

AWK-3121 Series

Industrial IEEE 802.11a/b/g wireless AP/bridge/client



- > IEEE 802.11a/b/g compliant
- > QoS (WMM) and VLAN for efficient network traffic
- > Supports long-distance data transfer and client-based Turbo Roaming
- > Maximum security with WEP/WPA/WPA2/802.11X and powerful filters
- > -40 to 75°C operating temperature range (T models)



Introduction

The AWK-3121 AP/bridge/client is ideal for industrial hard to wire applications, keeping wireless costs under control, and integrating with existing mobile equipment. The AWK-3121 is compliant with the industrial standards and approvals, covering operating temperature, power input voltage, surge, ESD and vibration. Installation is easy, with either DIN-Rail mounting or distribution boxes, and the DIN-Rail mounting capability, wide operating temperature range, and IP30 housing with LED indicators make the AWK-3121 a convenient yet reliable solution for any industrial wireless application.

Advanced Security

- 64-bit and 128-bit WEP (Wired Equivalent Privacy)
- Enable/disable SSID broadcasts
- WPA/WPA2 (Wi-Fi Protected Access) and 802.11i support
- IEEE802.1X/RADIUS support
- Powerful filters for access control

Specifications for Industrial-grade Applications

- Redundant DC power inputs
- Long-distance data transmission over 10 km
- Integrated DI/DO for on-site monitoring and warnings
- Signal strength LEDs for easy deployment and antenna alignment

Specifications

WLAN Interface

Standards:

- IEEE 802.11a/b/g for Wireless LAN
- IEEE 802.11i for Wireless Security
- IEEE 802.3 for 10BaseT
- IEEE 802.3u for 100BaseTX
- IEEE 802.3af for Power-over-Ethernet*
- IEEE 802.1D for Spanning Tree Protocol
- IEEE 802.1w for Rapid STP

*Support for PoE discontinued starting with hardware Rev. 2.0.0.

Spread Spectrum and Modulation (typical):

- DSSS with DBPSK, DQPSK, CCK
- OFDM with BPSK, QPSK, 16QAM, 64QAM
- 802.11b: CCK @ 11/5.5 Mbps, DQPSK @ 2 Mbps, DBPSK @ 11 Mbps
- 802.11a/g: 64QAM @ 54/48 Mbps, 16QAM @ 36/24 Mbps, QPSK @ 18/12 Mbps, BPSK @ 9/6 Mbps

Operating Channels (central frequency):

US:

- 2.412 to 2.462 GHz (11 channels)
- 5.18 to 5.24 GHz (4 channels)

EU:

- 2.412 to 2.472 GHz (13 channels)
- 5.18 to 5.24 GHz (4 channels)

JP:

- 2.412 to 2.472 GHz (13 channels, OFDM)
- 2.412 to 2.484 GHz (14 channels, DSSS)
- 5.18 to 5.24 GHz (4 channels for W52)

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:

- 802.11b: 1, 2, 5.5, 11 Mbps
- 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

TX Transmit Power:

- 802.11b: Typ. 23±1.5 dBm @ 1 to 11 Mbps
- 802.11g: Typ. 20±1.5 dBm @ 6 to 24 Mbps, Typ. 19±1.5 dBm @ 36 Mbps, Typ. 18±1.5 dBm @ 48 Mbps, Typ. 17±1.5 dBm @ 54 Mbps
- 802.11a: Typ. 18±1.5 dBm @ 6 to 24 Mbps, Typ. 16±1.5 dBm @ 36 to 48 Mbps, Typ. 15±1.5 dBm @ 54 Mbps

RX Sensitivity:

- 802.11b: -97 dBm @ 1 Mbps, -94 dBm @ 2 Mbps, -92 dBm @ 5.5 Mbps, -90 dBm @ 11 Mbps
- 802.11g: -93 dBm @ 6 Mbps, -91 dBm @ 9 Mbps, -90 dBm @ 12 Mbps, -88 dBm @ 18 Mbps, -84 dBm @ 24 Mbps, -80 dBm @ 36 Mbps, -76 dBm @ 48 Mbps, -74 dBm @ 54 Mbps

802.11a:

