

Industrial 5GHz 802.11ax 2400Mbps Wireless Access Point with 5 10/100/1000T LAN Ports



Ultra-high-speed Wi-Fi-6 Wireless LAN Solution with Environmentally Hardened Design

PLANET IAP-2400AX Industrial 5GHz 802.11ax 2400Mbps Wireless Access Point with 5 10/100/1000T LAN Ports is equipped with a rugged IP30 metal case for stable operation in heavy industrial environments. The IAP-2400AX supporting **MU-MIMO**, **OFDMA**, **Seamless Roaming**, **Beamforming** and **BSS Coloring** provides a maximum wireless speed of **2400Mbps** in the 5GHz band. The maximum number of client users is up to 150, ensuring more secure and robust connectivity with the adoption of Wi-Fi 6 technology.

As the IAP-2400AX is able to operate under wide temperature range from -40 to 75 degrees C, it can be placed in almost any difficult environment. The IAP-2400AX also allows either DIN rail or wall mounting for efficient use of cabinet space.



Super Power and Reliable 5GHz WLAN Solution

The IAP-2400AX, adopting the IEEE 802.11ax Wi-Fi 6 standard, provides a high-speed transmission. The maximum wireless speed in the 5GHz band is up to 11AXA_AHE80 of 1201Mbps.

Physical Interfaces

- 4 x 10/100/1000BASE-T RJ45 LAN ports, auto-negotiation, auto MDI/MDI-X (Port 1 to Port 4)
- 1 x 10/100/1000BASE-T RJ45 WAN/LAN port, auto-negotiation, auto MDI/MDI-X (Port 5)
- 4 x 5GHz band RP-SMA connectors with antennas
- 1 USB 3.0 port for system configuration backup/upload and firmware upgrade
- 1 x reset button for system factory default and reboot

LAN Port

- Hardware-based 10/100Mbps, half/full duplex and 1000Mbps full duplex mode, flow control and auto-negotiation, and auto MDI/MDI-X
- Features Store-and-Forward mode with wire-speed filtering and forwarding rates
- IEEE 802.3x flow control for full duplex operation and back pressure for half duplex operation
- 10K jumbo frame
- Automatic address learning and address aging

Industrial Case and Installation

- IP30 metal case protection
- DIN rail or wall-mount design
- DC 9-54V, redundant power with reverse polarity protection
- -40 to 75 degrees C operating temperature

Digital Input and Digital Output

- 2 Digital Input (DI)
- 2 Digital Output (DO)
- Integrate sensors into auto alarm system

Multiple Operation Modes Options

- Multiple operation modes: AP/Repeater and Gateway mode options

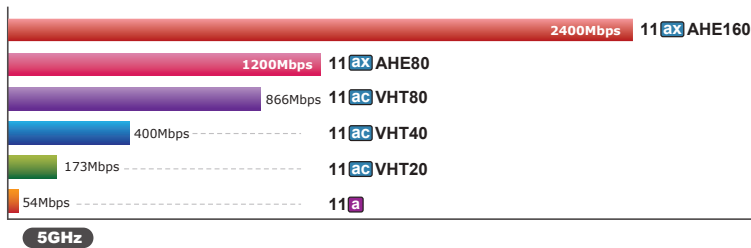
Industrial Compliant Wireless LAN

- Compliant with the IEEE 802.11a/n/ac/ax wireless technology

RF Interface Characteristics

- 802.11ax 4T4R architecture with data rate of up to 2400Mbps (in 5GHz)
- High output power with multiply-adjustable transmit power control

11ax has Faster Data Rate than That of 11ac by **177%**



Data Transmission Rates **2400Mbps**

Benefits of MU-MIMO, OFDMA, Seamless Roaming, Beamforming and BSS Coloring

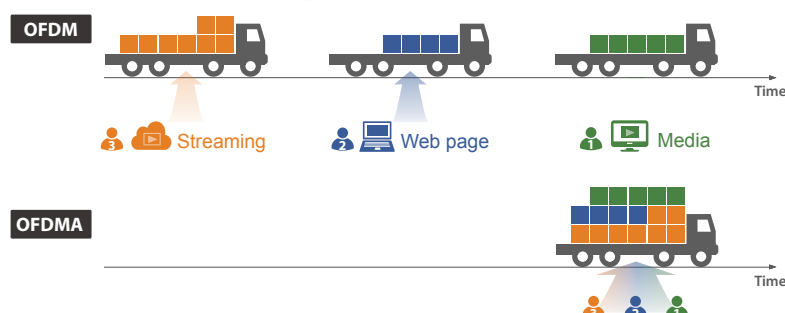
The IAP-2400AX can be installed in public areas such as hotspots, airports and conferences as OFDMA, a multi-user version of OFDM, enables the concurrent AP to communicate (uplink and downlink) with multiple clients by assigning subsets of subcarriers called resource units (RUs) to the individual clients. With MU-MIMO and Seamless Roaming technologies, it provides a better Wi-Fi user experience, reducing the likelihood of users turning off Wi-Fi and putting more load on the cellular network. Beamforming is to improve your Wi-Fi signal when you are far away from your router. The BSS color is a numerical identifier of the BSS. 802.11ax radios are able to differentiate between BSSs using BSS color identifier when other radios transmit on the same channel.

