Sundray AP-S350 Wireless Access Point

Product Overview

SUNDRAY AP-S350 is a panel 802.11ac wireless access point specially designed for hotels, dorms, offices and wards. It has 2x2 MIMO antenna embedded, complies with the 802.11b/g/n/ac protocol, and provides a maximum wireless access rate of 1167Mbps. The dimensions of the AP-S350 comply with standard 86 switch panels. AP-S350 can be installed on any 86 switch panels without damaging wall decorations and this reduces the deployment costs remarkably. In cooperation with the SUNDRAY NAC series controllers, AP-S350 brings unrivaled quick and secure access experience to users.

AP-S350 integrates Ethernet ports and IP phone ports for ease of access of wired terminals and phones. The product is aesthetically designed and can be conveniently deployed. It is the best choice for wireless network construction in environments like hotels.

SUNDRAY AP-S350

Product Features

Flexible network deployment

- **Convenient deployment**

  AP-S350 adopts the standard 86 design, in this way, the original network is retained, lowering the deployment costs significantly and shortening the construction period.

- **Full signal coverage**

  AP-S350 is deployed on the inside wall of a room and the entire room is covered by wireless signals. This

avoids problems of poor network signal and network unavailability in the case that a ceiling-mounted AP is deployed in the corridor, which deteriorates the signal when the signal penetrates through the wall of the room or rest room.

After the panel AP-S350 is deployed, full signal coverage is ensured at any location of the room, providing unprecedented wireless network access experience for users.

- **Power supply via PoE**

  AP-S350 supports 802.3af PoE remote power supply. Power supply and data transmission can be implemented via the original network cable. In addition to convenient deployment, strong current threats can be avoided. In other words, the equipment is protected against damage caused by burst over-high voltage or unstable voltage.

- **Access via network cable or phone wire**

  AP-S350 integrates Ethernet ports and IP phone ports for ease of access of wired terminals and phones. It is the best choice for wireless network construction in environments like hotels.

- **Unified management**

  In scenarios such as hotels, there are many guest rooms and therefore many APs need to be deployed. AP-S350 supports the Fit work mode. It can work with SUNDRAY NAC series controllers for implementing unified management and zero-configuration on AP. This facilitates O&M management and fault rectification for network management personnel.

- **Virtual AP technology**

  A maximum of 16 ESSIDs can be provided by using the virtual AP technology. Different SSIDs use different authentication modes and have different network access permission. The SSIDs are isolated from each other. L2 isolation can be implemented for terminals that use the same SSID on a subnet or VLAN to ensure user data security.

- **Chinese SSID**

  Chinese SSIDs are supported. An SSID with a maximum of 32 characters can be specified. An SSID can also contain both Chinese and English characters. Individualized SSIDs are available for shopping malls or enterprises to improve discrimination.

Top-speed wireless network access

- **802.11ac High speed**

  SUNDRAY AP-S350 support the 802.11ac protocol, up to 300Mbps in 2.4G and 867Mbps in 5G, up to 1167Mbps totally. It will help improve the connection through coverage, density, stability etc.

- **Gigabit uplink**

  SUNDRAY AP-S350 provides a gigabit uplink port without the limit of access

- **QoS guarantee**

  SUNDRAY AP-S350 supports different QoS levels. It supports air interface resource management based on applications, SSIDs or STAs to ensure that air interfaces are appropriately allocated and that the data of important SSIDs and applications is transmitted in preference. Transmission priorities can be defined for different service data through 802.11e/WMM. This ensures differentiated QoS levels.

- **Seamless roaming for L2 and L3**

  SUNDRAY AP-S350 works with SUNDRAY wireless controller to implement seamless roaming for L2 and L3. When a wireless user roams, the IP address and authentication status remain unchanged. The terminal viscosity prevention function is provided to intelligently guide an STA to the optimal AP, increasing the roaming speed.

- **Intelligent RF to reduce wireless interference in an all-round way**

The work channel and transmit power of the wireless access point are adjusted automatically and interference from the surrounding environment is detected in real time to reduce radio interference in an all-round way and to improve the overall service quality of the wireless network.

All-round security protection

- **Multiple easy-to-use and secure authentication modes**

  Multiple flexible, easy-to-use and secure user authentication modes are available. 802.1x, portal, SMS, WeChat, and QR code authentication modes are provided with the support of SUNDRAY wireless controller to meet network deployment requirements in environments including hotels, enterprises, schools and hospitals.

