

IoT-Enabled

Addressable

Talkback Speaker

Model-**AD-IoT-2S103**



Revolutionary Dual-Function Communication with IoT Intelligence

The Airlight AD-IoT-2S103 is an IoT-enabled addressable talkback speaker that uniquely combines PA speaker functionality with two-way communication capability, transmitting all interactions and operational status to the fire alarm control panel which is seamlessly uploaded to the cloud via internet connectivity. This revolutionary device features exclusive two-wire loop-powered technology that enables device monitoring, bidirectional audio communication, and power transmission through the same wires. Designed in compliance with NBC 2016 Part 4 Clause 4.9-D regulations, it offers addressable capability for targeted speaker selection and control from the control panel for paging, voice evacuation, and emergency communication. The integrated talkback function features a call button that triggers alerts to the control panel, enabling support staff to identify caller location and establish real-time two-way communication. Equipped with long-range audio sensor capable of detecting voices up to 6 feet away, it facilitates clear communication even in crowded or challenging environments. IoT connectivity enables remote monitoring of all talkback calls, conversation recording, location tracking, system diagnostics, and comprehensive analytics, empowering facility managers to ensure communication readiness and respond to emergencies from any location worldwide.

Core Features

- IoT Connectivity
- Talkback Function
- Voice Evacuation
- 2-Wire Technology
- Cloud Call Logging
- Long-Range Mic
- Public Address
- NBC 2016 Compliant
- Two-Way
- Communication
- Location Tracking
- Zone & All Call
- Device Health Monitoring

IoT & Smart Monitoring Capabilities

Real-Time Call Monitoring & Cloud Upload

All talkback calls, caller locations, conversation timestamps, and communication sessions are automatically transmitted to control panel and uploaded to cloud. Monitor emergency communications, response times, and interaction logs from any location worldwide.

Intelligent Event Alerts

Instant cloud-based notifications for talkback button activation, caller location identification, communication session initiation, speaker/microphone faults, connectivity issues, and device health status. Multi-channel alerts ensure rapid response capability.

Communication Analytics

Cloud-based analytics track talkback usage patterns, response times, communication duration, and call frequency by location. Data-driven insights enable emergency response optimization and system performance improvement.

Remote Access & Management

Facility managers and emergency response teams can monitor live talkback sessions, access historical call records, verify speaker functionality, and initiate two-way communication remotely through web-based platforms and mobile devices.

Caller Location Tracking

IoT-enabled location identification displays exact caller position on control panel and cloud dashboard. Support staff can instantly identify which talkback speaker was activated and navigate to precise location for assistance.

Proactive Device Health Monitoring

Continuous IoT-based monitoring of speaker driver, microphone sensitivity, call button functionality, and electrical circuits. Predictive maintenance alerts identify potential issues before they affect emergency communication capability.

Exclusive Two-Wire Loop Technology

Loop-Powered Operation: Revolutionary design transmits power, bidirectional audio signals, talkback communication, and control data through single 2-wire loop circuit. Eliminates need for separate power and audio cables.

Device Integrity Monitoring: Continuous monitoring of device health, electrical circuits, speaker functionality, microphone performance, and connectivity status through loop communication ensures system reliability with automatic fault reporting.

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Simplified Installation: Connects directly to same wiring infrastructure used for call points and detectors. No separate cable runs required, reducing installation complexity by 60%+ and dramatically lowering material costs.

Electrical Supervision: Built-in electrical supervision monitors circuit integrity continuously. Detects open circuits, short circuits, wiring faults, and

communication issues with instant reporting to control panel and cloud.

Soft Addressing: Digital soft addressing enables easy configuration without physical switches. Each device can be assigned unique IDs remotely through control panel for flexible system design and reconfiguration.

Operating Principle

Loop-Powered Two-Wire Operation: Single 2-wire circuit provides power and enables bidirectional audio communication for talkback, PA broadcasts, and voice evacuation simultaneously.

Talkback Initiation: When call button is pressed, device sends instant alert to control panel with unique device ID and precise location information for immediate support staff response

Two-Way Audio Communication: While button is held, microphone activates to transmit caller voice to control panel. When released, speaker activates to receive instructions from emergency response staff

Long-Range Audio Capture: Advanced audio sensor with 6-foot detection range captures clear voice signals even when callers are not directly at device, ensuring effective communication.

Cloud Data Transmission: All talkback calls, communication sessions, timestamps, caller locations, and duration automatically uploaded to cloud servers for monitoring and analytics

Voice Evacuation Mode: Upon fire alarm activation, control panel sends targeted commands to specific speaker IDs or all speakers for coordinated emergency voice evacuation messages

Public Address Function: Control panel activates selected speakers in PA mode for routine announcements, facility paging, or scheduled audio broadcasts from microphone or audio files

Addressable Control: Digital communication enables individual device identification, targeted activation, zone-based control, and continuous status monitoring with automatic fault reporting.

