

# AWK-3121 Series

## Industrial IEEE 802.11a/b/g wireless AP/Bridge/Client



- > IEEE 802.11a/b/g compliant
- > Power input by redundant 24 VDC power inputs or Power-over-Ethernet
- > Powerful security with WPA/WPA2/802.11X filters
- > Turbo Roaming™ for seamless wireless connection
- > Long-distance communication support
- > STP/RSTP support to increase reliability
- > DIN-Rail or wall mounting ability
- > IP30 protected high-strength metal housing
- > -40 to 75°C operating temperature range (-T model)



### Introduction

Are your industrial applications hard to wire, or are your wiring costs out of control? Are you already using mobile equipment that connects over an IP network? If so, then what you need is the AWK-3121 Access-Point/Bridge/Client. The AWK-3121 is rated to operate at temperatures ranging from 0 to 60°C for standard models and -40 to 75°C for wide temperature models, and is rugged enough for any harsh industrial environment. Installation is easy, with either DIN-Rail mounting or distribution boxes. 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

- Turbo Roaming™ for rapid handover during client roaming
- Long-distance data transmission over 10 km
- Integrated DI/DO for on-site monitoring and warning
- Signal strength LEDs for easy deployment and antenna alignment

### Specifications

#### WLAN Interface

##### Standards:

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

##### Spread Spectrum and Modulation (typical):

- DSSS with DBPSK, DQPSK, CCK
- OFDM with BPSK, QPSK, 16QAM, 64QAM

64QAM @ 54Mbps, 16QAM @ 24/36Mbps, QPSK @ 12/18Mbps, CCK @ 11/5.5Mbps, DQPSK @ 2Mbps, DBSK @ 1Mbps

##### 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-base 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. 18±1.5 dBm @ 1 to 11 Mbps

802.11g:  
 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

802.11a:  
 Typ. 16±1.5 dBm @ 6 to 24 Mbps, Typ. 14±1.5 dBm @ 36 to 48 Mbps,  
 Typ. 13±1.5 dBm @ 54 Mbps

**RX Sensitivity:**

802.11b:  
 -92 dBm @ 1 Mbps, -90 dBm @ 2 Mbps, -88 dBm @ 5.5 Mbps, -84 dBm @ 11 Mbps  
 802.11g:  
 -87 dBm @ 6 Mbps, -86 dBm @ 9 Mbps, -85 dBm @ 12 Mbps, -82 dBm @ 18 Mbps, -80 dBm @ 24 Mbps, -76 dBm @ 36 Mbps, -72 dBm @ 48 Mbps, -70 dBm @ 54 Mbps  
 802.11a:  
 -87 dBm @ 6 Mbps, -86 dBm @ 9 Mbps, -85 dBm @ 12 Mbps, -82 dBm @ 18 Mbps, -80 dBm @ 24 Mbps, -76 dBm @ 36 Mbps, -72 dBm @ 48 Mbps, -70 dBm @ 54 Mbps

**Protocol Support**

**General Protocols:** Proxy ARP, DNS, HTTP, HTTPS, IP, ICMP, SNMP, TCP, UDP, RADIUS, SNMP, RTP

**AP-only Protocols:** ARP, BOOTP, DHCP, dynamic VLAN-Tags for 802.1X-Clients, STP/RSTP (IEEE 802.1D/w)

**Interface**

**Default Antenna:** 2 dBi dual-band omni-directional antenna, RP-SMA (male)

**Connector:** RP-SMA (female)

**RJ45 Port:** 10/100BaseT(X) auto negotiation speed

**Console for External Antenna:** RS-232 (RJ45-type)

**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 1A @ 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:** 53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)

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

**Environmental Limits**

**Operating Temperature:**

Standard Models: 0 to 60°C (32 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)