- **All-round wireless security protection**

  With the support of SUNDRAY wireless controller, AP-S350 provides a wide range of wireless security protection functions including WIDS/WIPS, illegitimate AP detection and workaround, ARP spoofing prevention, and DoS attack prevention, constructing a truly secure and reliable wireless network for users.

Technical Specifications

Hardware specifications

Product Specifications of SUNDRAY AP-S350	
Hardware specifications	
Item	Description
Model	AP-S350
Weight	0.24kg
Dimensions	140 * 86 *24 mm
Service port	Rear: 1 10/100Base-T Ethernet port, 1 RJ11 port Front: 2 10/100Base-T Ethernet ports and one RJ11 port
PoE	802.3af/802.3at power supply supported
Transmit power	≤ 20 dBm
Power adjustment granularity	1 dBm
Power range	1 dBm to the value specified by national regulations
Power consumption	< 13 W
Antenna	2*2MIMO embedded antenna
Reset/restore factory settings	Supported
Status indicator	1*Power,1*WIFI,1*STATUS,1*SYS
Operating/storage temperature	-10 ℃ to +55 ℃ or -40 ℃ to +70 ℃
Operating/storage humidity	5%-95% (non-condensing)
Protection level	IP 41
MTBF	> 250000 H

Software specifications

Software specifications		
Item		Description
Model		AP-S350
RF	Streams	2
	Maximum transmission speed of a single frequency	2.4 G：300 Mbps 5 G：867 Mbps
	Operating frequency band	802.11ac/n/a : 5.725GHz-5.850GHz ; 5.15~5.35GHz (China)☒ 802.11b/g/n : 2.4GHz-2.483GHz (China)
	Modulation	OFDM: BPSK@6/9Mbps、QPSK@12/18Mbps、

Software specifications		
	technology	16-QAM@24Mbps、64-QAM@48/54Mbps
		DSSS : DBPSK@1Mbps、DQPSK@2Mbps、CCK@5.5/11Mbps MIMO-OFDM : 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@24Mbps,QPSK@12/18Mbps,BPSK@6/9Mbps 11n：MIMO-OFDM:BPSK,QPSK,16QAM,64QAM 11ac：MIMO-OFDM:BPSK,QPSK,16QAM,64QAM,256QAM
	Channel quantity	802.11b, 802.11g, 802.11n (compatible with 802.11b/g mode): 13 channels 802.11a, 802.11g, 802.11ac (compatible with 802.11a mode): 13 channels
	Manual and automatic channel adjustment	Supported
	Automatic power adjustment	Supported
	Manual power adjustment	The AP supports manual power adjustment with an adjustment granularity of 1 dBm. The power scope is from 1 dBm to the value specified by national regulations.
	Timed turning on or off of RF	RF can be turned on or off based on the specified time period.
	Coverage black hole detection and compensation	Supported
WLAN function	Maximum number of connected users	256(single band 128)
	Connected user quantity restriction	Supported
	Virtual AP	32
	Chinese SSID	Supported
	SSID hiding	Supported
	User- and traffic-based intelligent load balancing	Supported
	Bandwidth restriction	STA-, SSID-, or AP-based rate limiting is supported.
	STA function	Abnormal STA disconnection detection, STA aging detection, and STA statistic and status query are supported.
	Link integrity detection	Supported
Security authentication	Authentication mode	Pre-shared key authentication, portal authentication, 802.1x authentication, CA certificate authentication, WeChat authentication, SMS authentication, QR code authentication, temporary visitor authentication, and authentication exemption are supported.