These technologies also can solve Wi-Fi congestion issues in open work spaces and conference rooms. The IAP-2400AX can offer more powerful throughput coverage of up to 150 client users.

■ OFDMA (Orthogonal Frequency Division Multiple Access) Benefits

- Helps transmit small and large packets together to reduce bandwidth burden and improve data transmission performance
- Transmitting data at the same time can effectively reduce the transmission delay for longer frame and low-speed transmission.
- Improves the overall traffic quality, and effectively uses bandwidth in an environment where multiple people use the Internet.
- Increases the number of devices that can be connected to the AP.
- Reduces the power consumption of the device by way of the use of low bandwidth.

A **75%** Reduction in Delays



Secure Wireless Connection Features

- Full encryption supported: WPA3 Personal, WPA2/ WPA3 Personal, WPA2 Personal (AES) , WPA2 Personal (TKIP), WPA2 Personal (TKIP+AES), WPA/WPA2 Personal (AES) , WPA/WPA2 Personal (TKIP) , WPA/WPA2 Personal (TKIP+AES) , WPA2 Enterprise, WPA/WPA2 Enterprise
- MAC ACL

Wireless AP Mode Features

- Supports OFDMA (orthogonal frequency division multiple access)
- Supports MU-MIMO (multi-user multiple-input multiple-output), Beamforming and BSS Coloring
- WMM (Wi-Fi multimedia) provides higher priority to multimedia transmitting over wireless
- Coverage threshold to limit the weak signal of clients occupying session
- Real-time Wi-Fi channel analysis chart and client limit control for better performance
- Terminal Seamless Roaming with 802.11k, 802.11v, and 802.11r

Gateway Mode Features

- Built-in RADIUS server/Client
- Captive Portal
- UPnP
- IP routing protocol supports RIPv1/v2, OSPF
- PLANET DDNS/Easy DDNS
- SPI firewall, DDoS block, system security and NAT ALGs
- MAC address/IP/Web filtering and QoS
- DMZ and port forwarding

Easy Deployment and Management

- Supports PLANET AP Controllers in AP mode
- Self-healing mechanism through system auto reboot setting
- System status monitoring through remote syslog server
- Gateway mode supports PLANET DDNS/Easy DDNS, Captive Portal, RADIUS Server/Client
- PLANET Smart Discovery Utility for deployment management
- PLANET NMS system and CloudViewer for deployment management

■ Beamforming

Beamforming is to improve your Wi-Fi signal when you are far away from your router. When you use beamforming, Wi-Fi beamforming narrows the focus of that router signal, sending it directly to your devices in a straight line, thus minimizing surrounding signal interference and increasing the strength of the signal that ultimately bring you the following benefits:

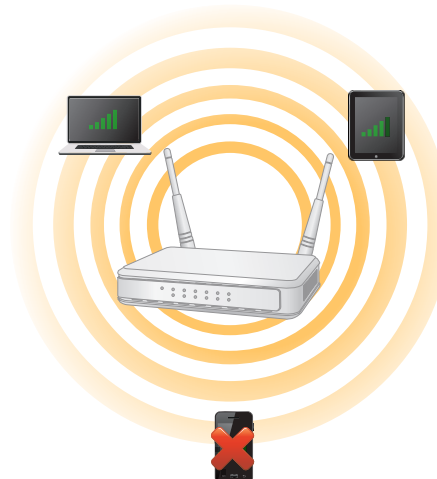
- Extend your Wi-Fi coverage
- Deliver a more stable Wi-Fi connection
- Deliver better Wi-Fi throughput
- Reduce router interference

With Beamforming



Dedicated and stable signals

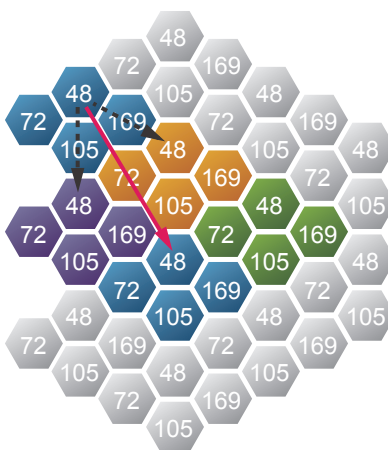
Without Beamforming



Signal loss

■ BSS Coloring

The BSS color is a numerical identifier of the BSS. 802.11ax radios are able to differentiate between BSSs using BSS color identifier when other radios transmit on the same channel. If the color is the same, this is considered to be an intra-BSS frame transmission. In other words, the transmitting radio belongs to the same BSS as the receiver. If the detected frame has a different BSS color from its own, then the STA considers that frame as an inter-BSS frame from an overlapping BSS.



