Dell Networking W-IAP175 Series Instant Access Points

The multifunction Dell Networking W-IAP175 series access points are hardened outdoor dual-radio 802.11n access points (AP) designed to provide maximum deployment flexibility in high-density campuses, storage yards, warehouses, container/transportation facilities, extreme industrial production areas and other harsh environments.

The W-IAP175 series features two 2x2 MIMO dual-band 2.4-GHz/5-GHz radios with four antenna interfaces. Each radio is capable of providing maximum data rate of 300Mbps, 600Mbps total. The W-IAP175 series is available in two models: W-IAP175P operating from standard 802.3at power-over-Ethernet (PoE+) source, and W-IAP175AC which operates from 100-240 AC volts and is capable of providing power to one other 802.3af PoE compliant device. With wall and mast mounting options, the W-IAP175 series is built to provide flexible mounting and deployment.

Engineered to survive in harsh outdoor environments, the W-IAP175 series withstands exposure to high and low temperatures, persistent moisture and precipitation, and is sealed for protection from airborne contaminants. Both power and Ethernet ports include surge protection.

Virtual controller technology

Virtual controller technology in the W-IAP175 delivers enterprise-grade controller capabilities without needing a separate access point controller. The virtual controller in a single IAP is capable of controlling multiple IAPs in a network. Like a dedicated controller an IAP is able to perform key tasks such as AP auto discovery, 802.1X authentication, role- and device-based policy enforcement, rogue detection as well as specialized Adaptive Radio Management (ARM) that optimizes Wi-Fi client behavior by making sure that IAPs stay clear of RF interference. When multiple IAPs are connected together, a single IAP acts as a primary virtual controller. In the event of primary virtual controller failure, another W-Series IAP in a same network automatically takes on the role with no disruption to services. Scalability of IAP network is bounded by Layer-2 network design best practices. However, for W-IAP92/93 based networks the maximum limit is sixteen.

Ease of deployment

The W-IAP is designed to be up and running in minutes. From a laptop, simply connect wirelessly to an SSID to perform over-the-air provisioning in quick easy steps. To expand the network, just install more W-IAP – configuration is automatically uploaded to new units. You can dedicate one radio in a dual-radio W-IAPs to form a wireless mesh type of network and eliminate cabling between W-IAPs.

Management and visibility

Multiple W-IAP networks can be securely and centrally managed by Dell Networking W-Series AirWave software management suite, allowing W-IAPs to operate hundreds of remote locations. With W-Series AirWave, IT has real-time visibility into users, mobile devices, Wired and Wireless LANs infrastructure all from a single management console.

In addition, Dell also offers the OpenManage Network Manager (OMNM) management software that is an easy-to-use, web-based management interface tool that can be customized. OMNM with minimum OS version 5.0 delivers support for the full line of Dell Networking products, and W-Series wireless devices and offers enhanced features for traffic flow analysis, deployment, monitoring, and management. OMNM comes with ten free licenses. Each IAP based network uses one license, you can use remaining nine licenses to use for your other devices.

Investment protection

As WLAN requirements expand, W-IAP can be re-imaged as an 802.11n campus AP and migrate to a centralized Mobility Controller architecture capable of supporting hundreds and thousands of APs. In addition to providing WLAN access, campus APs in a centralized, controller architecture can provide more advanced wireless intrusion protection and powerful spectrum analysis capabilities.

Mainstream ruggedized 600 Mbps 802.11n access point for secure dual-band wireless mobility for outdoor, warehouses and harsh environments.