Software specifications		
	Pre-shared key	WPA-PSK, WPA2-PSK, WPA-PSK/WPA2-PSK hybrid authentication
	Portal authentication	Intelligent terminal type identification is supported. A page matching the terminal size is pushed to terminals. The page logo and displayed information can be customized. In addition, the verification, authentication interval, and reconnection authentication time thresholds can be set.
	802.1x authentication	802.1x one-key configuration and 802.1x perception-free authentication are supported. You only need to download the one-key automatic configuration tool at initial access and finish wireless network configuration quickly. This simplified network deployment significantly.
	CA certificate authentication	High-security certificate authentication can be implemented by using the CA certificate issuance center embedded into the controller, without the need to constructing a certificate server. Authentication by using a certificate imported from an external certificate server is also supported.
	WeChat authentication	After access the wireless network, a user can scan the QR code of the shopping mall or enterprise and follow the public account to access the Internet. The one-key follow function can be easily deployed without any code development. In WeChat authentication, a user can access the network by clicking a text message network access link or clicking the menu bar to view advertisements, or access the network via WeChat authorization.
	SMS authentication	SMS authentication takes effect forever. That is, a user can directly access the network without authentication after being authenticated via SMS at initial access. This reduces the SMS costs and improves user experience.
	QR code authentication	After a visitor terminal accesses the wireless network, the terminal will automatically display a QR page. The approver scans the QR code of the visitor terminal via a cell phone and then the visitor can access the Internet. The visitor information is recorded in three dimensions: approver, remarks, and MAC address of the visitor terminal. This ensures user traceability and network security.
	Temporary visitor authentication	A temporary user information management system is embedded. A temporary user can log in within the validity period and cannot after the validity period elapses. A secondary permission system for temporary account management is embedded and temporary accounts can be created and managed in this system. The QR code of a temporary visitor can be printed and the temporary visitor can scan the QR code to access the network. Temporary visitors can be grouped.
	Authentication exemption	Only a portal advertisement page is displayed. A user needs to click the login button to access the network without entering any account password or performing other authentication.
	Data encryption	Data encryption via TKIP and AES (CCMP) is supported.
	Blacklist and whitelist	Static whitelist and blacklist are supported.
	User isolation	SSID-based isolation, automatic VLAN grouping, and user isolation of specified VLANs are supported.
	WIPS	Supported
	Illegitimate AP detection and workaround	Supported

Software specifications		
	ACL	Account-, access location-, access terminal type- and SSID-based ACL policy assignment and management are supported.
	Radius protocol	Supported
Wireless optimization	Application layer acceleration	Acceleration can be performed for the application layer. The acceleration service application can help increase the transmission speed by 1.5 to 4 times.
	E-schoolbag scenario optimization	The transmission speed of multicast packets is increased, improving the effects of the E-schoolbag scenario in an all-round way.
	Intelligent broadcast acceleration	The transmission speed of broadcast packets is automatically increased based on the actual environment, thereby improving the transmission efficiency of broadcast packets.
	Terminal dragging prevention	This function aims to prevent the decrease of the entire network speed caused by low-speed terminals based on the time fairness algorithm.
	Terminal viscosity prevention	This function involves detecting STAs connected to APs and intelligently guiding the STAs to the optimal AP.
	Prohibited access of low-speed terminals	The speed of access terminals is limited. Weak-signal terminals with a speed lower than the specified value are prohibited from accessing the network. This improves the entire network speed.
	High-density access scenario optimization	The response to broadcast probe requests is controlled for the purpose of optimizing high-density access scenarios.
	ARP-unicast conversion	ARP broadcast packets are converted into unicast packets. This reduces the number of broadcast packets, thereby improving the transmission speed.
	Prohibited DHCP requests destined for wireless terminals	After this function is enabled, DHCP broadcast requests will be forwarded only to the wired network, instead of other wireless network. This improves the network throughput and performance of the wireless network.
Hotspot analysis	AP-based access user quantity statistics	The number of connected users and change trends of each AP in the recent one day, one week, and one month can be measured.
	AP-based network access traffic statistics	The network access traffic and change trends of each AP in the recent one day, one week, and one month can be measured.
	AP-based signal quality analysis	Statistic analysis for the signal usage, noise, retransmit rate, BER, and BER change trends of each AP is supported.
AP access mode	AC discovery mechanism	L2 broadcast automatic discovery
		L3 discovery based on configured static IP addresses
		DHCP Option43 discovery
		DNS domain name discovery
	Cross-WAN and cross-NAT remote AP deployment	Supported
	webAgent	Controller IP addresses can be dynamically discovered by using the webAgent technology. This avoids AP disconnection caused by unfixed controller IP addresses.

Software specifications		
	Tunnel encryption	Supported

Order Information

Model	Specifications	Remarks
SUNDRAY AP-S350 series		
AP-S350	The SUNDRAY AP-S350 series access points is embedded with 2x2 MIMO antenna, complies with the 802.11a/b/g/n/ac protocol, provides a wireless access rate of up to 1167Mbps, with gigabit port uplink integrates Ethernet ports and IP phone ports, and supports PoE power supply (PoE needs to be purchased independently).	Essential
Optional parts		
SW-5008	8-port PoE switch that supports 802.3af/at	Optional
SW-5010	10-port PoE switch that supports 802.3af/at	Optional
SW-5024	24-port PoE switch that supports 802.3af/at	Optional

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