WPA3 Next Generation Security for Your WLAN Solution

The WPA3 is the next generation Wi-Fi security technology that provides the most advanced security protocol to the market. WPA3 makes your connection more secure by preventing hackers from easily cracking your password no matter how simplified the password is. WPA3 can also provide more reliable password-based authentication, so it can better protect the security of individual users.

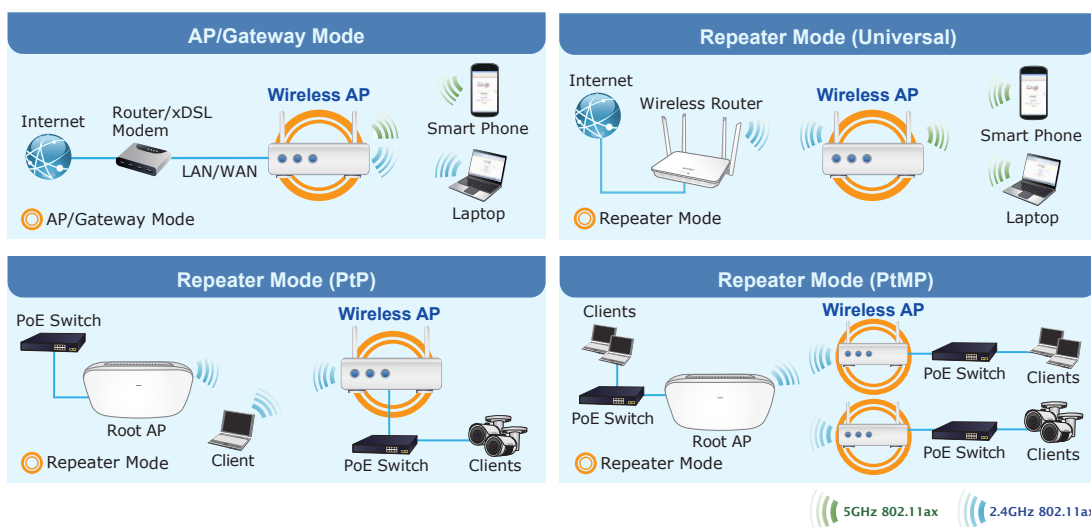


Advanced Security and Rigorous Authentication

The IAP-2400AX supports WPA/WPA2/WPA3 wireless encryptions, suitable for the WPA2 Enterprise and WPA/WPA2 Enterprise where eavesdropping and unauthorized users or bandwidth occupied by unauthenticated wireless access can be effectively prevented. Furthermore, granting or denying access to the wireless LAN network based on the ACL (Access Control List) to any users can be pre-established by the administrator.

Multiple Operation Modes for Various Applications

The unit supports the simplified usage modes of AP and Gateway, through which they provide more flexibility for users when wireless network is established. Compared with general wireless access points, the IAP-2400AX offers more powerful and flexible capability for wireless clients.



Optimized Efficiency in AP Management

The brand-new GUI configuration wizard helps the system administrator easily set up the IAP-2400AX step by step. Besides, the built-in Wi-Fi analyzer provides real-time channel utilization to prevent channel overlapping to assure greater performance. With the automatic transmission power mechanism, distance control and scheduling reboot setting, the IAP-2400AX is easy for the administrator to deploy and manage without on-site maintenance. Moreover, you can use PLANET NMS-500 or NMS-1000V AP control function to deliver wireless profiles to multiple APs simultaneously, thus making the central management simple.



Cybersecurity Network Solution to Minimize Security Risks

The IAP-2400AX supports TLS protocols to provide strong protection against advanced threats. It includes a cybersecurity feature such as **SNMPv3** authentication, and so on to complement it as a security solution.



Friendly and Secure Management

For efficient management, the IAP-2400AX is equipped with Web and SNMP management interfaces.

