HPE Aruba Networking 387 Series outdoor access points

Dual 60 GHz 802.11ad and 5 GHz 802.11ac for high-speed outdoor point-to-point connectivity

Key features

- Cost-effective and easy-to-deploy with automatic radio alignment
- High reliability with intelligent fallback to the 5 GHz 802.11ac radio
- Up to 3.37 Gbps of aggregate throughput (60 GHz: 2.5 Gbps and 5GHz: 867Mbps)
- Up to 400 meters of extended range
- IoT-ready with integrated Bluetooth Low Energy (BLE)
- Based on a proven, hardened outdoor design
- Participates in HPE Aruba Networking's Dynamic Segmentation solution

Weatherproof and temperature-hardened, the HPE Aruba Networking 387 Series Access Points deliver multi-gigabit per second aggregate throughput at distances up to 400 meters (or 0.25 miles).

With the ever-growing number of IoT devices, demand for reliable connectivity is rising—not just in traditional carpeted enterprises but also in outdoor use cases such as enabling connectivity across buildings on the same campus, adjacent structures (e.g., parking garage or annex), and remote or temporary event sites.

Point-to-point wireless solutions offer an attractive option for connecting two sites together where the right of way is difficult to obtain—or as a backup or recovery link for existing connections. But legacy point-to-point solutions can be expensive and vulnerable to inclement weather conditions. They can also require highly skilled workers for AP installation and alignment.

Extreme weather resiliency and range

To solve these challenges, the 387 Series AP is designed with the resiliency needed during inclement weather and to survive harsh conditions. The 387 Series AP can withstand up to 165 mph winds and tolerate water, dust, and salt sprays for extended periods of time, and also provide connectivity at up to 400 meters. Should weather cause the 387 Series to become misaligned, HPE Aruba Networking's 60GHz radios can automatically adjust and align the point-to-point connection.

The 5 GHz radio is also bonded with the 802.11ad radio to provide: 1) a boost in throughput in good conditions, and 2) intelligent fallback if the 60GHz radio is impacted by heavy rainfall.

Simple, cost-effective deployment

From a deployment standpoint, the auto-adjustment feature can dramatically simplify labor requirements by eliminating the need for precision AP alignments during installation or weather impacts. APs can intelligently form links based on optimal parameters up to +/- 45 degrees azimuth[1] and +/- 17 degrees elevation. The 5GHz radio uses a fixed sector to cover the same range.

IOT ready

The 387 Series includes an integrated Bluetooth Low Energy radio to simplify the deployment and management of location services, asset tracking services, security solutions and IoT sensors. This allows organizations to leverage the 360 Series as an IoT platform, which eliminates the need for an overlay infrastructure and additional IT resources.

HPE Aruba Networking secure infrastructure

The HPE Aruba Networking 387 Series includes components of HPE Aruba Networking's 360 Secure Fabric to help protect user authentication and wireless traffic. Select capabilities include:

WPA3 and Enhanced Open
Support for stronger encryption and authentication is provided via the latest version of WPA for enterprise protected networks.

Enhanced Open offers seamless new protection for users connecting to open networks where each session is automatically encrypted to protect user passwords and data on guest networks.

WPA2-MPSK
MPSK enables simpler passkey management for WPA2 devices—should the Wi-Fi password on one device or device type change, no additional changes are needed for other devices. Requires ClearPass Policy Manager.

VPN tunnels
In Remote AP (RAP) and IAP-VPN deployments, the 510 Series can be used to establish a secure SSL/IPSec VPN tunnel to a Mobility Controller that is acting as a VPN concentrator.

Trusted Platform Module (TPM)

For enhanced device assurance, all HPE Aruba Networking APs have an installed TPM for secure storage of credentials and keys, and boot code.

[1]At initial release the auto acquisition range is limited to:
+/- 10 degrees @400m
+/- 20 degrees @300m
This will be extended in subsequent software releases.

Simple and secure access

To simplify policy enforcement, the HPE Aruba Networking 387 Series uses HPE Aruba Networking's Policy Enforcement Firewall (PEF) feature to encapsulate all traffic from the AP to the Mobility Controller (or Gateway) for end-to-end encryption and inspection. Policies are applied based on user role, device type, applications, and location. This reduces the manual configuration of SSIDs, VLANs and ACLs. PEF also serves as the underlying technology for HPE Aruba Networking Dynamic Segmentation.

