Air Pro ®

Wireless Access Point10/100/ 1000Base-T Ethernet uplink port

QUICK OVERVIEW

• Wi-Fi 6 Certified.

• Max 2.4Gbps with concurrent dual-band Design.

• Max 1024 Client connections.

• Built-in Smart Directional Antenna.

• Outstanding Environmental Adaptability (IP68, -40-65°C, Surge Protection upto 9kV).

• OFDMA, MU-MIMO and BSS Technology for minimal wireless signal interference.

• Hybrid Management: support standalone AP to over thousands of APs wit h deployment options of appliances, private cloud or public cloud service.

• Mobility Management: Free mobile app available for AirPro MACC-Base private cloud or Airpro Public Cloud customers.

WHAT DOES THIS PRODUCT DO?

Airpro AIR-AP990(ODU) is a high-performance Wi-Fi6 (802.11ax) enterprise outdoor AP with IP68 rating designed for extreme outdoor conditions.

The AIR-AP990(ODU) provide concurrent dual-band with up to 2.4Gbps access rate, offers 4 spatial streams and built-in directional antenna. AIR-AP990(ODU) supports switching between FAT/FIT mode, offers 1 SFP port and 1 10/100/1000M port with PoE/ local power supply. Taking the wireless network security, RF control, mobile access, QoS, seamless roaming and other important factors into account. Teaming up with Airpro Wireless Controller Series/Cloud AC, the APs offer Wi-Fi user data forwarding, advanced security and access control with ease.

AIR-AP990(ODU) adopts the IP68 protection design for the enclosure, which is suitable for application in extreme indoor and outdoor environments. It can with stand extreme weather and other environmental conditions, thereby greatly reducing the difficulty of installation and maintenance. Equipped with built-in directional antenna, AIR-AP990(ODU) can achieve the Wi-Fi coverage in vast majority of the scenarios. Multi-hop and point-to-multipoint bridge features are also supported to further enhance the deployment flexibility.

Upon the uprising challenges of management efficiency and wireless security, all Airpro enterprise APs support hybrid management mode. Either deployed as standalone AP (Fat mode) or managed AP (Fit mode), the AP will detect the operation mode automatically without extra effort on firmware upgrade. For additional security and operation, we recommend the enterprise customers to choose either one of the below wireless controller options depending on the functionality and capacity:

• Public Cloud: Airpro Cloud – Airpro Public Cloud service AirPro MACC is targeted for the SME segment with integrated captive portal, authentication (such as PPSK for employees, Facebook, voucher, account, etc.), and reporting features. Together with Airpro Cloud Mobile App (free download), SME customers can provision and manage their networks at fingertips.

- Hybrid Cloud: AP-WLC7000 Series Wireless Controller (on-premises) Plus Cloud Management (Optional) –targeted for enterprise office and campus with single or multiple sites and high-density AP deployment. The controller appliances are installed at the customer's site with fully integrated wireless management and authentication feature, supporting up to 5000 APs per cluster. Optionally, the cloud management platform allows for value-added features like centralized device configuration and monitoring, AI radio (RF) optimization, reporting, etc.

- Private Cloud: AirPro MACC Software Controller–targeted for ISP/MSP, government, or multi-national corporation (MNC) with diverse customer sites and demand on integration of their billing, portal and security systems. The AirPro MACC supports unified device management, not only for wireless access points, but also switches and gateway devices.

PRODUCT FEATURES

Wi-Fi 6 (802.11ax) Technology-
1024-QAM High-speed Access Rate AIR-AP990(ODU) adopts the dual-band dual-radio 802.11ax design with up to 4 spatial streams and built-in directional antenna. The first radio offers up to 0.575Gbps access rate at 2.4G and supports switching to 5G with up to 1.2Gbps access rate, while the second radio offers up to 1.2Gbps access rate at 5G. The AP offers a maximum wireless access rate of 2.4Gbps. 2.4G + 5G is recommended, which offers access rate of 1.775Gbps.

