage (AC Controller)	AC 100 ... 240 V
Power consumption (DC Controller)	< 25W (max. 45 W/60°C)
Programmable inputs	4 (optional up to 40)
Programmable outputs (potential-free)	12 (optional up to 106)
Communication interfaces	2x Ethernet TCP/IP, RS232, USB
Communication protocols	LON, MODBUS TCP/IP
Optical data	
Fibre type	62.5µm
Optical connector	E2000 / APC
Laser classification	Class 1M (EN60825-1)
Operating wavelength	1064 nm and 1550 nm
Environmental conditions	
Storage temperature	-35 ... +75 °C
Operating temperature	-10 ... +60 °C
Humidity (non condensing)	≤95 % rel.
Protection class	IP51
Standards & Approvals	
Electrical Safety	IEC/UL 61010-1. Low voltage directive.
EMC	EN 61326-1, EN 50130-4, EN 61000-6-2,3. FCC 47 CFR Ch. 1 part 15
Laser safety	EN 60825-1,-2
Explosion safety (option)	IECEx-Scheme, ATEX - Directive, EN/IEC 60079-0, -28
Environmental testing	IECEx 60068-2-6, 14,27,30,64, NAVMAT P-9492, ISO 13628-6 MIL-STD-810F, FED-STD-101C
Environmental compliance	RoHS directive, WEEE directive
VdS (G 211030)	EN 54-22
UL (S25135)	UL521 / ULC S530

System Components

Charon is a user-friendly and easy-to-learn software platform for operation, storage and visualization of data from all LIOS systems.

Certified sensor cable types:
- FRNC Fast response cable with metal core
- FRNC Fast response cable metal-free
- PEx cable for hazardous areas

Luna Innovations Germany GmbH
Schanzenstrasse 39
Bldg D9-D13, 51063 Cologne
Germany

Phone: +49 221 99887 0
Email: Sales-Lios@lunainc.com
Web: https://lios.lunainc.com