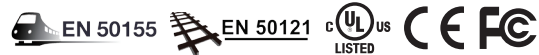


WAC-1001

Industrial wireless access controller



- > Redundant 12 to 48 VDC power inputs
- > Less than 50 ms controller controller empowered Turbo Roaming
- > Supported models: AWK-RTG series
- > Compliant with essential sections of EN 50155
- > IEEE 802.11i-compliant wireless security
- > DIN-Rail or wall mounting for onsite installation
- > -40 to 75°C operating temperature range (T model)



Introduction

The goal of zero-latency-roaming is to create networks that maintain communications seamlessly as clients move from one access point to another. For this, as a part of the AWK-RTG series, Moxa has introduced the WAC-1001 with Turbo Roaming technology, a wireless access controller that can achieve less than 50ms roaming. This advanced roaming capability securely hands off clients at speeds so high that wireless clients may roam between APs almost seamlessly, with virtually no interruption in connectivity. Moreover, the WAC-1001 is suitable for use even in extremely demanding environments, meeting the essential sections of EN 50155 that cover operating temperature, power input voltage, surge, ESD and vibration.

Maximum Availability

- Less-than-50ms Turbo Roaming
- Configuration back-up
- Dual redundant DC power inputs

Advanced Security

- IEEE802.1X/RADIUS supported
- WPA/WPA2/802.11i supported
- Integrated DI/DO for on-site monitoring and warnings

Specifications

WLAN Interface

Standards:

IEEE 802.11i for Wireless Security
 IEEE 802.3u for 10/100BaseT(X)
 IEEE 802.3af for Power-over-Ethernet

Security: WPA /WPA2-Personal and Enterprise (IEEE 802.1X/RADIUS, TKIP, and AES)

Interface

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

Console: RS-232 (RJ45-type)

LED Indicators: PWR1, PWR2, PoE, FAULT, STATE, 10M, 100M

Alarm Contact: 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, providing IP30 protection

Weight: 700 g

Dimensions: 52.85 x 135 x 105 mm (2.08 x 5.31 x 4.13 in)

Installation: DIN-Rail mounting, wall mounting

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)

*Compliant with EN 50155 on 24 VDC

Connector: 10-pin removable terminal block

Power Consumption:

- 12 to 48 VDC, 0.121 to 0.494 A
- 24 VDC, 0.3 A

Reverse Polarity Protection: Present

Standards and Certifications

Safety: UL 60950-1, EN 60950-1

EMC: FCC Part 15 Subpart B Class A, EN 55022/55024

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

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

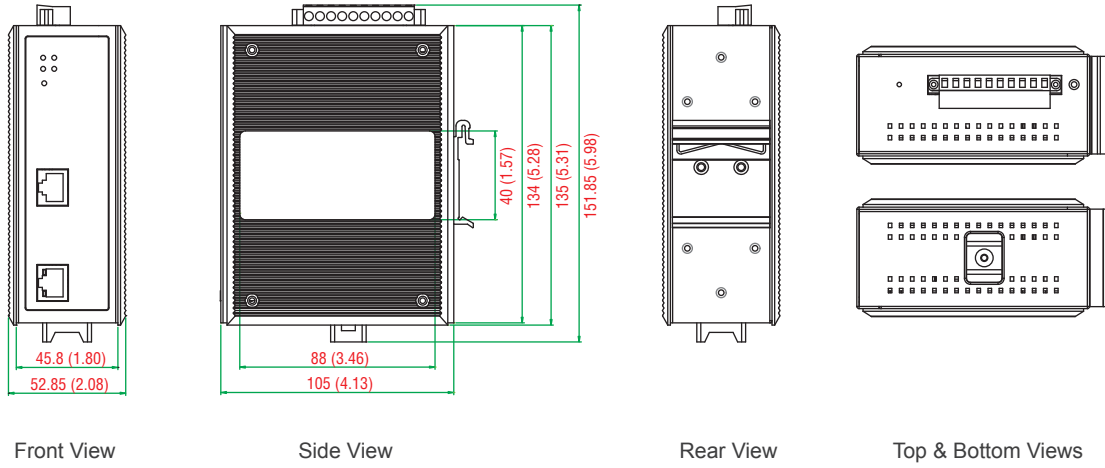
Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Ordering Information