OFDMA High-density User Access-
AIR-AP990(ODU) supports OFDMA of 802.11ax, which divides the WLAN channel into multiple narrower subchannels, with each user occupying one or more subchannels. By scheduling multiple users to receive and send packets concurrently via the AP, user competition and back-off can be reduced, thereby reducing network latency and improving network efficiency.

Spatial Reuse with BSS Color -
AIR-AP990(ODU) supports spatial reuse with basic service set (BSS) color of 802.11ax to identify the BSSs of different WLANs in the network by different coloring (BSS color), and further divide them into internal (BSS which belongs to the device) and external BSS. Different packet receiving and sending thresholds can be maintained. When receiving packets, BSS coloring is used to quickly identify the packet of external BSS. If the signal strength is lower than the receiving threshold of external BSS, the packet will be ignored. The transmission of the internal BSS packets will be not affected.

This technology can implement channel reuse in a high-density scenario, greatly reducing the impact of co-channel interference for the actual network deployment.

Industry-leading Local Forwarding Technology -
Employing Airpro's intelligent local forwarding technology, AIR-AP990(ODU) eliminates the traffic bottleneck of wireless access controllers. Deploying with the Airpro Wireless Controller Series, users can flexibly configure the data forwarding mode for AIR-AP990(ODU). The AP also controls whether the data will be forwarded via the wireless controller according to the SSID or user VLAN, or directly sent to the wired network for data exchange.

The local forwarding technology can classify and forward delay-sensitive data which requires real-time transmission through the wired network to greatly alleviate the traffic pressure on the wireless controllers and better meet the high traffic transmission requirements of the 802.11n and 802.11ac network.

Abundant QoS Policies -
AIR-AP990(ODU) supports a wide variety of QoS policies. For example, it provides   WLAN/AP/ STA-based bandwidth limitations which prioritize important and critical data transmission over others for bandwidth guarantee. With the multicast-to-unicast technology, AIR-AP990(ODU) resolves the video lagging problem due to packet loss or high latency in the wireless network, and highly enhances user experience of the multicast video services of wireless networks.

WI-FI 6 EQUIPMENT FOR ALL SCENARIOS: ALWAYS ONE OPTION FIT FOR YOU

Airpro is one of the leading enterprise networking suppliers worldwide and committed to providing the best Wi-Fi experience to our stakeholders. We are the first supplier to provide full-scenario Wi-Fi 6 access point solution in the market, ranging from indoor, wall plate to outdoor access points, guaranteeing perfect wireless experience in various situations.

EASY INSTALLATION & DEPLOYMENT

Easy-to-use Mount-Kit -
An adjustable mount-kit is available by default for painless deployment optimization. The APs can be easily adjustable (total in 60°) to adapt to various scenarios.

Flexible Gigabit Uplink Options -
The AIR-AP990(ODU) outdoor access point offers a 10/100/1000Base-T Ethernet uplink port that rids the LAN port of being the wireless access bottleneck, and a 1000M SFP port that adapts to wired networking structure under different user scenarios. The SFP Base-X port takes up the data transmission workload for optimal network deployment.

COMPREHENSIVE SECURITY POLICIES

User Data Encryption -
AIR-AP990(ODU) offers comprehensive data security protection with encryption technologies such as WEP, TKIP and AES, guaranteeing the data transmission security of the wireless network.

RF Security -
In collaboration with Airpro's Smart Network Commander and Wireless Controllers, AIR-AP990(ODU) enables the RF probe scanning mechanism to detect unauthorized access points or other RF interference sources. Once detected, the AP will alert the network administrator to monitor potential threats and usage status in the wireless environment.

ARP Spoofing Protection -
The ARP detection feature effectively suppresses the phenomenon of ARP gateway spoofing and ARP hostspoofing in the network, and ensures the normal Internet access of users. Automatic binding can be achieved for both dynamic and static IP allocation, which greatly reduces labor costs and management costs. The ARP rate limit feature allows you to limit the rate of ARP packets to prevent the malicious use of scanning tools to perform ARP flooding which occupies the network bandwidth and causes network congestion attack.

