Dell Networking W-AP175 Series Access Points

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 high-performance W-AP175 series delivers wire-like performance at data rates up to 300Mbps per radio and is available in three models: W-AP175P operating from standard 802.3at power-over-Ethernet (PoE+) source, W-AP175AC operating from 100 to 240 volt AC power source and W-AP175DC, operating from a 12 to 48 volt DC power supply. Both W-AP175AC and W-AP175DC powered models provide an 802.2af PoE power source on the Ethernet interface.

The W-AP175 series features two 2x2 MIMO dual-band 2.4/5GHz radios with four antenna interfaces. Each radio is capable of providing maximum data rate of 300Mbps and a maximum transmit power of up to 25dBm. With wall and mast mounting options, the W-AP175 series is built to provide flexible mounting and deployment.

Engineered to survive in harsh outdoor environments, the W-AP175 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.

As an 802.11n AP, the W-AP175 series works with the complete portfolio of Dell Networking W-Series centralized Mobility Controllers and delivers speed and reliability comparable to a wired LAN. It also increases performance by utilizing techniques such channel bonding, block acknowledgement and MIMO radios. Advanced antenna technology also increases range and reliability.

A key to ensuring wire-like performance and reliability is Adaptive Radio Management™ (ARM), which manages the 2.4 and 5GHz radio bands to deliver maximum client performance. ARM enables different 802.11 a, b,g and n wireless clients to operate on the same network at maximum possible performance through the use of band steering, airtime fairness policies between clients, and by managing channel interference that may occur between access points.

The multifunction W-AP175 series can be configured through the Dell Networking Mobility Controller to provide wireless LAN access with part-time air monitoring, dedicated air monitoring for wireless IPS and spectrum analysis, Remote AP (RAP) functionality secure enterprise mesh.

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

Specifications

Operating mode

- Multiservice concurrent 802.11a/n + b/g/n
- WLAN spectrum monitor
- Air monitor, spectrum monitor
- Remote AP
- Secure enterprise mesh

Radios

- Multifunction, dual-radio, each radio capable of 2.4 and 5GHz operation
- Both 802.11n radios implement 2x2 MIMO with two spatial streams, providing up to 300Mbps data rate per radio
- Maximum ratio combining (MRC) for improved receiver performance
- Maximum transmit power per radio: 25dBm

Wireless radio specifications

- AP type: Dual-radio, dual-band 802.11n outdoor
- Supported frequency bands (country-specific restrictions apply):
  - 2.400 to 2.4835GHz
  - 5.150 to 5.250GHz with Dynamic Frequency Selection (DFS) capability
  - 5.250 to 5.350GHz with DFS capability
  - 5.470 to 5.725GHz with DFS capability
  - 5.725 to 5.850GHz with DFS capability
- Available channels: Controller-managed, dependent upo configured regulatory domain
- Maximum transmit power:
  - 2.4GHz: Up to 25dBm (limited by local regulatory requirements)
  - 5GHz: Up to 25dBm (limited by local regulatory requirements)
  - Transmit power: Configurable in increments of 0.5dBm
- Supported radio technologies:
  - 802.11b: Direct-sequence spread-spectrum
  - 802.11a/g/n: Orthogonal frequency division multiplexing
  - 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 to 300Mbps)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11n packet aggregation: A-MPDU, A-MSDU

Antenna

- Quad, N-type female interfaces (2x 2.4GHz, 2x 5GHz) for external antenna support (supports MIMO)

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-AP175P: 48-volt DC 802.3at power over Ethernet (PoE+)
- W-AP175AC: 100–240 volt AC from external AC power source
- W-AP175DC: 12–48 volt DC from external DC power source

Maximum power consumption: 18 watts (excludes power consumed by any PoE device connected to and powered by the W-AP175AC or W-AP175DC)

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

- 5.0.3.2

Warranty

- One-Year Warranty

W-AP175 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)
	2.4GHz		5GHz	
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-AP175P	W-Series AP175 Outdoor Wireless Access Point, 802.11abgn, dual radio, external antennas, PoE+ powered (802.3at). Includes mounting kit and sun shield.
W-AP175AC	W-Series AP175 Outdoor Wireless Access Point, 802.11abgn, dual radio, external antennas, AC powered (100-240V AC). 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 three 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 2–6GHz.
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

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