Available Models

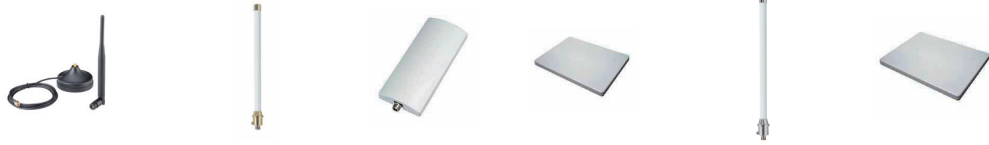
- WAC-1001:** Industrial wireless access controller, 0 to 60°C operating temperature
- WAC-1001-T:** Industrial wireless access controller, -40 to 75°C operating temperature

Package Checklist

- WAC-1001 wireless controller
- Wall mounting kit
- Cable holder with one screw
- 2 protective caps
- DIN-Rail kit
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

Wireless Antenna Selection Guide

IEEE 802.11b/g 2.4 GHz Wireless Antennas **IEEE 802.11a 5 GHz Wireless Antennas**



	ANT-WSB-AHRM-05-1.5m	ANT-WSB-ANF-09	ANT-WSB-PNF-12	ANT-WSB-PNF-18	ANT-WSB5-ANF-12	ANT-WSB5-PNF-18
Frequency Range	2.4 to 2.5 GHz				5.1 to 5.9 GHz	
Antenna Type	$\lambda/4$ Dipole	Omni-directional	Directional, Panel	Directional, Panel	Omni-directional	Directional, Panel
Typical Antenna Gain	5 dBi	9 dBi	12 dBi	18 dBi	12 dBi	18 dBi
Description	2.4 GHz, omni-directional/dipole antenna, 5 dBi	2.4GHz, omni-directional antenna, 9 dBi, N-type (female)	2.4 GHz, panel antenna, 12 dBi, N-type (female)	2.4 GHz, panel antenna, 18 dBi, N-type (female)	5 GHz, omni-directional antenna, 12 dBi, N-type (female)	5 GHz, panel antenna, 18 dBi, N-type (female)
Impedance	50 ± 5 ohms	50 ± 5 ohms	50 ± 5 ohms	50 ± 5 ohms	50 ± 5 ohms	50 ± 5 ohms
Polarization	Vertical	Linear	Linear	Linear	Linear	Linear
HPBW/Horizontal	360°	360°	50°	30°	360°	10°
HPBW/Vertical	–	10°	30°	20°	6°	10°
V.S.W.R.	2.0	1 : 1.3 Max.	1 : 1.5 Max.	1 : 1.5 Max.	1 : 1.3 Max.	1 : 1.5 Max.
Power Handling	–	15 W Max.	10 W Max.	15 W Max.	10 W Max.	10 W Max.
Connector(s)	RP-SMA (male)	N-type (female)	N-type (female)	N-type (female)	N-type (female)	N-type (female)
Operating Temperature	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C
IP rating	–	IP65	IP65	IP65	IP65	IP65
Antenna Profile	–	420 mm length	215 x 90 x 30 mm	270 x 205 x 15 mm	420 mm length	270 x 205 x 15 mm
Weight	300 g	430 g	560 g	310 g	430 g	990 g
Related Products	AWK-1121/1127, AWK-3121, AWK-3121-SSC, AWK-3131, AWK-5222, AWK-5232, NPort W2150/2250 Plus, NPort W2004					

