

AWK-1121/1127 Series

Industrial IEEE 802.11a/b/g wireless client



AWK-1121

AWK-1127

- > IEEE 802.11a/b/g compliant
- > Redundant 12 to 48 VDC power inputs
- > Client-based millisecond-level Turbo Roaming
- > PoE 802.11af compliant (PoE model only)
- > Maximum security with WEP/WPA/WPA2/802.11X and powerful filters
- > -40 to 75°C operating temperature range (T model only)
- > 1 RS-232/422/485 serial port (AWK-1127 only)



Introduction

The AWK-1121/1127 WLAN client is ideal for industrial hard to wire applications, keeping wireless costs under control, and integrating with existing mobile equipment. The AWK-1121 enables WLAN connection to Ethernet devices, while the AWK-1127 offers an additional serial port for serial device connectivity. The AWK-1121/1127 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 or wall mounting capability, wide operating temperature ranges, and IP30 housing with LED indicators make the AWK-1121/1127 a convenient yet reliable solution for any industrial wireless application.

Advanced Security

- 64-bit and 128-bit WEP (Wired Equivalent Privacy)
- WPA/WPA2 (Wi-Fi Protected Access) and 802.11i support
- Enable/disable SSID broadcasts
- IEEE802.1X/RADIUS support
- Powerful packet filters for access control

Specifications for Industrial-grade Applications

- Redundant DC power inputs
- Power over Ethernet support
- IP30 compact size aluminum housing
- 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
- IEEE 802.3u for 100BaseTX
- IEEE 802.3af for Power-over-Ethernet
- 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

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:

- 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. 18±1.5 dBm @ 1 to 11 Mbps
- 802.11g:
 - Typ. 18±1.5 dBm @ 6 to 24 Mbps, Typ. 17±1.5 dBm @ 36 Mbps, Typ. 16±1.5 dBm @ 48 Mbps, Typ. 16±1.5 dBm @ 54 Mbps
- 802.11a:
 - Typ. 18±1.5 dBm @ 6 to 24 Mbps, Typ. 16±1.5 dBm @ 36 Mbps, Typ. 15±1.5 dBm @ 48 Mbps, Typ. 14±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:

-88 dBm @ 6 to 24 Mbps, -85 dBm @ 36 Mbps, -75 dBm @ 48 Mbps,
-70 dBm @ 54 Mbps

802.11a:

-88 dBm @ 6 to 24 Mbps, -85 dBm @ 36 Mbps, -75 dBm @ 48 Mbps,
-70 dBm @ 54 Mbps

Protocol Support

General Protocols: Proxy ARP, DNS, HTTP, HTTPS, IP, ICMP, SNMP, TCP, UDP, RADIUS, SNMP, PPPoE, DHCP

Interface

Default Antennas:

1 RP-SMA (male), 2 dual-band omni-directional antenna, 2 dBi, RP-SMA (male)

Connector for External Antennas:

RP-SMA (female)

RJ45 Ports: 1, 10/100BaseT(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection

Serial Port: 1, RS232/422/485, DB9 male connector (AWK-1127 only)

Console Port: RS-232 (RJ45-type)

LED Indicators: PWR, FAULT, STATE, SIGNAL, WLAN, LAN

Serial Communication Parameters (AWK-1127 Only)

Data Bits: 5, 6, 7, 8

Stop Bits: 1, 1.5, 2

Parity: None, Even, Odd, Space, Mark

Flow Control: RTS/CTS, XON/XOFF

Baudrate: 50 bps to 921.6 Kbps

Serial Data Log: 256 KB

Serial Signals (AWK-1127 Only)

RS-232 : DSR, RTS, GND, TxD, RxD, DCD, CTS, DTR

RS-422: Tx+, Tx-, Rx+, Rx-, GND

RS-485 (2-wire): Data+, Data- and GND

RS-485 (4-wire): Tx+, Rx+, Tx-, Rx+ and GND

Physical Characteristics

Housing: Metal, providing IP30 protection

Weight: 400 g

Dimensions: 50 x 115 x 70 mm (1.97 x 4.53 x 2.76 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)*

*PoE is only available for the AWK-1121-PoE and AWK-1127-PoE

Connector: 4-pin removable terminal block

Power Consumption: 12 to 48 VDC, 0.16 to 0.55 A

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 Class B, EN 55022/55024

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

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

Reliability

MTBF (mean time between failures):

