

## Moxa AWK-3131A

# Moxa AWK-3131A-US Industrial WLAN Access Point User Manual

MODEL: AWK-3131A-US

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## 1. Introduction

This manual provides comprehensive instructions for the installation, configuration, operation, and maintenance of the Moxa AWK-3131A-US Industrial 802.11a/b/g/n WLAN Access Point. The AWK-3131A-US is designed for reliable wireless communication in demanding industrial environments, functioning as an Access Point, Bridge, or Client.

Key features of the AWK-3131A-US include:

- Industrial IEEE 802.11a/b/g/n wireless AP/bridge/client support
- Easy setup and deployment with AeroMag technology
- Millisecond-level Client-based Turbo Roaming for seamless connectivity
- Complete redundancy with AeroLink Protection
- Integrated antenna and power isolation
- Support for 5 GHz DFS channels
- Wide operating temperature range of -25 to 60°C

## 2. Safety Information

Please read and understand all safety instructions before installing or operating the device. Failure to do so may result in injury or damage to the equipment.

- **Power Supply:** Ensure the power source meets the device's voltage and current requirements. Disconnect power before performing any maintenance.
- **Environment:** Install the device in an environment within its specified operating temperature and humidity ranges. Avoid exposure to excessive moisture, dust, or direct sunlight.
- **Grounding:** Proper grounding is essential for safe operation and protection against electrical surges.
- **Antennas:** Use only approved antennas with the device. Do not operate the device without antennas connected.
- **Qualified Personnel:** Installation and maintenance should only be performed by qualified personnel.

## 3. Package Contents

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Verify that your package contains the following items:

- Moxa AWK-3131A-US Industrial WLAN Access Point unit
- Two detachable antennas
- Documentation (Quick Installation Guide, Warranty Card)
- Terminal block for power input

If any items are missing or damaged, please contact your vendor immediately.

### 4. Product Overview

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The AWK-3131A-US is a robust industrial wireless device. Below is an illustration of the unit with its key components and indicators.



**Figure 1:** Moxa AWK-3131A-US Industrial WLAN Access Point. The device features LED indicators for power, PoE, fault, state, signal strength, WLAN activity, and LAN activity. It includes two RJ45 LAN ports, an RS-232 console port, and two antenna connectors. Two external antennas are shown alongside the main unit.

#### 4.1 LED Indicators

Indicator	Status	Description
<b>PWR1/PWR2</b>	Green (On)	Power input 1/2 is active.
<b>PoE</b>	Green (On)	Power over Ethernet is active.
<b>FAULT</b>	Red (On)	System fault detected.
<b>STATE</b>	Green (On/Blinking)	System operational status. Refer to documentation for specific blink patterns.
<b>SIGNAL</b>	Green (Multiple LEDs)	Indicates wireless signal strength. More LEDs lit means stronger signal.
<b>WLAN</b>	Green (Blinking)	Wireless data transmission/reception.
<b>LAN</b>	Green (Blinking)	Ethernet data transmission/reception.

## 4.2 Ports and Connectors

- **Power Input:** Terminal block for redundant DC power inputs (PWR1, PWR2) and PoE.
- **Antenna Connectors (A & B):** RP-SMA connectors for external antennas.
- **LAN Ports (RJ45):** Two 10/100/1000BaseT(X) Ethernet ports for network connectivity.
- **RS-232 Console Port:** For local management and configuration via a serial connection.

## 5. Setup and Installation

### 5.1 Mounting the Device

The AWK-3131A-US supports DIN-rail mounting. Ensure the mounting surface is stable and provides adequate ventilation.

1. Attach the DIN-rail kit to the rear panel of the device using the provided screws.
2. Hook the top of the DIN-rail clip onto the DIN rail.
3. Push the bottom of the device towards the DIN rail until it snaps into place.

### 5.2 Antenna Installation

Carefully screw the two provided antennas onto the RP-SMA connectors labeled 'A' and 'B' on the front panel. Ensure they are finger-tight but do not overtighten.

### 5.3 Power Connection

The device supports redundant DC power input and Power over Ethernet (PoE).

- **DC Power:** Connect a compatible DC power supply to the terminal block. The device supports dual power inputs (PWR1 and PWR2) for redundancy.
- **PoE:** If using PoE, connect a PoE-enabled Ethernet cable to one of the LAN ports. Ensure the PoE source meets the device's power requirements.