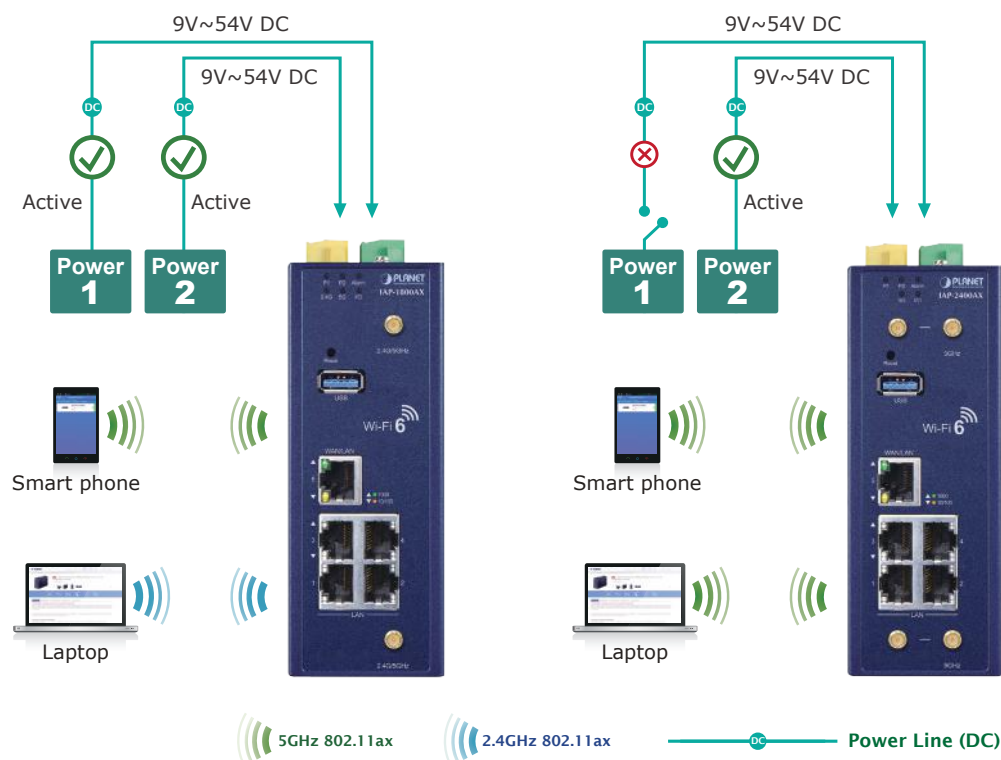
- With the built-in **Web-based** management interface, the IAP-2400AX offers an easy-to-use, platform-independent management and configuration facility.
- By supporting the standard SNMP protocol, the switch can be managed via any SNMP-based management software.

Moreover, the IAP-2400AX offers secure remote management by supporting **TLS protocols** and **SNMP v3** connections which encrypt the packet content at each session.

Dual Power Input for High Availability Network System

The IAP-2400AX features a strong dual power input system with wide-ranging voltages (9V~54V DC) incorporated into customer's automation network to enhance system reliability and uptime. In the example below, when power supply 1 fails to work, the hardware failover function will be activated automatically to keep powering the IAP-2400AX via power supply 2 alternatively without any loss of operation.

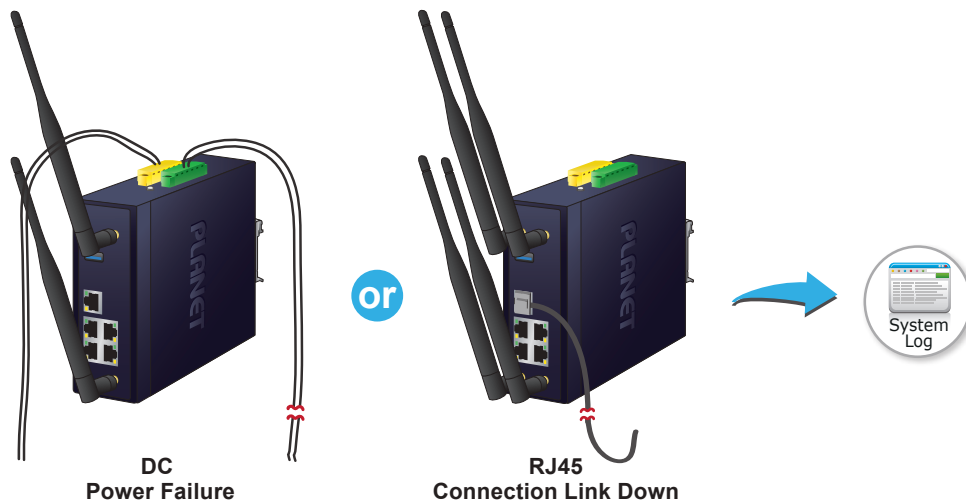
Non-stop 802.11ax Wireless Service Dual Power Input with Auto Failover



Effective Alarm Alert for Better Protection

The IAP-2400AX supports a Fault Alarm feature which can alert the users when there is something wrong with the device. With this ideal feature, the users would not have to waste time finding where the issue is. It will help to save time and human resource.

Fault Alarm Feature



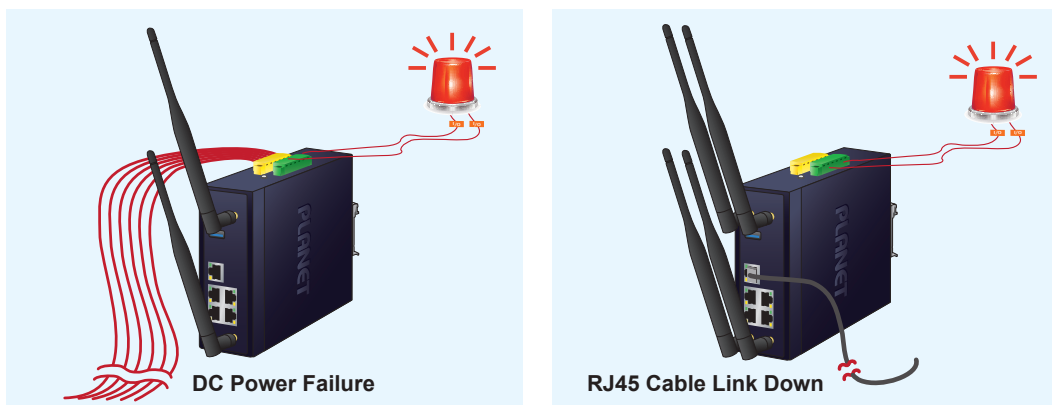
Digital Input and Digital Output for External Alarm

The IAP-2400AX supports Digital Input and Digital Output on its upper panel. This external alarm enables users to use Digital Input to detect and log external device status (such as door intrusion detector), and send event alarm to the administrators. The Digital Output could be used to alarm the administrators if the IAP-2400AX port shows link down, link up or power failure.

