

AWK-3191 Series

Industrial 900 MHz wireless AP/bridge/client



- > 900 MHz transmission for long distance wireless communication
- > AP/client and master/slave modes supported for point-to-point and point-to-multi-point connections
- > QoS (WMM) and VLAN for efficient network traffic
- > Maximum security with WEP/WPA/WPA2/802.11X and powerful filters
- > -40 to 75°C operating temperature range (T models)
- > Power and antenna isolation design for higher operation stability



Introduction

The AWK-3191 900 MHz wireless AP/bridge/client is Moxa's answer to long distance wireless communication for industrial applications. By combining the characteristics of the 33-centimeter band and the proven 802.11 standards, Moxa is able to provide a reliable long distance wireless solution. Unlike traditional point-to-point 900 MHz radios, the AWK-3191 supports both master/slave and AP/client operation modes to enable both point-to-point and point-to-multi-point communication for higher flexibility and lower total cost of ownership.

Furthermore, the AWK-3191 is designed to be deployed easily, but in case of external interference, Moxa also provides the ability to allow engineers to adjust their 900 MHz central frequency and bandwidth (5/10 MHz and 20 MHz) to optimize their wireless performance.

The AWK-3191 is rated to operate at temperatures ranging from -25 to 60°C for standard models and -40 to 75°C for wide temperature models, and with an industrial-oriented design, it is compliant with various standards and approvals, making it rugged enough for any harsh industrial environment.

Advanced Security

- Enable/disable SSID broadcasts
- WPA/WPA2 (Wi-Fi Protected Access) and 802.11i support
- IEEE 802.1X / RADIUS support
- MAC/IP/protocol/port filtering for applications that require more restricted access control

Specifications for Industrial-Grade Applications

- Long-distance data transmission over 30 km with directional antenna
- Power and isolation design for a complete separation between system ground, chase ground, and antenna system to protect against interference from unstable environmental factors
- Redundant DC power inputs
- Integrated DI/DO for on-site monitoring and warnings
- Signal strength LEDs for easy deployment and antenna alignment

Specifications

WLAN Interface

Standards:

IEEE 802.11i for Wireless Security
 IEEE 802.1Q for VLAN
 IEEE 802.3af for Power-over-Ethernet
 IEEE 802.1X for Security and Authentication

Spread Spectrum and Modulation (typical):

- OFDM with BPSK, QPSK, 16QAM, 64QAM
- 64QAM @ 54/48 Mbps, 16QAM @ 36/24 Mbps, QPSK @ 18/12 Mbps, BPSK @ 9/6 Mbps

Channel Band Width:

US: 5 MHz, 10 MHz, 20 MHz

Operating Channels (central frequency):

- US: 902 to 928 MHz (ISM band)
- 915 MHz (BW = 20 MHz)
- 908.5, 915, 921.5 MHz (BW = 10 MHz)
- 905.25, 908.5, 911.75, 915, 918.25, 921.5, 924.75 MHz (BW = 5 MHz)

Security:

- SSID broadcast enable/disable

- Firewall for MAC/IP/protocol/port-based filtering
- 64-bit and 128-bit WEP encryption, WPA /WPA2-Personal and Enterprise (IEEE 802.1X/RADIUS, TKIP and AES)

Transmission Rates:

6, 9, 12, 18, 24, 36, 48, 54 Mbps

TX Transmit Power:

- Typ. 24±1.5 dBm @ 6 to 24 Mbps
- Typ. 23±1.5 dBm @ 36 Mbps
- Typ. 22±1.5 dBm @ 48 Mbps
- Typ. 21±1.5 dBm @ 54 Mbps

RX Sensitivity:

- -90 dBm @ 6 Mbps
- -88 dBm @ 9 Mbps
- -87 dBm @ 12 Mbps
- -85 dBm @ 18 Mbps
- -81 dBm @ 24 Mbps
- -77 dBm @ 36 Mbps
- -73 dBm @ 48 Mbps
- -71 dBm @ 54 Mbps

Protocol Support

General Protocols: DNS, HTTP, HTTPS, IP, ICMP, SNMP, TCP, UDP, RADIUS, SNMP, DHCP

Interface

Connector for External Antennas: RP-SMA (female)

RJ45 Ports: 1, 10/100BaseT(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection

Console Port: RS-232 (RJ45-type)

Reset: Present

LED Indicators: PWR1, PWR2, PoE, FAULT, STATE, signal strength, CLIENT MODE, BRIDGE MODE, WLAN, 10M, 100M

