In-Wall Intelligent Wireless AP

WAP2100-W512

High cost-effective
1300Mbps WiFi5
Half-occupation of Lic

Simple and easy
86-box in-wall design
Slender chassis
Convenient installation

User-friendly design
LED on-off as your wish
Dustproof Ethernet port
Invisible cables

Product Overview

WAP2100-W512 is the BDCOM-developed in-wall wireless AP oriented for space-intensive indoor scenarios such as school dormitories, hotel rooms, hospital wards, and apartments.

WAP2100-W512 in-wall AP is suitable for 86*86mm universal design and conforms to national standards. The AP's power supply, data cable and WiFi antenna can be hid when installing, which helps to keep the user's indoor environment clean and tidy, and also helps to reduce network failure nodes and maintenance difficulty.

Product Characteristics

High-performance Wireless Solutions

WAP2100-W512 is built with high-performance wireless chipset, and supports 802.11a/b/g/n/ac/wave2 and other wireless protocols, with high throughput and good stability. The 2.4G and 5G devices can support 1267Mbps air interface bandwidth to satisfy up to 40 users with service access, with strong concurrency capability.

WAP2100-W512 supports wireless load balancing. In high-density access scenarios, WAP2100-W512 can achieve reasonable allocation of terminals within a single AP through the 2.4GHz and 5GHz spectrum while ensuring balanced traffic distribution among multiple APs to avoid congestion, which enables the AP to access more end users, and provides the better Internet service.

Comprehensive Security Features

WAP2100-W512 supports WEP/WPA/WPA2 access modes, wireless IPS/IDS, the layer-2 user isolation, and centralized ACL control.

WAP2100-W512 supports docking with WSC6100 wireless AC and cloud platform, provides rich and practical diversified authentication functions for computers, mobile phones, tablets and other terminals, to facilitate user access authentication.

WAP2100-W512 provides illegal AP detection and subsequent processing, wireless attack defense, static black and white lists, to reduce the illegal intrusion on wireless networks.

Rich Manageable Features

WAP2100-W512 supports the integrated design of fat and thin APs, which can be individually configured, and can also be connected to BDCOM WSC6100 series wireless ACs to realize CLI, Web, SNMP management.

WAP2100-W512 can also be managed through the BDCOM cloud-based operation platform to achieve unified management of AC, switches, routers, security and other products, greatly improving the efficiency of operation and maintenance.

User-friendly Design Details

WAP2100-W512 is equipped with LED controllable design: the LED lights can be turned off during the night break to avoid irritating the eyes; all the LED lights can be turned on to improve the operation efficiency during the network inspection. All the LEDs can be controlled in batches through the AC, and can also be switched individually with each AP button, which is very flexible and convenient.

WAP2100-W512, equipped with a dust-proof curtain on network ports, can effectively prevent dust to keep the device clean and tidy.

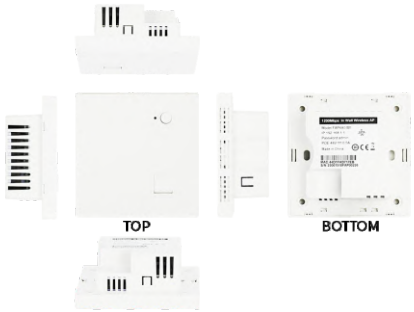
In addition to classic white shell, WAP2100-W512 is also available in pure black, dark gray and light gold, which perfectly match the user's interior decoration style.

Practical Engineering Design

The compact design of WAP2100-W512 can be completely embedded in the wall of 86*86mm national standard size. In the case of ensuring wireless signal coverage and heat control, the size of the AP is reduced by about 15%, which can not only keep the overall environment neat, but also help to deal with difficulties such as "cement block obstacles", "network cable reservation", and "thermal expansion and cold contraction" during construction.

WAP2100-W512 provides a wired and wireless integrated design. While providing WLAN wireless signal coverage, WAP2100-W512 also features an Ethernet interface to ensure that users' original network cable resources are not wasted.

