AWK-6232 Series

Industrial IEEE 802.11a/b/g/n IP68 dual-radio wireless AP/bridge/client



- > IEEE 802.11a/b/g/n compliant
- > Dual-radio design: 2.4 GHz and/or 5 GHz RF bands
- > M12 anti-vibration connectors
- > Industrial grade QoS (WMM) and VLAN supported
- Compliant with essential sections of EN 50155
- > Rugged IP68-rated housing and -40 to 75°C operating temperature













: Introduction

Moxa's AWK-6232 3-in-1 outdoor wireless AP/bridge/client meets the growing need for faster data transmission speeds and wider coverage by supporting IEEE 802.11n technology with a net data rate of up to 300 Mbps. The AWK-6232 avoids interruptions in WLAN transmissions with its dual 2.4/5 GHz RF modules, which allow two independent wireless connections over different frequencies. The AWK-6232 is compliant with the essential sections of EN 50155, covering operating temperature, power input voltage, surge, ESD and vibration. In addition, the AWK-6232 is housed in an IP68 metal casing with M12 connectors for total protection against dust, water, vibration, and other environmental effects.

Improved Higher Data Rate and Bandwidth

- High-speed wireless connectivity with up to 300 Mbps data rate
- MIMO technology to improve the capacity of multiple data stream transmits and receives
- Increased channel width with channel bonding technology

Industrial and Outdoor Rated Features for Critical **Environments**

- IP68-rated metal housing and -40 to 75°C wide operating temperature
- Anti-vibration M12 design and waterproof/dust-tight RJ45 connectors
- Wall, DIN rail, and pole mounting options for versatile outdoor installation

Specifications

WLAN Interface

Standards:

IEEE 802.11a/b/g/n for Wireless LAN

IEEE 802.11i for Wireless Security

IEEE 802.3 for 10BaseT

IEEE 802.3u for 100BaseTX

IEEE 802.3ab for 1000BaseT

IEEE 802.3at for Power-over-Ethernet Plus

IEEE 802.1D for Spanning Tree Protocol

IEEE 802.1w for Rapid STP

IEEE 802.1Q VLAN

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
- 802.11n: 64QAM @ 300 Mbps to BPSK @ 6.5 Mbps (multiple rates

Operating Channels (central frequency):

2.412 to 2.462 GHz (11 channels)

5.18 to 5.24 GHz (4 channels)

2.412 to 2.472 GHz (13 channels)

5.18 to 5.24 GHz (4 channels)

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

802.11n: 6.5 to 300 Mbps (multiple rates supported)

TX Transmit Power:

802 11h.

1 to 11 Mbps: Typ. 18 dBm (± 1.5 dBm)

6 to 24 Mbps: Typ. 18 dBm (± 1.5 dBm)

36 to 48 Mbps: Typ. 17 dBm (± 1.5 dBm)

54 Mbps: Typ. 15 dBm (± 1.5 dBm)

802.11a:

6 to 24 Mbps: Typ. 17 dBm (± 1.5 dBm)

36 to 48 Mbps: Typ. 16 dBm (± 1.5 dBm)

54 Mbps: Typ. 14 dBm (± 1.5 dBm)

TX Transmit Power MIMO:

802.11a/n (20/40 MHz):

MCS15 20 MHz: Typ. 13 dBm (± 1.5 dBm)

MCS15 40 MHz: Typ. 12 dBm (± 1.5 dBm)

802.11g/n (20 MHz):

MCS15 20 MHz: Typ. 14 dBm (± 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

RX Sensitivity MIMO:

802.11a/n:

-68 dBm @ MCS15 40 MHz, -70 dBm @ MCS7 40 MHz, -69 dBm @ MCS15 20 MHz, -71 dBm @ MCS7 20 MHz

802.11g/n:

-69 dBm @ MCS15 20 MHz, -71 dBm @ MCS7 20 MHz

Protocol Support

General Protocols: Proxy ARP, DNS, HTTP, HTTPS, IP, ICMP, SNTP,

TCP, UDP, RADIUS, SNMP, PPPoE, DHCP

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

Interface

Default Antennas: 4 dual-band omni-directional antennas, 5 dBi at 2.4 GHz, 2 dBi at 5 GHz, N-type (male)

Connector for External Antennas: N-type (female)

M12 Ports: 2, 10/100/1000BaseT(X), auto negotiation speed, F/H

duplex mode, and auto MDI/MDI-X connection (female) Console Port: RS-232 (waterproof RJ45-type)

LED Indicators: PWR, FAULT, STATE, WLAN1, WLAN2, LAN1, LAN2

Alarm Contact (digital output, M12 connector): 1 relay output with current carrying capacity of 1 A @ 24 VDC

Digital Inputs (M12 connector, male): 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, IP68 protection

Weight: 1.8 kg

Dimensions: 224 x 147.7 x 64.5 mm (8.82 x 5.82 x 2.54 in)

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

pole mounting (optional)

Environmental Limits

Operating Temperature: -40 to 75°C (-40 to 167°F) **Storage Temperature:** -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5% to 100% (non-condensing)

Power Requirements

Input Voltage: 12 to 48 VDC, redundant dual DC power inputs or 48

VDC Power-over-Ethernet plus (IEEE 802.3at compliant)

*Compliant with EN 50155 on 24 VDC

Connector: M12 male connector with A-coding **Power Consumption:** 12 to 48 VDC, 1.5 A (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

Radio: EN 300 328, EN 301 893, DSPR (Japan)

Rail Traffic: EN 50155, EN 50121-1/4

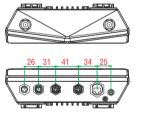
Note: Please check Moxa's website for the most up-to-date certification status.

Warranty

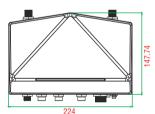
Warranty Period: 5 years

Details: See www.moxa.com/warranty

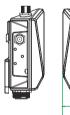
Dimensions



Top & Bottom Views



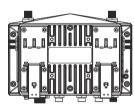
Front View



71.5



Side Views



Unit: mm (inch)

Rear View

Ordering Information

Available Models

AWK-6232-M12-US-T: IEEE 802.11a/b/g/n IP68 dual-radio wireless AP/bridge/client, US band, -40 to 75°C operating temperature

AWK-6232-M12-EU-T: IEEE 802.11a/b/g/n IP68 dual-radio wireless AP/bridge/client, EU band, -40 to 75°C operating temperature

AWK-6232-M12-JP-T: IEEE 802.11a/b/g/n IP68 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-6232 wireless AP/bridge/client
- 4 dual-band omni-directional antennas (5/2 dBi, N-type male, 2.4/5 GHz)
- Wall mounting kit (includes 2 supports)
- Field-installable power plug
- · Field-installable Ethernet plug
- 1 metal cap to cover M12-male DI/O connector
- 1 metal cap to cover RJ45 connector
- 1 metal cap to cover M12-female LAN connector
- 2 transparent plastic sticks for field-installable plugs
- · Documentation and software CD
- Quick installation guide (printed)
- · Warranty card