After connecting power, the PWR1/PWR2 or PoE LED should illuminate green.

### 5.4 Network Connection

Connect Ethernet cables from your network devices (e.g., switches, computers) to the LAN ports on the AWK-3131A-US.

## 5.5 Initial Configuration

The device can be configured via a web browser or the RS-232 console port.

- **Web-based Management:**

- a. Connect your computer to a LAN port of the AWK-3131A-US.
- b. Configure your computer's IP address to be in the same subnet as the device's default IP (e.g., 192.168.1.x).
- c. Open a web browser and enter the device's default IP address (refer to the Quick Installation Guide for the default IP).
- d. Log in using the default username and password.

- **Console Management:**

- a. Connect a serial cable from your computer to the RS-232 console port.
- b. Use a terminal emulation program (e.g., PuTTY) with appropriate serial settings (e.g., 115200 bps, 8 data bits, no parity, 1 stop bit, no flow control).
- c. Log in using the default username and password.

It is highly recommended to change the default login credentials immediately after initial access.

## 6. Operating the Device

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The AWK-3131A-US can operate in various modes to suit different network requirements.

### 6.1 Operating Modes

- **Access Point (AP) Mode:** Functions as a central hub for wireless clients to connect to the wired network.
- **Bridge Mode:** Connects two wired networks wirelessly, acting as a transparent bridge.
- **Client Mode:** Allows the device to connect to an existing Access Point, extending wireless connectivity to wired devices connected to its LAN ports.

Select the desired operating mode through the web-based management interface under the "Wireless Settings" or "Operation Mode" section.

### 6.2 Wireless Configuration

Configure wireless parameters such as SSID, security (WPA2/WPA3), channel, and transmit power. Ensure that the wireless settings are compatible with your client devices or other wireless infrastructure.

- **SSID:** Set a unique name for your wireless network.
- **Security:** Enable strong encryption (e.g., WPA2-PSK, WPA2-Enterprise) to protect your wireless network.
- **Channel:** For optimal performance, select a clear channel, especially in congested environments. The device supports 5 GHz DFS channels.

### 6.3 Advanced Features

- **AeroMag:** Simplifies the deployment and configuration of multiple Moxa wireless devices. Refer to the dedicated AeroMag documentation for detailed instructions.
- **Turbo Roaming:** Provides fast roaming capabilities for wireless clients, ensuring seamless connectivity during movement. Configure roaming parameters in client mode.
- **AeroLink Protection:** Enhances network redundancy by providing backup wireless links.

- **Network Address Translation (NAT):** Configure NAT settings to allow multiple devices on a private network to share a single public IP address.

## 7. Maintenance

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### 7.1 Cleaning

Ensure the device is powered off and disconnected from all power sources before cleaning. Use a soft, dry cloth to wipe the exterior of the device. Do not use liquid or aerosol cleaners.

### 7.2 Firmware Updates

Periodically check the Moxa website for the latest firmware updates. Firmware updates can provide new features, performance improvements, and security enhancements.

1. Download the latest firmware file from the official Moxa support website.
2. Access the device's web-based management interface.
3. Navigate to the "System Maintenance" or "Firmware Upgrade" section.
4. Follow the on-screen instructions to upload and install the new firmware. Do not power off the device during the update process.

## 8. Troubleshooting

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This section provides solutions to common issues you may encounter with the AWK-3131A-US.

### 8.1 Power Issues

- **No Power LED:**
  - Check power cable connections to the terminal block or PoE source.
  - Verify the power supply is functioning correctly and providing the correct voltage.

### 8.2 Network Connectivity Issues

- **No LAN Link:**
  - Ensure Ethernet cables are securely connected.
  - Check the status of the connected network device (switch/router).
  - Verify cable integrity.
- **No WLAN Connection:**
  - Check if antennas are properly installed.
  - Verify WLAN settings (SSID, security key) on both the AP and client devices.
  - Check the SIGNAL LED for wireless signal strength.
  - Ensure the device is in the correct operating mode (AP, Bridge, Client).

### 8.3 Device Unresponsive

- **Cannot Access Web Interface:**
  - Verify your computer's IP address is in the same subnet as the device.
  - Try accessing via the console port.
  - Perform a factory reset if all else fails (refer to the device's advanced manual for reset procedures).

