DPtech AP2000 Series based on 802.11ac Wireless Access Device

Overview

DPtech AP2000 Series is a wireless access device based on 802.11ac. With an access rate of Gigabit, it marks the upgrade from 100M to the Gigabit era. AP2000 Series adopts a dual-frequency design of 2.4GHz/5GHz, compatible with the 802.11a/b/g/n standards to realize a smooth transition to 802.11ac. It provides two working modes: Fat and Fit. In Fat mode, the AP2000 Series can work independently, while in Fit mode, it needs to work with DPtech ACS6000 series wireless controllers to establish a network.

AP2000 Series wireless access device can be widely used in various wireless scenarios, such as office buildings, schools, hotels, hospitals, commerce and finance, with multiple installation methods available: ceiling mounted, wall mounted, recessed, desktop placement and crane structures.

Product Features

- **High-speed wireless access**

  With the latest 802.11ac wireless chip and the MU-MIMO technology, the AP2000 Series can not only provide excellent performance in 2.4G compared with traditional 802.11n wireless access device, but also high speed access in 5G frequency. When both frequencies are enabled, the device will allow a maximum access rate of 1.75Gbps.

- **Fat/Fit AP Integration**

  The AP2000 Series can switch flexibly between Fat and Fit modes according to various requirements of application scenarios. With fewer wireless access points, the AP2000 Series can establish a network in Fat mode. With more access points, it can work in Fit mode, and perform centralized management together with DPtech's ACS6000 Series wireless controllers. Fat/Fit AP integration is conducive to successful transformation of wireless networks, which serves as powerful protection for users' investments.

- **Local forwarding**

  AP2000 Series (Fit mode) supports local forwarding, saving wireless controllers from any traffic bottleneck of wireless network. It can directly convert data packet into messages in standard Ethernet format, which will then enter the wired network for data exchange. Local forwarding greatly alleviates strain on wireless controllers by meeting low latency and high real-time performance requirements of 802.11ac network for large traffic transmission.

- **Multicast enhancement technology**

  Traditional 802.11 protocols send packets with a low rate (1 Mbps), which is subject to high latency and large packet losses in e-schoolbags, conference venues and other real-time wireless applications, leaving users with poor experience. With DPtech's multicast enhancement technology, low-rate multicast packets can be converted into high-rate unicast packet for transmission, providing smooth

and stable wireless experience for every user.

- **Zero configuration installation**

  In Fit mode, the AP2000 Series requires no settings prior to installation, and all configurations can be downloaded automatically from the wireless controller. It significantly brings down users ' implementation and maintenance costs.

- **Convenient Power-over-Ethernet Port**

  Compatible with power over Ethernet standard protocol (802.3af/802.3at), the AP2000 Series enables remote power supply with a PoE switch or PoE module. Therefore, there is no need to deploy a dedicated power supply on site for wireless access devices, effectively addressing any inconvenience caused in ceiling-mounted and outdoor scenarios.

- **Support wireless intrusion detection/defense (WIDS/WIPS)**

  In Fat mode, AP2000 Series provides access control features such as blacklist and whitelist of wireless users. In Fit mode, AP2000 Series can work with DPtech ACS6000 Series wireless controllers, enabling Rogue detection, intrusion detection, blacklist and whitelist, and other WIDS/WIPS features.

- **Induced roaming**

  AP2000 Series provides induced roaming function, which actively guides a sticky terminal, if found, to the best connection point. It helps effectively improve roaming sensitivity of the sticky terminal, reduce network delay, and maximize wireless network capacity.

- **Support SSID in Chinese**

  AP2000 Series supports Chinese SSID to cater to the using habits of various users. Users can specify an SSID with a maximum of 32 Chinese characters, or an SSID consisting of a combination of Chinese and English characters.

- **Integrated wired and wireless management**

  Based on the UMC platform, DPtech ' s full range of wireless products realizes integrated management of wired, wireless, security and application delivery across the network. With a simple and friendly user interface for wireless service managers, UMC provides comprehensive management of wireless equipment regarding interfaces, faults, performances, software versions, profiles, accessing users, etc.

