

IoT-Enabled

Addressable

Speaker with Beacon

Model-**AA-IoT-SPBS-104**



Comprehensive Voice Communication with IoT Intelligence

The Airlight AA-104SPBS is an IoT-enabled addressable speaker with integrated visual beacon, delivering comprehensive voice alarm, public address, and visual fire warning capabilities with cloud-connected monitoring. This advanced device combines high-quality audio output (90dB SPL @ 1KHz 1W/1m) with high-intensity LED flasher beacon, transmitting real-time operational status to the fire alarm control panel which is seamlessly uploaded to the cloud via internet connectivity. Designed in full compliance with NBC 2016 Part 4, Clause 4.9 C and D regulations for voice alarm and public address systems, this device features exclusive two-wire technology that enables device monitoring, audio signaling, and power transmission through the same wires. The addressable capability allows targeted speaker activation for efficient distribution of fire warning messages to specific areas while leaving other zones undisturbed. Supporting both zone call and all-call activation options, it delivers focused voice alarms and visual fire warnings. IoT connectivity enables remote monitoring, audio testing, live broadcasting verification, and comprehensive system diagnostics, empowering facility managers to ensure communication system readiness from any location worldwide.

Core Features

- IoT Connectivity
- Voice Evacuation
- Addressable Control
- Device Health Monitoring
- Cloud Monitoring
- Public Address
- Zone & All Call
- Simplified Wiring
- NBC 2016 Compliant
- Visual Beacon
- 5W Audio Output
- 2-Wire Technology

IoT & Smart Monitoring Capabilities

Real-Time Temperature Sensing & Cloud Upload

Continuously transmits speaker operational status, audio output quality, beacon functionality, and activation events to the control panel which automatically uploads to the cloud. Monitor all speakers and beacons across the facility from any location.

Intelligent Event Alerts

Instant cloud-based notifications for speaker activation, audio output issues, beacon failures, connectivity problems, electrical faults, and maintenance requirements. Multi-channel alerts ensure rapid awareness and response capability.

Remote Audio Testing & Verification

Conduct remote functional tests of speaker audio output and beacon operation without physical site access. Verify sound pressure levels, audio clarity, and visual beacon intensity from centralized monitoring center.

Remote Access & Management

Facility managers and fire safety personnel can monitor live speaker status, verify audio broadcast quality, test individual or groups of speakers, and access historical activation logs through web-based platforms and mobile devices worldwide.

Proactive Device Health Monitoring

IoT-based integrity monitoring continuously tracks speaker driver condition, beacon LED functionality, electrical circuits, and audio quality. Predictive maintenance alerts identify potential issues before they affect emergency communication capability.

Broadcast Performance Analytics

Cloud-based analytics track activation patterns, broadcast duration, zone coverage, and response time metrics. Historical data enables system optimization and compliance verification for voice evacuation requirements.

Advanced Addressable Control Features

Targeted Speaker Activation:

Addressable technology enables control panel to activate specific speakers by unique ID. When connected in parallel, only intended speakers are triggered for alarm messages while other zones remain undisturbed, preventing unnecessary panic.

All Call Activation

Broadcast simultaneously to all speakers across entire facility for building-wide emergency evacuation messages. Ensures consistent, synchronized communication during critical situations requiring immediate facility-wide response.

DATASHEET



Two-Wire Exclusive Technology: Revolutionary loop-powered operation transmits power, audio signals, and bidirectional control data through single 2-wire cable. Eliminates need for separate audio and power cables, reducing installation complexity by over 60%. Proactive contamination alarms ensure timely maintenance before detection capability is compromised.

Zone Call Activation

Target specific zones or areas for announcements and alerts. Ideal for large facilities requiring zone-based communication for fire warnings, evacuation instructions, or routine facility announcements.

Operating Principle

Loop-Powered Two-Wire Operation: Draws power and receives audio signals from the same 2-wire loop circuit while simultaneously transmitting status data, eliminating separate power and audio wiring.

Addressable Communication: Digital two-way communication with control panel enables individual device identification, targeted activation, zone-based control, and continuous status monitoring.

Fire Event Response: Upon fire detection, control panel sends activation commands to specific speaker IDs for zone call or all speakers for all call, triggering synchronized voice alarms with visual beacon

Public Address Mode: Control panel activates selected speakers in PA mode (Green LED), delivering live microphone audio or pre-recorded messages for routine facility communications

Individual Device Monitoring

Each speaker reports operational status, audio output levels, and fault conditions independently. Control panel and cloud dashboard provide real-time visibility of every speaker's health and connectivity status.

