DATASHEET

IoT-Enabled

Addressable

Smoke detector

Model-**AU-IoT-SD-101**

Advanced Smoke Detection with IoT Intelligence

The Airlight AU-101SD IoT-enabled addressable smoke detector continuously monitors and accurately measures smoke particle density, transmitting real-time data to the fire alarm control panel which is then seamlessly uploaded to the cloud via internet connectivity. This intelligent photoelectric sensor combines advanced smoke detection technology with cloud-based monitoring, offering user-defined pre-alarm and main alarm thresholds for staged emergency response. It issues instant alerts for smoke detection, abnormal conditions, contamination levels requiring maintenance, and device connectivity status. Leveraging IoT technology, it empowers fire safety personnel to monitor smoke density trends, respond rapidly to fire hazards from any location, and enables proactive maintenance through continuous system diagnostics. The dual LED design provides 360° visual indication for easy inspection and status verification.

DATASHEET

Core Features

- Ultra Sensitivity
- Real-Time Smoke Monitoring
- Corrosion Protection
- Bi-Colour LED Status
- IoT Connectivity
- Dust Discrimination
- Remote Sensitivity Control
- 360 deg Dual LED
- Cloud Data Upload
- Soft Addressing
- Remote Test Facility
- Contamination Alerts

IoT & Smart Monitoring Capabilities

Real-Time Temperature Sensing & Cloud Upload

Continuously detects smoke particles and accurately measures density with high precision. Real-time smoke level data is transmitted to the control panel and automatically uploaded to the cloud via internet connection for remote access and analysis.

Remote Access & Monitoring

Supports off-site monitoring and response by fire safety personnel from any location worldwide. Access live smoke density readings, historical trends, system status, and alerts through web-based platforms and mobile devices.

Intelligent Event Alerts

Detects and notifies for pre-alarm conditions, main alarm events, abnormal smoke patterns, device connectivity status, and sensor faults. Multi-level alerts enable staged emergency response and rapid intervention.

Proactive Contamination Monitoring

Automatically identifies when smoke sensor exceeds contamination tolerance levels and sends maintenance alerts. Predictive maintenance reduces downtime, ensures optimal detection performance, and extends sensor lifespan.

Enhanced Situational Awareness

Real-time smoke density display on touchscreen provides critical information for rescue support staff and emergency responders. Historical smoke level trends enable faster and more informed decision-making during fire incidents.

System Integration

Compatible with Building Management Systems (BMS) and smart building platforms for unified monitoring and control. Integrates seamlessly with HVAC, ventilation control, and other building systems for comprehensive smoke management.

DATASHEET

Advanced Detection Features

Photoelectric Smoke Detection

Uses advanced photoelectric sensing technology to detect smoke particles. Measures smoke density accurately across a wide range (0.5 - 3.5 %obs/foot), providing reliable detection for various fire types and environments.

Dust Contamination Discrimination

Advanced algorithms distinguish between harmless dust contamination and actual smoke particles, significantly reducing false alarms while maintaining ultra-high detection sensitivity for real fire conditions.

Remote Sensitivity Adjustment

Sensitivity levels and control functions can be adjusted remotely through the control panel without physical access to the detector, enabling optimization for different environments and reducing nuisance alarms.

User-Defined Pre-Alarm Settings

Users can configure pre-alarm thresholds that trigger internal control panel sounders, providing early warning limited to support staff. Main alarm thresholds activate external sirens and strobe lights for building-wide evacuation.

Digital Communication

Addressable functionality enables two-way communication between control panel and detector. Advanced digital protocols ensure reliable data transmission and support remote diagnostics and configuration capabilities.

360° Visual Indication

Bi-colour LED with dual LED design provides instant visual feedback for normal and alarm conditions. Status is visible from any angle for easy inspection and verification from ground level.

Operating Principle

- **Continuous Smoke Monitoring:** Photoelectric sensor operates 24/7 with minimal power consumption, providing constant surveillance for smoke particles in the protected area
- **Accurate Density Measurement:** Precisely measures smoke particle concentration and density, enabling reliable detection across a wide sensitivity range
- **Intelligent Data Transmission:** Real-time smoke density data transmitted to control panel with unique device ID for precise location identification and rapid emergency response
- **Cloud-Based Data Management:** Control panel automatically uploads smoke readings, alarm events, and sensor status to cloud servers via internet connection for remote access and historical analysis.
- **Digital Addressable Communication:** Two-way communication enables remote configuration, testing, sensitivity adjustment, and advanced diagnostics without physical site access.
- **Contamination Monitoring:** Continuous self-monitoring detects when optical chamber exceeds contamination tolerances, triggering maintenance alerts before detection performance is compromised
- **LED Status Indication:** Visual feedback with 360° visibility ensures easy inspection and verification of detector operational status from any viewing angle.

