Moxa's Wi-Fi Solutions Enable Factory-Mobility Applications

Moxa's AWK-4131A/3131A/1137C series wireless devices feature AeroMag technology, which minimizes your wireless network deployment and maintenance efforts. In addition, the fast-roaming capability and rugged design of these AWK devices make them a perfect choice to enable seamless connectivity for mobile equipment in your factory.

Moxa's Solution	AWK-4131A	AWK-3131A	AWK-1137C
Recommended Role	Access point	Access point	Client
AeroMag	AeroMag AP	AeroMag AP	AeroMag client
AP Capacity	Up to 60 clients per AP	Up to 60 clients per AP	N/A
Roaming Ability	150-millisecond handoff		
Interface	Ethernet	Ethernet	Ethernet and serial
Radio Certifications	FCC, CE, TELEC, NCC, ANATEL, WPC, SRRC, RCM, and KC		
Transportation Certification	N/A	N/A	E-Mark E1
Rugged Design	• -40 to 75°C wide operating temperature • Power and antenna isolation • IP68-rated housing	• -40 to 75°C wide operating temperature • Power and antenna isolation	• -40 to 75°C wide operating temperature • Anti-vibration design as per the IEC 60068-2-6 standard • Power and antenna isolation

Your Trusted Partner in Automation

Moxa is a leading provider of edge connectivity, industrial computing, and network infrastructure solutions for enabling connectivity for the Industrial Internet of Things. With over 30 years of industry experience, Moxa has connected more than 50 million devices worldwide and has a distribution and service network that reaches customers in more than 70 countries. Moxa delivers lasting business value by empowering industry with reliable networks and sincere service for industrial communications infrastructures.