Simplified Installation

Connect directly to the same wiring used for call points and detectors. No separate cable runs required for speaker system, dramatically reducing material costs and installation time while maintaining superior audio quality.

Cloud Data Transmission: All activation events, audio broadcast sessions, operational status, and fault conditions transmitted to control panel and automatically uploaded to cloud servers.

Audio Quality Assurance: 5W speaker driver delivers clear, intelligible voice messages at 90dB SPL (@ 1KHz 1W/1m) with continuous monitoring of audio output quality

Device Integrity Monitoring: Continuous self-diagnostics of speaker driver, beacon LED, electrical circuits, and communication links with automatic fault reporting to panel and cloud.

Selective Muting: Mute function silences audio output while visual beacon continues operation, allowing investigation while maintaining visual safety indication until manual system reset.

Technical Specifications

Electrical Specifications

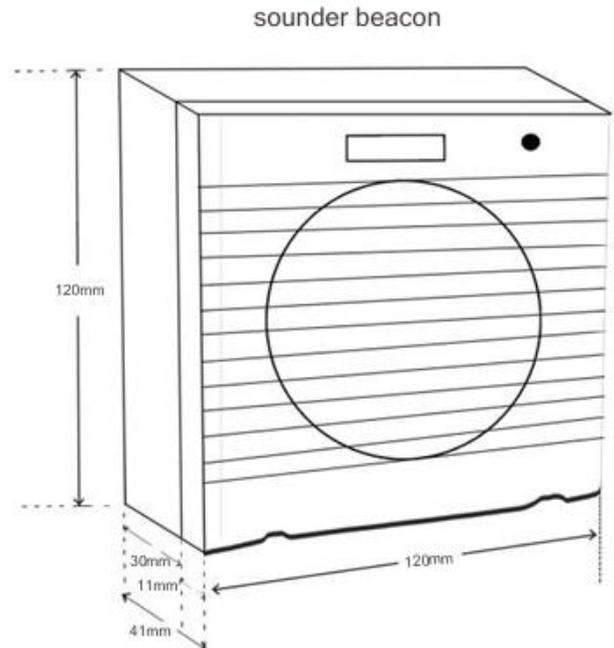
Parameter	Specification
Operating Voltage	18-24V
Quiescent current	200uA
Voice current	100mA
Watts	5W

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 C

Clause 4.9 D

Voice Alarm System

Public Address System

The AA-IoT-SPBS-104 Speaker with Beacon is specifically designed to meet NBC 2016 (National Building Code) Part 4, Clause 4.9 C and D regulations for voice alarm and public address systems. Ensures full regulatory compliance for fire safety voice evacuation and communication 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

Why Choose AL-FAPATB-IOT -101L

Cloud-Connected Intelligence: IoT connectivity enables remote monitoring, audio testing, broadcast verification, and comprehensive diagnostics from any location worldwide

NBC 2016 Compliant: Specifically designed to meet National Building Code Clause 4.9 C and D for voice alarm and public address systems

Triple Functionality: Combines voice evacuation, public address, and visual fire warning in single device, reducing equipment and installation costs

Exclusive Two-Wire Technology: Revolutionary loop-powered design carries power, audio, and data on single cable, reducing installation complexity by 60%+

DATASHEET



Flexible Activation Options: Supports zone call for targeted communication and all call for building-wide broadcasts, adapting to any emergency or operational scenario

Targeted Zone Control: Addressable capability activates only specific speakers, preventing unnecessary panic in unaffected areas while delivering critical information where needed

Dual-Mode Audio-Visual Alerts: Combined voice messages and visual beacon ensure effective communication for all occupants, including hearing-impaired individuals

PA System Integration: Daily PA functionality for routine announcements, paging, and facility management maximizes equipment utilization and return on investment

Simplified Installation: Connect to same wiring as call points and detectors—no separate audio cables required, dramatically reducing material costs and labor

Device Health Monitoring: Continuous integrity monitoring of speaker, beacon, and electrical circuits ensures emergency communication readiness with predictive maintenance alerts

Ultra-Low Power Consumption: 200 μ A quiescent current ensures energy efficiency and extended battery backup capability during power failures

Remote Testing Capability: Verify audio output, beacon operation, and system functionality remotely without on-site maintenance visits

Selective Muting: Audio can be muted during investigation while visual beacon continues, allowing verification while maintaining safety indication

Future-Ready Platform: IoT connectivity ensures compatibility with emerging smart building technologies and centralized facility management systems

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.