Specifications

Operating mode

- Multiservice concurrent 802.11a/n or b/g/n
- Backward compatible with 802.11a/b/g and mixed-mode 11a/b/g/n deployments

Radios

- Multifunction, dual radio, each radio capable of 2.4-GHz and 5-GHz operation
- 802.11n radios implement 2x2 MIMO with two spatial streams, providing up to 300 Mbps data rate per radio

Wireless radio specifications

- Supported frequency bands (country-specific restrictions apply):
  - 2.400 to 2.4835 GHz
  - 5.150 to 5.250 GHz, 5.250 to 5.350 GHz, 5.470 to 5.725-GHz, 5.725 to 5.850 GHz with dynamic frequency selection (DFS) capability
- Available channels: Controller-managed, dependent upon configured regulatory domain
- Transmit power: Configurable in increments of 0.5 dBm
  - 2.4 GHz: Up to 25 dBm (limited by local regulatory requirements)
  - 5 GHz: Up to 25 dBm (limited by local regulatory requirements)
- Supported radio technologies:
  - 802.11b: Direct-sequence spread-spectrum (DSSS)
  - 802.11a/g/n: Orthogonal frequency division multiplexing (OFDM)
  - 802.11n: 2x2 MIMO with two spatial streams
- Supported modulation types:
  - 802.11b: BPSK, QPSK, CCK
  - 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM
- Association rates (Mbps):
  - 802.11b: 1, 2, 5.5, 11
  - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
  - 802.11n: MCS0 - MCS15 (6.5 Mbps to 300 Mbps)

RF management

- Automatic transmit power and channel management control with auto coverage hole correction via Adaptive Radio Management (ARM)
- Maximum ratio combining (MRC) for improved receiver performance

Advanced features

- Wireless intrusion detection
- Integrated Trusted Platform Module (TPM) for secure storage of credentials and keys

Antenna

- Quad, N-type female interfaces (2 x 2.4 GHz, 2 x 5 GHz) for external antenna support (supports MIMO). Please refer to antenna selection guide on www.dell.com/wireless

Interfaces

- 1 x 10/100/1000 BASE-T Ethernet (RJ-45), auto-sensing link speed and MDI/MDX
- 1 x USB console interface

Power

- W-IAP175P: 48-volt DC 802.3at power over Ethernet (PoE+)
- W-IAP175AC: 100-240 volt AC from external AC power source

  Maximum power consumption: 18 watts (excludes power consumed by any PoE device connected to and powered by the W-IAP175AC).

Mounting

- Wall or mast mounted using the mounting bracket supplied with the unit; solar shield included

Mechanical

- Dimensions/weight (unit)
  - 60mm x 240mm x 105mm (10.2" x 9.4" x 4.1")
  - Weight (AP-175P): 3.5kg (7.7lb)
  - Weight (AP-175AC): 4.25kg (9.4lb)

Environmental

- Operating:
  - Temperature: -30° C to 55° C (-22° F to 131° F)
  - Relative humidity: 5% to 95% non-condensing
  - Altitude: Up to 3,000 meters (9,850 feet)
- Storage and transportation temperature range -40° C to 70° C (-40° F to 158° F)
- Weather rating: IP66
- Wind survivability: Up to 165 mph
- Shock and vibration: ETSI 300-19-2-4 spec T41.E class 4M3
- Transportation: ISTA 2A

Certifications/Regulatory

- Wi-Fi certified 802.11a/b/g/n
- FIPS/TAA certified SKU available

  Product meets EMC, safety and wireless standards of multiple countries inclusive of; USA (FCC), Canada, EU, Japan, Korea, China. For more country-specific regulatory information, and approvals, please see your Dell representative.