**Connection:** 10-pin removable terminal block

**Power Consumption:**

- 0.121 to 0.494 A @ 12 to 48 VDC
- 0.3 A @ 24 VDC

**Reverse Polarity Protection:** Present

**Regulatory Approvals**

**Safety:** EN60950-1, UL60950-1

**Radio:** EN300 328, EN301 893, ARIB STD-33/T66/T71 (Japan)

**EMC:** EN301 489-1/-17, FCC Part 15, EN55022/55024, IEC61000-6-2/-4

**Environmental/EMC Compliance:** EN50155, EN50121-1/-4, Directive 72/245/EEC (for e/M mark)

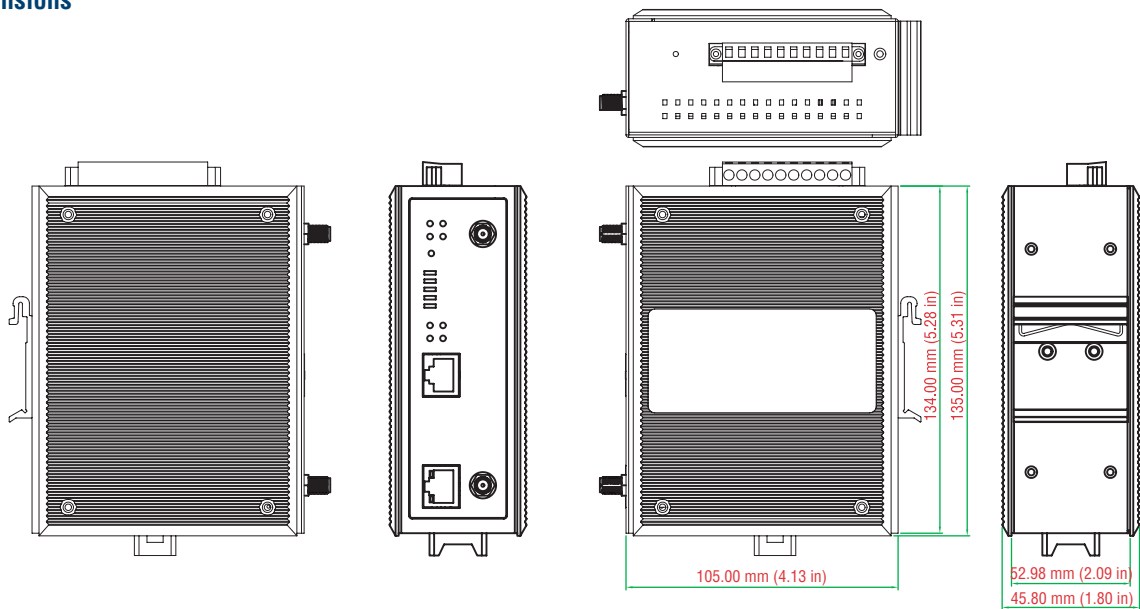
*Note: Please check Moxa's website for the most up-to-date certification status.*

**Warranty**

**Warranty Period:** 5 years

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

**Dimensions**



## : Ordering Information

### Available Models

**AWK-3121-US:** IEEE 802.11a/b/g wireless AP/Bridge/Client, US band, 0 to 60°C operating temperature

**AWK-3121-EU:** IEEE 802.11a/b/g wireless AP/Bridge/Client, EU band, 0 to 60°C operating temperature

**AWK-3121-JP:** IEEE 802.11a/b/g wireless AP/Bridge/Client, JP band, 0 to 60°C operating temperature

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

**AWK-3121-EU-T:** IEEE 802.11a/b/g wireless AP/Bridge/Client, EU 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

### Optional Accessories (can be purchased separately)

**WK-46:** Wall mounting kit

**DR-75-24:** 75W/3.2A DIN-Rail 24 VDC power supply with universal 85 to 264 VAC input

**CRF- N0117SA-3M:** CFD200 cable, N-type (male) to RP-SMA (male), 3 meters

**ANT-WSB-ANF-09:** 2.4 GHz, omni-directional antenna, 9dBi, N-type (female) connector

**ANT-WSB5-ANF-12:** 5 GHz, omni-directional antenna, 12 dBi, N-type (female) connector

**Note:** Please visit [Moxa's website](#) for a complete list of optional accessories available for these products.