-90 dBm @ 6 Mbps, -89 dBm @ 9 Mbps, -89 dBm @ 12 Mbps, -85 dBm @ 18 Mbps, -83 dBm @ 24 Mbps, -79 dBm @ 36 Mbps, -75 dBm @ 48 Mbps, -74 dBm @ 54 Mbps

Protocol Support

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

Interface

Default Antennas: 2 dual-band omni-directional antennas, 2 dBi, RP-SMA (male)

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 (discontinued starting with Rev. 2.0.0), 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

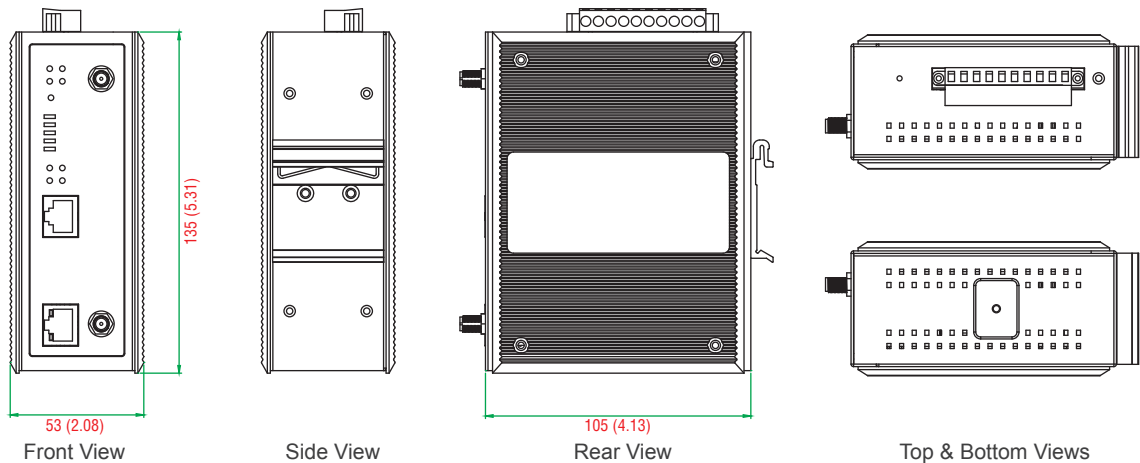
Housing: Metal, providing IP30 protection

Weight: 850 g

Dimensions: 54 x 135 x 105 mm (2.14 x 5.4 x 4.14 in)

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

Dimensions



Unit: mm (inch)

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)

*Support for PoE discontinued starting with hardware Rev. 2.0.0.

Connector: 10-pin removable terminal block

Power Consumption: 12 to 48 VDC, 0.121 to 0.494 A

Reverse Polarity Protection: Present

Standards and Certifications

Safety: UL 60950-1, EN 60950-1

Hazardous Location: UL/cUL Class I Division 2, ATEX Zone 2

EMC: EN 301 489-1/17; FCC Part 15, Subpart B; EN 55022/55024

Radio: EN 300 328, EN 301 893, TELEC, FCC ID SLE-WAPA003

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

MTBF (mean time between failures)

Time:

392,209 hrs

Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

Ordering Information

Available Models

AWK-3121-US: IEEE 802.11a/b/g wireless AP/bridge/client, US band

AWK-3121-JP: IEEE 802.11a/b/g wireless AP/bridge/client, JP band

AWK-3121-US-T: IEEE 802.11a/b/g wireless AP/bridge/client, US band, -40 to 75°C operating temperature

AWK-3121-JP-T: IEEE 802.11a/b/g wireless AP/bridge/client, JP band, -40 to 75°C operating temperature

Note: Please visit Moxa's website for a complete list of optional wireless accessories and antennas available for Moxa's wireless products.

AWK-3121-EU: IEEE 802.11a/b/g wireless AP/bridge/client, EU band

AWK-3121-EU-T: IEEE 802.11a/b/g wireless AP/bridge/client, EU band, -40 to 75°C operating temperature

Package Checklist

- AWK-3121 wireless AP/bridge/client
- 2 dual-band omni-directional antennas (2 dBi, RP-SMA, 2.4/5 GHz)
- DIN-rail kit
- 2 plastic RJ45 protective caps for console port
- Cable holder with one screw
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card