DATASHEET

Technical Specifications

Electrical Specifications

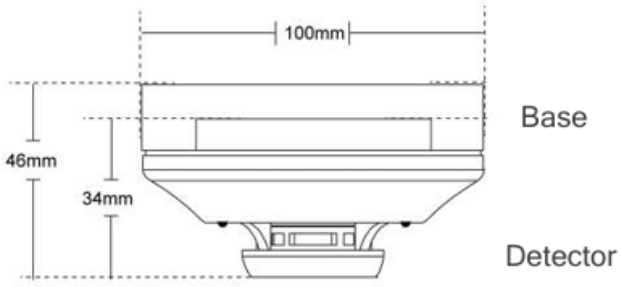
Parameter	Specification
Operating Voltage	18-24V
Quiescent current	200uA
Alarm current	1mA

Mechanical Specifications

Dimensions		Weight	
Without base	100x34mm	Without base	73g
With Base	100x46mm	With Base	113g

General Specifications

Parameter	Specification
Smoke Sensitivity Range	0.5 - 3.5 %obs/foot
Operating temperature	-10ºC to 55ºC
Storage temperature	-10ºC to 60ºC
Humidity	0-95% RH (Non condensing)
Colour	White
Housing	Polycarbonate



Weight :

Detector weight-73g

Detector base weight-40g

DATASHEET

Compliance &Standards

UL 268 - 6th Edition

EN 54 - Part 7

IS 11360

The AU-IoT-SD-101 Smoke Detector is fully compliant with international and national fire safety standards including UL (Underwriters Laboratories), EN (European Norms), and IS (Indian Standards) certifications, ensuring reliable performance and regulatory compliance across global markets.

Ideal Applications

- **Commercial Buildings:** Offices, retail spaces requiring sensitive smoke detection
- **Residential Complexes:** High-rise apartments and condominiums with cloud monitoring
- **Healthcare Facilities:** Hospitals, clinics requiring early smoke detection
- **Educational Institutions:** Schools, colleges with multi-site management
- **Hospitality Sector:** Hotels, restaurants with remote facility management
- **Data Centers:** Server rooms requiring ultra-sensitive early detection
- **Transportation Hubs:** Airports, metro stations with centralized control
- **Industrial Facilities:** Critical infrastructure requiring precise temperature monitoring

Why Choose AU-IoT-SD-101

- **Cloud-Connected Intelligence:** Real-time smoke density data upload enables remote monitoring and faster response from any location worldwide
- **Ultra-Sensitive Detection:** Advanced photoelectric technology provides reliable early warning for smoldering and flaming fires
- **Staged Alarm System:** User-defined pre-alarm and main alarm thresholds enable verification and reduce false evacuations
- **Proactive Contamination Management:** IoT-based contamination alerts ensure optimal performance and extend sensor lifespan through timely maintenance
- **Enhanced Response Capability:** Real-time smoke density display and instant alerts enable faster, more informed emergency decision-making

DATASHEET

- **Reduced False Alarms:** Intelligent dust discrimination and configurable sensitivity minimize nuisance alarms while maintaining detection reliability
- **Remote Management:** Adjust sensitivity, test devices, and monitor smoke trends without physical site access
- **360° Visibility:** Dual LED design with bi-colour indication ensures status is visible from any angle for easy inspection
- **Global Certification:** UL, EN, and IS approvals provide confidence and regulatory compliance
- **Ultra-Low Power Consumption:** Efficient operation extends system battery backup and reduces energy costs
- **Future-Ready Platform:** IoT connectivity ensures compatibility with emerging smart building technologies and centralized monitoring systems
- **Flexible Deployment:** Soft addressing and digital communication enable easy installation and reconfiguration for diverse building layouts

Contact Information

AIRLIGHT Naveen alarm systems

Web: www.airlight.in

Product Information

For detailed technical documentation, installation guides, and product support,

Please visit our website or contact your local Airlight representative