WAC-2004 Series
Quick Installation Guide

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Overview

The goal of zero-latency roaming is to allow clients to seamlessly maintain their communications as they move from one access point to another. The advanced Moxa Wireless Access Controller, the WAC-2004, together with Controller-based Turbo Roaming technology, enables millisecond-level roaming over different IP subnets. The advanced roaming algorithm along with Mobile IP technology allows wireless clients to roam between APs in different IP subnets within milliseconds while upholding stringent security in extremely demanding environments. The WAC-2004 is rated to operate at temperatures of 0 to 50°C and is rugged enough for on-site installation in any harsh industrial environment.

Package Checklist

The WAC-2004 series wireless access controller is shipped with the following items. If any of these items are missing or damaged, please contact your customer service representative.

- WAC-2004 series wireless controller
- 1 AC power cord (C13-type, US or EU)
- 1 serial console cable (DB9-type, female-to-female)
- 4 RJ45 connector protective caps
- Rackmount kit
- Quick installation guide (printed)
- Warranty card

Installation and Configuration

Before installing the WAC-2004, verify that all items in the Package Checklist are in the box.

Note that the WAC-2004 must be configured before use. Refer to the *WAC-2004 Series User's Manual* for more details.

The WAC-2004 has a default IP address of 192.168.127.253, which you must use when connecting to the device via LAN 1 (LAN 2-4 are reserved for future expansion) for the first time. When configuring the WAC-2004 for the first time, use the following default user name and password:

User name: **admin**
Password: **moxa**

NOTE Firmware Version 1.6 password: moxa
Firmware Versions 1.0 to 1.5 password: root

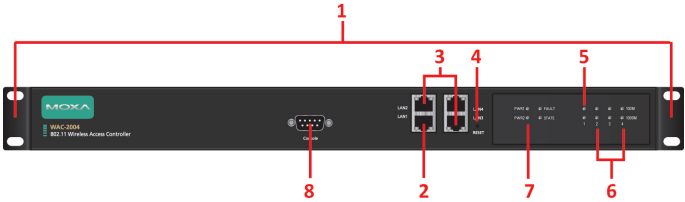
ATTENTION

For security reasons, we strongly recommend changing the default password. To do so, select **Maintenance → Password**, and then follow the on-screen instructions.

To make the changes effective, you must click **Save Configuration** to save the changes (**Restart** to apply the changes).

Panel Layout of the WAC-2004 Series

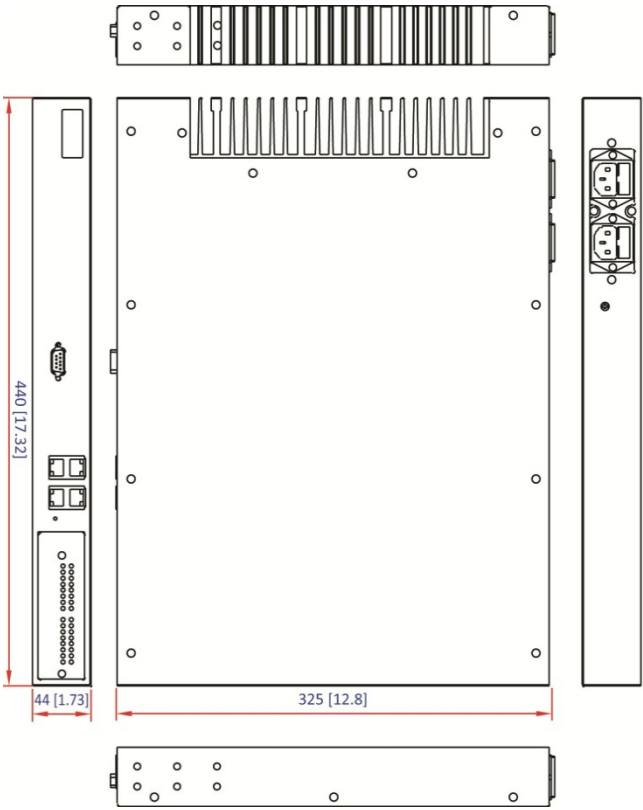
Front Panel View



Back Panel View

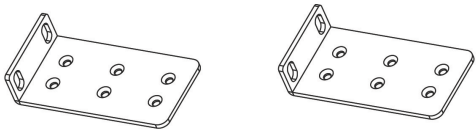
1. Rackmount kit
2. LAN 1: 10/100/1000 BaseT(X) (RJ45-type)
3. LAN 2-4: reserved for future expansion (RJ45-type)
4. Power reset button
5. LAN1 LEDs: 100M/1000M
6. LAN 2-4 LEDs: reserved for future expansion
7. System LEDs: PWR1, PWR2, FAULT, STATE
8. RS-232 console port (DB9-type, male)
9. Grounding screw
10. Power sockets for AC power inputs:
    PWR1, PWR2 (C13-type, US or EU)

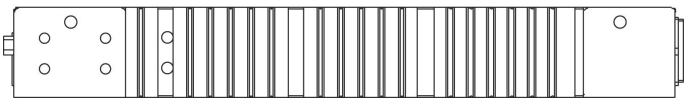
Mounting Dimensions (unit = mm)



Rackmount

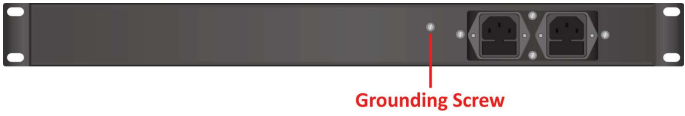
Use six screws to attach the WAC-2004 to a standard rack.





