AWK-5222 Series

Industrial IEEE 802.11a/b/g dual-RF solution

> **IEEE 802.11a/b/g compliant**
> **Redundant power inputs and PoE**
> **Higher security with WEP/WPA/WPA2/802.11X and powerful filters**
> **Turbo Roaming™ for seamless wireless connections**
> **Dual-RF design for redundant wireless communication**

Introduction

The AWK-5222 dual-RF wireless AP/Bridge/Client provides a flexible and highly reliable solution for your industrial wireless networks. The AWK-5222 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 it is built rugged enough for industrial applications. With two independent RF modules, the AWK-5222 supports a greater variety of wireless configurations and applications, and the redundant wireless connections increase the reliability of the entire wireless network. The AWK-5222's two DC power inputs make the power supply more reliable, and it can also be powered via PoE for easier deployment.

Redundancy to Increase System Reliability
- Dual DC power inputs and PoE
- Redundant dual-RF design for rapid fail-over
- Immunity against disconnection caused by radio interference
- Loading balance of wireless communication

Advanced Security
- 64-bit and 128-bit WEP (Wired Equivalent Privacy)
- Enable/disable SSID broadcasts
- Power filters for access control
- IEEE 802.1X/RADIUS supported
- WPA/WPA2/802.11i supported

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

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, SNTP, TCP, UDP, RADIUS, SNMP, RTP ,PPPoE, DHCP

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 for External Antenna: RP-SMA (female)

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

Console Port: RS-232 (RJ45-type)

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: 880 g

Dimensions: 62.05 x 135 x 105 mm (2.44 x 5.31 x 4.13 in)

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

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)

Connector: 10-pin removable terminal block

Reverse Polarity Protection: Present

Regulatory Approvals

Safety: EN60950-1(pending), UL60950-1

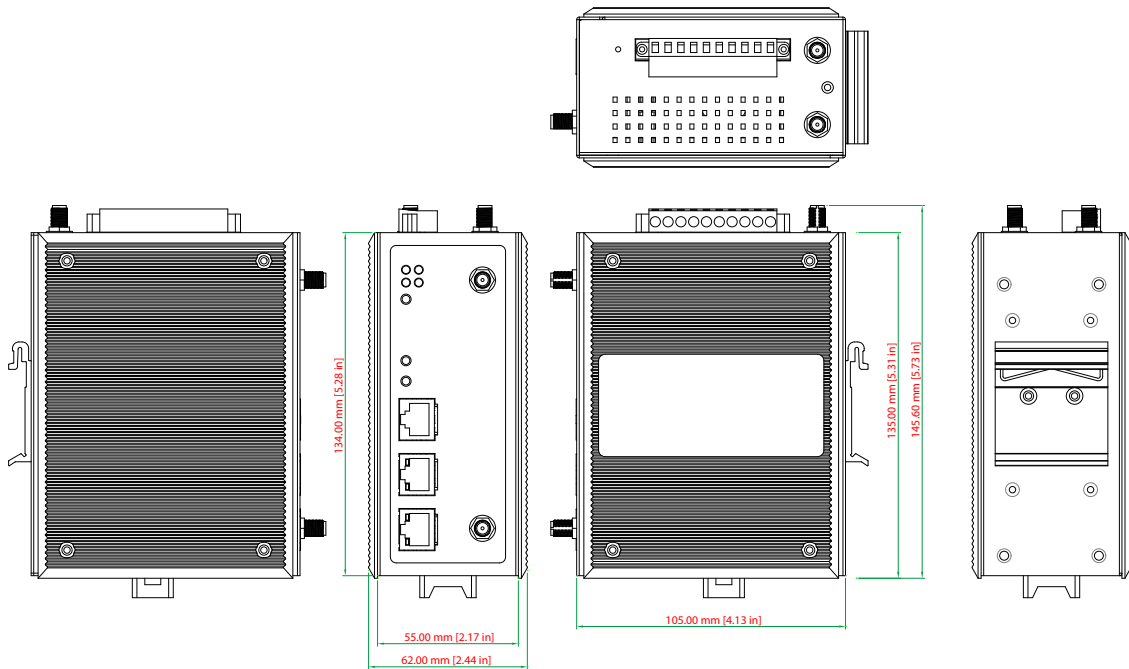**EMC:** EN301 489-1/-17, FCC Part 15

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

Dimensions

134.00 mm [5.28 in]

55.00 mm [2.17 in]
62.00 mm [2.44 in]

135.00 mm [5.31 in]
145.60 mm [5.73 in]

105.00 mm [4.13 in]

: Ordering Information

Available Models

AWK-5222-US: IEEE 802.11a/b/g dual-RF AP/Bridge/Client, US band, 0 to 60°C operating temperature

AWK-5222-EU: IEEE 802.11a/b/g dual-RF AP/Bridge/Client, EU band, 0 to 60°C operating temperature

AWK-5222-US-T: IEEE 802.11a/b/g dual-RF AP/Bridge/Client, US band, -40 to 75°C operating temperature

AWK-5222-EU-T: IEEE 802.11a/b/g dual-RF AP/Bridge/Client, EU 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, 9 dBi Antenna, N-type female connector

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

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