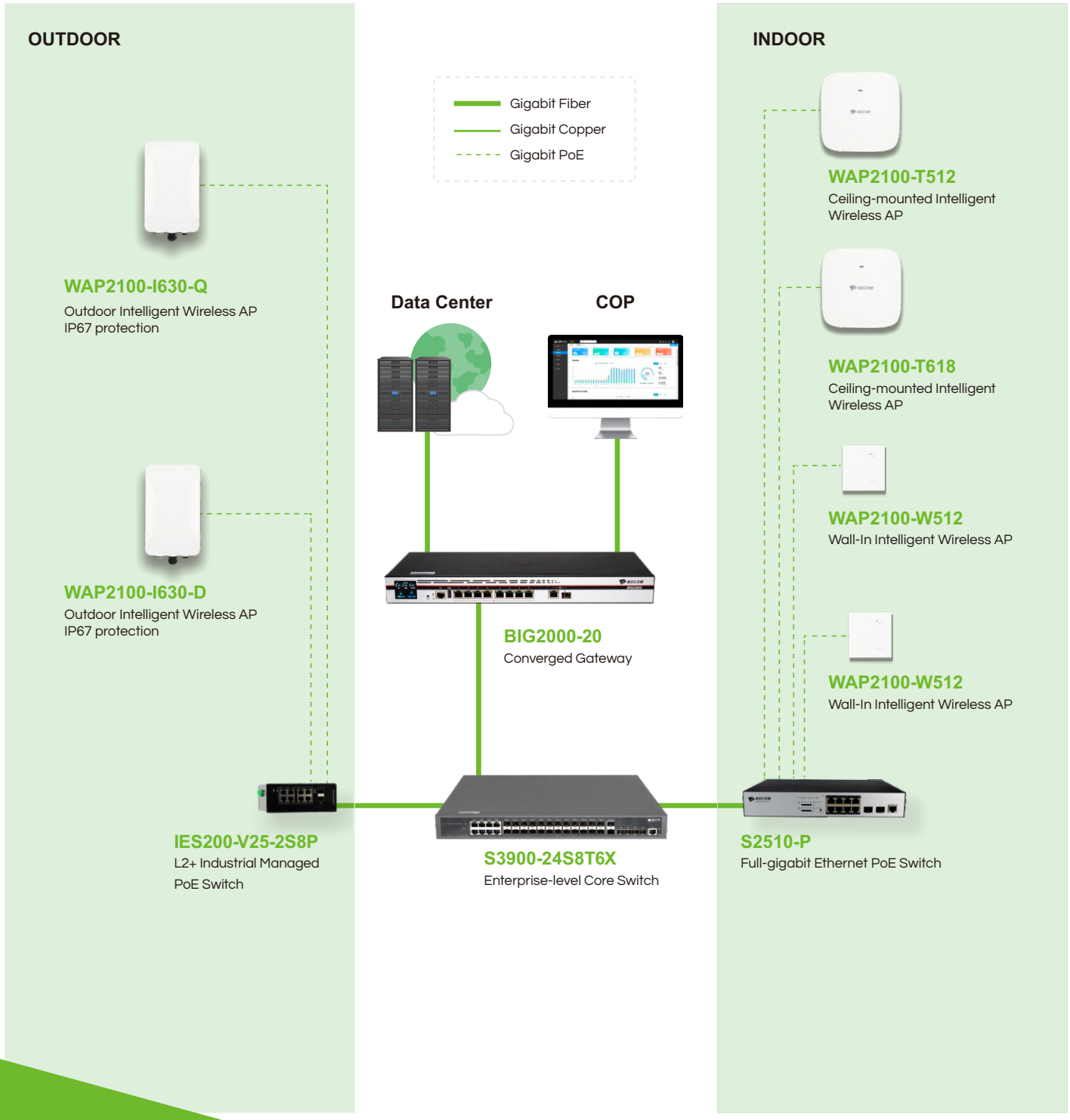
Model



WAP2100-W512

- 1 GE WAN (POE supported)
- 1 GE LAN (dust-proof)
- 802.11 a/b/g/n/ac/wave2
- 1300Mbps wireless
- 802.3af PoE

Application Diagram



System Performance

Item	WAP2100-W512
Interface	
Mounting method	In-wall
Dimensions (HxWxD)	86×86×36mm
Ethernet port	1 GE WAN (POE supported) 1 GE LAN (dust-proof)
PoE power supply	POE input
Antenna type	Built-in omnidirectional
Antenna gain	2.4G: 2.5dBi 5G: 2.5dBi
Operating frequency bands	2.4GHz and 5GHz
Wi-Fi data rate	2.4G:2*2 11n 400Mbps 5G-1:2*2 11ac 867Mbps
Maximum transmit power	2.4 GHz: 18 dBm (combined power) 5 GHz : 18 dBm (combined power) The actual transmit power depends on 2.4 GHz: 18 dBm (combined power) local laws and regulations.
Modulation	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
Modulation mode	11b: DSS:CCK@5.5/11Mbps,DQPSK@2Mbps, DBPSK@1Mbps 11a/g: OFDM:64QAM@48/54Mbps,16QAM@24 Mbps,QPSK@12/18Mbps, BPSK@6/9Mbps 11n: MIMO-OFDM: BPSK,QPSK,16QAM,64QAM 11ac: MIMO-OFDM: BPSK,QPSK,16QAM,64QAM,256QAM
Power adjustment	Automatic
Reset	Supported
Status LED	on / Blinking/ error
Operating temperature/ Storage temperature	0° C~50° C
Operating humidity	10%~95% (non-condensation)
Protection degree	IP41
Power consumption	< 10W
MTBF	> 250000H

