# FHSD8075

## Edwards 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<br>180 mA - fan speed 4 (default speed)<br>230 mA - fan speed 6<br>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<br>Up to 20 - Class B per detector module<br>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<br>165 x 133.5 x 300 mm<br>(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 |
| Cable entry size | 20 mm (0.5 in) - top and bottom |
| Detector module orientation | Vertical (0 deg or 180 deg) |

### Environmental

| | |
|---|---|
| Operating temperature | Equipment:<br>-10 to +60°C (14 to +140°F)<br>Sampled air:<br>-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 |

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