IEEE 802.11a/b/g 2.4/5 GHz Dual-band Antennas



	ANT-WDB-ANM-0502	ANT-WDB-ANM-0407	ANT-WDB-ANF-0407	ANT-WDB-ANM-0609	ANT-WDB-ANF-0609	ANT-WDB-PNF-1518
Frequency Range	2.4 to 2.5 / 5.1 to 5.9 GHz					
Antenna Type	Omni-directional	Omni-directional	Omni-directional	Omni-directional	Omni-directional	Directional, Panel
Typical Antenna Gain	2/5 dBi	4/7 dBi	4/7 dBi	6/9 dBi	6/9 dBi	15/18 dBi
Description	2.4/5 GHz, dual-band omni-directional antenna, 2/5 dBi, N-type (male)	2.4/5 GHz, dual-band omni-directional antenna, 4/7 dBi, N-type (male)	2.4/5 GHz, dual-band omni-directional antenna, 4/7 dBi, N-type (female)	2.4/5 GHz, dual-band omni-directional antenna, 6/9 dBi, N-type (male)	2.4/5 GHz, dual-band omni-directional antenna, 6/9 dBi, N-type (female)	2.4/5 GHz, dual-band panel antenna, 15/18 dBi, N-type (female)
Impedance	50 ± 5 ohms	50 ± 5 ohms	50 ± 5 ohms	50 ± 5 ohms	50 ± 5 ohms	50 ± 5 ohms
Polarization	Linear	Linear	Linear	Linear	Linear	Linear
HPBW/Horizontal	360°	360°	360°	360°	360°	50/10°
HPBW/Vertical	65°	10/8°	10/8°	10/8°	10/8°	30/10°
V.S.W.R.	1 : 2.0 Max.	1 : 1.5 Max.	1 : 1.5 Max.	1 : 1.5 Max.	1 : 1.5 Max.	1 : 1.5 Max.
Power Handling	2 W Max.	10 W Max.	10 W Max.	10 W Max.	10 W Max.	20 W Max.
Connector(s)	N-type (male)	N-type (male)	N-type (female)	N-type (male)	N-type (female)	N-type (female)
Operating Temperature	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 80°C
IP rating	IP67	IP65	IP65	IP65	IP65	IP65
Antenna Profile	220 mm length	220 mm length	260 mm length	632 mm length	660 mm length	270 x 205 x 15 mm
Weight	72 g	115g	155 g	238 g	286 g	1020±10 g
Related Products	AWK-4121, AWK-4131, AWK-6222, AWK-6232		AWK-1121/1127, AWK-3121, AWK-3131, AWK-4121, AWK-4131, AWK-5222, AWK-5232, AWK-6222, AWK-6232, NPort W2150/2250 Plus, NPort W2004		AWK-4121, AWK-4131, AWK-6222, AWK-6232	