392,209 hrs

Warranty

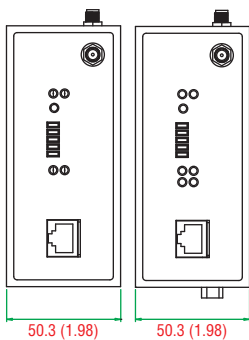
Warranty Period: 5 years

Details: See www.moxa.com/support/warranty.aspx

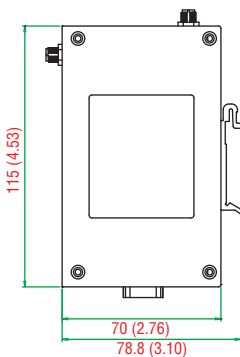
Dimensions

Unit: mm (inch)

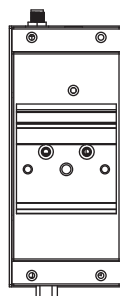
AWK-1121 AWK-1127



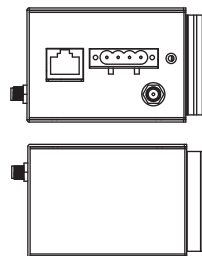
Front Views



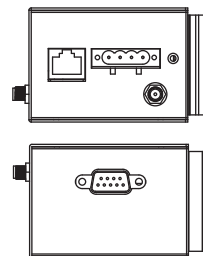
Side View



Rear Views



Top & Bottom Views
(AWK-1121)



Top & Bottom Views
(AWK-1127)

Ordering Information

| Available Models | | | Port Interface | | |
|-------------------|----------------------------------|--------------------------------|----------------|----------------|-------------|
| Model Name | Standard Temperature (0 to 60°C) | Wide Temperature (-40 to 75°C) | 10/100BaseT(X) | RS-232/422/485 | PoE Support |
| AWK-1121 | | | | | |
| AWK-1121-US | ✓ | – | ✓ | – | – |
| AWK-1121-EU | ✓ | – | ✓ | – | – |
| AWK-1121-JP | ✓ | – | ✓ | – | – |
| AWK-1121-US-T | – | ✓ | ✓ | – | – |
| AWK-1121-EU-T | – | ✓ | ✓ | – | – |
| AWK-1121-JP-T | – | ✓ | ✓ | – | – |
| AWK-1121-PoE-EU | ✓ | – | ✓ | – | ✓ |
| AWK-1121-PoE-US | ✓ | – | ✓ | – | ✓ |
| AWK-1121-PoE-JP | ✓ | – | ✓ | – | ✓ |
| AWK-1121-PoE-EU-T | – | ✓ | ✓ | – | ✓ |
| AWK-1121-PoE-US-T | – | ✓ | ✓ | – | ✓ |
| AWK-1121-PoE-JP-T | – | ✓ | ✓ | – | ✓ |
| AWK-1127 | | | | | |
| AWK-1127-EU | ✓ | – | ✓ | ✓ | – |
| AWK-1127-US | ✓ | – | ✓ | ✓ | – |
| AWK-1127-JP | ✓ | – | ✓ | ✓ | – |
| AWK-1127-EU-T | – | ✓ | ✓ | ✓ | – |
| AWK-1127-US-T | – | ✓ | ✓ | ✓ | – |
| AWK-1127-JP-T | – | ✓ | ✓ | ✓ | – |
| AWK-1127-PoE-EU | ✓ | – | ✓ | ✓ | ✓ |
| AWK-1127-PoE-US | ✓ | – | ✓ | ✓ | ✓ |
| AWK-1127-PoE-JP | ✓ | – | ✓ | ✓ | ✓ |
| AWK-1127-PoE-EU-T | – | ✓ | ✓ | ✓ | ✓ |
| AWK-1127-PoE-US-T | – | ✓ | ✓ | ✓ | ✓ |
| AWK-1127-PoE-JP-T | – | ✓ | ✓ | ✓ | ✓ |

Package Checklist

- AWK-1121/1127 Industrial Client
- 2dBi dual band antenna
- Console protective cap
- Resistive Terminator
- Quick Installation Guide (printed)
- Document and Software CD
- Warranty card

Note:

US: USA band
 EU: Europe band
 JP: Japan band

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