Technical Specifications

Electrical Specifications

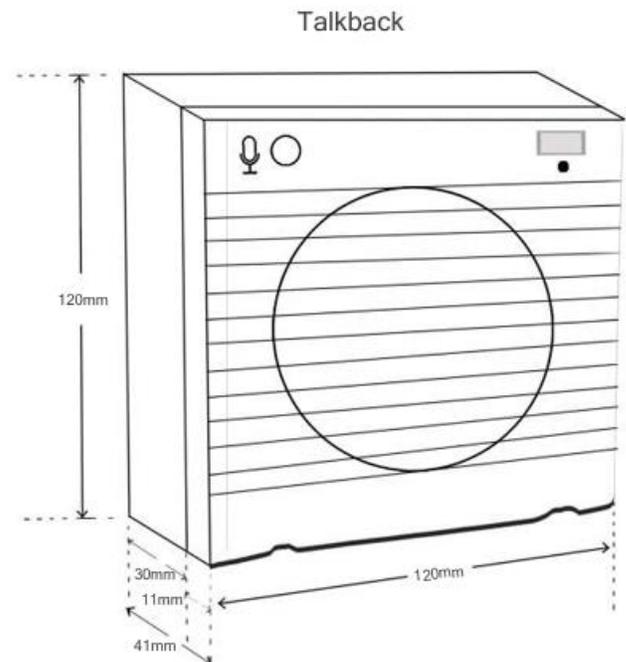
Parameter	Specification
Operating Voltage	18-24V
Quiescent current	200uA
Voice current	60mA
Watts	5w

Mechanical Specifications

Dimensions	Weight	
120x120x42mm	Without Base	178g
	With base	242g

General Specifications

Parameter	Specification
Operating temperature	-10°C to 55°C
Storage temperature	-10°C to 60°C
Humidity	0-95% RH (Non condensing)
Colour	Red
Housing	ABS



Compliance & Standards

NBC 2016 Part 4

Clause 4.9 D

Voice Alarm System

The AD-IoT-2S103 Talkback Speaker is designed to meet NBC 2016 (National Building Code) Part 4 Clause 4.9-D regulations for voice alarm systems. Ensures full regulatory compliance for emergency communication and fire safety voice evacuation installations in commercial, residential, and industrial buildings across India.

Ideal Applications

- **High-Rise Buildings:** Residential and commercial towers requiring integrated fire detection and voice evacuation
- **Hospitals:** Healthcare facilities needing zone-specific paging and emergency evacuation
- **Hotels:** Hospitality properties requiring PA, evacuation, and fire detection in one unit.
- **Shopping Malls:** Retail complexes needing targeted announcements and comprehensive fire protection
- **Educational Institutions:** Schools and universities requiring PA and fire safety integration
- **Corporate Offices:** Business buildings needing efficient communication and fire detection
- **Transportation Hubs:** Airports, metro stations requiring multi-zone voice control
- **Industrial Facilities:** Manufacturing plants needing integrated safety communication

Advanced Talkback Communication

Two-Way Communication Capability

Enables real-time bidirectional audio communication between occupants and control panel operators. Occupants can speak directly with emergency response staff for assistance, guidance, or emergency reporting during critical situations.

One-Touch Call Button

Integrated call button triggers instant alert to control panel with precise caller location. Simple press-to-talk operation ensures anyone

can quickly request assistance without complex procedures during emergencies.

Long-Range Audio Pickup

Advanced audio sensor with 6-foot voice detection range captures clear audio even when callers are not directly at device. Facilitates communication in crowded areas or when mobility is restricted during emergencies.

Clear Audio Quality

5W speaker output with optimized audio clarity ensures intelligible communication in both

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directions. Advanced noise filtering enables effective conversation even in challenging acoustic environments.

Instant Location Identification

Upon talkback button activation, control panel immediately displays caller's exact location with device ID and zone information. Support staff can quickly navigate to assistance location without

delays.

Continuous Communication Session

While talkback button is pressed, microphone remains active for speaking to control panel. When button is released, speaker activates for receiving instructions from emergency response staff.

Why Choose AD-IoT-2S103

Cloud-Connected Intelligence: IoT connectivity enables remote monitoring of all talkback calls, location tracking, conversation logging, and comprehensive emergency communication analytics

Revolutionary Dual Function: Unique combination of PA speaker and two-way talkback communication in single device reduces equipment costs and installation complexity

Instant Emergency Response: One-touch call button with automatic location identification enables support staff to quickly identify and navigate to assistance requests

Long-Range Audio Pickup: 6-foot microphone detection range ensures clear communication even when callers cannot reach device during emergencies or mobility restrictions

NBC 2016 Compliant: Meets National Building Code Clause 4.9-D for voice alarm systems, ensuring full regulatory compliance for fire safety installations

Exclusive Two-Wire Technology: Revolutionary loop-powered design carries power, bidirectional audio, and control.

Contact Information

AIRLIGHT Naveen alarm systems

Web: www.airlight.in

Product Information

For detailed technical documentation, installation guides, IoT integration support and product support, Please visit our website or contact your local Airlight representative.