Product Series

Indoor wireless AP

AP2000-2W

AP2000-2C

AP2000-3C

Attributes	AP2000-2C	AP2000-3C	AP2000-2W
Positioning	Ceiling/wall-mounted AP	Ceiling/wall-mounted AP	Recessed AP
Working frequency	2.4G与5GHz		
Transmission protocol	802.11a/b/g/n 802.11ac wave1/wave2		
Number of spatial streams	2 spatial streams, 2X2 MU-MIMO	3 spatial streams, 3X3 MU-MIMO	2 spatial streams, 2X2 MU-MIMO
Transmission rate	1.167Gbps	1.75Gbps	1.167Gbps
Type of antenna	Built-in antenna		
Port	2 RJ45 ports	2 RJ45 ports	4 Gigabit RJ45 downlink ports, 1 Gigabit RJ45 uplink port, 1 pair of pass-through (Telephone) RJ45 port
Transmitting power	22dBm	22dBm	18dBm
POE	Compatible with 802.3af/802.3at power supply		
Local power	Supported	Supported	Supported
Power Consumption	≤12W	≤12W	≤12W
Green and energy efficiency	Scheduled shutdown of wireless access services makes sure energy-saving operations		
Dimension (length * width * height) (in mm)	200*200*35.4	200*200 *35.4	86x115*44.5
Modulation technology	OFDM: BPSK@6/9Mbps, QPSK@12/18Mbps, 16-QAM@24Mbps, 64-QAM@48/54Mbps DSSS: DBPSK@1Mbps, DQPSK@2Mbps, CCK@5.5/11Mbps MIMO-OFDM (11n): MCS 0-15 MIMO-OFDM (11ac): MCS 0-9		

Ambient Temperature	Operating Temperature: 0 ºC ~ 40 ºC Storage Temperature: -20ºC ~ 70ºC
Ambient Humidity	5%~95% (non-condensing)
MTBF	>250000H

Outdoor wireless AP

AP2000-2X

Attributes	AP2000-2X
Positioning	Outdoor Industrial Dual Band AP
Working frequency	802.11b/g/n: 2.4 GHz 802.11a/n/ac: 5.1GHz/5.8 GHz
Transmission rate	1.167Gbps
Type of antenna and port	External antenna 1 Gigabit electrical interface and 1 Gigabit optical interface
Transmitting power	22dBm
POE	Compatible with 802.3af/802.3at power supply
Power Consumption	≤22W
Green and energy efficiency	Scheduled shutdown of wireless access services makes sure energy-saving operations
(length * width * height) (in mm)	220mm*220mm*100mm
Modulation technology	OFDM: BPSK@6/9Mbps, QPSK@12/18Mbps, 16-QAM@24Mbps, 64-QAM@48/54Mbps DSSS: DBPSK@1Mbps, DQPSK@2Mbps, CCK@5.5/11Mbps MIMO-OFDM (11n): MCS 0-15 MIMO-OFDM (11ac): MCS 0-9
Protection level	IP67

Ambient Temperature	Operating Temperature: -40ºC ~ 50 ºC Storage Temperature: -40ºC ~ 70ºC
Ambient Humidity	5%~95% (non-condensing)
MTBF	>250000H

Software Specification

Attributes		AP2000-2C	AP2000-3C	AP2000-2W	AP2000-2X
Virtual AP		32 pieces	32 pieces	32 pieces	32 pieces
Connected users allowed as a whole unit		256	384	256	256
Security policy	Access authentication	Support MAC, 802.1x, Portal, PSK and other authentication modes			
		Support SMS authentication			
		Support non-sending authentication			
	Encryption	Support 64/128-bit WEP, TKIP, WAPI, CCMP and other encryption methods			
	User isolation	Support layer 2 isolation of wireless users			
		Support SSID-based wireless user isolation			
		Support user isolation under the same SSID			
	Data frame filtering	Support whitelist and blacklist			
	Hide SSID	Supported			
Smart switch	Basis: signal intensity, bit error rate, whether neighboring APs work properly, etc.				
Functions of Layers 2 and 3	IP address settings	Support static IP address or DHCP acquisition of IP address			
	Routing Protocols	Support static routing			
	Forwarding modes	Support centralized and local forwarding			
	Roaming	Support Layers 2 and 3 roaming			
	Multicast	Supported			
Service Quality	802.11e	Support WMM			
	Traffic Limitations	Traffic limitations are available based on SSID uplink and downlink traffic			
	QoS policy mapping	Support mapping SSID/VLAN to QoS policy			
Signal quality	Transmitting power	Support manual power adjustment			
		Support automatic power adjustment; AP may adjusts power according to nearby wireless network conditions			

	adjustment	
	Channel settings	Support manual channel settings
		Support automatic channel adjustment; AP may adjusts channel according to nearby wireless network conditions
	Spectrum protection	Support spectrum protection
Management and Maintenance	Network management	Support management through SSH, Telnet, and FTP/TFTP
		Support Web management
	Switch between Fat/Fit	Support local switching of modes
	Watch Dog	Support real-time monitoring of running status to avoid downtime
	Logs	Supported
	Alerts	Supported
	Fault detection	Supported
	Statistics	Supported
Security functions	Terminal whitelist	Only terminals in the whitelist are allowed to access the wireless network
	AP Self-Secure	Anti-hijacking
	Security protection	Anti-DDoS attacks

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