DATA SHEET

Airlight
THINKING AHEAD

Addressable intelligent
Optical Smoke Detector
Model - **AU101SD**

Features:

- ✓ Real time smoke info
- ✓ Soft addressing
- ✓ Electrical supervision
- ✓ Corrosion protection
- ✓ Contamination alarm
- ✓ Sensitivity alteration from the panel
- ✓ Remote test facility from the panel
- ✓ Dual bi-colour LED indication for 360° viewing angle
- ✓ Transient voltage protection up to 2.4KV

Complied with:
UL 268-6th Edition
EN 54-Part 7
IS 11360

Overview:

This device intended to be used for addressable automatic fire detection system to detect presence of smoke for fire warning.

This device measures the smoke level in protected areas and analyses the level of smoke and verify with alarm level setting. When smoke level crosses the set level, it communicates to fire warning system control panel along with its ID.

Alarm activated sensor, continuously interacts with control panel to update the real time smoke level exists at reported location. If smoke level rises, action can be taken accordingly. Similarly if it gets reduced, action can be taken for normalcy by rescue staff.

The Smoke sensor works on photoelectric principle. Main sensor component is special LED to illuminate the smoke chamber. This LED illumination level gets reduced due to its aging. Hence its sensitivity may go out of sensitivity range. Therefore it requires a periodical calibration to ensure its functional objective. Refer IS 2189 for more details.

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Smoke sensitivity settings

Standard smoke level for alarm is set at factory. According to area of protection, this setting can be changed from control panel by the user.

Soft addressing:

Based on order, address of the sensor is configured at factory. If alteration in the address is required, it can be changed from control panel. No extra special tools are required.

Remote testing

The various functional validations manually from remote control panel can be done for maintenance and trouble shooting. If the control panel is connected to the cloud, it can be accessed through internet/mobile app.

Detachable detector

A detector designed to be easily removed from its normal operating position for maintenance and servicing purposes.

Insect mesh

The smoke chamber vent covered using anti corrosive metal mesh to prevent entry of insects.

Environmental type testing

The detector environmental type tested, as per IS 11360, UL 264N with NABL India and NABL USA.

Smoke detector calibration

As per IS 2189/ NBC 2016 Smoke detector being measuring instrument and the sensitivity is vulnerable to get reduced, hence periodical calibration required. Our factory located at Chennai, India. We undertake calibration services for our make sensors and certify them. The certificate is mandatory to be maintained for the government and third party audit.

Specifications
Electrical specifications

Operating voltage	17-27V DC
Quiescent current	200uA
Alarm current	1mA

Indication

Normal	Green LED (Blinks during scan)
Alarm	Red LED (Glows steady)

Mechanical specifications

Dimensions(DxH)		Weight	
Without Base	100x34mm	Without Base	70g
With Base	100x46mm	With Base	110g

General specifications

Smoke sensitivity	0.5 - 3.5 %obs/foot
Operating temperature	0ºC to 49ºC
Storage temperature	5ºC to 40ºC
Humidity	0-95% RH (Non-condensing)
Colour	White
Housing	Polycarbonate
Compatibility	AU101X Protocol
Contact Clamp	Stainless steel

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Termination diagram:
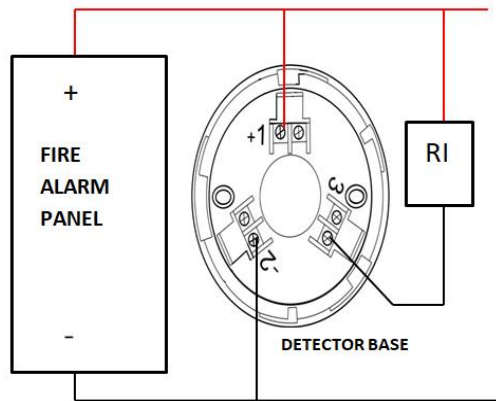
Smoke detector functional limitations

Objective of installing smoke detector to detect smoke and pass the signal for automatic fire alarm system to alert the occupants and rescue professionals to save life and property against fire. The smoke detector may not deliver its function due to various reasons.

Smoke detector detects smoke only when smoke enters smoke chamber of detector. Smoke may not reach the detector due to inadequate smoke; ceiling height may be high; obstruction due to higher size beam; wind flow from HVAC.

When smoke particle comes out of fire, it will be hot. As long as it is hot, it is lighter than air. When smoke particle gets cool, it will be heavier than air. Then the smoke particle will comes down and it may not reach the ceiling/smoke detector. As a result it fails to detect smoke. Consult professional before placement of detector.

Smoke detector entry is covered with fine mesh to prevent entering of insect. This fine mesh hole may get chocked due to large size dust and foreign particles. Hence, based on environmental conditions, care should be taken to maintain the detector. (Refer IS 2189)

Smoke detector is low voltage and low current and digital data signalling device, hence proper protection shall be, while laying the cable and it shall not share high voltage cables on cable tray/conduit. Otherwise it may affect the circuit board of detector /signalling.

Smoke detector works on photo electric principle. Smoke chamber LED and its allied circuit gets deteriorate due to aging, hence the sensitivity of smoke detector losses its sensitivity. Out of range sensitivity detector may not deliver its function. Hence the smoke detector required periodical calibration. (Refer IS 2189)

Adequate number of detector shall be placed to cover protected area based on height, size, fire load etc. (Refer IS 2189 or professional)

Detector may be in isolation/ deactivated mode at control panel. At such condition the detectors do not function.

Detector and control panel works together, if control is defective, the system fails to deliver its function.