Multiple Easy-to-use Authentication Modes -
With Airpro Cloud Service or AirPro MACC Software controller, the AIR-AP990(ODU) outdoor access point supports a wide range of authentication methods such as Guest Hotspot, 802.1x, voucher/ access code, user account, and social authentication. Complying with the standard network access control, it offers a set of control policies in terms of user access, authorization, equipment compliance check, network behavior monitoring, network attack prevention, etc. All these control features guarantee high network security for authenticated users.

HIGH AVAILABILITY DESIGN

Authentication Offload and Acceleration -
Powered by Airpro Cloud and EasyGate (EG) security gateway, captive portal and account & voucher authentication can be managed by Cloud, but all security policy and enforcement will be processed locally at EG security gateway. It not only accelerates the overall authentication processing, and also provide additional service availability protection in case of Cloud or WLAN Controller is unreachable, all authentication service stillun-interrupted.

Remote Intelligent Perception Technology (RIPT) -
In the traditional network architecture where FIT APs are centrally managed by a wireless controller, packets received by the AP must be transmitted to the controller before being forwarded. When the wireless controller becomes faulty, the APs will fail to work properly causing whole network breakdown.

Airpro's latest RIPT provides you a complete disaster recovery solution and enables the Wireless Controller Series to implement intelligent link perception. Once the faulty controller is detected, the APs will quickly switch to the intelligent mode to continue data forwarding, ensuring the high availability of the wireless network and keeping wireless users always online.

HYBRID MANAGEMENT

All Airpro enterprise APs support hybrid management mode. Either deployed as standalone AP (Fat mode) or managed AP (Fit and MACC mode), the AP will detect the operation mode automatically without extra effort on firmware upgrade. For additional security and operation, we recommend the enterprise customers to choose either one of below wireless controller options depending on the functionality and capacity.

BLUETOOTH SERIAL PORT FOR EASY MAINTENANCE

AIR-AP990(ODU) supports switching between Bluetooth serial port and iBeacon. If the default configuration is Bluetooth serial port, when equipment failure occurs, the administrator can manage the device via the mobile phone without requiring to climb up the pole to reach the device.

MOBILE MONITORING AND OPTIMIZING

Airpro is committed to providing more simple networking experience for customers by launching a free mobile app1 (namely Airpro Cloud) for unified device lifecycle managmeent, which is not only for Airpro access points, but also for switches and security gateways, from provisioning, monitoring, configurations to optimization.

WARRANTY INFORMATION

The Airpro AIR-AP990(ODU) Outdoor Access Point come with 3 year warranty.

Model	AIR-AP990(ODU)
Hardware specifications	
Radio	Dual-radio dual-band
Protocol	Concurrent 802.11ax and 802.11a/b/g/n/ac BLE 5.0
Operating Bands	802.11b/g/n/ac/ax: 2.4G~2.4835GHz 802.11a/n/ac/ax: 5G: 5.150~5.350GHz, 5.725~5.850GHz (Note: the operating bands varies according to different countries)
Antenna	Built-in directional antenna
Antenna Loba Orientation	Internal Directional: 60 degrees total
Antenna Gain	9dBi
Spatial Streams	4 spatial streams, MU-MIMO
Max Throughput	Up to 0.575Gbps@2.4G Up to 1.2Gbps@5G Up to 2.4Gbps per AP 2.4G+5G is recommended with 1.775Gbps access rate
Modulation	OFDM: BPSK@6/9Mbps, QPSK@12/18Mbps, 16-QAM@24Mbps, 64-QAM@48/54Mbps DSSS: DBPSK@1Mbps, DQPSK@2Mbps and CCK@5.5/11Mbps MIMO-OFDM: BPSK, QPSK, 16QAM, 64QAM and 256QAM OFDM: BPSK@6/9Mbps, QPSK@12/18Mbps, 16-QAM@24Mbps, 64-QAM@48/54Mbps DSSS: DBPSK@1Mbps, DQPSK@2Mbps and CCK@5.5/11Mbps MIMO-OFDM: BPSK, QPSK, 16QAM, 64QAM, 256QAM and 1024QAM
Receiver Sensitivity	11b: -91dBm(1Mbps), -88dBm (5Mbps), -85dBm(11Mbps) 11a/g: -89dBm(6Mbps), -80dBm(24Mbps), -76dBm(36Mbps), -71dBm(54Mbps) 11n: -83dBm@MCS0, -65dBm@MCS7, -83dBm@MCS8, -65dBm@MCS15 11ac HT20: -83dBm(MCS0), -57dBm(MCS9) 11ac HT40: -79dBm(MCS0), -57dBm(MCS9) 11ac HT80: -76dBm(MCS0), -51dBm(MCS9) 11ax HT80: -76dBm(MCS0), -49dBm(MCS11)