## 9. Specifications

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Technical specifications for the Moxa AWK-3131A-US.

Parameter	Value
Model Number	AWK-3131A-US
Wireless Standard	IEEE 802.11a/b/g/n
Operating Modes	Access Point, Bridge, Client
Frequency Band	US Band (2.4 GHz / 5 GHz)
Operating Temperature	-25 to 60°C (-13 to 140°F)
Power Input	Redundant DC power, PoE
Ethernet Ports	2 x 10/100/1000BaseT(X) RJ45
Console Port	1 x RS-232 (RJ45)
Antenna Connectors	2 x RP-SMA
Product Dimensions	2.05 x 5.31 x 4.13 inches (52 x 135 x 105 mm)
Item Weight	1.89 pounds (0.86 kg)
Manufacturer	Moxa
Date First Available	June 16, 2019

## 10. Warranty and Support






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Moxa products are backed by a standard warranty. For detailed warranty terms and conditions, please refer to the warranty card included with your product or visit the official Moxa website.

For technical support, product documentation, and software downloads, please visit the Moxa support portal:

<https://www.moxa.com/support>

You may also contact Moxa customer service directly for assistance.

 <p>AWK Series User Manual Version 3.0, July 2021 www.moxa.com/support</p>	<p><a href="#">Moxa AWK Series User Manual: Configuration, Operation, and Troubleshooting</a></p> <p>Comprehensive user manual for Moxa AWK Series industrial wireless devices (AWK-1151C, AWK-3252A, AWK-4252A). Covers web interface configuration, network setup, Wi-Fi settings, security, diagnostics, and troubleshooting.</p>
 <p>AWK-1165C Series High-Density Industrial IEEE 802.11ax Wireless Clients</p>	<p><a href="#">Moxa AWK-1165C Series Industrial Wi-Fi 6 Wireless Client Datasheet</a></p> <p>Detailed specifications, features, and ordering information for the Moxa AWK-1165C Series industrial IEEE 802.11ax (Wi-Fi 6) wireless clients, designed for high-density deployments.</p>
 <p>AWK-1151C Series Quick Installation Guide Moxa AirWorks Version 1.8, September 2022 Technical Support Contact Information www.moxa.com/support</p>	<p><a href="#">Moxa AWK-1151C Series Quick Installation Guide: Industrial Wi-Fi Client Setup</a></p> <p>Comprehensive guide to installing and configuring the Moxa AWK-1151C Series industrial Wi-Fi client, covering hardware setup, mounting, wiring, and software configuration.</p>
 <p>AWK-1165C/AWK-1165A Series Quick Installation Guide Moxa AirWorks Version 1.8, April 2024 Technical Support Contact Information www.moxa.com/support</p>	<p><a href="#">Moxa AWK-1165C/AWK-1165A Series Quick Installation Guide</a></p> <p>A comprehensive quick installation guide for Moxa's AWK-1165C and AWK-1165A Series industrial-grade Wi-Fi clients and Access Points (APs). It covers product overview, hardware setup, package contents, mounting procedures (DIN-rail and wall), wiring requirements, communication connections, LED indicators, specifications, safety precautions, and basic software setup for AP, Client, Master, and Slave modes.</p>
 <p>AWK-4262A Series Quick Installation Guide Moxa AirWorks Version 1.8, September 2024 Technical Support Contact Information www.moxa.com/support</p>	<p><a href="#">Moxa AWK-4262A Series Quick Installation Guide - Wireless AP/Bridge/Client</a></p> <p>This guide provides essential information for the quick installation of the Moxa AWK-4262A Series wireless AP/bridge/client. It covers hardware setup, panel layout, mounting options, wiring requirements, communication connections, LED indicators, specifications, software access, and configuration modes (AP, Client, Master/Slave). Includes FCC and regional compliance statements.</p>



[AWK-1165C/AWK-1165A Series Quick Installation Guide | Moxa](#)

Concise guide for installing and configuring Moxa AWK-1165C/AWK-1165A Series Industrial Wi-Fi 6 Access Points and Clients. Covers hardware setup, panel layout, dimensions, mounting, wiring, LED indicators, specifications, and software configuration.