Digital Input



Digital Output



Flexible and Easy Installation with Limited Space

The compact-sized IAP-2400AX is specially designed to be installed in a narrow environment, such as a wall enclosure. It can be installed by fixed wall mounting or DIN rail, thereby making its usability more flexible and easier in any space-limited location.



DIN-rail Mounting



Wall Mounting

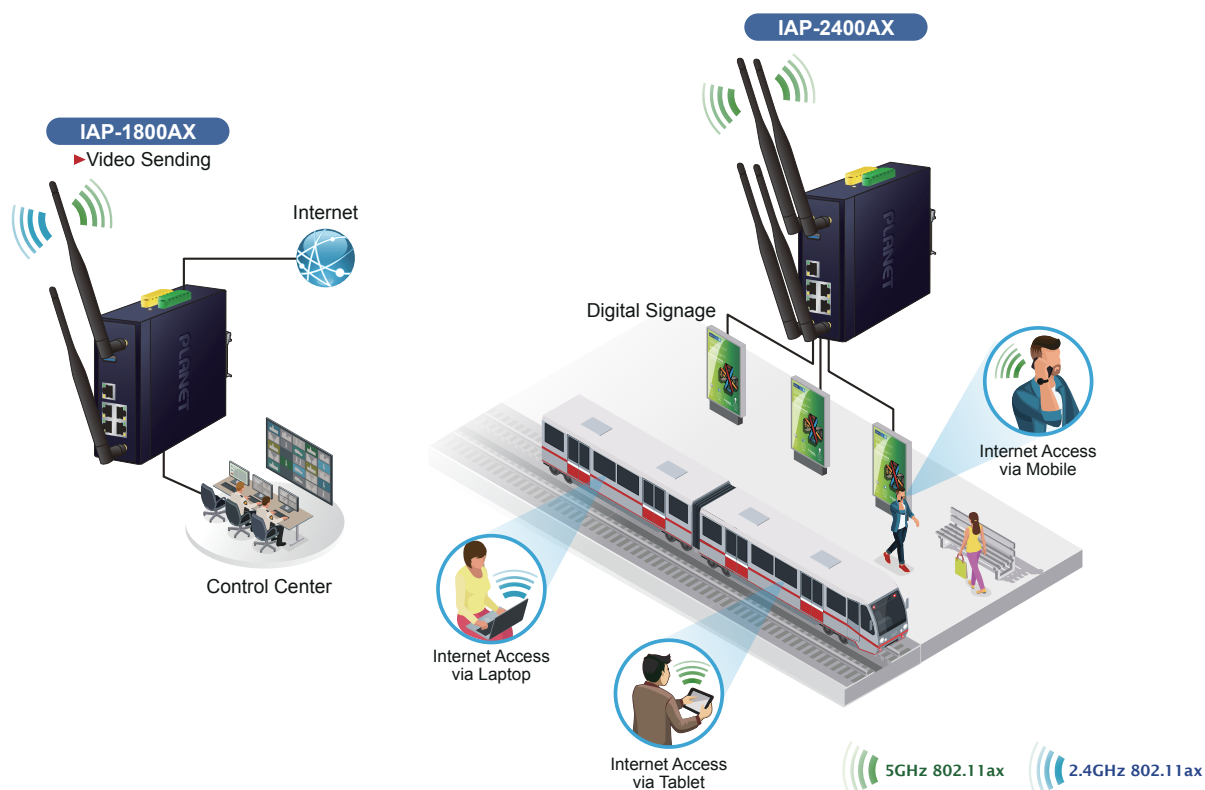


Side Wall Mounting
(Space saving)

Applications

Extreme High Speed and Wi-Fi 6 Technology Make Wireless Transmission More Powerful

The IAP-2400AX delivers the 5GHz band and more bandwidth to avoid signal interference and ensure the best Wi-Fi performance. It allows you to check e-mails and surf the Internet and simultaneously watch full high-definition (HD) video or any other multimedia application via one 5GHz band. Besides, many client users can be connected to Wi-Fi at the same time. The maximum number of client users is up to 150. Moreover, the Gigabit Ethernet port of the IAP-2400AX offers ultra-fast wired connections that utilize the maximum wireless bandwidth; therefore, users will experience a fast wireless speed of over 900Mbps. With the outstanding stability of high-speed wireless transmission, the IAP-2400AX can provide users with excellent experience in multimedia streaming with your mobile devices anywhere, anytime.