Alarm Contact: 1 relay output with current carrying capacity of 1 A @ 24 VDC

Digital Inputs: 2 electrically isolated inputs

- +13 to +30 V for state "1"
- +3 to -30 V for state "0"
- Max. input current: 8 mA

Physical Characteristics

Housing: Metal, providing IP30 protection

Weight: 930 g

Dimensions: 53 x 135 x 105 mm (2.08 x 5.3 x 4.13 in)

Installation: DIN-rail mounting, wall mounting (with optional kit)

Environmental Limits

Operating Temperature:

Standard Models: -25 to 60°C (-13 to 140°F)

Wide Temp. Models: -40 to 75°C (-40 to 167°F)

Storage Temperature: -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5% to 95% (non-condensing)

Power Requirements

Input Voltage: 12 to 48 VDC, redundant dual DC power inputs or 48 VDC Power-over-Ethernet (IEEE 802.3af compliant)

Connector: 10-pin removable terminal block

Power Consumption: 5.928 W (12 V / 0.494 A to 48 V / 0.121 A)

Reverse Polarity Protection: Present

Standards and Certifications

Safety: UL 60950-1

EMC: FCC Part 15, Subpart B

Radio: FCC ID SLE-WFS001

Note: Please check Moxa's website for the most up-to-date certification status.

Reliability

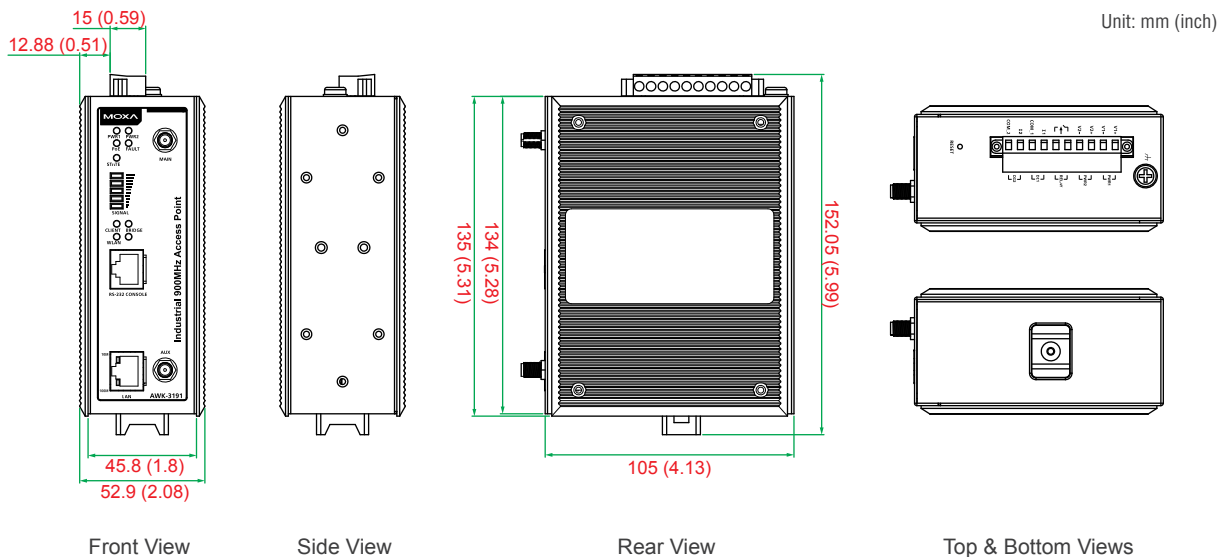
MTBF (mean time between failures): 484,469 hrs

Warranty

Warranty Period: 5 years

Details: See www.moxa.com/support/warranty.aspx

Dimensions



Ordering Information

Available Models

AWK-3191-US: Industrial 900 MHz access point, US band (902 to 928 MHz)

AWK-3191-US-T: Industrial 900 MHz access point, US band (902 to 928 MHz), -40 to 75°C operating temperature

Note: Moxa's AWK-3191 does NOT include default antennas, so you will need to purchase external 900 MHz (902 to 928 MHz) antennas separately. Contact your local Moxa sales representative for local antenna vendor recommendations.

Package Checklist

- AWK-3191
- Cable holder with one screw
- 2 plastic RJ45 protective caps
- Software CD
- Quick installation guide (printed)
- Warranty card