Flexible operation and management

A unique feature of HPE Aruba Networking APs is the ability to operate in either controllerless (Instant) or controller-based mode.

Controller-less (Instant) mode
In controllerless mode, one AP serves as a virtual controller for the entire network. Learn more about Instant mode in this technology brief.

Mobility Controller mode
For optimized network performance, roaming and security, APs tunnel all traffic to a mobility controller for centrally managed traffic forwarding and segmentation, data encryption, and policy enforcement. Learn more in the HPE Aruba Networking Operating System datasheet.

Management options
Available management solutions include HPE Aruba Networking Central (cloud-managed) or HPE Aruba Networking [Legacy] Management Software—a multi-vendor on-premises management solution.

For large installations across multiple sites, APs can be factory-shipped and can be activated with Zero Touch Provisioning through HPE Aruba Networking Central or [Legacy] Management Software. This reduces deployment time, centralizes configuration, and helps manage inventory.

Additional features

Zero Touch Provisioning
APs can be factory-shipped and zero-touch provisioned through HPE Aruba Networking Central or HPE Aruba Networking [Legacy] Management Software using a cloud-based service to reduce deployment time, centralize configuration, and manage inventory.

HPE Aruba Networking Advanced Cellular Coexistence (ACC)
Minimizes interference from 3G/4G LTE cellular networks, distributed antenna systems (DAS), and commercial small cell or femtocell equipment.

Hardened, industrial design
Extends the temperature range capabilities of indoor access points for environments that lack heating and cooling. It also provides sealed connector interfaces to protect against dust and moisture.

AP-387 specifications

Wi-Fi radio specifications

- AP type: Outdoor hardened, dual radio, 60GHz 11ad and 5 GHz 802.11ac 2x2 MIMO
- 60 GHz 802.11ad 1x1 (2502.5 Mbps max rate) radio
  - 1 Spatial Stream for up to 2.5 Gbps
  - Internal scanning antenna
    - +/- 45° Azimuth Scan
    - +/- 17° Vertical Scan
- 5GHz 802.11ac 2x2 MU-MIMO (867 Mbps max rate)
  - Two spatial stream MIMO for up to 867 Mbps wireless data
  - Internal directional antenna 9 dBi
- Software-configurable dual radio supports 5 GHz (Radio 0) and 60GHz (Radio 1)
- Supported frequency bands (country-specific restrictions apply):
  - 2.400 to 2.4835 GHz (BLE)
  - 5.150 to 5.250 GHz
  - 5.250 to 5.350 GHz
  - 5.470 to 5.725 GHz
  - 5.725 to 5.850 GHz
  - 5.825 to 5.875 GHz
  - 57 to 64 GHz
- Available channels: Dependent on configured regulatory domain
- Dynamic Frequency Selection (DFS) optimizes the use of available 5 GHz RF spectrum
- Supported radio technologies:
  - 802.11a/g/n/ac: Orthogonal frequency-division multiplexing (OFDM)
  - 802.11ad: Single carrier (SC)
- Supported modulation types:
  - 802.11a/g/n/ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
  - 802.11ad: BPSK, QPSK
- Transmit power: Configurable in increments of 0.5 dBm
- Maximum EIRP (limited by local regulatory requirements):
  - 60GHz band: 40 dBm EIRP max
  - 5GHz band: 387: 34 dBm EIRP
- Maximum Ratio Combining (MRC) for improved receiver performance 5 GHz
- Cyclic Delay/Shift Diversity (CDD/CSD) for improved downlink RF performance
- Short guard interval for 20 MHz, 40 MHz, 80 MHz on 5 GHz.
- Low-density parity check (LDPC) for high-efficiency error correction and increased throughput.
- 802.11ac Transmit beam-forming (TxBF) for increased signal reliability and range
- 802.11ad Beam Steering
- Supported 11a/ac data rates (Mbps):
  - 802.11a 6, 9, 12, 18, 24, 36, 48, 54
  - 802.11n (5GHz): 6.5 to 600 (MCS0 to MCS15)
  - 802.11ac: 6.5 to 867 Mbps (MCS0 to MCS9, NSS = 1 to 2 for VHT20/40/80)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11ac very high throughput (VHT) support: VHT 20/40/80/160
- 802.11ad
- 802.11n/ac packet aggregation: A-MPDU, A-MSDU