Technical Specifications

11ac supported	Working frequency bands
	A-MPDU
	A-MSDU
	Transmit Beamforming (TxBF)
	Maximum Likelihood Demodulation (MLD)
	Maximum Ratio Combining (MRC)
	Space-Time Block Coding (STBC)
	Low Density Parity Check (LDPC)
11n supported	Working frequency bands
	A-MPDU
	Transmit Beamforming (TxBF)
	Maximum Likelihood Demodulation (MLD)
	Maximum Ratio Combining (MRC)
	Space-Time Block Coding (STBC)
	Low Density Parity Check (LDPC)
WLAN basics	Maximum users per radio
	WPAPSK/WPA2PSK/WPA3
	RTS/CTS
	Guest network
	Smart device unique SSID
	Automatic link fault detection and recovery
Advanced networking features	Automatic network-wide channel adjustment
	Automatic network-widebandwidth adjustment
	Automatic network-wide power adjustment
Security policy	Encryption
	802.11i
	Authentication
	User isolation
	Forwarding security
	SSID-VLAN binding
	802.11w

Technical Specifications

Layer-2 and layer-3 features	IP address configuration
	Local forwarding
	Multicast
Advanced Wi-Fi features	802.11e
	Priority
	Ai QoS
Advanced Wi-Fi features	Automatic channel/bandwidth/power selection
	Load balancinga
	802.11k/802.11v/802.11r
	AP Steering
	Band Steering
	Automatic power control/Packet-by-packet power control
	Multicast enhancement
Installation, management and maintenance	Network pre-deployment
	Local management with app/Remote management
	Cloud AC management Remote maintenance

Technical Specifications

Working mode

- Supports AP Mode
- Routing mode
- Bridging Mode

IP functions

- Supports IPv4, DHCP, NTP protocols
- Supports static IP allocation, dynamic DHCP and PPPoE dial-up

Wireless management

- Supports CAPWAP management protocol
- Supports Option43, DNS to discover AC
- Supports Layer 2 and Layer 3 networking of AC and AP
- Supports cross-NAT networking of AC and AP
- Supports Layer 2 and Layer 3 user roaming
- Supports clock, version and configuration synchronization of AC and AP

Application added

- Supports for RTLS probes
- Supports docking wireless positioning system

Wireless access

- Supports 802.11 protocol suite
- Supports multiple SSID management, Chinese SSID and SSID hiding
- Supports no SSID, VLAN binding function
- Supports SSID-based user limit and isolation
- Supports each SSID to specify the parameter template separately
- Supports country code setting

User authentication

- Supports local authentication and Cloud authentication
- Supports multiple authentication methods such as local account, SMS, WeChat, and vouther
- Supports user black and white lists
- Supports account-based access period control and bandwidth control
- Supports country code setting
- Supports country code setting

Security

- Supports PSK authentication method
- Supports WEP, WPA, WPA2, WPA3 wireless encryption
- Supports IP-based, MAC-based filtration
- Supports DDoS, De-Auth anti-attack
- Supports Rogue AP detection

QoS

- Supports 802.11e/WMM
- Supports global traffic rate limit
- Supports AP-based, VLAN-based, User-based traffic rate limit
- Supports frequency-based, AP-based flow load balancing

Wireless optimization

- Supports one-click network optimization, customs wireless RF parameters
- Default 8 wireless scene templates, supports user-defined templates
- Supports 5G prior access, supports restrict access of low-rate users

Management and maintenance

- Supports traditional device management such as Telnet, SSH, Web, SNMP and TR069
- Supports ping, tracert, debug and other diagnostic tools
- Supports CAPWAP-based AC centralized management
- Supports COP unified management
- Support AP indicator on and off

Ordering Information

WAP2100-W512	WAP2100-W512 in-wall intelligent WiFi5 AP, 2 Gigabit Ethernet ports, 1 LED button, built-in MIMO antenna, 802.11ac Wave2, 1267Mbps wireless, POE power supply (POE devices need to purchase.)

BDCOM