Maximum Transmit Power	28dBm (Note: The actual transmit power varies according to different countries and regions)
Adjustable Power	1dBm
Dimensions	251mm x 168mm x 64mm (without mounting bracket)
Weight	<1.5kg
Service Ports	1 10/100/1000Base-T Ethernet uplink port (PoE) 1 SFP port
Management Port	1 console port
Bluetooth	Support switching between Bluetooth serial port and iBeacon
Power Supply	Support PoE (802.3af/ 802.3at) Support 44 ~ 57V DC power supply (DC Power adapters should be purchased from third-party vendors separately if needed.)
Power Consumption	<12.95W
Environment	Operating Temperature: -40~65C Storage Temperature: -40-85C Operating Humidity: 0% to 100% (non-condensing) Storage Humidity: 0% to 100% (non-condensing)
Installation Mode	Wall/pole-mount installation
IP Rating	Ip68
Surge Protection	Common mode +/-9kV
Safety Standard	GB4943, EN/IEC 60950-1
EMC Standard	GB9254, EN301 489
Radio Standard	SRRC, EN300 328, EN301 893
Wi-Fi Alliance	• Wi-Fi CERTIFIED™ a, b, g, n, ac • Wi-Fi CERTIFIED 6™M • WPA3™-Enterprise, Personal • Wi-Fi Enhanced Open™ • Wi-Fi Agile Multiband™ WMM®

Software Features		
WLAN	Maximum clients per AP	1024
	SSID capacity	Up to 32
	SSID hiding	Support
	Configuring the authentication mode, encryption mechanism and VLAN attributes for each SSID	Support
	Remote Intelligent Perception Technology (RIPT)	Support
	Smart device recognition	Support
	Intelligent load balancing based on the number of users or traffic	Support
	STA control	SSID/radio-based
	Bandwidth control	STA/SSID/AP-based speed control

	PSK and web authentication	Support
	Data encryption	WPA (TKIP), WPA-PSK, WPA2 (AES), WEP (64/128-bit)
	WeChat authentication	Support
	QR code authentication	Support
	SMS authentication	Support
	PEAP authentication	Support
	Data frame filtering	Whitelist, static/dynamic blacklist
	User isolation	Support
	Rogue AP detection and countermeasure	Support
	Dynamic ACL assignment	Support
	RADIUS	Support
	CPU Protection Policy (CPP)	Support
	Network Foundation Protection Policy (NFPP)	Support
Routing	IPv4 address	Static IP address or DHCP
	IPv6 address	IPv6 terminal access authentication, ICMPv6
Management and Maintenance	Supported wireless LAN controllers	Airpro WS Series Wireless Controller Airpro MACC-Base Software Controller Airpro Cloud (Public Cloud)
	Management protocol	Telnet, SSH, TFTP, Web
	Wireless Intelligent AI Optimization Service (WIS)	Support
	SNMP	SNMPV1, V2c, V3
	Syslog / Debug	Support
	FAT/FIT/MACC mode switching	Factory default firmware supports FAT (standalone) or FIT mode (WS controller) or Airpro Cloud Management

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