Power

- Worst-case power consumption -13.5 W
- Idle power consumption 4.5W
- Power sources sold separately
- Power over Ethernet (PoE+): 802.3at-compliant
- Power over Ethernet (PoE): 802.3af with some operational restriction.
  - Max conducted power per chain for 5 GHz drops to 19 dBm

Other interfaces
- One 10/100/1000BASE-T Ethernet network interfaces (RJ-45)
  - Auto-sensing link speed and MDI/MDX
  - 802.3az Energy Efficient Ethernet (EEE)
- Bluetooth Low Energy (BLE) radio
  - Up to 4 dBm transmit power (class 2) and -91 dBm receive sensitivity
- Visual indicator (multi-color LED): For system and radio status
- Reset button: Factory reset (during device power up)
- Micro USB console interface

Mounting
- AP-270-MNT-V1
- AP-270-MNT-V2
- AP-270-MNT-H1[2]
- AP-270-MNT-H2[2]

Mechanical
- Dimensions/weight (excluding mount adapter):
  - 18 cm (W) x 18 cm (D) x 10.1 cm (H)
  - 1.198 kg

Environmental
- Operating:
  - Temperature: -40° C to +60° C (-40° F to +140° F)
  - Humidity: 5% to 95% non-condensing
- Storage and transportation:
  - Temperature: -40° C to +70° C (-40° F to +158° F)
- Operating Altitude: 3,000 m
- Water and Dust
  - IP66/67
- Salt Tolerance
  - Tested to ASTM B117-07A Salt Spray 200hrs
- Wind Survival: Up to 165 Mph
- Shock and Vibration ETSI 300-19-2-4

Regulatory
- FCC/ISED
- CE Marked
- RED Directive 2014/53/EU
- EMC Directive 2014/30/EU
- Low Voltage Directive 2014/35/EU
- UL/IEC/EN 60950
- EN 60601-1-1, EN60601-1-2

For more country-specific regulatory information and approvals, please see your HPE Aruba Networking representative.

Regulatory model number
- AP-387: APEX0387

Certifications
- CB Scheme Safety, cTUVus
- UL2043 plenum rating
- Wi-Fi Alliance certified 802.11a/b/g/n/ac

Warranty

HPE Aruba Networking's hardware limited lifetime warranty.

Minimum operating system software versions

- HPE Aruba Networking Operating System and InstantOS 8.4.0.0
- HPE Aruba Networking Operating System 10.0.0.0

[2] Recommended bracket solutions for most apps.

RF performance table

Band, rate	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
802.11a 5 GHz		
6 Mbps	22	-90
54 Mbps	22	-73
802.11n HT20 5 GHz		
MCS0/8	22	-93
MCS7/15	21	-71
802.11n HT40 5 GHz		
MCS0/8	22	-90
MCS7/15	21	-68
802.11ac VHT20 5 GHz		
MCS0	22	-93
MCS9	21	-68
802.11ac VHT40 5 GHz		
MCS0	22	-90
MCS9	21	-63
802.11ac VHT80 5 GHz		
MCS0	22	-87
MCS9	21	-61
802.11ad 60 GHz		
MCS0	19	–
MCS9	19	–

Maximum capability of the hardware provided (excluding antenna gain). Maximum transmit power is limited by local regulatory settings.

Ordering information

Part number	Description
AP-387 Series unified outdoor access points	
R0K12A	HPE Aruba Networking AP-387 (JP) 802.11ac/ad 802.3at PoE Dual 5/60 GHz Integrated Antenna Outdoor Radio
R0K13A	HPE Aruba Networking AP-387 (RW) 802.11ac/ad 802.3at PoE Dual 5/60GHz Integrated Antenna Outdoor Radio
R0K14A	HPE Aruba Networking AP-387 (US) 802.11ac/ad 802.3at PoE Dual 5/60GHz Integrated Antenna Outdoor Radio

For more ordering information and compatible accessories, please refer to the ordering guide.

Make the right purchase decision.
Contact our presales specialists.

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