9-30501

AirSense MiniLaser

Compact Aspirating Detection for Demanding Applications

The MiniLaser is a compact, single-zone aspirating smoke detector designed for applications that demand high sensitivity, advanced diagnostics, and flexible configuration. Built on proven ModuLaser technology, it delivers reliable early warning while maintaining a small footprint suitable for a wide range of installations.

High Resolution Detection with Intelligent Alarm Stability

MiniLaser uses laser-based forward-scattering optical detection, optimized for identifying extremely small particles associated with incipient fires. With very high optical resolution and multiple independent alarm levels, it supports early intervention while maintaining operational reliability.
The integrated ClassiFire technology continuously adapts sensitivity based on environmental conditions, ensuring long-term alarm stability and minimizing nuisance alarms throughout the detector's lifecycle. This intelligence maximizes early warning performance without increasing false alarm risk.

Designed for Fast Installation, Commissioning, and Service

MiniLaser is engineered to simplify every stage of deployment. Modular placement of the user interface and expansion modules allows flexible physical installation, while pre‑installation backplanes enable wiring to be completed early in the project lifecycle. Commissioning is accelerated through a DIP‑switch interface, enabling key configuration settings without a PC, while a USB-C interface supports advanced diagnostics, configuration, and firmware updates. All wiring terminals are front-accessible, allowing live testing and maintenance without powering down or dismantling the detector, significantly reducing service time and disruption.

Long Term Operational and System Integrity

MiniLaser delivers sustained value through features that enhance reliability, traceability, and lifecycle performance. Continuous airflow monitoring detects blocked sampling points, broken pipes, and abnormal flow conditions, while event logging and chart recording provide long-term visibility of system performance.
Embedded PipeCAD file storage ensures full design traceability over time, even when original documentation is unavailable. The 10/90 waste-gate airflow architecture and multi-layer internal dust filter extend maintenance intervals, protect the optical chamber, and support consistent detection performance over the product's lifetime.



Details

- Dual Configuration : Dip-switch configuration setting for simple sampling pipe layouts or PipeCAD modeling for more complex sampling pipe with laptop configuration
- Customizable: Display sub-module and Expansion sub-module can be located most conveniently based on wiring needs, on either side of the detector module. Subjected to the specific requirements of the application, up to 2 functional-modules can be installed in the expansion sub-module
- Simplified installation : Ingenious docking station design allows detector to be easily installed. Sensitive electronics are easily removed to ensure they will not be damaged during first fix installation. Aspirating pipework and cable entries can easily be made into either the top or the bottom of the unit.
- Intuitive user interface : Easy to understand icon driven UI, providing status of faults and alarms. With the addition of a bar graph display showing smoke level development in the protected area.
- Easy pipe connection : The quick fit pipe adaptor system locks down securely, yet leaves plenty of room for easy pipe connection and removal.

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Technical specifications

General

Status indication	LED's
User interface	Alarm and fault indicators, with smoke bar graph display
Alarm levels	4 (Aux, Pre-alarm, Alarm and Alarm 2)
Event log	20 000
Connectivity	USB (USB-C)

Electrical

Operating voltage	18 to 30 VDC
Current consumption	120 mA - fan speed 1 180 mA - fan speed 4 (default speed) 230 mA - fan speed 6 365 mA - fan speed 10

Detection

Detection principle	Laser light scattering mass detection and particle evaluation
Sensitivity	0.002 %obs/m to 25 %obs/m (0.0006 %obs/ft to 7.62 %obs/ft)
Coverage area	Up to 1600m2 (subjected to local approvals and installation standards)
Particle sensitivity range	0.003 to 10 microns

Sampling pipe

Length	Up to 125 m (410 ft.) combined per detector module
Quantity sampling holes	Up to 10 - Class A per detector module Up to 20 - Class B per detector module Up to 35 - Class C per detector module
Inlet size	27 or 25 mm (1.06 or 0.98 in) outer diameter
Inlet location	Top or bottom
Exhaust size	27 or 25 mm (1.06 or 0.98 in) outer diameter
Exhaust location	Top or bottom
Inlet quantity	1

Input

Input quantity	1
Input type and rating	Supervised
Termination	15 KΩ 5% 1/4 W
Programmable	Yes

Output

Output quantity	3
Output type and rating	Voltage free (contact rating 2 A at 30 VDC / NO/NC/C)
Programmable	Yes (2 x outputs / 1 x fixed for fault)

Physical

Physical dimensions	W x D x H 165 x 133.5 x 300 mm (6.5 x 5.25 x 11.8 in)
Net weight	2.15 Kg (4.7 lb.)
Colour	Grey-white (RAL 9002)
Mounting type	DIN-rail, Surface mount
Cable entries	4 at the bottom, 2 at the rear, 5 at the top

Environmental

Operating temperature	Equipment: -10 to +60°C (14 to +140°F) Sampled air: -40 to +60 °C (-40 to +140 °F) with sampled air heated to operational temperature of at least -10°C (14°F)
Relative humidity	0 to 95% noncondensing
Environment	Indoor
IP rating	IP40

Regulatory

Compliancy	REACH, RoHS
Certification	CPR, EN54-20

Chart recorder

Sampling period	Adjustable between 1s and 60 s
Capacity	1 months @ 1s / Up to 5 years @ 60 s
Values recorded	Detector value, 4 alarm level values, flow value and temperature (all simultaneously)

Compatible products

Category	Reference	Description
Detection device	9-30520	MiniLaser Expansion housing
Detection device	9-30521	MiniLaser Input/Output functional module

As a company of innovation, Kidde Global Solutions reserves the right to change product specifications without notice. For the latest product specifications, visit firesecurityproducts.com online or contact your sales representative.

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