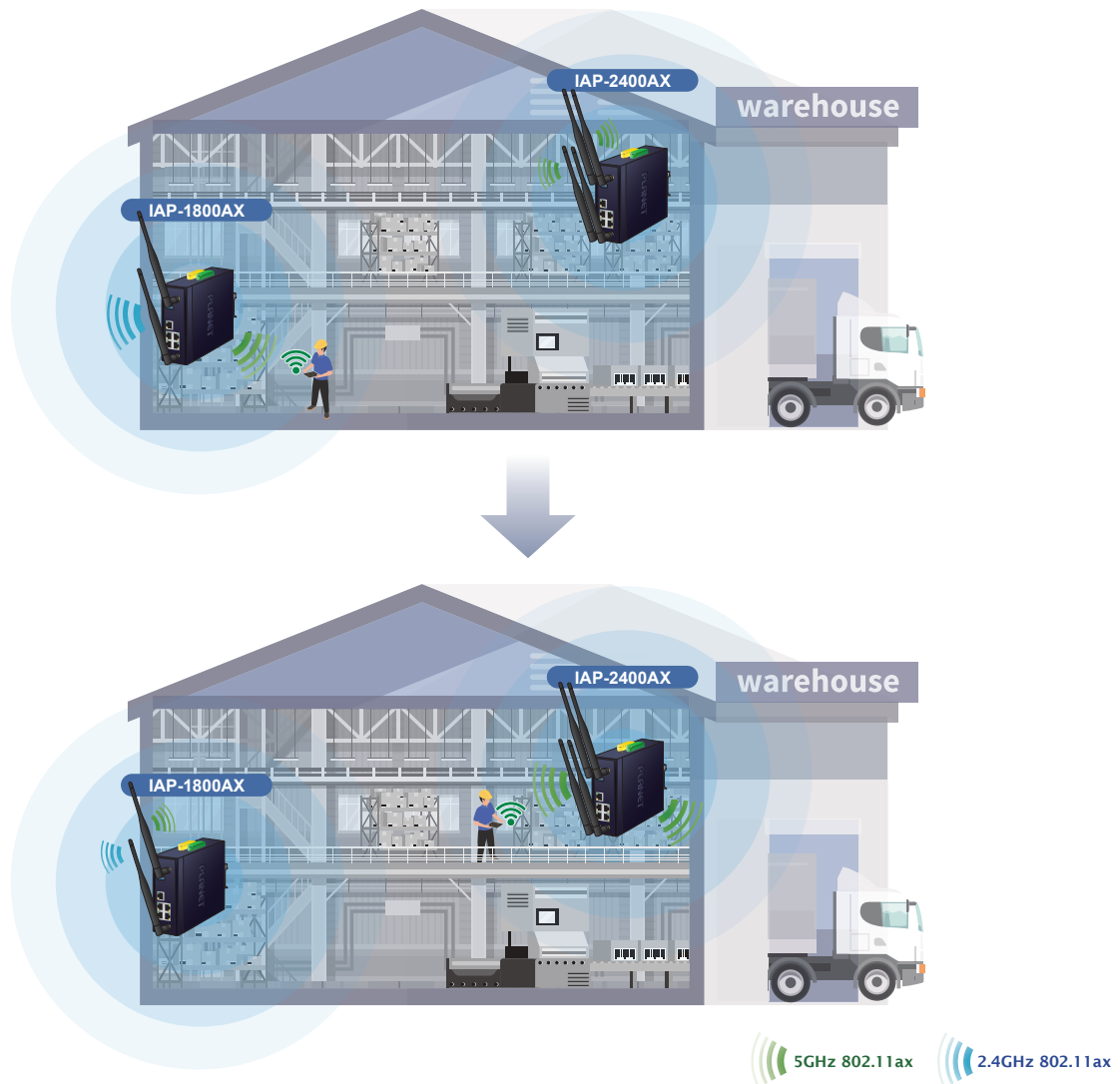


Seamless Roaming and Better Coverage

Moving between a traditional Wi-Fi AP or router and range extender, your Wi-Fi signal can experience lag or a dropped connection. With Seamless Roaming and intuitive technology, moving to different area is never an issue now that your devices are switched to the strongest Wi-Fi signal automatically.

The IAP-2400AX features advanced 4T4R MU-MIMO technology which reduces the effect of dead spot, so that it can get better coverage of the existing wireless network. Furthermore, the repeater mode supported by the IAP-2400AX helps to minimize the effort of installation, thus reducing cabling cost.