Wireless Accessories Selection Guide

Cables											
	CRF-N0117SA-3M	CRF-N0429N-3M	A-CRF-NMNM-LL4-300	A-CRF-NMNM-LL4-600	A-CRF-NMNM-LL4-900	A-CRF-RMNM-L1-300	A-CRF-RMNM-L1-600	A-CRF-RMNM-L1-900	A-CRF-RFRM-S1-060	A-CRF-QMAMNM-R2-50	A-CRF-RFQMAM-R2-50
	CFD200 cable, N-type (male) to RP SMA (male), 3 m	CFD400 cable, N-type (male) to N-type (male), 3 m	LMR-400 Lite cable, N-type (male) to N-type (male), 3 m	LMR-400 LITE cable, N-type (male) to N-type (male), 6 m	LMR-400 LITE cable, N-type (male) to N-type (male), 9 m	LMR-195 Lite cable, N-type (male) to RP SMA (male), 3 m	LMR-195 Lite cable, N-type (male) to RP SMA (male), 6 m	LMR-195 Lite cable, N-type (male) to RP SMA (male), 9 m	S141 cable, RP-SMA (male) to RP-SMA (female), 0.6 m	RG316 cable, QMA (male) to N-type (male)	RG316 cable, QMA (male) to RP-SMA (female)
Cable Type	CFD200	CFD400	LMR-400Lite	LMR-400 Lite	LMR-400 Lite	LMR-195 Lite	LMR-195 Lite	LMR-195 Lite	S141	RG316	RG316
Connector Type	N-type male to RP SMA male	N-type male to N-type male	N-type male to N-type male	N-type male to N-type male	N-type male to N-type male	N-type male to RP SMA male	N-type male to RP SMA male	N-type male to RP SMA male	RP-SMA male to RP-SMA female	QMA male to N-type male	QMA male to RP-SMA female
Cable Length	3 m	3 m	3 m	6 m	9 m	3 m	6 m	9 m	0.6 m	0.5 m	0.5 m
Outer Dimension	5 mm	10.3 mm	10.29 mm	10.29 mm	10.29 mm	4.95 mm	4.95 mm	4.95 mm	5 mm	2.54 mm	2.54 mm
Min. Bend Radius	12.7 mm	24.5 mm	25.4 mm	25.4 mm	25.4 mm	12.7 mm	12.7 mm	12.7 mm	12.7 mm	15 mm	15 mm
	55.4@2.5 GHz 86.5@5.8 GHz	22.2@2.5 GHz 35.5@5.8 GHz		22.2@2.5 GHz 35.5@5.8 GHz	22.2@2.5 GHz 35.5@5.8 GHz	62.4@2.5 GHz 98.1@5.8 GHz	62.4@2.5 GHz 98.1@5.8 GHz	62.4@2.5 GHz 98.1@5.8 GHz	75.4@3 GHz 98.4@5 GHz	206@2.4 GHz 345@6 GHz	206@2.4 GHz 345@6 GHz
Related Products	AWK-	AWK-4121, AWK-4131, AWK-6222, AWK-6232-M12				AWK-1121/1127, AWK-3121, AWK-3121-SSC, AWK-3131, AWK-5222, AWK-5232				AWK-3121-M12, AWK-3131-M12, AWK-5222-M12, AWK-5232-M12	

Termination Resistors



	A-TRM-50-NM	A-TRM-50-RM
Description	Termination resistor, 50 ohms, N-type (male)	Termination resistor, 50 ohms, RP-SMA (male)
Related Products	AWK-4121, AWK-4131, AWK-6222, AWK-6232	AWK-1121/1127, AWK-3121, AWK-3121-SSC, AWK-3131, AWK-5222, AWK-5232

Power Amplifiers



	A-WPA-2410gM-IDU	A-WPA-5410aM-IDU
Description	Wireless power amplifier	Wireless power amplifier
Signal Type	2.4 GHz band antenna (included)	5 GHz band antenna (included)
Connector Type	RP-SMA connector	RP-SMA connector
Power Output	1 W	1 W
Power Consumption	12 VDC	12 VDC
Power Cable	Power plug to power jack cable (included)	Power plug to power jack cable (included)
Dimensions	92 x 60 x 31 mm	92 x 60 x 31 mm
Related Accessories	<ul style="list-style-type: none"> N-type male to RP-SMA male cable RP-SMA male to RP-SMA female cable 	<ul style="list-style-type: none"> N-type male to RP-SMA male cable RP-SMA male to RP-SMA female cable
Related Products	AWK-1121/1127, AWK-3121, AWK-3121-SSC, AWK-3131, AWK-5222, AWK-5232	AWK-1121/1127, AWK-3121, AWK-3121-SSC, AWK-3131, AWK-5222, AWK-5232

Arrestors



	A-SA-NMNF-01
Frequency	0-6 GHz
Connector Type	N-type female to N-type male
Related Products	AWK-1121/1127, AWK-3121, AWK-3131, AWK-4121, AWK-4131, AWK-5222, AWK-6222

Adaptors



	A-ADP-RJ458P-DB9F-ABC01	A-ADP-QMAM-RF
Description	RJ45-to-DB9 adaptor for the ABC-01	QMA(male) to RP-SMA (female) adaptor for antenna
Related Products	All AWK series	AWK-3121-M12, AWK-3131-M12, AWK-5222-M12, AWK-5232-M12

Note: The actual product may vary in physical appearance, but the functionality will be the same.