Grounding the WAC-2004

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground wire from the ground screw on the rear side (shown below) to the grounding surface prior to connecting devices.



ATTENTION

This product is to be mounted to a well-grounded mounting surface, such as a metal panel.

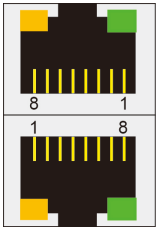
Connecting the Power Inputs

The WAC-2004 supports dual redundant power supplies: Power Supply 1 (PWR1) and Power Supply 2 (PWR2). The connections for PWR1 and PWR2 are located on the rear side (shown below). Be sure to use a standard power cord with an IEC C13 connector, which is compatible with the AC power inlet.

Pin Assignments

Gigabit Ethernet Port Connection

The WAC-2004 offers 1 gigabit Ethernet connector (LAN 1) and 3 reserved Ethernet connectors (LAN 2-4) for future expansion. When the cable is properly connected, the LEDs on the RJ45 connectors will glow to indicate a proper connection.



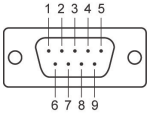
Pin	10/100 Mbps	1000 Mbps
1	ETx+	TRD(0)+
2	ETx-	TRD(0)-
3	ERx+	TRD(1)+
4	–	TRD(2)+
5	–	TRD(2)-
6	ERx-	TRD(1)-
7	–	TRD(3)+
8	–	TRD(3)-

LED	Color	Description
Gigabit RJ45 Connector	Green	100 Mbps Ethernet mode
	Amber	1000 Mbps (Gigabit) Ethernet mode
	Off	Not operating or 10 Mbps Ethernet mode

NOTE The pin numbers for the 8-pin RJ45 connectors (and ports) are typically not labeled on the connector (or port). Refer to the diagram above to see how the RJ45's pins are numbered.

Serial Console Connection

The WAC-2004 offers one serial port with DB9 male connector for its console access. The pin assignments are shown in the following table:



Pin	RS-232
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	–

NOTE The pin numbers for the male DB9 connectors, and hole numbers for the female DB9 connectors are labeled on the connector. However, the numbers are typically very small, so you may need to use a magnifying glass to see the numbers clearly.

Front Panel LEDs

LED	Color	State	Description
Front Panel LED Indicators (System)			
PWR1	Green	On	Power is being supplied from power input 1.
		Off	Power is not being supplied from power input 1.
PWR2	Green	On	Power is being supplied from power input 2.
		Off	Power is not being supplied from power input 2.
FAULT	Red	On	Booting; System Error.
		Blinking (fast)	IP address conflict (interval: 0.5 sec).
		Off	Normal status.
STATE	Green /Red	Green	Software Ready
		Green (Blinking)	The WAC-2004 has been located by Search Utility. (interval: 1sec)
		Red	Booting error
Gigabit LAN LEDs 1 (2-3 Reserved)	Green /Amber	Green	100 Mbps Ethernet mode.
		Amber	1000 Mbps (Gigabit) Ethernet mode.
		Off	No activity or 10 Mbps Ethernet mode.

Specifications

Technology	
Standards	IEEE 802.11i for Wireless Security IEEE 802.3 for 10Base5 IEEE 802.3u for 100BaseT(X) IEEE 802.3ab for 1000BaseT
Security	WPA/WPA2 (IEEE 802.1X/RADIUS, TKIP and AES)
Protocol Support	
General Protocols	ARP, DNS, HTTP, HTTPS, ICMP, IP, LLDP, Proxy ARP, RADIUS, SMTP, SNMP, SNTP, SSH, SYSLOG, TCP, TELNET, TFTP, UDP
Interface	
AC Power Sockets	2 (C13-type)
Console	1, RS-232 (DB9-type, male)
LAN Port (LAN1)	1, 10/100/1000BaseT(X), auto negotiation speed (RJ45-type)
LAN Port (LAN 2-4)	3, Reserved for future expansion (RJ45-type)
LED Indicators	PWR1, PWR2, FAULT, STATE, LAN 100M/1000M
Power Requirements	
Input Voltage	Dual AC inputs, 100 to 240 VAC/VDC auto-ranging, 47 to 63 Hz
Connector	C13
Physical Characteristics	
Housing	SECC sheet metal (1 mm)
Dimensions	325 x 440 x 44 mm (12.80 x 17.32 x 1.73 in) (without rackmount ears)
Weight	5.48 Kg
Installation	Standard 19-inch rackmounting
Environmental Limits	
Operating Temperature	Standard models: 0 to 50°C (32 to 122°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Regulatory Approvals*	
Safety	UL 60950-1
EMC	EN 55032 Class A, EN 61000-3-2, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A
Green Product	RoHS, CRoHS, WEEE
*Please check Moxa's website for the most up-to-date certification status.	
WARRANTY	3 years See http://www.moxa.com/warranty

ATTENTION

The WAC-2004 is **NOT** designed for use by the general public. A well-trained technician is required to safely deploy the WAC-2004