Seamless Roaming



Specifications

Product		IAP-2400AX
Hardware Specifications		
Interfaces	5 10/100/1000BASE-T RJ45 Ethernet ports including 4 LAN ports (Ports 1 to 4) 1 WAN/LAN port (Port 5)	
Wireless Connector	Built-in four RP-SMA female connectors	
USB Port	1 USB 3.0 port	
DI & DO Interfaces	2 Digital Input (DI): Level 0: -24V~2.1V (±0.1V) Level 1: 2.1V~24V (±0.1V) Input Load to 24V DC, 10mA max. 2 Digital Output (DO): Open collector to 24V DC, 100mA max.	
Connector	Removable 6-pin terminal block for power input Pin 1/2 for Power 1, Pin 3/4 for fault alarm, Pin 5/6 for Power 2	
Reset Button	< 5 sec: System reboot > 10 sec: Factory default	
Enclosure	IP30 metal case	
Installation	DIN-rail, desktop, wall-mounting	
Dimensions (W x D x H)	50 x 135 x 135 mm	
Weight	787g	
Power Requirements – DC	9~54V DC, 1.8A	
Power Consumption	Max. 5.9 watts/ 20BTU (No Loading at DC 54V) Max.10.8 watts/ 36BTU (Full loading at DC 54V)	
LED Indicators	System: P1 (Green) P2 (Green) Alarm (Red) I/O (Red) Ethernet Interfaces (Ports 1-4 LAN Port and Port 5 WAN/LAN Port): 1000 LNK/ACT (Green) 10/100 LNK/ACT (Amber) Wi-Fi: 5GHz(Green)	
Wireless Specifications		
Standard	IEEE 802.11a/an/ac/ax 5GHz (4Tx4R)	
Band Mode	5GHz concurrent mode	
Data Modulation	802.11ax: MIMO-OFDMA (BPSK / QPSK / 16QAM / 64QAM / 256QAM, 1024QAM) 802.11ac: MIMO-OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM) 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM)	
Antenna	4 dBi external antennas with RP-SMA male connectors for Wi-Fi	
Frequency Range	5GHz	America FCC: 5.180~5.240GHz, 5.745~5.825GHz Europe ETSI: 5.180~5.700GHz
Operating Channels	5GHz	America FCC: Non-DFS: 36, 40, 44, 48, 149,153,157,161,165 DFS: 52, 56, 60, 64, 100, 104, 108, 112, 116, 132, 136, 140 Europe ETSI: Non-DFS: 36, 40, 44, 48 DFS: 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140 5GHz channel list may vary in different countries according to their regulations.
Channel Width	20MHz, 40MHz, 80MHz, 160MHz	
Data Transmission Rates	Transmit: 2400 Mbps* for 5 GHz Receive: 2400Mbps* for 5 GHz *The estimated transmission distance is based on the theory. The actual distance may vary in different environments.	

Transmission Power	11a: 19.5dBm +/- 1.5dbm @54Mbps 11a/n: 19.5dBm+/- 1.5dbm @MCS7, HT20 17dBm@MCS7, HT40 11ac HT20: 20+/-1.5dBm @MCS8 11ac HT40: 17+/-1.5dBm @MCS9 11ac HT80: 14.5+/-1.5dBm @MCS9 11ax HT20: 20+/-1.5dBm @MCS9 11ax HT40: 17 +/- 1.5dBm @MCS9 11ax HT80: 14.5 +/- 1.5dBm @MCS11
Receiver Sensitivity	11a: -90Bm @54Mbps 11a/n: -85dBm @HT20, MCS7 -81dBm @HT40, MCS7 11ac: -90dBm +/- 2dBm @VHT20 MCS8 11ac: -85dBm +/- 2dBm @VHT40 MCS9 11ac: -68dBm +/- 2dBm @VHT80 MCS9 11ax: -61dBm +/- 2dBm @HE20 MCS11 11ax: -58dBm +/- 2dBm @HE40 MCS11 11ax: -55dBm +/- 2dBm @HE80 MCS11
Encryption Security	WPA3 Personal,WPA2/WPA3 Personal WPA2 Personal (AES) ,WPA2 Personal (TKIP),WPA2 Personal (TKIP+AES) WPA/WPA2 Personal (AES), WPA/WPA2 Personal (TKIP), WPA/WPA2 Personal (TKIP+AES) WPA2 Enterprise, WPA/WPA2 Enterprise
Management Functions	
Basic Management Interfaces	Web browser SNMP v1, v2c PLANET Smart Discovery utility and NMS controller supported
Secure Management Interfaces	TLS 1.1, TLS 1.2, TLS 1.3 SNMP v3
Operation Modes	Access Point (default) Gateway Repeater
LAN	Static IP/* DHCP Client
WAN	Static IP Dynamic IP PPPoE/PPTP/L2TP
VLAN	IEEE 802.1Q VLAN (VID: 1~4094) SSID-to-VLAN mapping to up to 4 SSIDs
Wireless Security	Enable/Disable SSID Broadcast Wireless MAC address filtering User Isolation
Max. SSID	4
Max. Wireless Clients	150 (100 is suggested, depending on usage)
Wi-Fi Advanced	Auto Channel Selection 5-level Transmit Power Control : ■ Max (100%) ■ Efficient (75%) ■ Enhanced (50%) ■ Standard (25%) or Min (15%) Client Limit Control Coverage Threshold *Wi-Fi channel analysis chart Seamless Roaming Beamforming BSS Coloring 5GHz WLAN Partition RTS Threshold
Wireless Roaming	IEEE 802.11k, 802.11v, and 802.11r
Wireless QoS	Supports Wi-Fi Multimedia (WMM)