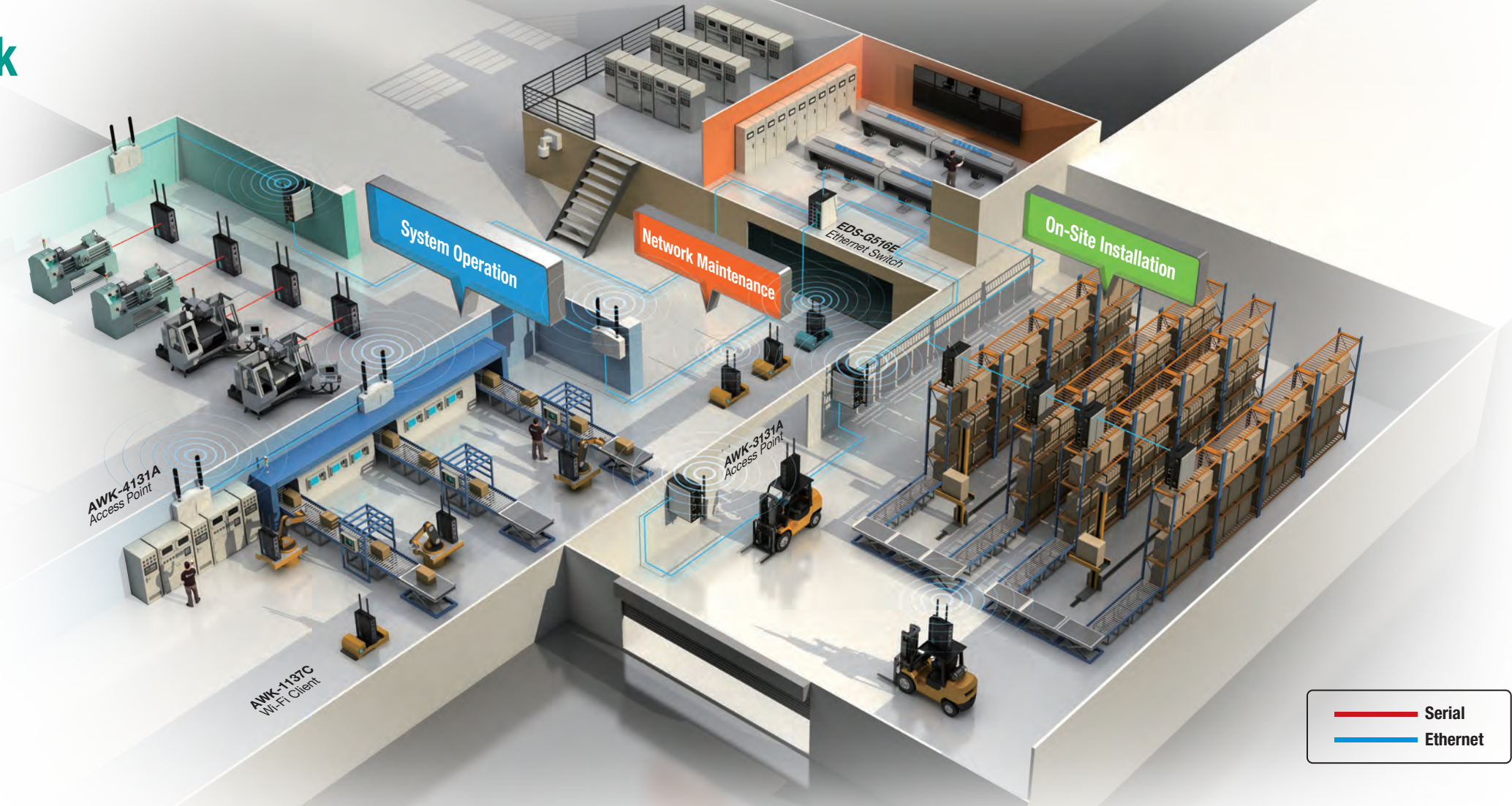# Your Fast Pass to Effortless Wi-Fi

AeroMag Technology for Fast and Easy Wi-Fi Network Deployment and Maintenance

· One-step setup for multiple Wi-Fi devices
· One-click optimization of Wi-Fi channels on-site
· One-click Wi-Fi channel refresh to avoid interference
· Zero configuration to add new Wi-Fi devices into existing networks

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Breeze Through the Wi-Fi Network Lifecycle Like a Pro

To enhance operation efficiency, automated material handling (AMH) systems are widely deployed on factory floors and in warehouses around the world. AMH systems, such as AGV and AS/RS, are coupled with high-mobility Wi-Fi devices to ensure smooth operation of mobile equipment and moving parts in the AMH system. However, deploying and maintaining wireless networks for AMH systems can be a daunting task. Moxa's Wi-Fi solution includes AeroMag, a unique technology that can save you significant time and effort on basic device settings when deploying and maintaining a network without compromising on network security. Here's how Moxa's AeroMag technology can help you fast track Wi-Fi network lifecycle management tasks in a Wi-Fi enabled factory .

System Operation

Network Maintenance

On-Site Installation

EDS-G516E
Ethernet Switch

AWK-4131A
Access Point

AWK-3131A
Access Point

AWK-1137C
Wi-Fi Client

Office

Initial Setup

	Serial
	Ethernet

Initial Setup

AeroMag AP/Client Settings

SSID	MOXA_5W2CKCxlk
RF Type	ANMixed
Password	**********
Channel	36(*) 44 157

AWK-3131A
Access Point

Lock AeroMag topology to enhance network security

AWK-1137C
Wi-Fi Client

One-Step Setup for Multiple Wi-Fi Devices

While site survey tools can help in network planning, there is an increasing need for easy-to-use tools that can minimize the time and effort of configuring Wi-Fi settings for multiple devices. Moxa's AeroMag technology can configure basic AP settings, including SSID, password, WPA2 security, RF type, and operating channel, all in one step, saving you valuable time. You can use AeroMag to configure your Wi-Fi devices in a test environment and lock down the AeroMag topology to prevent unauthorized access and increase network security.

On-Site Installation

AWK-3131A
Access Point

AeroMag AP Operating Status

AeroMag Operating Status	Status
Refresh Channel	Processing

AeroMag AP Operating Status

AeroMag Operating Status	Status
Refresh Channel	Ready

AWK-1137C
Wi-Fi Client

One-Click Optimization of Wi-Fi Channels On-Site

On-site environments can be drastically different from test environments. Operators need to adjust the Wi-Fi channels of devices for each on-site scenario to find the best channel for wireless communication. Moxa's AeroMag technology features a channel optimization function, which searches for and sets up the best Wi-Fi channel for your devices based on your on-site environment.

System Operation

AeroMag AP Operating Status

AeroMag Operating Status	Status
Refresh Channel	Ready

Channel A
Wi-Fi Router

Channel A

Channel B

Channel A

AWK-4131A
Access Point

AWK-1137C
Wi-Fi Client

One-Click Wi-Fi Channel Refresh to Avoid Interference

As the on-site environment changes, new sources of Wi-Fi interference are generated that make the current Wi-Fi channel settings ineffective. Instead of going through the process of manually resetting each channel, you can use AeroMag's one-click refresh channel function to search for a new optimal channel and refresh the channel configuration automatically.

Network Maintenance

AWK-4131A
Access Point

AeroMag operation mode	Client
Apply AeroMag configuration	Use the current configuration

Submit

AeroMag Unit Status

No	Source Device	Joining Device	Mode	Joining Status
5	AWK-4131A_0000 (00:90:E8:99:88:77)	AWK-1137C_0662 (00:90:E8:00:00:06)	Client	Done

Add a new device

AWK-1137C
Wi-Fi Client

Zero Configuration to Add New Wi-Fi Devices into Existing Networks

When your Wi-Fi network must expand to support new equipment in your factory, you will need to configure and deploy new Wi-Fi devices before they can be brought online. With Moxa's AeroMag technology, setting up a new device in a network is as easy as unlocking the AeroMag topology and connecting the device to the network—no manual configuration is required.