VESDA LaserTEKNIC is a platform of smoke detection technologies designed to enable Original Equipment Manufacturers (OEMs) to incorporate the benefits of very early warning smoke detection in their products.

Specifically designed for the needs of the OEM and supported by our OEM Solutions Team, LaserTEKNIC provides complete design flexibility in the integration of VESDAs world leading laser-based smoke detection technology.

The integration of LaserTEKNIC technologies ensures fastest time-to-market while exceeding business-critical demands of product dependability, service up-time and operational continuity.

Highlights

- Specifically designed for OEM integration
- Wide sensitivity range
- Absolute smoke detection
- Stable, long-life laser
- Air flow monitoring
- AutoLearn™
- Sophisticated event log
- Clean-air barrier for error-free & low-maintenance operation
- Dual aspirator redundancy
- Programmable digital outputs
- Serial communications port and protocol support options
- Software Development Kit
- Modular mounting options
- OEM design services & support

Description

The LaserTEKNIC platform simplifies the development of purpose-built compact high-sensitivity aspirating smoke detectors for OEM applications. From high-density IT & telecommunication enclosures to heavy industrial machinery, products based on LaserTEKNIC provide very early warning of thermal overload.

LaserTEKNIC's unique modular design enables customization and configuration to a target product's specific requirements, e.g. software interface, communications support, physical mounting and alarm reporting.
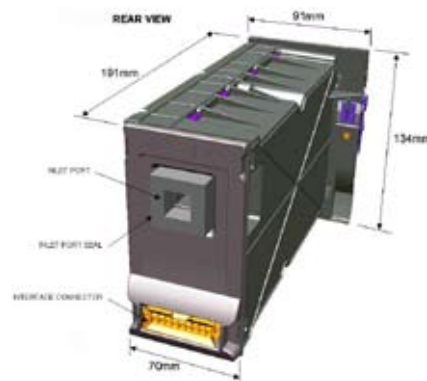
Function

The LaserTEKNIC Smoke Detection Unit (SDU) works by continually drawing air through a pipe network by high efficiency dual redundant aspirators.
Air entering the unit passes through a dual stage dust filter before being passed over a flow sensor. The first stage filter removes dust and dirt from
the air sample before it enters the detection chamber for smoke detection.

The second ultra-fine stage provides a clean-air supply to be used inside the detection chamber to form clean air barriers, which protect the optical surfaces from contamination.

The absolute calibrated detection chamber uses a stable and highly efficient laser light source and unique sensor configuration to achieve the optimum response to a wide range of smoke types. When smoke passes through the detection chamber it creates light scatter, which is detected by the very sensitive sensor circuitry. The signal is then processed and reported.

The status of the SDU, all alarms, service and fault events are monitored and logged with time and date stamps. Status reporting can be transmitted locally or remotely by digital logic outputs or via a choice of communications protocols to system management software, i.e. a remote centralized Network Operations Center.

Approvals

The product complies with the following electromagnetic compatibility (EMC) and safety standards:

- CE Mark
- EN 61000-6-3
- FCC Class B
- FDA 21CFR 1010.2, 21CFR1010.3

xtralis®

Features	Benefits
High-sensitivity detection	Very early warning of thermal events
Absolute smoke calibration	Consistent reliable performance
Laser-based technology	High-precision, long life light source
Clean-air barrier to protect optics	Maintains detector calibration, product longevity & performance while reducing nuisance alarms
Wide sensitivity range	Generation of useful severity data for a broad range of applications
AutoLearn™	Optimum detection performance in a diverse range of environments
Black polycarbonate housing	Rugged and discrete compact appearance
Dual aspirator redundancy	Dependable and variable air sampling
Simple external indicators	Immediate identification of detector status
Hot-pluggable connection	Fast installation, no need to power down target product
Self-diagnosis and reporting	Assured operation upon power-on and reliable fault management
Event Log (16,000 events standard)	Comprehensive event history for interrogation
Air flow monitoring	Assures integrity of the sampling network
Nil field service or maintenance	Cost-effective operation
Software upgrades via serial port	Common interface for upgrades and field upgradeable
Remote power cycle capability	Convenient management
Software Development Kit	Fast and efficient target product application development/integration

Ordering Information

Part Number	Product Description
VLT-101	LaserTEKNIC SDU - Open Collector
VLT-102	LaserTEKNIC SDU - Relays (1A @ 30V) Pre-alarm and Fire-alarm Normally Open, Trouble/Fault Normally Open
VLT-202	LaserTEKNIC SDU - Relays (1A @ 30V) Pre-alarm and Fire-alarm Normally Closed, Trouble/Fault Normally Open
VSP-606	Molex-type 42474 Connector with terminal

Specifications

The following range of specifications is indicative of the likely performance of products based on the LaserTEKNIC platform.

Supply Voltage: 12 VDC nominal SELV (supports 2 independent supply inputs).

Power Consumption: 9.6 W quiescent, 10 W with alarm (Typical values).

Current Consumption: 425-450 mA Nominal, 500mA Alarm (Typical values).

Dimensions (WHD): 3¾ in x 5¼ in x 7½ in (91 mm x 134 mm x 191 mm).

Weight: 1.75 lbs (0.8 kg).

Operating Temperature:
Detector Ambient: 32°F to 140°F (0°C to 60°C).
Sampled Air: -4° to 140°F (-20° to 60°C).
Humidity: 10-95% RH, non-condensing.

Sampling Network (typically but dependant upon application):
Maximum area of Coverage: 500 sq.ft (50 sq.m).
Maximum Pipe lengths: 1 x 49.2 ft (15 m).

Outputs:
• Pre-Alarm.
• Fire-Alarm.
• Trouble/Fault.

Software Programmable Outputs:
Latching or non-latching.

Communications Support:
STANDARD: RS-232 asynchronous port supporting a number of standardized and proprietary communications protocols.
CUSTOM: Various standardized and proprietary protocols upon request.

Sensitivity Range:
0.005% to 6.25% obs/ft (0.015% to 20% obs/m).

Threshold Setting Range:
Pre-Alarm: 0.005% to 0.625% obs/ft (0.015% to 2% obs/m).
Fire-Alarm: 0.008% to 6.25% obs/ft (0.025% to 20% obs/m).

Programmable time delay: 0-60 secs.

Key Software Features:
Event log: Up to 16,000 (standard) or 64,000 (optional) events stored on FIFO basis.
Smoke level, alarms, faults and user inputs with time and date stamp.
AutoLearn: Min. 15 minutes. Max. 15 days.

Software Development Kit
Windows DLL and API for Visual Basic and Visual C++.

Mounting and Connections:
The platform supports development of products that are mounted in a customized enclosure to engage and seal the inlet air-sampling port and couple the electrical and communications connections.

Cable Termination:
18 pin 'Blindmate' Molex connector, type 42475 with mating connector type 42474.

IP Rating: IP30