Dimensions



Ordering Information

IAP-2400AX	Industrial 5GHz 802.11ax 2400Mbps Wireless Access Point with 5 10/100/1000T LAN Ports
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Related Wireless Products

IAP-1800AX	Industrial Dual Band 802.11ax 1800Mbps Wireless Access Point with 5 10/100/1000T LAN Ports
WDAP-W1800AXU	Dual Band 802.11ax 1800Mbps In-wall Wireless Access Point w/802.3at PoE+ and Type C USB
WDAP-1800AX	Dual Band 802.11ax 1800Mbps Outdoor Wireless AP (IP67, 802.3at PoE+, 4 x N-type connectors)
WDAP-C1800AX	Dual Band 802.11ax 1800Mbps Ceiling-mount Wireless Access Point w/802.3at PoE+ and 2 10/100/1000T LAN Ports
WDAP-C7210E	1200Mbps 802.11ac Wave 2 Dual Band Ceiling-mount Wireless Access Point w/802.3at PoE+ and 2 10/100/1000T LAN Ports
WDAP-W1200E	Dual Band 802.11ac 1200Mbps Wave 2 In-wall Wireless Access Point (EU Type, 802.3at PoE, 3 x 10/100/1000T LAN Ports, 1 x RJ11 Port)
WDAP-850AC	Dual Band 802.11ac 1200Mbps Wave 2 Outdoor Wireless AP (IP67, 802.3at PoE+, 4 x N-type connectors)

Related NMS System Products

NMS-500	Enterprise-class Universal Network Management Controller - 500 nodes, 5 10/100/1000T LAN Ports
NMS-1000V-10	Universal Network Management Controller with 10" LCD Touch Screen -- 1024 Nodes, 2 10/100/1000T LAN Ports
NMS-1000V-12	Universal Network Management Controller with 12" LCD Touch Screen -- 1024 Nodes, 2 10/100/1000T LAN Ports

Related WS APC System Products

WS-1032P	Wireless AP Managed Switch with 8-Port 802.3at PoE + 2-port 10G SFP+ (120W)
WS-2864PVR	Wireless AP Managed Switch with 24-Port 802.3at PoE + 4-Port 10G SFP+ + LCD Touch Screen and 48VDC Redundant Power

Related VR APC System Products

VR-300	Enterprise 5-Port 10/100/1000T VPN Security Router
VR-300P	Enterprise 4-Port 10/100/1000T 802.3at PoE + 1-Port 10/100/1000T VPN Security Router
VR-300F	Enterprise 4-Port 10/100/1000T + 1-Port 1000X SFP VPN Security Router
VR-300FP	Enterprise 4-Port 10/100/1000T 802.3at PoE + 1-Port 1000X SFP VPN Security Router
VR-300W5	Wi-Fi 5 AC1200 Dual Band VPN Security Router
VR-300PW5	Wi-Fi 5 AC1200 Dual Band VPN Security Router with 4-Port 802.3at PoE+
VR-300W6	Wi-Fi 6 AX1800 Dual Band VPN Security Router
VR-300PW6	Wi-Fi 6 AX1800 Dual Band VPN Security Router with 4-Port 802.3at PoE+
VR-300W6A	Wi-Fi 6 AX2400 2.4GHz/5GHz VPN Security Router
VR-300PW6A	Wi-Fi 6 AX2400 2.4GHz/5GHz VPN Security Router with 4-Port 802.3at PoE+
IVR-300	Industrial 5-Port 10/100/1000T VPN Security Gateway with Redundant Power
IVR-300W	Industrial 5-Port 10/100/1000T + 802.11ax Wi-Fi VPN Security Gateway

Related DIN-rail Power Supplies

PWR-40-24 (MEAN WELL/MDR-40-24)	40W 24V DC Single Output Industrial DIN-rail Power Supply (-20 ~ 70 degrees C)
PWR-60-24 (MEAN WELL/MDR-60-24)	60W 24V DC Single Output Industrial DIN-rail Power Supply (-20 ~ 70 degrees C)
PWR-75-24 (MEAN WELL/NDR-75-24)	75W 24V DC Single Output Industrial DIN-rail Power Supply (-20 ~ 70 degrees C)
PWR-75-48 (MEAN WELL/NDR-75-48)	75W 48V DIN-rail Power Supply (NDR-75-48, adjustable 48-56V DC Output)
PWR-120-48 (MEAN WELL/NDR-120-48)	120W 48V DIN-rail Power Supply (NDR-120-48, adjustable 48-56V DC Output)
PWR-240-48 (MEAN WELL/NDR-240-48)	240W 48V DIN-rail Power Supply (NDR-240-48, adjustable 48-56V DC Output)
PWR-480-48 (MEAN WELL/NDR-480-48)	480W 48V DIN-rail Power Supply (NDR-480-48, adjustable 48-56V DC Output)

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