

AWK-5222 Series

Industrial IEEE 802.11a/b/g dual-radio wireless AP/bridge/client



- > IEEE 802.11a/b/g compliant
- > Dual-radio design for 2.4 GHz and/or 5 GHz RF bands
- > Supports client-based Turbo Roaming and redundant roaming
- > -40 to 75°C operating temperature range (T models)



Certified for **SafetyNET^p**



Introduction

Moxa's wireless redundancy technology allows you to set up independent wireless connections to avoid interruptions in transmission, even if interference occurs on one of the supported frequencies. The AWK-5222 is equipped with the newest proprietary wireless redundancy technology, which has two independent RF modules, and supports a greater variety of wireless configurations and applications. The redundant wireless connections increase the reliability of the entire wireless network. The AWK-5222 is compliant with the industrial standards and approvals, covering operating temperature, power input voltage, surge, ESD and vibration. The AWK-5222 is rugged enough to help you establish the most robust wireless connection for critical industrial wireless applications.

Redundancy to Increase System Reliability

- Dual DC power inputs and PoE
- Dual-radio design with 2.4 and/or 5 GHz dual-band operation for redundant WLAN connections
- Redundant roaming for fast and stable handoff
- Ethernet redundancy via RSTP

Specifications for Industrial-grade Applications

- Industrial-grade QoS and VLAN for efficient data traffic management
- Long-distance wireless 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(X)
 IEEE 802.3u for 100BaseT(X)
 IEEE 802.3af for Power-over-Ethernet
 IEEE 802.1D for Spanning Tree Protocol
 IEEE 802.1w for Rapid STP
 IEEE 802.1Q for VLAN

Spread Spectrum and Modulation (typical):

- DSSS with DBPSK, DQPSK, CCK
- OFDM with BPSK, QPSK, 16QAM, 64QAM
 64QAM @ 54 Mbps, 16QAM @ 24/36 Mbps, QPSK @ 12/18 Mbps,
 CCK @ 11/5.5 Mbps, DQPSK @ 2 Mbps, DBSK @ 1 Mbps
- 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

AP-only Protocols: ARP, BOOTP, DHCP, STP/RSTP (IEEE 802.1D/w)

Interface

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

Connector for External Antennas: RP-SMA (female)

RJ45 Ports: 2, 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, WLAN1, WLAN2, 10M, 100M

Alarm Contact (digital output): 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, IP30 protection

Weight: 1.1 kg

Dimensions: 62 x 135 x 105 mm (2.4 x 5.3 x 4.1 in)

Installation: DIN-Rail mounting (standard), Wall mounting (optional)

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: 12 to 48 VDC, 800 mA (max.)

Reverse Polarity Protection: Present

Standards and Certifications

Safety: UL 60950-1, EN 60950-1

EMC: EN 301 489-1/17, FCC Part 15 Subpart B, EN 55022/55024, IEC 61000-6-2/4

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

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

Reliability

MTBF (mean time between failures): 291,367 hrs

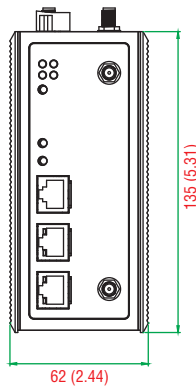
Warranty

Warranty Period: 5 years

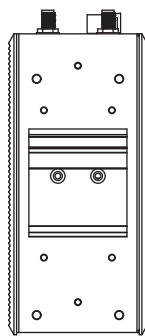
Details: See www.moxa.com/warranty

Dimensions

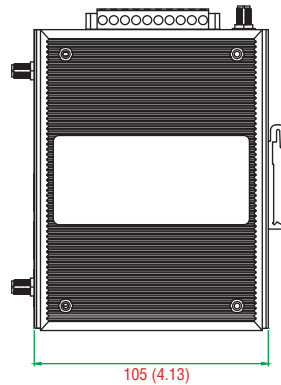
Unit: mm (inch)



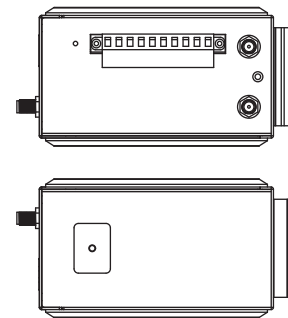
Front View



Rear View



Side View



Top & Bottom Views

Ordering Information

Available Models

AWK-5222-US: IEEE 802.11a/b/g dual-radio wireless AP/bridge/client, US band

AWK-5222-US-T: IEEE 802.11a/b/g dual-radio wireless AP/bridge/client, US band, -40 to 75°C operating temperature

AWK-5222-EU: IEEE 802.11a/b/g dual-radio wireless AP/bridge/client, EU band

AWK-5222-EU-T: IEEE 802.11a/b/g dual-radio wireless AP/bridge/client, EU band, -40 to 75°C operating temperature

AWK-5222-JP: IEEE 802.11a/b/g dual-radio wireless AP/bridge/client, JP band

AWK-5222-JP-T: IEEE 802.11a/b/g dual-radio 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.

Package Checklist

- AWK-5222 wireless AP/bridge/client
- DIN-rail kit
- 2 plastic RJ45 protective caps for LAN & Console ports
- Cable holder with one screw
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

Note: 2 dual-band omni-directional antennas are included with the AWK-5222 model.