Minimum OS version

- 6.1.3.1-3.0.0.0

Warranty

- One-Year Warranty

W-IAP175 RF Performance Table				
	Max TX power per active TX chain (dBm)	RX Sensitivity (dBm)	Max TX power per active TX chain (dBm)	RX Sensitivity (dBm)
	2.4 GHz		5 GHz	
802.11b				
1Mbps	20	-96	-	-
2Mbps	20	-96	-	-
5.5Mbps	20	-94	-	-
11Mbps	20	-93	-	-
802.11a/g				
6Mbps	20	-96	22	-97
9Mbps	20	-96	22	-96
12Mbps	20	-96	22	-96
18Mbps	20	-95	22	-94
24Mbps	19	-92	22	-88
36Mbps	18	-89	20	-86
48Mbps	17	-85	19	-82
54Mbps	17	-83	18	-80
802.11n HT20				
MCS0	22	-94	21	-97
MCS1	22	-93	20	-94
MCS2	22	-92	19	-91
MCS3	22	-89	18	-87
MCS4	21	-85	17	-86
MCS5	20	-81	16	-81
MCS6	19	-80	15	-79
MCS7	18	-78	15	-77
MCS8	22	-94	21	-97
MCS9	22	-93	20	-94
MCS10	22	-92	19	-91
MCS11	22	-89	18	-87
MCS12	21	-85	17	-86
MCS13	20	-81	16	-81
MCS14	19	-80	15	-79
MCS15	18	-78	15	-77
802.11n HT40				
MCS0	21	-92	19	-92
MCS1	21	-91	19	-90
MCS2	21	-89	18	-88
MCS3	20	-86	17	-85
MCS4	19	-83	16	-83
MCS5	18	-79	15	-79
MCS6	18	-77	14	-77
MCS7	17	-75	14	-73
MCS8	21	-92	19	-92
MCS9	21	-91	19	-90
MCS10	21	-89	18	-88
MCS11	20	-86	17	-85
MCS12	19	-83	16	-83
MCS13	18	-79	15	-79
MCS14	18	-77	14	-77
MCS15	17	-75	14	-73

RF performance numbers for AP-92slightly lower due to additional internal RF circuitry.

Ordering Information	
Part number	Description
W-IAP175P	W-Series IAP175 Outdoor Wireless Access Point, 802.11abgn, dual radio, external antennas, PoE+ powered (802.3at). Includes mounting kit and sun shield.
W-IAP175AC	W-Series IAP175 Outdoor Wireless Access Point, 802.11abgn, dual radio, external antennas, AC powered (100-240Vac). Includes mounting kit and sun shield.
PD-9001G-AC	Single Port 802 3at PoE Midspan Injector
PD-9001GO-NA	1 Port 802.3at PoE Midspan 10/100/1000 30W Outdoor; NA power cord with 3 prong plug.
PD-9001GO-INTL	1 Port 802.3at PoE Midspan 10/100/1000 30W Outdoor; EU/International power cord with bare wires requiring country specific plug.
PD-MOUNT-OD	Pole / Mast mount kit for outdoor POE midspan injectors
AP-LAR-1	W-Outdoor Antenna Lightning Arrestor for outdoor Access Points: Single, In-line lightening arrester with N-type Male to N-type Female interface. Supports RF frequency pass through of 2Ghz – 6Ghz.
AINS2KKIT-00	Outdoor Installation Kit. Includes accessories that may be useful in the installation process: two electrical tape rolls, mastic tape, white tie wraps.
ACONGESTD-00	USB console cable, 1.5 meters, apply to all indoor and outdoor products
AETHGEL05-00	Shielded Ethernet cable with RJ45 connectors, 5 meters, apply to all indoor and outdoor products
CKIT-RJ45-P	Kit with weatherproof connector assembly to attach cable to (plastic) RJ45 interface on outdoor AP models
CKIT-RJ45-M	Kit with weatherproof connector assembly to attach cable to (metal) RJ45 interface on outdoor AP models
CKIT-AC-M	Kit with weatherproof connector assembly to attach cable to (metal) AC power interface on outdoor AP models
CKIT-DC-M	Kit with weatherproof connector assembly to attach cable to (metal) DC power interface on outdoor AP models
CBL-USB-P	Weatherproof cable assembly to connect to (plastic) USB interface on outdoor AP models (length: 5m)
CBL-USB-M	Weatherproof cable assembly to connect to (metal) USB interface on outdoor AP models (length: 5m)
CBL-AC-NA	Weatherproof cable assembly to connect to (metal) AC power interface on outdoor AP models (length: 5m). North America version.
CBL-AC-INTL	Weatherproof cable assembly to connect to (metal) AC power interface on outdoor AP models (length: 5m). International (EU) version.
CBL-DC-WW	Weatherproof cable assembly to connect to (metal) DC power interface on outdoor AP models (length: 5m)

Learn more at Dell.com/Wireless