AWK-3121 Series

Industrial IEEE 802.11a/b/g wireless Access Point/Bridge/Client

> IEEE 802.11a/b/g compliant
> Power input by redundant 24 VDC power inputs or
>   IEEE 802.3af-compliant Power-over-Ethernet
> Powerful security with WEP/WPA/WPA2/IP packet filters
> RS-232 console management
> STP/RSTP support to increase reliability
> DIN-Rail or wall mounting capability
> 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 extended 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 case 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) support
• IEEE802.1X/RADIUS support
• Powerful IP packet filters

Useful Functions and Remote Configuration

• Firmware upgrade from TFTP or HTTP
• Console/web-based management
• SNMP and STP/RSTP supported
• Configuration backup and reset
• Easy client deployment with DHCP

: Specifications

WLAN

Standards:
IEEE 802.11a/b/g for Wireless LAN
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

Modulation:
802.11b: DBPSK, DQPSK, CCK
802.11g: OFDM with BPSK, QPSK, 16QAM, 64QAM
802.11a: OFDM with BPSK, QPSK, 16QAM, 64QAM
OFDM @ 54 Mbps, CCK @ 11/5.5 Mbps, DQPSK @ 2 Mbps,
DBSK @ 1 Mbps

Operating Channels:
US: 2.412 to 2.462 GHz (11 channels)
    5.15 to 5.25 GHz (4 channels)
EU: 2.412 to 2.472 GHz (13 channels)
    5.15 to 5.25 GHz (4 channels)
JP: 2.412 to 2.472 GHz (13 channels, OFDM)
    2.412 to 2.484 GHz (14 channels, CCK)
    5.15 to 5.25 GHz (4 channels for W52)

Security:
64-bit and 128-bit WEP and WPA/WPA2 (TKIP, AES and IEEE802.1X, EAP-TLS/
TTLS/PEAP, EAP-PAP/CHAP/MSCHAP/MSCHAPv2)

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

TX Transmit Power:
802.11b: 1 to 11 Mbps: Typ. 18 dBm (+/- 1.5 dBm)
802.11g: 6 to 24 Mbps: Typ. 18 dBm (+/- 1.5 dBm);
        36 to 48 Mbps: Typ. 16 dBm (+/- 1.5 dBm);
        54 Mbps: Typ. 15 dBm (+/- 1.5 dBm)
802.11a: 6 to 24 Mbps: Typ. 16 dBm (+/- 1.5 dBm);
        36 to 48 Mbps: Typ. 14 dBm (+/- 1.5 dBm);
        54 Mbps: Typ. 13dBm (+/- 1.5 dBm)

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

Interface

Antenna: 2 dBi dual-band, omni-directional antenna

Connector: RP-SMA (female)

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

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

Console: RS-232 (RJ45)

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

Digital Inputs: 2 electrically-isolated inputs
- 0 to 3.3V for state "0" (OFF)
- 10 to 48V for state "1" (ON)
- Max. input current: 8 mA

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

Reverse Polarity Protection: Present

Physical Characteristics

Housing: IP30 protection, metal case

Dimensions (W x H x D): 53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)

Weight: 850 g

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

Environmental Limits

Operating Temperature: 0 to 60°C (32 to 140°F),
-40 to 75°C (-40 to 167°F) for -T models

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

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

Regulatory Approvals

Safety: EN60950-1, UL60950-1

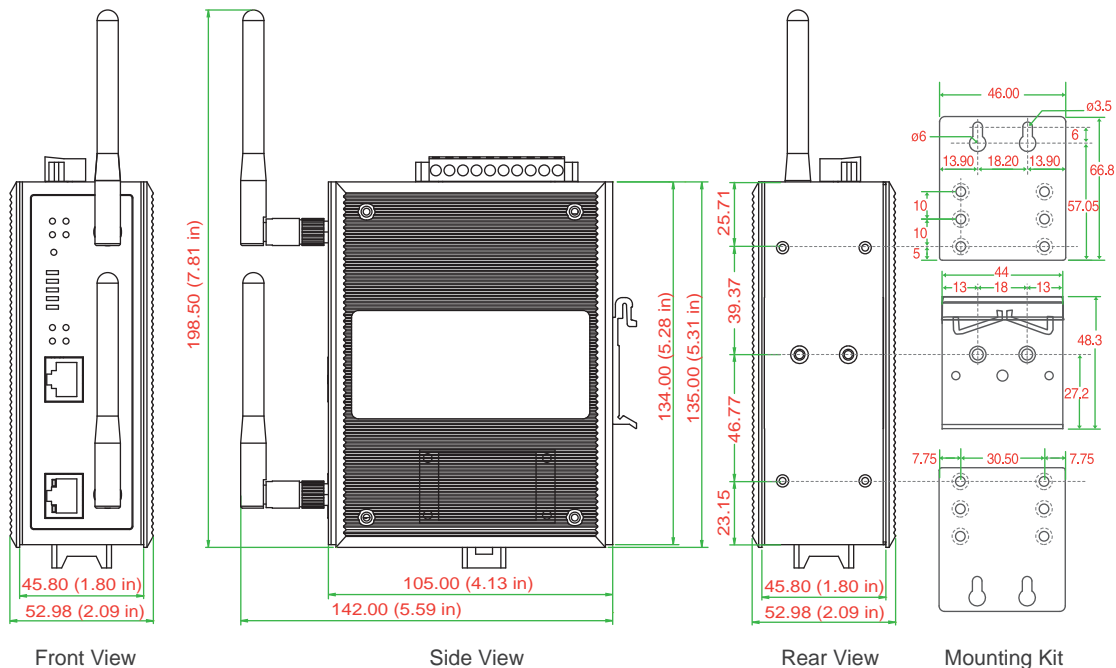**Radio:** EN300 328, EN301 893, EN301 489-1/-17, ARIB STD-33/66 /T71 (Japan)

EMI: FCC Part 15

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

Warranty

5 years (see www.moxa.com/warranty for details)

Dimensions (unit = mm)

Front View   Side View   Rear View   Mounting Kit

:: Ordering Information

Available Models

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

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

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

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

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

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

Optional Accessories

DR-4524: 45W/2A DIN-Rail 24 VDC power supply with universal 85 to 264 VAC input

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

DR-120-24: 120W/5A DIN-Rail 24 VDC power supply with 88 to 132 VAC/176 to 264 VAC input by switch

WK-46: Wall mounting kit